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NO. 1

Myconet Volume 14

Part One. Outline of *Ascomycota*–2009

Part Two. Notes on Ascomycete Systematics. Nos. 4751–5113

H. Thorsten Lumbsch
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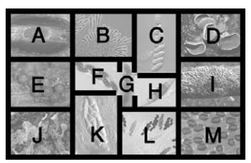

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Myconet Volume 14
Part One. Outline of *Ascomycota*—2009
Part Two. Notes on Ascomycete Systematics. Nos. 4751–5113

H. Thorsten Lumbsch and Sabine M. Huhndorf

Abstract

Part One presents the current classification that includes all accepted genera and higher taxa above the generic level in the phylum *Ascomycota*. It is based on the changes listed in Myconet notes 4751–5113. In the current outline, three subphyla (*Pezizomycotina*, *Saccharomycotina*, *Taphrinomycotina*) are accepted. *Taphrinomycotina* includes four classes (*Neolectomycetes*, *Pneumocystidomycetes*, *Schizosaccharomyces*, *Taphrinomycetes*). *Saccharomycotina* consists of one class and *Pezizomycotina* includes eleven classes (*Arthoniomycetes*, *Dothideomycetes*, *Eurotiomycetes*, *Geoglossomycetes*, *Laboulbeniomycetes*, *Lecanoromycetes*, *Leotiomycetes*, *Lichinomycetes*, *Orbiliomycetes*, *Pezizomycetes*, *Sordariomycetes*). Part Two presents 363 notes on the taxonomy and nomenclature of ascomycetes (*Ascomycota*) at the generic and higher levels. Numerous changes in higher levels resulted from multi-authored phylogenetic papers resulting from the AFTOL and Deep Hyphae projects, especially a publication on a revised fungal classification spearheaded by David Hibbett in 2007 and a 2009 volume of Studies in Mycology edited by Conrad Schoch and others dedicated to the phylogeny of the *Dothideomycetes*. The new name *Alectoria gowardii* Lumbsch is proposed for *Gowardia arctica* P. Halonen, L. Myllys, S. Velmala & H. Hyvärinen (non *Alectoria arctica* Elenkin & Savicz).

PART ONE. OUTLINE OF *ASCOMYCOTA*—2009

Introduction

The present classification is based in part on earlier versions published in *Systema Ascomycetum* and *Myconet* (ISSN 1403-1418; see http://www.fieldmuseum.org/myconet/) and reflects the changes listed in Myconet Notes Nos. 4751–5113 (Part Two). It includes all accepted genera and higher taxa of *Ascomycota*. Generic names synonymized since 2007 are included in the outline, indented under their accepted name and preceded by an equal sign (=). In future outlines, attempts will be made to incorporate all synonymous generic names. For a list of synonymous generic names, see Eriksson and Hawksworth (1998). A question mark (?) indicates that the position of the taxon is uncertain. An asterisk (*) following the name indicates an entry in the ''Notes'' section in part two of this volume.

In the current outline, three subphyla (*Pezizomycotina*, *Saccharomycotina*, *Taphrinomycotina*) are accepted. *Taphrinomycotina* includes four classes (*Neolectomycetes*, *Pneumocystidomycetes*, *Schizosaccharomycetes*, *Taphrinomycetes*), the first three with one order and one family, the last with one order and two families. *Saccharomycotina* consists of one class (*Saccharomycetes*), which includes one order with 12 families and nine unclassified genera. *Pezizomycotina* includes eleven classes (*Arthoniomycetes*, *Dothideomycetes*, *Eurotiomycetes*, *Geoglossomycetes*, *Laboulbeniomycetes*, *Lecanoromycetes*, *Leotiomycetes*, *Lichinomycetes*, *Orbiliomycetes*, *Pezizomycetes*, *Sordariomycetes*). *Arthoniomycetes*, *Geoglossomycetes*, *Lichinomycetes*, *Orbiliomycetes*, and *Pezizomycetes* each consists of one order. *Dothideomycetes* includes two subclasses, eleven orders, and numerous unclassified families. *Eurotiomycetes* includes two subclasses and six families. *Laboulbeniomycetes* has two orders, whereas *Lecanoromycetes* consists of three subclasses and ten orders and includes numerous unclassified families and genera. *Leotiomycetes* includes five orders. The large class *Sordariomycetes* is divided into three subclasses and includes 18 orders and various unclassified families and genera. Two orders (*Medeolariales*, *Triblidiales*) are currently not placed in any class, but in *Pezizomycotina incertae sedis*. Twenty families are not placed in any class and 116 genera have unclarified placements in *Ascomycota*.

Literature Cited

Eriksson, O. E., and D. L. Hawksworth. 1998. Outline of the ascomycetes—1998. Systema Ascomycetum 16: 83–296.

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Phylum *ASCOMYCOTA* Caval.-Sm.*
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Neolectales Landvik, O. E. Erikss., Gargas & P. Gustafsson
Neolectaceae Redhead
Neolecta Speg.

Class *Pneumocystidomycetes* O. E. Erikss. & Winka
Pneumocystidales O. E. Erikss.
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?*Nadsonia* Syd.
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Barnettozyma Kurtzman, Robnett & Basehoar-Powers*
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Nakazawaea Y. Yamada, Maeda & Mikata
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Yamadazyma Billon-Grand

Subphylum *PEZIZOMYCOTINA* O. E. Erikss. & Winka
Class *Arthoniomycetes* O. E. Erikss. & Winka
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Arthonia Ach.
Arthothelium A. Massal.
Coniarthonia Grube
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Eremothecella Syd. & P. Syd.
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Herpothallon Tobler*
Paradoxomyces Matzer
Sagenidiopsis R. W. Rogers & Hafellner
Sporostigma Grube
Stirtonia A. L. Sm.
Synarthothelium Sparrius*
Tylophoron Nyl. ex Stizenb.*

Chrysotrichaceae Zahlbr.
Byssocaulon Mont.
Chrysothrix Mont.

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?*Encephalographa* A. Massal.
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Chiodecton Ach.
Combea De Not.
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Diplogramma Müll. Arg.
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Opegrapha Ach.
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Roccellographa J. Steiner
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?*Hormosphaeria* Lév.
Llimonaea Egea & Torrente
Nipholepis Syd.
Perigrapha Hafellner
Pulvinodecton Henssen & G. Thor
Sipmania Egea & Torrente
Synarthonia Müll. Arg.
Tania Egea, Torrente & Sipman
?*Tarbertia* Dennis
Trichophyma Rehm
Tylophorella Vain.
Wegea Aptroot & Tibell

Class *Dothideomycetes* sensu O. E. Erikss. & Winka
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Antennulariellaceae Woron.
Achaetobotrys Bat. & Cif.
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Capnodiaceae (Sacc.) Höhn. ex Theiss.
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?*Anopeltis* Bat. & Peres
?*Callebaea* Bat.

Capnodaria (Sacc.) Theiss. & Syd.
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Dennisiella Bat. & Cif.
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Davidiellaceae C. L. Schoch, Spatafora, Crous & Shoemaker
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Dissoconiaceae Crous & de Hoog*
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Lewia M. E. Barr & E. G. Simmons
Macrospora Fuckel
Platysporoides (Wehm.) Shoemaker & C. E. Babc.
Pleospora Rabenh. ex Ces. & De Not.
Pseudoyuconia Lar. N. Vassiljeva
Pyrenophora Fr.
Setosphaeria K.J. Leonard & Suggs
Zeuctomorpha Sivan., P. M. Kirk & Govindu

Sporormiaceae Munk
Chaetopreussia Locq.-Lin.
Pleophragmia Fuckel
Preussia Fuckel
Sporormia De Not.
Sporormiella Ellis & Everh.
Sporormula Arx & Aa
Westerdykella Stolk
= *Eremodothis* Arx*
= *Pycnidiophora* Clum*

Teichosporaceae M. E. Barr
Chaetomastia (Sacc.) Berl.
Immothia M. E. Barr
Loculohypoxylon M. E. Barr
Sinodidymella J. Z. Yue & O. E. Erikss.
Teichospora Fuckel

Testudinaceae Arx
Lepidosphaeria Parg.-Leduc
Neotestudina Segretain & Destombes
Testudina Bizz.
Ulospora D. Hawksw., Malloch & Sivan.

Tetraplosphaeriaceae Kaz. Tanaka & K. Hiray*
Polyplosphaeria Kaz. Tanaka & K. Hiray*
Tetraplosphaeria Kaz. Tanaka & K. Hiray*
Triplosphaeria Kaz. Tanaka & K. Hiray*

Venturiaceae E. Müll. & Arx ex M. E. Barr
Acantharia Theiss. & Syd.
Antennularia Reichenb.
Apiosporina Höhn.
Arkoola J. Walker & Stovold
Atopospora Petr.
Botryostroma Höhn.
Caproventuria U. Braun
Coleroa (Fr.) Rabenh.
Crotone Theiss. & Syd.
Dibotryon Theiss. & Syd.
Gibbera Fr.
Lasiobotrys Kunze
?*Lineostroma* H. J. Swart
Metacoleroa Petr.
Phaeocryptopus Naumov
Phragmogibbera Samuels & Rogerson
?*Polyrhizon* Theiss. & Syd.
Pseudoparodiella F. Stevens
Pyrenobotrys Theiss. & Syd.
Rhizogene Syd. & P. Syd.
Rosenscheldiella Theiss. & Syd.
Sivanesaniella Gawande & Agarwal
Trichodothella Petr.
Trichodothis Theiss. & Syd.
Uleodothis Theiss. & Syd.
Venturia Sacc.
Xenomeris Syd.

Zopfiaceae G. Arnaud ex D. Hawksw.
Caryospora De Not.
Celtidia J. M. Janse
?*Coronopapilla* Kohlm. & Volkm.-Kohlm.
?*Halotthia* Kohlm.
Pontoporeia Kohlm.
?*Rechingeriella* Petr.
Richonia Boud.
Zopfia Rabenh.
Zopfiofoveola D. Hawksw.

Pleosporales**,** genera *incertae sedis*
Anteaglonium Mugambi & Huhndorf*
Ascorhombispora L. Cai & K. D. Hyde*
Astrosphaeriella Syd. & P. Syd.*
Atradidymella Davey & Currah*
Falciformispora K. D. Hyde*
Halomassarina Suetrong, Sakayaroj, E. B. G. Jones, Kohlm., Volkm.-Kohlm. & C. L. Schoch*
Ostropella (Sacc.) Höhn.*
Platystomum Trevis.*
Shiraia P. Henn.
Tingoldiago K. Hiray. & Kaz. Tanaka*
Trematosphaeria Fuckel*
Xenolophium Syd.*

***Pleosporomycetidae*,** genera *incertae sedis*
Farlowiella Sacc.*
Hysterographium Corda*

Dothideomycetes, orders *incertae sedis*
Acrospermales Minter, Peredo & A. T. Watson*
Acrospermaceae Fuckel
Acrospermum Tode
Oomyces Berk. & Broome

Botryosphaeriales C. L. Schoch, Crous & Shoemaker
Botryosphaeriaceae Theiss. & H. Syd.*
Auerswaldiella Theiss. & Syd.
Barriopsis A. J. L. Phillips & Crous*
Botryosphaeria Ces. & De Not.
Guignardia Viala & Ravaz
Leptoguignardia E. Müll.
Neodeightonia C. Booth*
Phaeobotryon Theiss. & Syd.*
Phaeobotryosphaeria Speg.*
Saccharata Denman & Crous
Sivanesania W. H. Hsieh & C. Y. Chen
Spencermartinsia A. J. L. Phillips, A. Alves & Crous*

Hysteriales Lindau
Hysteriaceae Chevall.*
Actidiographium Lar. N. Vassiljeva
Gloniella Sacc.
Gloniopsis De Not.
Hysterium Pers.
Hysterobrevium E. W. A. Boehm & C. L. Schoch*
Hysterocarina Zogg
?*Hysteroglonium* Rehm ex Lindau
?*Hysteropatella* Rehm
Oedohysterium E. W. A. Boehm & C. L. Schoch*
Ostreichnion Duby*
?*Pseudoscypha* J. Reid & Piroz.
Psiloglonium Höhn.*

Jahnulales Pang, Abdel-Wahab, El-Sharouney, E. B. G. Jones & Sivichai
Aliquandostipitaceae Inderbitzin
Aliquandostipite Inderbitzin
Jahnula Kirschst.
?*Megalohypha* A. Ferrer & Shearer*
Patescopora Abdel-Wahab & El-Sharouney

Jahnulales, genera *incertae sedis*
Manglicola Kohlm.*

Mytilinidiales Boehm, C. L. Schoch & Spatafora*
Gloniaceae (Corda) Boehm, C. L. Schoch & Spatafora*
Glonium Mühl.*

Mytilinidiaceae Kirschst.*
Actidium Fr.
Lophium Fr.
Mytilinidion Duby
Ostreola Darker
Quasiconcha M. E. Barr & M. Blackw.
Zoggium Lar. N. Vassiljeva

Patellariales D. Hawksw. & O. E. Erikss.*
Patellariaceae Corda
Baggea Auersw.
Banhegyia Zeller & Tóth
?*Endotryblidium* Petr.
Holmiella Petrini, Samuels & E. Müll.
Lecanidiella Sherwood
Lirellodisca Aptroot
Murangium Seaver
Patellaria Fr.
Poetschia Körb.
Pseudoparodia Theiss. & Syd.*
Rhizodiscina Hafellner
Rhytidhysteron Speg.
Schrakia Hafellner
Stratisporella Hafellner
Tryblidaria (Sacc.) Sacc.

Trypetheliales Lücking, Aptroot & Sipman*
Trypetheliaceae Zenker
Aptrootia Lücking & Sipman
Architrypethelium Aptroot
Astrothelium Eschw.
Campylothelium Müll. Arg.
Exiliseptum R. C. Harris
Laurera Reichenb.
?*Mycomicrothelia* Keissl.*
Polymeridium (Müll. Arg.) R. C. Harris
?*Pseudopyrenula* Müll. Arg.
?*Trypetheliopsis* Asah.*
= *Musaespora* Aptroot & Sipman*
Trypethelium Sprengel

Dothideomycetes, families *incertae sedis*

Argynnaceae Shearer & J. L. Crane
Argynna Morgan
Lepidopterella Shearer & J. L. Crane

Arthopyreniaceae W. Watson
Arthopyrenia A. Massal.
Athrismidium Trevis.

Ascoporiaceae Kutorga & D. Hawksw.
Pseudosolidum Lloyd

Asterinaceae Hansf.
Allothyrium Syd.
Anariste Syd.
Aphanopeltis Syd.
Asterina Lév.
Asterodothis Theiss.
Asterolibertia G. Arnaud
Asterotexis Arx
?*Aulographina* Arx & E. Müll.
Batistinula Arx
Cirsosia G. Arnaud
Dothidasteromella Höhn.

Echidnodella Theiss. & Syd.
Echidnodes Theiss. & Syd.
Eupelte Syd.
Halbania Racib.
Ischwaramyces V. B. Hosagoudar*
Lembosia Lév.
?*Lembosina* Theiss.
?*Lembosiopsis* Theiss.
Leveillella Theiss. & Syd.
Macowaniella Doidge
Meliolaster Höhn.
?*Morenoina* Theiss.
Neostomella Syd.
Parasterinella Speg.
Parasterinopsis Bat.
?*Petrakina* Cif.
Placoasterella (Sacc.) Theiss. & Syd.
?*Placoasterina* Toro
Placosoma Syd.
Prillieuxina G. Arnaud
Symphaster Theiss. & Syd.
Thyriopsis Theiss. & Syd.
Trichamelia Bat.
Trichasterina G. Arnaud
Uleothyrium Petr.
Viegasia Bat.
Yamamotoa Bat.

Aulographaceae Luttr. ex P. M. Kirk, P. F. Cannon & J. C. David
Aulographum Lib.
Polyclypeolina Bat. & I. H. Lima ex Bat.

Coccoideaceae P. Henn. ex Sacc. & D. Sacc.
Coccoidea P. Henn.
?*Coccoidella* Höhn.

Cookellaceae Höhn. ex Sacc. & Trotter
Cookella Sacc.
Pycnoderma Syd.
Uleomyces P. Henn.

Corynesporascaceae Sivan.
Corynesporasca Sivan.

Dacampiaceae Körb.
?*Aaosphaeria* Aptroot
Clypeococcum D. Hawksw.
?*Cocciscia* Norman
Dacampia A. Massal.
Eopyrenula R. C. Harris
Kalaallia Alstrup & D. Hawksw.
Leptocucurthis Aptroot
Munkovalsaria Aptroot
Polycoccum Sauter ex Körb.
Pyrenidium Nyl.
Weddellomyces D. Hawksw.

Englerulaceae P. Henn.
Englerula P. Henn.
Goosia B. Song
Parenglerula Höhn.
Rhizotexis Theiss. & Syd.
Rhytidenglerula Höhn.
Schiffnerula Höhn.
Thrauste Theiss.

Eremomycetaceae Malloch & Cain
Eremomyces Malloch & Cain
Rhexothecium Samson & Mouch.

Euantennariaceae Hughes & Corlett
Euantennaria Speg.
Rasutoria M. E. Barr
Strigopodia Bat.
Trichopeltheca Bat., C. A. A. Costa & Cif.

Fenestellaceae M. E. Barr
Fenestella Tul. & C. Tul.
Lojkania Rehm

Leptopeltidaceae Höhn. ex Trotter
Dothiopeltis E. Müll.
Leptopeltis Höhn.
?*Nannfeldtia* Petr.
?*Phacidina* Höhn.
Ronnigeria Petr.
Staibia Bat. & Peres

Lichenotheliaceae Henssen
Lichenostigma Hafellner
Lichenothelia D. Hawksw.

Meliolinaceae S. Hughes
Meliolina Syd. & P. Syd.

Mesnieraceae Arx & E. Müll.
Bondiella Piroz.
?*Helochora* Sherwood
Mesniera Sacc. & P. Syd.
Stegasphaeria Syd. & P. Syd.

Micropeltidaceae Clem. & Shear
?*Armata* W. Yamam.
Bonaria Bat.
Chaetothyrina Theiss.
Clypeolina Theiss.
Cyclopeltis Petr.
Dictyopeltella Bat. & I. H. Lima ex Bat.
Dictyopeltis Theiss.
Dictyostomiopelta Viégas
Dictyothyriella Speg.
Dictyothyrina Theiss.
Dictyothyrium Theiss.
Hansfordiopsis Bat.
Haplopeltheca Bat., J. L. Bezerra & Cavalc.
Mendoziopeltis Bat.
Micropeltis Mont.
?*Mitopeltis* Speg.
Muricopeltis Viégas

Polypedia Bat. & Peres
Stigmatodothis Syd. & P. Syd.
Stigmatophragmia Tehon & G. L. Stout
Stomiopeltis Theiss.
Stomiopeltopsis Bat. & Cavalc.
Stomiotheca Bat.
Thyriodictyella Cif.

Microtheliopsidaceae O. E. Erikss.
Microtheliopsis Müll. Arg.

Microthyriaceae Sacc.
Actinomyxa Syd. & P. Syd.
Actinopeltis Höhn.
Arnaudiella Petr.
Asterinella Theiss.
Asterinema Bat. & Gayao
?*Asteritea* Bat. & R. Garnier
Asteronia (Sacc.) P. Henn.
Byssopeltis Bat., J. L. Bezerra & T. Barros
Calothyriopsis Höhn.
Caribaeomyces Cif.
Caudella Syd. & P. Syd.
?*Cirsosina* Bat. & J. L. Bezerra
Cirsosiopsis Butin & Speer
Cyclotheca Theiss.
Dictyoasterina Hansf.
Govindua Bat. & H. Maia
?*Helminthopeltis* Sousa da Câmara
?*Hidakaea* I. Hino & Katum.
?*Hugueninia* J. L. Bezerra & T. Barros
?*Lembosiella* Sacc.
Lichenopeltella Höhn.
Macrographa Etayo*
Maublancia G. Arnaud
Microthyrium Desm.
Muyocopron Speg.
Pachythyrium G. Arnaud ex Spooner & P. M. Kirk
Palawania Syd. & P. Syd.
?*Petrakiopeltis* Bat., A. F. Vital & Cif.
Phaeothyriolum Syd.
?*Phragmaspidium* Bat.
Platypeltella Petr.
Polycyclinopsis Bat., A. F. Vital & I. H. Lima
?*Polystomellina* Bat. & A. F. Vital
?*Resendea* Bat.
?*Sapucchaka* Ramakr.
?*Scolecopeltidium* F. Stevens & Manter
Seynesiella G. Arnaud
Seynesiopeltis F. Stevens & R. W. Ryan
?*Stegothyrium* Höhn.
?*Tothia* Bat.
?*Trichopeltella* Höhn.
?*Trichopeltina* Theiss.
?*Trichopeltospora* Bat. & Cif.
?*Trichopeltum* Bat., Cif. & C. A. A. Costa
Trichothyriella Theiss.
Trichothyrinula Petr.
Trichothyriomyces Bat. & H. Maia
Trichothyriopsis Theiss.
Trichothyrium Speg.
Xenostomella Syd.

Moriolaceae Zahlbr.
Moriola Norman

Mycoporaceae Zahlbr.
Mycoporum Flot. ex Nyl.

Naetrocymbaceae Höhn. ex R. C. Harris
Jarxia D. Hawksw.
Leptorhaphis Körb.
Naetrocymbe Körb.
?*Tomasellia* A. Massal.

Parmulariaceae E. Müll. & Arx ex M. E. Barr
Aldona Racib.
Aldonata Sivan. & A. R. P. Sinha
Aulacostroma Syd. & P. Syd.
Campoa Speg.
Coccodothis Theiss. & Syd.
Cocconia Sacc.
Cycloschizon P. Henn.
Cyclostomella Pat.
Dictyocyclus Sivan., W. H. Hsieh & Chi Y. Chen
Dothidasteroma Höhn.
Englerodothis Theiss. & Syd.
Ferrarisia Sacc.
?*Hemigrapha* (Müll. Arg.) D. Hawksw.
Hysterostomella Speg.
Inocyclus Theiss. & Syd.
Kentingia Sivan. & W. H. Hsieh
Kiehlia Viégas
Mintera Inácio & P. F. Cannon
Pachypatella Theiss. & Syd.
Palawaniella Doidge
Parmularia Lév.
Parmulariopsella Sivan.
Parmulariopsis Petr.
Parmulina Theiss. & Syd.
Perischizon P. Syd.
Polycyclina Theiss. & Syd.
Polycyclus Höhn.
Protothyrium G. Arnaud
Pseudolembosia Theiss.
Rhagadolobium P. Henn. & Lindau
Rhipidocarpon (Theiss.) Theiss. & Syd.
Symphaeophyma Speg.
Thallomyces H. J. Swart
Viegasiella Inácio & P. F. Cannon

Parodiellaceae Theiss. & H. Syd. ex M. E. Barr
Parodiella Speg.

Parodiopsidaceae Toro
Alina Racib.
Balladyna Racib.

Balladynocallia Bat.
Balladynopsis Theiss. & Syd.
Chevalieropsis G. Arnaud
Cleistosphaera Syd. & P. Syd.
Dimeriella Speg.
Dimerium Syd. & P. Syd.
Dysrhynchis Clem.
?*Hyalomeliolina* F. Stevens
Leptomeliola Höhn.
Neoparodia Petr. & Cif.
Ophiomeliola Starb.
Ophioparodia Petr. & Cif.
Parodiellina P. Henn. ex G. Arnaud
Perisporiopsis P. Henn.
Pilgeriella P. Henn.
Scolionema Theiss. & Syd.
Stomatogene Theiss.

Planistromellaceae M. E. Barr
Comminutispora A. W. Ramaley
Eruptio M. E. Barr
Loratospora Kohlm. & Volkm.-Kohlm.
Microcyclus Sacc. ex Syd. & P. Syd.
Mycosphaerellopsis Höhn. (n)
Planistroma A. W. Ramaley
Planistromella A. W. Ramaley

Polystomellaceae Theiss. & H. Syd.
Dothidella Speg.
Munkiella Speg.
?*Parastigmatea* Doidge

Protoscyphaceae Kutorga & D. Hawksw.
Protoscypha Syd.

Pseudoperisporiaceae Toro
?*Aphanostigme* Syd.
?*Bryochiton* Döbbeler & Poelt
?*Bryomyces* Döbbeler
?*Epibryon* Döbbeler
Episphaerella Petr.
Eudimeriolum Speg.
Eumela Syd.
Keratosphaera H. P. Upadhyay
Lasiostemma Theiss.
Lizonia (Ces. & De Not.) De Not.
Myxophora Döbbeler & Poelt
Nematostigma Syd. & P. Syd.
Nematostoma Syd. & P. Syd.
?*Nematothecium* Syd. & P. Syd.
Neocoleroa Petr.
Ophiciliomyces Bat. & I. H. Lima
Phaeodimeriella Speg.
Phaeostigme Syd. & P. Syd.
Phragmeriella Hansf.
?*Pododimeria* E. Müll.
Raciborskiomyces Siemaszko
Toroa Syd.

Pyrenotrichaceae Zahlbr.
?*Cyanoporina* Groenh.
Pyrenothrix Riddle

Schizothyriaceae Höhn. ex Trotter, Sacc., D. Sacc. & Traverso
Amazonotheca Bat. & H. Maia
?*Chaetoplaca* Syd. & P. Syd.
Henningsiella Rehm
Hexagonella F. Stevens & Guba ex F. Stevens
Kerniomyces Toro
Lecideopsella Höhn.
Linopeltis I. Hino & Katum.
Mendogia Racib.
Metathyriella Syd.
Mycerema Bat., J. L. Bezerra & Cavalc.
?*Myriangiella* Zimm.
?*Neopeltella* Petr.
?*Orthobellus* Silva & Cavalc.
Plochmopeltis Theiss.
Schizothyrium Desm.

Tubeufiaceae M. E. Barr
Acanthostigma De Not.
Acanthophiobolus Berl.
Acanthostigmella Höhn.
Allonecte Syd.
?*Amphinectria* Speg.
Boerlagiomyces Butzin
Byssocallis Syd.
Chaetocrea Syd.
Chaetosphaerulina I. Hino
Glaxoa P. F. Cannon
Letendraeopsis K. F. Rodriguez & Samuels
Malacaria Syd.
Melioliphila Speg.
Paranectriella (P. Henn. & Sacc.) Höhn.
Podonectria Petch
Puttemansia P. Henn.
Rebentischia P. Karst.
Taphrophila Scheuer
Thaxteriella Petr.
?*Thaxteriellopsis* Sivan., Panwar & S. J. Kaur
Thaxterina Sivan., Rajak & R. C. Gupta
Tubeufia Penz. & Sacc.
Uredinophila Rossman

Vizellaceae H. J. Swart
Blasdalea Sacc. & P. Syd.
Vizella Sacc.

Dothideomycetes, genera *incertae sedis*
?*Achorella* Theiss. & Syd.
Acrogenotheca Cif. & Bat.
Allosoma Syd.
Amylirosa Speg.
Anthracostroma Petr.
Ascocoronospora Matsush.
Ascominuta Ranghoo & K. D. Hyde

?*Ascostratum* Syd. & P. Syd.
Belizeana Kohlm. & Volkm.
Biatriospora K. D. Hyde & Borse
Biciliopsis Diederich
Bifrontia Norman
Botryohypoxylon Samuels & J. D. Rogers
Brefeldiella Speg.
Brooksia Hansf.
Bryopelta Döbbeler & Poelt
Bryorella Döbbeler
Bryosphaeria Döbbeler
Bryostroma Döbbeler
Bryothele Döbbeler
Buelliella Fink
Byssogene Syd.
Calyptra Theiss. & Syd.
Capillataspora K. D. Hyde
Capnodinula Bat. & Cif.
Catinella Boud.*
Catulus Malloch & Rogerson
Ceratocarpia Rolland
Cercidospora Körb.
Cerodothis Muthappa
Chaetoscutula E. Müll.
Coccochora Höhn.
?*Coccochorina* Hara
Colensoniella Hafellner
?*Comesella* Speg.
Crauatamyces Viégas
?*Cyrtidium* Vain.
Cyrtidula Minks
Cyrtopsis Vain.
Cystocoleus Thwaites*
Dangeardiella Sacc. & P. Syd.
Dawsomyces Döbbeler
Dawsophila Döbbeler
Dermatodothella Viégas
Dermatodothis Racib. ex Theiss. & Syd.
Dianesea Inácio & P. F. Cannon
Didymocyrtidium Vain.
?*Didymocyrtis* Vain.
Didymopleella Munk
Diplochorina Gutner
Dolabra C. Booth & W. P. Ting
Dothideopsella Höhn.
Elmerinula Syd.
?*Endococcus* Nyl.
Epiphora Nyl.
Extrusothecium Matsush.
Flavobathelium Lücking, Aptroot & Thor
Gibberidea Fuckel
Gilletiella Sacc. & P. Syd.
Globoa Bat. & H. Maia
Globulina Speg.
?*Gloeodiscus* Dennis
Grandigallia M. E. Barr, Hanlin, Cedeño, Parra & R. Hern.
?*Griggsia* F. Stevens & Dalbey
Harknessiella Sacc.
Hassea Zahlbr.
Heleiosa Kohlm., Volkm.-Kohlm. & O. E. Erikss.
Heptameria Rehm & Thuem.
Heterosphaeriopsis Hafellner
Homostegia Fuckel
Hyalocrea Syd. & P. Syd.
Hyalosphaera F. Stevens
Hypobryon Döbbeler
Hysteropeltella Petr.
Hysteropsis Rehm
Karschia Körb.
Kirschsteiniothelia D. Hawksw.
Koordersiella Höhn.
Kullhemia P. Karst.
Kusanobotrys P. Henn.
Lanatosphaera Matzer
Lazarenkoa Zerova
Lembosiopeltis Bat. & J. L. Bezerra
Leptospora Rabenh.
?*Leveillina* Theiss. & Syd.
?*Licopolia* Sacc., Syd. & P. Syd.
Lidophia J. Walker & B. Sutton
Limaciniopsis Mend.
Lineolata Kohlm. & Volkm.-Kohlm.
?*Lophiosphaerella* Hara
Lopholeptosphaeria Sousa da Câmara
Macrovalsaria Petr.
Maireella Syd. & Maire
Massariola Füisting
Microcyclella Theiss.
Microdothella Syd. & P. Syd.
Monoblastiopsis R. C. Harris & C. A. Morse*
Montagnella Speg.
Moriolomyces Cif. & Tomas.
Muellerites L. Holm
Mycocryptospora J. Reid & C. Booth
Mycodidymella C. Z. Wei, Y. Haradfa & K. Katumoto
Mycoglaena Höhn.
Mycopepon Boise
Mycoporopsis Müll. Arg.
Mycothyridium Petr.
Myriangiopsis P. Henn.
Myriostigmella G. Arnaud
Mytilostoma P. Karst.
Neopeckia Sacc.
Neoventuria Syd. & P. Syd.
Otthia Nitschke ex Fuckel
Paraliomyces Kohlm.
Parmulariella P. Henn.
Paropodia Cif. & Bat.
Passeriniella Berl.
Passerinula Sacc.
Peroschaeta Bat. & A. F. Vital
?*Phaeocyrtidula* Vain.
Phaeoglaena Clem.
Phaeopeltosphaeria Berl. & Peglion
?*Phaeosperma* Nitschke ex Fuckel

Phaeotomasellia Katum.
Philobryon Döbbeler
Philonectria Hara
Phragmoscutella Woron. & Abramov ex Woron.
Phragmosperma Theiss. & Syd.
Phycorella Döbbeler
?*Physalosporopsis* Bat. & H. Maia
?*Placodothis* Syd.
Placostromella Petr.
Plagiostromella Höhn.
Pleiostomellina Bat., J. L. Bezerra & H. Maia
Plejobolus (E. Bommer, M. Rousseau & Sacc.) O. E. Erikss.
?*Pleosphaerellula* Naumov & Czer.
Pleostigma Kirschst.
Pleotrichiella Sivan.
Polysporidiella Petr.
Polystomellopsis F. Stevens
?*Propolina* Sacc.
Pseudodidymella C. Z. Wei, Y. Harada & Katumoto
Pseudomorfea Punith.
Pseudonitschkia Coppins & S. Y. Kondr.
Pseudopleospora Petr.
Pteridiospora Penz. & Sacc.
Punctillum Petr. & Syd.
Pycnocarpon Theiss.
?*Pyrenochium* Link
Pyrenocyclus Petr.
Pyrenostigme Syd.
Racodium Pers.*
Racovitziella Döbbeler & Poelt
Rhopographus Nitschke ex Fuckel
?*Robillardiella* Takim.
Rosellinula R. Sant.
Rosenscheldia Speg.
Roumegueria (Sacc.) P. Henn.
Roussoëllopsis I. Hino & Katum.
?*Salsuginea* K. D. Hyde
Scolecobonaria Bat.
Semifissispora H. J. Swart
Semisphaeria K. Holm & L. Holm
Stuartella Fabre
Sympoventuria Crous & Seifert*
?*Syrropeltis* Bat., J. L. Bezerra & Matta
Teichosporella (Sacc.) Sacc.
?*Teratoschaeta* Bat. & Fons.
Thalassoascus Ollivier
?*Thelenidia* Nyl.
Thryptospora Petr.
?*Thyridaria* Sacc.
Thyrospora Kirschst.
Tilakiella Srinivas.
Tirisporella E. B. G. Jones, K. D. Hyde & Alias
Tomeoa I. Hino
*Trematei*a Kohlm., Volkm.-Kohlm. & O. E. Erikss.
Trematosphaeriopsis Elenkin
Tyrannosorus Untereiner & Malloch
Valsaria Ces. & De Not.
Vizellopsis Bat., J. L. Bezerra & T. Barros
Westea H. J. Swart
Wettsteinina Höhn.
?*Xylopezia* Höhn.
Yoshinagella Höhn.

Class *Eurotiomycetes* Tehler ex O. E. Eriksson & K. Winka
Subclass *Chaetothyriomycetidae* Doweld*
Chaetothyriales M. E. Barr
Chaetothyriaceae Hansf. ex M. E. Barr
Actinocymbe Höhn.
Ceramothyrium Bat. & H. Maia
Chaetothyriomyces Pereira-Carvalho, Inacio & Dianese*
Chaetothyrium Speg.
Euceramia Bat. & Cif.
Microcallis Syd.
Phaeosaccardinula P. Henn.
Treubiomyces Höhn.
Yatesula Syd. & P. Syd.

Herpotrichiellaceae Munk
Capronia Sacc.
?*Pleomelogramma* Speg.

Pyrenulales Fink ex D. Hawksw. & O. E. Erikss.
Celotheliaceae Lücking, Aptroot & Sipman*
Celothelium A. Massal.

?***Monoblastiaceae*** W. Watson
Acrocordia A. Massal.
Anisomeridium (Müll. Arg.) M. Choisy
Caprettia Bat. & H. Maia
= *Porinella* R. Sant.
= *Porinula* Vězda
Monoblastia Riddle

Pyrenulaceae Rabenh.
Acrocordiella O. E. Erikss.
Anthracothecium Hampe ex A. Massal.
Clypeopyrenis Aptroot
Distopyrenis Aptroot
Granulopyrenis Aptroot
?*Lacrymospora* Aptroot
Lithothelium Müll. Arg.
Mazaediothecium Aptroot
Parapyrenis Aptroot
Polypyrenula D. Hawksw.
Pyrenographa Aptroot
Pyrenowilmsia R. C. Harris & Aptroot
Pyrenula Ach.
Pyrgillus Nyl.
Sulcopyrenula H. Harada

Requienellaceae Boise
Mauritiana Poonyth, K. D. Hyde, Aptroot & Peerally
Requienella Fabre

***Pyrenulales*,** genera *incertae sedis*
Asteroporum Müll. Arg.
?*Blastodesmia* A. Massal.
Heufleridium Müll. Arg.

Micromma A. Massal.
Mycoporum G. Mey.
?*Porodothion* Fr.
?*Porothelium* Eschw.
Rhaphidicyrtis Vain.
?*Stromatothelium* Trevis.
Xenus Kohlm. & Volkm.-Kohlm.

Verrucariales Mattick ex D. Hawksw. & O. E. Erikss.
Adelococcaceae Triebel
Adelococcus Theiss. & Syd.
Sagediopsis (Sacc.) Vain.

Verrucariaceae Zenker*
Agonimia Zahlbr.
Anthracocarpon Breuss
Atla S. Savić & Tibell*
Awasthiella Kr.P. Singh
Bagliettoa A. Massal.
Bellemerella Nav.-Ros. & Cl. Roux
?*Bogoriella* Zahlbr.
Catapyrenium Flot.
Clauzadella Nav.-Ros. & Cl. Roux
Clavascidium Breuss
Dermatocarpella H. Harada
Dermatocarpon Eschw.
Diederimyces Etayo
Endocarpon Hedw.
Flakea O. E. Erikss.*
?*Glomerilla* Norman
?*Haleomyces* D. Hawksw. & Essl.
Henrica de Lesd.
Heterocarpon Müll. Arg.
Heteroplacidium Breuss
Hydropunctaria Keller, Gueidan & Thüs*
Involucropyrenium Breuss
Lauderlindsaya J. C. David & D. Hawksw.
Leucocarpia Vězda
Merismatium Zopf
Muellerella Hepp
Mycophycias Kohlm. & Volkm.-Kohlm.
Neocatapyrenium H. Harada
Norrlinia Theiss. & Syd.
Parabagliettoa Gueidan & Cl. Roux*
?*Phaeospora* Hepp ex Stein
Phylloblastia Vain.*
= *Pocsia* Vězda*
Placidiopsis Beltr.
Placidium A. Massal.
Placocarpus Trevis.
Placopyrenium Breuss
Placothelium Müll. Arg.
?*Plurisperma* Sivan.
Polyblastia A. Massal.*
Psoroglaena Müll. Arg.
Rhabdopsora Müll. Arg.
Scleropyrenium H. Harada
Servitia M. S. Christ. & Alstrup
?*Spheconisca* (Norman) Norman
Sporodictyon A. Massal.*
Staurothele Norman
Telogalla Nik. Hoffm. & Hafellner
Thelidiopsis Vain.
Thelidium A. Massal.
Trimmatothele Norman ex Zahlbr.*
?*Trimmatothelopsis* Zschacke
Verrucaria Schrad.
= *Trimmatothele* Norman ex Zahlbr.
Verrucula J. Steiner*
Verruculopsis Gueidan, Cl. Roux & Navarro-Rosines*
Wahlenbergiella Gueidan & Thüs*

Verrucariales**,** genera *incertae sedis*
?*Kalbiana* Henssen
Gemmaspora D. Hawksw. & Halici

Chaetothyriomycetidae**,** families *incertae sedis*

Rhynchostomataceae Winka & O. E. Erikss.
Rhynchostoma P. Karst.
?*Rhynchomeliola* Speg.

Strigulaceae Zahlbr.
?*Oletheriostrigula* Huhndorf & R. C. Harris
Strigula Fr.

Chaetothyriomycetidae**,** genera *incertae sedis*
Glyphium Nitschke ex F. Lehm
Moristroma A. I. Romero & Samuels

Subclass *Eurotiomycetidae* Geiser & Lutzoni*
Coryneliales Seaver & Chardon
Coryneliaceae Sacc. ex Berl. & Voglino
Bicornispora Checa, Barrasa, M. N. Blanco & A. T. Martínez
Caliciopsis Peck
Corynelia Ach.
?*Coryneliopsis* Butin
Coryneliospora Fitzp.
Fitzpatrickella Benny, Samuelson & Kimbr.
Lagenulopsis Fitzp.
Tripospora Sacc. ex Berl. & Vogl.

Eremascaceae Engl. & E. Gilg
Eremascus Eidam

Eurotiales G. W. Martin ex Benny & Kimbr.
Elaphomycetaceae Tul. ex Paol.
Elaphomyces Nees
Pseudotulostoma O. K. Miller & T. Henkel

Monascaceae J. Schröt.
Monascus Tiegh.
?*Xeromyces* Fraser

Trichocomaceae E. Fisch.
Byssochlamys Westling*
Chaetosartorya Subram.
?*Chaetotheca* Zukal

Chromocleista Yaguchi & Udagawa
Cristaspora Fort. & Guarro
Dactylomyces Sopp
Dendrosphaera Pat.
Dichlaena Durieu & Mont.
Dichotomomyces Saito ex D. B. Scott
Edyuillia Subram.
Emericella Berk. & Broome
Erythrogymnotheca T. Yaguchi, A. Someya & Udagawa
Eupenicillium F. Ludw.
Eurotium Link
Fennellia B. J. Wiley & E. G. Simmons
Hemicarpenteles Sarbhoy & Elphick
Neocarpenteles Udagawa & Uchiyama
Neopetromyces Frisvad & Samson
Neosartorya Malloch & Cain
Penicilliopsis Solms
Petromyces Malloch & Cain
Sagenoma Stolk & G. F. Orr
Talaromyces C. R. Benj.
Thermoascus Miehe
Trichocoma Jungh.
Warcupiella Subram.

Onygenales Cif. ex Benny & Kimbr.
= *Arachnomycetales* Gibas, Sigler & Currah
= *Ascosphaerales* Gäum. ex Skou
Ajellomycetaceae Untereiner, J. A. Scott & Sigler
Ajellomyces McDonough & A. L. Lewis

Arachnomycetaceae Gibas, Sigler & Currah
Arachnomyces Massee & E. S. Salmon

Arthrodermataceae Currah
Arthroderma Curr. & Berk.
Ctenomyces Eidam
Shanorella R. K. Benj.

Ascosphaeraceae L. S. Olive & Spiltoir
Arrhenosphaera Stejskal
Ascosphaera L. S. Olive & Spiltoir
Bettsia Skou

Gymnoascaceae Baran.
Acitheca Currah
Arachniotus J. Schröt.
Gymnascella Peck
Gymnoascoideus G. F. Orr, K. Roy & G. R. Ghosh
Gymnoascus Baran.
Kraurogymnocarpa Udagawa & Uchiyama
Mallochia Arx & Samson
Narasimhella Thirum. & P. N. Mathur
Orromyces Sur & G. R. Ghosh

Onygenaceae Berk.
Amauroascus J. Schröt.
Aphanoascus Zukal
Apinisia La Touche
Arachnotheca Arx
Ascocalvatia Malloch & Cain
Auxarthron G. F. Orr & Kuehn
Bifidocarpus Cano, Guarro & R. F. Castañeda
Byssoonygena Guarro, Punsola & Cano
Chlamydosauromyces Sigler, Hambleton & Par
Kuehniella G. F. Orr
Leucothecium Arx & Samson
Monascella Guarro & Arx
Nannizziopsis Currah
Neoarachnotheca Ulfig, Cano & Guarro
Neogymnomyces G. F. Orr
Onygena Pers.
Pectinotrichum Varsavsky & G. F. Orr
Polytolypa J. A. Scott & Malloch
?*Pseudoamauroascus* Cano, Solé & Guarro
Renispora Sigler & J. W. Carmich.
Spiromastix Kuehn & G. F. Orr
Testudomyces Solé, Cano & Guarro
Uncinocarpus Sigler, G. F. Orr & Carm.
Xanthothecium Arx & Samson

Eurotiomycetidae**,** genera *incertae sedis*
Amaurascopsis Guarro, Gené & De Vroey
Azureothecium Matsush.
Calyptrozyma Boekhout & Spaay
Leiothecium Samson & Mouch.
Paratalaromyces Matsush.
?*Pisomyxa* Corda
?*Samarospora* Rostr.
Veronaia Benedek

Subclass *Mycocaliciomycetidae* Tibell*
Mycocaliciales Tibell & Wedin
Mycocaliciaceae A. F. W. Schmidt
Chaenothecopsis Vain.
Mycocalicium Vain. ex Reinke
Phaeocalicium A. F. W. Schmidt
Stenocybe (Nyl.) Körb.

Sphinctrinaceae M. Choisy
Pyrgidium Nyl.
Sphinctrina Fr.

Class *Geoglossomycetes* Zheng Wang, C. L. Schoch & Spatafora
Geoglossales Zheng Wang, C. L. Schoch & Spatafora*
Geoglossaceae Corda
Geoglossum Pers.
Sarcoleotia Ito & S. Imai
Trichoglossum Boud.

Class *Laboulbeniomycetes* Engler
Laboulbeniales Engler
Ceratomycetaceae S. Colla
Autoicomyces Thaxt.
Ceratomyces Thaxt.
Drepanomyces Thaxt.
Eusynaptomyces Thaxt.
Helodiomyces F. Picard
Phurmomyces Thaxt.

Plectomyces Thaxt.
Rhynchophoromyces Thaxt.
Synaptomyces Thaxt.
Tettigomyces Thaxt.
Thaumasiomyces Thaxt.
Thripomyces Speg.

Euceratomycetaceae I. I. Tav.
Cochliomyces Speg.
Colonomyces R. K. Benj.
Euceratomyces Thaxt.
Euzodiomyces Thaxt.
Pseudoecteinomyces W. Rossi

Herpomycetaceae I. I. Tav.
Herpomyces Thaxt.

Laboulbeniaceae G. Winter
Acallomyces Thaxt.
Acompsomyces Thaxt.
Acrogynomyces Thaxt.
Amorphomyces Thaxt.
Amphimyces Thaxt.
Apatelomyces Thaxt.
Apatomyces Thaxt.
Aphanandromyces W. Rossi
Aporomyces Thaxt.
Arthrorhynchus Kolen.
Asaphomyces Thaxt.
Autophagomyces Thaxt.
Balazusia R. K. Benj.
Benjaminiomyces I. I. Tav.
Blasticomyces I. I. Tav.
Botryandromyces I. I. Tav. & T. Majewski
Camptomyces Thaxt.
Cantharomyces Thaxt.
Capillistichus Santam.
Carpophoromyces Thaxt.
Cesariella W. Rossi & Santam.*
Chaetarthriomyces Thaxt.
Chaetomyces Thaxt.
Chitonomyces Peyronel
Clematomyces Thaxt.
Clonophoromyces Thaxt.
Columnomyces R. K. Benj.
Compsomyces Thaxt.
Coreomyces Thaxt.
Corethromyces Thaxt.
Corylophomyces R. K. Benj.
Cryptandromyces Thaxt.
Cucujomyces Speg.
Cupulomyces R. K. Benj.
Dermapteromyces Thaxt.
Diandromyces Thaxt.
Diaphoromyces Thaxt.
Diclonomyces Thaxt.
Dimeromyces Thaxt.
Dimorphomyces Thaxt.
Dioicomyces Thaxt.
Diphymyces I. I. Tav.
?*Diplomyces* Thaxt.
Diplopodomyces W. Rossi & Balazuc
Dipodomyces Thaxt.
Distolomyces Thaxt.
Dixomyces I. I. Tav.
Ecteinomyces Thaxt.
Enarthromyces Thaxt.
Eucantharomyces Thaxt.
Euhaplomyces Thaxt.
Eumisgomyces Speg.
Eumonoicomyces Thaxt.
Euphoriomyces Thaxt.
Fanniomyces Maj.
Filariomyces Shanor
Gloeandromyces Thaxt.
Haplomyces Thaxt.
Hesperomyces Thaxt.
Histeridomyces Thaxt.
Homaromyces R. K. Benj.
Hydraeomyces Thaxt.
Hydrophilomyces Thaxt.
Idiomyces Thaxt.
Ilyomyces F. Picard
Ilytheomyces Thaxt.
Kainomyces Thaxt.
Kleidiomyces Thaxt.
Kruphaiomyces Thaxt.
Kyphomyces I. I. Tav.
Laboulbenia Mont. & C. P. Robin
Limnaiomyces Thaxt.
Majewskia Y. B. Lee & Sugiyama
Meionomyces Thaxt.
Microsomyces Thaxt.
Mimeomyces Thaxt.
Misgomyces Thaxt.
Monandromyces R. K. Benj.
Monoicomyces Thaxt.
Nanomyces Thaxt.
Neohaplomyces R. K. Benj.
Nycteromyces Thaxt.
Ormomyces I. I. Tav.
Osoriomyces Terada
Parvomyces Santam.
Peyerimhoffiella Maire
Peyritschiella Thaxt.
Phalacrichomyces R. K. Benj.
Phaulomyces Thaxt.
Picardella I. I. Tav.
Polyandromyces Thaxt.
Polyascomyces Thaxt.
Porophoromyces Thaxt.
Prolixandromyces R. K. Benj.
Pselaphidomyces Speg.
Rhachomyces Thaxt.
Rhipidiomyces Thaxt.
Rhizomyces Thaxt.
Rhizopodomyces Thaxt.

Rickia Cavara
Rossiomyces R. K. Benj.
Sandersoniomyces R. K. Benj.
Scalenomyces I. I. Tav.
Scaphidiomyces Thaxt.
Scelophoromyces Thaxt.
Scepastocarpus Santam.
Siemaszkoa I. I. Tav. & Maj.
Smeringomyces Thaxt.
Sphaleromyces Thaxt.
Stemmatomyces Thaxt.
Stichomyces Thaxt.
Stigmatomyces H. Karst.
Sugiyamaemyces I. I. Tav. & Balazuc
Symplectromyces Thaxt.
Sympodomyces R. K. Benj.
Synandromyces Thaxt.
Tavaresiella T. Majewski
Teratomyces Thaxt.
Tetrandromyces Thaxt.
Trenomyces Chatton & F. Picard
Triainomyces W. Rossi & A. Weir
Triceromyces T. Majewski
Trochoideomyces Thaxt.
Troglomyces S. Colla
Zeugandromyces Thaxt.
Zodiomyces Thaxt.

Pyxidiophorales P. F. Cannon
Pyxidiophoraceae Arnold
Mycorhynchidium Malloch & Cain
Pyxidiophora Bref. & Tavel

Laboulbeniomycetes**,** genera *incertae sedis*
?*Laboulbeniopsis* Thaxt.

Class *Lecanoromycetes* O. E. Erikss. & Winka
Subclass *Acarosporomycetidae* Reeb, Lutzoni & Cl. Roux
Acarosporales Reeb, Lutzoni & Cl. Roux*
Acarosporaceae Zahlbr.
Acarospora A. Massal.
= *Polysporinopsis* Vězda
Glypholecia Nyl.
Lithoglypha Brusse
Pleopsidium Körb.
Polysporina Vězda
Sarcogyne Flot.
Thelocarpella Nav.-Ros. & Cl. Roux

Subclass *Ostropomycetidae* Reeb, Lutzoni & Cl. Roux
Agyriales Clem. & Shear
Agyriaceae Corda*
Agyrium Fr.

Baeomycetales Lumbsch, Huhndorf & Lutzoni*
Baeomycetaceae Dumort.
Ainoa Lumbsch & I. Schmitt*
Baeomyces Pers.
Phyllobaeis Gierl & Kalb

Anamylopsoraceae Lumbsch & Lunke
Anamylopsora Timdal

Trapeliaceae M. Choisy ex Hertel 1970*
Amylora Rambold
Aspiciliopsis (Müll. Arg.) M. Choisy*
Coppinsia Lumbsch & Heibel
Lignoscripta B. D. Ryan
Lithographa Nyl.
Orceolina Hertel
Placopsis (Nyl.) Linds.
Placynthiella Elenkin
Ptychographa Nyl.
Rimularia Nyl.
Sarea Fr.
Trapelia M. Choisy
Trapeliopsis Hertel & Gotth. Schneid.
Xylographa (Fr.) Fr.

Ostropales Nannf.*
= *Graphidales* Bessey
= *Gyalectales* Henssen ex D. Hawksw. & O. E. Erikss.*
= *Trichotheliales* Hafellner & Kalb*
Coenogoniaceae (Fr.) Stizenb.
Coenogonium Ehrenb. ex Nees
Dimerella Trevis.

Gomphillaceae W. Watson ex Hafellner
= *Solorinellaceae* Vězda & Poelt*
Actinoplaca Müll. Arg.
Aderkomyces Bat.
Aplanocalenia Lücking, Sérus. & Vězda
Arthotheliopsis Vain.
Asterothyrium Müll. Arg.
Aulaxina Fée
Calenia Müll. Arg.
Caleniopsis Vězda & Poelt
Diploschistella Vain.
Echinoplaca Fée
Ferraroa Lücking, Sérus. & Vězda
Gomphillus Nyl.
Gyalectidium Müll. Arg.
Gyalidea Lettau
= *Solorinella* Anzi*
Gyalideopsis Vězda
Hippocrepidea Sérus.
Jamesiella Lücking, Sérus. & Vězda
Lithogyalideopsis Lücking, Sérus. & Vězda
Paratricharia Lücking
Phyllogyalidea Lücking & Aptroot*
?*Psorotheciopsis* Rehm
Rolueckia Papong, Thammathaworn & Boonpragob*
Rubrotricha Lücking, Sérus. & Vězda
?*Sagiolechia* A. Massal.
Tricharia Fée

Graphidaceae Dumort.*
= *Thelotremataceae* (Nyl.) Stizenb.*

Acanthothecis Clem.
Acanthotrema A. Frisch
Amazonotrema Kalb & Lücking*
Anomalographis Kalb
Anomomorpha Nyl.
Carbacanthographis Staiger & Kalb
Chapsa A. Massal.
Chroodiscus (Müll. Arg.) Müll. Arg.
Diaphorographis A. W. Archer & Kalb*
Diorygma Eschw.
Diploschistes Norman
Dyplolabia A. Massal.
Fibrillithecis A. Frisch
Fissurina Feé
Glyphis Ach.
Graphis Adans.*
Gymnographa Müll. Arg.
Gymnographopsis C. W. Dodge
Gyrotrema A. Frisch
Hemithecium Trevis.*
Ingvariella Guderley & Lumbsch
Kalbographa Lücking*
Leptotrema Mont. & Bosch
Leucodecton A. Massal.
Melanotopelia Lumbsch & Mangold*
Melanotrema A. Frisch
Myriotrema Fée
Nadvornikia Tibell
Ocellularia G. Mey.
= *Ampliotrema* Kalb
Pallidogramme Staiger, Kalb & Lücking*
Phaeographina Müll. Arg.
Phaeographis Müll. Arg.
?*Phaeotrema* Müll. Arg.
Platygramme Fée
Platygrapha Berk. & Broome
Platythecium Staiger
Polistroma Clemente
Pseudoramonia Kantvilas & Vězda
Redingeria A. Frisch
Reimnitzia Kalb
Sarcographa Fée
Schistophoron Stirt.*
Schizotrema Mangold & Lumbsch*
Stegobolus Mont.
Thalloloma Trevis.
Thecaria Fée
Thelotrema Ach.
Topeliopsis Kantvilas & Vězda
Tremotylium Nyl.

Gyalectaceae (A. Massal.) Stizenb.
?*Belonia* Körb.
?*Bryophagus* Nitschke ex Arnold
Cryptolechia A. Massal.
Gyalecta Ach.
Pachyphiale Lönnr.
Ramonia Stizenb.
?*Sarcoexcipula* Etayo*
Semigyalecta Vain.

Myeloconidaceae P. M. McCarthy
Myeloconis P. M. McCarthy & Elix

Odontotremataceae D. Hawksw. & Sherwood
Bryodiscus B. Hein, E. Müll. & Poelt
Coccomycetella Höhn.
Geltingia Alstrup & D. Hawksw.
Odontotrema Nyl.
Odontura Clem.
Paralethariicola Calatayud, Etayo & Diederich
Paschelkiella Sherwood
Potriphila Döbbeler
Rogellia Döbbeler
Stromatothecia D. E. Shaw & D. Hawksw.
Thamnogalla D. Hawksw.
Tryblis Clem.
Xerotrema Sherwood & Coppins

Phaneromycetaceae Gamundí & Spinedi
?*Phaneromyces* Speg. & Har. ex Speg.

Phlyctidaceae Poelt & Vězda ex J. C. David & D. Hawksw.
Phlyctis (Wallr.) Flot.
Psathyrophlyctis Brusse

Porinaceae Reichenb.
Clathroporina Müll. Arg.
Polycornum Malcolm & Vězda
Porina Müll. Arg.
Segestria Fr.
Trichothelium Müll. Arg.

Stictidaceae Fr.
Absconditella Vězda
Acarosporina Sherwood
Biostictis Petr.
Carestiella Bres.
Conotremopsis Vězda
Cryptodiscus Corda
Cyanodermella O. E. Erikss.
?*Delpontia* Penz. & Sacc.
Lillicoa Sherwood
Nanostictis M. S. Christ.
Ostropa Fr.
?*Petractis* Fr.
?*Propoliopsis* Rehm
Robergea Desm.
Schizoxylon Pers.
Stictis Pers.
?*Stictophacidium* Rehm
?*Thelopsis* Nyl.
?*Topelia* P. M. Jørg. & Vězda

Ostropales, *incertae sedis*
Amphorothecium P. M. McCarthy, Kantvilas & Elix
?*Leucogymnospora* Fink
Malvinia Döbbeler

?*Phaeographopsis* Sipman
Platygraphopsis Müll. Arg.
?*Xyloschistes* Vain. ex Zahlbr.

Pertusariales M. Choisy ex D. Hawksw. & O. E. Erikss.
Coccotremataceae Henssen ex J. C. David & D. Hawksw.
Coccotrema Müll. Arg.
Parasiphula Kantvilas & Grube

Icmadophilaceae Triebel
Dibaeis Clem.
Endocena Cromb.*
Icmadophila Trevis.
Pseudobaeomyces M. Satì
Siphula Fr.
Siphulella Kantvilas, Elix & P. James
Thamnolia Ach. ex Schaerer

Megasporaceae Lumbsch, Feige & K. Schmitz
Aspicilia A. Massal.
Lobothallia (Clauzade & Cl. Roux) Hafellner
Megaspora (Clauzade & Cl. Roux) Hafellner & V. Wirth

Ochrolechiaceae R. C. Harris ex Lumbsch & I. Schmitt
Ochrolechia A. Massal.
Varicellaria Nyl.

Pertusariaceae Körb. ex Körb.
Loxosporopsis Henssen
Pertusaria DC.
?*Thamnochrolechia* Aptroot & Sipman

Ostropomycetidae, families *incertae sedis*
Arctomiaceae Th. Fr.
Arctomia Th. Fr.
Gregorella Lumbsch
Wawea Henssen & Kantvilas

?***Arthrorhaphidaceae*** Poelt & Hafellner
Arthrorhaphis Th. Fr.

Hymeneliaceae Körb.
Eiglera Hafellner
Hymenelia Kremp.
Ionaspis Th. Fr.
?*Melanolecia* Hertel
Tremolecia M. Choisy

Protothelenellaceae Vězda, H. Mayrhofer & Poelt
Mycowinteria Sherwood
Protothelenella Räsenen
Thrombium Wallr.

Sarrameanaceae Hafellner
= *Loxosporaceae* Kalb & Staiger
Loxospora A. Massal.
Sarrameana Vězda & P. James

Schaereriaceae Hafellner
Schaereria Th. Fr.

Thelenellaceae H. Mayrhofer
?*Chromatochlamys* Trevis.
Julella Fabre
Thelenella Nyl.

Ostropomycetidae, genera *incertae sedis*
Anzina Scheid.*
?*Aspilidea* Hafellner

Subclass *Lecanoromycetidae* P. M. Kirk, P. F. Cannon, J. C. David & Stalpers ex Miadl., Lutzoni & Lumbsch*
Lecanorales Nannf.
Biatorellaceae M. Choisy ex Hafellner & Casares-Porcel
Biatorella De Not.

Calycidiaceae Elenkin
Calycidium Stirt.

Catillariaceae Hafellner
Austrolecia Hertel
Catillaria A. Massal.
Halecania M. Mayrhofer
Placolecis Trevis.
Solenopsora A. Massal.
Sporastatia A. Massal.
Xanthopsorella Kalb & Hafellner

Cladoniaceae Zenker
= *Heterodeaceae* Filson; Cetradoniaceae J. C. Wei & Ahti
Calathaspis I. M. Lamb & W. A. Weber
Carassea S. Stenroos
Cetradonia J. C. Wei & Ahti
Cladia Nyl.
Cladonia Hill ex P. Browne
Gymnoderma Nyl.
Heterodea Nyl.
Heteromyces Müll. Arg.
Metus D. J. Galloway & P. James
Myelorrhiza Verdon & Elix
Notocladonia S. Hammer
Pilophorus Th. Fr.
Pycnothelia Duf.
Sphaerophoropsis Vain.
Squamella S. Hammer
Thysanothecium Mont. & Berk.

Crocyniaceae M. Choisy ex Hafellner
Crocynia A. Massal.

Dactylosporaceae Bellem. & Hafellner
Dactylospora Körb.

Gypsoplacaceae Timdal
Gypsoplaca Timdal

Haematommataceae Hafellner
Haematomma A. Massal.

Lecanoraceae Körb.
Arctopeltis Poelt
Bryonora Poelt

Bryodina Hafellner
?*Calvitimela* Hafellner
Carbonea (Hertel) Hertel
Cladidium Hafellner
?*Claurouxia* D. Hawksw.
Clauzadeana Cl. Roux
Edrudia W. P. Jordan
Japewiella Printzen
Lecanora Ach.
= *Diomedella* Hertel
= *Protoparmeliopsis* M. Choisy
Lecidella Körb.
Maronina Hafellner & R. W. Rogers
Miriquidica Hertel & Rambold
Myrionora R. C. Harris
Psorinia Gotth. Schneid.
Punctonora Aptroot
?Pycnora Hafellner
Pyrrhospora Körb.
?Ramalinora Lumbsch, Rambold & Elix
Ramboldia Kantvilas & Elix
Rhizoplaca Zopf
Sagema Poelt & Grube
Sipmaniella Kalb*
Traponora Aptroot
Tylothallia P. James & R. Kilias
Vainionora Kalb

Megalariaceae Hafellner
Catillochroma Kalb
Megalaria Hafellner
Tasmidella Kantvilas, Hafellner & Elix

Miltideaceae Hafellner
Miltidea Stirt.

Mycoblastaceae Hafellner
Mycoblastus Norman
Tephromela M. Choisy

Pachyascaceae Poelt ex P. M. Kirk, P. F. Cannon & J. C. David
Pachyascus Poelt & Hertel

Parmeliaceae Zenker*
= *Anziaceae* M. Sato
Ahtiana Goward
Alectoria Ach.
= *Gowardia* P. Halonen, L. Myllys, S. Velmala & H. Hyvärinen*
Allantoparmelia (Vain.) Essl.
Allocetraria Kurok. & M. Y. Lai
= *Usneocetraria* M. L. Lai & J. C. Wei*
Anzia Stizenb.
Arctocetraria Kärnefelt & Thell*
Arctoparmelia Hale
Asahinea W. L. Culb. & C. F. Culb.
Brodoa Goward
Bryocaulon Kärnefelt
Bryoria Brodo & D. Hawksw.
Bulborrhizina Kurok.
Bulbothrix Hale
= *Bulbotrichella* V. Marcano, S. Mohali & A. Morales
Canoparmelia Elix & Hale
Cavernularia Degel.
Cetraria Ach.*
Cetrariastrum Sipman
Cetrariella Kärnefelt & Thell
Cetrariopsis Kurok.
Cetrelia W. L. Culb. & C. F. Culb.
Cetreliopsis Kurok.*
Coelocaulon Link
Coelopogon Brusse & Kärnefelt
Cornicularia (Schreb.) Ach.
Coronoplectrum Brusse
Dactylina Nyl.
Davidgallowia Aptroot
Esslingeriana Hale & M. J. Lai
Evernia Ach.
Everniastrum Hale ex Sipman
Everniopsis Nyl.
Flavocetraria Kärnefelt & Thell*
Flavocetrariella D. D. Awasthi*
Flavoparmelia Hale
Flavopunctelia Hale
Himantormia I. M. Lamb
= *Nimisia* Kärnefelt & Thell
Hypogymnia (Nyl.) Nyl.
Hypotrachyna (Vain.) Hale
Imshaugia F. C. Mey.
Kaernefeltia Thell & Goward*
Karoowia Hale
Letharia (Th. Fr.) Zahlbr.
Lethariella (Motyka) Krog
Masonhalea Kärnefelt
Melanelia Essl.
Melanelixia O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch
Melanhalea O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch
Menegazzia A. Massal.
Myelochroa (Asahina) Elix & Hale
Neopsoromopsis Gyeln.
Nephromopsis Müll. Arg.
= *Tuckneraria* Randlane & Thell
Nesolechia A. Massal.
Nodobryoria Common & Brodo
Omphalodiella Henssen
Omphalodium Meyen & Flot.
Omphalora T. H. Nash & Hafellner
Oropogon Th. Fr.
Pannoparmelia (Müll. Arg.) Darb.
Parmelaria D. D. Awasthi
Parmelia Ach.
Parmelina Hale
Parmelinella Elix & Hale
Parmelinopsis Elix & Hale

Parmeliopsis (Nyl.) Nyl.
Parmotrema A. Massal.
Parmotremopsis Elix & Hale
Phacopsis Tul.
Placoparmelia Henssen
Platismatia W. L. Culb. & C. F. Culb.
Pleurosticta Petr.
Protoparmelia M. Choisy
Protousnea (Motyka) Krog
Pseudephebe M. Choisy
Pseudevernia Zopf
Pseudoparmelia Lynge
Psiloparmelia Hale
Psoromella Gyeln.
Punctelia Krog
Relicina (Hale & Kurok.) Hale
Relicinopsis Elix & Verdon
Sulcaria Bystr.
Tuckermanella Essl.*
Tuckermannopsis Gyeln.*
Usnea Dill. ex Adans.
= *Dolichousnea* (Y. Ohmura) Articus
= *Eumitria* Stirt.
= *Neuropogon* Nees & Flotow
Vulpicida Mattson & M. J. Lai
Xanthoparmelia (Vain.) Hale
= *Almbornia* Essl.
= *Neofuscelia* Essl.
= *Chondropsis* Nyl.
= *Namakwa* Hale
= *Paraparmelia* Elix & J. Johnst.
= *Xanthomaculina* Hale

Pilocarpaceae Zahlbr.
Badimia Vězda
Badimiella Malcolm & Vězda
Bapalmuia Sérus.
Barubria Vězda
Biflavia Lücking*
Brasilicia Lücking, Kalb & Serus.*
Bryogomphus Lücking, W. R. Buck, Sérus. & L. I. Ferraro
Byssolecania Vain.
Byssoloma Trevis.
Calopadia Vězda
Calopadiopsis Lücking & R. Sant.
Fellhanera Vězda
Fellhaneropsis Sérus. & Coppins
Kantvilasia P. M. McCarthy, Elix & Sérus.
Lasioloma R. Sant.
Leimonis R. C. Harris*
Lobaca Vězda
Loflammia Vězda
Loflammiopsis Lücking & Kalb
Logilvia Vězda
?*Lopadium* Körb.
Malcolmiella Vězda
Micarea Fr.
Pseudocalopadia Lücking
Psilolechia A. Massal.
Scutula Tul.
Septotrapelia Aptroot & Chaves
Sporopodiopsis Sérus.
Sporopodium Mont.
Szczawinskia A. Funk
= *Uluguria* Vězda
?*Tapellaria* Müll. Arg.
Tapellariopsis Lücking

Psoraceae Zahlbr.
Eremastrella Vogel
Glyphopeltis Brusse
Protoblastenia (Zahlbr.) J. Steiner
?*Protomicarea* Hafellner
Psora Hoffm.
Psorula Gotth. Schneid.

Ramalinaceae C. Agardh
= *Bacidiaceae* W. Watson
Aciculopsora Aptroot & Trest
Adelolecia Hertel & Hafellner
Arthrosporum A. Massal.
Bacidia De Not.
Bacidina Vězda
Bacidiopsora Kalb
Biatora Fr.
Catinaria Vain.
Cenozosia A. Massal.
Cliostomum Fr.
Compsocladium I. M. Lamb
Crustospathula Aptroot
Echidnocymbium Brusse
Eungeniella Lücking, Serus. & Kalb*
Frutidella Lalb
Heppsora D. D. Awasthi & K. Singh
Herteliana P. James
Japewia Tønsberg
Jarmania Kantvilas
Krogia Timdal
Lecania A. Massal.*
Lopezaria Kalb & Hafellner
Lueckingia Aptroot & Umana
Niebla Rundel & Bowler
Phyllopsora Müll. Arg.
= *Squamacidia* Brako
= *Triclinum* Fée*
Physcidia Tuck.
Ramalina Ach.
Ramalinopsis (Zahlbr.) Follmann & Huneck
Rolfidium Moberg
Schadonia Körb.
Speerschneidera Trevis.*
Stirtoniella D. J. Galloway, Hafellner & Elix
Thamnolecania (Vain.) Gyeln.
Tibellia Vězda & Hafellner
Toninia A. Massal.
Toniniopsis Frey

Vermilacinia Spjut & Hale
Waynea Moberg

Scoliciosporaceae Hafellner
Scoliciosporum A. Massal.
?*Umushamyces* Etayo*

Sphaerophoraceae Fr.
Austropeltum Henssen, Döring & Kantvilas
Bunodophoron A. Massal.
Leifidium Wedin
Neophyllis F. Wilson
Sphaerophorus Pers.

Stereocaulaceae Chevall.
Hertelidea Printzen & Kantvilas
Lepraria Ach.
Stereocaulon Hoffm.
= *Lachnocaulon* Clem. & Shear
= *Muhria* P. M. Jørg.
Squamarina Poelt
Xyleborus R. C. Harris & Ladd

Lecanorales**,** genera *incertae sedis*
Joergensenia Passo, Stenroos & Calvelo*
Myelochroidea Printzen, T. Sprib. & Tønsberg*
Puttea S. Stenroos & Huhtinen*
Ramalea Nyl.
Speerschneidera Trevis.
Strangospora Körb.

Peltigerales W. Watson
Collematineae Miadl. & Lutzoni
Coccocarpiaceae (Mont. ex Müll. Stuttg.) Henssen
Coccocarpia Pers.
Peltularia R. Sant.
Spilonema Bornet
Spilonemella Henssen & Tønsberg
Steinera Zahlbr.

Collemataceae Zenker
Collema F. H. Wigg.
Homothecium A. Massal.
Leciophysma Th. Fr.
Leightoniella Henssen
Leptogium (Ach.) Gray
Physma A. Massal.
Ramalodium Nyl.
Staurolemma Körb.

Pannariaceae Tuck.
Austrella P. M. Jørg.
Degelia Arv. & D. J. Galloway
Degeliella P. M. Jørg.
Erioderma Feé
Fuscoderma (D. J. Galloway & P. M. Jørg.) P. M. Jørg. & D. J. Galloway
Fuscopannaria P. M. Jørg.
Kroswia P. M. Jørg.
Leioderma Nyl.
Lepidocollema Vain.
Moelleropsis Gyeln.
Pannaria Del. ex Bory
Parmeliella Müll. Arg.
Protopannaria (Gyeln.) P. M. Jørg. & S. Ekman
Psoroma Michaux
Psoromidium Stirt.
Santessoniella Henssen
Siphulastrum Müll. Arg.
Vahliella P. M. Jørg.*

Placynthiaceae Å. E. Dahl
Hertella Henssen
Koerberia A. Massal.
Leptochidium M. Choisy
Placynthiopsis Zahlbr.
Placynthium (Ach.) Gray
?*Polychidium* (Ach.) Gray
Vestergrenopsis Gyeln.

Peltigerineae
Lobariaceae Chevall.
Dendriscocaulon Nyl.
Lobaria (Schreb.) Hoffm.
= *Lobariella* Yoshim.
Pseudocyphellaria Vain.
Sticta (Schreb.) Ach.

Nephromataceae Wetm. ex J. C. David & D. Hawksw.
Nephroma Ach.

Peltigeraceae Dumort.
Peltigera Willd.
Solorina Ach.

Peltigerineae, genera *incertae sedis*
Massalongia Körb.

Teloschistales D. Hawksw. & O. E. Erikss.
Letrouitiaceae Bellem. & Hafellner
Letrouitia Hafellner & Bellem.

Megalosporaceae Vězda ex Hafellner & Bellem.
?*Austroblastenia* Sipman
Megaloblastenia Sipman
Megalospora Meyen

Physciaceae Zahlbr.
= Caliciaceae Chevall.
Acolium (Ach.) Grev.
Acroscyphus Lév.
Amandinea M. Choisy
Anaptychia Körb.
Australiaena Matzer, H. Mayrh. & Elix
Buellia De Not.
Calicium Pers.
Coscinocladium Kunze
Cratiria Marbach
?*Culbersonia* Essl.
Cyphelium Ach.

Dermatiscum Nyl.
Dermiscellum Hafellner, H. Mayrhofer & Poelt
Dimelaena Norman
Diploicia A. Massal.
Diplotomma Flot.
Dirinaria (Tuck.) Clem.
Gassicurtia Feé
Hafellia Kalb, H. Mayrhofer & Scheid.
Heterodermia Trevis.
Hyperphyscia Müll. Arg.
Hypoflavia Marbach
Mischoblastia A. Massal.
Mobergia H. Mayrhofer, Sheard & Matzer
Monerolechia Trevis.
Phaeophyscia Mob.
Phaeorrhiza H. Mayrhofer & Poelt
Physcia (Schreb.) Michaux
Physciella Essl.
Physconia Poelt
Pyxine Fr.
?*Redonia* C. W. Dodge
Rinodina (Ach.) Gray
Rinodinella H. Mayrhofer & Poelt
Santessonia Hale & Vobis
?*Sculptolumina* Marbach*
Stigmatochroma Marbach
?*Sphinctrinopsis* Woron.
Tetramelas Norman
Texosporium Nádv. ex Tibell & Hofsten
Thelomma A. Massal.
Tholurna Norman
Tornabea Oesth.
?*Tylophoropsis* Sambo

Teloschistaceae Zahlbr.*
Caloplaca Th. Fr.
Cephalophysis (Hertel) H. Kilias
Fulgensia A. Massal. & De Not.
Huea C. W. Dodge & G. E. Baker
Ioplaca Poelt
Josefpoeltia S. Y. Kondr. & Kärnefelt
Seirophora Poelt
Teloschistes Norman
Xanthodactylon P. A. Duvign.*
Xanthomendoza S. Y. Kondr. & Kärnefelt
Xanthopeltis R. Sant.
Xanthoria (Fr.) Th. Fr.*
= *Jackelixia* S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt & A. Thell*
= *Ovealmbornia* S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix & A. Thell*
= *Xanthokarroa* S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix & A. Thell*

Lecanoromycetidae, families *incertae sedis*
Brigantiaeaceae Hafellner & Bellem.
?*Argopsis* Th. Fr.
Brigantiaea Trevis.

Elixiaceae Lumbsch
Elixia Lumbsch
Meridianelia Kantvilas & Lumbsch*

Fuscideaceae Hafellner*
Fuscidea V. Wirth & Vězda
Hueidia Kantvilas & P. M. McCarthy
?*Lettauia* D. Hawksw. & R. Sant.
?*Maronea* A. Massal.
?*Orphniospora* Körb.

Lecideaceae Chevall.
= *Porpidiaceae* Hertel & Hafellner
Amygdalaria Norman
Bahianora Kalb
Bellemerea Hafellner & Cl. Roux
Catarrhospora Brusse
Cecidonia Triebel & Rambold
Clauzadea Hafellner & Bellem.
Cryptodictyon A. Massal.
Farnoldia Hertel
Immersaria Rambold & Pietschm.
Koerberiella Stein
Labyrintha Malcolm, Elix & Owe-Larsson
Lecidea Ach.
Lecidoma Gotth. Schneid. & Hertel
Lopacidia Kalb
Mycobilimbia Rehm
Pachyphysis R. C. Harris & Ladd
Paraporpidia Rambold & Pietschm.
Poeltiaria Hertel
Poeltidea Hertel & Hafellner
Porpidia Körb.
?*Pseudopannaria* (de Lesd.) Zahlbr.
?*Rhizolecia* Hertel
Romjularia Timdal*
Schizodiscus Brusse
?*Steinia* Körb.
Stephanocyclos Hertel
Xenolecia Hertel

Ophioparmaceae R. W. Rogers & Hafellner
= *Rhizoplacopsidaceae* J. C. Wei & Q. M. Zhou*
Boreoplaca Timdal*
= *Rhizoplacopsis* J. C. Wei & Q. M. Zhou*
Ophioparma Norman
Hypocenomyce M. Choisy

Rhizocarpaceae M. Choisy ex Hafellner
?*Catolechia* Flot.
?*Epilichen* Clem.
Poeltinula Hafellner
Rhizocarpon Ramond ex DC.

Ropalosporaceae Hafellner*
Ropalospora A. Massal.

Lecanoromycetes, orders *incertae sedis*
Candelariales Miadl., Lutzoni & Lumbsch*
Candelariaceae Hakul.*

Candelaria A. Massal.*
Candelariella Müll. Arg.*
Candelina Poelt*
Placomaronea Räsenen*

Umbilicariales Lumbsch, Hestmark & Lutzoni*
Umbilicariaceae Chevall.
Lasallia Mérat
Umbilicaria Hoffm.

Lecanoromycetes, genera *incertae sedis*
Auriculora Kalb
Bartlettiella D. J. Galloway & P. M. Jørg.
Biatoridium J. Lahm ex Körb.
Bilimbia De Not.
Botryolepraria Canals, Hern.-Mar., Gómez-Bolea & Llimona
Bouvetiella Øvstedal
Buelliastrum Zahlbr.
Collolechia A. Massal.
?*Corticifraga* D. Hawksw. & R. Sant.
Corticiruptor Wedin & Hafellner
?*Eschatogonia* Trevis.
?*Haploloma* Trevis.
Helocarpon Fr.
Hosseusia Gyeln.
Korfiomyces Iturr. & D. Hawksw.
Leprocaulon Nyl.
Maronella M. Steiger
Mattickiolichen Tomas. & Cif.
Nimisiostella Calat., Barreno & O. E. Erikss.
Notolecidea Hertel
Piccolia A. Massal.
Podotara Malcolm & Vězda
?*Psorotichiella* Werner
?*Ravenelula* Speg.
Roccellinastrum Follmann
?*Stenhammarella* Hertel
Timdalia Hafellner
Umbilithecium Etayo*

Class *Leotiomycetes* O. E. Erikss. & Winka
Cyttariales Luttr. ex Gamundí
Cyttariaceae Speg.
Cyttaria Berk.

Erysiphales Gwynne-Vaughan
Erysiphaceae Tul. & C. Tul.
Arthrocladiella Vassilkov
Blumeria Golovin ex Speer
Brasiliomyces Viégas
Bulbomicrosphaera A. Q. Wang
Bulbouncinula R. Y. Zheng & G. Q. Chen
Caespitotheca S. Takam. & U. Braun
Cystotheca Berk. & Curtis
Erysiphe DC.
Golvinomyces Gelyuta
Leveillula G. Arnaud
Medusosphaera Golovin & Gamalizk.
Microsphaera Lév.
Neoerysiphe U. Braun*
Parauncinula S. Takamatsu, U. Braun & S. Limkaisang*
Phyllactinia Lév.
Pleochaeta Sacc. & Speg.
Podosphaera Kunze
Sawadaea Miyabe
Setoerysiphe Y. Nomura
Sphaerotheca Lév.
Typhulochaeta Ito & Hara
Uncinula Lév.
Uncinuliella R. Y. Zheng & G. Q. Chen
Helotiales Nannf.
= *Leotiales* Carpenter
?***Ascocorticiaceae*** J. Schröt.
Ascocorticium Bref.

Bulgariaceae Fr.
Bulgaria Fr.
Holwaya Sacc.

Dermateaceae Fr.
Aivenia Svrcek
Angelina Fr.
Ascluella DiCosmo, Nag Raj & W. B. Kendr.
Atropellis Zeller & Goodd.
Belonopsis (Sacc.) Sacc. & P. Syd.
Blumeriella Arx
Calloria Fr.
Calloriella Höhn.
Calycellinopsis W. Y. Zhuang
Cashiella Petr.
Cejpia Velen.
Chaetonaevia Arx
Chlorosplenium Fr.
Coleosperma Ingold
Coronellaria P. Karst.
Crustomollisia Svrcek
Cryptohymenium Samuels & L. M. Kohn
Dennisiodiscus Svrcek
Dermateopsis Nannf.
Dermea Fr.
Dibeloniella Nannf.
Diplocarpa Massee
Diplocarpon F. A. Wolf
Diplonaevia Sacc.
Discocurtisia Nannf.
Discohainesia Nannf.
Drepanopeziza (Kleb.) Höhn.
Duebenia Fr.
Durandiella Seaver
Eupropolella Höhn.
Felisbertia Viégas
Graddonia Dennis
Haglundia Nannf.
Hysteronaevia Nannf.
Hysteropezizella Höhn.
Hysterostegiella Höhn.

Involucroscypha Raitv.
Laetinaevia Nannf.
Leptotrochila P. Karst.
Micropeziza Fuckel
Mollisia (Fr.) P. Karst.
Naevala B. Hein
Naeviella (Rehm) Clem.
Naeviopsis B. Hein
Neofabraea H. S. Jacks.
Neotapesia E. Müll. & Hütter
Nimbomollisia Nannf.
Niptera Fr.
Nothophacidium J. Reid & Cain
Obscurodiscus Raitv.
Obtectodiscus E. Müll., Petrini & Samuels
Ocellaria (Tul. & C. Tul.) P. Karst.
Patellariopsis Dennis
Patinella Sacc.
Pezicula Tul. & C. Tul.
Pezolepis Syd.
Phaeomollisia T. N. Sieber & C. R. Grünig*
Phaeonaevia L. Holm & K. Holm
Pirottaea Sacc.
Pleoscutula Vou.
Ploettnera P. Henn.
Podophacidium Niessl
Pseudonaevia Dennis & Spooner
Pseudoniptera Velen.
Pseudopeziza Fuckel
Pyrenopeziza Fuckel
Sarconiptera Raitv.
Schizothyrioma Höhn.
Scleropezicula Verkley
Scutobelonium Graddon
Scutomollisia Nannf.
Sorokina Sacc.
Sorokinella J. Fröhl. & K. D. Hyde
Spilopodia Boud.
Spilopodiella E. Müll.
Trochila Fr.
Waltonia Saho

Helotiaceae Rehm
Allophylaria (P. Karst.) P. Karst.
Ameghiniella Speg.
Aquadiscula Shearer & J. L. Crane
Ascocalyx Naumov
Ascoclavulina Otani
Ascocoryne J. W. Groves & D. E. Wilson
Ascotremella Seaver
Austrocenangium Gamundí
?*Banksiamyces* G. Beaton
Belonioscyphella Höhn.
Bioscypha Syd.
Bisporella Sacc.
Bryoscyphus Spooner
Bulgariella P. Karst.
Bulgariopsis P. Henn.
?*Calloriopsis* Syd. & P. Syd.
Capillipes R. Sant.
Carneopezizella Svrcek
Cenangiopsis Rehm
Cenangium Fr.
Cenangiumella J. Fröhl. & K. D. Hyde
Chlorociboria Seaver ex Ramamurthi, Korf & L. R. Batra
Chloroscypha Seaver
Claussenomyces Kirschst.
Cordierites Mont.
Crocicreas Fr.
Crumenella P. Karst.
Crumenulopsis J. W. Groves
Cudoniella Sacc.
Dencoeliopsis Korf
Dictyonia Syd.
Discinella Boud.
Encoeliopsis Nannf.
Episclerotium L. M. Kohn & Nagas.
Erikssonopsis M. Morelet
Eubelonis Höhn.
Gelatinodiscus Kanouse & A. H. Sm.
?*Gelatinopsis* Rambold & Triebel
Gloeopeziza Zukal
Godronia Moug. & Lév.
Godroniopsis Diehl & E. K. Cash
Gorgoniceps P. Karst.
Grahamiella Spooner
Gremmeniella M. Morelet
Grimmicola Döbbeler & Hertel
Grovesia Dennis
Grovesiella M. Morelet
Heterosphaeria Grev.
Holmiodiscus Svrcek
Hymenoscyphus Gray
Jacobsonia Boedijn
Metapezizella Petr.
Micraspis Darker
?*Micropodia* Boud.
Mniaecia Boud.
Mollisinopsis Arendh. & R. Sharma
Mytilodiscus Kropp & S. E. Carp.
Neocudoniella S. Imai
Nipterella Starb. ex Dennis
Ombrophila Fr.
?*Pachydisca* Boud.
Parencoelia Petr.
Parorbiliopsis Spooner & Dennis
Patinellaria H. Karst.
Pestalopezia Seaver
Phaeangellina Dennis
Phaeofabraea Rehm
Phaeohelotium Kanouse
?*Physmatomyces* Rehm
Pocillum De Not.
Poculopsis Kirschst.
Polydiscidium Wakef.
Pragmopora A. Massal.

Pseudohelotium Fuckel
Pseudopezicula Korf
Rhizocalyx Petr.
Roesleria Thüm. & Pass.*
Sageria A. Funk
Septopezizella Svrcek
Skyathea Spooner & Dennis
Stamnaria Fuckel
Strossmayeria Schulzer
Symphyosirinia E. A. Ellis
Tatraea Svrcek
Thindiomyces Arendh. & R. Sharma
Tympanis Fr.
Unguiculariopsis Rehm
Velutarina Korf ex Korf
Weinmannioscyphus Svrcek
Xeromedulla Korf & W. Y. Zhuang
Xylogramma Wallr.

Hemiphacidiaceae Korf
Chlorencoelia J.R. Dixon
?*Didymascella* Maire & Sacc.
Fabrella Kirschst.
Heyderia (Fr.) Link
Korfia J. Reid & Cain
Rhabdocline Syd.
Sarcotrochila Höhn.

Hyaloscyphaceae Nannf.
Albotricha Raitv.
Amicodisca Svrcek
Antinoa Velen.
?*Arachnopeziza* Fuckel
Asperopilum Spooner
Austropezia Spooner
Belonidium Mont. & Dur.
Betulina Velen.
Brunnipila Baral
Bryoglossum Redhead
Calycellina Höhn.
Calycina Nees ex Gray
Calyptellopsis Svrcek
Capitotricha (Raitv.) Baral
Chrysothallus Velen.
Ciliolarina Svrcek
?*Cilliosculum* Kirschst.
Cistella Quél.
Cistellina Raitv.
Chimaeroscypha Raitv.*
Clavidisculum Kirschst.
Dasyscyphella Tranzschel
Dematioscypha Svrcek
?*Didonia* Velen.
Dimorphotricha Spooner
Echinula Graddon
Eriopezia (Sacc.) Rehm
Fuscolachnum J. H. Haines
Fuscoscypha Svrcek
Gemmina Raitv.*
Graddonidiscus Raitv. & R. Galán
Hamatocanthoscypha Svrcek
Hegermila Raitv.
Hyalacrotes (Korf & Kohn) Raitv.
Hyalopeziza Fuckel
Hyaloscypha Boud.
Hydrocina Scheuer
Hyphodiscus Kirschst.
Incrucipulum Baral
Incrupila Raitv.
Lachnellula P. Karst.
Lasiobelonium Ellis & Everh.
Microscypha Syd. & P. Syd.
Mollisina Höhn. ex Weese
Neodasyscypha Suková & Spooner
Olla Velen.
Otwaya G. Beaton
Parachnopeziza Korf
Perrotia Boud.
Phaeoscypha Spooner
Pithyella Boud.
Polaroscyphus Huhtinen
Polydesmia Boud.
Proliferodiscus J. H. Haines & Dumont
Proprioscypha Spooner
?*Protounguicularia* Raitv. & Galán
Psilachnum Höhn.
Psilocistella Svrcek
Pubigera Baral, Gminder & Svrcek
Remleria Raitv.*
Rodwayella Spooner
Roseodiscus H. O. Baral*
Tapesina Lambotte
Unguicularia Höhn.
Unguiculariella K. S. Thind & R. Sharma
Unguiculella Höhn.
Urceolella Boud.
Velutaria Fuckel
Venturiocistella Raitv.

Lachnaceae (Nannf.) Raitv.*
Lachnaster Höhn.*
Lachnum Retz.*
= *Dasyscyphus* Nees
Solenopezia Sacc.*
Trichopeziza Fuckel*

Leotiaceae Corda
Geocoryne Korf
Gelatinipulvinella Hosoya & Y. Otani
Leotia Pers.
Microglossum Gillet
Neobulgaria Petr.
Pezoloma Clem.
= *Rhizoscyphus* W. Y. Zhuang & Korf*

Loramycetaceae Dennis ex Digby & Goos
Loramyces W. Weston

Phacidiaceae Fr.
?*Ascocoma* H. J. Swart
Lophophacidium Lagerb.
Phacidium Fr.

Rutstroemiaceae Holst-Jensen, L. M. Kohn & T. Schumacher
Lambertella Höhn.
Lanzia Sacc.
Piceomphale Svrcek
Poculum Velen.
Rutstroemia P. Karst.
Scleromitrula S. Imai

Sclerotiniaceae Whetzel ex Whetzel
Asterocalyx Höhn.
Botryotinia Whetzel
Ciboria Fuckel
Ciborinia Whetzel
Coprotinia Whetzel
Cudoniopsis Speg.
Dicephalospora Spooner
Dumontinia L. M. Kohn
Elliottinia L. M. Kohn
Encoelia (Fr.) P. Karst.
Grovesinia M. N. Cline, J. L. Crane & S. D. Cline
Kohninia Holst-Jensen, Vrålstad & T. Schumach.
Lambertellina Korf & Lizoñ
Martininia Dumont & Korf
Mitrula Fr.
Mitrulinia Spooner
Monilinia Honey
?*Moserella* Pöder & Scheuer
Myriosclerotinia N. F. Buchw.
Nervostroma Y. Harada & T. Narumi*
Ovulinia Weiss
Phaeosclerotinia Hori
Poculina Spooner
Pseudociboria Kanouse
Pycnopeziza W. L. White & Whetzel
Redheadia Y. Suto & Suyama
Sclerocrana Samuels & L. M. Kohn
Sclerotinia Fuckel
Seaverinia Whetzel
Septotinia Whetzel ex J. W. Groves & M. E. Elliott
Streptotinia Whetzel
Stromatinia Boud.
Torrendiella Boud. & Torr.
Valdensinia Peyronel
Zoellneria Velen.

Vibrisseaceae Korf
Chlorovibrissea L. M. Kohn
Leucovibrissea (A. Sánchez) Korf
Vibrissea Fr.

Helotiales**,** genera *incertae sedis*
Adelodiscus Syd.
?*Algincola* Velen.
Ambrodiscus Carpenter
Amylocarpus Curr.
Aquapoterium Raja & Shearer*
?*Ascographa* Velen.
?*Atrocybe* Velen.
?*Benguetia* Syd. & P. Syd.
?*Capricola* Velen.
?*Cenangiopsis* Velen.
?*Chlorospleniella* P. Karst.
Chondroderris Maire
?*Ciliella* Sacc. & P. Syd.
?*Comesia* Sacc.
?*Cornuntum* Velen.
?*Criserosphaeria* Speg.
Cryptopezia Höhn.
Dawsicola Döbbeler
Didymocoryne Sacc. & Trotter
?*Discomycella* Höhn.
Echinodiscus Etayo & Diederich
Endoscypha Syd.
Gloeotinia M. Wilson, Noble & E. G. Gray
Helotiella Sacc.
Hymenobolus Durieu & Mont.
?*Hyphoscypha* Velen.
?*Iridinea* Velen.
Lachnea (Fr.) Gillet
Lahmiomyces Cif. & Tomas.
?*Laricina* Velen.
?*Lasseria* Dennis
?*Lemalis* Fr.
Livia Velen.
Llimoniella Hafellner & Nav.-Ros.
?*Lobularia* Velen.
Loricella Velen.
Malotium Velen. (non *Mallotium* (Ach.) Gray)
Masseea Sacc.
?*Melanopeziza* Velen.
?*Melanormia* Körb.
Merodontis Clem.
Microdiscus Sacc.
Midotiopsis P. Henn.
?*Muscia* Gizhitsk.
Muscicola Velen.
?*Mycomelaena* Velen.
?*Mycosphaerangium* Verkley
Myriodiscus Boedijn
Naemacyclus Fuckel
?*Obconicum* Velen.
?*Orbiliopsis* Velen.
?*Orbiliopsis* (Sacc.) Syd.
?*Parthenope* Velen.
Peltigeromyces A. Möller
?*Pezomela* Syd.
Phaeopyxis Rambold & Triebel
?*Phragmiticola* Sherwood
?*Phyllopezis* Petr.
Pleiopatella Rehm
?*Polydiscina* Syd.

Potridiscus Döbbeler & Triebel
?*Pseudolachnum* Velen.
?*Pseudopeltis* L. Holm & K. Holm
?*Pseudotapesia* Velen.
Pseudotryblidium Rehm
?*Psilophana* Syd.
?*Psilothecium* Clem.
?*Pteromyces* E. Bommer, M. Rousseau & Sacc.
Rhymbocarpus Zopf
?*Riedera* Fr.
?*Rimula* Velen.
?*Robincola* Velen.
?*Roburnia* Velen.
?*Sambucina* Velen.
Sarcomyces Massee
?*Schnablia* Sacc. & P. Syd.
?*Scutulopsis* Velen.
Skyttea Sherwood, D. Hawksw. & Coppins
Skyttella D. Hawksw. & R. Sant.
?*Solanella* Vañha
?*Spirographa* Zahlbr.
Starbaeckia Rehm ex Starb.
?*Stilbopeziza* Speg.
?*Tanglella* Höhn.
?*Themisia* Velen.
Tovariella Syd.
Trichangium Kirschst.
Trichohelotium Killerm.
?*Tubolachnum* Velen.
Urceola Quél.
Woodiella Sacc. & P. Syd.
Zugazaea Korf, Iturr. & Lizoñ

Rhytismatales M. E. Barr ex Minter
Ascodichaenaceae D. Hawksw. & Sherwood
Ascodichaena Butin
Delpinoina Kuntze
?*Pseudophacidium* P. Karst.

Cryptomycetaceae Höhn.
Cryptomyces Grev.
Macroderma Höhn.
?*Potebniamyces* Smerlis
Pseudorhytisma Juel

Cudoniaceae P. F. Cannon
Cudonia Fr.
Spathularia Pers.

Rhytismataceae Chevall.
Bifusella Höhn.
Bifusepta Darker
Bivallium P. R. Johnst.
Canavirgella W. Merr, Wenner & Dreisbach
Ceratophacidium J. Reid & Piroz.
Cerion Massee
Coccomyces De Not.
Colpoma Wallr.
Criella (Sacc.) Sacc. & P. Syd.
Davisomycella Darker
Discocainia J. Reid & A. Funk
Duplicaria Fuckel
Duplicariella B. Erikss.
Elytroderma Darker
Hypoderma De Not.
Hypodermella Tubeuf
Hypohelion P. R. Johnst.
Isthmiella Darker
Lirula Darker
Lophodermella Höhn.
Lophodermium Chevall.
Lophomerum Quell. & Magasi
Marthamyces Minter
Meloderma Darker
Moutoniella Penz. & Sacc.
Myriophacidium Sherwood
Nematococcomyces C. L. Hou, M. Piepenbr. & Oberw.
Neococcomyces Y. R. Lin, C. T. Xiang & Z. Z. Li
Nothorhytisma Minter, P. F. Cannon, A. I. Romero & Peredo
?*Nymanomyces* P. Henn.
Parvacoccum R. S. Hunt & A. Funk
Ploioderma Darker.
Propolis (Fr.) Fr.
Pureke P. R. Johnston
Rhytisma Fr.
Soleella Darker
Sporomega Corda
Terriera B. Erikss.
Therrya Sacc.
Triblidiopsis P. Karst.
Virgella Darker
Vladracula P. F. Cannon, Minter & Kamal
Xyloschizon Syd.
Zeus Minter & Diamandis

Rhytismatales**,** genera *incertae sedis*
?*Apiodiscus* Petr.
?*Bonanseja* Sacc.
Brunaudia (Sacc.) Kuntze
Cavaraella Speg.
?*Didymascus* Sacc.
Gelineostroma H. J. Swart
?*Haplophyse* Theiss.
Heufleria Auersw.
Hypodermellina Höhn.
?*Irydyonia* Racib.
?*Karstenia* Fr. ex Sacc.
?*Laquearia* Fr.
Lasiostictella Sherwood
?*Melittosporiella*
Mellitiosporium Corda
Metadothis (Sacc.) Sacc.
Neophacidium Petr.
Ocotomyces H. C. Evans & Minter
Phaeophacidium P. Henn. & Lindau
Propolidium Sacc.

?*Pseudotrochila* Höhn.
?*Tridens* Massee

Thelebolales P. F. Cannon
Thelebolaceae (Brumm.) Eckblad
Antarctomyces Stchigel & Guarro
Ascophanus Boud.
Ascozonus (Renny) E. C. Hansen
Caccobius Kimbr.
Coprobolus Cain & Kimbr.
Coprotiella Jeng & J. C. Krug
Coprotus Korf ex Korf & Kimbr.
Dennisiopsis Subram. & Chandras.
Leptokalpion Brumm.
Mycoarctium K. Jain & Cain
Ochotrichobolus Kimbr. & Korf
Pseudascozonus Brumm.
Ramgea Brumm.
Thelebolus Tode
Trichobolus (Sacc.) Kimbr. & Cain

Leotiomycetes, families *incertae sedis*
Myxotrichaceae Currah
Byssoascus Arx
Gymnostellatospora Udag., Uchiy. & Kamiya
Myxotrichum Kunze
Pseudogymnoascus Raillo

Thelocarpaceae Zukal*
Melanophloea P. James & Vězda
Sarcosagium A. Massal.
Thelocarpon Nyl.

Vezdaeaceae Poelt & Vězda ex J. C. David & D. Hawksw.*
Vezdaea Tsch.-Woess & Poelt

Leotiomycetes, genera *incertae sedis*
?*Bagnisimitrula* S. Imai
?*Darkera* H. S. Whitney, J. Reid & Piroz.
?*Hemiglossum* Pat.
?*Leucoglossum* S. Imai
?*Maasoglossum* K. S. Thind & R. Sharma
Nothomitra Maas Geest.
?*Pachycudonia* S. Imai
Phaeoglossum Petch
Pseudomitrula Gamundí

Class *Lichinomycetes* Reeb, Lutzoni & Cl. Roux
Lichinales Henssen & Büdel
Gloeoheppiaceae Henssen
Gloeoheppia Gyeln.
Gudelia Henssen
Pseudopeltula Henssen

Heppiaceae Zahlbr. 1906
Corynecystis Brusse
Epiphloea Trevis.
Heppia Nägeli
Pseudoheppia Zahlbr.
Solorinaria (Vain.) Gyeln.

Lichinaceae Nyl.
Anema Nyl.
Calotrichopsis Vain.
Cryptothele Th. Fr.
Digitothyrea P. Moreno & Egea
Edwardiella Henssen
Ephebe Fr.
Euopsis Nyl.
Finkia Vain.
Gonohymenia J. Steiger
Gyrocollema Vain.
Harpidium Körb.
Jenmania W. Wächt.
Lecidopyrenopsis Vain.
Lemmopsis (Vain.) Zahlbr.
Lempholemma Körb.
Leprocollema Vain.
Lichina C. Agardh
Lichinella Nyl.
Lichinodium Nyl.
?*Mawsonia* C. W. Dodge
Metamelaena Henssen
Paulia Feé
Peccania A. Massal. ex Arnold
Phloeopeccania J. Steiner
Phylliscidiopsis Sambo
Phylliscidium Forssell
Phyllisciella Henssen & Büdel
Phylliscum Nyl.
Porocyphus Körb.
?*Pseudarctomia* Gyeln.
Pseudopaulia M. Schultz
Psorotichia A. Massal.
Pterygiopsis Vain.
Pyrenocarpon Trevis.
Pyrenopsis Nyl.
Stromatella Henssen
Synalissa Fr.
Thelignya A. Massal.
Thermutis Fr.
Thermutopsis Henssen
Thyrea A. Massal.
Zahlbrucknerella Herre

Peltulaceae Büdel
Neoheppia Zahlbr.
Peltula Nyl.
Phyllopeltula Kalb

Class *Orbiliomycetes* O. E. Erikss. & Baral
Orbiliales Baral, O. E. Erikss., G. Marson & E. Weber
Orbiliaceae Nannf.
Hyalorbilia Baral & G. Marson
Orbilia Fr.
Pseudorbilia Y. Zhang, Z. F. Yu, H. O. Baral & K. Q. Zhang*

Class *Pezizomycetes* sensu O. E. Erikss. & Winka
Pezizales J. Schröt.*

Ascobolaceae Boud. ex Sacc.
Ascobolus Pers.
Cleistoiodophanus J. L. Bezerra & Kimbr.
Cubonia Sacc.
Saccobolus Boud.
Thecotheus Boud.

Ascodesmidaceae J. Schröt.
Ascodesmis Tiegh.
Eleutherascus Arx
Lasiobolus Sacc.

Caloscyphaceae Harmaja
Caloscypha Boud.

Carbomycetaceae Trappe
Carbomyces Gilkey

Chorioactidaceae Pfister*
Chorioactis Kupfer ex Eckblad*
Desmazierella Lib.*
Neournula Paden & Tylutki*
Wolfina Seaver ex Eckblad*

Discinaceae Benedix
Gymnohydnotrya B. C. Zhang & Minter
Gyromitra Fr.
Hydnotrya Berk. & Broome
Pseudorhizina Jacz.

Glaziellaceae J. L. Gibson*
Glaziella Berk.

Helvellaceae Fr.
Balsamia Vittad.
Barssia Gilkey
?*Cidaris* Fr.
Helvella Fr.
Picoa Vittad.

Karstenellaceae Harmaja
Karstenella Harmaja

Morchellaceae Reichenb.
Disciotis Boud.
?*Fischerula* Matt.
Imaia Trappe & Kovacs*
?*Leucangium* Quél.
Morchella Dill.
Verpa Sw.

Pezizaceae Dumort.
Amylascus Trappe
Boudiera Cooke
Cazia Trappe
Eremiomyces Trappe & Kagan-Zur
Hapsidomyces J. C. Krug & Jeng
Hydnobolites Tul. & C. Tul.
Hydnotryopsis Gilkey
Iodophanus Korf
Iodowynnea Medel, Guzmán & Chacon
Kalahartuber Trappe & Kagan-Zur
Lepidotia Boud.
Marcelleina Brumm., Korf & Rifai
Mattiroliomyces E. Fisch.
Mycoclelandia Trappe & G. Beaton
Pachyella Boud.
Pachyphloeus Tul. & C. Tul.
Peziza Fr.
Plicaria Fuckel
Rhodopeziza Hohmeyer & Moravec
Ruhlandiella P. Henn.
Sarcosphaera Auersw.
Scabropezia Dissing & Pfister
Sphaerozone Zobel
Terfezia (Tul. & C. Tul.) Tul. & C. Tul.
Tirmania Chatin

Pyronemataceae Corda*
Acervus Kanouse
Aleuria Fuckel
Aleurina Massee
Anthracobia Boud.
Aparaphysaria Speg.
Arpinia Berthet
Ascocalathium Eidam ex J. Schröt.
Ascosparassis Kobayasi
Boubovia Svrcek
Byssonectria P. Karst.
Boudierella Sacc.
Chaetothiersia B. A. Perry & Pfister*
Chalazion Dissing & Sivertsen
Cheilymenia Boud.
Cleistothelebolus Malloch & Cain
Dictyocoprotus J. C. Krug & R. S. Khan
Eoaleurina Korf & W. Y. Zhuang
Galeoscypha Svrcek & J. Moravec
Genea Vittad.
Geneosperma Rifai
Geopora Harkn.
Geopyxis (Pers.) Sacc.
Gilkeya M. E. Sm., Trappe & Rizzo
Hiemsia Svrcek
Humaria Fuckel
Hydnocystis Tul.
Hypotarzetta Donadini
Jafnea Korf
Kotlabaea Svrcek
Lamprospora De Not.
Lasiobolidium Malloch & Cain
Lathraeodiscus Dissing & Sivertsen
Lazuardia Rifai
Leucoscypha Boud.
Luciotrichus Galán & Raitviir
Melastiza Boud.
Miladina Svrcek
Moravecia Benkert, Caillet & Moyne
Mycogalopsis Gjurasin
Nannfeldtiella Eckblad

Neottiella (Cooke) Sacc.
Nothojafnea Rifai
Octospora Hedw.
Octosporella Döbbeler
?*Orbicula* Cooke
Otidea (Pers.) Bon.
= *Otideopsis* B. Liu & J. Z. Cao
= *Flavoscypha* Harmaja
Oviascoma Y. J. Yao & Spooner
Parascutellinia Svrcek
Paratrichophaea Trigaux
Paurocotylis Berk. ex Hook.
Petchiomyces E. Fisch. & Matt.
Phaeangium Pat.
Pseudaleuria Lusk
Pseudombrophila Boud.
Pulvinula Boud.
Pyronema Carus
Pyropyxis Egger
Ramsbottomia W. D. Buckley
Rhizoblepharia Rifai
Rhodoscypha Dissing & Sivertsen
Rhodotarzetta Dissing & Sivertsen
Scutellinia (Cooke) Lambotte
Smardaea Svrcek
Smarodsia Raitv. & Vimba*
Sowerbyella Nannf.
Sphaerosoma Klotzsch
Sphaerosporella (Svrcek) Svrcek & Kubicka
Spooneromyces T. Schumach. & J. Moravec
Stephensia Tul. & C. Tul.
Tazzetta (Cooke) Lambotte
Tricharina Eckblad
Trichophaea Boud.
Trichophaeopsis Korf & Erb
Warcupia Paden & J. V. Cameron
Wenyingia Zheng Wang & Pfister
Wilcoxina Chin S. Yang & Korf

Rhizinaceae Bonord.
Rhizina Fr.

Sarcoscyphaceae LeGal ex Eckblad
Aurophora Rifai
Cookeina Kuntze
Geodina Denison
Kompsoscypha Pfister
Microstoma Bernstein
Nanoscypha Denison
Phillipsia Berk.
Pithya Fuckel
Pseudopithyella Seaver
Sarcoscypha (Fr.) Boud.
Thindia Korf & Waraitch
Wynnea Berk. & Curtis

Sarcosomataceae Kobayasi
Donadinia Bellem. & Meléndez-Howell
Galiella Nannf. & Korf
Korfiella D. C. Pant & V. P. Tewari
Plectania Fuckel
Pseudoplectania Fuckel
Sarcosoma Casp.
Selenaspora R. Heim & Le Gal
?*Strobiloscypha* N. S. Weber & Denison
Urnula Fr.

Tuberaceae Dumort.
Choiromyces Vittad.
Dingleya Trappe
Labyrinthomyces Boedijn
Paradoxa Mattir.
Reddelomyces Trappe
Tuber F. H. Wigg.

Pezizales, genera *incertae sedis*
Delastria Tul. & C. Tul.
Discinella P. Karst.
Filicupula Yao & Spooner
Loculotuber Trappe, Parladé & I. F. Alvarez
?*Microeurotium* Ghatak
Orcadia G. K. Sutherl.
Psilopezia Berk.*
Urceolaria Bon.

Class *Sordariomycetes* sensu O. E. Erikss. & Winka
Subclass *Hypocreomycetidae* O. E. Erikss. & Winka
Coronophorales Nannf.
Bertiaceae Smyk
Bertia De Not.
Gaillardiella Pat.*

Chaetosphaerellaceae Huhndorf, A. N. Mill. & F. A. Fernández
Chaetosphaerella E. Müll. & C. Booth
Crassochaeta Réblová

Coronophoraceae Höhn.*
Coronophora Fuckel*

Nitschkiaceae (Fitzp.) Nannf.
Acanthonitschkea Speg.
Biciliosporina Subram. & Sekar
Botryola Bat. & J. L. Bezerra
Enchnoa Fr.
Fracchiaea Sacc.
Groenhiella Jørgen Koch, E. B. G. Jones & S. T. Moss
Janannfeldtia Subram. & Sekar
Lasiosphaeriopsis D. Hawksw. & Sivan.
Loranitschkia Lar. N. Vasiljeva
Nitschkia G. H. Otth ex P. Karst.
Rhagadostoma Körb.
Rhagadostomella Etayo

Scortechiniaceae Huhndorf, A. N. Mill. & F. A. Fernández
Coronophorella Höhn.*
Cryptosphaerella Sacc.*
Euacanthe Theiss.
Neofracchiaea Teng

Scortechinia Sacc.
Scortechiniella Arx & E. Müll.*
Scortechiniellopsis Sivan.*
Tympanopsis Starbäck*

Hypocreales Lindau
Bionectriaceae Samuels & Rossman
Aphanotria Döbbeler*
Battarrina (Sacc.) Clem. & Shear
Bionectria Speg.
Bryocentria Döbbeler
Bryonectria Döbbeler
Clibanites P. Karst.
Dimerosporiella Speg.
Globonectria Etayo
Halonectria E. B. G. Jones
Heleococcum P. M. Jørg.
Hydropisphaera Dumort.
Ijuhya Starbäck
Kallichroma Kohlm. & Volkm.-Kohlm.
Lasionectria (Sacc.) Cooke
Mycoarachis Malloch & Cain
Mycocitrus A. Möller
Nectriella Nitschke ex Fuckel
Nectriopsis Maire
Nigrosabulum Malloch & Cain*
Ochronectria Rossman & Samuels
Paranectria Sacc.
Pronectria Clem.
Protocreopsis Yoshim. Doi
Roumegueriella Speg.
Selinia P. Karst.
Stephanonectria Schroers & Samuels
Stilbocrea Pat.
Trichonectria Kirschst.
Valsonectria Speg.

Clavicipitaceae (Lindau) Earle ex Rogerson
Aciculosporium I. Miyake
Atkinsonella Diehl
Balansia Speg.
Berkellella (Sacc.) Sacc.
Cavimalum Yoshim. Doi, Dargan & K. S. Thind
Claviceps Tul.
Conoideocrella D. Johnson, G. H. Sung, Hywel-Jones & Spatafora*
Cordycepioideus Stifler
Dussiella Pat.
Epichloë (Fr.) Tul. & C. Tul.
Epicrea Petr.
Helminthascus Tranzschel
Heteroepichloë E. Tanaka, C. Tanaka, Abdul Gafur & Tsuda
Hypocrella Sacc.*
Konradia Racib.
?*Loculistroma* F. Patt. & Charles
Metacordyceps G. H. Sung, J. M. Sung, Hywel-Jones & Spatafora*
Moelleriella Bres.*
Mycomalus A. Möller
Myriogenospora G. F. Atk.
Neobarya Lowen
Neoclaviceps J. White, G. Bills, S. Alderman & Spatafora
Neocordyceps Kobayasi
Orbiocrella D. Johnson, G. H. Sung, Hywel-Jones & Spatafora*
Parepichloë F. J. White Jr. & Reddy
Podocrella Seaver
= *Atricordyceps* Samuels*
= *Wakefieldiomyces* Kobayasi*
Regiocrella Chaverri & K. T. Hodge
Romanoa Thirum.
Samuelsia Chaverri & K. T. Hodge*
Shimizuomyces Kobayasi
Sphaerocordyceps Kobayasi
Stereocrea Syd. & P. Syd.

Cordycipitaceae Kreisel ex G. M. Sung, J. M. Sung, Hywel-Jones & Spatafora*
Ascopolyporus A. Möller*
Cordyceps (Fr.) Link*
Hyperdermium J. White, R. Sullivan, G. Bills & N. Hywel-Jones*
Torrubiella Boud.*

Hypocreaceae De Not.
Aphysiostroma Barrasa, A. T. Martínez & G. Moreno
Arachnocrea Z. Moravec
Dialhypocrea Speg.
Hypocrea Fr.
= *Podostroma* P. Karst.
Hypocreopsis P. Karst.
Hypomyces (Fr.) Tul.
Protocrea Petch*
Pseudohypocrea Yoshim. Doi
Rogersonia Samuels & Lodge
Sarawakus Lloyd
Sphaerostilbella (P. Henn.) Sacc. & D. Sacc.
Sporophagomyces K. Põldmaa & Samuels
?*Syspastospora* P. F. Cannon & D. Hawksw.

Nectriaceae Tul. & C. Tul.
Albonectria Rossman & Samuels
Allonectella Petr.
Calonectria De Not.
Calostilbe Sacc. & Syd.
?*Chaetonectrioides* Matsush.
Corallomycetella P. Henn.
Cosmospora Rabenh.
Cyanonectria Samuels & Chaverri*
Gibberella Sacc.
Glionectria Crous & C. L. Schoch
Haematonectria Samuels & Nirenberg
Lanatonectria Rossman & Samuels
Leuconectria Rossman, Samuels & Lowen
Nectria (Fr.) Fr.
Nectricladiella Crous & C. L. Schoch

Neocosmospora E. F. Sm.
Neonectria Wollenw.
Ophionectria Sacc.
?*Persiciospora* P. F. Cannon & D. Hawksw.
Pleogibberella Sacc.
Pseudonectria Seaver
Rubrinectria Rossman & Samuels
Stalagmites Theiss. & Syd.
Viridispora Samuels & Rossman
Xenocalonectria Crous & C. L. Schoch
Xenonectriella Weese

Niessliaceae Kirschst.
Atronectria Etayo*
Circioniesslia Samuels & M. E. Barr
Cryptoniesslia Scheuer
Hyaloseta A. W. Ramaley
Malmeomyces Starb.
Melanopsamma Niessl
Melchioria Penz. & Sacc.
Miyakeomyces Hara
Myrmaeciella Lindau
Niesslia Auersw.
Paraniesslia K. M. Tsui, K. D. Hyde & Hodgkiss
Pseudonectriella Petr.
Pseudorhynchia Höhn.
Taiwanascus Sivan & H. S. Chang
Trichosphaerella E. Bommer, M. Rousseau & Sacc.
Valetoniella Höhn.
Valetoniellopsis Samuels & M. E. Barr

Ophiocordycipitaceae G. H. Sung, J. M. Sung, Hywel-Jones & Spatafora*
Elaphocordyceps G. H. Sung & Spatafora*
Ophiocordyceps Petch*

Hypocreales**,** genera *incertae sedis*
Bulbithecium Udagawa & T. Muroi
Emericellopsis J. F. H. Beyma
Eucasphaeria Crous*
?*Hapsidospora* Malloch & Cain
Leucosphaerina Arx
?*Metadothella* P. Henn.
Payosphaeria W. F. Leong
Peethambara Subram. & Bhat
Peloronectria A. Möller
Pseudomeliola Speg.
Scopinella Lév.
Ticonectria Döbbeler
Tilakidium Vaidya, C. D. Naik & Rathod

Melanosporales N. Zhang & M. Blackw.*
Ceratostomataceae G. Winter
?*Arxiomyces* P. F. Cannon & D. Hawksw.
?*Erythrocarpon* Zukal
Melanospora Corda
?*Pteridiosperma* J. C. Krug & Jeng
?*Pustulipora* P. F. Cannon
?*Rhytidospora* Jeng & Cain
?*Setiferotheca* Matsush.
Sphaerodes Clem.
?*Vittatispora* P. Chaudhary, J. Campb., D. Hawksw. & K. N. Sastry

Microascales Luttr. ex Benny & Kimbr.
= *Halosphaeriales* Kohlm.*
Chadefaudiellaceae Faurel & Schotter ex Benny & Kimbr.
Chadefaudiella Faurel & Schotter
Faurelina Locq.-Lin.

Halosphaeriaceae E. Müll. & Arx ex Kohlm.
Alisea J. Dupont & E. B. G. Jones*
Aniptodera Shearer & M. Miller
Anisostagma K. R. L. Petersen & Jørgen Koch
Antennospora Meyers
Appendichordella R. G. Johnson, E. B. G. Jones & S. T. Moss
Arenariomyces Höhnk
Ascosacculus J. Campb., J. L. Anderson & Shearer
Ascosalsum J. Campb., J. L. Anderson & Shearer
Bathyascus Kohlm.
Bovicornua Jørgen Koch & E. B. G. Jones
Buxetroldia K. R. L. Petersen & Jørg. Koch.
Carbosphaerella I. Schmidt
Ceriosporopsis Linder
Chadefaudia Feldm.-Maz.
Corallicola Volkm.-Kohlm. & Kohlm.
Corollospora Werderm.
Cucullosporella K. D. Hyde & E. B. G. Jones
Falcatispora K. L. Pang & E. B. G. Jones
Fluviatispora K. D. Hyde
Haligena Kohlm.
Halosarpheia Kohlm. & E. Kohlm.
Halosphaeria Linder
Halosphaeriopsis T. W. Johnson
Havispora K. L. Pang & Vrijmoed*
Iwilsoniella E. B. G. Jones
Lanspora K. D. Hyde & E. B. G. Jones
Lautisporiopsis E. B. G. Jones, Yousoff & S. T. Moss
Lignincola Höhnk
Limacospora E. B. G. Jones, Jœrgen Koch, McKeown & S. T. Moss
Littispora J. Campb., J. L. Anderson & Shearer
Luttrellia Shearer
Magnisphaera J. Campb., J. L. Anderson & Shearer
Marinospora A. R. Caval.
Matsusphaeria K. L. Pang & E. B. G. Jones
Moana Kohlm. & Volkm.-Kohlm.
Morakotiella Sakayaroj
Nais Kohlm.
Natantispora J. Campb., J. L. Anderson & Shearer
Naufragella Kohlm. & Volkm.-Kohlm.
Nautosphaeria E. B. G. Jones
Neptunella K. L. Pang & E. B. G. Jones
Nereiospora E. B. G. Jones, R. G. Johnson & S. T. Moss
Nimbospora Jørgen Koch
Nohea Kohlm. & Volkm.-Kohlm.

Oceanitis Kohlm.*
Ocostaspora E. B. G. Jones, R. G. Johnson & S. T. Moss
Okeanomyces K. L. Pang & E. B. G. Jones
Ondiniella E. B. G. Jones, R. G. Johnson & S. T. Moss
Ophiodeira Kohlm. & Volkm.-Kohlm.
Panorbis J. Campb., J. L. Anderson & Shearer
Phaeonectriella Eaton & E. B. G. Jones
Pseudolignincola Chatmala & E. B. G. Jones
Remispora Linder
Saagaromyces K. L. Pang & E. B. G. Jones
Sablicola E. B. G. Jones, K. L. Pang & Vrijmoed
Thalassogena Kohlm. & Volkm.-Kohlm.
Thalespora Chatmala & E. B. G. Jones
Tirispora E. B. G. Jones & Vrijmoed
Trailia G. K. Sutherl.
Trichomaris Hibbits, Hughes & Sparks
Tunicatispora K. D. Hyde

Microascaceae Luttr. ex Malloch
Anekabeeja Udaiyan & Hosag.
Canariomyces Arx
Enterocarpus Locq.-Lin.
Kernia Nieuwl.
Lophotrichus R. K. Benj.
Microascus Zukal
Petriella Curzi
Petriellopsis Gilgado, Cano, Guarro & Gené*
Pseudallescheria Negroni & I. Fisch.

Microascales, genera *incertae sedis*
Ceratocystis Ellis & Halst.
Cornuvesica C. D. Viljoen, M. J. Wingf. & K. Jacobs
?*Gondwanamyces* Marais & M. J. Wingf.
Sphaeronaemella P. Karst.
Viennotidia Negru & Verona ex Rogerson

Hypocreomycetidae, families *incertae sedis*
Glomerellaceae Locq. ex Seifert & W. Gams
Glomerella Spauld. & Schrenk

Plectosphaerellaceae W. Gams, Summerbell & Zare*
Plectosphaerella Kleb.

Hypocreomycetidae, genera *incertae sedis*
Ascocodinaea Samuels, Candoussau & Magni
Etheirophora Kohlm. & Volkm.-Kohlm.
Flammispora U. Pinruan, J. Sakayaroj, K. D. Hyde & E. B. G. Jones
Juncigena Kohlm., Volkm.-Kohlm. & O. E. Erikss.
Porosphaerellopsis E. Müll. & Samuels
Swampomyces Kohlm. & Volkm.
Torpedospora Meyers

Subclass *Sordariomycetidae* O. E. Erikss. & Winka
Boliniales P. F. Cannon.
Boliniaceae Rick
Apiocamarops Samuels & J. D. Rogers
Camaropella Lar. N. Vassiljeva*
Camarops P. Karst.
Cornipulvina Huhndorf, A. N. Mill., F. A. Fernández & Lodge
Endoxyla Fuckel
Mollicamarops Lar. N. Vassiljeva

Calosphaeriales M. E. Barr*
Calosphaeriaceae Munk
Calosphaeria Tul. & C. Tul.*
Conidiotheca Réblová & L. Mostert*
Jattaea Berl.
?*Kacosphaeria* Speg.
Phragmocalosphaeria Petr.
?*Sulcatistroma* A. W. Ramaley
Togniniella Réblová, L. Mostert, W. Gams & Crous
?*Wegelina* Berl.

Pleurostomataceae Réblová, L. Mostert, W. Gams & Crous
Pleurostoma Tul. & C. Tul.

Chaetosphaeriales Huhndorf, A. N. Mill. & F. A. Fernández
Chaetosphaeriaceae Réblová, M. E. Barr & Samuels
Ascochalara Réblová
Australiasca Sivan. & Alcorn
Chaetosphaeria Tul. & C. Tul.
= *Paragaeumannomyces* Matsush.
Lecythothecium Réblová & Winka
Melanochaeta E. Müll., Harr & Sulm.
Melanopsammella Höhn.
Porosphaerella E. Müll. & Samuels
Striatosphaeria Samuels & E. Müll.
Tainosphaeria F. A. Fernández & Huhndorf
Zignoëlla Sacc.

Coniochaetales Huhndorf, A. N. Mill. & F. A. Fernández
Coniochaetaceae Malloch & Cain
Barrina A. W. Ramaley*
Coniochaeta (Sacc.) Cooke*
= *Coniochaetidium* Malloch & Cain*
= *Ephemeroascus* Emden*
= *Poroconiochaeta* Udagawa & Furuya*
?*Synaptospora* Cain

Diaporthales Nannf.
Cryphonectriaceae Gryzenh. & M. J. Wingf.
Amphilogia Gryzenh. & M. J. Wingf.
Celoporthe Nakab., Gryzenh, Jol. Roux & M. J. Wingf.
Chrysoporthe Gryzenhout & M. J. Wingf.
Cryphonectria (Sacc.) Sacc. & D. Sacc.
Endothia Fr.
Holocryphia Gryzenh. & M. J. Wingf.
Microthia Gryzenh. & M. J. Wingf.
Rostraureum Gryzenh. & M. J. Wingf.

Diaporthaceae Höhn. ex Wehm.
Apioporthella Petr.
Diaporthe Nitschke
Leucodiaporthe M. E. Barr & Lar. N. Vassiljeva*
Mazzantia Mont.

Gnomoniaceae G. Winter*
Ambarignomonia Sogonov*
Anisomyces Theiss. & Syd.
Apiognomonia Höhn.
Bagcheea E. Müll. & R. Menon
Clypeoporthe Höhn.
Cryptosporella Sacc.
= *Ophiovalsa* Petr.*
Diaporthella Petr.
Diplacella Syd.
Ditopella De Not.
Ditopellopsis J. Reid & C. Booth
Gnomonia Ces. & De Not.
Gnomoniella Sacc.
Gnomoniopsis Berl.*
Mamiania Ces. & De Not.
Mamianiella Höhn.
Ophiognomonia (Sacc.) Sacc.
Phragmoporthe Petr.
Phylloporthe Syd.
Plagiostoma Fuckel*
= *Cryptodiaporthe* Petr.*
Pleuroceras Riess*
= *Linospora* Fuckel*
Skottsbergiella Petr.
Valseutypella Höhn.
Xenotypa Petr.

Melanconidaceae G. Winter
Botanamphora Nograsek & Scheuer
Ceratoporthe Petr.
Cytomelanconis Naumov
Dicarpella Syd. & P. Syd.
Dictyoporthe Petr.
Freminaevia Nieuwl.
?*Gibellia* Sacc.
Hypophloeda K. D. Hyde & E. B. G. Jones
Kensinjia J. Reid & C. Booth
Macrodiaporthe Petr.
Massariovalsa Sacc.
Mebarria J. Reid & C. Booth
Melanamphora Lafl.
Melanconis Tul. & C. Tul.
Melogramma Fr.
Phragmodiaporthe Wehm.
Plagiophiale Petr.
Plagiostigme Syd.
Prosthecium Fresen.
Prostratus Sivan., W. H. Hsieh & C. Y. Chen
Pseudovalsella Höhn.
Wehmeyera J. Reid & C. Booth
Wuestneia Auersw. ex Fuckel
Wuestneiopsis J. Reid & Dowsett

Pseudovalsaceae M. E. Barr
Pseudovalsa Ces. & De Not.

Schizoparmeaceae Rossman*
Schizoparme Shear

Sydowiellaceae Lar. N. Vassiljeva*
Chapeckia M. E. Barr
Hapalocystis Auersw. ex Fuckel
?*Lambro* Racib.*
Rossmania Lar. N. Vassiljeva
Sillia P. Karst.
Stegophora Syd. & P. Syd.*
Sydowiella Petr.
?*Uleoporthe* Petr.*

Togniniaceae Réblová, L. Mostert, W. Gams & Crous
Togninia Berl.
= *Romellia* Berl.*

Valsaceae Tul. & C. Tul.
Amphiporthe Petr.
Apioplagiostoma M. E. Barr
Chadefaudiomyces Kamat, Rao, Patil & Ullasa
Clypeoporthella Petr.
Cryptascoma Ananthap.
Ditopellina J. Reid & C. Booth
Durispora K. D. Hyde
Hypospilina (Sacc.) Traverso
Kapooria J. Reid & C. Booth
Leptosillia Höhn.
Leucostoma (Nitschke) Höhn.
Maculatipalma J. Fröhlich & K. D. Hyde
Paravalsa Ananthapadm.
Phruensis Pinruan
Valsa Fr.
Valsella Fuckel

Vialaeaceae P. F. Cannon
Vialaea Sacc.

Diaporthales, genera *incertae sedis*
?*Anisogramma* Theiss. & Syd.*
Anisomycopsis I. Hino & Katum.
Apiosporopsis (Traverso) Mariani
Caudospora Starb.
Chromendothia Lar. N. Vassiljeva
Cryptoleptosphaeria Petr.
Cryptonectriella (Höhn.) Weese
Cryptonectriopsis (Höhn.) Weese
Diatrypoidiella Manohar., Kunwar & D. K. Agarwal*
?*Exormatostoma* Gray
Hercospora Fr.
Keinstirschia J. Reid & C. Booth
Lollipopaia Inderbitzin
Pachytrype M. E. Barr, J. D. Rogers & Y. M. Ju*
Pedumispora K. D. Hyde & E. B. G. Jones
Pseudocryptosporella J. Reid & C. Booth
Pseudothis Theiss. & Syd.
Savulescua Petr.
?*Sphaerognomoniella* Naumov & Kusnezowa
Stioclettia Dennis
Thailandiomyces Pinruan, Sakay., K. D. Hyde & E. B. G. Jones*

?*Trematovalsa* Jacobesco
Vismya V. V. Sarma & K. D. Hyde

Magnaporthales Thongk., Vijakr. & K. D. Hyde*
Magnaporthaceae P. F. Cannon
Buergenerula Syd.
Ceratosphaerella Huhndorf, M. Greif, Mugambi & A. N. Mill.*
Ceratosphaeria Niessl
Clasterosphaeria Sivan.
Clavatisporella K. D. Hyde
Gaeumannomyces Arx & D. L. Olivier
?*Herbampulla* Scheuer & Nograsek
Magnaporthe R.A. Krause & R. K. Webster
Muraeriata Huhndorf, M. Greif, Mugambi & A. N. Mill.*
Omnidemptus P. F. Cannon & Alcorn
Ophioceras Sacc.
Pseudohalonectria Minoura & T. Muroi

Ophiostomatales Benny & Kimbr.
Kathistaceae Malloch & M. Blackw.
Kathistes Malloch & M. Blackw.

Ophiostomataceae Nannf.
Ceratocystiopsis H. P. Upadhyay & W. B. Kendr.
Fragosphaeria Shear
Grosmannia Gold.
Klasterskya Petr.
Ophiostoma Syd. & P. Syd.
Spumatoria Massee & E. S. Salmon
Subbaromyces Hesselt.

Sordariales Chad. ex D. Hawksw. & O. E. Erikss.
Chaetomiaceae G. Winter
Achaetomium J. N. Rai, J. P. Tewari & Mukerji
Bommerella Marchal
Boothiella Lodhi & Mirza
Chaetomidium (Zopf) Sacc.*
= *Aporothielavia* Malloch & Cain
Chaetomiopsis Mustafa & Abdul-Wahid
Chaetomium Kunze
Corynascella Arx & Hodges
Corynascus Arx
Emilmuelleria Arx
Farrowia D. Hawksw.
Guanomyces M. C. Gonzáles, Hanlin & Ulloa
Subramaniula Arx
Thielavia Zopf

Lasiosphaeriaceae Nannf.
Anopodium Lundq.
Apiosordaria Arx & W. Gams
Apodospora Cain & J. H. Mirza
Apodus Malloch & Cain
Arniella Jeng & J. C. Krug
Arnium Nitschke ex G. Winter
Bellojisia Réblová*
Bombardia (Fr.) P. Karst.
Bombardioidea C. Moreau ex N. Lundqv.
Camptosphaeria Fuckel
Cercophora Fuckel
Diffractella Guarro, P. Cannon & van der Aa
Diplogelasinospora Cain
Emblemospora Jeng & J. C. Krug
Eosphaeria Höhn.
Fimetariella N. Lundq.
Jugulospora N. Lundq.
Lacunospora Cailleux
Lasiosphaeria Ces. & De Not.
Lasiosphaeris Clem.
Periamphispora J. C. Krug
Podospora Ces.
Pseudocercophora Subram. & Sekar
Schizothecium Corda
Strattonia Cif.
Thaxteria Sacc.
Triangularia Boedijn
Tripterosporella Subram. & Lodha
Zopfiella G. Winter
Zygopleurage Boedijn
Zygospermella Cain

Sordariaceae G. Winter
Cainiella E. Müll.
Copromyces N. Lundq.
?*Effetia* Bartoli, Maggi & Persiani
Gelasinospora Dowding
?*Guilliermondia* Boud.
Neurospora Shear & B. O. Dodge
Pseudoneurospora D. García, Stchigel & Guarro
Sordaria Ces. & De Not.
Stellatospora T. Ito & A. Nakagiri

Sordariales, genera *incertae sedis*
Acanthotheciella Höhn.
?*Ascolacicola* Ranghoo & K. D. Hyde
Bombardiella Höhn.
Coronatomyces D. García, Stchigel & Guarro
Corylomyces Stchigel, Calduch & Guarro*
Cuspidatispora A. Mill., Shearer, Bartolata & Huhndorf
Globosphaeria D. Hawksw.
Immersiella A. N. Mill. & Huhndorf
Isia D. Hawksw. & Manohar.
Lockerbia K. D. Hyde
Melanocarpus Arx
?*Monosporascus* Pollack & Uecker
?*Nitschkiopsis* Nannf. & R. Sant.
Onygenopsis P. Henn.
Phaeosporis Clem.
Reconditella Matzer & Hafellner
Rhexosporium Udagawa & Fur.
Roselliniella Vain.
Roselliniomyces Matzer & Hafellner
Roselliniopsis Matzer & Hafellner
?*Savoryella* E. B. G. Jones & Eaton
Utriascus Réblová

Sordariomycetidae, families *incertae sedis*
Amplistromataceae Huhndorf, A. N. Mill., M. Greif & Samuels*
Amplistroma Huhndorf, A. N. Mill., M. Greif & Samuels*
Wallrothiella Sacc.*

Annulatascaceae S. W. Wong, K. D. Hyde & E. B. G. Jones
Annulatascus K. D. Hyde
Annulusmagnus J. Campb. & Shearer
Aqualignicola V. M. Ranghoo, K. M. Tsui & K. D. Hyde
Aquaticola W. H. Ho, K. M. Tsui, Hodgkiss & K. D. Hyde
Ascitendus J. Campb. & Shearer
Ayria Fryar & K. D. Hyde
Brunneosporella V. M. Ranghoo & K. D. Hyde
Cataractispora K. D. Hyde, S. W. Wong & E. B. G. Jones
Clohiesia K. D. Hyde
Cyanoannulus Raja, J. Campb. & Shearer
Diluviocola K. D. Hyde, S. W. Wong & E. B. G. Jones
Fluminicola S. W. Wong, K. D. Hyde & E. B. G. Jones
Frondicola K. D. Hyde
Fusoidispora D. Vijaykrishna, R. Jeewon & K. D. Hyde
Pseudoproboscispora Punith.
Rhamphoria Niessl
Submersisphaeria K. D. Hyde
Teracosphaeria Réblová & Seifert*
Torrentispora K. D. Hyde, W. H. Ho, E. B. G. Jones, K. M. Tsui & S. W. Wong
Vertexicola K. D. Hyde, V. M. Ranghoo & S. W. Wong

Cephalothecaceae Höhn.
Albertiniella Kirschst.
Cephalotheca Fuckel
Cryptendoxyla Malloch & Cain

Helminthosphaeriaceae Samuels, Candoussau & Magní
Echinosphaeria A. N. Mill. & Huhndorf
Helminthosphaeria Fuckel
Ruzenia O. Hilber
Tengiomyces Réblová

Jobellisiaceae Réblová*
Jobellisia M. E. Barr

Papulosaceae Winka & O. E. Erikss.
Papulosa Kohlm. & Volkm.-Kohlm.

***Sordariomycetidae*,** genera *incertae sedis*
Arecacicola J. E. Taylor, J. Fröhl. & K. D. Hyde
Ascotaiwania Sivan. & H. S. Chang
Ascovaginospora Fallah, Shearer & W. Chen
Barbatosphaeria Réblová*
Biconiosporella Schaum.
Carpoligna F. A. Fernández & Huhndorf
Caudatispora J. Fröhlich & K. D. Hyde
Ceratostomella Sacc.*
Chaetosphaerides Matsush.
Conioscyphascus Réblová & Seifert
Erythromada Huhndorf, A. N. Mill., F. A. Fernández & Lodge
Garethjonesia K. D. Hyde
Hanliniomyces Raja & Shearer*
Hilberina A. N. Mill. & Huhndorf
Lasiosphaeriella Sivan.
Lentomitella Höhn.
Leptosporella Penz. & Sacc.
Linocarpon Syd. & P. Syd.
Menisporopascus Matsush.
Merugia Rogerson & Samuels
Mycomedusiospora G. C. Carroll & Munk
Myelosperma Syd. & P. Syd.
Neolinocarpon K. D. Hyde
Nigromammilla K. D. Hyde & J. Fröhl.
Phaeotrichosphaeria Sivan.
Phragmodiscus Hansf.
Plagiosphaera Petr.
Rhodoveronaea Arzanlou, W. Gams & Crous*
Rimaconus Huhndorf, F. A. Fernández, J. E. Taylor & K. D. Hyde
Spinulosphaeria Sivan.
Teracosphaeria Réblová & Seifert
Xylomelasma Réblová

Subclass *Xylariomycetidae* sensu O. E. Erikss. & Winka
Xylariales Nannf.
Amphisphaeriaceae G. Winter
Amphisphaerella (Sacc.) Kirschst.
Amphisphaeria Ces. & De Not.
Arecophila K. D. Hyde
Atrotorquata Kohlm. & Volkm.-Kohlm.
Blogiascospora Shoemaker, E. Müll. & Morgan-Jones
?*Broomella* Sacc.
Cainia Arx & E. Müll.
Cannonia J. E. Taylor & K. D. Hyde
?*Capsulospora* K. D. Hyde
Ceriophora Höhn.
?*Ceriospora* Niessl
Chitonospora E. Bommer, M. Rousseau & Sacc.
?*Clypeophysalospora* H. J. Swart
Discostroma Clem.
Distorimula San Martín, Lavín & Esqueda
Dyrithiopsis L. Cai, R. Jeewon & K. D. Hyde
?*Dyrithium* M. E. Barr
?*Ellurema* Nag Raj & W. B. Kendr.
Flagellosphaeria Aptroot
Frondispora K. D. Hyde
Funiliomyces Aptroot
Griphosphaerioma Höhn.
Iodosphaeria Samuels, E. Müll. & O. Petrini
Lanceispora Nakagiri, I. Okane, Tad. Ito & Katumoto
?*Leiosphaerella* Höhn.
?*Lepteutypa* Petr.
Lindquistomyces Aramb., E. Müll. & Gamundí
Manokwaria K. D. Hyde
Monographella Petr.
Mukhakesa Udaiyan & Hosag.

Neobroomella Petr.
Neohypodiscus J. D. Rogers, Y. M. Yu & Laessœe
Ommatomyces Kohlm., Volkm.-Kohlm. & O. E. Erikss.
?*Oxydothis* Penz. & Sacc.
Paracainiella Lar. N. Vassiljeva
?*Pemphidium* Mont.
?*Pestalosphaeria* M. E. Barr
?*Reticulosphaeria* Sivan. & Bahekar
?*Urosporella* G. F. Atk.
Urosporellopsis W. H. Hsieh, C. Y. Chen & Sivan.
Xylochora Arx & E. Müll.

Clypeosphaeriaceae G. Winter
?*Apioclypea* K. D. Hyde
?*Apiorhynchostoma* Petr.
Aquasphaeria K. D. Hyde
Brunneiapiospora K. D. Hyde, J. Fröhlich & J. E. Taylor
Clypeosphaeria Fuckel
Crassoascus Checa, Barrasa & A. T. Martinez
Duradens Samuels & Rogerson
Palmomyces K. D. Hyde, J. Fröhlich & J. E. Taylor
Pseudovalsaria Spooner

Diatrypaceae Nitschke
Anthostoma Nitschke
Cryptosphaeria Ces. & De Not.
Diatrype Fr.
Diatrypella (Ces. & De Not.) De Not.
Echinomyces Rappaz
Eutypa Tul. & C. Tul.
Eutypella (Nitschke) Sacc.
Leptoperidia Rappaz
Peroneutypa Berl.
Quaternaria Tul. & C. Tul.

Graphostromataceae M. E. Barr, J. D. Rogers & Y. M. Ju
Graphostroma Piroz.

Hyponectriaceae Petr.
Apiothyrium Petr.
?*Arecomyces* K. D. Hyde
Arwidssonia B. Erikss.
Cesatiella Sacc.
Chamaeascus L. Holm, K. Holm & M. E. Barr
Charonectria Sacc.
Discosphaerina Höhn.
Exarmidium P. Karst.
Hyponectria Sacc.
Micronectria Speg.
Papilionovela Aptroot
Pellucida Dulym., Sivan., P. F. Canon & Peerally
Physalospora Niessl
Pseudomassaria Jacz.
Rhachidicola K. D. Hyde & J. Fröhl.
?*Xenothecium* Höhn.

Xylariaceae Tul. & C. Tul.
Amphirosellinia Y. M. Ju, J. D. Rogers, H. M. Hsieh & Lar. N. Vassiljeva
Annulohypoxylon Y. M. Ju, J. D. Rogers & H. M. Hsieh
Anthostomella Sacc.
Appendixia B. S. Lu & K. D. Hyde
Areolospora S. C. Jong & E. E. Davis
?*Ascotricha* Berk.
Ascovirgaria J. D. Rogers & Y. M. Ju
Astrocystis Berk. & Broome
Barrmaelia Rappaz
Biscogniauxia Kuntze
Calceomyces Udagawa & S. Ueda
Camillea Fr.
Chaenocarpus Rebent.
Chlorostroma A. N. Mill., Lar. N. Vassiljeva & J. D. Rogers*
Collodiscula I. Hino & Katum.
Creosphaeria Theiss.
Cyanopulvis J. Fröhl. & K. D. Hyde
Daldinia Ces. & De Not.
Discoxylaria J. C. Lindq. & J. E. Wright
?*Emarcea* Duong, R. Jeewon & K. D. Hyde
Engleromyces P. Henn.
Entoleuca Syd.
Entonaema A. Möller
Euepixylon Füisting
Fasciatispora K. D. Hyde
Fassia Dennis
Gigantospora B. S. Lu & K. D. Hyde
Guestia G. J. D. Sm. & K. D. Hyde
Halorosellinia Whalley, E. B. G. Jones, K. D. Hyde & Læssøe
Helicogermslita Lodha & D. Hawksw.
Holttumia Lloyd
Hypocopra (Fr.) J. Kickx f.
Hypoxylon Bull.
Induratia Samuels, E. Müll. & O. Petrini
Jumillera J. D. Rogers, Y. M. Ju & San Martín
Kretzschmaria Fr.
Kretzschmariella Viégas
Leprieuria Laessøe, J. D. Rogers & Whalley
?*Leptomassaria* Petr.
Lopadostoma (Nitschke) Traverso
Myconeesia Kirschst.
Nemania Gray
Nipicola K. D. Hyde
Obolarina Pouzar
Occultitheca J. D. Rogers & Y. M. Ju
Ophiorosellinia J. D. Rogers, A. Hidalgio, F. A. Fernández & Huhndorf
Pandanicola K. D. Hyde
Paramphisphaeria F. A. Fernández, J. D. Rogers, Y. M. Ju, Huhndorf & L. Umana
?*Paucithecium* Lloyd
Phylacia Lév.
Pidoplitchkoviella Kiril.
Podosordaria Ellis & Holw.
Poroleprieuria M. C. Gonzáles, Hanlin, Ulloa & E. Aguirre
Poronia Willd.

Pyrenomyxa Morgan
= *Pulveria* Malloch & Rogerson
Rhopalostroma D. Hawksw.
Rosellinia De Not.
Sabalicola K. D. Hyde
Sarcoxylon Cooke
?*Sclerodermatopsis* Torrens
?*Seynesia* Sacc.
Spirodecospora B. S. Lu, K. D. Hyde & W. H. Ho
?*Steganopycnis* Syd. & P. Syd.
Stereosphaeria Kirschst.
Stilbohypoxylon P. Henn.
Striatodecospora D. Q. Zhou, K. D. Hyde & B. S. Lu
Stromatoneurospora S. C. Jong & E. E. Davis
Thamnomyces Ehrenb.
Theissenia Maubl.
Thuemenella Penz. & Sacc.
Versiomyces Whalley & Watling
Vivantia J. D. Rogers, Y. M. Ju & Candoussau
Wawelia Namysl.
Whalleya J. D. Rogers, Y. M. Ju & San Martín
Xylaria Hill ex Schrank
Xylotumulus J. D. Rogers, Y. M. Ju & Hemmes

Xylariales, genera *incertae sedis*
Adomia S. Schatz
Ascotrichella Valldos. & Guarro*
Coniocessia D. García, Stchigel, D. Hawksw. & Guarro*
Coniolariella D. García, Stchigel & Guarro*
= *Coniolaria* Seigle-Mur., Guiraud, Steiman & Sage*
Diamantinia A. N. Mill., Læssøe & Huhndorf
Lasiobertia Sivan.
Palmicola K. D. Hyde
Pulmosphaeria J. E. Taylor, K. D. Hyde & E. B. G. Jones
Yuea O. E. Erikss.

Sordariomycetes, orders *incertae sedis*
Koralionastetales Kohlm., Volkm.-Kohlm., J. Campb. & Inderbitzin*
Koralionastetaceae Kohlm. & Volkm-Kohlm.
Koralionastes Kohlm. & Volkm.-Kohlm.

Lulworthiales Kohlm., Spatafora & Volkm.-Kohlm.
Lulworthiaceae Kohlm., Spatafora & Volkm.-Kohlm.
Haloguignardia A. Cribb & J. Cribb
Kohlmeyeriella E. B. G. Jones, R. G. Johnson & S. T. Moss
Lindra I. Wilson
Lulwoana Kohlm., Volkm.-Kohlm., J. Campb., Spatafora & Gräf.
Lulwoidea Kohlm., Volkm.-Kohlm., J. Campb., Spatafora & Gräf.
Lulworthia G. K. Sutherl.
Rostrupiella Jørg. Koch, K. L. Pang & E. B. G. Jones*

Spathulosporaceae Kohlm.
Spathulospora A. R. Caval. & T. W. Johnson

Meliolales Gäum. ex D. Hawksw. & O. E. Erikss.

Armatellaceae Hosag.
Armatella Theiss. & Syd.

Meliolaceae G. W. Martin ex Hansf.
Amazonia Theiss.
Appendiculella Höhn.
Asteridiella McAlpine
Basavamyces V. B. Hosag.*
Ceratospermopsis Bat.
Cryptomeliola S. Hughes & Piroz.
Ectendomeliola Hosag. & D. K. Agarwal*
Endomeliola S. Hughes & Piroz.
Haraea Sacc. & P. Syd.
?*Hypasteridium* Speg.
Irenopsis F. Stevens
Laeviomeliola Bat.
Leptascospora Speg.
Meliola Fr.
?*Metasteridium* Speg.
Ophiociliomyces Bat. & I. H. Lima
Ophioirenina Sawada & W. Yamam.
?*Ophiomeliola* Starb.
?*Parasteridium* Speg.
Pauahia F. Stevens
?*Pleomeliola* (Sacc.) Sacc.
Pleomerium Speg.
Prataprajella Hosag.
Ticomyces Toro
Urupe Viégas
?*Xenostigme* Syd.

Phyllachorales M. E. Barr
Phaeochoraceae K. D. Hyde, P. F. Cannon & M. E. Barr
Cocoicola K. D. Hyde
Phaeochora Höhn.
Phaeochoropsis D. Hyde & P. F. Cannon
Serenomyces Petr.

Phyllachoraceae Theiss. & H. Syd.
Apiosphaeria Höhn.
Brobdingnagia D. Hyde & P. F. Cannon
Coccodiella Hara
Deshpandiella Kamat & Ullasa
Diachora Müll. Arg.
Diatractium Syd. & P. Syd.
Erikssonia Penz. & Sacc.
Fremitomyces P. F. Cannon & H. C. Evans
?*Geminispora* Pat.
Gibellina Pass. ex Roum.
Imazekia Tak. Kobay. & Y. Kawabe
Isothea Fr.
Lichenochora Hafellner
Lindauella Rehm
?*Lohwagia* Petr.
Maculatifrons K. D. Hyde
Malthomyces D. Hyde & P. F. Cannon
Marinosphaera K. D. Hyde
Muelleromyces Kamat & Anahosur
Neoflageoletia J. Reid & C. Booth

Ophiodothella (P. Henn.) Höhn.
Orphnodactylis Malloch & Mallik
Oxodeora D. Hyde & P. F. Cannon
Parberya C. A. Pearce & K. D. Hyde
?*Petrakiella* Syd.
Phaeochorella Theiss. & Syd.
Phycomelaina Kohlm.
Phyllachora Nitschke ex Fuckel
Phylleutypa Petr.
Phyllocrea Höhn.
Polystigma DC.
Pseudothiella Petr.
Pterosporidium W. H. Ho & K. D. Hyde
Rehmiodothis Theiss. & Syd.
Retroa P. F. Cannon
Rikatlia P. F. Cannon
Schizochora Syd. & P. Syd.
Sphaerodothella C. A. Pearce & K. D. Hyde
Sphaerodothis (Sacc. & P. Syd.) Shear
Stigmochora Theiss. & Syd.
Stromaster Höhn.
Telimena Racib.
Telimenella Petr.
Telimenochora Sivan.
Trabutia Sacc. & Roum.
Tribulatia J. E. Taylor, K. D. Hyde & E. B. G. Jones
Uropolystigma Maubl.
Vitreostroma P. F. Cannon
Zimmermanniella P. Henn.

Trichosphaeriales M. E. Barr
Trichosphaeriaceae G. Winter
Acanthosphaeria Kirschst.
Collematospora Jeng & Cain
Coniobrevicolla Réblová
Cresporhaphis M. B. Aguirre
Cryptadelphia Réblová & Seifert
Eriosphaeria Sacc.
Fluviostroma Samuels & E. Müll.
Kananascus Nag Raj
Miyoshiella Kawamura
Neorehmia Höhn.
Oplothecium Syd.
Rizalia Syd. & P. Syd.
Schweinitziella Speg.
Setocampanula Sivan. & W. H. Hsieh
Trichosphaeria Fuckel
Umbrinosphaeria Réblová
Unisetosphaeria Pinnoi, E. B. G. Jones, McKenzie & K. D. Hyde

Sordariomycetes, families *incertae sedis*
Apiosporaceae K. D. Hyde, J. Fröhlich, J. E. Taylor & M. E. Barr
Apiospora Sacc.
Appendicospora K. D. Hyde.

Catabotrydaceae Petr. ex M. E. Barr
Catabotrys Theiss. & Syd.

Obryzaceae Körb.
Obryzum Wallr.

Thyridiaceae O. E. Erikss. & J. Z. Yue
Balzania Speg.
Mattirolia Berl. & Bres.
Thyridium Nitschke
Thyronectroidea Seaver

Sordariomycetes, genera *incertae sedis*
Abyssomyces Kohlm.
Acerbiella Sacc.
Acrospermoides Miller & G. E. Thomps.
Ameromassaria Hara
Amphisphaerellula Gucevic
Amphisphaerina Höhn.
Amphorulopsis Petr.
Amylis Speg.
Anthostomaria (Sacc.) Theiss. & Syd.
Anthostomellina Kantsh.
Apharia Bonord.
Apodothina Petr.
Apogaeumannomyces Matsush.
Aquadulciospora Fallah & Shearer
Aquamarina Kohlm., Volkm.-Kohlm. & O. E. Erikss.
Aropsiclus Kohlm. & Volkm.-Kohlm.
Ascorhiza Lecht.-Trnka
Ascoyunnania L. Cai & K. D. Hyde
Assoa Urries
Aulospora Speg.
Azbukinia Lar. N. Vassiljeva
Bactrosphaeria Penz. & Sacc.
Biporispora J. D. Rogers, Y. M. Ju & Candoussau
Bombardiastrum Pat.
Brenesiella Syd.
Byrsomyces Cavalc.
Byssotheciella Petr.
Caleutypa Petr.
Calosphaeriopsis Petr.
Caproniella Berl.
Chaetoamphisphaeria Hara
Ciliofusospora Bat. & J. L. Bezerra
Clypeoceriospora Camara
Clypeosphaerulina Camara
Conidiotheca Réblová & L. Mostert
Cryptoascus Petri
Cryptomycina Höhn.
Cryptovalsa Ces. & De Not. ex Fuckel
Cucurbitopsis Bat. & Cif.
Curvatispora V. V. Sarma & K. D. Hyde
Dasysphaeria Speg.
Delpinoëlla Sacc.
Diacrochordon Petr.
Dontuzia L. D. Gomez
Dryosphaera Jørgen Koch & E. B. G. Jones
Endoxylina Romell
Esfandiariomyces Ershad
Frondisphaera K. D. Hyde

Glabrotheca Chardón
Heliastrum Petr.
Hyaloderma Speg.
Hydronectria Kirschst.
Hypotrachynicola Etayo
Immersisphaeria Jaklitsch*
Iraniella Petr.
Khuskia H. J. Huds.
Konenia Hara
Kravtzevia Shvartzman
Kurssanovia Kravtzev
Lecythium Zukal
Leptosacca Syd.
Leptosphaerella Speg.
Leptosporina Chardón
Lyonella Syd.
Mangrovispora K. D. Hyde & Nagakiri
Melomastia Nitschke ex Sacc.
Microcyclephaeria Bat.
Mirannulata Huhndorf, F. A. Fernández, A. N. Mill. & Lodge
Monosporascus Pollack & Uecker
Nataniella Réblová*
?*Naumovela* Kravtzev
?*Neocryptospora* Petr.
Neolamya Theiss. & Syd.
Neothyridaria Petr.
Ophiomassaria Jacz.
Ornatispora K. D. Hyde, Goh, J. E. Taylor & J. Fröhl.
Paoayensis Cabanela, Jeewon & K. D. Hyde*
Pareutypella Y. M. Ju & J. D. Rogers
Phomatospora Sacc.
Phyllocelis Syd.
Pleocryptospora J. Reid & C. Booth
Pleosphaeria Speg.
Pontogeneia Kohlm.
Porodiscus Lloyd
Protocucurbitaria Naumov
Pulvinaria Bon.
Pumilus Viala & Marsais
Rehmiomycella E. Müll.
Rhamphosphaeria Kirschst.
Rhizophila K. D. Hyde & E. B. G. Jones
Rhopographella (P. Henn.) Sacc. & Trotter
Rhynchosphaeria (Sacc.) Berl.
Rivulicola K. D. Hyde
Romellina Petr.
Saccardoëlla Speg.
Sarcopyrenia Nyl.
Sartorya Vuill.
Scharifia Petr.
Scoliocarpon Nyl.
Scotiosphaeria Sivan.
Servaziella J. Reid & C. Booth
Sporoctomorpha J. V. Almeida & Sousa da Câmara
Stearophora L. Mangin & Viala
Stegophorella Petr.
Stellosetifera Matsush.
Stomatogenella Petr.
Strickeria Körb.
Sungaiicola Fryar & K. D. Hyde
Synsphaeria Bon.
Tamsiniella S. W. Wong, K. D. Hyde, W. H. Ho & S. J. Stanley
Tectonidula Réblová*
Thelidiella Fink ex J. Hedrick
Thyridella (Sacc.) Sacc.
Thyrotheca Kirschst.
Trichospermella Speg.
Trichosphaeropsis Bat. & Nasc.
Tunstallia Agnihothr.
Vleugelia J. Reid & C. Booth
Zignoina Cooke

Pezizomycotina, orders *incertae sedis*
Lahmiales O. E. Erikss.
Lahmiaceae O. E. Erikss.
Lahmia Körb.

Medeolariales Korf
Medeolariaceae Korf
Medeolaria Thaxt.

Triblidiales O. E. Erikss.
Triblidiaceae Rehm
Huangshania O. E. Erikss.
Pseudographis Nyl.
Triblidium Rebent.

Pezizomycotina, families *incertae sedis*
Lyrommataceae Lücking*
Lyromma Bat.

Ascomycota, families *incertae sedis*
Families and genera that cannot be placed in any of classes and orders accepted in the present classification with a high degree of probability are listed below.

Amorphothecaceae Parbery
Amorphotheca Parbery

Aphanopsidaceae Printzen & Rambold
Aphanopsis Nyl. ex Syd.

Aspidotheliaceae Räsenen ex J. C. David & D. Hawksw.
Aspidothelium Vain.

Batistiaceae Samuels & K. F. Rodrigues
Batistia Cif.

Coniocybaceae Reichenb.
Chaenotheca (Th. Fr.) Th. Fr.
Sclerophora Chevall.

Diporothecaceae R. K. Mibey & D. Hawksw.
Diporotheca C. C. Gordon & C. G. Shaw

Eoterfeziaceae G. F. Atk.
Acanthogymnomyces Udagawa & Uchiyama
Eoterfezia G. F. Atk.

Epigloeaceae Zahlbr.
Epigloea Zukal

Hispidicarpomycetaceae Nakagiri
Hispidocarpomyces Nakagiri

Lautosporaceae Kohlm., Volkm.-Kohlm. &. O. E. Erikss.
Lautospora K. D. Hyde & E. B. G. Jones

Mastodiaceae Zahlbr.
Mastodia Hook.f. & Harv.
Turgidosculum Kohlm. & E. Kohlm.

Microcaliciaceae Tibell
Microcalicium Vain.

Mucomassariaceae Petr. & Cif.
Mucomassaria Petr.

Phyllobatheliaceae Bitter & F. Schill.
Phyllobathelium (Müll. Arg.) Müll. Arg.
Phyllocratera Sérusiaux & Aptroot

Pleurotremataceae W. Watson
Daruvedia Dennis
Pleurotrema Müll. Arg.

Pseudeurotiaceae Malloch & Cain
Connersia Malloch
Leuconeurospora Malloch & Cain
?*Neelakesa* Udaiyan & Hosag.
Pleuroascus Massee & E. S. Salmon
Pseudeurotium J. F. H. Beyma

Saccardiaceae Höhn.
Angatia Syd.
Ascolectus Samuels & Rogerson
Cyanodiscus E. Müll. & M. L. Farr
Dictyonella Höhn.
Epibelonium E. Müll.
Johansonia Sacc.
Phillipsiella Cooke
Pseudodiscus Arx & E. Müll.
Rivilata Kohlm., Volkm.-Kohlm. & O. E. Erikss.
Saccardia Cooke
Schenckiella P. Henn.
Vonarxella Bat., J. L. Bezerra & Peres

Seuratiaceae Vuill. ex M. E. Barr
Seuratia Pat.
?*Seuratiopsis* Woron.

Xanthopyreniaceae Zahlbr.
Collemopsidium Nyl.
Didymellopsis (Sacc.) Clem. & Shear
Frigidopyrenia Grube
Pyrenocollema Reinke
Zwackhiomyces Grube & Hafellner

Ascomycota, genera *incertae sedis*
Abrothallus De Not.
Allophoron Nádv.
Antimanoa Syd.
Apiotypa Petr.
Argentinomyces Peña & Arambarri
Arthopyreniomyces Cif. & Tomas.
Ascocorticiellum Jülich & B. de Vries
Ascofascicula Matsush.
Ascomauritania V. M. Ranghoo & K. D. Hyde
Ascosorus P. Henn. & Ruhland
Ascosubramania Rajendran
Ascoxyta Lib.
Astomella Thirum.
Atractobolus Tode
Baculospora Zukal
Batistospora J. L. Bezerra & M. M. P. Herrera
Berggrenia Cooke
Biflua Jørgen Koch & E. B. G. Jones
Brucea Rikkinen
Bresadolina Rick
Carnia Bat.
Cerastoma Quél.
Cladosphaera Dumort.
Clathroporinopsis M. Choisy
Clypeolum Speg.
Coryneliella Har. & P. Karst.
?*Coscinocladium* Kunze
?*Crinigera* I. Schmidt
Cyanopyrenia Harada
Cylindrotheca Bon.
?*Cystodium* Fée
Diaboliumbilicus I. Hino & Katum.
Diehliomyces Gilkey
Dipyrgis Clem.
Discocera A. L. Sm. & Ramsb.
Dryinosphaera Dumort.
Eiona Kohlm.
?*Elaeomyces* Kirchn.
Endocolium Syd.
?*Enduria* Norman
Erispora Pat.
Farriolla Norman
Feracia Rolland
Frigidospora K. D. Hyde & Goh
Gaeumanniella Petr.
Gallaicolichen Serux. & Lücking
Gonidiomyces Vain.
Gyrophthorus Hafellner & Sancho
Haematomyxa Sacc.
Haplopyrenulomyces Cif. & Tomas.
Hapsidascus Kohlm. & Volkm.-Kohlm.
Harmandiana de Lesd.
Helicogonium W. L. White
Myriogonium W. L. White
Heterocyphelium Vain.
Heuflera Bail Hyalodermella Speg.
Hyalopyrenula H. Harada
Hymenobia Nyl.
Hypnotheca Tommerup
Igneocumulus A. W. Ramaley

Leucoconiella Bat., H. Maia & Peres
Leucoconis Theiss. & Syd.
Lichenopeziza Zukal
Limboria Ach.
?*Lithopythium* Bornet & Flahault
Lohwagiella Petr.
Ludwigomyces Kirschst.
Marisolaris Jørgen Koch & E. B. G. Jones
Micromastia Speg.
Molgosphaera Dumort.
Mycotodea Kirschst.
?*Myriococcum* Fr.
Myrmaecium Nitschke ex Fuckel
?*Nemacola* A. Massal.
Normandina Nyl.
Nyungwea Sérus., Eb. Fischer & Killmann
Ochrosphaera Sawada
Oevstedalia Ertz & Diederich
?*Phacidiostromella* Höhn.
Phaeodothiopsis Theiss. & Syd.
Phellostroma Syd. & P. Syd.
?*Phelonitis* Chevall.
Phialisphaera Dumort.
Phragmitensis K. M. Wang, Poon & K. D. Hyde
Phthora d'Hérelle
Phylloporina C. W. Dodge (non (Müll. Arg.) Müll. Arg.)
?*Porosphaera* Dumort.
Potamomyces K. D. Hyde
Protocalicium Woron.
Pseudohepatica P. M. Jørg.
Pseudoperitheca Elenkin
Psilosphaeria Cooke
Pteromycula P. Cannon
Pustularia Bon.
Pycnodermellina Bat. & H. Maia
Retrostium Nakagiri & Tad. Ito
Roeslerina Redhead
?*Rostafinskia* Speg.
?*Sachsia* Lindner
Scutomyces J. L. Bezerra & Cavalc.
Splanchnospora Lar. N. Vassiljeva
Stellifraga Alstrup & Olech
Stigmatea Fr.
Stigmatisphaera Dumort.
Stigmea Fr.
Symbiotaphrina Kühlw. & Jurzitza ex W. Gams & Arx
Syphosphaera Dumort.
Telioclipeum Viégas
Thallisphaera Dumort.
?*Trichoplacia* A. Massal.
Trichosphaera Dumort.
Tromeropsis Sherwood
Ulvella (Nyl.) Trevis.
Wadeana Coppins & P. James
?*Wolkia* Ramsb.
Xenomyxa Syd.
Xylobotryum Pat.
Xylogone Arx & T. Nilsson

PART TWO. NOTES ON ASCOMYCETE SYSTEMATICS. NOS. 4751–5113

Introduction

The series "Notes on ascomycete systematics" was published in *Systema Ascomycetum* (1986–1998) and in *Myconet* since 1999 as hard copies and since 2006 at its internet home at http://www.fieldmuseum.org/myconet/. Starting with this issue, the print version of the outline and notes will appear in *Fieldiana* every other year.

Many papers proposing new ascomycete taxa and concepts have been published since our previous note compilation (Lumbsch & Huhndorf, 2007). Among those, a paper by Hibbett et al. (2007) is especially remarkable, with a revised classification of Fungi down to ordinal level. This compilation includes references seen by January 2010 and presents 363 notes (numbers after the names correspond to the online publication of the notes) on the taxonomy and nomenclature of ascomycetes (*Ascomycota*) at the generic and higher levels. The novelties include the acceptance of ten new orders, three new subclasses, the new class *Geoglossomycetes*, as well as numerous notes at the family and generic level. Papers that increased our knowledge of phylogenetic relationships within orders and major families of ascomycetes include multi-gene studies on *Arthoniales* (Ertz et al., 2009), *Clavicipitaceae* (Sung et al., 2007), *Dothideomycetes* (Schoch et al., 2009a), *Gnomoniaceae* (Sogonov et al., 2008), and *Hysteriaceae* and related families (Boehm et al., 2009b). Gueidan et al. (2007) provided an overview and new classification of *Verrucariaceae*. Schoch et al. (2009b) used a six-gene and 42-species phylogeny of *Ascomycota* to study their origin and evolution of reproductive and ecological traits.

Notes

***Acarosporales* Reeb, Lutzoni & Cl. Roux (4751)**

This order in *Acarosporomycetidae* was formally described to accommodate *Acarosporaceae* (Hibbett et al., 2007).

***Acrospermales* Minter, Peredo & A. T. Watson (4852)**

This new order was described to accommodate *Acrospermaceae* in *Dothideomycetes* (Minter et al., 2007).

***Agyriaceae* Corda (4752)**

The family was shown to be polyphyletic and restricted to *Agyrium* (Lumbsch et al., 2007b).

***Aigialaceae* Suetrong, Sakayaroj, E. B. G. Jones, Kohlm., Volkm.-Kohlm. & C. L. Schoch (5046)**

This family was described to accommodate three genera, *Aigialus*, *Ascocratera*, and *Rimora* (Suetrong et al., 2009). The family fits in the large *Pleosporales* s.l. as recovered in a phylogeny derived from five genes, nuclear small subunit (nucSSU), nuclear large subunit (nucLSU) rDNA, *tef1, rpb1*, and *rpb2* (Schoch et al., 2009a).

***Ainoa* Lumbsch & I. Schmitt (4753)**

This genus clustered in *Baeomycetales* in several phylogenetic studies and is placed in that order (Wedin et al., 2005; Lumbsch et al., 2007a,b).

***Alisea* J. Dupont & E. B. G. Jones (5047)**

This genus was described for a species found on submerged, deep-sea, woody substrates in the Pacific Ocean (Dupont et al., 2009). It was placed in *Halosphaeriaceae* on the basis of phylogenetic analyses using nucSSU and nucLSU rDNA data.

***Amarenomyces* O. E. Erikss. (5048)**

This genus was included in a phylogenetic study using five genes: nucSSU, nucLSU rDNA, *tef1, rpb1*, and *rpb2* (Zhang et al., 2009b). It resolved among species of *Phaeosphaeria* in *Phaeosphaeriaceae* and thus is treated as a synonym of that genus.

***Amazonotrema* Kalb & Lücking (5019)**

This new genus was described for a new species collected in the Amazon region of Brazil. It differs from *Thelotrema* in having a split between the hymenium and the lateral paraphyses, whereas *Thelotrema* has a split between the thallus margin and the proper exciple (Kalb, 2009b). This genus is placed in *Graphidaceae*.

***Ambarignomonia* Sogonov (4853)**

This new genus was described in a monograph of leaf-inhabiting genera in *Gnomoniaceae* (Sogonov et al., 2008).

***Amniculicola* Y. Zhang & K. D. Hyde (4854)**

This new genus in *Dothideomycetes* was described for a freshwater fungus collected in the Pyrenees (Zhang et al., 2008b). It was tentatively placed in *Dothideomycetes incertae sedis.* A subsequent study including two new additional species showed that this genus together with other species forms an aquatic clade within *Pleosporales* (Zhang et al., 2009a).

***Amniculicolaceae* Yin. Zhang, C. L. Schoch, J. Fourn., Crous & K. D. Hyde (5049)**

This family was described to accommodate three genera, including *Amniculicola*, *Murispora*, and *Neomassariosphaeria* (Zhang et al., 2009b). The family fits in the large *Pleosporales* s.l. as recovered in a phylogeny derived from five genes: nucSSU, nucLSU rDNA, *tef1*, *rpb1*, and *rpb2* (Zhang et al., 2009b).

***Amplistroma* Huhndorf, A. N. Mill., M. Greif & Samuels (5050)**

This genus was described for seven species that have large stromata, small asci with eight minute, globose ascospores, and *Acrodontium*-like anamorphs (Huhndorf et al., 2009). It is placed in the newly described *Amplistromataceae*.

***Amplistromataceae* Huhndorf, A. N. Mill., M. Greif & Samuels (5051)**

This family was described to accommodate *Amplistroma* and *Wallrothiella.* Phylogenetic analyses of nucLSU rDNA group these taxa in a well-supported clade distinct from known orders within *Sordariomycetidae* but showing unsupported relationships with *Chaetosphaeriales* and *Magnaporthaceae*. The family is placed within *Sordariomycetidae incertae sedis* (Huhndorf et al., 2009).

***Angiactis* Aptroot & Sparrius (4855)**

This new genus of tropical crustose lichens was described in *Roccellaceae* (Aptroot et al., 2008b). This genus is similar to *Lecanographa* but differs in having a thalline exciple.

***Anisogramma* Theiss. & Syd. (4856)**

This genus appears to be a sister group to the *Gnomoniaceae* on the basis of phylogenetic analyses using nucLSU rDNA (De Silva et al., 2009).

***Anteaglonium* Mugambi & Huhndorf (5052)**

This genus was described for species in *Glonium* and *Glonium*-like species that are found to be phylogenetically distant from the type species of that genus (Mugambi & Huhndorf, 2009b). It did not group within any known families, so it is placed in *Pleosporales incertae sedis*.

***Anzina* Scheid. (4754)**

This genus did not cluster with other *Trapeliaceae* (Wedin et al., 2005; Lumbsch et al., 2007a,b) and hence is placed in *Ostropomycetidae incertae sedis.*

***Aphanotria* Döbbeler (4755)**

This new genus was described for a muscicolous species with immersed, non-stromatic, unpigmented ascomata with a pronounced rostrum, thick-walled asci, and transversally septate ascospores with cyanophilous warts (Döbbeler, 2007). The genus is placed in *Bionectriaceae*.

***Aquapoterium* Raja & Shearer (4857)**

This new genus was described for a new freshwater fungus from Florida (Raja et al., 2008). It is placed in *Helotiales* but not classified in a family.

***Arctocetraria* Kärnefelt & A. Thell (5020)**

The phylogeny of the cetrarioid group in *Parmeliaceae* was studied using a five-gene data set using internal transcribed spacer (ITS), a group I intron, β-tubulin, Glyceraldehyde 3-phosphate dehydrogenase (GAPDH), and mitochondrial SSU (mtSSU) sequences (Thell et al., 2009), with *Arctocetraria* supported as monophyletic.

***Arthoniales* Henssen ex D. Hawksw. & O. E. Erikss. (4858)**

A phylogeny of the order using three molecular markers was provided by Ertz et al. (2009). Characters traditionally used to circumscribe genera in the group, such as exciple carbonization and ascomatal structures, were shown to be homoplasious.

***Ascocratera* Kohlm. (5053)**

This genus is placed in *Aigialaceae* on the basis of four-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1*, and *rpb2* (Suetrong et al., 2009).

***Ascomycota* Caval.-Sm. (4756)**

Hibbett et al. (2007) proposed a comprehensive higher level classification of the kingdom Fungi, including *Ascomycota*, on the basis of recent phylogenetic studies. This classification is followed in the most recent outline of *Ascomycota*. The authors pointed out that Cavalier-Smith is the authority for the name of this phylum.

A soil clone group I (SCGI) is shown to be common and widespread in soil samples from different habitats (Posada et al., 2007) and forms a currently unrecognized subphylum of *Ascomycota*. In a phylogeny based on ribosomal DNA sequences, SCGI forms a sister group to *Saccharomycotina* + *Pezizomycotina*. No data on the biology of these enigmatic fungi are available.

***Ascopolyporus* A. Möller (4757)**

See note under *Cordycipitaceae* (4785).

***Ascorhombispora* L. Cai & K. D. Hyde (4859)**

This genus is characterized by superficial, dark brown to black perithecia, bitunicate asci, and dark brown, 3-septate ascospores with a wide septum band. A phylogenetic analysis of molecular data showed that the monotypic genus clusters within *Pleosporales* (Cai & Hyde, 2007).

***Ascotrichella* Valldos. & Guarro (4758)**

This genus was removed from *Coniochaetales* and placed in *Xylariales* by García et al. (2006).

***Aspiciliopsis* (Müll. Arg.) M. Choisy (4759)**

The genus was shown to be distinct from *Placopsis* (Schmitt et al., 2003; Lumbsch et al., 2007a) and is accepted in this outline.

***Astrosphaeriella* Syd. & P. Syd. (5054)**

The genus *Astrosphaeriella*, represented by the type species *A. stellata* and one additional species, was included in a phylogenetic study using nucSSU and nucLSU rDNA data (Tanaka et al., 2009). Monophyly of the genus was not supported, and the type species did not resolve within any known family in *Pleosporales*. It is placed in *Pleosporales incertae sedis*.

***Atla* S. Savić & Tibell (4860)**

This new genus was described to accommodate four crustose lichen species having perithecia that lack paraphyses but having periphysoids at the ostiolum and large, muriform ascospores (Savić & Tibell, 2008). The genus is sister to *Sporodictyon* in *Verrucariaceae* in a phylogenetic analysis using ITS and nucLSU rDNA sequence data.

***Atradidymella* Davey & Currah (4861)**

Atradidymella was described for a newly discovered species that is a pathogen on bryophytes (Davey & Currah, 2009). Molecular data show that it belongs to *Pleosporales*, but the family placement remains uncertain.

***Atricordyceps* Samuels (4760)**

This genus is synonymized with *Podocrella* (Chaverri et al., 2005).

***Atronectria* Etayo (4862)**

The new monotypic genus was described for a lichenicolous fungus growing on *Nephroma* and *Pseudocyphellaria* spp. in Tierra del Fuego (Etayo & Sancho, 2008). The genus is similar to *Pronectria* but differs in the peridium structure and pigmentation. It is placed in the family *Niessliaceae*.

***Babjevia* van der Walt & M. Th. Smith (4761)**

See note under *Lipomycetaceae* (4805).

***Baeomycetales* Lumbsch, Huhndorf & Lutzoni (4762)**

This new order was described to accommodate *Baeomycetaceae* (Hibbett et al., 2007). This family was previously placed in *Ostropomycetidae incertae sedis.* Its independent status is shown by Miadlikowska et al. (2006) and Lumbsch et al. (2007a).

***Barbatosphaeria* Réblová (4863)**

This genus was described for a perithecial ascomycete occurring under the periderm of decayed wood of deciduous trees (Réblová, 2007). It produces non-stromatic perithecia with hyaline, 1-septate ascospores formed in unitunicate, non-amyloid asci. Phylogenetic analyses of DNA sequence data show that the genus is distinct from morphologically similar *Lentomitella* but groups with the freshwater taxa *Aquaticola* and *Cataractispora*. *Barbatosphaeria* is placed in *Sordariomycetidae incertae sedis*.

***Barnettozyma* Kurtzman, Robnett & Basehoar-Powers (4864)**

This new genus was described in *Saccharomycetales incertae sedis* on the basis of molecular evidence (Kurtzman et al., 2008).

***Barrina* A. W. Ramaley (4763)**

The genus was placed in *Coniochaetales* by Huhndorf et al. (2004) and confirmed by (García et al., 2006).

***Barriopsis* A. J. L. Phillips & Crous (4865)**

This new genus was described in a study on the phylogeny of *Botryosphaeriaceae* and its classification (Phillips et al., 2008). It includes species with brown, aseptate ascospores without apiculi.

***Basavamyces* V. B. Hosag. (4764)**

This new genus in *Meliolaceae* was described for a new hypophyllous fungus from India (Biju et al., 2005). It lacks phialides, and the ascospores have two distal septa.

***Bellojisia* Réblová (4866)**

One species of *Jobellisia, J. rhynchostoma,* was shown to be unrelated to the type species of *Jobellisia* in a phylogenetic analysis using nucLSU rDNA sequence data and is placed in the new genus *Bellojisia*. Whereas *Jobellisia* s.s. is placed in the new family *Jobellisiaceae* (*Sordariomycetidae incertae sedis*), *Bellojisia* is classified in *Lasiosphaeriaceae* (*Sordariales*) (Réblová, 2008).

***Bertiella* (Sacc.) Sacc. & P. Syd. (5055)**

This genus is placed in *Melanommataceae* on the basis of two gene phylogenetic analyses using nucLSU rDNA and *tef1* (Mugambi & Huhndorf, 2009a).

***Biflavia* Lücking (4867)**

This monotypic genus agrees with *Barubria* in conidial shape, but differs in apothecial morphology and anatomy (Lücking, 2008). It is placed in *Pilocarpaceae*.

***Boreoplaca* Timdal (4765)**

Bylin et al. (2007) showed that this genus should be placed in *Ophioparmaceae*.

***Botryosphaeriaceae* Theiss. & H. Syd. (4868)**

The phylogeny of this family is studied and *Dothidotthia* excluded as a separate family (see note 4891) (Phillips et al., 2008). The genera *Neodeightonia, Phaeobotryon*, and *Phaeobotryosphaeria* are resurrected, whereas the new genera *Barriopsis* and *Spencermartinsia* are described.

***Brasilicia* Lücking, Kalb & Serus. (4869)**

This new genus was described to accommodate the former *Bacidia brasiliensis* and five additional species (although not listed or combined into the genus), which are distinguished from *Bacidia* by their ascus type, and differ from *Fellhanera* by having persistent apothecial margins, unbranched paraphyses and narrow ascospores (Lücking, 2008).

***Bricookea* M. E. Barr (4766)**

Eriksson (2007) suggested that this genus be included in *Lophiostoma*.

***Brunneosphaerella* Crous (5056)**

This genus was described for *Leptosphaeria*-like species that have bitunicate asci without pseudoparaphyses, brown, 3-septate ascospores, and a *Coniothyrium*-like anamorph (Crous et al., 2009). It is placed in *Mycosphaerellaceae* on the basis of two gene phylogenetic analyses using nucSSU and nucLSU rDNA (Crous et al., 2009).

***Byssochlamys* Westling (4870)**

The genus is revised and its phylogeny studied by Samson et al. (2009).

***Byssothecium* Fuckel (5057)**

This genus is questionably placed in *Massarinaceae* on the basis of an unverified strain of the type species used in phylogenetic analyses (Zhang et al., 2009b).

***Calosphaeria* Tul. & C. Tul. (5021)**

This genus is shown to be polyphyletic using nucLSU rDNA sequence data, and species in one distinct clade are segregated as the new genus *Tectonidula* (Réblová & Stepánek, 2009).

***Calosphaeriales* M. E. Barr (4767)**

This order was previously placed in *Sordariomycetes incertae sedis* but placed by Hibbett et al. (2007) in *Sordariomycetidae* on the basis of the work of Réblová et al. (2004).

***Camanchaca* Follm. & Peine (4768)**

Tehler and Irestedt (2007) synonymized this genus under *Pentagenella* on the basis of their phylogenetic study.

***Camaropella* Lar. N. Vassiljeva (5058)**

This genus was described for a species of *Camarops* with immersed ascomata (Vassilyeva, 1997). Phylogenetic analyses confirm its placement in *Boliniaceae* (Huhndorf & Miller, 2008).

***Candelaria* A. Massal. (4769)**

See note under *Candelariaceae* (4771).

***Candelariaceae* Hakul. (4771)**

In a phylogenetic study based on ITS sequence data, the genus *Candelaria* was found to be polyphyletic and *Candelariella* was found to be paraphyletic, including *Candelina* and *Placomaronea*. However, the relationships remained largely unresolved (Westberg et al., 2007).

***Candelariales* Miadl., Lutzoni & Lumbsch (4770)**

This new order was described by Miadlikowska, Lutzoni, and Lumbsch (Hibbett et al., 2007) to accommodate *Candelariaceae*. Several studies demonstrated that this order is distinct from *Lecanorales* (Wedin et al., 2005; Miadlikowska et al., 2006; Hofstetter et al., 2007; Lumbsch et al., 2007a). It is placed in *Lecanoromycetes incertae sedis.*

***Candelariella* Müll. Arg. (4772)**

See note under *Candelariaceae* (4771).

***Candelina* Poelt (4773)**

See note under *Candelariaceae* (4771).

***Catinella* Boud. (4774)**

Greif et al. (2007) presented evidence from ascomal ontogeny and nuclear ribosomal DNA data that this genus, previously placed in *Dermateaceae*, belongs in *Dothideomycetes*. The ordinal placement could not be resolved and it is regarded as *Dothideomycetes incertae sedis.*

***Celotheliaceae* Lücking, Aptroot & Sipman (4871)**

This new family was described to accommodate the genus *Celothelium* (Aptroot et al., 2008a) that differs from its sister group *Pyrenulaceae* (Del Prado et al., 2006) in their ascospore types and interascal filaments, i.e., anastomosing in *Celotheliaceae* compared with unbranched to sparsely branched in *Pyrenulaceae*. The family is placed in *Pyrenulales*.

***Ceratosphaerella* Huhndorf, M. Greif, Mugambi & A. N. Mill. (4872)**

This new genus was described to accommodate the former *Ceratosphaeria castillensis* and one additional species that form a distinctive rhizomorphic subiculum with a synnematous *Didymobotryum*-like anamorph at the ends of the blackish threads. The genus is similar to *Ophioceras* but distinguished by ascomata with a basal stroma and shorter, fusiform ascospores. It is placed in *Magnaporthaceae* on the basis of nucLSU and nucSSU rDNA data (Huhndorf et al., 2008).

***Ceratostomella* Sacc. (5022)**

This genus was shown to be polyphyletic using nucLSU rDNA sequence data. One distinct species and a cluster of closely related taxa are segregated in the new genus *Nataniella* (Réblová & Stepánek, 2009).

***Cesariella* W. Rossi & Santam. (4873)**

A new genus was described for a new species parasitic on a ground beetle in Greece (Rossi & Santamaria, 2008). The genus is placed in *Laboulbeniales*.

***Cetraria* Ach. (5023)**

The phylogeny of the cetrarioid group in *Parmeliaceae* was studied using a five-gene data set (Thell et al., 2009). The genera *Arctocetraria, Cetreliopsis, Kaernefeltia,* and *Tuckermanella* were monophyletic, whereas *Cetraria, Flavocetraria,* and *Tuckermannopsis* were polyphyletic. The phylogeny lacked strong support in certain nodes.

***Cetreliopsis* Kurok. (5024)**

This genus was supported as monophyletic in a phylogeny of the cetrarioid group in *Parmeliaceae* using a five-gene data set (Thell et al., 2009).

***Chaetomidium* (Zopf) Sacc. (4874)**

This genus was re-evaluated on the basis of LSU, beta-tubulin, and *rpb2* sequence data and found to be polyphyletic. *Chaetomidium* is restricted to two species and is maintained within *Chaetomiaceae*, whereas the remaining species are scattered throughout *Sordariales* (Greif et al., 2009).

***Chaetothiersia* B. A. Perry & Pfister (4775)**

Molecular and morphological evidence shows that a new apothecial fungus from the Sierra Nevadas in California with stiff, superficial, brown excipular hairs, eguttulate ascospores, and a thin ectal exciple requires placement in a separate genus within *Pyronemataceae* (Perry & Pfister, 2008).

***Chaetothyriomyces* Pereira-Carvalho, Inacio & Dianese (4875)**

This new genus in *Chaetothyriaceae* was described for a new species with multi-spored asci and 2-celled ascospores (Pereira-Carvalho et al., 2009).

***Chaetothyriomycetidae* Doweld (4776)**

Hibbett et al. (2007) showed that the authority for this subclass name is Doweld.

***Chimaeroscypha* Raitv. (4876)**

This genus in *Hyaloscyphaceae* was described for a species with spines on glassy hairs (Raitviir, 2004).

***Chlorostroma* A. N. Mill., Lar. N. Vassiljeva & J. D. Rogers (4777)**

This new genus based on *Chlorostroma subcubisporum* is in *Xylariaceae* on the basis of morphological and molecular data (Miller et al., 2007). The new genus is characterized by a green stoma bearing perithecia, asci with a non-amyloid apex, and subcubical brown ascospores with a prominent germination slit.

***Chorioactidaceae* Pfister (4877)**

Pfister et al. (2008) provide molecular and morphological evidence for the distinction of this new family, in which they place four genera: *Chorioactis, Desmazierella, Neournula,* and *Wolfina.*

***Chorioactis* Kupfer ex Eckblad (4878)**

This genus is now placed in *Chorioactidaceae* (Pfister et al., 2008).

***Conidiotheca* Réblová & L. Mostert (4778)**

This new genus was described for a single polysporous pyrenomycete formerly in *Calosphaeriales* (Réblová & Mostert, 2007). It is placed in *Sordariomycetes incertae sedis* on the basis of a lack of molecular data and indistinctive morphological characteristics.

***Coniocessia* D. García, Stchigel, D. Hawksw. & Guarro (4779)**

This new genus in *Xylariales* was described with *Coniocessia nodulisporioides* as type species (García et al., 2006). The placement is based on nucLSU rDNA sequence data and the presence of a *Nodulosporium*-like anamorph.

***Coniochaeta* (Sacc.) Cooke (4780)**

The circumscription of the genus was studied by García et al. (2006) using nucSSU and nucLSU rDNA sequences. The authors showed that the genera *Coniochaetidium, Ephemeroascus,* and *Poroconiochaeta* are nested within the genus and, consequently, these three genera were reduced to synonymy with *Coniochaeta.*

***Coniolaria* Seigle-Mur., Guiraud, Steiman & Sage nom. inval. (4781)**

For this invalid generic name, the name *Coniolariella* is introduced (García et al., 2006).

***Coniolariella* D. García, Stchigel & Guarro (4782)**

This new genus in *Xylariales* was described with *Coniolariella gamsii* as type species (García et al., 2006). The placement is based on anamorphic and nucLSU rDNA sequence data. The genus replaces the invalidly published *Coniolaria*.

***Coniochaetidium* Malloch & Cain (4783)**

García et al. (2006) placed this genus into synonymy with *Coniochaeta.*

***Conoideocrella* D. Johnson, G. H. Sung, Hywel-Jones & Spatafora (4879)**

This new genus was described for a clade of species previously included in *Torrubiella* but clustering within *Clavicipitaceae* (Johnson et al., 2009). The species share elongated, conical-shaped perithecia and planar stromata.

***Cordyceps* (Fr.) Link (4784)**

See note under *Cordycipitaceae* (4785).

***Cordycipitaceae* Kreisel ex G. M. Sung, J. M. Sung, Hywel-Jones & Spatafora (4785)**

This family was validated for clade C of former *Clavicipitaceae* (Sung et al., 2007) in Hypocreales. It includes the genera *Ascopolyporus, Cordyceps* s.s., *Hyperdermium,* and *Torrubiella.*

***Coronophora* Fuckel (5059)**

This genus is accepted in *Coronophoraceae* on the basis of *tef1* and *rpb2* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Coronophoraceae* Höhn. (5060)**

This family is accepted in *Coronophorales* for the genus *Coronophora* on the basis of *tef1* and *rpb2* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Coronophorella* Höhn. (5061)**

This genus was accepted in *Scortechiniaceae* on the basis of nucLSU rDNA, *tef1*, and *rpb2* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Corylomyces* Stchigel, Calduch & Guarro (4786)**

This new genus was described for a fungus isolated from hazelnuts (Stchigel et al., 2006). It is characterized by tomentose, ostiolate ascomata with long necks composed of hairs, and 1–2-celled, opaque, lunate to reniform ascospores. It is placed in *Sordariales incertae sedis.*

***Cryptodiaporthe* Petr. (4880)**

The genus *Cryptodiaporthe* was reduced to synonymy with *Plagiostoma* (Sogonov et al. 2008).

***Cryptosphaerella* Sacc. (5062)**

This genus was accepted in *Scortechiniaceae* on the basis of nucLSU rDNA, *tef1*, and *rpb2* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Cryptosporella* Sacc. (4881)**

Placement of this genus in *Gnomoniaceae* was supported, and the generic concept was enlarged to include *Ophiovalsa* (Mejia et al., 2008).

***Cryptovalsaria* Lar. N. Vassiljeva & S. L. Stephenson (4787, 4882)**

This new genus was described for two species occurring on bark of alders in eastern Russia and North America (Vassilyeva & Stephenson, 2007). The genus is a synonym of *Dothivalsaria* in Massariaceae (Jaklitsch in litt., 2008).

***Cyanonectria* Samuels & Chaverri (4883)**

Nectria cyanostoma is shown to be distinct from *Nectria* using morphological and molecular evidence and a new genus was described to accommodate this taxon (Samuels et al., 2009) that is classified in *Nectriaceae*.

***Cystocoleus* Thwaites (4884)**

Molecular data suggest that this sterile, microfilamentose lichen genus is close to *Mycosphaerellaceae* in *Dothideomycetes* (Muggia et al., 2008), and it is placed in Dothideomycetes *incertae sedis.*

***Desmazierella* Lib. (4885)**

This genus was placed in *Chorioactidaceae* (Pfister et al., 2008).

***Diaphorographis* A. W. Archer & Kalb (4886)**

This genus was established to accommodate two graphidalean taxa occurring in New Caledonia and tropical Australia. The genus is characterized by conspicuous ascomata, which are covered by a thalline margin, lack of lateral paraphyses, a carbonized exciple, and hyaline, non-amyloid ascospores (Kalb, 2009b).

***Diatrypoidiella* Manohar., Kunwar & D. K. Agarwal (4887)**

This genus was described to accommodate two graphidalean taxa occurring in India. The genus is placed in *Diaporthales* and is characterized by having perithecia immersed in a stroma of fungal and host tissue and polysporous asci with allantoid ascospores (Manoharachary et al., 2005).

***Didymella* Sacc. ex D. Sacc. (4888)**

This genus was placed in a new family *Didymellaceae* (De Gruyter et al., 2009).

***Didymellaceae* Gruyter, Aveskamp & Verkley (4889, 5063)**

This new family was described to accommodate the genera *Didymella* and *Leptosphaerulina* (De Gruyter et al., 2009). The family received high bootstrap support in five-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1, rpb1,* and *rpb2*. The generic types of *Didymella*, *Leptosphaerulina*, *Macroventuria*, *Monascostroma,* and *Platychora* were included (Zhang et al., 2009b). It is placed in *Pleosporales*.

***Dissoconiaceae* Crous & de Hoog (5064)**

This family was described for taxa with *Mycosphaerella*-like teleomorphs and *Dissoconium* anamorphs and is placed in *Capnodiales* on the basis of two-gene phylogenetic analyses using nucSSU and nucLSU rDNA (Crous et al., 2009).

***Dothideomyceta* (4890)**

This rankless taxon was proposed as a name for the clade that includes the classes *Arthoniomycetes* and *Dothideomycetes* (Schoch et al., 2009b). It is not shown in the Outline.

***Dothidotthiaceae* Crous & A. J. L. Phillips (4891)**

This new family was described to accommodate the genus *Dothidotthia* that was previously classified in *Botryosphaeriaceae* (Phillips et al., 2008). However, molecular data show that it does not belong there, but is a distinct clade in *Pleosporales*.

***Ectendomeliola* Hosag. & D. K. Agarwal (4892)**

This new genus in *Meliolaceae* was described for a new Indian species (Hosagoudar & Agarwal, 2006).

***Elaphocordyceps* G. H. Sung & Spatafora (4788)**

This new genus was described in Sung et al. (2007) in *Ophiocordycipitaceae* to accommodate former species of *Cordyceps* that parasitize *Elaphomyces* species.

***Endocena* Cromb. (4893)**

This genus has been overlooked in previous editions of the outline; it is included in *Icmadophilaceae* (Stenroos et al., 2002).

***Entodesmium* Reiss (5065)**

On the basis of phylogenetic data from five genes, this genus is accepted in *Phaeosphaeriaceae* (Zhang et al., 2009b).

***Ephemeroascus* Emden (4789)**

García et al. (2006) placed this genus into synonymy with *Coniochaeta.*

***Eremodothis* Arx (5066)**

This genus resolved among species of *Westerdykella* in *Sporormiaceae* and thus is treated as a synonym of that genus (Kruys & Wedin, 2009).

***Eucasphaeria* Crous (4790)**

A new species on *Eucalyptus* from the Cape region was placed in this new genus (Crous et al., 2007b) in *Hypocreales incertae sedis.* It lacks a clypeus and has unitunicate asci with an apical discharge mechanism and *Ascochyta*-like anamorphs.

***Eungeniella* Lücking, Serus. & Kalb (4894)**

This genus was established for several species previously included in *Bacidia* and *Byssoloma* (Lücking, 2008). The genus is held together by apothecial morphology and anatomy.

***Eurotiomycetidae* Geiser & Lutzoni (4791)**

Geiser and Lutzoni (Hibbett et al., 2007) formally described this subclass to accommodate the orders *Coryneliales*, *Eurotiales*, and *Onygenales*.

***Falciformispora* K. D. Hyde (5067)**

This genus belongs in the undescribed *Trematosphaeriaceae* on the basis of four-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1,* and *rpb2* (Suetrong et al., 2009). The genus is placed in *Pleosporales incertae sedis* until the family is described.

***Farlowiella* Sacc. (4895)**

In a phylogenetic study of *Mytilinidiaceae* and *Hysteriaceae*, evidence was provided that *Farlowiella* is not part of either of the two families (Boehm et al., 2009b). Consequently, it is listed under *Pleosporomycetidae incertae sedis.*

***Flakea* O. E. Erikss. (4896)**

This genus was previously listed under *Ascomycota* with uncertain relationships. Recent ribosomal DNA sequence data shows this genus to belong to *Verrucariaceae* and to be a genus distinct from *Agonimia* (Muggia et al., 2009), with which *Flakea* was previously synonymized (Aptroot et al., 1997).

***Flavocetraria* Kärnefelt & A. Thell (5025)**

Flavocetraria was polyphyletic in a five-gene phylogeny of the cetrarioid lichens (Thell et al., 2009).

***Flavocetrariella* D. D. Awasthi (4792)**

This new genus in *Parmeliaceae* was described to accommodate two Asian *Cetraria* species (Awasthi, 2007), which differ in morphological details from that genus and *Flavocetraria*.

***Fuscideaceae* Hafellner (4793)**

Bylin et al. (2007) confirmed that the family does not belong to *Teloschistales*. In their mtSSU rDNA analysis, the family clusters with *Ophioparmaceae* and *Umbilicariaceae*, but this lacks support. *Ropalospora* did not cluster with the remaining *Fuscideaceae*; see note under *Ropalosporaceae* (4835).

***Gaillardiella* Pat. (5068)**

This genus was accepted in *Bertiaceae* on the basis of nucLSU rDNA and *tef1* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Gemmina* Raitv. (4897)**

This genus in *Hyaloscyphaceae* was described for a species previously known as *Helotium gemmarum* (Raitviir, 2004).

***Geoglossales* Zheng Wang, C. L. Schoch & Spatafora (4898)**

This new order was described to accommodate *Geoglossaceae* s.s. (*Geoglossum, Trichoglossum*) and the genus *Sarcoleotia* that is currently placed in *Rutstroemiaceae* (Schoch et al., 2009c). Other genera currently placed in *Geoglossaceae* are probably not related and are listed under *Leotiomycetes incertae sedis.*

***Geoglossomycetes* Zheng Wang, C. L. Schoch & Spatafora (4899)**

This new class was described to accommodate *Geoglossales* (Schoch et al., 2009c).

***Glaziellaceae* J. L. Gibson (4794)**

The position of the family within *Pezizales* is uncertain (Hansen & Pfister, 2006).

***Gloniaceae* (Corda) E. W. A. Boehm, C. L. Schoch & Spatafora (4900)**

The genus *Glonium* was found to be outside of *Hysteriaceae* and was therefore placed in a new family *Gloniaceae* (Boehm et al., 2009b).

***Glonium* Mühl. (4901)**

In a phylogenetic study on *Hysteriaceae* and *Mytilinidiaceae* (Boehm et al., 2009b), the genus was found to be outside of *Hysteriaceae* and was therefore placed in a new family *Gloniaceae* (see note 4900).

***Gnomoniaceae* G. Winter (4902)**

The phylogeny of leaf-inhabiting genera in this family is studied using three genes, nucLSU rDNA, *tef1,* and *rpb2*, and the taxa are revised on the basis of a new circumscription of genera (Sogonov et al., 2008). Six genera are accepted in revised circumscriptions: the type genus *Gnomonia,* and *Apiognomonia, Ophiognomonia, Plagiostoma*, and *Gnomoniopsis,* which is resurrected. Furthermore, the new genus *Ambarignomonia* was described. The genus *Cryptodiaporthe* was reduced to synonymy with *Plagiostoma,* and *Linospora* with *Pleuroceras. Anisogramma* was excluded from Gnomoniaceae (De Silva et al., 2009), and *Lambro*, *Stegophora,* and *Uleoporthe* were placed tentatively in *Sydowiellaceae*.

***Gnomoniopsis* Berl. (4903)**

Gnomoniopsis was resurrected and accepted as one of six leaf-inhabiting genera in *Gnomoniaceae* (Sogonov et al., 2008).

***Gowardia* P. Halonen, L. Myllys, S. Velmala & H. Hyvärinen (4904)**

This genus was described for *Alectoria nigricans* and a newly described closely related taxon (Halonen et al., 2009). Surprisingly, *Pseudevernia furfuracea,* which clustered among hypogymnioid taxa in other phylogenetic studies (Miadlikowska et al., 2006; Crespo et al., 2007), grouped with *Gowardia* and forms a sister group relationship to *Alectoria* s.s.. The study was based on a POY analysis without alignment, and no alignment-based analysis was done to corroborate these results. Given the insufficient sampling of this study, the possibility of errors due to the analysis performed, the stark contrast to previously published phylogenetic studies, and the absence of morphological evidence, we here place *Gowardia* as a synonym of *Alectoria* and propose the following new combination to accommodate *Gowardia arctica: Alectoria gowardii* Lumbsch, nom. nov.—Mycobank no. MB 515510; Bas.: *Gowardia arctica* P. Halonen, L. Myllys, S. Velmala & H. Hyvärinen, Bryologist, **112:** 143 (2009) [non *Alectoria arctica* Elenkin & Savicz, Acta Horti Petropolit, **32:** 73 (1912)].

***Graphidaceae* Dumort. (4905)**

Phylogenetic studies using extensive taxon sampling (Mangold et al., 2008b) confirmed previous studies (Grube et al., 2004; Frisch et al., 2006; Miadlikowska et al., 2006; Staiger et al., 2006) showing that taxa previously classified in *Thelotremataceae* do not form a separate lineage but are nested within *Graphidaceae*. Consequently, *Thelotremataceae* is placed into synonymy with *Graphidaceae*. Furthermore, Mangold et al. (2008b) showed that the generic concept in thelotremoid species needs revision, in that most of the genera were shown to be non-monophyletic.

***Graphis* Adans. (5026)**

The morphological diversity of the genus *Graphis* and a phylogeny based on phenotype characters was provided by Lücking (2009).

***Gyalectales* Henssen & Jahns ex & D. Hawksw. & O. E. Erikss. (4795)**

Hibbett et al. (2007) placed this order into synonymy with *Ostropales*.

***Halomassarina* Suetrong, Sakayaroj, E. B. G. Jones, Kohlm., Volkm.-Kohlm. & C. L. Schoch (5069)**

This genus was described for *Massarina thalassiae,* found on wood in marine habitats (Suetrong et al., 2009). It was placed in the undescribed *Trematosphaeriaceae* on the basis of four-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1,* and *rpb2* (Suetrong et al., 2009). The genus is placed in *Pleosporales incertae sedis* until the family is described.

***Halosphaeriales* Kohlm. (4796)**

Hibbett et al. (2007) placed this order into synonymy with *Microascales*.

***Hanliniomyces* Raja & Shearer (4906)**

This new freshwater genus was described on the basis of morphological evidence (Raja & Shearer, 2008). The new genus is placed in *Sordariomycetidae incertae sedis.*

***Havispora* K. L. Pang & Vrijmoed (4907)**

A new arctic marine fungus was described from Norway and placed into its own genus on the basis of morphological evidence (Pang et al., 2008). The new genus is placed in *Halosphaeriaceae*.

***Helicascus* Kohlm. (5070)**

This genus finds its placement in *Morosphaeriaceae* on the basis of four-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1,* and *rpb2* (Suetrong et al., 2009).

***Hemithecium* Trevis. (4908)**

The subgenus *Leucogramma* Staiger had previously been shown to be unrelated to the nominal subgenus (Staiger et al., 2006) and is consequently segregated as a new genus *Pallidogramme* (Lücking et al., 2008).

***Herpothallon* Tobler (4909)**

Long regarded as a synonym of *Cryptothecia,* this genus is reinstated for species with a loosely attached thallus and a byssoid hypothallus (Aptroot et al., 2009) and is tentatively accepted in *Arthoniaceae*.

***Herpotrichia* Fuckel (5071)**

This genus is placed in *Melanommataceae* on the basis of two-gene phylogenetic analyses using nucLSU rDNA and *tef1* (Mugambi & Huhndorf, 2009a).

***Hydropunctaria* Keller, Gueidan & Thüs (4910)**

This new genus is accepted in *Verrucariaceae* for an aquatic and amphibious clade of species previously included in the highly polyphyletic genus *Verrucaria* (Gueidan et al., 2009).

***Hyperdermium* J. White, R. Sullivan, G. Bills & N. Hywel-Jones (4797)**

See note under *Cordycipitaceae* (4785).

***Hypocrella* Sacc. (4911)**

The phylogeny and circumscription of this and allied genera have been studied, and the genus is restricted to taxa with non-disarticulating ascospores and an *Aschersonia* s.s. anamorph with fusoid conidia (Chaverri et al., 2008).

***Hypsostromataceae* Huhndorf (5072)**

This family is placed in *Pleosporales* on the basis of two-gene phylogenetic analyses using nucLSU rDNA and *tef1* (Mugambi & Huhndorf, 2009a).

***Hysteriaceae* Chevall. (4912)**

The phylogeny of this family and *Mytilinidiaceae* was studied using a four-gene data set (Boehm et al., 2009b). The two families are shown to be unrelated. Several genera in the family were shown to be polyphyletic; hence, several new combinations were proposed. *Glonium* was shown to be outside of *Hysteriaceae* and was placed in a new family *Gloniaceae* (see note 4900).

***Hysterobrevium* E. W. A. Boehm & C. L. Schoch (5073)**

This genus was described for two species, formerly in *Gloniopsis* and *Hysterographium,* that were found to be phylogenetically distant from the type species of those genera (Boehm et al., 2009a). It was placed in *Hysteriaceae*.

***Hysterographium* Corda (5074)**

In a phylogenetic study of *Hysteriaceae* and *Mytilinidiaceae*, evidence was provided that *Hysterographium* is not part of either of the two families (Boehm et al., 2009b). Consequently, it is listed under *Pleosporomycetidae incertae sedis.*

***Imaia* Trappe & Kovacs (4913)**

This new truffle genus was described for a species having a disjunct eastern North American–East Asian type of distribution (Kovacs et al., 2008). Molecular data showed that it is not closely related to *Terfezia*, to which it has previously been placed, but belongs to *Morchellaceae*.

***Immersisphaeria* Jaklitsch (4798)**

This new genus was proposed for *Hypocrea eichleriana* on the basis of immersed perithecia, hyaline peridium, asci lacking a distinct apical apparatus, and brown single-celled ascospores (Jaklitsch, 2007). It is placed in *Sordariomycetes incertae sedis.*

***Ischwaramyces* V. B. Hosagoudar (4914)**

This genus in *Asterinaceae* was described from leaves in India and is said to differ from *Asterina* in appressorium structure (Hosagoudar et al., 2004).

***Issatchenkia* Kudrjanzev (4915)**

The genus was placed into synonymy with *Pichia* (Kurtzman et al., 2008).

***Jackelixia* S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt & A. Thell (5027)**

This genus was regarded as a synonym of *Xanthoria* (Fedorenko et al., 2009).

***Jobellisiaceae* Réblová (4916)**

This new family was described to accommodate the genus *Jobellisia* in *Sordariomycetidae incertae sedis* (Réblová, 2008).

***Joergensenia* Passo, Stenroos & Calvelo (4917)**

This new genus was described to accommodate a species formerly known as *Psoroma cephalodinum* (Passo et al., 2008). Using molecular data, the authors show that this species does not belong in *Pannariaceae* but is closer to *Collemataceae*. The genus is placed in *Lecanorales incertae sedis.*

***Kaernefeltia* Thell & Goward (5028)**

A five-gene phylogeny of the cetrarioid group in *Parmeliaceae* showed that *Kaernefeltia* is monophyletic (Thell et al., 2009).

***Kalbographa* Lücking (4799)**

This new genus was described in *Graphidaceae* to accommodate *Graphina caracasana* and two new species (Lücking, 2007). The genus is characterized by dark-brown, thin-walled ascospores, non-inspersed hymenium, thin exciple, exposed, wide discs, and a shiny thallus.

***Kalmusia* Neissl (5075)**

This genus is questionably placed in *Montagnulaceae* (Zhang et al., 2009b).

***Katumotoa* Kaz. Tanaka & Y. Harada (5076)**

On the basis of phylogenetic data from five genes, nucSSU, nucLSU rDNA, *tef1, rpb1,* and *rpb2, Katumotoa* was accepted in *Lentitheciaceae* (Zhang et al., 2009b).

***Kawasakia* Y. Yamada & Nogawa (4800)**

See note under *Lipomycetaceae*.

***Keissleriella* Höhn. (5077)**

On the basis of phylogenetic data from five genes, nucSSU, nucLSU rDNA, *tef1, rpb1,* and *rpb2, Keissleriella* was accepted in *Lentitheciaceae* (Zhang et al., 2009b).

***Komagataella* Y. Yamada, M. Matsuda, K. Maeda & Mikata (4918)**

A phylogenetic study showed that this genus belongs in *Pichiaceae* rather than *Saccharomycetaceae* (Kurtzman et al., 2008).

***Koralionastetales* Kohlm., Volkm.-Kohlm., J. Campb. & Inderbitzin (4919)**

This new order was described for the marine family *Koralionastetaceae*, which is sister to *Lulworthiales* (Campbell et al., 2009). The order differs from *Lulworthiales* in ascospores and hamathecial centrum (Campbell et al., 2009).

***Kurtzmaniella* M. A. Lachance & W. T. Starmer (4801)**

Lachance and Starmer (2008) described this new genus from nitidulid beetles found in cactus flowers in Arizona (USA). It is tentatively placed in *Saccharomycetaceae*.

***Lachnaceae* (Nannf.) Raitv. (4920)**

This family was described for the tribe *Lachneae* Nannf. and includes the genera *Lachnaster, Lachnum, Solenopezia,* and *Trichopeziza* (Raitviir, 2004).

***Lachnaster* Höhn. (4921)**

This genus is now classified in *Lachnaceae* (Raitviir, 2004).

***Lachnum* Retz. (4922)**

This genus is now classified in *Lachnaceae* (Raitviir, 2004).

***Lambro* Racib. (4923)**

The genus is placed in *Sydowiellaceae* (Sogonov et al., 2008).

***Lecania* A. Massal. (4802)**

The phylogeny of the genus was studied using mtSSU, ITS, and *rpb2* sequence data (Reese Naesborg et al., 2007). The separation of *Thamnolecania* is supported, and *Lecania* is shown to be polyphyletic.

***Lecanoromycetidae* P. M. Kirk, P. F. Cannon, J. C. David & Stalpers ex Miadl., Lutzoni & Lumbsch (4803)**

Miadlikowska, Lutzoni and Lumbsch (in Hibbett et al., 2007), validly published this subclass. It includes *Lecanorales*, *Peltigerales*, and *Teloschistales*.

***Leimonis* R. C. Harris (4924)**

This new genus was described for a species previously known as *Micarea erratica* (Harris, 2009). Molecular data have shown that the taxon is unrelated to *Micarea* s.s. (Andersen & Ekman, 2004, 2005).

***Lentitheciaceae* Yin. Zhang, C. L. Schoch, J. Fourn., Crous & K. D. Hyde (5078)**

This family was described to accommodate three genera, *Katumotoa, Keissleriella,* and *Lentithecium* (Zhang et al., 2009b). The family fits in *Pleosporales* s.l. in a phylogeny derived from five genes, nucSSU, nucLSU rDNA, *tef1, rpb1,* and *rpb2* (Zhang et al., 2009b).

***Lentithecium* K. D. Hyde, J. Fourn. & Yin. Zhang (5079)**

This genus was described for four lignicolous, *Massarina*-like species that have lenticular ascomata, clavate asci, and hyaline 1-septate ascospores (Zhang et al., 2009c). It is placed in the newly described *Lentitheciaceae* (Zhang et al., 2009b).

***Leotiomyceta* (4925)**

This rankless taxon was proposed as a name for the clade that includes all inoperculate *Pezizomycotina*, i.e., *Pezizomycotina* excl. *Orbiliomycetes* and *Pezizomycetes* (Schoch et al., 2009b). It is not shown in the Outline.

***Leptosphaeriaceae* M. E. Barr (5080)**

This family is accepted for *Leptosphaeria* and *Neophaeosphaeria* on the basis of five-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1, rpb1,* and *rpb2* (Zhang et al., 2009b). The family received weak statistical support, but the group was distinctly separate from *Phaeosphaeriaceae*.

***Leptosphaerulina* McAlpine (4926)**

This genus is placed in a new family *Didymellaceae* (De Gruyter et al., 2009).

***Letendraea* Sacc. (5081)**

This genus is questionably placed in *Montagnulaceae* (Zhang et al., 2009b).

***Leucodiaporthe* M. E. Barr & Lar. N. Vassiljeva (4804)**

This new genus was described to accommodate *Cryphonectria maackii* and three new species in *Diaporthaceae* (Vassilyeva et al., 2007). It is characterized by a light- to brightly colored stromatic disk with blackened marginal zones and hyaline, non-appendaged ascospores.

***Lindgomyces* K. Hiray., Kaz. Tanaka & Shearer (5082)**

This genus was described for a lineage of *Massarina ingoldiana*, which includes four species found on wood in freshwater habitats (Hirayama et al., 2010). It is placed in the newly described *Lindgomycetaceae*.

***Lindgomycetaceae* K. Hiray., Kaz. Tanaka & Shearer (5083)**

This family was described for *Lindgomyces* and a sister taxon, *Massariosphaeria typhicola* (Hirayama et al., 2010). The family belongs in the large *Pleosporales* s.l. as recovered in a phylogeny derived from multiple genes (Shearer et al., 2009; Hirayama et al., 2010).

***Lindnera* Kurtzman, Robnett & Basehoar-Powers (4927)**

This new genus was described in *Saccharomycetales incertae sedis* on the basis of molecular evidence (Kurtzman et al., 2008), but included the type of the older generic name *Williopsis,* which is accepted as the correct name for the species in *Lindnera*.

***Linospora* Fuckel (4928)**

Linospora was reduced to synomymy with *Pleuroceras* (Sogonov et al., 2008).

***Lipomycetaceae* E. K. Novák & Zsolt. (4805)**

Monophyly of this family was supported in a multi-gene phylogenetic study (Kurtzman et al., 2007). The previously separated genera *Kawaskia, Smithiozyma, Waltomyces,* and *Zygozyma* were shown to be nested within *Lipomyces* and consequently reduced to synonymy. *Babjevia* is shown to be part of *Dipodascopsis* and thus reduced to synonymy.

***Lucidascocarpa* A. Ferrer, Raja & Shearer (4929)**

This new genus was described for a new freshwater species from the Neotropics (Ferrer et al., 2008). On the basis of morphological evidence, the genus is placed in *Dothideaceae*.

***Lyrommataceae* Lücking (4930)**

This new family was described to accommodate the genus *Lyromma,* which includes lichen-forming, foliicolous species with setose, sessile perithecia (Lücking, 2008). The new family is placed in *Pezizomycotina incertae sedis*.

***Macrographa* Etayo (4931)**

This new monotypic genus was described for a lichenicolous fungus growing on *Nephroma antarcticum* in Tierra del Fuego (Etayo & Sancho, 2008). The genus is similar to *Hemigrapha* but differs in the ascoma structure. It is placed in the family *Microthyriaceae*.

***Magnaporthales* Thongk., Vijakr. & K. D. Hyde (4932)**

This new order was described to accommodate *Magnaporthaceae* (Thongkantha et al., 2009) that was previously listed under *Sordariomycetes incertae sedis.*

***Manglicola* Kohlm. & E. Kohlm. (5084)**

This genus was moved to *Jahnulales* on the basis of nucSSU and nucLSU rDNA phylogenetic analyses (Suetrong et al., 2010).

***Massariosphaeria* (E. Müll.) Crivelli (4806)**

This genus is shown to be polyphyletic (Wang et al., 2006).

***Megalohypha* A. Ferrer & Shearer (4807)**

This new genus was described in *Jahnulales* (Ferrer et al., 2007) for a tropical, aquatic fungus on the basis of the presence of both sessile and stalked ascomata.

***Melanommataceae* G. Winter (5085)**

This family received high bootstrap and Bayesian support in two-gene phylogenetic analyses using nucLSU rDNA and *tef1* and including the generic types of *Bertiella*, *Byssosphaeria*, *Herpotrichia*, *Melanomma*, and *Pseudotrichia* (Mugambi & Huhndorf, 2009a).

***Melanosporales* N. Zhang & M. Blackw. (4808)**

This new order was described by Zhang and Blackwell (Hibbett et al., 2007) to accommodate *Melanospora* and *Sphaerodes* in *Ceratostomataceae*. This was based on nucLSU rDNA data (Zhang & Blackwell, 2002). In the current outline, the rest of the genera are questionably placed in the family.

***Melanotopelia* Lumbsch & Mangold (4809)**

This new genus in *Thelotremataceae* was described for two species previously placed in *Topeliopsis* (Mangold et al., 2008a). In a phylogenetic study, the two groups were separated. *Melanotopelia* differs in having thin-walled ascospores and a dark-pigmented proper exciple. *Thelotremataceae* is treated as a synonym of *Graphidaceae* in the present outline.

***Meridianelia* Kantvilas & Lumbsch (5029)**

This new monotypic genus was described for a new species collected in Tasmania (Kantvilas & Lumbsch, 2009). On the basis of molecular data, the genus is placed in *Elixiaceae*. Although morphologically distinct from *Elixia,* similarities in ascus types support the placement of the genus.

***Metacordyceps* G. H. Sung, J. M. Sung, Hywel-Jones & Spatafora (4810)**

This new genus in *Clavicipitaceae* was described in Sung et al. (2007) including six species, often having *Metarhizium* anamorphs.

***Misturatosphaeria* Mugambi & Huhndorf (5086)**

This genus was described for nine species with gregarious, papillate ascomata having lighter colored apices and plugged ostioles and that vary in ascospore morphology from 1- to 3-septate to muriform. It was placed in *Lophiostomataceae* on the basis of two-gene phylogenetic analyses using nucLSU rDNA and *tef1* (Mugambi & Huhndorf, 2009a).

***Moelleriella* Bres. (4933)**

The phylogeny of this and allied genera has been studied, and the genus was circumscribed to include taxa with filiform, disarticulating ascospores and an *Aschersonia*-like anamorph with fusoid conidia (Chaverri et al., 2008).

***Monoblastiopsis* R. C. Harris & C. A. Morse (4934)**

This new genus was described for two new species of pyrenocarpous lichens discovered in eastern North America. The genus is similar to *Monoblastia* but differs in having broadly cylindrical to clavate asci, biseriate ascospores, periphysoids lining the ostiolum, and a chlorococcoid photobiont (Harris & Morse, 2008). It is placed in *Dothideomycetes incertae sedis.*

***Montagnulaceae* M. E. Barr (5087)**

This family received high bootstrap support in five-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1, rpb1,* and *rpb2,* and included were the generic types of *Bimuria*, *Didymocrea*, *Karstenula*, and *Paraphaeosphaeria*, as well as some species of *Kalmusia*, *Letendraea*, and *Montagnula* (Zhang et al., 2009b).

***Morosphaeria* Suetrong, Sakayaroj, E. B. G. Jones & C. L. Schoch (5088)**

This genus was described for two species of *Massarina* found on wood in marine habitats (Suetrong et al., 2009). It was placed in the newly described *Morosphaeriaceae*.

***Morosphaeriaceae* Suetrong, Sakayaroj, E. B. G. Jones & C. L. Schoch (5089)**

This family was described to accommodate two genera, *Helicascus* and the newly described *Morosphaeria,* and a specimen of *Kirschsteiniothelia elaterascus* (Suetrong et al., 2009). The family fits in the large *Pleosporales* s.l. on the basis of four-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1*, and *rpb2* (Suetrong et al., 2009) and five genes, nucSSU, nucLSU rDNA, *tef1*, *rpb1*, and *rpb2* (Schoch et al., 2009a).

***Muraeriata* Huhndorf, M. Greif, Mugambi & A. N. Mill. (4935)**

This new genus was described for two species with superficial, long-necked ascomata with a distinctive vacuolate middle ascomal wall layer. The fusiform ascospores are similar to *Ceratosphaeria* and the newly described *Ceratosphaerella*. The genus was placed in *Magnaporthaceae* on the basis of nucLSU rDNA data (Huhndorf et al., 2008).

***Murispora* Yin. Zhang, C. L. Schoch, J. Fourn., Crous & K. D. Hyde (5090)**

This genus was described for *Pleospora rubicunda* and was placed in the newly described *Amniculicolaceae* (Zhang et al., 2009b).

***Musaespora* Aptroot & Sipman (4936)**

Lücking (2008) followed previous authors (Harris, 1995; Lücking & Serusiaux, 1997) in placing this genus in *Monoblastiaceae* instead of *Aspidotheliaceae* on the basis of morphological similarities with the genus *Anisomeridium*, which is followed here. The generic name, however, has been shown to be synonymous with the older name *Trypetheliopsis* (Kashiwadani et al., 2009).

***Mycocaliciomycetidae* Tibell (4811)**

Tibell (Hibbett et al., 2007) described this subclass in *Eurotiomycetes* to accommodate *Mycocaliciales*.

***Mycomicrothelia* Keissl. (5091)**

This genus is questionably placed in *Trypetheliaceae* (Nelsen et al., 2009).

***Myelochroidea* Printzen, T. Sprib. & Tønsberg (4937)**

A small group of four species that were previously recognized as the *Biatora*/*Lecidea leprosula* group was included in this new genus (Printzen et al., 2008). The genus is characterized by reddish brown apothecia with persistent margins; branched and anastomosing paraphyses with pigmented, swollen apices; asci of the *Micarea* type; and single-celled, hyaline ascospores. The genus is placed in *Lecanorales incertae sedis.*

***Mytilinidiaceae* Kirchst. (4938)**

The phylogeny of this family and *Hysteriaceae* was studied using a four-gene data set (Boehm et al., 2009b). The two families were shown to be unrelated, and consequently, *Mytilinidiaceae* and the closely related *Gloniaceae* were placed in a new order, *Mytilinidiales*.

***Mytilinidiales* E. W. A. Boehm, C. L. Schoch & Spatafora (4939)**

The phylogeny of *Hysteriaceae* and *Mytilinidiaceae* was studied using a four-gene data set (Boehm et al., 2009b). The two families were shown to be unrelated, and consequently, *Mytilinidiaceae* was placed in this new order.

***Nataniella* Réblová (5030)**

This new genus was described in *Sordariomycetes incertae sedis* to accommodate species formerly included in *Ceratostomella* (Réblová & Stepánek, 2009).

***Naumovia* Kurtzman (4812)**

See note under *Naumovozyma* (4813).

***Naumovozyma* Kurtzman (4813)**

Naumovia Kurtzman, 2003, with two species *N. castellii* and *N. dairenensis*, is a younger homonym of *Naumovia* Dobrozr. 1928 and is therefore illegitimate. For this reason, the new generic name *Naumovozyma* was proposed (Kirk et al., 2008).

***Neodeightonia* C. Booth (4940)**

This genus was resurrected in a study on the phylogeny of *Botryosphaeriaceae* and its classification (Phillips et al., 2008). It includes species with brown, 1-septate ascospores.

***Neoerysiphe* U. Braun (4941)**

The phylogeny of this genus was studied using ITS and nucLSU rDNA sequence data, and its monophyly is supported (Takamatsu et al., 2008).

***Neomassariosphaeria* Yin. Zhang, J. Fourn. & K. D. Hyde (5092)**

This genus was described for two species of *Massariosphaeria* and was placed in the newly described *Amniculicolaceae* (Zhang et al., 2009b).

***Neournula* Paden & Tylutki (4942)**

This genus is now placed in *Chorioactidaceae* (Pfister et al., 2008).

***Nervostroma* Y. Harada & T. Narumi (4814)**

This new genus was described in *Sclerotiniaceae* with the newly described *N. depraedans* as type species (Narumi-Saito et al., 2006).

***Nigrosabulum* Malloch & Cain (5031)**

The anatomy and ascomal ontogeny of this genus were studied in detail (Plishka et al., 2009). The authors found characters in the centrum development that support the placement of the genus in *Bionectriaceae* (Hypocreales).

***Ocala* Raja & Shearer (4943)**

This new genus of freshwater fungi was described from Florida (Raja et al., 2009). It was placed in *Phaeosphaeriaceae* on the basis of morphological evidence.

***Oceanitis* Kohlm. (5093)**

This genus was placed in *Halosphaeriaceae* on the basis of phylogenetic analyses using nucSSU and nucLSU rDNA data (Dupont et al., 2009).

***Oedohysterium* E. W. A. Boehm & C. L. Schoch (5094)**

This genus was described for species formerly in *Hysterium* and *Hysterographium* that are found to be phylogenetically distant from the type species of those genera (Boehm et al., 2009a). It was placed in *Hysteriaceae*.

***Ogataea* Y. Yamada, K. Maeda & Mikata (4815)**

Limtong et al. (2008) accepted the genus *Ogataea.* They further transferred some species from *Pichia*, with which the genus was previously considered to be synonymous. *Ogataea* is accepted in *Saccharomycetaceae*.

***Ophiocordyceps* Petch (4816)**

This genus was emended by Sung et al. (2007) to include species of *Cordyceps* s.l. that produce ascomata in subterminal regions of the stromata and mostly have *Hirsutella* and *Hymenostilbe* anamorphs.

***Ophiocordycipitaceae* G. H. Sung, J. M. Sung, Hywel-Jones & Spatafora (4817)**

This new family was described by Sung et al. (2007) to accommodate the genera *Elaphocordyceps* and *Ophiocordyceps*. This family was shown to be distinct in a five-gene phylogenetic analysis.

***Ophiovalsa* Petr. (4944)**

This genus was shown to be synonymous with *Cryptosporella* (Mejia et al., 2008).

***Orbiocrella* D. Johnson, G. H. Sung, Hywel-Jones & Spatafora (4945)**

This new genus was described for four species previously included in *Torrubiella* but clustering as a distinct clade in *Clavicipitaceae* (Johnson et al., 2009). Morphologically, the genus is characterized by producing perithecia and reduced stromatic tissue in a ring around the edge of the insect host.

***Ostreichnion* Duby (4946)**

This genus was shown to belong to *Hysteriaceae*, not *Mytilinidiaceae* (Boehm et al., 2009b).

***Ostropales* Nannf. (4818)**

Hibbett et al. (2007) circumscribed this order in a wider sense than previously done. The order also includes taxa

formerly classified in separate orders, such as *Gomphillales*, *Graphidales*, *Gyalectales*, and *Trichotheliales*.

***Ostropella* (Sacc.) Höhn. (5095)**

This genus was included in two-gene phylogenetic analyses that sampled multiple members of *Melanommataceae* (Mugambi & Huhndorf, 2009a). *Ostropella* did not occur in that family and is moved to *Pleosporales incertae sedis*.

***Ovealmbornia* S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix & A. Thell (5032)**

This newly described genus (Fedorenko et al., 2009) was regarded as a synonym of *Xanthoria*.

***Pachytrype* Berl. ex M. E. Barr, J. D. Rogers & Y. M. Ju (5096)**

On the basis of nucLSU rDNA phylogenetic data, *Pachytrype* was accepted in *Diaporthales* (Huhndorf et al., 2009).

***Pallidogramme* Staiger, Kalb & Lücking (4947)**

This new genus was described to accommodate *Hemithecium* subgenus *Leucogramma* (Lücking et al., 2008), which has previously been shown to be unrelated to the nominal subgenus (Staiger et al., 2006).

***Paoayensis* Cabanela, Jeewon & K. D. Hyde (4948)**

This new genus of freshwater ascomycetes was described for a new species collected in the Philippines (Cabanela et al., 2007). The genus is characterized by immersed, slightly erumpent ascomata with openings that fuse into a single ostiole. Asci are unitunicate with a discoid refractive apical ring and lemoniform ascospores. Molecular data indicate a placement in *Sordariomycetes incertae sedis.*

***Parabagliettoa* Gueidan & Cl. Roux (4949)**

This new genus was described in *Verrucariaceae* for a group of saxicolous, calcicolous species formerly included in *Verrucaria* (Gueidan et al., 2009).

***Parauncinula* S. Takamatsu, U. Braun & S. Limkaisang (4819)**

This new genus was proposed in Erysiphales with *U. septata* as the type species (Takamatsu et al., 2005). *Uncinula curvispora* was maintained as a separate species also assigned to this genus.

***Parmeliaceae* Zenker (5033)**

The phylogeny of the cetrarioid group was studied (Thell et al., 2009); see note 5023 (*Cetraria*).

***Patellariales* D. Hawksw. & O. E. Erikss. (4820)**

The position of the order is uncertain in *Dothideomycetes* (Schoch et al., 2006).

***Pentagenella* Darb. (4950)**

This genus was regarded as a synonym of *Roccella* (Follmann et al., 1998) but recently has been accepted as a distinct genus (Tehler & Irestedt, 2007).

***Petriellopsis* Gilgado, Cano, Guarro & Gené (4951)**

This new genus was described for *Pseudallescheria africana*, supported by morphological and molecular evidence (Gilgado et al., 2007), and was placed in *Microascaceae*.

***Pezizales* J. Schröt. (4821)**

Hibbett et al. (2007) showed that the correct authority of this ordinal name is J. Schröt. and not C. Bessey.

***Phacographa* Hafellner (5034)**

This new genus was described to accommodate three lichenicolous fungi on the basis of the presence of unilocular, apothecioid ascomata, atra-brown ascomatal pigments, and hemiamyloid asci (Hafellner, 2009). The genus is placed in *Roccellaceae*.

***Phacothecium* Trevis. (5035)**

This genus was resurrected from the synonymy of *Arthonia* and was accepted in *Roccellaceae* for a lichenicolous fungus (Hafellner, 2009).

***Phaeobotryon* Theiss. & H. Syd. (4953)**

This genus was reinstated in a study on the phylogeny of *Botryosphaeriaceae* and its classification (Phillips et al., 2008). It includes species with brown, 2-septate ascospores.

***Phaeobotryosphaeria* Speg. (4954)**

This genus was resurrected in a study on the phylogeny of *Botryosphaeriaceae* and its classification (Phillips et al., 2008). It includes species with brown, aseptate ascospores with an apiculus at either end.

***Phaeocryptopus* Naumov (4822)**

The type of the genus clustered within Dothioraceae in a phylogenetic study using ribosomal DNA sequences (Winton et al., 2007), whereas *P. gaeumannii* aligned in *Mycosphaerellaceae*.

***Phaeomollisia* T. N. Sieber & C. R. Grünig (4952)**

This new genus was described for a new species of endophytes with dark, septate hyphae from Switzerland (Grunig et al., 2009) and was placed in *Dermateaceae*.

***Phaffomyces* Y. Yamada, Higashi, S. Ando & Mikata (4955)**

A phylogenetic study provided evidence that this genus should be placed in *Pichiaceae* (Kurtzman et al., 2008).

***Phylloblastia* Vain. (4956)**

This genus was classified in *Verrucariaceae* by Lücking (2008) in an enlarged circumscription to include species previously placed in *Pocsia.*

***Phyllogyalidea* Lücking & Aptroot (4957)**

Foliicolous species in *Gyalidea* were shown to be morphologically different (Aptroot & Lücking, 2003) and were subsequently placed in a separate genus (Lücking, 2008) in Gomphillaceae.

***Pichia* E. C. Hansen (4958)**

The circumscription of the genus was revised on the basis of molecular evidence, with several species placed in new genera and the genus *Issatchenkia* included in *Pichia* (Kurtzman et al., 2008).

***Pichiaceae* Zender (4959)**

The phylogeny of the family was studied on the basis of molecular data, with species placed in three new genera: *Barnettozyma, Lindnera,* and *Wickerhamomyces* (Kurtzman et al., 2008).

***Placomaronea* Räsänen (4823, 5036)**

The phylogeny of this genus was studied using ITS sequences (Westberg et al., 2009). It was supported as

monophyletic in *Candelariaceae* but nested within *Candelaria* and *Candelariella,* which both appear polyphyletic. See note under Candelariaceae (4771).

***Plagiostoma* Fuckel (4960)**

This genus is accepted in *Gnomoniaceae*, with *Cryptodiaporthe* as a synonym (Sogonov et al., 2008).

***Platystomum* Trevis. (5097)**

This genus was included in two-gene phylogenetic analyses that sampled multiple members of *Lophiostomataceae* (Mugambi & Huhndorf, 2009a). *Platystomum* did not occur in that family but clustered with species of *Pseudotrichia*, *Ostropella*, and *Xenolophium* in an unresolved clade that may correspond to the family *Platystomaceae*. *Platystomum* is moved to *Pleosporales incertae sedis*.

***Plectosphaerellaceae* W. Gams, Summerbell & Zare (4824)**

This new family in *Hypocreomycetidae* was described to accommodate *Plectosphaerella,* which was previously in *Sordariomycetes incertae sedis* (Zare et al., 2007). It contains several taxa that are placed in the anamorphic genera *Gibellulopsis* and *Musicillium.*

***Pleomassaria* Speg. (5098)**

This genus resolves in *Melanommataceae* on the basis of a single collection of the type species, *P. siparia*, used in phylogenetic analyses (Zhang et al., 2008a, 2009a; Mugambi & Huhndorf, 2009a). The identity of the collection was verified by morphological examination (Zhang et al., 2008a). The species is the generic type of the family *Pleomassariaceae,* and the family was placed in synonymy with *Melanommataceae* (Zhang et al., 2009b). Acceptance of that treatment in the Outline will be reserved until additional collections of the species are included in further analyses.

***Pleuroceras* Riess (4961)**

In a monograph of leaf-inhabiting genera in *Gnomoniaceae,* this genus was accepted, and *Linospora* was included as a synonym (Sogonov et al., 2008).

***Pocsia* Vězda (4962)**

This genus has been reduced to synonymy with *Phylloblastia* (Lücking, 2008).

***Polyblastia* A. Massal. (4963)**

This genus was shown to be polyphyletic in a multi-gene phylogenetic analysis (Savić et al., 2008).

***Polyplosphaeria* Kaz. Tanaka & K. Hiray (5099)**

This genus was described for taxa occurring on bamboo and having globose ascomata and *Tetraploa*-like anamorphs producing conidia with three to eight setose appendages (Tanaka et al., 2009).

***Poroconiochaeta* Udagawa & Furuya (4825)**

García et al. (2006) placed this genus into synonymy with *Coniochaeta.*

***Protocrea* Petch (4964)**

This genus was redefined on the basis of morphological and molecular evidence (Jaklitsch et al., 2008). Several species previously placed here were transferred to other genera.

***Protolichenes* (4826)**

Eriksson (2005) stated that morphological, molecular, and paleontological studies indicate that the subphylum Pezizomycotina most probably evolved from a group of lichenized ascomycetes, the hypothetical group *Protolichenes*; see note 4324 (Eriksson, 2006). Hawksworth (in litt., 2007) has pointed out that the name *Protolichenes* was used by Choisy (1954) to accommodate the following lichen taxa: *Roccellineae*, *Sphaerophorineae*, *Thamnoliineae*, and *Usneineae*. *Protolichenes* sensu Eriksson was used as an informal name for a hypothetical pre-Devonian group of lichenized ascomycetes. The name is not in need of typification and is not to be involved in any discussions on priority.

***Protoroccella* L. M. Sánchez-Pinto & M. Schulz (4965)**

This previously overlooked genus was described in *Roccellaceae* (Follmann, 1995, 2001).

***Pseudorbilia* Y. Zhang, Z. F. Yu, H. O. Baral & K. Q. Zhang (4827)**

This new genus in *Orbiliaceae* was described for a new fungus collected once on rotten wood in Yunnan (China). It has minute translucent apothecia, an ectal exciple of globose and angular cells, asci and paraphyses not embedded in gel, and short-stipitate, bilateral asci (Zhang et al., 2007).

***Pseudoparodia* Theiss. & Sydow (4966)**

On the basis of a re-examination of the type, this genus was transferred to *Patellariaceae* (Zhang & Hyde, 2009).

***Pseudostigmidium* Etayo (4967)**

This new genus was described for a group of five lichenicolous fungi growing on *Nephroma* and *Pseudocyphellaria* spp. in Tierra del Fuego (Etayo & Sancho, 2008). The genus differs from *Stigmidium* in having an I+ red hymenium and 3-septate ascospores. The genus was placed in *Mycosphaerellaceae*.

***Pseudotrichia* Kirschst. (5100)**

This genus was included in two-gene phylogenetic analyses that sampled multiple members of *Melanommataceae* (Mugambi & Huhndorf, 2009a). The type species, *P. mutabilis,* resolved in the family, but the genus is not monophyletic, with additional species occurring in unresolved clades within *Pleosporales*.

***Psiloglonium* Höhn. (4968)**

In a phylogenetic study of *Mytilinidiaceae* and *Hysteriaceae* the independence of this genus was shown (Boehm et al., 2009b). Hence, this genus was resurrected and accepted in the *Hysteriaceae*.

***Psilopezia* Berk. (4828)**

The position of this genus within *Pezizales* was uncertain (Hansen & Pfister, 2006).

***Puttea* S. Stenroos & Huhtinen (4969)**

This new genus was described to accommodate an arctic-alpine, bryophilous lichen species previously known as *Lecidea margaritella* (Stenroos et al., 2009). The authors provide morphological and molecular evidence for the distinctiveness of the genus that is placed in *Lecanorales incertae sedis.*

***Pycnidiophora* Clum (5101)**

This genus resolved among species of *Westerdykella* in *Sporormiaceae* and thus was treated as a synonym of that genus (Kruys & Wedin, 2009).

***Pyronemataceae* Corda (4829)**

The family as currently circumscribed was shown to be polyphyletic (Perry et al., 2007). *Glaziellaceae* is sister to *Pyronemataceae* s.s., but this lacks support. Several genera within *Pyronemataceae* appear polyphyletic.

***Racodium* Pers. (4969)**

Molecular data suggest that this sterile, microfilamentose lichen genus is close to *Mycosphaerellaceae* in *Dothideomycetes* (Muggia et al., 2008). It is placed in *Dothideomycetes incertae sedis.*

***Reinkella* Darb. (4970)**

This genus is a synonym of *Hubbsia* (Tehler et al., 1997).

***Remleria* Raitv. (4971)**

This genus in *Hyaloscyphaceae* was described including four species growing on woody stems (Raitviir, 2004).

***Rhizoplacopsidaceae* J. C. Wei & Q. M. Zhou (4972)**

A new family was described for a new genus and species collected in China (Zhou & Wei, 2006). Subsequent studies showed that the lichen is a synonym of *Boreoplaca ultrafrigida* (Davydov & Wei, 2009). The family is regarded as a synonym of *Ophioparmaceae*.

***Rhizoplacopsis* J. C. Wei & Q. M. Zhou (4973)**

This recently described genus (Zhou & Wei, 2006) has been reduced to synonymy with *Boreoplaca* (Davydov & Wei, 2009).

***Rhizoscyphus* W. Y. Zhuang & Korf (4830)**

This genus was included in *Pezoloma* by Baral and Krieglsteiner (2006).

***Rhodoveronaea* Arzanlou, W. Gams & Crous (4974)**

The teleomorph of this anamorphic genus has been discovered and epitypified; hence, the name is available for the holomorph (Réblová, 2009). A detailed morphological description is given, and molecular data suggest that it is best placed in *Sordariomycetidae incertae sedis.*

***Rimora* Kohlm., Volkm.-Kohlm., Suetrong, Sakayaroj & E. B. G. Jones (5102)**

This genus was described for *Lophiostoma mangrovei*, found on bark and wood in marine habitats (Suetrong et al., 2009). It is placed in *Aigialaceae* on the basis of four-gene phylogenetic analyses using nucSSU, nucLSU rDNA, *tef1,* and *rpb2* (Suetrong et al., 2009).

***Roccella* DC. (4831)**

This genus was shown to have its center of distribution in the Northern Hemisphere (Tehler & Irestedt, 2007), and Southern Hemisphere taxa previously placed here were shown to belong to *Roccellina* on the basis of a phylogenetic study using ribosomal and *rpb2* sequence data.

***Roccellaria* Darb. (4832, 4975)**

This genus was shown to be nested in *Roccellina* and consequently placed in synonymy with that genus (Tehler & Irestedt, 2007).

***Roccellina* Darb. (4833)**

The genus was enlarged to include fruticose taxa previously placed in *Roccella* and also the genus *Roccellaria* (Tehler & Irestedt, 2007).

***Roccellodea* Darb. (4976)**

This genus is a synonym of *Roccella* (Tehler, 2007).

***Roesleria* Thüm. & Pass. (4979)**

This genus was shown to belong to *Helotiaceae* using molecular evidence (Kirchmair et al., 2008).

***Rolueckia* Papong, Thammathaworn & Boonpragob (4977)**

This new genus was described for the *Calenia conspersa* group (Papong et al., 2008). It is characterized by unique hyphophores, which are setiform, reddish brown with a club-like apex producing bacilliform conidia.

***Romellia* Berl. (4834)**

This genus was reduced to synonymy with *Togninia* by Réblová and Mostert (2007).

***Romjularia* Timdal (4978)**

This new genus in *Porpidiaceae* was described to accommodate *Lecidea lurida,* a terricolous, squamulose lichen (Nash et al., 2007).

***Ropalosporaceae* Hafellner (4835)**

This monotypic family has been regarded as synonymous with *Fuscideaceae*. However, Bylin et al. (2007) showed that *Ropalospora* is distinct from that family. They suggest resurrecting the family, which is accepted and placed in *Lecanoromycetidae incertae sedis.*

***Roseodiscus* H. O. Baral (4836)**

This new genus in *Hyaloscyphaceae* was described to accommodate one species on *Equisetum* (*R. equisetinus,* type) and another on Bryophyta (*R. subcarneus*) (Baral & Krieglsteiner, 2006).

***Rostrupiella* Jørg. Koch, K. L. Pang & E. B. G. Jones (4980)**

This genus is characterized by large ascomata that are deeply seated within the woody substrate, with long necks extending through the wood to the surface, a bell-like structure protruding into the centrum, large, melanized bladder cells present in the wood cells, and formation of inhibition zones in the host tissue. NucLSU rDNA data placed the genus in *Lulworthiales* (Koch et al., 2007).

***Saccharomyceta* (4981)**

This rankless taxon was proposed as a name for the clade that includes the subphyla *Pezizomycotina* and *Saccharomycotina* (Schoch et al., 2009b). It is not shown in the Outline.

***Samuelsia* Chaverri & K. T. Hodge (4982)**

The new genus was described for a group of species similar to *Hypocrella,* but differing in having longer ascospores and *Aschersonia*-like anamorphs with allantoid conidia (Chaverri et al., 2008).

***Sarcoexcipula* Etayo (4983)**

This new monotypic genus of lichenicolous fungi from Tierra del Fuego (Etayo & Sancho, 2008) grows on *Pannaria.* It is characterized by a thick and multi-layered exciple, the

presence of lateral paraphyses, and large septate ascospores. The authors did not place the genus in a family, but, on the basis of the description, it has an amyloid hymenium and is tentatively placed in *Gyalectaceae*, although the ascus type illustrated does not seem to fit into this family.

***Schistophoron* Stirt. (4984)**

A phylogenetic study using nucLSU and mtSSU rDNA sequence data demonstrated that this calicioid genus previously listed under Ascomycota *incertae sedis* belongs to *Graphidaceae* (Tehler et al., 2009).

***Schizoparmeaceae* Rossman (4837)**

This new family in *Diaporthales* was described to accommodate the distinctive genus *Schizoparme* and its anamorph *Pilidiella* (Rossman et al., 2007). The family is characterized by having brown or black ascomata mostly erumpent through the host epidermis.

***Schizotrema* Mangold & Lumbsch (5037)**

This small new genus was described to accommodate a group of thelotremoid lichens with layered ascomatal margins (Mangold et al., 2009) that occur in temperate regions of the Southern Hemisphere and at high altitudes in the tropics and have previously been found to be distinct on the basis of molecular data (Mangold et al., 2008b).

***Scortechiniella* Arx & E. Müll. (5103)**

This genus was accepted in *Scortechiniaceae* on the basis of nucLSU rDNA, *tef1,* and *rpb2* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Scortechiniellopsis* Sivan. (5104)**

This genus was accepted in *Scortechiniaceae* on the basis of nucLSU rDNA, *tef1,* and *rpb2* phylogenetic analyses (Mugambi & Huhndorf 2010).

***Sculptolumina* Marbach (4985)**

On the basis of morphological evidence, this genus was resurrected as distinct from *Rinodina* (Giralt et al., 2009).

***Sipmaniella* Kalb (4986)**

For the tropical species *Lecania sulfureofusca,* a new monotypic genus in *Lecanoraceae* was described on the basis of morphological and chemical evidence (Kalb, 2009a).

***Smarodsia* Raitv. & Vimba (4987)**

This new genus in *Pyrenemataceae* was described for a new species found on soil in Latvia (Vimba & Raitviir, 2006). It differs from *Cheilymenia* in having ascospores with walls that do not change in boiling lactic acid and that contain lipid droplets.

***Solenopezia* Sacc. (4988, 5038)**

Korf (2007) discussed this genus, resurrected for seven species, including the validly published but illegitimate (ICBN Art. 58) *Peziza solenia* Peck, a later homonym of *Peziza solenia* DC (a basidiomycete). Korf provided a discussion for accepting the lectotypification of the genus by Raitviir in 1973 with *Solenopezia solenia* Sacc. as the type species, the name based on *P. solenia* Peck. He discussed the authorship of *S. solenia* as dictated by ICBN Article (Art.) 58. As stated therein, the epithet of a validly published but illegitimate species can be transferred to another genus. In doing this, the name loses its original author, and the transferring author's name is substituted, not as a new combination, but as a new name. In this case, *Solenopezia solenia* Sacc. is the correct authorship, not *Solenopezia solenia* (Peck) Sacc. Its type specimen is that of the original author, Peck (1873), but the name dates for priority purposes from Saccardo (1889). Korf continued with a discussion of the application of Art. 58, which can result in the loss of ability to find a taxon's description and the location of the type specimen. Korf discussed the possible use of the connective "ex" in joining the original author with the legitimizing author. In this case, the authorship would become *Solenopezia solenia* Peck ex Sacc., thereby informing the reader that they should search for the type specimen and description among Peck's publications. A formal proposal to change Art. 58 would be needed and, in the interest of nomenclatural clarification, would be a worthy endeavor. *Solenopezia* is included in *Lachnaceae* (Raitviir, 2004).

***Solorinella* Anzi (4838)**

This genus was shown to be nested within *Gyalidea* (Aptroot & Lücking, 2003) and is treated as a synonym of the genus.

***Solorinellaceae* Vězda & Poelt (4839)**

This family is placed into synonymy with *Gomphillaceae*, following some recent authors (Henssen & Lücking, 2002; Aptroot & Lücking, 2003).

***Sordariomyceta* (4989)**

This rankless taxon was proposed as a name for the clade that includes the classes *Laboulbeniomycetes*, *Leotiomycetes*, and *Sordariomycetes* (Schoch et al., 2009b). It is not shown in the Outline.

***Speerschneidera* Trevis. (4990)**

This genus was shown to be outside of *Ramalinaceae* and is placed in *Lecanorales incertae sedis* (Lumbsch et al., 2004; Nelsen et al., 2008).

***Spencermartinsia* A. J. L. Phillips, A. Alves & Crous (4991)**

This genus was described in a study on the phylogeny of *Botryosphaeriaceae* and its classification (Phillips et al., 2008). The genus includes species with brown, 1-septate ascospores with an apiculus at either end.

***Sporodictyon* A. Massal. (4992)**

This genus was accepted for a group previously included in *Polyblastia* but forming a separate clade in a multi-gene phylogenetic analysis (Savić et al., 2008).

***Stegophora* Syd. & P. Syd. (4993)**

This genus was placed in *Sydowiellaceae* (Sogonov et al., 2008).

***Sydowiellaceae* Lar. N. Vassiljeva (4994)**

Rossman (2007) accepted the family in a new circumscription on the basis of the type *Sydowiella* and included the following genera: *Chapeckia*, *Haplocystis*, *Rossmania*, *Sillia*, and *Stegophora* along with a few species from other genera. According to Sogonov et al. (2008), the genera *Lambro* and *Uleoporthe* may also belong in this family. The diverse biology of this group includes parasites and saprobes on herbaceous and woody plants.

***Sympoventuria* Crous & Seifert (4840)**

A new fungus on *Eucalyptus* from the Cape region of South Africa was accommodated in this new genus (Crous et al., 2007b) that is placed in Dothideomycetes *incertae sedis.* The genus is distinct from *Venturia;* it differs in having hyaline ascospores and lacking a *Sympodiella* anamorph.

***Synarthothelium* Sparrius (4995)**

This new genus was described for two new species of corticolous, crustose lichens with synascomata with thalline margin occurring in Central America (Sparrius, 2009).

***Tectonidula* Réblová (5039)**

This new genus was described for species previously classified in the polyphyletic genus *Calosphaeria* and a newly found species (Réblová & Stepánek, 2009). The genus is placed in *Sordariomycetes incertae sedis.*

***Teloschistaceae* Zahlbr. (4996)**

A phylogenetic study based on ITS sequences confirms that the generic concept in the family needs re-evaluation and that most of the genera and subgenera currently accepted are not monophyletic (Gaya et al., 2008).

***Teracosphaeria* Réblová & Seifert (4841)**

This new genus was described for a new species growing on decayed wood in New Zealand (Réblová & Seifert, 2007). It is characterized by immersed, non-stromatic *Ceratosphaeria*-like perithecia with hyaline, septate ascospores produced in unitunicate, non-amyloid asci. The genus is placed in *Sordariomycetidae incertae sedis.*

***Teratosphaeriaceae* Crous & U. Braun (4997)**

This new family was described for taxa previously classified in the highly polyphyletic *Mycosphaerellaceae*. The group includes several important leaf-spotting and extremotolerant species. The family is placed in *Capnodiales* (Crous et al., 2007a).

***Tetraplosphaeria* Kaz. Tanaka & K. Hiray (5105)**

This genus was described for taxa occurring on bamboo and having small *Massarina*-like ascomata and anamorphs belonging to *Tetraploa* s.s. (Tanaka et al., 2009). A new family was described for this genus and several others.

***Tetraplosphaeriaceae* Kaz. Tanaka & K. Hiray (5106)**

This family was described to accommodate five genera, including *Polyplosphaeria, Tetraplosphaeria*, and *Triplosphaeria* and the anamorphic genera *Pseudotetraploa* and *Quadricrura* (Tanaka et al., 2009). The family fits in the large *Pleosporales* s.l., as recovered in a phylogeny derived from five genes: nucSSU, nucLSU rDNA, *tef1*, *rpb1*, and *rpb2* (Schoch et al., 2009a).

***Thailandiomyces* Pinruan, Sakay., K. D. Hyde & E. B. G. Jones (4998)**

This new genus was described for a new species found on senescent trunks of palms in a peat swamp in Thailand (Pinruan et al., 2008). Morphological and molecular evidence for the classification of the fungus are provided. The genus is listed in *Diaporthales incertae sedis.*

***Thelocarpaceae* Zukal (5040)**

The phylogenetic placement of this family was studied using nucLSU and mtSSU rDNA sequences. Its placement outside of *Lecanoromycetes* but inside of *Leotiomycetes* was suggested by Reeb et al. (2004) and confirmed by Lumbsch et al. (2009b). The family is placed in *Leotiomycetes incertae sedis.*

***Thelotremataceae* (Nyl.) Stizenb. (4999)**

This family has been reduced to synonymy with *Graphidaceae* (Mangold et al., 2008b).

***Tingoldiago* K. Hiray. & Kaz. Tanaka (5107)**

This genus was described for one lineage of *Massarina ingoldiana* s.l., which is found on wood in freshwater habitats (Hirayama et al., 2010). It did not group with another lineage (*Lingomyces*, placed in the *Lingomycetaceae*) and is placed in *Pleosporales incertae sedis*.

***Torrubiella* Boud. (4842, 5000)**

In a multi-gene phylogenetic study by Johnson et al. (2009), this genus was shown to be highly polyphyletic, with species clustering in *Clavicipitaceae*, *Cordycipitaceae*, and *Ophiocordycipitaceae*. Two new genera were described; see notes under *Conoideocrella* (4879), *Orbiocrella* (4945), and *Cordycipitaceae* (4785).

***Trapeliaceae* Hertel (4843)**

This family was shown to be distinct from *Agyriaceae* and resurrected (Lumbsch et al., 2007b). It is placed in *Baeomycetales*.

***Trematosphaeria* Fuckel (5108)**

An epitype was designated for the type species, *T. pertusa* (Zhang et al., 2008a), and this collection was used in multi-gene phylogenetic analyses, in which it resolved in a strongly supported clade assigned as a separate undescribed family (Suetrong et al., 2009; Zhang et al., 2009a). The genus is placed in *Pleosporales incertae sedis* until the family is described.

***Trematosphaeriaceae* nom. nud. (5109)**

This family name was used for a clade recovered in four- and five-gene phylogenetic analyses (Suetrong et al., 2009; Zhang et al., 2009a) and includes *Falciformispora, Halomassarina,* and *Trematosphaeria*. Unfortunately, the family was not formally described at that time. The strongly supported clade will be accepted in *Pleosporales* after the family name is formally described.

***Trichopeziza* Fuckel (5001)**

This genus is now classified in *Lachnaceae* (Raitviir, 2004).

***Trichotheliales* Hafellner & Kalb (4844)**

Hibbett et al. (2007) placed this order into synonymy with *Ostropales*.

***Triclinum* Fée (4845, 5002)**

Jørgensen (2003) typified this genus and pointed out that it is not a synonym of *Psoroma,* but an older, correct name for *Squamacidia* (*Ramalinaceae*). However, *Triclinum* was subsequently reduced to synonymy with *Phyllopsora* (Timdal, 2008).

***Trimmatothele* Norman ex Zahlbr. (5003)**

This genus was accepted in a new generic classification of *Verrucariaceae* (Gueidan et al., 2009).

***Triplosphaeria* Kaz. Tanaka & K. Hiray (5110)**

This genus was described for taxa occurring on bamboo and having *Massarina*-like teleomorphs with *Tetraploa*-like ana-

morphs having three setose appendages. The ascomata of *Triplosphaeria* are hemispherical with a flattened base with rim-like regions composed of vertically oriented hyphoid cells at the side in longitudinal section (Tanaka et al., 2009).

***Trypetheliales* Lücking, Aptroot & Sipman (5004)**

This new order was described (Aptroot et al., 2008a) including a family that has previously been shown to belong to *Dothideomycetes* (Del Prado et al., 2006) and was formerly placed in *Dothideomycetes incertae sedis.*

***Trypetheliopsis* Asahina (5005)**

Trypetheliopsis was shown to be an older name for *Musaespora* that is consequently placed into synonymy with that genus (Kashiwadani et al., 2009).

***Tuckermanella* Essl. (5041)**

The phylogeny of the cetrarioid group in *Parmeliaceae* was studied using a five-gene data set (Thell et al., 2009). This genus was monophyletic in that study.

***Tuckermannopsis* Gyeln. (5042)**

This genus was polyphyletic in a phylogenetic study on cetrarioid lichens (Thell et al., 2009).

***Tylophoron* Nyl. ex Stizenb. (5006)**

A phylogenetic study using mtSSU rDNA sequence data showed that this calicioid genus belongs to *Arthoniaceae* (Lumbsch et al., 2009a).

***Tympanopsis* Starbäck (5111)**

This genus was accepted in *Scortechiniaceae* on the basis of nucLSU rDNA, *tef1,* and *rpb2* phylogenetic analyses (Mugambi & Huhndorf, 2010).

***Uleoporthe* Petr. (5007)**

This genus was placed tentatively in *Sydowiellaceae* (Sogonov et al., 2008).

***Umbilicariales* Lumbsch, Hestmark & Lutzoni (4846)**

This new order was described by Lumbsch, Hestmark, and Lutzoni (*in* Hibbett et al., 2007) to accommodate *Umbilicariaceae*. Miadlikowska et al. (2006) and Hofstetter et al. (2007) demonstrated that this order is distinct from *Lecanorales*. It is placed in *Lecanoromycetes incertae sedis.*

***Umbilithecium* Etayo (5008)**

This new monotypic genus of lichenicolous fungi from Tierra del Fuego growing on *Pseudocyphellaria* spp. was described as close to *Corticiruptor* but differs in having larger ascomata and differences in the exciple and hypothecium (Etayo & Sancho, 2008). This genus is placed in *Lecanoromycetes incertae sedis.*

***Umushamyces* Etayo (5009)**

This new monotypic genus of lichenicolous fungi from Tierra del Fuego grows on *Coccotrema cucurbitula* (Etayo & Sancho, 2008). The genus has a reduced exciple of branched, gelatinized hyphae, a hyaline hymenium and hypothecium, and asci of the *Biatora* type. It is close to *Scoliosporum* and is accepted in *Scoliciosporaceae*.

***Usneocetraria* M. L. Lai & J. C. Wei (4847)**

This genus was segregated from *Allocetraria* on the basis of several growth morphology characters that are only briefly mentioned and not discussed (Lai et al., 2007). Eleven species were listed, but only two were validly combined into *Usneocetraria.* For the remaining nine species, no basionyms were cited. Additional data are necessary before this genus can be accepted; for the time being, it is listed as a synonym of *Allocetraria.*

***Vahliella* P. M. Jørg. (5010)**

Species that were previously classified as subgenus *Micropannaria* in the genus *Fuscopannaria* (*Pannariaceae*) have been shown to be unrelated to that genus (Ekman & Jørgensen, 2002). Consequently, these species are now accommodated in a new genus, *Vahliella* (Jørgensen, 2008)

***Verrucariaceae* Zenker (4848, 5011)**

In multi-gene phylogenetic analyses, Gueidan et al. (2007) showed the generic concepts in this family required revision. Several genera were found to be polyphyletic. Four well-supported lineages were found. Morphological characters and their evolution were discussed. Gueidan et al. (2009) proposed a new classification with the description of three new genera: *Hydropunctaria, Parabagliettoa,* and *Wahlenbergiella.* The genus *Trimmatothele* is accepted.

***Verrucula* J. Steiner (5012)**

The genus was accepted in Verrucariaceae for parasitic species formerly included in *Verrucaria* (Navarro-Rosinés et al., 2007; Gueidan et al., 2009).

***Verruculopsis* Gueidan, Nav.-Ros. & Cl. Roux (5013)**

This genus was newly established in *Verrucariaceae* for the sister group of *Placopyrenium* (Navarro-Rosinés et al., 2007; Gueidan et al., 2009).

***Vezdaeaceae* Poelt & Vězda ex J. C. David & D. Hawksw. (5043)**

The phylogenetic placement of *Vezdaeaceae* was studied using nucLSU and mtSSU rDNA sequences; it was found to be outside of *Lecanoromycetes* but inside of *Leotiomycetes* with unclear relationships (Lumbsch et al., 2009b). The family is placed in *Leotiomycetes incertae sedis.*

***Wahlenbergiella* Gueidan & Thüs (5014)**

This genus was newly described in *Verrucariaceae* for a group of marine crusts growing mostly in the intertidal zone (Gueidan et al., 2009). The species were previously classified in the heterogeneous genus *Verrucaria*.

***Wakefieldiomyces* Kobayasi (4849)**

This genus was included in *Podocrella* by Chaverri et al. (2005).

***Wallrothiella* Sacc. (4850, 5112)**

García et al. (2006) placed this genus in *Coniochaetales* on the basis of nucLSU rDNA sequence data for *Wallrothiella subiculosa*. This species is morphologically distinct from the type species *Wallrothiella congregata*, which was included with *W. subiculosa* in a phylogenetic study using nucLSU rDNA data (Huhndorf et al., 2009). Monophyly of the genus was not supported, and the type species was placed in the newly described *Amplistromataceae*.

***Wickerhamomyces* Kurtzman, Robnett & Basehoar-Powers (5015)**

This new genus was described in *Saccharomycetales incertae sedis* based on molecular evidence (Kurtzman et al., 2008).

***Williopsis* Zender (5016)**

The type species of *Williopsis* (*W. saturnus*) was included in the new genus *Lindnera* (Kurtzman et al., 2008). Thus *Lindnera* is regarded as a synonym of *Williopsis*.

***Wolfina* Seaver ex Eckblad (5017)**

This genus was placed in *Chorioactidaceae* (Pfister et al., 2008).

***Xanthodactylon* P. A. Duvign. (5018)**

The circumscription of this African lichen genus was revised, chiefly characterized by its ascospore type (Kondratyuk et al., 2008).

***Xanthokarroa* S. Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix & A. Thell (5044)**

This newly described genus (Fedorenko et al., 2009) is for the time being regarded as a synonym of *Xanthoria*.

***Xanthoria* (Fr.) Th. Fr. (5045)**

A new generic classification for xanthorioid genera was suggested on the basis of a phylogenetic study using ITS and mtSSU rDNA sequence data (Fedorenko et al., 2009). We prefer not to accept these genera until additional data become available and the generic concept reaches a consensus among researchers working on Teloschistaceae. Hence, the newly described genera *Jackelixia*, *Ovealmbornia,* and *Xanthokarroa* are here regarded as synonyms of *Xanthoria*.

***Xenolophium* Syd. (5113)**

This genus was included in two-gene phylogenetic analyses that sampled *Melanommataceae* (Mugambi & Huhndorf, 2009a). *Xenolophium* did not come out in that family and is moved to *Pleosporales incertae sedis*.

***Zygozyma* van der Walt & Arx (4851)**

See note under *Lipomycetaceae* (4805).

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