

Please cite the Published Version

Wijayawardene, NN, Hyde, KD, Al-Ani, LKT, Tedersoo, L, Haelewaters, D, Rajeshkumar, KC, Zhao, RL, Aptroot, A, Leontyev, DV, Saxena, RK, Tokarev, YS, Dai, DQ, Letcher, PM, Stephenson, SL, Ertz, D, Lumbsch, HT, Kukwa, M, Issi, IV, Madrid, H, Phillips, AJL, Selbmann, L, Pfliegler, WP, Horváth, E, Bensch, K, Kirk, PM, Kolariková, K, Raja, HA, Radek, R, Papp, V, Dima, B, Ma, J, Malosso, E, Takamatsu, S, Rambold, G, Gannibal, PB, Triebel, D, Gautam, AK, Avasthi, S, Suetrong, S, Timdal, E, Fryar, SC, Delgado, G, Réblová, M, Doilom, M, Dolatabadi, S, Pawlowska, JZ, Humber, RA, Kodsueb, R, Sánchez-Castro, I, Goto, BT, Silva, DKA, de Souza, FA, Oehl, F, da Silva, GA, Silva, IR, Blaszkowski, J, Jobim, K, Maia, LC, Barbosa, FR, Fiuza, PO, Divakar, PK, Shenoy, BD and Castañeda-Ruiz, RF (2020) Outline of Fungi and fungus-like taxa. *Mycosphere Online: Journal of Fungal Biology*, 11 (1). pp. 1060-1456. ISSN 2077-7019

DOI: <https://doi.org/10.5943/mycosphere/11/1/8>

Publisher: Mushroom Research Foundation

Version: Published Version

Downloaded from: <https://e-space.mmu.ac.uk/628867/>

Usage rights:  [Creative Commons: Attribution-Noncommercial-No Derivative Works 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)

Additional Information: This is an Open Access article published in *Mycosphere Online: Journal of Fungal Biology*.

Enquiries:

If you have questions about this document, contact openresearch@mmu.ac.uk. Please include the URL of the record in e-space. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from <https://www.mmu.ac.uk/library/using-the-library/policies-and-guidelines>)



Outline of *Fungi* and fungus-like taxa

Wijayawardene NN¹, Hyde KD², Al-Ani LKT^{3,4}, Tedersoo L⁵, Haelewaters D^{6,7,8,9}, Rajeshkumar KC^{10,11}, Zhao RL^{12,13}, Aptroot A¹⁴, Leontyev DV¹⁵, Saxena RK¹⁶, Tokarev YS¹⁷, Dai DQ^{1,*}, Letcher PM¹⁸, Stephenson SL¹⁹, Ertz D^{20,21}, Lumbsch HT²², Kukwa M²³, Issi IV¹⁷, Madrid H²⁴, Phillips AJL²⁵, Selbmann L^{26,27}, Pfliegler WP²⁸, Horváth E²⁹, Bensch K³⁰, Kirk PM³¹, Kolaříková K³², Raja HA³³, Radek R³⁴, Papp V³⁵, Dima B³⁶, Ma J³⁷, Malosso E³⁸, Takamatsu S^{39,40}, Rambold G⁴¹, Gannibal PB⁴², Triebel D⁴³, Gautam AK⁴⁴, Avasthi S⁴⁵, Suetrong S^{46,47}, Timdal E⁴⁸, Fryar SC⁴⁹, Delgado G⁵⁰, Réblová M⁵¹, Doilom M^{52,71,72,73}, Dolatabadi S⁵³, Pawłowska JZ⁵⁴, Humber RA⁵⁵, Kodsueb R⁵⁶, Sánchez-Castro I⁵⁷, Goto BT⁵⁸, Silva DKA⁵⁹, de Souza FA⁶⁰, Oehl F⁶¹, da Silva GA⁶², Silva IR⁶², Błaszowski J⁶³, Jobim K⁶⁴, Maia LC⁶², Barbosa FR⁶⁵, Fiuza PO⁶⁶, Divakar PK⁶⁷, Shenoy BD⁶⁸, Castañeda-Ruiz RF⁶⁹, Somrithipol S⁴⁷, Lateef AA⁷⁰, Karunarathna SC^{71,72,73}, Tibpromma S^{71,72,73}, Mortimer PE^{71,72,73}, Wanasinghe DN^{71,72,73}, Phookamsak R^{2,71,72,73,74}, Xu J^{71,72,73,74}, Wang Y⁷⁵, Tian F⁷⁵, Alvarado P⁷⁶, Li DW⁷⁷, Kušan I⁷⁸, Matočec N⁷⁸, Mešić A⁷⁸, Tkalčec Z⁷⁸, Maharachchikumbura SSN⁷⁹, Papizadeh M⁸⁰, Heredia G⁸¹, Wartchow F⁸², Bakhshi M⁸³, Boehm E⁸⁴, Youssef N⁸⁵, Hustad VP⁸⁶, Lawrey JD⁸⁷, Santiago ALCMA⁸⁸, Bezerra JDP⁸⁹, Souza-Motta CM⁸⁹, Firmino AL⁹⁰, Tian Q², Houbraken J⁹¹, Hongsanan S⁹², Tanaka K⁹³, Dissanayake AJ⁷⁹, Monteiro JS⁹⁴, Grossart HP^{95,96}, Suija A⁹⁷, Weerakoon G⁹⁸, Etayo J⁹⁹, Tsurukau A^{100,101}, Vázquez V^{102,103}, Mungai P¹⁰⁴, Damm U¹⁰⁵, Li QR¹⁰⁶, Zhang H¹⁰⁷, Boonmee S², Lu YZ^{108,109}, Becerra AG¹¹⁰, Kendrick B¹¹¹, Brearley FQ¹¹², Motiejūnaitė J¹¹³, Sharma B¹¹, Khare R¹¹, Gaikwad S¹¹, Wijesundara DSA¹¹⁴, Tang LZ^{1,*}, He MQ^{12,13}, Flakus A¹¹⁵, Rodriguez-Flakus P¹¹⁶, Zhurbenko MP¹¹⁷, McKenzie EHC¹¹⁸, Stadler M^{119,120}, Bhat DJ¹²¹, Liu JK⁷⁹, Raza M¹², Jeewon R¹²², Nassonova ES¹²³, Prieto M¹²⁴, Jayalal RGU¹²⁵, Erdoğan M¹²⁶, Yurkov A¹²⁷, Schnittler M¹²⁸, Shchepin ON¹²⁹, Novozhilov YK¹²⁹, Silva-Filho AGS¹³⁰, Gentekaki E², Liu P¹³¹, Cavender JC¹³², Kang Y¹³³, Mohammad S¹³⁴, Zhang LF¹³⁵, Xu RF¹³⁵, Li YM¹³⁵, Dayarathne MC⁷⁵, Ekanayaka AH², Wen TC^{136,137}, Deng CY¹³⁸, Pereira OL¹³⁹, Navathe S¹⁴⁰, Hawksworth DL^{141,142}, Fan XL¹⁴³, Dissanayake LS¹³⁷, Kuhnert E¹⁴⁴, Grossart HP^{145,146}, Thines M^{147,148}

¹ Center for Yunnan Plateau Biological Resources Protection and Utilization, College of Biological Resource and Food Engineering, Qujing Normal University, Qujing, Yunnan 655011, P.R. China.

² Center of Excellence in Fungal Research, Mae Fah Luang University, Chiang Rai 57100, Thailand

³ Department of Plant Protection, College of Agriculture, University of Baghdad, Baghdad, Iraq

- ⁴ School of Biology Science, Universiti Sains Malaysia, Minden Malaysia
- ⁵ Natural History Museum, University of Tartu, 14a Ravila, 50411 Tartu, Estonia
- ⁶ Faculty of Science, University of South Bohemia, Branišovská 31, 370 05 České Budějovice, Czech Republic
- ⁷ Department of Botany and Plant Pathology, Purdue University, 915 W. State Street, West Lafayette, Indiana 47907, USA
- ⁸ Herbario UCH, Universidad Autónoma de Chiriquí, Apartado Postal 0427, David, Panama
- ⁹ Department of Biology, Research Group Mycology, Ghent University, K.L. Ledeganckstraat 35, 9000 Ghent, Belgium
- ¹⁰ National Fungal Culture Collection of India (NFCCI), Biodiversity and Palaeobiology (Fungi) Group, Agharkar Research Institute, Pune, Maharashtra 411 004, India
- ¹¹ Biodiversity and Palaeobiology (Lichens) Group, Agharkar Research Institute, Pune, Maharashtra 411004, India
- ¹² State Key Laboratory of Mycology, Institute of Microbiology Chinese Academy of Sciences, Chaoyang District, Beijing 100101, P.R. China
- ¹³ College of Life Sciences, University of Chinese Academy of Sciences, Huairou District, Beijing 100408, P.R. China
- ¹⁴ Laboratório de Botânica / Liquenologia, Instituto de Biociências, Universidade Federal de Mato Grosso do Sul, Avenida Costa e Silva s/n, Bairro Universitário, CEP 79070-900, Campo Grande, Mato Grosso do Sul, Brazil
- ¹⁵ Department of Botany, H.S. Skovoroda Kharkiv National Pedagogical University, Valentynivs'ka 2, Kharkiv 61168 Ukraine
- ¹⁶ Birbal Sahni Institute of Palaeosciences, 53 University Road, Lucknow-226007, India
- ¹⁷ Laboratory of Microbiological Control, All-Russian Institute of Plant Protection, Shosse Podbelskogo 3, Pushkin, St. Petersburg, 196608, Russia
- ¹⁸ Department of Biological Sciences, The University of Alabama, Tuscaloosa, Alabama 35487, USA
- ¹⁹ Department of Biological Sciences, University of Arkansas, Fayetteville, Arkansas 72701, USA
- ²⁰ Botanic Garden Meise, Department of Research, Nieuwelaan 38, BE-1860 Meise, Belgium
- ²¹ Fédération Wallonie-Bruxelles, Direction générale de l'Enseignement non obligatoire et de la Recherche scientifique, Rue A. Lavallée 1, BE-1080 Bruxelles, Belgium
- ²² Science & Education, The Field Museum, 1400 S. Lake Shore Drive, Chicago, IL 60605, USA
- ²³ Department of Plant Taxonomy and Nature Conservation, Faculty of Biology, University of Gdańsk, Wita Stwosza 59, PL-80-308 Gdańsk, Poland
- ²⁴ Centro de Genómica y Bioinformática, Facultad de Ciencias, Universidad Mayor, Camino La Pirámide 5750, Huechuraba, Santiago, Chile
- ²⁵ Universidade de Lisboa, Faculdade de Ciências, Biosystems and Integrative Sciences Institute (BioISI), Campo Grande, 1749-016 Lisbon, Portugal
- ²⁶ Department of Ecological and Biological Sciences (DEB) University of Tuscia, Viterbo, Italy
- ²⁷ Italian Antarctic National Museum (MNA), Mycological Section, Genoa, Italy
- ²⁸ Department of Molecular Biotechnology and Microbiology, University of Debrecen, Debrecen, Egyetem tér 1., 4032, Hungary
- ²⁹ Department of Genetics and Applied Microbiology, University of Debrecen, Debrecen, Egyetem tér 1., 4032 Hungary
- ³⁰ SNSB IT-Center, Botanische Staatssammlung München, Menzinger Straße 67, 80638 München, Germany / Westerdijk Fungal Biodiversity Institute, Uppsalalaan 8, 3534 CT Utrecht, The Netherlands
- ³¹ Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3DS, UK
- ³² Institute of Botany, Czech Academy of Sciences Průhonice 252 43, Czech Republic
- ³³ Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, Greensboro, NC 27402, USA
- ³⁴ Evolutionary Biology, Institute for Biology/Zoology, Freie Universität Berlin, 14195 Berlin, Germany
- ³⁵ Department of Botany, Szent István University, Ménesi st. 44, 1118 Budapest, Hungary
- ³⁶ Institute of Biology, Eötvös Loránd University, Pázmány Péter sétány 1/c, 1117 Budapest, Hungary
- ³⁷ College of Agronomy, Jiangxi Agricultural University, Nanchang, 330045, Jiangxi, P.R. China
- ³⁸ Laboratório de Hifomicetos de Folheto, Departamento de Micologia, Centro de Biociências, Universidade Federal de Pernambuco, 50740-600, Brazil
- ³⁹ Graduate School of Bioresources, Mie University, 1577 Kurima-Machiya, Tsu, Mie 514-8507, Japan
- ⁴⁰ University of Southern Queensland, Centre of Crop Protection, Toowoomba, Queensland, 4350, Australia
- ⁴¹ Department of Mykologie, Universität of Bayreuth, Universitätsstraße 30, 95440 Bayreuth, Germany
- ⁴² All-Russian Institute of Plant Protection, Saint Petersburg, Russia
- ⁴³ Staatliche Naturwissenschaftliche Sammlungen Bayerns, IT Center, Menzinger Straße 67, 80638 München, Germany
- ⁴⁴ School of Agriculture, Faculty of Agriculture, Abhilashi University, Mandi, Himachal Pradesh, India
- ⁴⁵ School of Studies in Botany, Jiwaji University, Gwalior, Madhya Pradesh, India
- ⁴⁶ National Biobank of Thailand (NBT), National Science and Technology Development Agency (NSTDA), 113 Thailand Science Park, Thanon Phahonyothin, Tambon Khlong Nueng, Amphoe Khlong Luang, Pathum Thani 12120, Thailand

- ⁴⁷ BIOTEC, National Science and Technology Development Agency (NSTDA), 113 Thailand Science Park, Thanon Phahonyothin, Tambon Khlong Nueng, Amphoe Khlong Luang, Pathum Thani 12120, Thailand
- ⁴⁸ Natural History Museum, University of Oslo, Blindern, P.O. Box 1172, 0318 Oslo, Norway
- ⁴⁹ College of Science and Engineering, Flinders University, G.P.O. Box 2100, Adelaide 5001 SA, Australia
- ⁵⁰ EMLab P&K Houston, 10900 Brittmoore Park Drive Suite G Houston, Texas 77041, USA
- ⁵¹ Institute of Botany, Academy of Sciences, Průhonice 252 43, Czech Republic
- ⁵² Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand
- ⁵³ Faculty of Engineering, Sabzevar University of New Technology, Sabzevar, Iran
- ⁵⁴ Department of Molecular Phylogenetics and Evolution, Faculty of Biology, Biological and Chemical Research Center, University of Warsaw, ul. Żwirki i Wigury 101, 02-089 Warsaw, Poland
- ⁵⁵ USDA-ARS Emerging Pests and Pathogens Research, Robert W. Holley Center for Agriculture and Health, Tower Road, Ithaca, NY 14853-2901, USA
- ⁵⁶ Microbiology Program, Faculty of Science and Technology, Pibulsongkram Rajabhat University, Phitsanulok 65000, Thailand
- ⁵⁷ Departamento de Microbiología, Campus de Fuentenueva, Universidad de Granada, 18071, Granada, Spain
- ⁵⁸ Departamento de Botânica e Zoologia, Universidade Federal do Rio Grande do Norte, Campus Universitário, 59072-970, Natal, RN, Brazil
- ⁵⁹ Universidade Federal da Paraíba, Programa de Pós-Graduação em Ecologia e Monitoramento Ambiental, Centro de Ciências Aplicadas e Educação, Campus IV, Litoral Norte, Rio Tinto, PB 58297-000, Brazil
- ⁶⁰ Embrapa Milho & Sorgo, BR-35702098 Sete Lagoas, MG, Brazil
- ⁶¹ Agroscope, Competence Div Plants & Plant Prod, Ecotoxicol, Schloss 1, CH-8820 Wädenswil, Switzerland
- ⁶² Universidade Federal de Pernambuco, Programa de Pós-Graduação em Biologia de Fungos, Av. da Engenharia, s/n, Cidade Universitária, CEP 50740-600, Recife, PE, Brazil
- ⁶³ Department of Ecology, Protection and Shaping of Environment, West Pomeranian University of Technology, Słowackiego 17, PL-71434 Szczecin, Poland
- ⁶⁴ Departamento de Botânica e Zoologia, Universidade Federal do Rio Grande do Norte, Campus Universitário, 59072-970, Natal, RN, Brazil
- ⁶⁵ Acervo Biológico da Amazonia Meridional, Universidade Federal de Mato Grosso, Sinop 78557267, Brazil
- ⁶⁶ Universidade Federal do Rio Grande do Norte (UFRN), Programa de Pós-graduação em Sistemática e Evolução, Centro de Biociências, Campus Universitário, Av. Senador Salgado Filho, 3000, Lagoa Nova, Natal-RN, 59078-970, Brazil
- ⁶⁷ Departamento de Farmacología, Farmacognosia y Botánica, Facultad de Farmacia, Universidad Complutense de Madrid, Madrid 28040, Spain
- ⁶⁸ CSIR-National Institute of Oceanography Regional Centre, 176, Lawson's Bay Colony, Visakhapatnam – 530017, Andhra Pradesh, India
- ⁶⁹ Instituto de Investigaciones Fundamentales en Agricultura Tropical, 'Alejandro de Humboldt' (INIFAT), Santiago de Las Vegas, Habana, Cuba
- ⁷⁰ Department of Plant Biology, Faculty of Life Sciences, University of Ilorin, Nigeria
- ⁷¹ Key Laboratory for Plant Diversity and Biogeography of East Asia, Kunming Institute of Botany, Chinese Academy of Science, Kunming 650201, Yunnan, P.R. China
- ⁷² World Agroforestry Centre, East and Central Asia, Kunming 650201, Yunnan, P.R. China
- ⁷³ Centre for Mountain Futures (CMF), Kunming Institute of Botany, Kunming, Yunnan, 650201, P.R. China
- ⁷⁴ Institute of Animal Science, State Key Laboratory of Animal Nutrition, Chinese Academy of Agricultural Sciences, Beijing, 100193, P.R. China
- ⁷⁵ Department of Plant Pathology, Agriculture College, Guizhou University, Guiyang 550025, P.R. China
- ⁷⁶ ALVALAB, Dr. Fernando Bongera st., Severo Ochoa Bldg. S1.04, Oviedo, 33006, Spain
- ⁷⁷ The Connecticut Agricultural Experiment Station, Valley Laboratory, 153 Cook Hill Road, Windsor, CT 06095, USA
- ⁷⁸ Ruđer Bošković Institute, Bijenička 54, HR-10000 Zagreb, Croatia
- ⁷⁹ School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu 611731, P.R. China
- ⁸⁰ Department of Microbiology, Pasteur Institute of Iran, Tehran, Iran
- ⁸¹ Laboratory of Microfungi, Instituto de Ecología 'a A. C., Xalapa, Ver., Mexico
- ⁸² Universidade Federal da Paraíba, Departamento de Sistemática e Ecologia, CEP 58051-970, João Pessoa, PB, Brazil
- ⁸³ Department of Botany, Iranian Research Institute of Plant Protection, P.O. Box 19395-1454, Agricultural Research, Education and Extension Organization (AREEO), Tehran, Iran
- ⁸⁴ 42 Longacre Drive Livingston, NJ, 07039, USA
- ⁸⁵ Oklahoma State University, Department of Microbiology and Molecular Genetics, Stillwater OK, USA
- ⁸⁶ Department of Natural Sciences, Northwest Missouri State University, Maryville, Missouri, 64468, USA
- ⁸⁷ Department of Environmental Science and Policy, George Mason University, 4400 University Drive, Fairfax, VA 22030-4444, USA

- ⁸⁸ *Post Graduate Program in Biology of Fungi, Department of Mycology, Federal University of Pernambuco, Av. Nelson Chaves, s/n, 50670-420 Recife, PE, Brazil*
- ⁸⁹ *Departamento de Micologia Prof. Chaves Batista, Universidade Federal de Pernambuco, Av. Prof. Moraes Rego, s/n, Centro de Biociências, Cidade Universitária, CEP: 50670-901, Recife, PE, Brazil*
- ⁹⁰ *Instituto de Ciências Agrárias, Universidade Federal de Uberlândia, Monte Carmelo 38500-000, Brazil*
- ⁹¹ *Westerdijk Fungal Biodiversity Institute, Uppsalalaan 8, 3584 CT Utrecht, the Netherlands*
- ⁹² *Shenzhen Key Laboratory of Laser Engineering, College of Optoelectronic Engineering, Shenzhen University, Shenzhen, P.R. China*
- ⁹³ *Faculty of Agriculture and Life Science, Hirosaki University, 3 Bunkyo-cho, Hirosaki, Aomori 036-8561, Japan*
- ⁹⁴ *Coordination of Botany, Museu Paraense Emílio Goeldi, 66077830, Belém, PA, Brazil*
- ⁹⁵ *Leibnitz Institute of Freshwater Ecology and Inland Fisheries (IGB), Department Experimental Limnology, Alte Fischerhuetten 2, D-16775 Stechlin, Germany*
- ⁹⁶ *Institute for Biochemistry and Biology, Potsdam University, Maulbeerallee 2, 14469 Potsdam, Germany*
- ⁹⁷ *Institute of Ecology and Earth Sciences, University of Tartu, 40 Lai st., EE-51005 Tartu, Estonia*
- ⁹⁸ *Algae, Fungi and Plants Division, Department of Life Sciences, The Natural History Museum, Cromwell Road, London, SW7 5BD, UK*
- ⁹⁹ *Department of Biology, IES Zizur, Ronda S. Cristo 'bal 196, 31180 Zizur Mayor, Navarra, Spain*
- ¹⁰⁰ *F. Skorina Gomel State University, Department of Biology, Sovetskaja Str. 104, Gomel 246019, Belarus*
- ¹⁰¹ *Samara National Research University, Institute of Natural Sciences, Department of Ecology, Botany and Nature Protection, Moskovskoye shosse 34, Samara 443086, Russia*
- ¹⁰² *Department of Ecology, Faculty of Sciences, University of Málaga, Boulevard Louis Pasteur s/n, 29071-Málaga, Spain*
- ¹⁰³ *Department of Research and Development, Cocosphere Environmental Analysis, Málaga, Spain*
- ¹⁰⁴ *Ecological Monitoring Unit, Biodiversity Research and Monitoring Division, Kenya Wildlife Service, P.O. Box 40241, Nairobi 00100, Kenya*
- ¹⁰⁵ *Senckenberg Museum of Natural History Görlitz, PF 300 154, 02806 Görlitz, Germany*
- ¹⁰⁶ *Department of Pharmacology of Materia Medica, School of Pharmaceutical Sciences, Guizhou Medical University, University Town, Gui'an New District, Guizhou 550025, P.R. China*
- ¹⁰⁷ *Yunnan Institute of Food Safety, Kunming University of Science and Technology, Kunming 650500, P.R. China*
- ¹⁰⁸ *Engineering and Research Center for Southwest Bio-Pharmaceutical Resources of National Education Ministry of China, Guizhou University, Guiyang 550025, Guizhou, P.R. China*
- ¹⁰⁹ *School of Pharmaceutical Engineering, Guizhou Institute of Technology, Guiyang, Guizhou, 550003, P.R. China*
- ¹¹⁰ *Laboratorio de Micología, Instituto Multidisciplinario de Biología Vegetal (IMBIV), CONICET, Universidad Nacional de Córdoba, Casilla de Correo 495, 5000 Córdoba, Argentina.*
- ¹¹¹ *Mycologue, 8727 Lochside Drive, Sidney, BC V8L 1M8, Canada*
- ¹¹² *Department of Natural Sciences, Manchester Metropolitan University, Chester Street, Manchester, M1 5GD, UK.*
- ¹¹³ *Laboratory of Mycology, Nature Research Centre, Žaliujų ežerų Str. 49, 08406 Vilnius, Lithuania*
- ¹¹⁴ *National Institute of Fundamental Studies, Hantane Road, Kandy, Sri Lanka*
- ¹¹⁵ *Department of Lichenology, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Krakow, Poland*
- ¹¹⁶ *Laboratory of Molecular Analyses, W. Szafer Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Krakow, Poland*
- ¹¹⁷ *Laboratory of the Systematics and Geography of Fungi, Komarov Botanical Institute, Russian Academy of Sciences, Professor Popov 2, St.-Petersburg, 197376, Russia*
- ¹¹⁸ *Manaaki Whenua-Landcare Research, Private Bag No 92170, Auckland, New Zealand*
- ¹¹⁹ *Department of Microbial Drugs, Helmholtz-Zentrum für Infektionsforschung GmbH, Inhoffenstrasse 7, 38124 Braunschweig, Germany*
- ¹²⁰ *German Centre for Infection Research (DZIF), partner site Hannover-Braunschweig, 38124 Braunschweig, Germany*
- ¹²¹ *No. 128/1-J, Azad Co-Op Housing Society, Curca, P.O. Goa Velha-403108, India*
- ¹²² *Dept Health Sciences, Faculty of Science, University of Mauritius, Reduit, Mauritius*
- ¹²³ *Laboratory of Cytology of Unicellular Organisms, Institute of Cytology of the Russian Academy of Sciences, Tikhoretsky ave. 4, St. Petersburg, 194064, Russia*
- ¹²⁴ *Departamento de Biología y Geología, Física y Química Inorgánica. Universidad Rey Juan Carlos. C/Tulipan sn, 28933, Móstoles, Madrid, Spain*
- ¹²⁵ *Department of Natural Resources, Sabaragamuwa University of Sri Lanka, Belihuloya, 70140, Sri Lanka*
- ¹²⁶ *Department of Landscape Architects, Faculty of Agriculture, Kırşehir Ahi Evran University, Kırşehir, Turkey*
- ¹²⁷ *Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures GmbH, Inhoffenstrasse 7 B, 38124 Braunschweig, Germany*
- ¹²⁸ *Institute of Botany and Landscape Ecology, Ernst Moritz Arndt University Greifswald, Soldmannstr. 15, Greifswald 17487, Germany*
- ¹²⁹ *The Komarov Botanical Institute of the Russian Academy of Sciences, Laboratory of Systematics and Geography of Fungi, Prof. Popov Street 2, 197376 St. Petersburg, Russia*

- ¹³⁰ *Universidade Federal do Rio Grande do Norte, Programa de Pós Graduação em Sistemática e Evolução, CEP 59064-741, Natal, RN, Brazil*
- ¹³¹ *Engineering Research Center of Chinese Ministry of Education for Edible and Medicinal Fungi, Jilin Agricultural University, Changchun, 130118, P.R. China*
- ¹³² *Department of Environmental and Plant Biology, Ohio University, Athens, Ohio 45701*
- ¹³³ *Key Laboratory of Environmental Pollution Monitoring and Disease Control, Ministry of Education of Guizhou & Guizhou Talent Base for Microbiology and Human Health, Key Laboratory of Medical Microbiology and Parasitology of Education Department of Guizhou, School of Basic Medical Sciences, Guizhou Medical University, Guiyang, P.R. China*
- ¹³⁴ *Department of Biotechnology, Iranian Research Organization for Science and Technology (IROST), Tehran, Iran*
- ¹³⁵ *College of Biological Resource and Food Engineering, Qujing Normal University, Qujing, Yunnan 655011, P.R. China*
- ¹³⁶ *State Key Laboratory Breeding Base of Green Pesticide and Agricultural Bioengineering, Key Laboratory of Green Pesticide and Agricultural Bioengineering, Ministry of Education, Guizhou University, Guiyang, 550025, P.R. China*
- ¹³⁷ *The Engineering Research Center of Southwest Bio-Pharmaceutical Resource, Ministry of Education, Guizhou University, Guiyang, 550025, P.R. China*
- ¹³⁸ *Guizhou institute of biology, Guizhou academy of science, Guiyang, 550009, P.R. China*
- ¹³⁹ *Universidade Federal de Viçosa, Departamento de Fitopatologia, Viçosa – Minas Gerais, Brazil*
- ¹⁴⁰ *Agharkar Research Institute, G. G. Agarkar Road, Pune 411004, India*
- ¹⁴¹ *Department of Life Sciences, The Natural History Museum, London SW7 5BD, United Kingdom, and Comparative Plant and Fungal Biology, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3DS, UK*
- ¹⁴² *Jilin Agricultural University, Changchun, Jilin Province, 130118, P.R. China*
- ¹⁴³ *The Key Laboratory for Silviculture and Conservation of Ministry of Education, Beijing Forestry University, Beijing 100083, P.R. China*
- ¹⁴⁴ *Leibniz University Hannover, Institute for Organic Chemistry and MWZ, Hannover 30167, Germany*
- ¹⁴⁵ *Leibnitz Institute of Freshwater Ecology and Inland Fisheries (IGB), Dept. Experimental Limnology, Alte Fischerhuetten 2, D-16775 Stechlin, Germany*
- ¹⁴⁶ *Institute for Biochemistry and Biology, Potsdam University, Maulbeerallee 2, 14469 Potsdam, Germany*
- ¹⁴⁷ *Goethe University, Department for Biological Sciences, Institute of Ecology, Evolution and Diversity, Max-von-Laue-Str. 13, D-60486 Frankfurt am Main, Germany*
- ¹⁴⁸ *Senckenberg Biodiversity and Climate Research Centre, Senckenberganlage 25, D-60325 Frankfurt am Main, Germany*

Wijayawardene NN, Hyde KD, Al-Ani LKT, Tedersoo L, Haelewaters D, Rajeshkumar KC, Zhao RL, Aptroot A, Leontyev DV, Saxena RK, Tokarev YS, Dai DQ, Letcher PM, Stephenson SL, Ertz D, Lumbsch HT, Kukwa M, Issi IV, Madrid H, Phillips AJL, Selbmann L, Pfliegler WP, Horváth E, Bensch K, Kirk PM, Kolaříková K, Raja HA, Radek R, Papp V, Dima B, Ma J, Malosso E, Takamatsu S, Rambold G, Gannibal PB, Triebel D, Gautam AK, Avasthi S, Suetrong S, Tindal E, Fryar SC, Delgado G, Réblová M, Doilom M, Dolatabadi S, Pawłowska J, Humber RA, Kodsueb R, Sánchez-Castro I, Goto BT, Silva DKA, de Souza FA, Oehl F, da Silva GA, Silva IR, Błaszowski J, Jobim K, Maia LC, Barbosa FR, Fiuza PO, Divakar PK, Shenoy BD, Castañeda-Ruiz RF, Somrithipol S, Lateef AA, Karunarathna SC, Tibpromma S, Mortimer PE, Wanasinghe DN, Phookamsak R, Xu J, Wang Y, Tian F, Alvarado P, Li DW, Kušan I, Matočec N, Maharachchikumbura SSN, Papizadeh M, Heredia G, Wartchow F, Bakhshi M, Boehm E, Youssef N, Hustad VP, Lawrey JD, Santiago ALCMA, Bezerra JDP, Souza-Motta CM, Firmino AL, Tian Q, Houbraken J, Hongsanan S, Tanaka K, Dissanayake AJ, Monteiro JS, Grossart HP, Suija A, Weerakoon G, Etayo J, Tsurykau A, Vázquez V, Mungai P, Damm U, Li QR, Zhang H, Boonmee S, Lu YZ, Becerra AG, Kendrick B, Brearley FQ, Motiejūnaitė J, Sharma B, Khare R, Gaikwad S, Wijesundara DSA, Tang LZ, He MQ, Flakus A, Rodriguez-Flakus P, Zhurbenko MP, McKenzie EHC, Stadler M, Bhat DJ, Liu JK, Raza M, Jeewon R, Nassonova ES, Prieto M, Jayalal RGU, Erdoğan M, Yurkov A, Schnittler M, Shchepin ON, Novozhilov YK, Silva-Filho AGS, Liu P, Cavender JC, Kang Y, Mohammad S, Zhang LF, Xu RF, Li YM, Dayarathne MC, Ekanayaka AH, Wen TC, Deng CY, Pereira OL, Navathe S, Hawksworth DL, Fan XL, Dissanayake LS, Kuhnert E, Grossart HP, Thines M 2020 – Outline of *Fungi* and fungus-like taxa. *Mycosphere* 11(1), 1060–1456, Doi 10.5943/mycosphere/11/1/8

Abstract

This article provides an outline of the classification of the kingdom *Fungi* (including fossil fungi. i.e. dispersed spores, mycelia, sporophores, mycorrhizas). We treat 19 phyla of fungi. These are *Aphelidiomycota*, *Ascomycota*, *Basidiobolomycota*, *Basidiomycota*, *Blastocladiomycota*, *Calcarisporiellomycota*, *Caulochytriomycota*, *Chytridiomycota*, *Entomophthoromycota*, *Entorrhizomycota*, *Glomeromycota*, *Kickxellomycota*, *Monoblepharomycota*, *Mortierellomycota*, *Mucoromycota*, *Neocallimastigomycota*, *Olpidiomycota*, *Rozellomycota* and *Zoopagomycota*. The placement of all fungal genera is provided at the class-, order- and family-level. The described number of species per genus is also given. Notes are provided of taxa for which recent changes or disagreements have been presented. Fungus-like taxa that were traditionally treated as fungi are also incorporated in this outline (i.e. *Eumycetozoa*, *Dictyosteliomycetes*, *Ceratiomyxomycetes* and *Myxomycetes*). Four new taxa are introduced: *Amblyosporida* ord. nov. *Neopereziiida* ord. nov. and *Ovavesiculida* ord. nov. in *Rozellomycota*, and *Protosporangiaceae* fam. nov. in *Dictyosteliomycetes*. Two different classifications (in outline section and in discussion) are provided for *Glomeromycota* and *Leotiomycetes* based on recent studies. The phylogenetic reconstruction of a four-gene dataset (18S and 28S rRNA, RPB1, RPB2) of 433 taxa is presented, including all currently described orders of fungi.

Keywords – Four new taxa – *Ascomycota* – *Amblyosporida* ord. nov. – Basal clades – *Basidiomycota* – Classification – Emendation – *Microsporidia* – *Neopereziiida* ord. nov. – *Ovavesiculida* ord. nov. – *Protosporangiaceae* fam. nov. – *Redonographaceae* stat nov.

Introduction

Classification of the kingdom *Fungi* has been updated continuously, with the frequent inclusion of data from DNA sequences in recent studies. Re-collecting historic taxa and neo- or epitypifying them by using both fresh material and cultures is also an increasingly common practice among mycologists, although yet not easily accomplished in some groups. Utilization of environmental sequences for recognizing taxa that are not observed directly and naming them with only a sequence as a holotype is a controversial topic that remains to be addressed (Hongsanan et al. 2018, Lücking & Hawksworth 2018, Lücking et al. 2018, Thines et al. 2018, Zamora et al. 2018).

Tedersoo et al. (2018) proposed a novel classification for the kingdom *Fungi* that was based on phylogenies and the divergence time of particular taxa. Using these criteria, they accepted 18 phyla: *Aphelidiomycota*, *Ascomycota*, *Basidiobolomycota*, *Basidiomycota*, *Blastocladiomycota*, *Calcarisporiellomycota*, *Caulochytriomycota*, *Chytridiomycota*, *Entomophthoromycota*, *Glomeromycota*, *Kickxellomycota*, *Monoblepharomycota*, *Mortierellomycota*, *Mucoromycota*, *Neocallimastigomycota*, *Olpidiomycota*, *Rozellomycota* and *Zoopagomycota*. This study was, however, based on only 111 taxa and it remains to be seen how widely it will be accepted and stand up as more taxa are analyzed. Outlines for the *Ascomycota* (and notes for genera in the *Ascomycota*) and the basal clades of fungi (Wijayawardene et al. 2017, 2018a, b) have been published, with the participation of experts in particular groups. Jaklitsch et al. (2016a) provided a synopsis of accepted *Ascomycota* families with descriptions and lists of included genera (and their synonyms), and Begerow et al. (2018) prepared a parallel treatment for the families of *Basidiomycota* and *Entorrhizomycota*, including brief diagnoses and indications of ecology and distributions for all genera (though without listing synonyms of genera and with some genera that are still debated). A separate outline, with notes and divergence times of *Basidiomycota* was also published by He et al. (2019).

Classification of basal clades

The higher level classification of basal clades has been subjected to drastic changes as in Tedersoo et al. (2018), who took up *Rozellomycota* to include *Cryptomycota* and *Microsporidia* and also accepted *Aphelidiomycota* in a fungal clade as did Letcher & Powell (2019) in a synopsis

of that group. Moreover, classes and orders of respective phyla were also provided in Tedersoo et al. (2018). Wijayawardene et al. (2018b) provided a detailed classification system (from phyla to genera) for basal clades of *Fungi*, agreeing with Tedersoo et al. (2018). Hence, Wijayawardene et al. (2018b) accepted 16 phyla viz. *Aphelidiomycota*, *Basidiobolomycota*, *Blastocladiomycota*, *Calcarisporiellomycota*, *Caulochytriomycota*, *Chytridiomycota*, *Entomophthoromycota*, *Glomeromycota*, *Kickxellomycota*, *Monoblepharomycota*, *Mortierellomycota*, *Mucoromycota*, *Neocallimastigomycota*, *Olpidiomycota*, *Rozellomycota* and *Zoopagomycota*.

Classification of *Glomeromycota*

Classification of *Glomeromycota* (which includes arbuscular mycorrhizal fungi [AMF]) has been a subject of debate. We provide two different classifications (phyla to genera) which are commonly used by taxonomists (see outline and discussion). In the outline section, we provide the classification which is supported by Tedersoo et al. (2018) and our analyses (Fig. 1). The classification provided in Wijayawardene et al. (2018b) is included in the discussion.

Placement of the *Rozellomycota* in the tree of life

The position of *Microsporidia* in the Eukaryotic Tree of Life has been a subject of discussion. Primarily identified as yeast-like fungi in *Schizomycetes* (Nägeli 1857), they were further recognized as protists, while drastic reconsiderations of taxonomy of unicellular eukaryotes resulted in placing to *Sporozoa* (Balbiani 1882), and particularly *Cnidosporidia* (Labbé 1899); *Sarcodina* in *Protozoa* (Cavalier-Smith 1981); *Archezoa* (Cavalier-Smith 1983) and *Protista* (Puytorac et al. 1987); as well as to different classes of *Fungi* (Keeling et al. 2000, Gill & Fast 2006, James et al. 2006, 2013). The mycological community has widely accepted the affiliation of *Microsporidia* with the early diverging clades of *Fungi*. The *Microsporidia*, *Cryptomycota* and *Aphelidea*, have also been considered to represent a monophyletic lineage with shared ecological and structural features, defined as superphylum *Opisthosporidia* belonging to supergroup *Opisthokonta* and separated from *Fungi* (Karpov et al. 2014). In another system, however, it was proposed that *Cryptomycota* (also known as *Rozellida*, *Rozellomycota*, or *Rozellosporidia*) and *Microsporidia* join the phylum *Rozellomycota*, while *Aphelidea* were considered as a separate, though related phylum and all these groups were considered basal lineages of the kingdom *Fungi* (Tedersoo et al. 2018). The taking up of the name *Rozellomycota* in such a broad sense appears premature, especially as the structure and biological features of a larger part of these organisms are unclear as they are known only from environmental sequences. The borders between *Fungi* and *Protista* are therefore unstable and final delimitation of taxa is problematic due to poor coverage of molecular data for the representatives of the most basal groups. However, whatever the conclusion is on placement, it has been decided that the nomenclature of the names in *Microsporidia* will continue to follow the *International Code of Zoological Nomenclature* even if they are treated as fungi (Turland et al. 2018).

Classification of *Ascomycota*

Periodic outlines of the *Ascomycota* have been issued since 1982, with notes in the journal *Systema Ascomycetum* which was devoted to this project, and later by Lumbsch & Huhndorf (2010) who accepted three subphyla: *Pezizomycotina* with eleven classes, the *Saccharomycotina* with one class, and *Taphrinomycotina* with four classes. The taxonomy of the phylum has been rapidly updated over the last few years (Hyde et al. 2013, 2017, 2020, Jaklitsch et al. 2016a, Ekanayaka et al. 2017, Hongsanan et al. 2017, Liu et al. 2017).

Recently, two studies were published on the classification of *Leotiomycetes*. These are Ekanayaka et al. (2019) based on a five-locus phylogeny, Johnston et al. (2019) based on genomic-scale and 15-gene phylogenies. We provide two outlines; i) based on Johnston et al.

(2019), Karakehian et al (2019) and Quijada et al. (2020); and ii) based on Ekanayaka et al. (2019). These classifications are placed in the general outline and discussion, respectively.

Moreover, the concept of *One fungus-One name*, which ended the use of different names for morphs of the same fungus in July 2011, has resulted in several name changes in pleomorphic genera. Wijayawardene et al. (2018a) provided an updated outline of *Ascomycota* with three subphyla - *Pezizomycotina* (including the 13 classes *Arthoniomycetes*, *Coniocybomycetes*, *Dothideomycetes*, *Eurotiomycetes*, *Geoglossomycetes*, *Laboulbeniomycetes*, *Lecanoromycetes*, *Leotiomyces*, *Lichinomycetes*, *Orbiliomycetes*, *Pezizomycetes*, *Sordariomycetes*, *Xylonomycetes* and *Xylobotryomycetes*), *Saccharomycotina* (with only class *Saccharomycetes*) and *Taphrinomycotina* (with five classes *Archaeorhizomycetes*, *Neoelectomycetes*, *Pneumocystidomycetes*, *Schizosaccharomycetes* and *Taphrinomycetes*). These taxa along with a summary of other taxonomic ranks are summarized in Table 1.

Classification of Basidiomycota

Basidiomycota constitute a major phylum of the kingdom *Fungi* and is second in numbers of described species, to *Ascomycota* (Wijayawardene et al. 2017, 2018a). Since the last edition of *Ainsworth & Bisby's Dictionary of the Fungi* (Kirk et al. 2008), numerous sequenced-based studies have enabled the introduction of a vast array of new taxa, which has greatly enriched the known diversity of *Basidiomycota*. It has also become clear that several basidiome forms can be found in the same order, family, or even genus (Hibbett et al. 2007). At the same time, related new taxonomic categories have been proposed. For example, in phylogenetic studies of basidiomycetous yeasts, three new classes *Malasseziomycetes*, *Monilielliomycetes*, and *Spiculogloeomycetes*, were introduced and three new orders, 16 new families, and 47 new genera were also introduced (Nasr et al. 2014, Wang et al. 2014a, 2015a, b, Liu et al. 2015, Riess et al. 2016). On the other hand, many new changes have also occurred in the *Agaricomycotina*. Approximately 60 new genera have been recognized for agarics, 40 for boletes, and 50 for bracket fungi (Desjardin et al. 2009, Hjortstam & Ryvarde 2010, Petersen & Hughes 2010, Cui et al. 2011, Vellinga et al. 2011, Vizzini et al. 2011, Hao et al. 2014, Hofstetter et al. 2014, Smith et al. 2015, Castellano et al. 2016, Henkel et al. 2016, Wu et al. 2016, Buyck et al. 2017, Orihara & Smith 2017). Attention has already been drawn to the valuable syntheses of accepted genera, with diagnosis, provided by Begerow et al. (2018).

The phylogeny and divergence time ranges for higher level *Basidiomycota*, with the phylum originating ca. 530 Mya, the subphyla 406–490 Mya, most classes 245–393 Mya and orders 120–290 Mya were inferred by Zhao et al. (2017). The outline includes 1928 genera with 1263 synonyms within *Basidiomycota* (He et al. 2019). The latest version of *Ainsworth & Bisby's Dictionary of the Fungi* (Kirk et al. 2008), contains three subphyla, 16 classes, 52 orders, 177 families, 1589 genera and 31515 species in *Basidiomycota*. The updated outline of *Basidiomycota* has updated the numbers in Kirk et al. (2008) to four subphyla, 18 classes, 68 orders, 241 families, 1928 genera and 41270 species in *Basidiomycota* (He et al. 2019). *Agaricomycotina* embrace most of the species in *Basidiomycota* (30788 species) which includes three classes, 29 orders, 150 families and 1514 genera. *Pucciniomycotina* was estimated to comprise 8653 species including 10 classes, 22 orders, 49 families and 270 genera. *Ustilaginomycetes* with 1185 species is the largest group in *Ustilaginomycotina*. *Malasseziomycetes* and *Moniliellomycetes*, are the only two new classes recognized in the *Basidiomycota* since 2008, include 32 estimated species. *Wallemiomycotina* is a recently recognized subphylum (Zhao et al. 2017) with 12 species estimated in a single class, two orders and two families. Another early diverging group in the *Agaricomycotina* has recently identified by a phylogenomic study, the *Bartheletiomycetes*, including just a single species associated with *Ginkgo biloba* as a 'living fossil' (Mishra et al. 2018). Accepted taxa of *Basidiomycota* are summarized in Table 1.

Table 1 Phyla, classes, orders and families of kingdom *Fungi*. The number of accepted genera in each family is indicated in brackets after the family name.

Phylum	Class*	Order*	Family*
<i>Aphelidiomycota</i>	<i>Aphelidiomycetes</i>	<i>Aphelidiales</i>	<i>Aphelidiaceae</i> (4)
<i>Ascomycota</i>	<i>Archaeorhizomycetes</i>	<i>Archaeorhizomycetales</i>	<i>Archaeorhizomycetaceae</i> (1)
	<i>Arthoniomycetes</i>	<i>Arthoniales</i>	<i>Andreiomycetaceae</i> (1)
			<i>Arthoniaceae</i> (23)
			<i>Chrysotrichaceae</i> (3)
			<i>Lecanographaceae</i> (7)
			<i>Opegraphaceae</i> (15)
			<i>Roccellaceae</i> (41)
			<i>Roccellographaceae</i> (3)
		<i>Arthoniales</i> genera <i>incertae sedis</i> (23)	
		<i>Lichenostigmatales</i>	<i>Phaeococcomycetaceae</i> (3)
	<i>Candelariomycetes</i>	<i>Candelariales</i>	<i>Candelariaceae</i> (4)
			<i>Pycnoraceae</i> (1)
	<i>Coniocybomycetes</i>	<i>Coniocybales</i>	<i>Coniocybaceae</i> (2)
	<i>Dothideomycetes</i>	<i>Abrothallales</i>	<i>Abrothallaceae</i> (2)
		<i>Acrospermales</i>	<i>Acrospermaceae</i> (3)
		<i>Acrospermales</i> genus <i>incertae sedis</i> (1)	
		<i>Asterinales</i>	<i>Asterinaceae</i> (19)
			<i>Asterotexaceae</i> (1)
			<i>Hemigraphaceae</i> (1)
			<i>Lembosiaceae</i> (1)
			<i>Melaspilellaceae</i> (1)
			<i>Neobueliellaceae</i> (1)
			<i>Stictographaceae</i> (5)
		<i>Asterinales</i> genera <i>incertae sedis</i> (8)	
		<i>Botryosphaeriales</i>	<i>Aplosporellaceae</i> (2)
			<i>Botryosphaeriaceae</i> (22)
			<i>Melanopsaceae</i> (1)
			<i>Phyllostictaceae</i> (2)
			<i>Planistromellaceae</i> (4)
			<i>Saccharataceae</i> (4)
		<i>Botryosphaeriales</i> genera <i>incertae sedis</i> (8)	
		<i>Capnodiales</i>	<i>Aeminiaceae</i> (1)
			<i>Antennulariellaceae</i> (4)
			<i>Capnodiaceae</i> (9)
			<i>Cladosporiaceae</i> (8)
			<i>Cystocoleaceae</i> (1)
			<i>Dissoconiaceae</i> (5)
			<i>Euantennariaceae</i> (7)
			<i>Extremaceae</i> (8)
			<i>Johansoniaceae</i> (2)
			<i>Metacapnodiaceae</i> (3)
			<i>Mycosphaerellaceae</i> (111)
			<i>Neodevriesiaceae</i> (2)
			<i>Phaeothecaceae</i> (1)
			<i>Phaeothecoidiellaceae</i> (8)
			<i>Piedraiaceae</i> (1)
			<i>Racodiaceae</i> (1)
			<i>Schizothyriaceae</i> (10)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Teratosphaeriaceae</i> (60)
			<i>Xenodevriesiaceae</i> (1)
		<i>Capnodiales</i> genera <i>incertae sedis</i> (14)	
		<i>Catinellales</i>	<i>Catinellaceae</i> (1)
		<i>Cladoriellales</i>	<i>Cladoriellaceae</i> (1)
		<i>Collemopsidiales</i>	<i>Xanthopyreniaceae</i> (6)
		<i>Dothideales</i>	<i>Dothideaceae</i> (13)
			<i>Neocelosporiaceae</i> (3)
			<i>Sacchettoeciaceae</i> (7)
			<i>Zalariaceae</i> (1)
		<i>Dothideales</i> genera <i>incertae sedis</i> (6)	
		<i>Dyfrolomycetales</i>	<i>Pleurotremataceae</i> (3)
		<i>Eremithallales</i>	<i>Melaspileaceae</i> (2)
		<i>Eremomycetales</i>	<i>Eremomycetaceae</i> (2)
		<i>Eremomycetales</i> genus <i>incertae sedis</i> (1)	
		<i>Gloniales</i>	<i>Gloniaceae</i> (3)
		<i>Hysteriales</i>	<i>Hysteriaceae</i> (13)
		<i>Hysteriales</i> genus <i>incertae sedis</i> (1)	
		<i>Jahnulales</i>	<i>Aliquandostipitaceae</i> (7)
			<i>Manglicolaceae</i> (1)
		<i>Kirschsteiniotheliales</i>	<i>Kirschsteiniotheliaceae</i> (1)
		<i>Kirschsteiniotheliales</i> genera <i>incertae sedis</i> (2)	
		<i>Lembosinales</i>	<i>Lembosinaceae</i> (1)
		<i>Lichenotheliales</i>	<i>Lichenotheliaceae</i> (2)
		<i>Microthyriales</i>	<i>Microthyriaceae</i> (11)
		<i>Microthyriales</i> genera <i>incertae sedis</i> (6)	
		<i>Minutisphaerales</i>	<i>Acrogenosporaceae</i> (1)
			<i>Minutisphaeraceae</i> (1)
		<i>Monoblastiales</i>	<i>Monoblastiaceae</i> (6)
		<i>Murramarangomycetales</i>	<i>Murramarangomycetaceae</i> (1)
		<i>Muyocopronales</i>	<i>Muyocopronaceae</i> (9)
		<i>Myriangiales</i>	<i>Elsinoaceae</i> (2)
			<i>Myriangiaceae</i> (11)
		<i>Myriangiales</i> genus <i>incertae sedis</i> (1)	
		<i>Mytilinidiales</i>	<i>Mytilinidiaceae</i> (9)
		<i>Natipusillales</i>	<i>Natipusillaceae</i> (1)
		<i>Parmulariales</i>	<i>Parmulariaceae</i> (35)
		<i>Patellariales</i>	<i>Patellariaceae</i> (21)
		<i>Phaeotrichales</i>	<i>Phaeotrichaceae</i> (3)
		<i>Pleosporales</i>	<i>Acrocalymmaceae</i> (1)
			<i>Aigialaceae</i> (6)
			<i>Amniculicolaceae</i> (6)
			<i>Amorosiaceae</i> (4)
			<i>Anteaglioniaceae</i> (2)
			<i>Aquasubmersaceae</i> (1)
			<i>Arthopyreniaceae</i> (2)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Ascocylindricaceae</i> (1)
			<i>Astrosphaeriellaceae</i> (7)
			<i>Bambusicolaceae</i> (3)
			<i>Biatriosporaceae</i> (1)
			<i>Camarosporiaceae</i> (2)
			<i>Camarosporidiellaceae</i> (1)
			<i>Caryosporaceae</i> (1)
			<i>Coniothyriaceae</i> (5)
			<i>Corynesporascaceae</i> (2)
			<i>Cryptocoryneaceae</i> (1)
			<i>Cucurbitariaceae</i> (13)
			<i>Cyclothyriellaceae</i> (2)
			<i>Dacampiaceae</i> (6)
			<i>Delitschiaceae</i> (3)
			<i>Diademaceae</i> (2)
			<i>Dictyosporiaceae</i> (15)
			<i>Didymellaceae</i> (33)
			<i>Didymosphaeriaceae</i> (32)
			<i>Dothidotthiaceae</i> (7)
			<i>Fuscostagonosporaceae</i> (1)
			<i>Fusculinaceae</i> (2)
			<i>Halojulellaceae</i> (1)
			<i>Halotthiaceae</i> (6)
			<i>Hermatomycetaceae</i> (1)
			<i>Hypsostromataceae</i> (1)
			<i>Latoruaceae</i> (4)
			<i>Lentimurisoraceae</i> (2)
			<i>Lentitheciaceae</i> (13)
			<i>Leptosphaeriaceae</i> (13)
			<i>Libertasomycetaceae</i> (2)
			<i>Ligninsphaeriaceae</i> (2)
			<i>Lindgomycetaceae</i> (7)
			<i>Lizoniaceae</i> (1)
			<i>Longipedicellataceae</i> (3)
			<i>Longiostiolaceae</i> (1)
			<i>Lophiostomataceae</i> (28)
			<i>Lophiotremataceae</i> (7)
			<i>Macrodiplodiopsidaceae</i> (2)
			<i>Massariaceae</i> (3)
			<i>Massarinaceae</i> (8)
			<i>Melanommataceae</i> (35)
			<i>Morosphaeriaceae</i> (6)
			<i>Mycoporaceae</i> (1)
			<i>Neocamarosporiaceae</i> (2)
			<i>Neohendersoniaceae</i> (5)
			<i>Neomassariaceae</i> (1)
			<i>Neomassariniaceae</i> (2)
			<i>Neophaeosphaeriaceae</i> (1)
			<i>Neopyrenochaetaceae</i> (1)
			<i>Nigrogranaceae</i> (1)
			<i>Occultibambusaceae</i> (5)
			<i>Ohleriaceae</i> (1)
			<i>Parabambusicolaceae</i> (9)
			<i>Paradictyoarthriniaceae</i> (2)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Paralophiostomataceae</i> (1)
			<i>Parapyrenochaetaceae</i> (2)
			<i>Periconiaceae</i> (4)
			<i>Phaeoseptaceae</i> (2)
			<i>Phaeosphaeriaceae</i> (82)
			<i>Pleomassariaceae</i> (7)
			<i>Pleomonodictydaceae</i> (2)
			<i>Pleosporaceae</i> (23)
			<i>Pseudoastrosphaeriellaceae</i> (3)
			<i>Pseudoberkleasmiaceae</i> (1)
			<i>Pseudocoleodictyosporaceae</i> (2)
			<i>Pseudolophiotremataceae</i> (2)
			<i>Pseudomassariniaceae</i> (1)
			<i>Pseudopyrenochaetaceae</i> (1)
			<i>Pyrenochaetopsidaceae</i> (3)
			<i>Roussoellaceae</i> (12)
			<i>Salsugineaceae</i> (2)
			<i>Shiraiaceae</i> (3)
			<i>Sporormiaceae</i> (9)
			<i>Striatiguttulaceae</i> (2)
			<i>Sulcatisporaceae</i> (6)
			<i>Teichosporaceae</i> (13)
			<i>Testudinaceae</i> (9)
			<i>Tetraplosphaeriaceae</i> (8)
			<i>Thyridariaceae</i> (7)
			<i>Torulaceae</i> (6)
			<i>Trematosphaeriaceae</i> (6)
			<i>Tzeananiaceae</i> (1)
			<i>Wicklowiaceae</i> (1)
			<i>Zopfiaceae</i> (6)
		<i>Pleosporales</i> genera <i>incertae sedis</i> (48)	
		<i>Stigmatodiscales</i>	<i>Stigmatodiscaceae</i> (1)
		<i>Strigulales</i>	<i>Strigulaceae</i> (13)
			<i>Tenuitholiascaceae</i> (1)
		<i>Superstratomyces</i>	<i>Superstratomycetaceae</i> (1)
		<i>Trypetheliales</i>	<i>Polycoccaceae</i> (2)
			<i>Trypetheliaceae</i> (19)
		<i>Tubeufiales</i>	<i>Bezerromycetaceae</i> (3)
			<i>Tubeufiaceae</i> (46)
			<i>Wiesneriomycetaceae</i> (6)
		<i>Valsariales</i>	<i>Valsariaceae</i> (3)
		<i>Venturiales</i>	<i>Sympoventuriaceae</i> (9)
			<i>Venturiaceae</i> (14)
		<i>Venturiales</i> genera <i>incertae sedis</i> (3)	
		<i>Zeloasperisporiales</i>	<i>Zeloasperisporiaceae</i> (1)
		<i>Incertae sedis*</i>	<i>Alinaceae</i> (1)
			<i>Argynnaceae</i> (2)
			<i>Ascoporiaceae</i> (1)
			<i>Aulographaceae</i> (4)
			<i>Balladynaceae</i> (3)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Cleistosphaeraceae</i> (1)
			<i>Coccoideaceae</i> (3)
			<i>Cookellaceae</i> (2)
			<i>Dimeriaceae</i> (1)
			<i>Dubujianaceae</i> (1)
			<i>Dysrhynchisceae</i> (1)
			<i>Endosporiaceae</i> (1)
			<i>Englerulaceae</i> (8)
			<i>Eremomycetaceae</i> (3)
			<i>Eriomycetaceae</i> (5)
			<i>Homortomycetaceae</i> (1)
			<i>Hyalomeliolinaceae</i> (1)
			<i>Leptopeltidaceae</i> (4)
			<i>Macrovalsariaceae</i> (1)
			<i>Meliolinaceae</i> (2)
			<i>Mesnieraceae</i> (3)
			<i>Naetrocymbaceae</i> (5)
			<i>Nematotheciaceae</i> (3)
			<i>Neoparodiaceae</i> (1)
			<i>Palawaniaceae</i> (1)
			<i>Paranectriellaceae</i> (2)
			<i>Parodiellaceae</i> (1)
			<i>Perisporiopsidaceae</i> (5)
			<i>Phaeodimeriellaceae</i> (1)
			<i>Pododimeriaceae</i> (2)
			<i>Polyclypeolinaceae</i> (1)
			<i>Polystomellaceae</i> (4)
			<i>Protoscyphaceae</i> (1)
			<i>Pseudoperisporiaceae</i> (4)
			<i>Pseudorobillardaceae</i> (1)
			<i>Pyrenidiaceae</i> (1)
			<i>Seynesiopeltidaceae</i> (1)
			<i>Stomatogeneaceae</i> (1)
			<i>Thyrinulaceae</i> (3)
			<i>Toroaceae</i> (1)
			<i>Trichopeltinaceae</i> (7)
			<i>Trichothyriaceae</i> (4)
			<i>Vizellaceae</i> (3)
	<i>Dothideomycetes</i> genera incertae sedis (278)		
	<i>Eurotiomycetes</i>	<i>Arachnomycetales</i>	<i>Arachnomycetaceae</i> (2)
		<i>Chaetothyriales</i>	<i>Chaetothyriaceae</i> (20)
			<i>Coccodiniaceae</i> (3)
			<i>Cyphellophoraceae</i> (2)
			<i>Epibryaceae</i> (1)
			<i>Herpotrichiellaceae</i> (16)
			<i>Lyrommataceae</i> (1)
			<i>Microtheliopsidaceae</i> (1)
			<i>Paracladophialophoraceae</i> (1)
			<i>Pyrenotrichaceae</i> (2)
			<i>Trichomeriaceae</i> (8)

Table 1 Continued.

Phylum	Class*	Order*	Family*
		<i>Chaetothyriales</i> genera <i>incertae sedis</i> (10)	
		<i>Coryneliales</i>	<i>Coryneliaceae</i> (7)
			<i>Eremascaceae</i> (1)
		<i>Eurotiales</i>	<i>Aspergillaceae</i> (15)
			<i>Elaphomycetaceae</i> (2)
			<i>Thermoascaceae</i> (2)
			<i>Trichocomaceae</i> (7)
		<i>Mycocaliciales</i>	<i>Mycocaliciaceae</i> (7)
		<i>Onygenales</i>	<i>Ajellomycetaceae</i> (6)
			<i>Arthrodermataceae</i> (10)
			<i>Ascospaeraceae</i> (3)
			<i>Gymnoascaceae</i> (10)
			<i>Nannizziopsidaceae</i> (1)
			<i>Onygenaceae</i> (31)
			<i>Spiromastigaceae</i> (4)
		<i>Onygenales</i> genera <i>incertae sedis</i> (3)	
		<i>Phaeomoniellales</i>	<i>Celotheliaceae</i> (10)
		<i>Pyrenulales</i>	<i>Pyrenulaceae</i> (12)
		<i>Pyrenulales</i> genera <i>incertae sedis</i> (2)	
		<i>Sclerococcales</i>	<i>Dactylosporaceae</i> (5)
		<i>Verrucariales</i>	<i>Adelococcaceae</i> (3)
			<i>Sarcopyreniaceae</i> (1)
			<i>Verrucariaceae</i> (52)
		<i>Verrucariales</i> genera <i>incertae sedis</i> (5)	
		<i>Incertae sedis</i>	<i>Rhynchostomataceae</i> (2)
	<i>Eurotiomycetes</i> genus <i>incertae sedis</i> (1)		
	<i>Geoglossomycetes</i>	<i>Geoglossales</i>	<i>Geoglossaceae</i> (7)
	<i>Geoglossomycetes</i> genera <i>incertae</i> <i>sedis</i> (2)		
	<i>Laboulbeniomycetes</i>	<i>Herpomycetales</i>	<i>Herpomycetaceae</i> (1)
		<i>Laboulbeniales</i>	<i>Ceratomycetaceae</i> (12)
			<i>Euceratomycetaceae</i> (5)
			<i>Laboulbeniaceae</i> (125)
			<i>Teratomycetaceae</i> (1)
		<i>Laboulbeniales</i> genera <i>incertae sedis</i> (3)	
		<i>Pyxidiophorales</i>	<i>Pyxidiophoraceae</i> (3)
	<i>Laboulbeniomycetes</i> genus <i>incertae sedis</i> (1)		
	<i>Lecanoromycetes</i>	<i>Acarosporales</i>	<i>Acarosporaceae</i> (11)
			<i>Eigleraceae</i> (1)
		<i>Baeomycetales</i>	<i>Arctomiaceae</i> (4)
			<i>Arthrorhaphidaceae</i> (1)
			<i>Baeomycetaceae</i> (5)
			<i>Cameroniaceae</i> (1)
			<i>Hymeneliaceae</i> (3)
			<i>Protothelenellaceae</i> (3)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Trapeliaceae</i> (12)
			<i>Xylographaceae</i> (4)
		<i>Caliciales</i>	<i>Caliciaceae</i> (36)
			<i>Physciaceae</i> (18)
		<i>Graphidales</i>	<i>Diploschistaceae</i> (35)
			<i>Fissurinaceae</i> (6)
			<i>Gomphillaceae</i> (26)
			<i>Graphidaceae</i> (31)
			<i>Redonographaceae</i> (2)
			<i>Thelotremataceae</i> (7)
		<i>Gyalectales</i>	<i>Coenogoniaceae</i> (1)
			<i>Gyalectaceae</i> (3)
			<i>Phlyctidaceae</i> (2)
			<i>Sagiolechiaceae</i> (2)
			<i>Trichotheliaceae</i> (7)
		<i>Lecanorales</i>	<i>Bruceomycetaceae</i> (2)
			<i>Catillariaceae</i> (5)
			<i>Cladoniaceae</i> (22)
			<i>Gypsoplacaceae</i> (1)
			<i>Haematommataceae</i> (1)
			<i>Lecanoraceae</i> (28)
			<i>Malmideaceae</i> (7)
			<i>Megalariaceae</i> (2)
			<i>Parmeliaceae</i> (71)
			<i>Pilocarpaceae</i> (32)
			<i>Psilolechiaceae</i> (1)
			<i>Psoraceae</i> (6)
			<i>Ramalinaceae</i> (37)
			<i>Ramboldiaceae</i> (1)
			<i>Scoliciosporaceae</i> (1)
			<i>Sphaerophoraceae</i> (6)
			<i>Tephromelataceae</i> (4)
		<i>Lecanorales</i> genera <i>incertae sedis</i> (14)	
		<i>Lecideales</i>	<i>Lecideaceae</i> (29)
			<i>Lopadiaceae</i> (1)
		<i>Leprocaulales</i>	<i>Leprocaulaceae</i> (3)
		<i>Micropeltidales</i>	<i>Micropeltidaceae</i> (12)
		<i>Ostropales</i>	<i>Odontotremataceae</i> (10)
			<i>Phaneromycetaceae</i> (1)
			<i>Spirographaceae</i> (1)
			<i>Stictidaceae</i> (28)
		<i>Ostropales</i> genera <i>incertae sedis</i> (6)	
		<i>Peltigerales</i>	<i>Coccocarpiaceae</i> (3)
			<i>Collemataceae</i> (8)
			<i>Koerberiaceae</i> (3)
			<i>Massalongiaceae</i> (3)
			<i>Pannariaceae</i> (27)
			<i>Peltigeraceae</i> (15)
			<i>Placynthiaceae</i> (3)
			<i>Vahliellaceae</i> (1)
		<i>Pertusariales</i>	<i>Agyriaceae</i> (2)
			<i>Coccotremataceae</i> (3)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Icmadophilaceae</i> (7)
			<i>Megasporaceae</i> (6)
			<i>Microcaliciaceae</i> (1)
			<i>Ochrolechiaceae</i> (1)
			<i>Pertusariaceae</i> (3)
			<i>Varicellariaceae</i> (1)
			<i>Variolariaceae</i> (1)
		<i>Rhizocarpales</i>	<i>Rhizocarpaceae</i> (4)
		<i>Sarrameanales</i>	<i>Sarrameanaceae</i> (2)
		<i>Schaereriales</i>	<i>Schaereriaceae</i> (1)
		<i>Sporastatales</i>	<i>Sporastatiaceae</i> (2)
		<i>Teloschistales</i>	<i>Brigantiaeaceae</i> (2)
			<i>Megalosporaceae</i> (3)
			<i>Teloschistaceae</i> (63)
		<i>Teloschistales</i> genus <i>incertae sedis</i> (1)	
		<i>Thelenellales</i>	<i>Thelenellaceae</i> (3)
		<i>Turquoiseomycetales</i>	<i>Turquoiseomycetaceae</i> (1)
		<i>Umbilicariales</i>	<i>Elixiaceae</i> (2)
			<i>Fuscideaceae</i> (4)
			<i>Ophioparmaceae</i> (3)
			<i>Ropalosporaceae</i> (1)
			<i>Umbilicariaceae</i> (3)
		<i>Incertae sedis</i>	<i>Epigloeaceae</i> (1)
	<i>Lecanoromycetes</i> genera <i>incertae</i> <i>sedis</i> (15)		
	<i>Leotiomycetes</i>	<i>Chaetomellales</i>	<i>Chaetomellaceae</i> (4)
		<i>Cyttariales</i>	<i>Cyttariaceae</i> (1)
		<i>Helotiales</i>	<i>Amicodiscaceae</i> (1)
			<i>Arachnopezizaceae</i> (5)
			<i>Ascocorticiaceae</i> (1)
			<i>Ascodichaenaceae</i> (2)
			<i>Bloxamiaceae</i> (1)
			<i>Bryoglossaceae</i> (3)
			<i>Calloriaceae</i> (14)
			<i>Cenangiaceae</i> (11)
			<i>Chlorociboriaceae</i> (1)
			<i>Chlorospleniaceae</i> (1)
			<i>Chrysodiscaceae</i> (1)
			<i>Cordieritidaceae</i> (18)
			<i>Dermateaceae</i> (14)
			<i>Discinellaceae</i> (12)
			<i>Drepanopezizaceae</i> (8)
			<i>Erysiphaceae</i> (20)
			<i>Gelatinodiscaceae</i> (9)
			<i>Godroniaceae</i> (5)
			<i>Helotiaceae</i> (33)
			<i>Heterosphaeriaceae</i> (1)
			<i>Hyaloscyphaceae</i> (37)
			<i>Lachnaceae</i> (18)
			<i>Leptodontidiaceae</i> (1)
			<i>Loramycetaceae</i> (2)
			<i>Mitrulaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Mollisiaceae</i> (18)
			<i>Myxotrichaceae</i> (3)
			<i>Neolauriomycetaceae</i> (3)
			<i>Pezizellaceae</i> (23)
			<i>Ploetnerulaceae</i> (12)
			<i>Rutstroemiaceae</i> (7)
			<i>Sclerotiniaceae</i> (31)
			<i>Vibrisseaceae</i> (5)
		<i>Helotiales</i> genera <i>incertae sedis</i> (144)	
		<i>Lahmiales</i>	<i>Lahmiaceae</i> (1)
		<i>Lauriomycetales</i>	<i>Lauriomycetaceae</i> (1)
		<i>Leotiales</i>	<i>Cochlearomycetaceae</i> (2)
			<i>Leotiaceae</i> (4)
			<i>Mniaeciaceae</i> (2)
			<i>Tympanidaceae</i> (7)
		<i>Leotiales</i> genera <i>incertae sedis</i> (3)	
		<i>Lichinodiales</i>	<i>Lichinodiaceae</i> (1)
		<i>Marthamycetales</i>	<i>Marthamycetaceae</i> (9)
		<i>Medeolariales</i>	<i>Medeolariaceae</i> (1)
		<i>Micraspidales</i>	<i>Micraspidaceae</i> (1)
		<i>Phacidiales</i>	<i>Helicogoniaceae</i> (7)
			<i>Phacidiaceae</i> (9)
		<i>Phacidiales</i> genus <i>incertae sedis</i> (1)	
		<i>Rhytismatales</i>	<i>Cudoniaceae</i> (2)
			<i>Rhytismataceae</i> (52)
			<i>Triblidiaceae</i> (2)
		<i>Rhytismatales</i> genera <i>incertae sedis</i> (9)	
		<i>Thelebolales</i>	<i>Pseudeurotiaceae</i> (8)
			<i>Thelebolaceae</i> (10)
		<i>Thelebolales</i> genera <i>incertae sedis</i> (3)	
	<i>Leotiomycetes</i> genera <i>incertae</i> <i>sedis</i> (20)		
	<i>Lichinomycetes</i>	<i>Lichinales</i>	<i>Gloeoheppiaceae</i> (3)
			<i>Lichinaceae</i> (43)
			<i>Peltulaceae</i> (1)
	<i>Neoelectomycetes</i>	<i>Neoelectales</i>	<i>Neoelectaceae</i> (1)
	<i>Orbiliomycetes</i>	<i>Orbiliales</i>	<i>Orbiliaceae</i> (12)
		<i>Orbiliales</i> genus <i>incertae sedis</i> (1)	
	<i>Orbiliomycetes</i> genus <i>incertae sedis</i> (1)		
	<i>Pezizomycetes</i>	<i>Pezizales</i>	<i>Ascobolaceae</i> (5)
			<i>Ascodesmidaceae</i> (10)
			<i>Caloscyphaceae</i> (1)
			<i>Chorioactidaceae</i> (6)
			<i>Discinaceae</i> (5)
			<i>Glaziellaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Helvellaceae</i> (5)
			<i>Kallistoskyphaceae</i> (1)
			<i>Karstenellaceae</i> (1)
			<i>Morchellaceae</i> (7)
			<i>Pezizaceae</i> (38)
			<i>Pseudombrophilaceae</i> (4)
			<i>Pulvinulaceae</i> (3)
			<i>Pyronemataceae</i> (61)
			<i>Rhizinaceae</i> (3)
			<i>Sarcoscyphaceae</i> (12)
			<i>Sarcosomataceae</i> (9)
			<i>Strobiloscyphaceae</i> (1)
			<i>Tarzettaceae</i> (6)
			<i>Tuberaceae</i> (7)
		<i>Pezizales genera incertae sedis</i> (18)	
	<i>Pneumocystomyces</i>	<i>Pneumocystidales</i>	<i>Pneumocystidaceae</i> (1)
	<i>Saccharomyces</i>	<i>Saccharomycetales</i>	<i>Alloascoideaceae</i> (1)
			<i>Ascoideaceae</i> (1)
			<i>Cephaloascaceae</i> (1)
			<i>Debaryomycetaceae</i> (13)
			<i>Dipodascaceae</i> (5)
			<i>Lipomycetaceae</i> (5)
			<i>Metschnikowiaceae</i> (3)
			<i>Phaffomycetaceae</i> (5)
			<i>Pichiaceae</i> (10)
			<i>Saccharomycetaceae</i> (16)
			<i>Saccharomycodaceae</i> (2)
			<i>Saccharomycopsidaceae</i> (2)
			<i>Trichomonascaceae</i> (9)
			<i>Trigonopsidaceae</i> (3)
		<i>Saccharomycetales genera incertae sedis</i> (21)	
	<i>Schizosaccharomyces</i>	<i>Schizosaccharomycetales</i>	<i>Schizosaccharomycetaceae</i> (1)
	<i>Sordariomyces</i>	<i>Amphisphaeriales</i>	<i>Amphisphaeriaceae</i> (3)
			<i>Apiosporaceae</i> (5)
			<i>Beltraniaceae</i> (9)
			<i>Clypeophysalosporaceae</i> (4)
			<i>Cylindriaceae</i> (1)
			<i>Hansfordiaceae</i> (1)
			<i>Hyponectriaceae</i> (17)
			<i>Iodosphaeriaceae</i> (1)
			<i>Melogrammataceae</i> (1)
			<i>Phlogicylindriaceae</i> (3)
			<i>Pseudomassariaceae</i> (4)
			<i>Pseudotruncatellaceae</i> (1)
			<i>Sporocadaceae</i> (33)
			<i>Vialaeaceae</i> (1)
		<i>Amphisphaeriales genus incertae sedis</i> (1)	
		<i>Amplistromatales</i>	<i>Amplistromataceae</i> (3)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Catabotryaceae</i> (1)
		<i>Annulatascales</i>	<i>Annulatascaleae</i> (10)
		<i>Annulatascales</i> genus <i>incertae sedis</i> (1)	
		<i>Atractosporales</i>	<i>Atractosporaceae</i> (2)
			<i>Conlariaceae</i> (2)
			<i>Pseudoproboscisporaceae</i> (2)
		<i>Bolinales</i>	<i>Boliniaceae</i> (9)
		<i>Calosphaeriales</i>	<i>Calosphaeriaceae</i> (4)
			<i>Jobellisiaceae</i> (1)
			<i>Pleurostomataceae</i> (1)
		<i>Calosphaeriales</i> genera <i>incertae sedis</i> (4)	
		<i>Cephalothecales</i>	<i>Cephalothecaceae</i> (5)
		<i>Chaetosphaeriales</i>	<i>Chaetosphaeriaceae</i> (44)
			<i>Helminthosphaeriaceae</i> (7)
			<i>Leptosporrellaceae</i> (1)
			<i>Leptosporrellaceae</i> (1)
			<i>Linocarpaceae</i> (2)
		<i>Chaetosphaeriales</i> genera <i>incertae sedis</i> (7)	
		<i>Coniochaetales</i>	<i>Coniochaetaceae</i> (2)
			<i>Cordanaceae</i> (1)
		<i>Coniochaetales</i> genera <i>incertae sedis</i> (2)	
		<i>Conioscyphales</i>	<i>Conioscyphaceae</i> (1)
		<i>Coronophorales</i>	<i>Bertiaceae</i> (2)
			<i>Ceratostomataceae</i> (14)
			<i>Chaetosphaerellaceae</i> (3)
			<i>Coronophoraceae</i> (1)
			<i>Nitschkiaceae</i> (14)
			<i>Scortechiniaceae</i> (10)
		<i>Coronophorales</i> genera <i>incertae sedis</i> (2)	
		<i>Delonicolales</i>	<i>Delonicicolaceae</i> (2)
		<i>Diaporthales</i>	<i>Apiosporopsidaceae</i> (1)
			<i>Apharknessiaceae</i> (2)
			<i>Asterosporiaceae</i> (1)
			<i>Auratiopycnidiellaceae</i> (1)
			<i>Coryneaceae</i> (1)
			<i>Cryphonectriaceae</i> (28)
			<i>Cytosporaceae</i> (6)
			<i>Diaporthaceae</i> (15)
			<i>Diaporthosporellaceae</i> (1)
			<i>Diaporthostomataceae</i> (1)
			<i>Dwiroopaceae</i> (1)
			<i>Erythrogloeaceae</i> (4)
			<i>Gnomoniaceae</i> (36)
			<i>Harknessiaceae</i> (2)
			<i>Juglanconidaceae</i> (1)
			<i>Lamproconiaceae</i> (2)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Macrohilaceae</i> (1)
			<i>Melanconidaceae</i> (1)
			<i>Melanconiellaceae</i> (7)
			<i>Neomelanconiellaceae</i> (1)
			<i>Phaeoappendicosporaceae</i> (2)
			<i>Prosopidicolaceae</i> (1)
			<i>Pseudomelanconidaceae</i> (2)
			<i>Pseudoplagiostomataceae</i> (1)
			<i>Schizoparmaceae</i> (1)
			<i>Stilbosporaceae</i> (4)
			<i>Sydowiellaceae</i> (16)
			<i>Synnemasporrellaceae</i> (1)
			<i>Tubakiaceae</i> (8)
		<i>Diaporthales</i> genera <i>incertae sedis</i> (36)	
		<i>Distoseptisporales</i>	<i>Distoseptisporaceae</i> (1)
		<i>Falcocladiales</i>	<i>Falcocladiaceae</i> (1)
		<i>Fuscosporellales</i>	<i>Fuscosporellaceae</i> (6)
		<i>Glomerellales</i>	<i>Australiascaceae</i> (1)
			<i>Glomerellaceae</i> (1)
			<i>Malaysiascaceae</i> (1)
			<i>Plectosphaerellaceae</i> (24)
			<i>Reticulascaceae</i> (4)
		<i>Glomerellales</i> genus <i>incertae sedis</i> (1)	
		<i>Hypocreales</i>	<i>Bionectriaceae</i> (47)
			<i>Calcarisporiaceae</i> (1)
			<i>Clavicipitaceae</i> (42)
			<i>Cocoonihibitaceae</i> (1)
			<i>Cordycipitaceae</i> (17)
			<i>Flammocladiellaceae</i> (1)
			<i>Hypocreaceae</i> (17)
			<i>Myrotheciomycetaceae</i> (4)
			<i>Nectriaceae</i> (69)
			<i>Niessliaceae</i> (21)
			<i>Ophiocordycipitaceae</i> (10)
			<i>Sarocladiaceae</i> (2)
			<i>Stachybotryaceae</i> (39)
			<i>Tilachlidiaceae</i> (3)
		<i>Hypocreales</i> genera <i>incertae sedis</i> (29)	
		<i>Jobellisiales</i>	<i>Jobellisiaceae</i> (1)
		<i>Koralionastetales</i>	<i>Koralionastetaceae</i> (2)
		<i>Lulworthiales</i>	<i>Lulworthiaceae</i> (15)
		<i>Magnaporthales</i>	<i>Ceratosphaeriaceae</i> (1)
			<i>Magnaporthaceae</i> (22)
			<i>Ophioceraceae</i> (1)
			<i>Pseudohalonestriaceae</i> (1)
			<i>Pyriculariaceae</i> (11)
		<i>Meliolales</i>	<i>Armatellaceae</i> (1)
			<i>Meliolaceae</i> (8)
		<i>Microascales</i>	<i>Ceratocystidaceae</i> (11)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Chadefaudiellaceae</i> (2)
			<i>Gondwanamycetaceae</i> (2)
			<i>Graphiaceae</i> (1)
			<i>Halosphaeriaceae</i> (66)
			<i>Microascaceae</i> (23)
			<i>Triadelphiaceae</i> (2)
		<i>Microascales</i> genera <i>incertae sedis</i> (6)	
		<i>Myrmecridiales</i>	<i>Myrmecridiaceae</i> (2)
			<i>Xenodactylariaceae</i> (1)
		<i>Ophiostomatales</i>	<i>Kathistaceae</i> (2)
			<i>Ophiostomataceae</i> (13)
		<i>Pararamichloridiales</i>	<i>Pararamichloridiaceae</i> (1)
		<i>Parasymphodiellales</i>	<i>Parasymphodiellaceae</i> (1)
		<i>Phomatosporales</i>	<i>Phomatosporaceae</i> (3)
		<i>Phyllachorales</i>	<i>Phaeochoraceae</i> (4)
			<i>Phaeochorellaceae</i> (1)
			<i>Phyllachoraceae</i> (54)
			<i>Telimenaceae</i> (1)
		<i>Phyllachorales</i> genus <i>incertae sedis</i> (1)	
		<i>Pisorisporiales</i>	<i>Pisorisporiaceae</i> (2)
		<i>Pleurotheciales</i>	<i>Pleurotheciaceae</i> (11)
		<i>Pseudodactylariales</i>	<i>Pseudodactylariaceae</i> (1)
		<i>Savoryellales</i>	<i>Savoryellaceae</i> (4)
		<i>Sordariales</i>	<i>Chaetomiaceae</i> (37)
			<i>Lasiosphaeriaceae</i> (32)
			<i>Podosporaceae</i> (3)
			<i>Sordariaceae</i> (7)
		<i>Sordariales</i> genera <i>incertae sedis</i> (22)	
		<i>Spathulosporales</i>	<i>Hispidicarpomycetaceae</i> (1)
			<i>Spathulosporaceae</i> (2)
		<i>Sporidesmiales</i>	<i>Sporidesmiaceae</i> (1)
		<i>Tirisporellales</i>	<i>Tirisporellaceae</i> (3)
		<i>Togniniales</i>	<i>Togniniaceae</i> (2)
		<i>Torpedosporales</i>	<i>Etheiophoraceae</i> (2)
			<i>Juncigenaceae</i> (5)
			<i>Torpedosporaceae</i> (1)
		<i>Tracyllalales</i>	<i>Tracyllaceae</i> (1)
		<i>Vermiculariopsiellales</i>	<i>Vermiculariopsiellaceae</i> (1)
		<i>Xenospadicoidales</i>	<i>Xenospadicoidaceae</i> (5)
		<i>Xylariales</i>	<i>Anungitomycetaceae</i> (1)
			<i>Barrmaeliaceae</i> (2)
			<i>Castanediellaceae</i> (1)
			<i>Clypeosphaeriaceae</i> (6)
			<i>Coniocessiaceae</i> (2)
			<i>Diatrypaceae</i> (20)
			<i>Fasciatisporaceae</i> (1)
			<i>Graphostromataceae</i> (5)
			<i>Hypoxylaceae</i> (19)
			<i>Induratiaceae</i> (2)
			<i>Leptosilliaceae</i> (1)
			<i>Lopadostomataceae</i> (4)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Microdochiaceae</i> (3)
			<i>Myelospermataceae</i> (1)
			<i>Nothodactylariaceae</i> (1)
			<i>Oxydothidaceae</i> (1)
			<i>Polystigmataceae</i> (1)
			<i>Pseudosporidesmiaceae</i> (1)
			<i>Requienellaceae</i> (4)
			<i>Xyladictyochaetaceae</i> (1)
			<i>Xylariaceae</i> (32)
			<i>Zygosporiaceae</i> (1)
		<i>Xylariales</i> genera <i>incertae sedis</i> (56)	
		<i>Incertae sedis</i>	<i>Acrodictyaceae</i> (1)
			<i>Barbatosphaeriaceae</i> (3)
			<i>Batistiaceae</i> (1)
			<i>Cainiaceae</i> (6)
			<i>Junewangiaceae</i> (2)
			<i>Lautosporaceae</i> (1)
			<i>Obryzaceae</i> (1)
			<i>Papulosaceae</i> (4)
			<i>Rhamphoriaceae</i> (4)
			<i>Thyridiaceae</i> (2)
			<i>Trichosphaeriaceae</i> (10)
			<i>Woswasiaceae</i> (3)
	<i>Sordariomycetes</i> genera <i>incertae</i> <i>sedis</i> (131)		
	<i>Taphrinomycetes</i>	<i>Taphrinales</i>	<i>Protomycetaceae</i> (6)
			<i>Taphrinaceae</i> (1)
	<i>Xylobotryomycetes</i>	<i>Xylobotryales</i>	<i>Cirrosporiaceae</i> (1)
			<i>Xylobotryaceae</i> (1)
	<i>Xylonomycetes</i>	<i>Symbiotaphrinales</i>	<i>Symbiotaphrinaceae</i> (1)
		<i>Xylonales</i>	<i>Xylonaceae</i> (2)
	<i>Incertae sedis</i>	<i>Thelocarpales</i>	<i>Thelocarpaceae</i> (2)
		<i>Vezdaeales</i>	<i>Vezdaeaceae</i> (1)
	<i>Incertae sedis</i>	<i>Incertae sedis</i>	<i>Aphanopsidaceae</i> (2)
			<i>Diporothecaceae</i> (1)
			<i>Eoterfeziaceae</i> (2)
			<i>Harpidiaceae</i> (2)
			<i>Mucomassariaceae</i> (1)
			<i>Saccardiaceae</i> (7)
			<i>Seuratiaceae</i> (2)
			<i>Strangosporaceae</i> (1)
<i>Ascomycota</i> genera <i>incertae sedis</i> (1485)			
<i>Basidiobolomycota</i>	<i>Basidiobolomycetes</i>	<i>Basidiobolales</i>	<i>Basidiobolaceae</i> (2)
<i>Basidiomycota</i>	<i>Agaricomycetes</i>	<i>Agaricales</i>	<i>Agaricaceae</i> (59)
			<i>Amanitaceae</i> (5)
			<i>Biannulariaceae</i> (7)
			<i>Bolbitiaceae</i> (15)
			<i>Broomeiaceae</i> (1)
			<i>Chromocyphellaceae</i> (1)
			<i>Clavariaceae</i> (10)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Cortinariaceae</i> (5)
			<i>Crassisporiaceae</i> (2)
			<i>Crepidotaceae</i> (6)
			<i>Cyphellaceae</i> (16)
			<i>Cystostereaceae</i> (7)
			<i>Entolomataceae</i> (7)
			<i>Hemigasteraceae</i> (1)
			<i>Hydnangiaceae</i> (4)
			<i>Hygrophoraceae</i> (26)
			<i>Hymenogastraceae</i> (10)
			<i>Inocybaceae</i> (3)
			<i>Limnoperdaceae</i> (1)
			<i>Lycoperdaceae</i> (7)
			<i>Lyophyllaceae</i> (18)
			<i>Macrocytidiaceae</i> (1)
			<i>Marasmiaceae</i> (10)
			<i>Mycenaceae</i> (16)
			<i>Mythicomycetaceae</i> (2)
			<i>Niaceae</i> (9)
			<i>Omphalotaceae</i> (14)
			<i>Physalacriaceae</i> (28)
			<i>Pleurotaceae</i> (5)
			<i>Pluteaceae</i> (3)
			<i>Porotheleaceae</i> (2)
			<i>Psathyrellaceae</i> (13)
			<i>Pseudoclitocybaceae</i> (7)
			<i>Pterulaceae</i> (13)
			<i>Schizophyllaceae</i> (3)
			<i>Stephanosporaceae</i> (5)
			<i>Strophariaceae</i> (11)
			<i>Tricholomataceae</i> (10)
			<i>Tubariaceae</i> (7)
			<i>Typhulaceae</i> (4)
		<i>Agaricales</i> genera <i>incertae sedis</i> (134)	
		<i>Amylocorticiales</i>	<i>Amylocorticiaceae</i> (11)
		<i>Atheliales</i>	<i>Atheliaceae</i> (20)
		<i>Auriculariales</i>	<i>Auriculariaceae</i> (12)
			<i>Hyaloriaceae</i> (3)
		<i>Auriculariales</i> genera <i>incertae sedis</i> (31)	
		<i>Boletales</i>	<i>Boletaceae</i> (92)
			<i>Boletinellaceae</i> (2)
			<i>Calostomataceae</i> (1)
			<i>Coniophoraceae</i> (5)
			<i>Diplocystidiaceae</i> (4)
			<i>Gasterellaceae</i> (1)
			<i>Gomphidiaceae</i> (4)
			<i>Gyroporaceae</i> (1)
			<i>Hygrophoropsidaceae</i> (2)
			<i>Paxillaceae</i> (10)
			<i>Protogastraceae</i> (1)
			<i>Rhizopogonaceae</i> (3)
			<i>Sclerodermataceae</i> (5)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Serpulaceae</i> (3)
			<i>Suillaceae</i> (2)
			<i>Tapinellaceae</i> (3)
		<i>Boletales</i> genera <i>incertae sedis</i> (4)	
		<i>Cantharellales</i>	<i>Aphelariaceae</i> (3)
			<i>Botryobasidiaceae</i> (5)
			<i>Ceratobasidiaceae</i> (6)
			<i>Hydnaceae</i> (21)
			<i>Oliveoniaceae</i> (1)
			<i>Tulasnellaceae</i> (2)
	<i>Bartheletiomycetes</i>	<i>Bartheletiales</i>	<i>Bartheletiaceae</i> (1)
		<i>Cantharellales</i> genera <i>incertae sedis</i> (8)	
		<i>Corticiales</i>	<i>Corticaceae</i> (12)
			<i>Dendrominiaceae</i> (1)
			<i>Punctulariaceae</i> (3)
			<i>Vuilleminiaceae</i> (3)
		<i>Corticiales</i> genera <i>incertae sedis</i> (7)	
		<i>Geastrales</i>	<i>Geastraceae</i> (7)
			<i>Sclerogastraceae</i> (1)
		<i>Geastrales</i> genus <i>incertae sedis</i> (1)	
		<i>Gloeophyllales</i>	<i>Gloeophyllaceae</i> (12)
		<i>Gloeophyllales</i> genus <i>incertae sedis</i> (1)	
		<i>Gomphales</i>	<i>Clavariadelphaceae</i> (2)
			<i>Gomphaceae</i> (14)
			<i>Lentariaceae</i> (3)
		<i>Hymenochaetales</i>	<i>Hymenochaetaceae</i> (40)
			<i>Neoantrodidiellaceae</i> (1)
			<i>Nigrofomitaceae</i> (1)
			<i>Oxyporaceae</i> (1)
			<i>Rickenellaceae</i> (8)
			<i>Schizoporaceae</i> (13)
		<i>Hymenochaetales</i> genera <i>incertae sedis</i> (15)	
		<i>Hysterangiales</i>	<i>Gallaceaceae</i> (3)
			<i>Hysterangiaceae</i> (4)
			<i>Mesophelliaceae</i> (8)
			<i>Phallogastraceae</i> (2)
			<i>Trappeaceae</i> (3)
		<i>Jaapiales</i>	<i>Jaapiaceae</i> (1)
		<i>Lepidostromatales</i>	<i>Lepidostromataceae</i> (3)
		<i>Phallales</i>	<i>Claustulaceae</i> (5)
			<i>Gastrosporiaceae</i> (1)
			<i>Phallaceae</i> (26)
		<i>Phallales</i> genera <i>incertae sedis</i> (2)	
		<i>Polyporales</i>	<i>Cerrenaceae</i> (4)
			<i>Dacrybolaceae</i> (7)
			<i>Fomitopsidaceae</i> (25)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Fragiliporiaceae</i> (1)
			<i>Gelatoporiaceae</i> (4)
			<i>Grifolaceae</i> (2)
			<i>Hyphodermataceae</i> (1)
			<i>Incrustoporiaceae</i> (5)
			<i>Irpicaceae</i> (14)
			<i>Ischnodermataceae</i> (1)
			<i>Laetiporaceae</i> (3)
			<i>Meripilaceae</i> (3)
			<i>Meruliaceae</i> (22)
			<i>Panaceae</i> (2)
			<i>Phanerochaetaceae</i> (18)
			<i>Podoscyphaceae</i> (3)
			<i>Polyporaceae</i> (85)
			<i>Sparassidaceae</i> (3)
			<i>Steccherinaceae</i> (22)
		<i>Polyporales</i> genera <i>incertae sedis</i> (67)	
		<i>Russulales</i>	<i>Albatrellaceae</i> (8)
			<i>Auriscalpiaceae</i> (6)
			<i>Bondarzewiaceae</i> (9)
			<i>Echinodontiaceae</i> (3)
			<i>Hericiaceae</i> (6)
			<i>Hybogasteraceae</i> (1)
			<i>Peniophoraceae</i> (16)
			<i>Russulaceae</i> (7)
			<i>Stereaceae</i> (22)
			<i>Xenasmataceae</i> (3)
		<i>Russulales</i> genera <i>incertae sedis</i> (15)	
		<i>Sebacinales</i>	<i>Sebacinaceae</i> (8)
			<i>Serendipitaceae</i> (1)
		<i>Stereopsidales</i>	<i>Stereopsidaceae</i> (1)
		<i>Thelephorales</i>	<i>Bankeraceae</i> (5)
			<i>Thelephoraceae</i> (9)
		<i>Thelephorales</i> genus <i>incertae sedis</i> (1)	
		<i>Trechisporales</i>	<i>Hydnodontaceae</i> (13)
		<i>Tremellodendropsidales</i>	<i>Tremellodendropsidaceae</i> (1)
	<i>Agaricomycetes</i> genera <i>incertae</i> <i>sedis</i> (40)		
	<i>Agaricostilbomycetes</i>	<i>Agaricostilbales</i>	<i>Agaricostilbaceae</i> (3)
			<i>Chionosphaeraceae</i> (5)
			<i>Kondoaceae</i> (2)
			<i>Ruineniaceae</i> (1)
		<i>Agaricostilbales</i> genera <i>incertae sedis</i> (2)	
	<i>Atractiellomycetes</i>	<i>Atractiellales</i>	<i>Atractogloeaceae</i> (1)
			<i>Hoehnelomycetaceae</i> (2)
			<i>Phleogenaceae</i> (7)
	<i>Classiculomycetes</i>	<i>Classiculales</i>	<i>Classiculaceae</i> (2)

Table 1 Continued.

Phylum	Class*	Order*	Family*
	<i>Cryptomycocolacomycetes</i>	<i>Cryptomycocolacales</i>	<i>Cryptomycocolacaceae</i> (2)
	<i>Cystobasidiomycetes</i>	<i>Buckleyzymales</i>	<i>Buckleyzymaceae</i> (1)
		<i>Cystobasidiales</i>	<i>Cystobasidiaceae</i> (3)
		<i>Erythrobasidiales</i>	<i>Erythrobasidiaceae</i> (2)
		<i>Erythrobasidiales</i> genera <i>incertae sedis</i> (3)	
		<i>Naohideales</i>	<i>Naohideaceae</i> (1)
		<i>Sakaguchiales</i>	<i>Sakaguchiaceae</i> (1)
		<i>Incertae sedis</i>	<i>Microsporomycetaceae</i> (1)
		<i>Incertae sedid</i>	<i>Symmetrosporaceae</i> (1)
	<i>Cystobasidiomycetes</i> genus <i>incertae sedis</i> (1)		
	<i>Dacrymycetes</i>	<i>Dacrymycetales</i>	<i>Cerinomycetaceae</i> (1)
			<i>Dacrymycetaceae</i> (10)
		<i>Unilacrymales</i>	<i>Unilacrymaceae</i> (1)
	<i>Exobasidiomycetes</i>	<i>Ceraceosorales</i>	<i>Ceraceosoraceae</i> (1)
		<i>Doassansiales</i>	<i>Doassansiaceae</i> (11)
			<i>Melaniellaceae</i> (1)
			<i>Rhamphosporaceae</i> (1)
		<i>Entylomatales</i>	<i>Entylomataceae</i> (2)
		<i>Exobasidiales</i>	<i>Brachybasidiaceae</i> (5)
			<i>Cryptobasidiaceae</i> (6)
			<i>Exobasidiaceae</i> (4)
			<i>Graphiolaceae</i> (2)
			<i>Laurobasidiaceae</i> (1)
		<i>Georgefischeriales</i>	<i>Eballistraceae</i> (1)
			<i>Georgefischeriaceae</i> (2)
			<i>Gjaerumiaceae</i> (1)
			<i>Tilletiariaceae</i> (3)
		<i>Golubeviales</i>	<i>Golubeviaceae</i> (1)
		<i>Microstromatales</i>	<i>Microstromataceae</i> (1)
			<i>Quambalariaceae</i> (1)
			<i>Volvocisporiaceae</i> (1)
		<i>Microstromatales</i> genera <i>incertae sedis</i> (4)	
		<i>Robbauerales</i>	<i>Robbaueraceae</i> (1)
		<i>Tilletiales</i>	<i>Erratomycetaceae</i> (1)
			<i>Tilletiaceae</i> (6)
	<i>Malasseziomycetes</i>	<i>Malasseziales</i>	<i>Malasseziaceae</i> (1)
	<i>Microbotryomycetes</i>	<i>Heterogastridiales</i>	<i>Heterogastridiaceae</i> (3)
		<i>Kriegeriales</i>	<i>Camptobasidiaceae</i> (2)
			<i>Kriegeriaceae</i> (4)
		<i>Leucosporidiales</i>	<i>Leucosporidiaceae</i> (1)
		<i>Microbotryales</i>	<i>Microbotryaceae</i> (4)
			<i>Ustilentylomataceae</i> (4)
		<i>Sporidiobolales</i>	<i>Sporidiobolaceae</i> (3)
		<i>Incertae sedis</i>	<i>Chrysozymaceae</i> (4)
			<i>Colacogloeaceae</i> (1)
	<i>Microbotryomycetes</i> genera <i>incertae sedis</i> (15)		
	<i>Mixiomycetes</i>	<i>Mixiales</i>	<i>Mixiaceae</i> (1)
	<i>Moniliellomycetes</i>	<i>Moniliellales</i>	<i>Moniliellaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
	<i>Pucciniomycetes</i>	<i>Helicobasidiales</i>	<i>Helicobasidiaceae</i> (2)
		<i>Pachnocybales</i>	<i>Pachnocybaceae</i> (1)
		<i>Platyglloeales</i>	<i>Eocronartiaceae</i> (5)
			<i>Platyglloeaceae</i> (4)
		<i>Pucciniales</i>	<i>Chaconiaceae</i> (9)
			<i>Coleosporiaceae</i> (5)
			<i>Cronartiaceae</i> (3)
			<i>Melampsoraceae</i> (1)
			<i>Mikronegeriaceae</i> (3)
			<i>Phakopsoraceae</i> (15)
			<i>Phragmidiaceae</i> (13)
			<i>Pileolariaceae</i> (4)
			<i>Pucciniaceae</i> (21)
			<i>Pucciniastraceae</i> (10)
			<i>Pucciniosiraceae</i> (10)
			<i>Raveneliaceae</i> (24)
			<i>Sphaerophragmiaceae</i> (2)
			<i>Uncolaceae</i> (2)
			<i>Uropyxidaceae</i> (16)
		<i>Pucciniales</i> genera <i>incertae sedis</i> (24)	
		<i>Septobasidiales</i>	<i>Septobasidiaceae</i> (6)
	<i>Spiculogloeomycetes</i>	<i>Spiculogloeales</i>	<i>Spiculogloeaceae</i> (2)
	<i>Tremellomycetes</i>	<i>Cystofilobasidiales</i>	<i>Cystofilobasidiaceae</i> (1)
			<i>Mrakiaceae</i> (7)
		<i>Filobasidiales</i>	<i>Filobasidiaceae</i> (5)
			<i>Piskurozymaceae</i> (2)
		<i>Holtermanniales</i>	<i>Holtermanniaceae</i> (2)
		<i>Tremellales</i>	<i>Bulleraceae</i> (4)
			<i>Bulleribasidiaceae</i> (6)
			<i>Carcinomycetaceae</i> (1)
			<i>Cryptococcaceae</i> (2)
			<i>Cuniculitremaceae</i> (3)
			<i>Naemateliaceae</i> (2)
			<i>Phaeotremellaceae</i> (2)
			<i>Phragmoxenidiaceae</i> (1)
			<i>Rhynchogastremaceae</i> (3)
			<i>Sirobasidiaceae</i> (1)
			<i>Tremellaceae</i> (3)
			<i>Trimorphomycetaceae</i> (4)
		<i>Tremellales</i> genera <i>incertae sedis</i> (8)	
		<i>Trichosporonales</i>	<i>Tetragonomycetaceae</i> (3)
			<i>Trichosporonaceae</i> (8)
	<i>Tremellomycetes</i> genera <i>incertae sedis</i> (3)		
	<i>Tritirachiomycetes</i>	<i>Tritirachiales</i>	<i>Tritirachiaceae</i> (2)
	<i>Ustilaginomycetes</i>	<i>Uleiellales</i>	<i>Uleiellaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
		<i>Urocystidales</i>	<i>Doassansiopsidaceae</i> (1)
			<i>Fereydowniaceae</i> (1)
			<i>Floromycetaceae</i> (2)
			<i>Glomosporiaceae</i> (1)
			<i>Mycosyringaceae</i> (1)
			<i>Urocystidaceae</i> (7)
		<i>Ustilaginales</i>	<i>Anthracoideaceae</i> (19)
			<i>Cintractiellaceae</i> (1)
			<i>Clintamraceae</i> (1)
			<i>Geminaginaceae</i> (1)
			<i>Melanotaeniaceae</i> (3)
			<i>Pericladiaceae</i> (1)
			<i>Ustilaginaceae</i> (6)
			<i>Websdaneaceae</i> (2)
		<i>Ustilaginales</i> genera <i>incertae sedis</i> (20)	
		<i>Violaceomycetales</i>	<i>Violaceomycetaceae</i> (1)
	<i>Ustilaginomyces</i> genus <i>incertae sedis</i> (1)		
	<i>Wallemiomycetes</i>	<i>Geminibasidiales</i>	<i>Geminibasidiaceae</i> (2)
		<i>Wallemiales</i>	<i>Wallemiaceae</i> (1)
	<i>Wallemiomycetes</i> genus <i>incertae sedis</i> (1)		
<i>Basidiomycota</i> genera <i>incertae</i> <i>sedis</i> (11)			
<i>Blastocladiomycota</i>	<i>Blastocladiomycetes</i>	<i>Blastocladales</i>	<i>Blastocladiaceae</i> (3)
<i>a</i>			<i>Catenariaceae</i> (2)
			<i>Paraphysodermataceae</i> (1)
			<i>Sorochytriaceae</i> (1)
		<i>Blastocladales</i> genus <i>incertae sedis</i> (1)	
		<i>Callimastigales</i>	<i>Callimastigaceae</i> (1)
			<i>Coelomomycetaceae</i> (2)
		<i>Catenomycetales</i>	<i>Catenomycetaceae</i> (1)
	<i>Blastocladiomycetes</i> genus <i>incertae sedis</i> (1)		
	<i>Physodermatomyces</i>	<i>Physodermatales</i>	<i>Physodermataceae</i> (1)
<i>Calcarisporiellomycota</i>	<i>Calcarisporiellomyces</i>	<i>Calcarisporiellales</i>	<i>Calcarisporiellaceae</i> (2)
<i>Caulochytriomycota</i>	<i>Caulochytriomyces</i>	<i>Caulochytriales</i>	<i>Caulochytriaceae</i> (1)
<i>Chytridiomycota</i>	<i>Chytridiomycetes</i>	<i>Chytridiales</i>	<i>Asterophlyctaceae</i> (2)
			<i>Chytridiaceae</i> (6)
			<i>Chytriomycetaceae</i> (11)
			<i>Phlyctochytriaceae</i> (1)
			<i>Phlyctorhizaceae</i> (1)
			<i>Pseudorhizidiaceae</i> (1)
			<i>Scherffeliomycetaceae</i> (1)
			<i>Zygorhizidiaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
		<i>Chytridiales</i> genus <i>incertae sedis</i> (1)	
		<i>Nephridiophagales</i>	<i>Nephridiophagaceae</i> (4)
		<i>Polyphagales</i>	<i>Polyphagaceae</i> (1)
		<i>Saccopodiales</i>	<i>Saccopodiaceae</i> (1)
		<i>Incertae sedis</i>	<i>Amoebochytriaceae</i> (1)
			<i>Sparrowiaceae</i> (1)
			<i>Sphaeromonadaceae</i> (1)
			<i>Tetrachytriaceae</i> (1)
			<i>Thallassochytriaceae</i> (1)
	<i>Chytridiomycetes</i> genera <i>incertae sedis</i> (39)		
	<i>Cladochytriomycetes</i>	<i>Cladochytriales</i>	<i>Catenochytridiaceae</i> (1)
			<i>Cladochytriaceae</i> (1)
			<i>Endochytriaceae</i> (2)
			<i>Nowakowskiellaceae</i> (1)
			<i>Septochytriaceae</i> (1)
		<i>Cladochytriales</i> genera <i>incertae sedis</i> (3)	
	<i>Lobulomycetes</i>	<i>Lobulomycetales</i>	<i>Alogomycetaceae</i> (1)
			<i>Lobulomycetaceae</i> (4)
		<i>Lobulomycetales</i> genus <i>incertae sedis</i> (1)	
	<i>Mesochytriomycetes</i>	<i>Gromochytriales</i>	<i>Gromochytriaceae</i> (1)
		<i>Mesochytriales</i>	<i>Mesochytriaceae</i> (1)
	<i>Polychytriomycetes</i>	<i>Polychytriales</i>	<i>Arkayaceae</i> (1)
			<i>Polychytriaceae</i> (4)
	<i>Rhizophyidiomycetes</i>	<i>Rhizophydiales</i>	<i>Alphamycetaceae</i> (3)
			<i>Angulomycetaceae</i> (1)
			<i>Aquamycetaceae</i> (1)
			<i>Batrachochytriaceae</i> (1)
			<i>Collimycetaceae</i> (1)
			<i>Coralloidiomycetaceae</i> (1)
			<i>Dinomycetaceae</i> (1)
			<i>Globomycetaceae</i> (2)
			<i>Gorgonomycetaceae</i> (1)
			<i>Halomycetaceae</i> (4)
			<i>Kappamycetaceae</i> (1)
			<i>Operculomycetaceae</i> (1)
			<i>Pateramycetaceae</i> (1)
			<i>Protrudomycetaceae</i> (1)
			<i>Rhizophydiaceae</i> (1)
			<i>Staurastromycetaceae</i> (1)
			<i>Terramycetaceae</i> (2)
			<i>Uebelmesseromycetaceae</i> (1)
		<i>Rhizophydiales</i> genus <i>incertae sedis</i> (1)	
	<i>Rhizophlyctidomycetes</i>	<i>Rhizophlyctidales</i>	<i>Arizonaphlyctidaceae</i> (1)
			<i>Borealophlyctidaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Rhizophlyctidaceae</i> (1)
			<i>Sonoraphlyctidaceae</i> (1)
	<i>Spizellomyces</i>	<i>Spizellomycetales</i>	<i>Powellomycetaceae</i> (4)
			<i>Spizellomycetaceae</i> (8)
	<i>Synchytriumycetes</i>	<i>Synchytriales</i>	<i>Synchytriaceae</i> (4)
		<i>Synchytriales</i> genus <i>incertae sedis</i> (1)	
<i>Chytridiomycota</i> genera <i>incertae sedis</i> (3)			
<i>Entomophthoromycota</i> <i>a</i>	<i>Entomophthoromycetes</i>	<i>Entomophthorales</i>	<i>Ancylistaceae</i> (3)
			<i>Completoriaceae</i> (1)
			<i>Entomophthoraceae</i> (11)
			<i>Meristacraceae</i> (1)
	<i>Neozygitemycetes</i>	<i>Neozygiales</i>	<i>Neozygiteaceae</i> (4)
<i>Entorrhizomycota</i>	<i>Entorrhizomycetes</i>	<i>Entorrhizales</i>	<i>Entorrhizaceae</i> (1)
		<i>Talbotiomycetales</i>	<i>Talbotiomycetaceae</i> (1)
<i>Glomeromycota</i>	<i>Archaeosporomycetes</i>	<i>Archaeosporales</i>	<i>Ambisporaceae</i> (1)
			<i>Archaeosporaceae</i> (3)
			<i>Geosiphonaceae</i> (1)
	<i>Glomeromycetes</i>	<i>Diversisporales</i>	<i>Acaulosporaceae</i> (1)
			<i>Diversisporaceae</i> (7)
			<i>Pacisporaceae</i> (1)
			<i>Sacculosporaceae</i> (1)
		<i>Gigasporales</i>	<i>Dentiscutataceae</i> (3)
			<i>Gigasporaceae</i> (1)
			<i>Intraornatosporaceae</i> (2)
			<i>Racocetraceae</i> (2)
			<i>Scutellosporaceae</i> (3)
		<i>Glomerales</i>	<i>Entrophosporaceae</i> (3)
			<i>Glomeraceae</i> (17)
	<i>Paraglomeromycetes</i>	<i>Paraglomerales</i>	<i>Paraglomeraceae</i> (2)
			<i>Pervetustaceae</i> (1)
<i>Kickxellomycota</i>	<i>Asellariomycetes</i>	<i>Asellariales</i>	<i>Asellariaceae</i> (1)
		<i>Asellariales</i> genus <i>incertae sedis</i> (1)	
	<i>Barbatosporomycetes</i>	<i>Barbatosporales</i>	<i>Barbatosporaceae</i> (1)
	<i>Dimargaritomycetes</i>	<i>Dimargaritales</i>	<i>Dimargaritaceae</i> (3)
		<i>Dimargaritales</i> genus <i>incertae sedis</i> (1)	
	<i>Harpellomycetes</i>	<i>Harpellales</i>	<i>Harpellaceae</i> (6)
			<i>Legeriomycetaceae</i> (38)
		<i>Harpellales</i> genus <i>incertae sedis</i> (1)	
	<i>Kickxellomycetes</i>	<i>Kickxellales</i>	<i>Kickxellaceae</i> (11)
	<i>Ramicandelaberomycetes</i>	<i>Ramicandelaberales</i>	<i>Ramicandelaberaceae</i> (1)
<i>Monoblepharomycota</i>	<i>Hyaloraphidiomycetes</i>	<i>Hyaloraphidiales</i>	<i>Hyaloraphidiaceae</i> (1)
	<i>Monoblepharidomycetes</i>	<i>Monoblepharidales</i>	<i>Gonapodyaceae</i> (2)
			<i>Harpochytriaceae</i> (1)
			<i>Monoblepharidaceae</i> (1)

Table 1 Continued.

Phylum	Class*	Order*	Family*
			<i>Oedogoniomycetaceae</i> (1)
			<i>Telasphaerulaceae</i> (1)
	<i>Sanchytriomycetes</i>	<i>Sanchytriales</i>	<i>Sanchytriaceae</i> (2)
<i>Mortierellomycota</i>	<i>Mortierellomycetes</i>	<i>Mortierellales</i>	<i>Mortierellaceae</i> (6)
<i>Mucoromycota</i>	<i>Endogonomycetes</i>	<i>Endogonales</i>	<i>Densosporaceae</i> (1)
			<i>Endogonaceae</i> (5)
	<i>Mucoromycetes</i>	<i>Mucorales</i>	<i>Backusellaceae</i> (1)
			<i>Choanephoraceae</i> (4)
			<i>Cunninghamellaceae</i> (6)
			<i>Lentamycetaceae</i> (1)
			<i>Lichtheimiaceae</i> (9)
			<i>Mucoraceae</i> (20)
			<i>Mycocladaceae</i> (1)
			<i>Mycotyphaceae</i> (1)
			<i>Phycomycetaceae</i> (2)
			<i>Pilobolaceae</i> (2)
			<i>Radiomycetaceae</i> (1)
			<i>Rhizopodaceae</i> (3)
			<i>Saksenaaceae</i> (2)
			<i>Syncephalastraceae</i> (2)
	<i>Umbelopsidomycetes</i>	<i>Umbelopsidales</i>	<i>Umbelopsidaceae</i> (1)
<i>Mucoromycota</i> genus <i>incertae sedis</i> (1)			
<i>Neocallimastigomycota</i>	<i>Neocallimastigomycetes</i>	<i>Neocallimastigales</i>	<i>Neocallimastigaceae</i> (11)
<i>Olpidiomycota</i>	<i>Olpidiomycetes</i>	<i>Olpidiales</i>	<i>Olpidiaceae</i> (4)
<i>Rozellomycota</i>	<i>Rudimicrosporea</i>	<i>Metchnikovellida</i>	<i>Amphiacanthidae</i> (1)
			<i>Metchnikovellidae</i> (4)
	<i>Microsporidea</i>	<i>Amblyosporida</i>	<i>Amblyosporidae</i> (17)
			<i>Caudosporidae</i> (10)
			<i>Gurleyidae</i> (13)
		<i>Amblyosporida</i> genera <i>incertae sedis</i> (5)	
		<i>Neopereziiida</i>	<i>Berwaldiidae</i> (2)
			<i>Neopereziiidae</i> (6)
			<i>Tubulinosematidae</i> (3)
		<i>Neopereziiida</i> genera <i>incertae sedis</i> (2)	
		<i>Ovavesiculida</i>	<i>Ovavesiculidae</i> (3)
		<i>Ovavesiculida</i> genus <i>incertae sedis</i> (1)	
		<i>Glugeida</i>	<i>Facilisporidae</i> (1)
			<i>Glugeidae</i> (8)
			<i>Myosporidae</i> (1)
			<i>Pereziiidae</i> (4)
			<i>Pleistophoridae</i> (7)
			<i>Spragueiidae</i> (7)
			<i>Thelohaniidae</i> (15)
			<i>Unikaryonidae</i> (4)

Table 1 Continued.

Phylum	Class*	Order*	Family*
		<i>Glugeida</i> genus <i>incertae sedis</i> (1)	
		<i>Nosematida</i>	<i>Encephalitozoonidae</i> (2)
			<i>Enterocytozoonidae</i> (6)
			<i>Heterovesiculidae</i> (1)
			<i>Mrazekiidae</i> (8)
			<i>Nosematidae</i> (2)
			<i>Ordosporidae</i> (1)
		<i>Nosematida</i> genera <i>incertae sedis</i> (15)	
		<i>Incertae sedis</i>	<i>Abelsporidae</i> (1)
			<i>Areosporiidae</i> (1)
			<i>Burenellidae</i> (3)
			<i>Cougourdellidae</i> (1)
			<i>Cylindrosporidae</i> (1)
			<i>Duboscqiidae</i> (5)
			<i>Golbergiidae</i> (3)
			<i>Microfilidae</i> (1)
			<i>Neonosemoidiidae</i> (1)
			<i>Pleistosporidiidae</i> (1)
			<i>Pseudopleistophoridae</i> (2)
			<i>Striatosporidae</i> (1)
			<i>Telomyxidae</i> (1)
			<i>Toxoglugeidae</i> (2)
			<i>Tuzetiidae</i> (4)
	<i>Incertae sedis</i>	<i>Chytridiopsidea</i>	<i>Buxtehuidae</i> (2)
			<i>Chytridiopsidae</i> (5)
			<i>Hesseidae</i> (1)
	<i>Rozellomycota</i> genera <i>incertae sedis</i> (5)		
<i>Zoopagomycota</i>	<i>Zoopagomycetes</i>	<i>Zoopagales</i>	<i>Cochlonemataceae</i> (7)
			<i>Helicocephalidaceae</i> (4)
			<i>Piptocephalidaceae</i> (3)
			<i>Sigmoideomycetaceae</i> (4)
			<i>Zoopagaceae</i> (7)
		<i>Zoopagales</i> genus <i>incertae sedis</i> (1)	

*Orders/families could be listed under different subclasses in this outline. In this table, we do not indicate auxiliary (intermediate) taxonomic ranks.

Fossil Fungi

Fossil fungi are reported in the form of dispersed spores, mycelia, sporophores, mycorrhizae, and are commonly observed in macerated residues prepared for palynological studies. Although fungal remains are encountered in the sediments of all ages, their frequency increases remarkably in the Tertiary Period. This clearly suggests that their proliferation is linked with diversification of angiosperms. Being fragmentary in nature, fossil fungi lack characteristic features that are diagnostic of extant taxa, hampering their classification with extant fungi. These are, therefore, described on the basis of morphological characters only. For example, spore taxa are based on their shape, size, symmetry, number and nature of apertures, septa and spore wall characters. On the other hand, fossil fungi (other than spores) can be assigned to their extant counterpart (up to order/family level).

Artificial classification systems for fungal spores have been proposed by Van der Hammen (1954), Clarke (1965) and Elsik (1968). Pirozynski & Weresub (1979) suggested the use of the ‘Saccardoan System’ for classifying fungal spore types. Kendrick & Nag Raj (1979) modified the Saccardoan System to eliminate some of its inconsistencies. This scheme is based on shape and number of cells and accordingly fungal spores are recognized under *Amerosporae*, *Didymosporae*, *Phragmosporae*, *Dictyosporae*, *Helicosporae*, *Staurosporae* and *Scolecosporeae*. This system is followed here.

Fungal sporophores of various kinds commonly occur on the surface of leaves, stems and flowers of vascular plants and have been extensively recorded over the world (Cookson 1947, Dilcher 1965, Elsik 1968, Kalgutkar & Jansonius 2000, van Geel & Aptroot 2006). Some are catathecia provided with radiating rows of mycelial cells giving an appearance of tissues arranged in a radial fashion. Ascomata contain asci that are surrounded by or enclosed within protective tissues and may be globose, flask-shaped or saucer-shaped open bodies. These may or may not possess an ostiolar opening. Fossil sporophores are also placed under artificial genera. Several workers have attempted to classify and formally describe the fossil structures (Edwards 1922, Rosendahl 1943, Cookson 1947, Rao 1959, Dilcher 1965, Venkatachala & Kar 1969, Jain & Gupta 1970, Elsik 1978, Pirozynski 1978). Fossil sporophores are classified on the basis of dehiscence mode (through irregular or regular cracking pattern or by a central pore or ostiole). Other characteristic features considered for their classification are shape and margin of the sporophores, presence or absence of pores in individual cells and nature of the central part of the sporophores.

Slime molds

The terms ‘slime molds’ or ‘mycetozoans’ have traditionally been used to describe motile, unicellular terrestrial predatory phagotrophs, which are capable of forming minute to relatively large spore-producing structures, referred to as fruiting bodies. The slime molds in which unicellular units aggregate to form first a *pseudoplasmodium* and then a *sporocarp* are referred to as cellular slime molds. Those organisms in which the cells remain solitary but undergo a dramatic increase in size and the number of nuclei to form a *plasmodium* and then a *sporocarp* are referred to as plasmodial slime molds (Martin & Alexopoulos 1969). Both groups are polyphyletic. They represent two peculiar life strategies, which have appeared several times in different groups of Eukaryotes (Shadwick et al. 2009, Brown & Silberman 2013). A strategy similar to what is found in cellular slime molds also occurs in the prokaryotic myxobacteria, which are sometimes predatory but never phagotrophic (Keane & Berlemann 2016). The major groups of slime molds are listed in Table 2.

The slime molds were once considered as fungi, due to the presence of spore-producing structures in their life cycle. However, as it was pointed out long ago by de Bary (1887), these similarities relate only the dispersal biology of these groups. Slime molds do not have a fungal form of life, being predominately phagotrophic, demonstrating active motility and lacking a cell wall during their trophic stages. Consequently, the slime molds cannot be assigned to the kingdom *Fungi* in a taxonomic sense, but their nomenclature remains governed by the *International Code of Nomenclature for algae, fungi, and plants*. However, an exception is *Fonticula alba* (Brown et al. 2009) which belongs to the true *Fungi* (*Nucleomycea sensu* Adl et al. 2019), being a solitary slime mold that can be considered as a fungus in the taxonomic sense.

Eumycetozoa

Among the groups of slime molds, the *Eumycetozoa* (the “true” slime molds) are the most diverse and most complex in terms of morphology. All available phylogenies support the placement of these organisms in the supergroup *Amoebozoa* (Shadwick et al. 2009, Tice et al. 2016, Kang et al. 2017) (Table 2).

The name *Eumycetozoa* was initially proposed for three groups of slime molds – the myxomycetes, dictyostelids and protostelids (Olive & Stoianovitch 1975). However, the latter

taxon appears to be polyphyletic and includes spore-forming members of several different branches of the Amoebozoa, including the *Protosporangiida*, *Protostelida sensu stricto*, *Fractovitellida*, *Cavosteliida*, *Centramoebia* and *Flabellinea* (see Table 2). This has led to the conclusion that if all the protostelids with all their non-fruiting relatives are included in the *Eumycetozoa*, the latter becomes nearly synonymous with the *Amoebozoa* (Shadwick et al. 2009). To preserve this widely used name, Kang et al. (2017) proposed including in the *Eumycetozoa* only one group of protostelids, the *Protosporangiida*, which forms a monophyletic unit with myxomycetes and dictyostelids.

In terms of botanical nomenclature, the *Protosporangiida* may be considered as the class *Ceratiomyxomycota* (Leontyev et al. 2019). Therefore, in the classification given below, we recognize three classes within the *Eumycetozoa*. These are the *Dictyosteliomycetes*, *Ceratiomyxomycetes* and *Myxomycetes*, as outlined by Leontyev et al. (2019).

Table 2 Position of the cellular (C) and plasmodial (P) slime mold taxa in the classification of Eukaryotes, according to Adl et al. (2019)

Supergroups of Eukarya		Group of slime molds	
<i>Amoebozoa</i>	<i>Evosea</i>	<i>Eumycetozoa</i>	<i>Dictyosteliomycetes</i> (C) <i>Ceratiomyxomycetes</i> (P) = <i>Protosporangiida</i> <i>Myxomycetes</i> (P)
		<i>Protosteliida</i>	<i>Protostelium</i> (P)
		<i>Fractovitellida</i>	<i>Ceratiomyxella</i> (P) <i>Nematostelium</i> (P) <i>Schizoplasmodium</i> (P) <i>Soliformovum</i> (P)
		<i>Cavosteliida</i>	<i>Cavostelium</i> (P) <i>Schizoplasmodiopsis</i> (P) <i>Tychosporium</i> (P)
	<i>Tubulinea</i>	<i>Euamoebida</i>	<i>Copromyxa</i> (C)
	<i>Discosea</i>	<i>Centramoebia</i>	<i>Endostelium</i> (P) <i>Luapelamoeba</i> (P) <i>Protosteliopsis</i> (P)
		<i>Flabellinea</i>	<i>Vannella</i> (P)
<i>Discoba</i>	<i>Heterolobosea</i>	<i>Tetramitia</i>	<i>Acrasidae</i> (C)
<i>Obazoa</i>	<i>Opisthokonta</i>	<i>Nucleomycea</i>	<i>Fonticulida</i> (C)
<i>Sar</i>	<i>Alveolata</i>	<i>Ciliata</i>	<i>Sorogena</i> (C)
	<i>Rhizaria</i>	<i>Guttulinopsida</i>	<i>Guttulinopsis</i> (C)
	<i>Stramenopiles</i>	<i>Sagenista</i>	<i>Sorodiplophrys</i> (C)

Dictyosteliomycetes

The dictyostelid cellular slime molds (also called dictyostelids) are common to sometimes abundant inhabitants of forest soil and leaf litter (Romeralo et al. 2013), grassland soil (Rollins et al. 2010), canopy soil (Stephenson & Landolt 1998, 2011), the soil of agricultural fields (Stephenson & Rajguru 2010) and animal dung (Stephenson & Landolt 1992), where they feed primarily on bacteria (Singh 1947, Cavender & Raper 1965a, b). Raper & Smith (1939) and Sanders et al. (2017) reported that dictyostelids can feed on pathogenic bacteria, including biofilm enmeshed bacteria produced by human and plant pathogens. Interestingly, migratory birds have been demonstrated to serve as vectors for dictyostelids (Suthers 1985), which greatly increases their potential for long-distance dispersal.

The first species of dictyostelid, *Dictyostelium mucoroides*, was isolated from horse dung and rabbit dung by Brefeld (1869). Later, a number of additional species and three additional genera (*Acytostelium*, *Coenonia* and *Polysphondylium*) were described, although one of these (*Coenonia*) has not been isolated since it was first described by van Tieghem in 1884. It is possible that this organism is not a dictyostelid. Traditionally, these four genera (if *Coenonia* is

retained), two families, and one order were classified on the basis of the morphology of the sorophore and the pattern of branching (Raper 1984, Hagiwara 1989). This type of traditional morphology-based classification was used by everyone working with dictyostelids until a phylogenetic analysis based on 18S rRNA and α -tubulin gene markers indicated that the group needed a complete revision (Schaap et al. 2006, Romeralo et al. 2011, 2012), and the traditional genera did not hold together. More recently, a new classification of the class was proposed by Sheikh et al. (2018), using a single 18S rRNA gene marker. This new classification provided additional insight into the phylogeny of dictyostelids, with 12 genera, four families, and two orders currently being recognized (Table 3).

Ceratiomyxomycetes

This class unites protosteloid eumycetozoans, in which individual sporocarps may arise separately on a substrate (*Protosporangium* and *Clastostelium*), or form on a common layer of extracellular slime, which may be smooth, poroid or dissected into variously branched pillars (*Ceratiomyxa*) (Shadwick et al. 2009). This group was initially described under the zoological name *Protosporangiida* (Kang et al. 2017). The botanical name *Ceratiomyxomycetes* was proposed by Hawksworth et al. (1983) as *nom. inval.* (ICN, Art. 39.1), and later validated by Leontyev et al. (2019).

Myxomycetes

The myxomycetes (or myxogastrids, *Myxogastrea*) differ from the rest of the slime molds by their capability to form large fruiting bodies with a complicated structure, which may contain millions of spores. The traditional classification, first proposed by Masee (1892) and later developed by Martin & Alexopoulos (1969), recognized within the myxomycetes four or five orders (*Echinosteliales*, *Liceales*, *Physarales*, *Stemonitales*, and *Trichiales*) based on a number of criteria, including the presence or absence of a capillitium and lime deposits in the fruiting bodies. This classification received worldwide recognition and was applied even in the most recent monographs (e.g., Poulain et al. 2011). However, the results obtained from studies of the molecular phylogeny of myxomycetes have shown that this classification does not properly reflect evolutionary relationships within the group (Fiore-Donno et al. 2012, 2013). Based on a comprehensive review of all published phylogenies of myxomycete subgroups and the full-length 18S rDNA phylogeny of the entire group, a new classification of the class was recently proposed (Leontyev et al. 2019). In this classification, myxomycetes are divided into 13 families, nine orders, four superorders and two subclasses, the *Lucisporomycetidae* and the *Columellomycetidae* (Table 3). An additional order for the group is proposed below.

For a very long time, scientists studying myxomycetes have had a consensus about the use of botanical nomenclature (in its mycological version) for the myxomycetes. This nomenclature has been used in practically all published monographs of the group, from the late 19th century (Lister 1894) to the most recent efforts (Poulain et al. 2011). This agrees with the statement in Preamble 8 of the *International Code of Nomenclature for algae, fungi, and plants*, that the ‘slime molds’ are among the organisms for which the Code is applied (Turland et al. 2018). In contrast, the *International Code of Zoological Nomenclature* does not mention slime molds, eumycetozoans or myxomycetes (Ride et al. 1999). As indicated by Ronikier & Halamski (2018), a transfer of myxomycetes to zoological nomenclature would cause nomenclatural chaos due to the existence of numerous homonyms and the difference between nomenclatural starting points of the two Codes. Such a transfer is as well not required by theoretical reasons, since myxomycetes are neither plants or fungi, nor animals, thus none of the two existing codes can reflect their proper position in the contemporary classification of living organisms. In order to preserve nomenclatural stability we use herein botanical names for members of the *Eumycetozoa*, corresponding to the rules of ICN. The botanical name for the family *Protosporangiaceae*, which had not yet been proposed, is published below according to the requirements of ICN.

Oomycota

The *Oomycota* are a phylum of the kingdom *Straminipila* which evolved fungal characteristics – such as an osmotrophic mode of nutrition and hyphal growth – convergently to the fungal groups of the Mycota (Beakes & Thines 2017). Thus, they are traditionally studied by mycologists and also covered by ICN. Since the last comprehensive monographic treatment by Dick (2001) their classification underwent significant revision, with the latest classification before the current article being that of Beakes & Thines (2017). Based on more recent discoveries, especially regarding the early diverging oomycete lineages, this classification is updated here.

Aims of the study

The main aim of this study is to compile all outlines of fungi and fungus-like groups, updated with recent findings and published data. We believe that this type of compilation will be important for scientists to have a better understanding of the limitations and the definitions of the fungal clades. For example, the classification of basal clades of fungi is debatable without a broad agreement (e.g. Humber 2016 vs. Spatafora et al. 2016 on *Entomophthoromycota* and *Glomeromycota*; Karpov et al. 2014, 2017 vs Bass et al. 2018 vs Tedersoo et al. 2018 vs Adl et al. 2019 on aphelids, rozellids and microsporidia). Moreover, recent proposals of classification in Tedersoo et al. (2018) (such as elevating lower ranks to higher ranks and demoting higher ranks to lower ranks) might also cause disagreement and thus, need to be discussed.

Fossil fungi, which is another important area of fungal taxonomy is also included in this study. We also include fungus-like organisms to emphasize the reasons why they are excluded from the fungal clade. We will launch a new web page, outlineoffungi.org, which will provide an outline down to the level of genus for true *Fungi*, fossil fungi, and fungus-like organisms. This data will be important for many scientific disciplines such as genomics, medicine, plant pathology, novel compound discovery and biotechnology (Hyde et al. 2019).

It must always be borne in mind that the classifications being proposed now are based on only perhaps 3-8 % of the fungal species present on Earth today (Hawksworth & Lücking 2017). Any system proposed is therefore likely to be unstable and subject to change in the light of newly discovered *Fungi* or fungus-like organisms. For example, sequencing of the type species of a genus of *Gyalectaceae* for the first time supported the treatment of four genera as synonyms of *Gyalecta* (Lücking et al. 2019), while a recent re-analysis of *Dothideomycetes* following the discovery of the new genus *Tenuitholiascus* (which forms foliicolous lichens in China) found that five currently accepted orders formed a single well-supported clade (Jiang et al. 2020). The discovery of novel fungi and the sequencing of hitherto unsequenced genera can be expected to continually yield unexpected results which prompt a re-evaluation of which taxa merit recognition at particular ranks.

This outline is therefore not to be treated as a definitive, but a statement of the current situation as a basis for further discussion and in some cases future consensus. In particular, now the IBC permits lists of names to be proposed for protected status, we hope that it will be of value in working towards a protected list of generic names for fungi, updated from that of Kirk et al. (2013), which can be reviewed and in due course approved through the provisions of the Code.

Materials & methods

True Fungi

To list genera and other higher taxonomic ranks into a single outline, we used Kirk et al. (2008, 2013) Lumbsch & Huhndorf (2010), Humber (2012, 2016), Wijayawardene et al. (2012, 2017a, b, 2018a, b), Hyde et al. (2013, 2020), Benny et al. (2016), Jaklitsch et al. (2016a), Spatafora et al. (2016), Desirò et al. (2017), Lücking et al. (2017), Begerow et al. (2018), Kraichak et al. (2018a), Tedersoo et al. (2018), Haelewaters et al. (2019b), Species Fungorum (2019), Mapook et al. (2020) and Catalogue of Life (<http://www.catalogueoflife.org/>). Index Fungorum (2019), LIAS names (<http://liasnames.lias.net/>) and MycoBank

(<http://www.mycobank.org/>) were consulted concerning supplementary information on synonyms. We generally followed He et al. (2019) for *Basidiomycota* classification.

Table 3 Classes, subclasses, orders and families of the Eumycetozoa with number of genera (in brackets)

Class	Subclass	Order	Family	
<i>Dictyosteliomycetes</i>		<i>Acytosteliales</i>	<i>Acytosteliaceae</i> (3)	
			<i>Cavenderiaceae</i> (1)	
		<i>Dictyosteliales</i>	<i>Dictyosteliaceae</i> (2)	
			<i>Raperosteliaceae</i> (4)	
			<i>Incertae sedis</i> (1)	
<i>Ceratiomyxomycetes</i>		<i>Ceratiomyxales</i>	<i>Ceratiomyxaceae</i> (1)	
			<i>Protosporangiidae</i> (2)	
<i>Myxomycetes</i>	<i>Lucisporomycetidae</i>	<i>Cribrariales</i>	<i>Cribrariaceae</i> (3)	
		<i>Reticulariales</i>	<i>Reticulariaceae</i> (6)	
		<i>Liceales</i>	<i>Liceaceae</i> (2)	
		<i>Trichiales</i>	<i>Dianemataceae</i> (4)	
			<i>Trichiaceae</i> (8)	
		<i>Incertae sedis</i> (4)		
	<i>Columellomycetidae</i>		<i>Echinosteliopsidales</i>	<i>Echinosteliopsidaceae</i> (1)
			<i>Echinosteliales</i>	<i>Echinosteliaceae</i> (3)
			<i>Clastodermatales</i>	<i>Clastodermataceae</i> (1)
			<i>Meridermatales</i>	<i>Meridermataceae</i> (1)
			<i>Stemonitidales</i>	<i>Amaurochaetaceae</i> (7)
				<i>Stemonitidaceae</i> (3)
			<i>Physarales</i>	<i>Lamprodermataceae</i> (5)
			<i>Didymiaceae</i> (4)	
	<i>Physaraceae</i> (9)			
	<i>Incertae sedis</i> (5)			

The subdivision of *Rozellomycota* at the order and family levels is redefined according to the phylogenetic relationships of the respective type genera representatives. The list of genera is updated in accordance with the acknowledged checklists (Becnel et al. 2014, Cali et al. 2017, Sokolova et al. 2018) and recent studies. In particular, genus *Kabatana* is suppressed as it was shown to be the synonym of *Inodosporus* (Stentiford et al. 2018). Genera allocation to families and higher rank taxa is modified after Wijayawardene et al. (2018a, b) using molecular phylogenetic data when available. Polyphyletic higher rank taxa are suppressed. The major clades of *Microsporidia* tree of life established by Vossbrinck and co-authors (2014) are redefined as the order-rank taxa using previously published or novel names depending upon availability of information on the type taxa.

For the classification of *Leotiomyces*, Johnston et al. (2019) and Quijada et al. (2020) are followed in the outline because the phylogenies in these papers are based on 15 loci. Ekanayaka et al. (2019) provided an alternative classification based on less genes, but more taxa and is included in the discussion to encourage positive dialogue.

Fossil fungi

For the sake of clarity and convenience, the fossil fungal genera are split here into three parts, e.g. 1. Fossil fungal spores (according to Saccardoan System); 2. Fossil fungal sporophores, mycelia and other fungal remains; and 3. Modern fungal genera to which fossil species have been assigned. The genera are listed in three separate tables after the outline of fungi.

The data presented here have been obtained from the literature on fossil fungi published during last seven decades or so, briefly mentioned below. In order to include all records of fossil fungal remains from the Indian Tertiary sediments, published till 2005, three catalogues were

published (Lakhanpal et al. 1976, Saxena 1991, 2006). Besides, a monographic study was carried out by Saxena & Tripathi (2011) with the objective to synthesize the available information on Indian fossil fungi. This incorporates description of 152 genera and 388 species, including 15 new species and 12 new combinations, with comments wherever required. Kalgutkar & Jansonius (2000) published a synopsis of fossil fungi and tried to streamline taxonomic status of many fossil fungal genera and species. They described about 950 validly published species, attributed to approximately 300 genera. They proposed twelve new genera and about 350 new combinations. Transfers of species to more appropriate genera resulted in 31 junior homonyms, for which they provided new names. They also validated one genus and several species. In addition to the above monographic studies, data have been gathered from scores of publications, containing information on fossil fungi from all parts of the globe, published in various journals and conference proceedings.

Fungus-like organisms

The classification systems used for the *Dictyosteliomycetes* and *Myxomycetes* as presented herein are based on the critical revisions of Sheikh et al. (2018) and Leontyev et al. (2019), respectively. In each paper, the taxonomy of the particular group was strongly revised on the basis of original 18S rDNA phylogenies and analyses of morphological synapomorphies.

The classification of the *Oomycota* follows the outline presented by Beakes & Thines (2017), with some modifications in accordance to recent studies (Bennett et al. 2019, Buaya et al. 2017, 2019, Buaya & Thines 2020).

In this classification, we have included all genera of the *Eumycetozoa* accepted as valid in the nomenclatural database of Lado (2005–2019), although some of the smaller myxomycete genera will probably be incorporated into larger ones on the basis of phylogenetic data (Leontyev et al. 2019). This is likely to be the case for such genera as *Arcyodes*, *Badhamia*, *Collaria*, *Colloderma*, *Cornuvia*, *Elaeomyxa*, *Metatrichia*, *Diacheopsis*, *Listerella*, *Oligonema* and *Semimorula*.

A resurrection of the forgotten order *Echinosteliopsidales* is proposed herein, based on the 18S rDNA phylogeny of *Columellomycetidae*, which includes *Echinosteliopsis oligospora* together with a number of environmental sequences, obtained in three different studies (Shchepin et al. 2019).

All authors listed contributed information and comments to this work, but the inclusion of their names does not imply that all necessarily support all details of the outline presented. Notes are provided for recently introduced genera as well as changes in classification (marked with an asterisk in the outline). The authors of each note are indicated in brackets, after the notes.

Phylogenetic analyses

To build a reference phylogeny, we utilized information from four genes, 18S rRNA, 28S rRNA, RPB1 and RPB2. We used the initial set of 18S and 28S reference sequences from 1) James et al. (2006) and supplemented by Tedersoo et al. (2017); 2) and at least one representative sequence of each recognized order or order-level taxon, or orphan taxon as based on Tedersoo et al. (2018) and classification of this study. Order and family representatives were selected based on their type status, presence of all four genes, and length of the genes. The nucleotide sequences of all genes were aligned separately using MAFFT 7 (Kato & Standley 2013), followed by manual checking and editing where necessary. We took advantage of the protein alignment to remove codon-switching indels and make decision about the gaps and removal of introns. We checked for severe conflicts in the phylogenies of all genes and replaced or removed 10 sequences that were obviously obtained from contaminant or misidentified taxa. The initial alignment included 441 terminal taxa, which we reduced to 433 taxa to exclude putative contaminants and taxa with ultra-long branches such as *Oedogonomyces* spp.

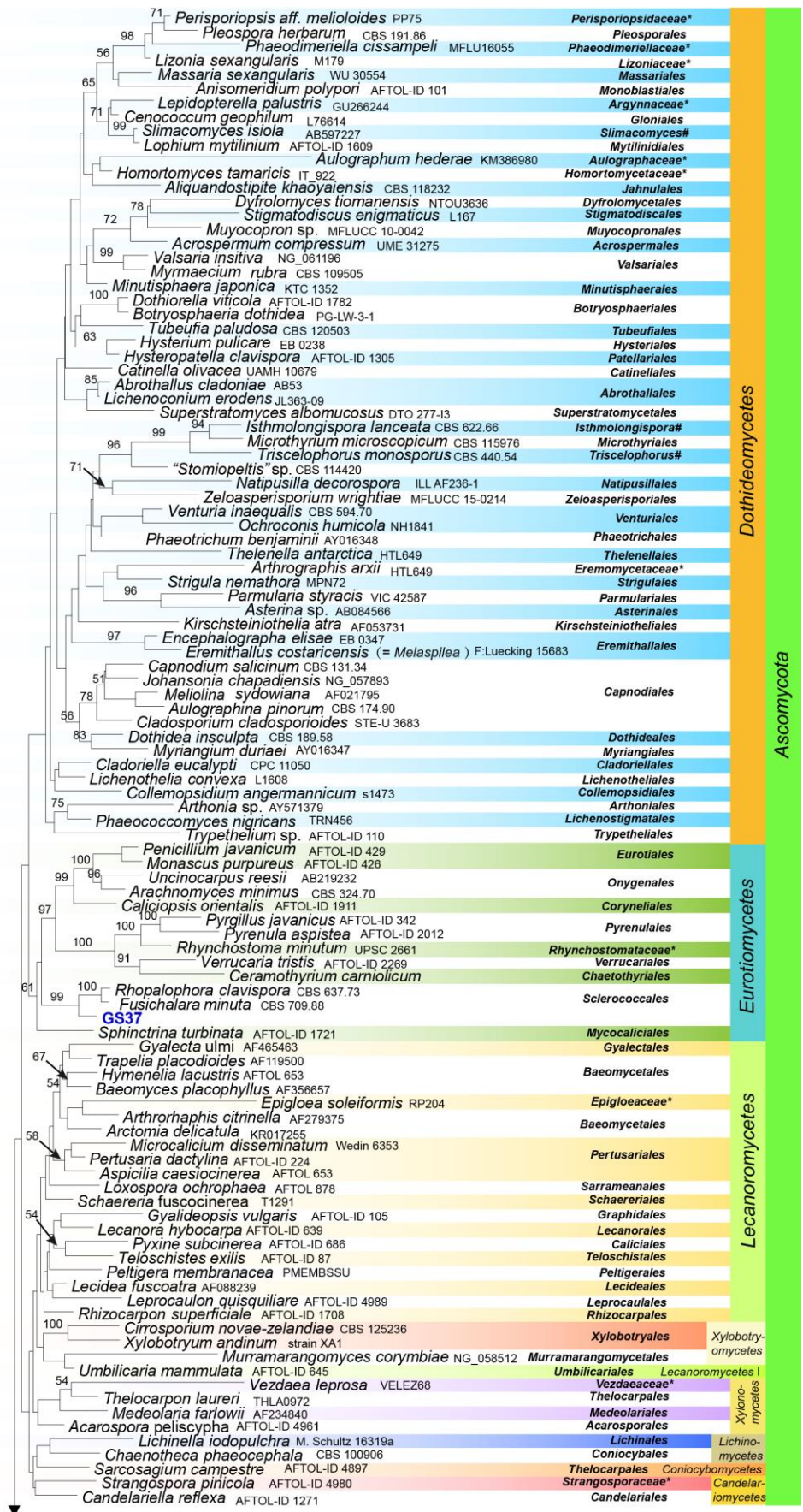


Figure 1 – Maximum likelihood phylogeny of the kingdom *Fungi* based on LSU, SSU, RPB1 and RPB2 combined sequence data. Numbers above branches indicate bootstrap support. Accession numbers of terminal taxa are indicated in appendant table.

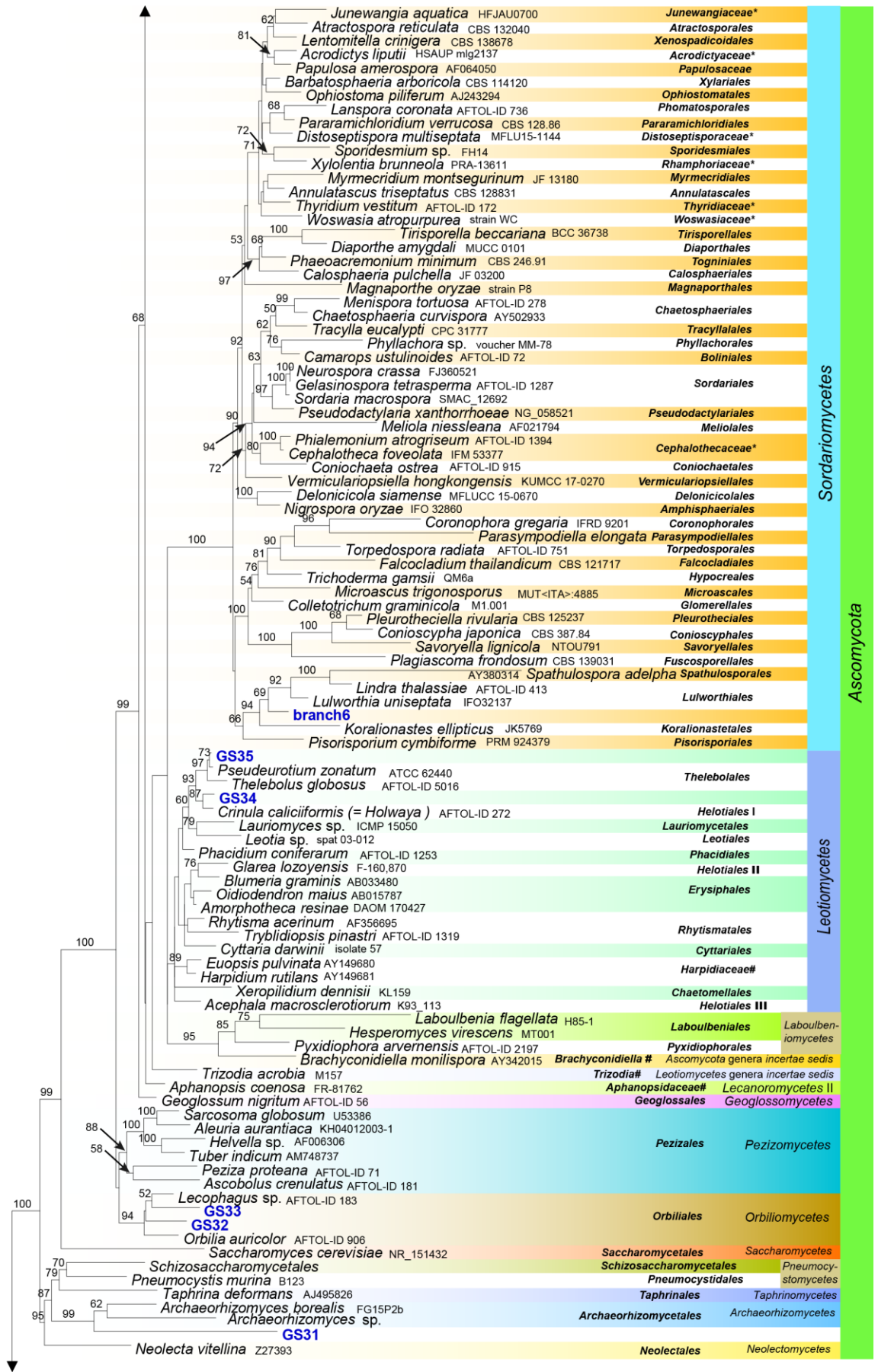


Figure 1 – Continued.

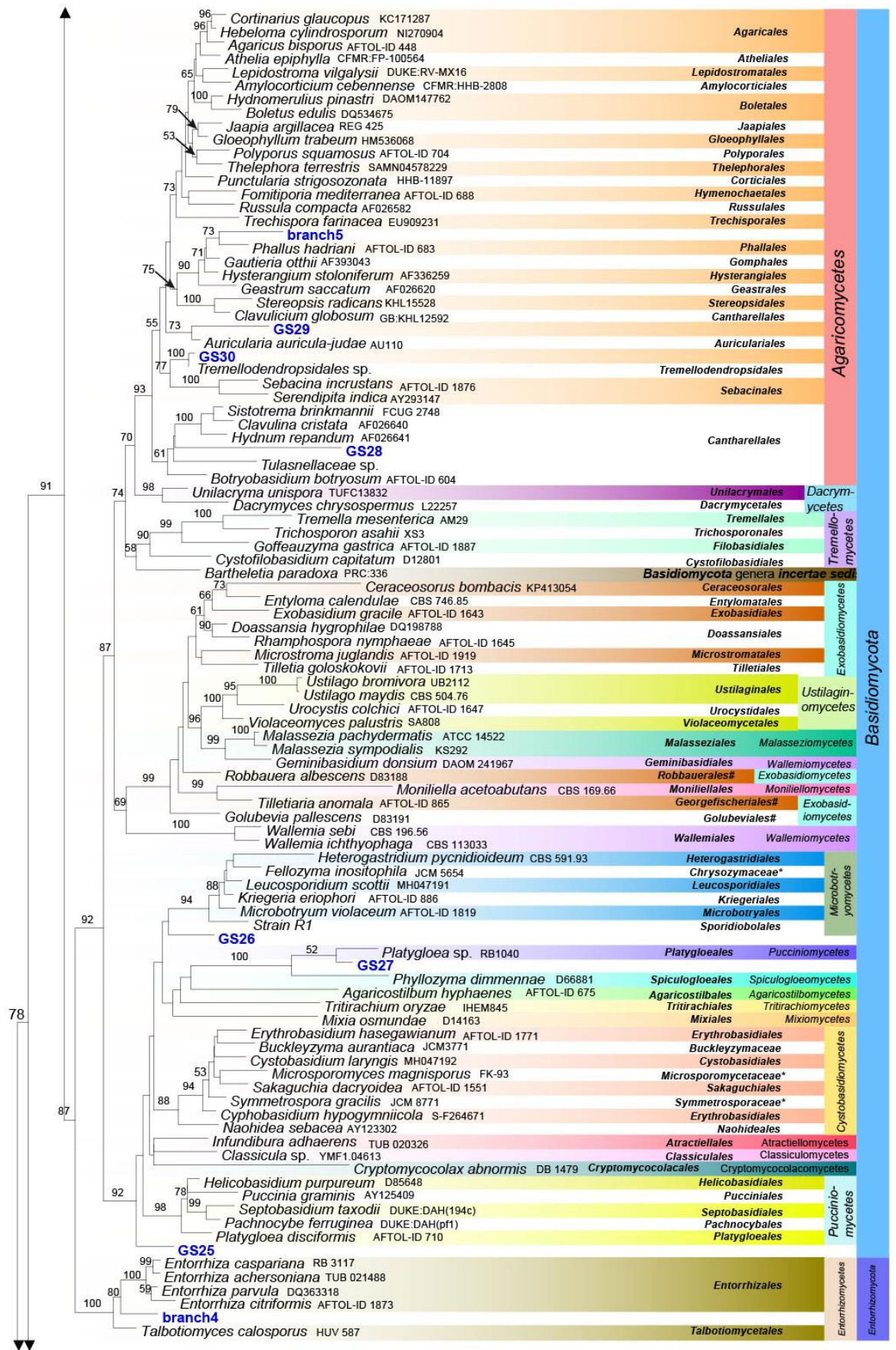


Figure 1 – Continued.

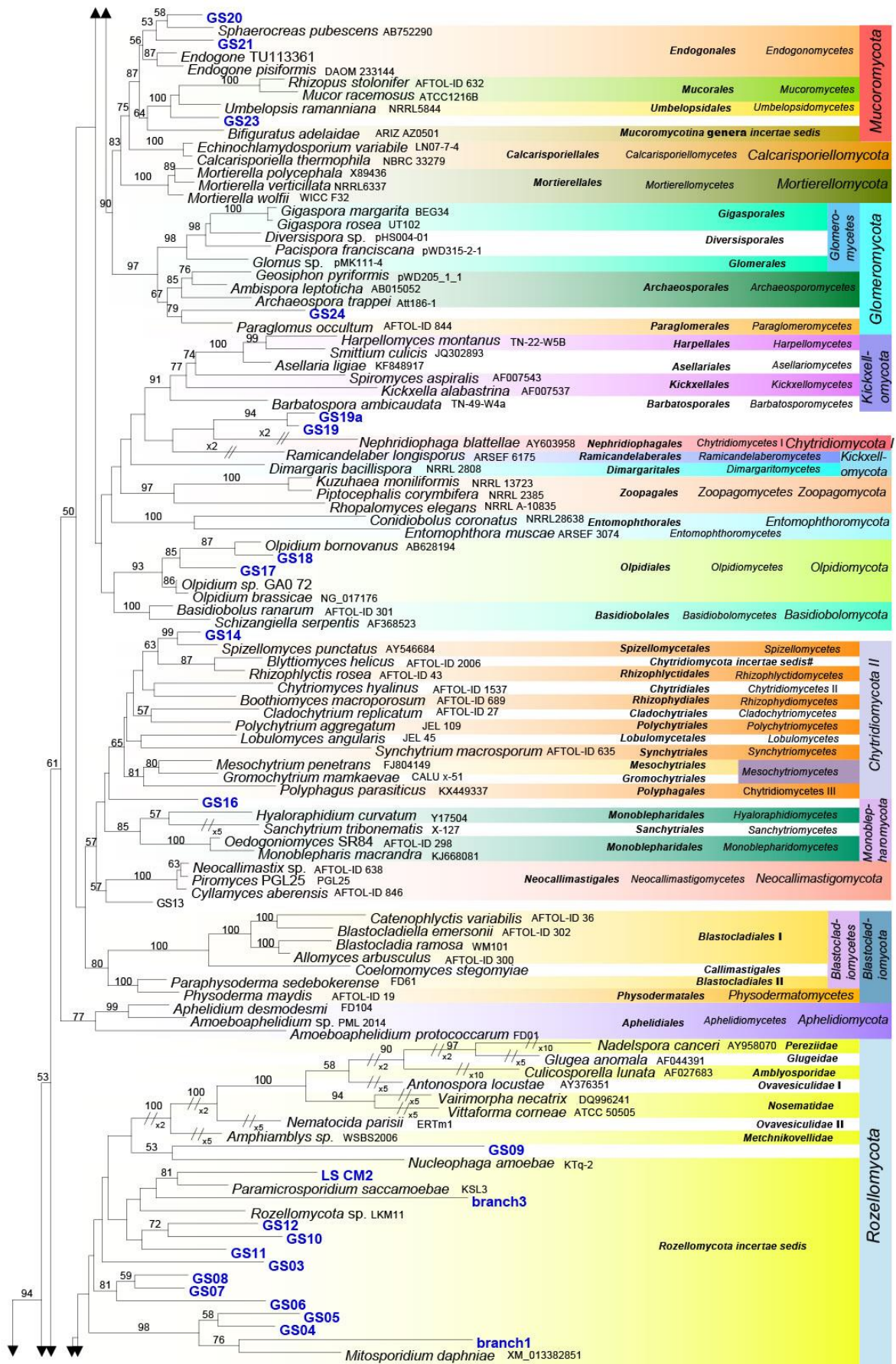


Figure 1 – Continued.

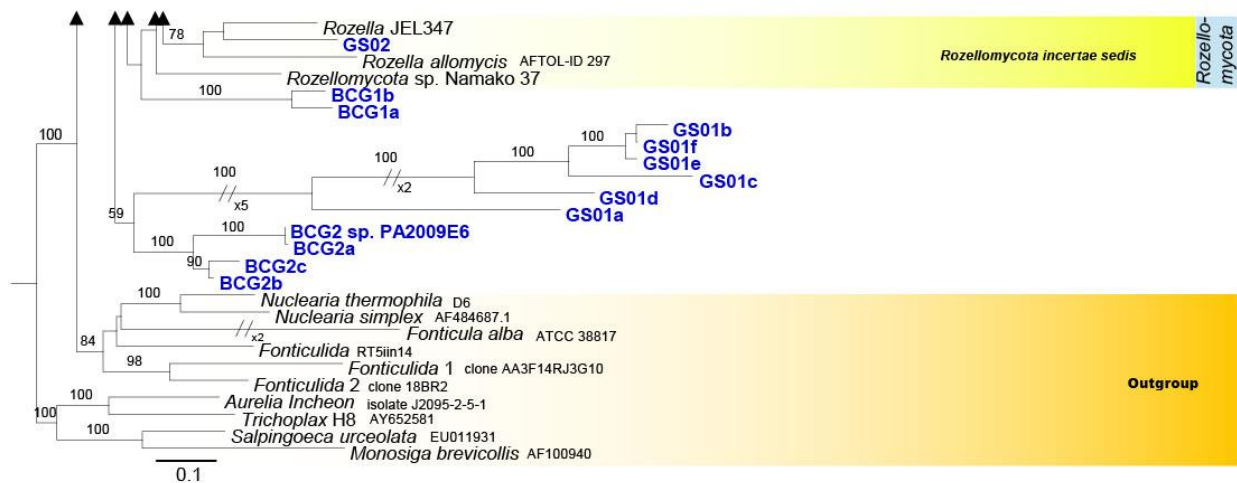


Figure 1 – Continued.

Results

Taxonomy

Helicobolomyces cinnabarinula (Müll. Arg.) Wijayaw. & Ertz, comb. nov.

Bas. *Arthonia cinnabarinula* Müll. Arg., Flora, Regensburg 64: 234 (1881).

Syn. nov. *Helicobolomyces lichenicola* Matzer, in Grube, Matzer & Hafellner, Lichenologist 27: 28 (1995).

IF Registration Identifier: 555393

Description: Grube et al. (1995).

Redonographaceae (Lücking, Tehler & Lumbsch) Lumbsch, stat nov.

Bas.: *Redonographoideae* Lücking, Tehler & Lumbsch, Am. J. Bot. 100: 846 (2013)

IF Registration Identifier: 555399

Description: Lücking et al. (2013)

Amblyosporida Tokarev & Issi, ord. nov.

IF Registration Identifier: 555592

Monophyletic group represented by *Amblyosporidae* (type genus *Amblyospora*) and related taxa, based on SSU rRNA gene phylogeny, corresponding to Clade 1 (Vossbrinck et al. 2014). Life cycles are diverse, either monomorphic (one type of sporogony) or dimorphic (two types of sporogony within the same or different hosts). Additional sporogonial sequences may also be present. Parasites of aquatic insects and crustaceans with rare exceptions of terrestrial insects (*Multilamina* in termites).

Order type: *Amblyosporidae* Weiser emend. Tokarev & Issi

Neoperezziida Tokarev & Issi, ord. nov.

IF Registration Identifier: 555594

Monophyletic group represented by *Neoperezziidae* (type genus *Neoperezia*) and related taxa, based on SSU rRNA gene phylogeny, corresponding to Clade 3 (Vossbrinck et al. 2014). Life cycles are diverse, either monomorphic (one type of sporogony) or dimorphic (two types of sporogony within the same or different hosts). Additional sporogonial sequences may also be present. Parasites of bryozoans, insects, crustaceans and human (*Anncaliia*, *Tubulinosema*).

Order type: *Neoperezziidae* Voronin emend. Issi, Tokarev, Seliverstova & Voronin

Ovavesiculida Tokarev & Issi, ord. nov.

IF Registration Identifier: 555610

Monophyletic group represented by *Ovavesiculidae* (type genus *Ovavesicula*) and related taxa, based on SSU rRNA gene phylogeny, corresponding to Clade 2 (Vossbrinck et al. 2014). Life cycles are diverse, either monomorphic (one type of sporogony) or dimorphic (two types of sporogony within the same or different hosts). Parasites of aquatic and terrestrial insects.

Order type: *Ovavesiculidae* Tokarev & Issi

Protosporangiaceae Leontyev, Stephenson, Schnittler, Shchepin, Novozhilov, fam. nov.

Mycobank number: MB 833618

Typus: *Protosporangium* L.S. Olive & Stoian., J. Protozool. 19(4): 563 (1972)

Sporocarps stalked, arise separately on a substrate with no common structures, formed by extracellular slime. *Stalk* long, delicate, strait, flexuous or bent at one or several articulations. Apical portion of the stalk thin (*Protosporangium*) or inflated, banana-shaped (*Clastostelium*). *Spores* in clusters from two, four or eight units, spherical, hemispherical or compressed to each other to form quarter-spheres. *Plasmodium* colorless.

Outline of fungi

Aphelidiomycota Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Aphelidiomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Aphelidiales Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Aphelidiaceae Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Amoeboaphelidium Scherff. (5)

Aphelidium Zopf (7)

Paraphelidium Karpov, Moreira, López-García (2)

Pseudaphelidium Schweikert & Schnepf (1)

Ascomycota Caval.-Sm.

Pezizomycotina O.E. Erikss. & Winka

Arthoniomycetes O.E. Erikss. & Winka

Arthoniales Henssen ex D. Hawksw. & O.E. Erikss.

Andreiomycetaceae B.P. Hodk. & Lendemer

Andreiomyces B.P. Hodk. & Lendemer (2)

Arthoniaceae Reichenb. ex Reichenb.

Amazonomyces Bat. (2)

Arthonia Ach. (ca. 50 + c. 300 orphaned)

Arthothelium A. Massal. (10 + ca. 100 orphaned)

Briancoppinsia Diederich, Ertz, Lawrey & van den Boom (1)

Coniangium Fr. (4)

Coniarthonia Grube (12)

Coniocarpon DC. (6)

Crypthonia Frisch & G. Thor (16)

Cryptophaea Van den Broeck & Ertz (1)

Cryptothecia Stirt. (ca. 65)

Eremothecella Syd. & P. Syd. (8)

Glomerulophoron Frisch, Ertz & G. Thor (2)
Herpothallon Tobler (ca. 50)
Inoderma (Ach.) Gray (4)
Leprantha Dufour ex Körb. (1)
Myriostigma Kremp. (7)
Pachnolepia A. Massal. (1)
Reichlingia Diederich & Scheid. (4)
Snippocia Ertz, Kukwa & Sanderson (1)*
Sporodophoron Frisch (4)
Staurospora Grube (1)
Stirtonia A.L. Sm. (ca. 25)
Tylophoron Nyl. ex Stizenb. (8 + 3 orphaned in *Sporodochiolen* Aptroot & Sipman)

Chrysotrichaceae Zahlbr.

Chrysothrix Mont. (ca. 18)
Galbinothrix Frisch, G. Thor, K.H. Moon & Y. Ohmura (1)*
Melarthonis Frisch & G. Thor (1)

Lecanographaceae Ertz, Tehler, G. Thor & Frisch

Alyxoria Ach. (12)
Heterocyphelium Vain. (2)
Lecanographa Egea & Torrente (ca. 40)
Mixtoconidium Etayo (2)
Phacographa Hafellner (3)
Plectocarpon Fée (ca. 40)
Zwackhia Körb. (6)

Opegraphaceae Körb. ex Stizenb.

Combea De Not. (2)
Dictyographa Müll. Arg. (2)
Dolichocarpus R. Sant. (2)
Fouragea Trevis. (4)
Ingaderia Darb. (3)
Llimonaea Egea & Torrente (4)
Nyungwea Sérus., Eb. Fisch. & Killmann (3)
Opegrapha Ach. (= *Kalaallia* Alstrup & D. Hawksw.) (ca. 100 + ca. 200 orphaned)
Paraingaderia Ertz & Tehler (1)
Paralecanographa Ertz & Tehler (1)
Paraschismatomma Ertz & Tehler (1)
Pentagenella Darb. (5)
Schizopelte Th. Fr. (4)
Sclerophyton Eschw. (ca. 15)
Sparria Ertz & Tehler (2)

Roccellaceae Chevall.

Ancistrosporella G. Thor (3)
Austrographa Sparrius, Elix & A.W. Archer (3)
Austroroccella Tehler & Ertz (1)
Chiodecton Ach. (ca. 22)
Cresponea Egea & Torrente (21)
Crocellina Tehler & Ertz (1)
Dendrographa Darb. (7)

Dichosporidium Pat. (8)
Dirina Fr. (13)
Diromma Ertz & Tehler (1)
Enterodictyon Müll. Arg. (2)*
Enterographa Fée (ca. 30 and 25 orphaned)
Erythrodecton G. Thor (3)
Follmanniella Peine & Werner (1)
Gorgadesia Tav. (1)
Graphidastra (Redinger) G. Thor (4)
Gyrographa Ertz & Tehler (3)
Gyronactis Ertz & Tehler (2)
Halographis Kohlm. & Volkm.-Kohlm. (1)
Haplodina Zahlbr. (3)
Isalonactis Ertz, Tehler, Eb. Fisch., Killmann, Razafindr. & Sérus. (1)
Lecanactis Körb. (ca. 30)
Mazosia A. Massal. (27)
Neosergipea M. Cáceres, Ertz & Aptroot (3)
Ocellomma Ertz & Tehler (1)
Protoroccella Follmann ex Follmann (2)
Pseudolecanactis Zahlbr. (1)
Pseudoschismatomma Ertz & Tehler (1)
Psoronactis Ertz & Tehler (1)
Pulvinodecton Henssen & G. Thor (2)
Roccella DC. (32)
Roccellina Darb. (29 + 5 orphaned in *Sigridea*)
Sagenidiopsis R.W. Rogers & Hafellner (4)
Schismatomma Flot. & Körb. ex A. Massal. (10)
Sigridea Tehler (6)
Simonyella J. Steiner (1)
Sipmania Egea & Torrente (1)
Streimannia G. Thor (1)
Syncesia Taylor (ca. 25)
Tania Egea, Torrente & Sipman (2)
Vigneronia Ertz (3)

Roccellographaceae Ertz & Tehler

Dimidiographa Ertz & Tehler (3)
Fulvophyton Ertz & Tehler (6)
Roccellographa J. Steiner (4)

Arthoniales genera *incertae sedis*

Angiactis Aptroot & Sparrius (3)
Arthophacopsis Hafellner (1)
Bactrospora A. Massal. (35)
Bryostigma Poelt & Döbbeler (3)
Catarraphia A. Massal. (1)
Felipes Frisch & G. Thor (1)
Glyphopsis Aptroot (1)
Gossypiothallon Aptroot (1)
Helminthocarpon Fee (3)
Hormosphaeria Lév. (1)
Minksia Müll. Arg. (2)

Nipholepis Syd. (1)
Paradoxomyces Matzer (1)
Perigrapha Hafellner (5)
Phacothecium Trevis. (1)
Phoebus R.C. Harris & Ladd (1)
Sporostigma Grube (1)
Synarthonia Müll. Arg. (5)
Synarthothelium Sparrius (2)
Tarbertia Dennis (1)
Trichophyma Rehm (2)
Tylophorella Vain. (1)
Wegea Aptroot & Tibell (1)

Lichenostigmatales Ertz, Diederich & Lawrey

Phaeococcomycetaceae McGinnis & Schell

Etayoa Diederich & Ertz (1)
Lichenostigma Hafellner (= *Phaeosporobolus* D. Hawksw. & Hafellner) (5 and 26 orphaned species)
Phaeococcomyces de Hoog (5)

Candelariomycetes Voglmayr & Jaklitsch

Candelariomycetidae Timdal & M. Westb.

Candelariales Miądl., Lutzoni & Lumbsch

Candelariaceae Hakul.

Candelaria A. Massal. (7)
Candelariella Müll. Arg. (ca. 50)
Candelina Poelt (3)
Placomaronea Räsänen (6)

Pycnoraceae Bendiksby & Timdal

Pycnora Hafellner (3)

Coniocybomycetes M. Prieto & Wedin

Coniocybales M. Prieto & Wedin

Coniocybaceae Rchb.

Chaenotheca (Th. Fr.) Th. Fr. (ca. 25)
Sclerophora Chevall. (6)

Dothideomycetes sensu O.E. Erikss & Winka

Dothideomycetidae P.M. Kirk, P.F. Cannon, J.C. David & Stalpers ex C.L. Schoch, Spatafora, Crous & Shoemaker

Capnodiales Woron.

Aeminiaceae J. Trovão, I. Tiago & A. Portugal

Aeminium J. Trovão, I. Tiago & A. Portugal (1)

Antennulariellaceae Woron.

Achaetobotrys Bat. & Cif. (1)
Antennulariella Woron. (1)
Eumela Syd. (4)

Capnodiaceae (Sacc.) Höhn. ex Theiss.

Capnodium Mont. (83)

Chaetocapnodium Hongsanan & K.D. Hyde (1)
Conidiocarpus Woron. (= *Phragmocapnias* Theiss. & Syd.) (ca. 10)
Fumiglobus D.R. Reynolds & G.S. Gilbert (10)
Leptoxyphium Speg. (19)
Limaciniaseta D.R. Reynolds (1)
Readeriellipsoidis Crous & Decock (2)
Scoriadopsis Mend. (1)
Scorias Fr. (11)

Cladosporiaceae Chalm. & R.G. Archibald

Acroconidiella J.C. Lindq. & Alippi (5)
Cladosporium Link (237 accepted species, 631 legitimate names at species level)
Davidiellomyces Crous (2)
Graphiopsis Trail (11)
Neocladosporium J.D.P. Bezerra, Sandoval-Denis, C.M. Souza-Motta & Crous (1)
Rachicladosporium Crous, U. Braun & C.F. Hill (14)
Toxicocladosporium Crous & U. Braun (14)
Verrucocladosporium K. Schub., Aptroot & Crous (2)

Cystocoleaceae Locq. ex Lücking, B.P. Hodk. & S.D. Leav.

Cystocoleus A. Massal. (1)

Dissoconiaceae Crous & de Hoog

Dissoconium de Hoog, Oorschot & Hijwegen (5)
Globoramichloridium Y. Marín & Crous (1)
Pseudoveronaea Crous & Batzer (2)
Ramichloridium Stahel ex de Hoog (35)
Uwebraunia Crous & M.J. Wingf. (7)

Euantennariaceae Hughes & Corlett

Capnokyma S. Hughes (2)
Euantennaria Speg. (9)
Hormisciomyces Bat. & Nascim. (3)
Plokamidomyces Bat., C.A.A. Costa & Cif. (1)
Rasutoria M.E. Barr (2)
Strigopodia Bat. (2)
Trichothallus F. Stevens (2)

Extremaceae Quaedvl. & Crous (= *Paradevriesiaceae* Crous)*

Castanedospora G. Delgado & A.N. Mill. (1)*
Extremus Quaedvl. & Crous (2)
Paradevriesia Crous (3)
Petrophila de Hoog & Quaedvl. (1)*
Pseudoramichloridium Chew. & Crous (3)
Saxophila Selbmann & de Hoog (1)*
Staninwardia B. Sutton (2)
Vermiconidia Egidi & Onofri (= *Vermiconia* Egidi & Onofri) (4)*

Johansoniaceae Doilom, Phook. & K.D. Hyde

Johansonia Sacc. (13)
Orthobellus Silva & Cavalc. (3)

Metacapnodiaceae Hughes & Corlett

Capnobotrys S. Hughes (10)

Hyphosoma Syd. (6)

Metacapnodium Speg. (14)

Mycosphaerellaceae Lindau

Acervuloseptoria Crous & Jol. Roux (2)

Amycosphaerella Quaedvl. & Crous (2)

Annellosympodiella Crous & Assefa (1)

Apseudocercosporella Videira & Crous (1)

Asperisporium Maubl. (24)

Australosphaerella Videira & Crous (1)

Brunneosphaerella Crous (3)

Brunswickiella Videira & Crous (1)

Camptomeriphila Crous & M.J. Wingf. (1)

Caryophylloseptoria Verkley, Quaedvl. & Crous (4)

Catenulocercospora C. Nakash., Videira & Crous (1)

Cercoramularia Videira, H.D. Shin, C. Nakash. & Crous (1)

Cercospora Fresen. (ca. 1125)

Cercosporella Sacc. (ca. 100)

Cercosporidium Earle (ca. 10)

Chuppomyces Videira & Crous (1)

Claro Hilum Videira & Crous (1)

Clypeosphaerella Guatim., R.W. Barreto & Crous (3)

Collapsimycopappus A. Hashim., Y. Harada & Kaz. Tanaka (1)

Collarispora Videira & Crous (1)

Coremiopassalora U. Braun, C. Nakash., Videira & Crous (2)

Cytostagonospora Bubák (5)

Deightonomyces Videira & Crous (1)

Devonomyces Videira & Crous (1)

Dictyosporina L.M. Abreu, R.F. Castañeda & O.L. Pereira (1)

Distocercospora N. Pons & B. Sutton (4)

Distocercosporaster Videira, H.D. Shin, C. Nakash. & Crous (1)

Distomycovellosiella U. Braun, C. Nakash., Videira & Crous (1)

Dothistroma Hulbary (5)

Epicoleosporium Videira & Crous (1)

Exopassalora Videira & Crous (1)

Exosporium Link (123)

Exutisphaerella Videira & Crous (1)

Filiella Videira & Crous (1)

Fulvia Cif. (2)*

Fusoidiella Videira & Crous (2)

Graminopassalora U. Braun, C. Nakash., Videira & Crous (1)

Hyalocercosporidium Videira & Crous (1)

Hyalozasmidium U. Braun, C. Nakash., Videira & Crous (2)

Janetia M.B. Ellis (22)

Lecanosticta Syd. (8)

Madagascaromyces U. Braun, C. Nakash., Videira & Crous (1)

Microcyclosporella J. Frank, Schroers & Crous (1)

Micronematomyces U. Braun, C. Nakash., Videira & Crous (2)

Miuraea Hara (1)

Mycodiella Crous (3)

Mycosphaerelloides Videira & Crous (1)
Mycovellosiella Rangel (ca. 34)
Neoceratosperma Crous & Cheew. (6)
Neocercospora Bakhshi, Arzanlou, Babai-ahari & Crous (1)
Neocercosporidium Videira & Crous (1)
Neodeightoniella Crous & W.J. Swart (1)
Neomycosphaerella Crous (1)
Neopenidiella Quaedvl. & Crous (1)
Neophloeospora U. Braun, C. Nakash., Videira & Crous (1)
Neopseudocercospora Crous (2)
Neopseudocercosporella Videira & Crous (2)
Neoramichloridium Phook., Thambug. & K.D. Hyde (1)
Neoseptoria Quaedvl., Verkley & Crous (1)
Nothopassalora U. Braun, C. Nakash., Videira & Crous (1)
Nothopericoniella Videira & Crous (1)
Nothophaeocryptopus Videira, C. Nakash. & Crous (1)
Pachyramichloridium Videira & Crous (1)
Pallidocercospora Crous (9)
Pantospora Cif. (1)
Paracercospora Deighton (5)
Paracercosporidium Videira & Crous (2)
Paramycosphaerella Crous & Jol. Roux (17)
Paramycovellosiella Videira, H.D. Shin & Crous (1)
Parapallidocercospora Videira, Crous, U. Braun & C. Nakash. (2)
Passalora Fr. (ca. 250)
Phaeocercospora Crous (2)
Phaeophleospora Rangel (31)
Phaeoramularia Munt.-Cvetk. (ca. 10)
Phloeospora Wallr. (141)
Piricauda Bubák (31)*
Pleopassalora Videira & Crous (2)
Pleuropassalora U. Braun, C. Nakash., Videira & Crous (1)
Pluripassalora Videira & Crous (1)
Plurivorosphaerella O. Hassan & T.H. Chang (1)
Polyphialoseptoria Quaedvl., R.W. Barreto, Verkley & Crous (2)
Polythrincium Kunze (5)
Protostegia Cooke (2)
Pseudocercospora Speg. (ca. 1000)
Pseudocercosporella Deighton (127)
Pseudopericoniella Videira & Crous (1)
Pseudophaeophleospora C. Nakash., Videira & Crous (2)
Pseudozasmidium Videira & Crous (4)
Ragnhildiana Solheim (18)
Ramularia Unger (100<)
Ramulariopsis Speg. (4)
Ramulispora Miura (18)
Rhachisphaerella U. Braun, C. Nakash., Videira & Crous (1)
Rosisphaerella Videira & Crous (1)
Ruptoseptoria Quaedvl., Verkley & Crous (1)
Scolecostigmia U. Braun (23)
Septoria Sacc. (= *Septocyta* Petr. *fide* Quaedvlieg et al. 2013) (200<)
Sonderhenia H.J. Swart & J. Walker (2)

Sphaerulina Sacc. (65)
Stromatoseptoria Quaedvl., Verkley & Crous (1)
Sultanimyces Videira & Crous (1)
Trochophora R.T. Moore (2)
Uwemyces Hern.-Restr., Sarria & Crous (1)
Virosphaerella Videira & Crous (3)
Xenomycosphaerella Quaedvl. & Crous (3)
Xenopassalora Crous (1)
Xenoramularia Videira, H.D. Shin & Crous (3)
Xenosonderhenia Crous (2)
Xenosonderhenioides Videira & Crous (1)
Zasmidium Fr. (= *Periconiella* Sacc. *fide* Quaedvlieg et al. 2013) (ca. 150)
Zymoseptoria Quaedvl. & Crous (8)

Neodevriesiaceae Quaedvl. & Crous

Neodevriesia Quaedvl. & Crous (21)
Tripospermum Speg. (27)

Phaeothecaceae Darveaux

Phaeotheca Sigler, Tsuneda & J.W. Carmich. (4)

Phaeothecoidiellaceae K.D. Hyde & Hongsanan (= *Nowamycetaceae* Crous)

Chaetothyria Theiss. (6)
Exopassalora Videira & Crous (1)
Houjia G.Y. Sun & Crous (2)
Nowamyces Crous (2)
Phaeothecoidiella Batzer & Crous (2)
Rivilata Kohlm., Volkm.-Kohlm. & O.E. Erikss. (1)
Sporidesmajora Batzer & Crous (1)
Translucidithyrium X.Y. Zeng & K.D. Hyde (1)

Piedraiaceae Viégas ex Cif., Bat. & S. Camposa

Piedraia Fons. & Leao (2)

Racodiaceae Link

Racodium Fr. (5)

Schizothyriaceae Höhn. ex Trotter, Sacc., D. Sacc. & Traverso

Amazonotheca Bat. & H. Maia (2)*
Hexagonella F. Stevens & Guba ex F. Stevens (1)
Kerniomyces Toro (1)
Lecideopsella Höhn. (10)
Metathyriella Syd. (3)
Mycerema Bat., J.L. Bezerra & Cavalc. (1)
Myriangiella Zimm. (5)
Plochmopeltis Theiss. (5)
Schizothyrium Desm. (40)
Vonarxella Bat., J.L. Bezerra & Peres (1)

Teratosphaeriaceae Crous & U. Braun

Acidiella Hujslová & M. Kolařík (3)

Acidomyces B.J. Baker, M.A. Lutz, S.C. Dawson, P.L. Bond & Banfield ex Selbmann, de Hoog & De Leo (2)
Acrodontium de Hoog (17)
Apenidiella Quaedvl. & Crous (1)
Araucasphaeria Crous & M.J. Wingf. (1)
Aulographina Arx & E. Müll. (2)
Austroafricana Quaedvl. & Crous (3)
Austrostigmidium Pérez-Ort. & Garrido-Benavent (1)
Batcheloromyces Marasas, P.S. van Wyk & Knox-Dav. (5)
Baudoinia J.A. Scott & Unter. (5)
Bryochiton Döbbeler & Poelt (5)
Camarosporula Petr. (1)
Capnobotryella Sugiy. (6)
Catenulostroma Crous & U. Braun (7)
Constantinomyces Egidi & Onofri (4)
Davisoniella H.J. Swart (1)
Devriesia Seifert & N.L. Nick. (11)
Elasticomyces Zucconi & Selbmann (1)
Eupenidiella Quaedvl. & Crous (1)
Euteratosphaeria Quaedvl. & Crous (1)
Friedmanniomyces Onofri (2)
Hispidoconidioma Tsuneda & Davey (2)
Hortaea Nishim. & Miyaji (2)*
Hyweljonesia R.G. Shivas, Y.P. Tan, Marney & Abell (2)
Incertomyces Egidi & Zucconi (2)
Lapidomyces de Hoog & Stielow (1)
Leptomelanconium Petr. (7)
Meristemomyces Isola & Onofri (2)
Microcyclospora J. Frank, Schroers & Crous (5)
Monticola Selbmann & Egidi (1)
Myrtapenidiella Quaedvl. & Crous (8)
Neocatenulostroma Quaedvl. & Crous (3)
Neophaeothecoidea Quaedvl. & Crous (1)
Neotrimmatostroma Quaedvl. & Crous (3)
Oleoguttula Selbmann & de Hoog (1)
Pachysacca Syd. (3)
Parapenidiella Crous & Summerell (2)
Parateratosphaeria Quaedvl. & Crous (6)
Penidiella Crous & U. Braun (4)
Penidiellomyces Crous, Attili-Angelis, A.P.M. Duarte, Pagnocca & J.Z. Groenew. (2)
Penidiellopsis Sand.-Den., Gené, Deanna A. Sutton & Guarro (2)
Phaeothecoidea Crous (5)
Placocrea Syd. (1)*
Pseudotaeniolina J.L. Crane & Schokn. (2)
Pseudoteratosphaeria Quaedvl. & Crous (6)
Queenslandipenidiella Quaedvl. & Crous (1)
Readeriella Syd. & P. Syd. (ca. 23)
Recurvomyces Selbmann & de Hoog (1)
Simplicidiella Crous, Attili-Angelis, A.P.M. Duarte, Pagnocca & J.Z. Groenew. (1)
Stenella Syd. (ca. 45)
Suberoteratosphaeria Quaedvl. & Crous (3)
Teratoramularia Videira, H.D. Shin & Crous (4)

Teratosphaeria Syd. & P. Syd. (58)
Teratosphaericola Quaedvl. & Crous (1)
Teratosphaeriopsis Quaedvl. & Crous (1)
Xanthoriicola D. Hawksw. (1)
Xenoconiothyrium Crous & Marinc. (1)
Xenopenidiella Quaedvl. & Crous (7)
Xenophacidiella Crous (1)
Xenoteratosphaeria Quaedvl. & Crous (1)

Xenodevriesiaceae Crous

Xenodevriesia Crous (1)

Capnodiales genera incertae sedis

Arthrocatena Egidi & Selbmann (1)
Catenulomyces Egidi & de Hoog (1)
Eriosporella Höhn. (2)
Hyphoconis Egidi & Quaedvl. (1)
Mucomycosphaerella Quaedvl. & Crous (1)
Mycophycias Kohlm. & Volk.-Kohlm
Neohortaea Quaedvl. & Crous (1)
Perusta Egidi & Stielow (1)
Plurispermopsis Pereira-Carv., Inácio & Dianese (1)
Pseudoepicoccum M.B. Ellis (4)
Racoleus R. Sant. & D. Hawksw. (1)
Ramimonilia Stielow & Quaedvl. (1)
Ramopenidiella Crous & R.G. Shivas (1)
Rosaria N. Carter (2)

Dothideales Lindau (= *Neocelosporiales* Crous)

Dothideaceae Chevall.

Delphinella (Sacc.) Kuntze (7)
Dictyodothis Theiss. & Syd. (8)
Dothidea Fr. (ca. 20)
Dothiora Fr. (50<)
Endoconidioma Tsuneda (2)
Endodothiora Petr. (1)
Kabatina R. Schneid. & Arx (5)
Neocylindroseptoria Thambug. & K.D. Hyde (1)
Phaeocryptopus Naumov (6)
Plowrightia Sacc. (50)
Stylodothis Arx & E. Müll. (2)
Sydowia Bres. (11)
Uleodothis Theiss. & Syd. (4)

Neocelosporiaceae Crous

Celosporium Tsuneda & M.L. Davey (1)
Muellerites L. Holm (1)
Neocelosporium Crous (1)*

Sacchettoeciaceae Bonord.

Aureobasidium Viala & G. Boyer (23)
Columnosphaeria Munk (4)

Kabatiella Bubák (19)
Pseudoseptoria Speg. (8)
Pseudosydowia Thambug. & K.D. Hyde (1)
Saccolthecium Fr. (9)
Selenophoma Maire (ca. 13)

Zalariaceae Visagie, Z. Humphries & Seifert
Zalaria Visagie, Z. Humphries & Seifert (2)

Dothideales genera *incertae sedis*
Asteromellopsis H.E. Hess & E. Müll. (1)
Botryochora Torrend (1)
Coniozyma Crous (1)
Hormonema Lagerb. & Melin (7)
Pringsheimia Schulzer (17)
Rhizosphaera L. Mangin & Har. (8)

Myriangiales Starbäck
Elsinoaceae Höhn. ex Sacc. & Trotter
Elsinoë Racib. (ca. 40)
Mollerella G. Winter (4)

Myriangiaceae Nyl.
Anhelia Racib. (9)
Ascostratum Syd. & P. Syd. (2)
Butleria Sacc. (1)
Dictyocyclus Sivan., W.H. Hsieh & Chi Y. Chen (1)
Eurytheca De Seynes (3)
Hemimyriangium J. Reid & Piroz (1)
Mendogia Racib. (7)
Micularia Boedijn (2)
Myriangium Mont. & Berk. (ca. 10)
Uleomyces P. Henn. (12)
Zukaliopsis Henn. (2)

Myriangiales genus *incertae sedis*
Dictyonella Höhn. (7)

Pleosporomycetidae C.L. Schoch, Spatafora, Crous & Shoemaker
Gloniales Jayasiri & K.D. Hyde*
Gloniaceae (Corda) E. Boehm, C.L. Schoch & Spatafora
Cenococcum Moug. & Fr. (5)
Glonium Mühl. (ca. 13)
Purpurepithecium Jayasiri & K.D. Hyde (2)

Hysteriales Lindau
Hysteriaceae Chevall.
Actidiographium Lar. N. Vassiljeva (1)
Glioniella Sacc. (12)
Glioniopsis De Not. (ca. 17)
Hysterium Pers. (14)
Hysterobrevium E. Boehm & C.L. Schoch (6)

Hysterocarina Zogg (1)
Hysterodiffractum D.A.C. Almeida, Gusmão & A.N. Mill. (1)
Hysterozonium Rehm ex Lindau (2)
Oedohysterium E. Boehm & C.L. Schoch (3)
Ostrechnion Duby (4)
Pseudoscypha J. Reid & Piroz. (1)
Psilogonium Höhn. (ca. 15)
Rhytidhysterion Speg. (21)

***Hysteriales* genus incertae sedis**

Graphyllum Clem. (11)

***Mytilinidiales* E. Boehm, C.L. Schoch & Spatafora**

***Mytilinidiaceae* Kirschst.**

Actidium Fr. (ca. 6)
Lophium Fr. (ca. 6)
Mytilinidion Duby (12)
Ostreola Darker (8)
Peyronelia Cif. & Gonz. Frag. (6 or 7)
Pseudocamaropycnis Crous (1)
Quasiconcha M.E. Barr & M. Blackw. (1)
Septonema Corda (ca. 15)
Zoggium Lar.N. Vassiljeva (1)

***Pleosporales* Luttrell ex M.E. Barr**

***Acrocalymmaceae* Crous & Trakun.**

Acrocalymma Alcorn & J.A.G. Irwin (6)

***Aigialaceae* Suetrong, Sakay., E.B.G. Jones, Kohlm., Volkm.-Kohlm. & C.L. Schoch**

Aigialus S. Schatz & Kohlm. (5)
Ascocratera Kohlm. (1)
Fissuroma Jian K. Liu, Phook., E.B.G. Jones & K.D. Hyde (11)
Neoastrosphaeriella Jian K. Liu, E.B.G. Jones & K.D. Hyde (3)
Posidoniomycetes Vohník & Réblová (1)
Rimora Kohlm., Volkm.-Kohlm., Suetrong, Sakay. & E.B.G. Jones (1)

***Amniculicolaceae* Y. Zhang ter, C.L. Schoch, J. Fourn., Crous & K.D. Hyde**

Amniculicola Y. Zhang ter & K.D. Hyde (4)
Fusiformispora Phukhams. & K.D. Hyde (1)
Murispora Y. Zhang ter, J. Fourn. & K.D. Hyde (7)
Neomassariosphaeria Y. Zhang ter, J. Fourn. & K.D. Hyde (1)
Pseudomassariosphaeria Phukhams., Ariyaw., Camporesi & K.D. Hyde (2)
Vargamyces Tóth (1)

***Amorosiaceae* Thambug. & K.D. Hyde**

Alfoldia D.G. Knapp, Imrefi & Kovács (1)
Amorosia Mantle & D. Hawksw. (1)
Amorocoelophoma Jayasiri, E.B.G. Jones & K.D. Hyde (1)
Angustimassarina Thambug., Kaz. Tanaka & K.D. Hyde (11)

***Anteagloniaceae* K.D. Hyde, Jian K. Liu & A. Mapook**

Anteaglonium Mugambi & Huhndorf (7)

- Flammeascoa* Phook. & K.D. Hyde (2)
Purplema W. Dong, H. Zhang & K.D. Hyde (1)
- Aquasubmersaceae*** A. Hashim. & Kaz. Tanaka
Aquasubmersa K.D. Hyde & Huang Zhang (2)
- Arthopyreniaceae*** W. Watson
Arthopyrenia A. Massal. (= *Arthopyreniomyces* Cif. & Tomas.) (5 + ca. 100 orphaned)
Mycomicrothelia Keissl. (ca. 10)*
- Ascocylindricaceae*** Abdel-Wahab, Bahkali, E.B.G. Jones, Ariyaw. & K.D. Hyde
Ascocylindrica Abdel-Wahab, Bahkali & E.B.G. Jones (1)
- Astrosphaeriellaceae*** Phook. & K.D. Hyde
Astrosphaeriella Syd. & P. Syd. (ca. 10)
Astrosphaerellopsis Phook., Jian K. Liu & K.D. Hyde (2)
Javaria Boise (2)
Mycopepon Boise (5)
Pithomyces Berk. & Broome (ca. 40)
Pteridiospora Penz. & Sacc. (8)
Quercicola Jayasiri, E.B.G. Jones & K.D. Hyde (2)
Xenoastrosphaeriella Jayasiri, E.B.G. Jones & K.D. Hyde (1)
- Bambusicolaceae*** D.Q. Dai & K.D. Hyde
Bambusicola D.Q. Dai & K.D. Hyde (10)
Leucaenicola Jayasiri, E.B.G. Jones & K.D. Hyde (2)
Palmiascoma Phook. & K.D. Hyde (1)
- Biatriosporaceae*** K.D. Hyde
Biatriospora K.D. Hyde & Borse (6)
- Camarosporiaceae*** Wanas., Wijayaw., K.D. Hyde & Crous
Camarosporium Schulzer (100+)
Camarosporomyces Crous (1)
- Camarosporidiellaceae*** Wanas., Wijayaw., Crous & K.D. Hyde
Camarosporidiella Wanas., Wijayaw., K.D. Hyde (22)
- Caryosporaceae*** Huang Zhang, K.D. Hyde & Ariyaw.
Caryospora De Not. (19)
- Coniothyriaceae*** W.B. Cooke
Coniothyrium Corda (ca. 50)
Foliophoma Crous (2)
Neoconiothyrium Crous (3)
Ochrocladosporium Crous & U. Braun (3)
Staurosphaeria Rabenh. (= *Hazslinszkyomyces* Crous & R.K. Schumach.) (12)
- Corynesporascaceae*** Sivan.
Corynespora Güssow (ca. 130)
Corynesporasca Sivan. (1)

Cryptocoryneaceae A. Hashim. & Kaz. Tanaka

Cryptocoryneum Fuckel (ca. 20)

Cucurbitariaceae G. Winter (= *Fenestellaceae* M.E. Barr)

Allocucurbitaria Valenz.-Lopez, Stchigel, Guarro & Cano (1)

Astragalicola Jaklitsch & Voglmayr (2)*

Cucitella Jaklitsch & Voglmayr (1)*

Cucurbitaria Gray (= *Pleurostromella* Petr.) (ca. 40)

Fenestella Tul. & C. Tul. (ca. 4)

Neocucurbitaria Wanas., E.B.G. Jones & K.D. Hyde (21)

Paracucurbitaria Valenz.-Lopez, Stchigel, Guarro & Cano (2)

Parafenestella Jaklitsch & Voglmayr (3)*

Protofenestella Jaklitsch & Voglmayr (1)*

Rhytidiella Zalasky (4)

Seltsamia Jaklitsch & Voglmayr (1)*

Syncarpella Theiss. & Syd. (ca. 6)

Synfenestella Jaklitsch & Voglmayr (2)

Cyclothyriellaceae Jaklitsch & Voglmayr

Cyclothyriella Jaklitsch & Voglmayr (1)

Massariosphaeria (E. Müll.) Crivelli (25)*

Dacampiaceae Körb.

Aaosphaeria Aptroot (1)

Dacampia A. Massal. (15)

Eopyrenula R.C. Harris (6)

Leptocucurthis Aptroot (1)

Pseudonitschkia Coppins & S.Y. Kondr. (1)

Weddellomyces D. Hawksw. (12)

Delitschiaceae M.E. Barr

Delitschia Auersw. (ca. 50)

Ohleriella Earle (1)

Semidelitschia Cain & Luck-Allen (3)

Diademaceae Shoemaker & C.E. Babc.

Diadema Shoemaker & C.E. Babc. (8)

Dictyosporiaceae Boonmee & K.D. Hyde

Aquadictyospora Z.L. Luo, K.D. Hyde & H.Y. Su (1)

Aquaticheirospora Kodsueb & W.H. Ho (1)

Cheirosporium L. Cai & K.D. Hyde (2)

Dendryphiella Bubák & Ranoj. (12)

Dictyocheirospora M.J. D'souza, Boonmee & K.D. Hyde (16)

Dictyopalmispora Pinruan, Boonmee & K.D. Hyde (1)

Dictyosporium Corda (59)

Digitodesmium P.M. Kirk (6)

Gregarithecium Kaz. Tanaka & K. Hiray. (1)

Jalapriya M.J. D'souza, Hong Y. Su, Z.L. Luo & K.D. Hyde (3)

Neodendryphiella Iturrieta-González, Dania García & Gené (3)*

Pseudocoleophoma Kaz. Tanaka & K. Hiray. (3)

Pseudoconiothyrium Crous & R.K. Schumach. (1)

Pseudodictyosporium Matsush. (4)
Vikalpa M.J. D'souza, Boonmee, Bhat & K.D. Hyde (4)

Didymellaceae Gruyter, Aveskamp & Verkley (= *Microsphaeropsidaceae* Qian Chen, L. Cai & Crous *vide* Hongsanan et al. 2020)

Allophoma Q. Chen & L. Cai (9)
Anthodidymella Phukhams., Camporesi & K.D. Hyde (3)
Ascochyta Lib. (= *Heracleicola* Tibpromma, Camporesi & K.D. Hyde) (ca. 400)
Boeremia Aveskamp, Gruyter & Verkley (22)
Briansuttonomyces Crous (1)
Calophoma Q. Chen & L. Cai (8)
Chaetasbolisia Speg. (7)
Cumuliphoma Valenz.-Lopez, Stchigel, Crous, Guarro & Cano (3)
Didymella Sacc. ex D. Sacc. (ca. 100)
Didysimulans Tibpromma, Camporesi & K.D. Hyde (2)
Ectophoma Valenz.-Lopez, Cano, Crous, Guarro & Stchigel (2)
Epicoccum Link (16)
Heterophoma Q. Chen & L. Cai (6)
Juxtiphoma Valenzuela-Lopez, Cano, Crous, Guarro & Stchigel (1)
Leptosphaerulina McAlpine (30)
Macroventuria Aa (2)
Microsphaeropsis Höhn. (37)
Mixtura O.E. Erikss. & J.Z. Yue (1)
Monascostroma Höhn. (ca. 5)
Neoascochyta Q. Chen & L. Cai (12)
Neodidymella Phook., R.H. Perera & K.D. Hyde (1)
Neodidymelliopsis Q. Chen & L. Cai (10)
Neomicrosphaeropsis Thambug., Camporesi & K.D. Hyde (10)
Nothophoma Q. Chen & L. Cai (9)
Paraboeremia Q. Chen & L. Cai (6)
Phoma Sacc. (= *Endophoma* Tsuneda & M.L. Davey) (100)
Phomatodes Q. Chen & L. Cai (2)
Platychora Petr. (1)
Remotididymella Valenz.-Lopez (2)
Similiphoma Valenz.-Lopez, Crous, Cano, Guarro & Stchigel (1)
Stagonosporopsis Died. (22)
Vacuiphoma Valenz.-Lopez, Cano, Crous, Guarro & Stchigel (2)
Xenodidymella Q. Chen & L. Cai (6)

Didymosphaeriaceae Munk

Alloconiothyrium Verkley & Stielow (1)
Austropleospora R.G. Shivas & L. Morin (1)
Barria Z.Q. Yuan (1)
Bimuria D. Hawksw., Chea & Sheridan (1)
Chromolaenicola Mapook & K.D. Hyde (5)
Curreya Sacc. (2)
Cylindroaseptospora Jayasiri, E.B.G. Jones & K.D. Hyde (2)
Deniquelata Ariyaw. & K.D. Hyde (2)
Didymocrea Kowalski (1)
Didymosphaeria Fuckel (ca. 25)
Julella Fabre (ca. 20)
Kalmusia Niessl (16)

Kalmusibambusa Phook., Tennakoon, Thambug. & K.D. Hyde (1)*
Karstenula Speg. (16)
Laburnicola Wanas., Camporesi, E.B.G. Jones & K.D. Hyde (4)
Letendraea Sacc. (ca. 3)
Lineostroma H.J. Swart (1)
Montagnula Berl. (ca. 30)*
Neokalmusia Ariyaw. & K.D. Hyde (6)
Neptunomyces M. Gonçalves, T. Vicente & A. Alves (1)*
Paracamarosporium Wijayaw. & K.D. Hyde (7)
Paraconiothyrium Verkley (19)
Paramassariosphaeria Wanas., E.B.G. Jones & K.D. Hyde (2)
Paraphaeosphaeria O.E. Erikss. (33)
Phaeodothis Syd. & P. Syd. (5)
Pseudocamarosporium Wijayaw. & K.D. Hyde (14)
Pseudopithomyces Ariyaw. & K.D. Hyde (10)
Spegazzinia Sacc. (11)*
Tremateia Kohlm., Volkm.-Kohlm. & O.E. Erikss. (5)
Verrucoconiothyrium Crous (4)
Vicosamyces Firmino, Machado & Pereira (1)
Xenocamarosporium Crous & M.J. Wingf. (1)

Dothidotthiaceae Crous & A.J.L. Phillips

Belizeana Kohlm. & Volkm. (1)
Dothidotthia Höhn. (= *Neodothidotthia* Crous) (ca. 10)
Mycocentrospora Deighton (4)
Phaeomycocentrospora Crous, H.D. Shin & U. Braun (1)
Pleiochaeta (Sacc.) S. Hughes (4)
Thyrostroma Höhn. (ca. 45)
Wilsonomyces Adask., J.M. Ogawa & E.E. Butler (1)

Fuscostagonosporaceae Jayasiri, Camporesi & K.D. Hyde

Fuscostagonospora Kaz. Tanaka & K. Hiray. (3)

Fusculinaceae Crous

Fusculina Crous & Summerell (3)
Gordonomyces Crous & Marinc. (1)

Halojulellaceae Suetrong, K.D. Hyde & E.B.G. Jones

Halojulella Suetrong, K.D. Hyde & E.B.G. Jones (1)

Halotthiaceae Ying Zhang, J. Fourn. & K.D. Hyde

Brunneoclavispora Phook. & K.D. Hyde (1)
Halotthia Kohlm. (1)
Mauritiana Poonyth, K.D. Hyde, Aptroot & Peerally (1)
Neolophiostoma S. Boonmee & K.D. Hyde (1)*
Pontoporeia Kohlm. (1)
Sulcosporium Phook. & K.D. Hyde (1)

Hermatomycetaceae Locq.

Hermatomyces Speg. (ca. 20)

Hypsostromataceae Huhndorf

Hypsostroma Huhndorf (2)

Latoruaceae Crous

Latorua Crous (1)

Matsushimamyces Rahul Sharma & Rohit Sharma (2)

Polyschema H.P. Upadhyay (22)

Pseudoasteromassaria M. Matsum. & Kaz. Tanaka (2)

Lentimurisporaceae N.G. Liu, J.K Liu & K.D. Hyde

Bahusandhika Subram. (9)*

Lentimurispora N.G. Liu, Bhat & K.D. Hyde (1)*

Lentitheciaceae Y. Zhang ter, C.L. Schoch, J. Fourn., Crous & K.D. Hyde

Darksidea D.G. Knapp, Kovács, J.Z. Groenew. & Crous (6)

Halobyssothecium Dayar., E.B.G. Jones & K.D. Hyde (1)

Katumotoa Kaz. Tanaka & Y. Harada (1)

Keissleriella Höhn. (ca. 36)

Lentithecium K.D. Hyde, J. Fourn. & Ying Zhang (9)*

Murilentithecium Wanas., Camporesi, E.B.G. Jones & K.D. Hyde (3)

Neophiosphaerella Kaz. Tanaka & K. Hiray. (1)

Phragmocamarosporium Wijayaw., Yong Wang bis & K.D. Hyde (2)

Pleurophoma Höhn. (ca. 9)

Poaceascoma Phook. & K.D. Hyde (4)

Pseudomurilentithecium Mapook & K.D. Hyde (1)

Setoseptoria Quaedvl., Verkley & Crous (7)

Tingoldiagio K. Hiray. & Kaz. Tanaka (1)

Towyspora Wanas., E.B.G. Jones & K.D. Hyde (1)

Leptosphaeriaceae M.E. Barr

Alloleptosphaeria Ariyaw., Wanas. & K.D. Hyde (1)

Alternariaster E.G. Simmons (4)

Chaetoplea (Sacc.) Clem. (ca. 20)

Heterosporicola Crous (2)

Leptosphaeria Ces. & De Not. (151)

Neoleptosphaeria Ariyaw. & K.D. Hyde (2)

Paraleptosphaeria Gruyter, Aveskamp & Verkley (7)

Plenodomus Preuss (19)

Pseudoleptosphaeria Ariyaw. & K.D. Hyde (1)

Querciphoma Crous (2)

Sclerenchymomyces Phukhams. & K.D. Hyde (2)

Sphaerellopsis Cooke (6)

Subplenodomus Gruyter, Aveskamp & Verkley (6)

Libertasomycetaceae Crous

Libertasomyces Crous & Roets (3)

Neoplatysporoides Crous & M.J. Wingf. (1)

Ligninsphaeriaceae K.D. Hyde & Ariyaw. (Nom. inval., Art. 38.1(a) (Melbourne) *vide* Index Fungorum 2020)

Ligninsphaeria Jin F. Zhang, Jian K. Liu, K.D. Hyde & Zi Y. Liu (1)

Ligninsphaeriopsis Phukh., Feng & K.D. Hyde (1)

Lindgomycetaceae K. Hiray., Kaz. Tanaka & Shearer

Arundellina Wanas., E.B.G. Jones & K.D. Hyde (1)

Clohesyomyces K.D. Hyde (1)

Hongkongmyces C.C.C. Tsang, J.F.W. Chan, Trend.-Sm., A.H.Y. Ngan, I.W.H. Ling, S.K.P. Lau & P.C.Y. Woo (3)

Lindgomassariosphaeria W. Dong, H. Zhang & K.D. Hyde (1)

Lindgomyces K. Hiray., Kaz. Tanaka & Shearer (13)

Lolia Abdel-Aziz & Abdel-Wahab (1)

Neolindgomyces Jayasiri, E.B.G. Jones & K.D. Hyde (4)

Lizoniaceae Boonmee & K.D. Hyde

Lizonia (Ces. & De Not.) De Not. (22)

Longipedicellataceae Phukhams., Bhat & K.D. Hyde

Longipedicellata H. Zhang, K.D. Hyde & Jian K. Liu (1)

Pseudoxylomyces Kaz. Tanaka & K. Hiray. (1)

Submerspora W. Dong, H. Zhang & K.D. Hyde (1)

Longiostiolaceae Phukhams., Doilom & K.D. Hyde

Longiostiolum Doilom, Ariyaw. & K.D. Hyde (1)

Lophiostomataceae Sacc.

Alpestrisphaeria Thambug. & K.D. Hyde (2)

Biappendiculispora Thambug., Kaz. Tanaka & K.D. Hyde (1)

Capulatispora Thambug. & K.D. Hyde (1)

Coelodictyosporium Thambug. & K.D. Hyde (3)

Crassiclypeus A. Hashim., K. Hiray. & Kaz. Tanaka (1)*

Decaisnella Fabre (13)

Dimorphiopsis Crous (1)

Flabellascoma A. Hashim., K. Hiray. & Kaz. Tanaka (2)*

Guttulispora Thambug., Qing Tian & K.D. Hyde (1)

Kiskunsagia D.G. Knapp, Imrefi & Kovács (1)

Lentistoma A. Hashim., K. Hiray. & Kaz. Tanaka (1)

Leptoparies A. Hashim., K. Hiray. & Kaz. Tanaka (1)*

Lophiohelichrysum Dayar., Camporesi & K.D. Hyde (1)

Lophiopoacea Ariyaw., Thambug. & K.D. Hyde (2)

Lophiostoma Ces. & De Not. (ca. 100)

Neopaucispora Wanas., Gafforov & K.D. Hyde (1)

Neotrematosphaeria Thambug., Kaz. Tanaka & K.D. Hyde (1)

Neovaginatispota A. Hashim., K. Hiray. & Kaz. Tanaka (1)

Parapaucispora A. Hashim., K. Hiray. & Kaz. Tanaka (1)

Paucispora Thambug., Kaz. Tanaka & K.D. Hyde (3)

Platystomum Trevis. (ca. 20)

Pseudocapulatispora Mapook & K.D. Hyde (inpress)

Pseudolophiostoma Thambug., Kaz. Tanaka & K.D. Hyde (5)

Pseudopaucispora A. Hashim., K. Hiray. & Kaz. Tanaka (1)*

Pseudoplatystomum Thambug. & K.D. Hyde (1)

Quintaria Kohlm. & Volkm.-Kohlm (3)

Sigarispora Thambug. & K.D. Hyde (14)

Vaginatispota K.D. Hyde (8)

Lophiotremataceae K. Hiray. & Kaz.

- Atrocalyx* A. Hashim. & Kaz. Tanaka (6)
- Crassimassarina* A. Hashim. & Kaz. Tanaka (1)
- Cryptoclypeus* A. Hashim. & Kaz. Tanaka (2)
- Galeaticarpa* A. Hashim. & Kaz. Tanaka (1)
- Koordersiella* Höhn. (6)
- Lophiotrema* Sacc. (17)
- Pseudocryptoclypeus* A. Hashim. & Kaz. Tanaka (1)

Macrodiplodiopsidaceae Voglmayr, Jaklitsch & Crous

- Macrodiplodiopsis* Petr. (2)
- Pseudochaetosphaeronema* Punith. (4)

Massariaceae Nitschke

- Massaria* De Not. (31)
- Massarioramusclicola* Huanral., Thambug. & K.D. Hyde (1)
- Paramassaria* Samarak. & K.D. Hyde (1)

Massarinaceae Munk

- Byssothecium* Fuckel (8)
- Helminthosporium* Link (= *Helminthosporiella* Hern.-Restr., G.A. Sarria & Crous) (ca. 416)
- Massarina* Sacc. (ca. 100)
- Pseudodidymosphaeria* Thambug. & K.D. Hyde (2)
- Pseudosplanchnonema* Chethana & K.D. Hyde (1)
- Semifissispora* H.J. Swart (5)
- Stagonospora* (Sacc.) Sacc. (220)
- Suttonomyces* Wijayaw., Camporesi & K.D. Hyde (2)

Melanommataceae G. Winter (= *Pseudodidymellaceae* A. Hashim. & Kaz. Tanaka)

- Alpinaria* Jaklitsch & Voglmayr (1)
- Aposphaeria* Sacc. (189)
- Asymmetricospora* J. Fröhl. & K.D. Hyde (1)
- Bertiella* (Sacc.) Sacc. & P. Syd. (2)
- Bicrouania* Kohlm. & Volkm.-Kohlm. (1)
- Byssosphaeria* Cooke (27)
- Calyptronectria* Speg. (3)
- Camposporium* Harkn. (21)*
- Exosporiella* P. Karst. (1)
- Fusiconidium* Jun F. Li, Phook. & K.D. Hyde (2)
- Herpotrichia* Fuckel (101)
- Mamillisphaeria* K.D. Hyde, S.W. Wong & E.B.G. Jones (1)
- Marjia* Wanas., Gafforov & K.D. Hyde (1)
- Melanocamarosporioides* D. Pem, R. Jeewon, Gafforov & K.D. Hyde (1)
- Melanocamarosporium* Wijayaw., Camporesi, Bhat & K.D. Hyde (2)
- Melanocucurbitaria* Wanas., Gafforov & K.D. Hyde (1)
- Melanodiplodia* Wanas., Gafforov & K.D. Hyde (1)
- Melanomma* Nitschke ex Fuckel (ca. 30)
- Monoseptella* Wanas., Gafforov & K.D. Hyde (1)
- Muriformistrickeria* Q. Tian, Wanas., Camporesi & K.D. Hyde (2)
- Navicella* Fabre (5)
- Neobysosphaeria* Wanas., Jones & K.D. Hyde (1)
- Petrakia* Syd. & P. Syd. (6)

Phragmocephala E.W. Mason & S. Hughes (10)
Phragmotrichum Kunze (4)
Pleotrichocladium Hern.-Restr., R.F. Castañeda & Gené (1)
Praetumpfia Jaklitsch & Voglmayr (1)
Pseudobysso-sphaeria H.B. Jiang & K.D. Hyde (1)
Pseudodidymella C.Z. Wei, Y. Harada & Katum. (2)
Pseudostrickeria Q. Tian, Wanas., Camporesi & K.D. Hyde (3)
Sarimanas M. Matsum., K. Hiray. & Kaz. Tanaka (2)
Seifertia Partr. & Morgan-Jones (2)
Tumularia Descals & Marvanová (2)
Uzbekistanica Wanas., Gafforov & K.D. Hyde (3)
Xenostigmina Crous (2)

Morosphaeriaceae Suetrong, Sakay., E.B.G. Jones & C.L. Schoch
Aquihelicascus W. Dong, H. Zhang & Doilom (3)
Aquilomyces D.G. Knapp, Kovács, J.Z. Groenew. & Crous (2)
Clypeolocus Kaz. Tanaka & K. Hiray. (4)
Helicascus Kohlm. (12)
Morosphaeria Suetrong, Sakay., E.B.G. Jones & C.L. Schoch (4)
Neohelicascus W. Dong, H. Zhang & Doilom (8)

Mycoporaceae Zahlbr.

Mycoporum Flot. ex Nyl. (ca. 5 + c. 35 orphaned, partly in *Mycoporellum* Müll. Arg.)

Neocamarosporiaceae Wanas., Wijayaw., Crous & K.D. Hyde

Dimorphosporicola Crous (1)
Neocamarosporium Crous & M.J. Wingf. (15)

Neohendersoniaceae Giraldo & Crous

Brevicollum Kaz. Tanaka (2)
Crassiparies M. Matsum., K. Hiray. & Kaz. Tanaka (1)
Medicopsis Gruyter, Verkley & Crous (2)
Neohendersonia Petr. (4)
Neomedicopsis Crous & Akulov (1)

Neomassariaceae H.A. Ariyaw., Jaklitsch & Voglmayr

Neomassaria Mapook, Camporesi & K.D. Hyde (2)

Neomassarinaceae Mapook & K.D. Hyde

Neomassarina Phook., Jayasiri & K.D. Hyde (2)
Pseudohelminthosporium Phukhams. & K.D. Hyde (1)

Neophaeosphaeriaceae Ariyaw. & K.D. Hyde

Neophaeosphaeria M.P.S. Câmara, M.E. Palm & A.W. Ramaley (6)

Neopyrenochaetaceae Valenz.-Lopez, Crous, Cano, Guarro & Stchigel

Neopyrenochaeta Valenz.-Lopez, Crous, Stchigel, Guarro & Cano (5)

Nigrogranaceae Jaklitsch & Voglmayr

Nigrograna Gruyter, Verkley & Crous (12)

Occultibambusaceae D.Q. Dai & K.D. Hyde

- Brunneofusispora* S.K. Huang & K.D. Hyde (1)*
Neooccultibambusa Doilom & K.D. Hyde (4)
Occultibambusa D.Q. Dai & K.D. Hyde (7)
Seriascoma Phook., D.Q. Dai & K.D. Hyde (2)
Versicolorisporium Sat. Hatak., Kaz. Tanaka & Y. Harada (1)

Ohleriaceae Jaklitsch & Voglmayr

- Ohleria* Fuckel (13)

Parabambusicolaceae Kaz. Tanaka & K. Hiray.

- Aquastroma* Kaz. Tanaka & K. Hiray. (1)
Lonicericola Phook., Jayasiri & K.D. Hyde (1)*
Multilocularia Phook. (1)
Multiseptospora Phook. & K.D. Hyde (2)
Neoaquastroma Wanas., E.B.G. Jones & K.D. Hyde (3)
Parabambusicola Kaz. Tanaka & K. Hiray. (2)
Paramonodictys N.G. Liu, K.D. Hyde & J.K. Liu (1)
Paratrimmatostroma Jayasiri, Phook., D.J. Bhat & K.D. Hyde (1)*
Pseudomonodictys Doilom, Ariyaw., Bhat & K.D. Hyde (1)

Paradictyoarthriniaceae Doilom, Ariyaw., Bhat & K.D. Hyde

- Paradictyoarthrinium* Matsush. (4)
Xenomassariosphaeria Jayasiri, Wanas. & K.D. Hyde (1)

Paralophiostomataceae V.V. Sarma & M. Niranjana.

- Paralophiostoma* V.V. Sarma & M. Niranjana. (1)

Parapyrenochaetaceae Valenz.-Lopez, Crous, Stchigel, Guarro & Cano

- Parapyrenochaeta* Valenz.-Lopez, Crous, Stchigel, Guarro & Cano (2)
Quixadomyces Cantillo & Gusmão (1)

Periconiaceae Nann.

- Bambusistroma* D.Q. Dai & K.D. Hyde (1)
Flavomyces D.G. Knapp, Kovács, J.Z. Groenew. & Crous (1)
Noosia Crous, R.G. Shivas & McTaggart, Persoonia (1)*
Periconia Tode (46)

Phaeoseptaceae S. Boonmee, Thambug. & K.D. Hyde

- Phaeoseptum* Ying Zhang, J. Fourn. & K.D. Hyde (2)
Pleopunctum N.G. Liu, K.D. Hyde & J.K. Liu (2)

Phaeosphaeriaceae M.E. Barr

- Aericola* Wanas., Camporesi, E.B.G. Jones & K.D. Hyde (1)
Allophaeosphaeria Ariyaw., Camporesi & K.D. Hyde (3)
Amarenographium O.E. Erikss. (4)
Amarenomyces O.E. Erikss. (2)*
Ampelomyces Ces. ex Schltdl. (ca. 5)
Aphanostigme Syd. (21)
Arezzomyces Y. Marín & Crous (1)
Banksiophoma Crous (1)
Bhagirathimyces S.M. Singh & S.K. Singh (1)

Bhatiellae Wanas., Camporesi & K.D. Hyde (1)
Bricookea M.E. Barr (1)
Brunneomurispora Phook., Wanas. & K.D. Hyde (1)*
Camarosporioides W.J. Li & K.D. Hyde (1)
Chaetosphaeronema Moesz (12)
Dactylidina Wanas., Camporesi & K.D. Hyde (2)
Dematiopleospora Wanas., Camporesi, E.B.G. Jones & K.D. Hyde (8)
Didymocyrtis Vain. (21)
Dlhawksworthia Wanas., Camporesi & K.D. Hyde (3)
Edenia M.C. González, A.L. Anaya, Glenn, Saucedo & Hanlin (2)
Embarria Wanas., Camporesi & K.D. Hyde (1)
Equiseticola Abdelsalam, Tibpromma, Wanas. & K.D. Hyde (1)
Eudarlucella Speg. (8)*
Galiicola Tibpromma, Camporesi & K.D. Hyde (3)
Hydeomyces Maharachch., H.A. Ariyaw., Wanas. & Al-Sadi (2)
Hydeopsis J.F. Zhang, J.K. Liu & Z.Y. Liu (1)
Italica Wanas., Camporesi & K.D. Hyde (2)
Jeremyomyces Crous & R.K. Schumach. (1)
Juncaceicola Tennakoon, Camporesi, Phook. & K.D. Hyde (8)
Kwanghwana A. Karunarathna, C. H. Kuo & K. D. Hyde (1)
Leptospora Rabenh. (15)
Longispora Phukhams. & K.D. Hyde (1)
Loratospora Kohlm. & Volkm.-Kohlm. (2)
Mauginiella Cavara (1)
Melnikia Wijayaw., Goonas., Bhat & K.D. Hyde (1)
Murichromolaenicola Mapook & K.D. Hyde (2)
Muriphaeosphaeria Phukhams., Bulgakov & K.D. Hyde (3)
Neophiobolus Mapook & K.D. Hyde (1)
Neosetophoma Gruyter, Aveskamp & Verkley (15)
Neosphaerellopsis Crous & Trakun. (10)
Neostagonospora Quaedvl., Verkley & Crous (6)
Neostagonosporella C.L. Yang, X.L. Xu & K.D. Hyde (1)*
Neosulcatispora Crous & M.J. Wingf. (2)
Nodulosphaeria Rabenh. (ca. 52)
Ophiobolopsis Phook., Wanas. & K.D. Hyde (1)*
Ophiobolus Riess (350)
Ophiosimulans Tibpromma, Camporesi & K.D. Hyde (1)
Ophiosphaerella Speg. (10)
Paraleptospora Mapook & K.D. Hyde (2)
Paraloratospora Bundhun, Tennakoon, Phookamsak & K.D. Hyde (2)
Paraophiobolus Phook., Wanas. & K.D. Hyde (2)*
Paraphoma Morgan-Jones & J.F. White (8)
Parastagonospora Quaedvl., Verkley & Crous (ca. 19)
Parastagonosporella M. Bakhshi, Arzanlou & Crous (1)
Phaeopecton Thambug., Dissan. & K.D. Hyde (3)*
Phaeoseptoriella Crous (1)
Phaeosphaeria I. Miyake (ca. 95)
Phaeosphaeriopsis M.P.S. Câmara, M.E. Palm & A.W. Ramaley (12)
Phaeostagonospora A.W. Ramaley (1)
Piniphoma Crous & R.K. Schumach. (1)
Poaceicola W.J. Li, Camporesi, Bhat & K.D. Hyde (10)
Populocrescentia Wanas., E.B.G. Jones & K.D. Hyde (3)

Pseudoophiobolus Phook., Wanas. & K.D. Hyde (8)*
Pseudoophiosphaerella J.F. Zhang, J.K. Liu & Z.Y. Liu (1)
Pseudophaeosphaeria Jayasiri, Camporesi & K.D. Hyde (1)
Pseudostaurosphaeria Mapook & K.D. Hyde (2)
Sclerostagonospora Höhn. (ca. 15)
Scolicosporium Lib. ex Roum. (13)
Septoriella Oudem. (= *Wojnowicia* Sacc.) (22)*
Setomelanomma M. Morelet (1)
Setophoma Gruyter, Aveskamp & Verkley (6)
Sulcispora Shoemaker & C.E. Babc. (2)
Tiarospora Sacc. & Marchal (3)
Tintelnotia S.A. Ahmed, Hofmüller, M. Seibold & de Hoog (2)
Vagicola K.W.T. Chethana & K.D. Hyde (1)
Vittaliana Devadatha, Nikita, A. Baghela & V.V. Sarma (1)*
Vrystaatia Quaedvl., W.J. Swart, Verkley & Crous (1)
Wingfieldomyces Y. Marín & Crous (1)
Wojnowiciella Crous, Hern.-Restr. & M.J. Wingf. (9)
Xenophaeosphaeria Crous & M.J. Wingf. (1)
Xenophoma Crous & Trakunyingcharoen (1)
Xenoseptoria Quaedvl., H.D. Shin, Verkley & Crous (1)
Yunnanensis Karun., Phook. & K.D. Hyde (1)*

Pleomassariaceae M.E. Barr

Beverwykella Tubaki (3)
Lichenopyrenis Calat., Sanz & Aptroot (1)
Myxocyclus Riess (1)
Peridiothelia D. Hawksw. (3)
Prosthemium Kunze (ca. 8)
Pseudotrichia Kirschst. (ca. 8)
Splanchnonema Corda (37)

Pleomonodictydaceae Hern.-Restr., J. Mena & Gené

Pleomonodictys Hern.-Restr., J. Mena & Gené (2)
Pleohelicoon Jayasiri, E.B.G. Jones & K.D. Hyde (2)

Pleosporaceae Nitschke

Allonecte Syd. (3)
Alternaria Nees (ca. 360)*
Bipolaris Shoemaker (69)
Clathrospora Rabenh. (20)
Comoclathris Clem. (30)
Curvularia Boedijn (119)
Decorospora Inderb., Kohlm. & Volkm.-Kohlm. (1)
Diademosia Shoemaker & C.E. Babc. (4)*
Dichotomophthora Mehrl. & Fitzp. ex P.N. Rao (6)
Exserohilum K.J. Leonard & Suggs (ca. 30)
Extrawettsteinina M.E. Barr (4)
Gibbago E.G. Simmons (1)
Johnalcornia Y.P. Tan & R.G. Shivas (1)
Paradendryphiella Woudenberg & Crous (2)
Platysporoides (Wehm.) Shoemaker & C.E. Babc. (11)
Pleoseptum A.W. Ramaley & M.E. Barr (1)

Porocercospora Amaradasa, Amundsen, Madrid & Crous (1)*
Prathoda Subram. (2)*
Pseudoyuconia Lar.N. Vassiljeva (1)
Pyrenophora Fr. (= *Marielliotia* Shoemaker) (ca. 95)
Stemphylium Wallr. (ca. 96)*
Tamaricicola Thambug., Camporesi & K.D. Hyde (1)
Typhicola Crous (1)

Pseudoastrophaeriellaceae Phook. & K.D. Hyde

Carinispota K.D. Hyde (2)
Pseudoastrophaeriella Phook., Z.L. Luo & K.D. Hyde (6)
Pseudoastrophaerellopsis Devadatha, Wanas., Jeewon & V.V. Sarma (1)*

Pseudoberkleasmiaceae Phukhams. & K.D. Hyde

Pseudoberkleasmium Tibpromma & K.D. Hyde (3)

Pseudocoleodictyosporaceae Doilom & K.D. Hyde

Pseudocoleodictyospora Doilom & K.D. Hyde (3)
Subglobosporium Doilom & K.D. Hyde (1)

Pseudolophiotremataceae K.D. Hyde & Hongsanan

Clematidis Tibpromma, Camporesi & K.D. Hyde (1)
Pseudolophiotrema A. Hashim. & Kaz. Tanaka (1)

Pseudomassarinaceae Phukhams & K.D. Hyde

Pseudomassarina Phukhams. & K.D. Hyde (1)

Pseudopyrenochaetaceae Valenz.-López, Crous, Stchigel, Guarro & J.F. Cano

Pseudopyrenochaeta Valenzuela-López, Crous, Stchigel, Guarro & Cano (2)

Pyrenochaetopsisaceae Valenz.-López, Crous, Cano, Guarro & Stchigel

Pyrenochaetopsis Gruyter, Aveskamp & Verkley (7)
Neopyrenochaetopsis Valenz.-López, Cano, Guarro & Stchigel (1)
Xenopyrenochaetopsis Valenz.-Lopez, Crous, Stchigel, Guarro & Cano (1)

Roussoellaceae Jian K. Liu, Phook., D.Q. Dai & K.D. Hyde

Appendispota K.D. Hyde (2)
Cytoplea Bizz. & Sacc. (5)
Elongatopedicellata Jin F. Zhang, Jian K. Liu, K.D. Hyde & Zi Y. Liu (1)
Immotthia M.E. Barr (2)*
Neoroussoella Jian K. Liu, Phook. & K.D. Hyde (7)
Pararoussoella Wanas., E.B.G. Jones & K.D. Hyde (3)*
Pseudoneoconiothyrium Wanas., Phukhams., Camporesi & K.D. Hyde (1)
Pseudoroussoella Mapook & K.D. Hyde (2)
Roussoella Sacc. (38)
Roussoellopsis I. Hino & Katum. (3)
Setoarthopyrenia Mapook & K.D. Hyde (1)
Xenoroussoella Mapook & K.D. Hyde (1)

Salsugineaceae K.D. Hyde & Tibpromma

Acrocordiopsis Borse & K.D. Hyde (2)
Salsuginea K.D. Hyde (1)

Shiraiaceae Y.X. Liu, Zi Y. Liu & K.D. Hyde

Grandigallia M.E. Barr, Hanlin, Cedeño, Parra & R. Hern. (1)

Rubroshiraia D.Q. Dai & K.D. Hyde (1)

Shiraia Henn. (1)

Sporormiaceae Munk

Chaetopreussia Locq.-Lin. (1)

Forliomyces Phukhams., Camporesi & K.D. Hyde (1)

Pleophragma Fuckel (1)

Preussia Fuckel (51)

Sparticola Phukhams., Ariyaw., Camporesi & K.D. Hyde (4)

Sporormia De Not. (29)

Sporormiella Ellis & Everh. (60)*

Sporormurispora Wanas., Bulgakov, Gafforov & K.D. Hyde (2)

Westerdykella Stolk (50)

Striatiguttulaceae S.N. Zhang, K.D. Hyde & J.K. Liu

Longicarpus S.N. Zhang, K.D. Hyde & J.K. Liu (1)

Striatiguttula S.N. Zhang, K.D. Hyde & J.K. Liu (2)

Sulcatisporaceae Kaz. Tanaka & K. Hiray.

Anthosulcatispora Phukhams. & K.D. Hyde (2)

Magnicamarosporium Kaz. Tanaka & K. Hiray. (2)

Neobambusicola Crous & M.J. Wingf. (2)

Parasulcatispora Phukhams. & K.D. Hyde (1)

Pseudobambusicola Hern.-Restr. & Crous (1)*

Sulcatispora Kaz. Tanaka & K. Hiray. (2)

Teichosporaceae M.E. Barr

Asymmetrispora Thambug. & K.D. Hyde (2)

Aurantiascoma Thambug. & K.D. Hyde (1)

Chaetomastia (Sacc.) Berl. (10)

Floricola Kohlm. & Volkm.-Kohlm. (2)

Loculohypoxylon M.E. Barr (1)

Magnibotryascoma Thambug. & K.D. Hyde (2)

Misturatosphaeria Mugambi & Huhndorf (2)

Paulkirkia Wijayaw., Wanas., Tangthir., Camporesi & K.D. Hyde (1)

Pseudoaurantiascoma Thambug. & K.D. Hyde (1)

Pseudomisturatosphaeria Thambug. & K.D. Hyde (1)

Ramusculicola Thambug. & K.D. Hyde (1)

Sinodidymella J.Z. Yue & O.E. Erikss. (5)

Teichospora Fuckel (35)

Testudinaceae Arx

Angustospora Abdel-Aziz (1)

Halotestudina Dayar. & K.D. Hyde (1)

Lepidosphaeria Parg.-Leduc (1)

Lojkania Rehm (10)

Muritestudina Wanas., E.B.G. Jones & K.D. Hyde (1)

Neotestudina Segretain & Destombes (3)

Testudina Bizz. (1)

Ulospora D. Hawksw., Malloch & Sivan. (1)

Verruculina Kohlm. & Volkm.-Kohlm. (1)

Tetraplosphaeriaceae Kaz. Tanaka & K. Hiray

Byssolophis Clem. (3)

Ernakulamia Subram. (2)

Polyplosphaeria Kaz. Tanaka & K. Hiray. (5)

Pseudotetraploa Kaz. Tanaka & K. Hiray. (4)

Quadricrura Kaz. Tanaka, K. Hiray. & Sat. Hatak. (3)

Shrungabeeja V.G. Rao & K.A. Reddy (5)

Tetraploa Berk. & Broome (19)

Triplosphaeria Kaz. Tanaka & K. Hiray (4)

Thyridariaceae Q. Tian & K.D. Hyde

Chromolaenomyces Mapook & K.D. Hyde (1)

Cycasicola Wanas., E.B.G. Jones & K.D. Hyde (2)

Liua Phook. & K.D. Hyde (1)*

Parathyridaria Jaklitsch & Voglmayr (5)

Pseudothyridariella Mapook & K.D. Hyde (2)

Thyridaria Sacc. (52)

Thyridariella Devadatha, V.V. Sarma, K.D. Hyde, Wanas. & E.B.G Jones (2)

Torulaceae Corda

Dendryphion Wallr. (68)

Neotorula Ariyaw., Z.L. Luo & K.D. Hyde (2)

Rostriconidium Z.L. Luo, K.D. Hyde & H.Y. Su (2)

Rutola J.L. Crane & Schokn. (1)

Sporidesmioides Jun F. Li, Phook. & K.D. Hyde (1)

Torula Pers. (12)

Trematosphaeriaceae K.D. Hyde, Y. Zhang ter, Suetrong & E.B.G. Jones

Bryosphaeria Döbblers (9)

Falciformispora K.D. Hyde (4)

Hadrospora Boise (2)

Halomassarina Suetrong, Sakay., E.B.G. Jones, Kohlm., Volkm.-Kohlm. & C.L. Schoc (1)

Raghukumaria Devadatha, V.V Sarma & E.B.G Jones (1)

Trematosphaeria Fuckel (20)

Tzeananiaceae H.A. Ariyaw., A.J.L. Phillips & Chuang

Tzeanania H.A. Ariyaw., A.J.L. Phillips & Chuang (1)

Wicklowiaceae Ariyaw. & K.D. Hyde

Wicklowsia Raja, A. Ferrer & Shearer (2)

Zopfiaceae G. Arnaud ex D. Hawksw.

Celtidia J.M. Janse (1)

Coronopapilla Kohlm. & Volkm.-Kohlm. (2)

Rechingeriella Petr. (2)

Richonia Boud. (1)

Zopfia Rabenh. (5)

Zopfiouveola D. Hawksw. (1)

***Pleosporales* genera incertae sedis**

- Acuminatispora* S.N. Zhang, K.D. Hyde & J.K. Liu (1)
Aegeanispora E.B.G. Jones & Abdel-Wahab (1)
Antealophiotrema A. Hashim. & Kaz. Tanaka (1)
Ascorhombispora L. Cai & K.D. Hyde (1)
Atracidymella Davey & Currah (1)
Briansuttonia R.F. Castañeda, Minter & Saikawa (1)
Camarographium Bubák (7)
Chaetodiplodia P. Karst. (9)
Chaetophoma Cooke (ca. 30)
Cheironiliophora Tzean & J.L. Chen (4)
Crassiperidium M. Matsum. & Kaz. Tanaka (2)
Cyclothyrium Petr. (2)
Dangeardiella Sacc. & P. Syd. (2)
Daruvedia Dennis (1)
Dokmaia I. Promputtha (1)
Farasanispora Abdel-Wahab, Bahkali & E.B.G. Jones (1)
Glaxoa P.F. Cannon (1)
Homostegia Fuckel (2)
Hobus Jaklitsch & Voglmayr (1)
Inflatispora Y. Zhang ter, J. Fourn. & K.D. Hyde (2)
Isthmosporella Shearer & J.L. Crane (1)
Megacapitula J.L. Chen & Tzean (1)
Megamentella D.A.C. Almeida, Gusmão & A.N. Mill. (1)
Neocurreya Thambug. & K.D. Hyde (5)
Ostropella (Sacc.) Höhn. (5)
Paraepicoccum Matsush. (1)
Paraliomyces Kohlm. (1)
Parameliola Hongsanan, Peršoh & K.D. Hyde (2)
Perthomyces Crous (1)
Phialophorophoma Linder (1)
Pleosphaerellula Naumov & Czerepan. (2)
Pseudohendersonia Crous & M.E. Palm (2)
Pseudopassalora Crous (1)
Pyrenochaeta De Not. (5)
Rebentischia P. Karst. (16)
Repetophragma Subram. (38)
Scleroramularia Batzer & Crous (6)
Scolecobasidium E.V. Abbott (64)
Setophaeosphaeria Crous & Y. Zhang ter (6)
Sirodesmium De Not. (ca. 25)
Spiroplana Voglmayr, M.J. Park & H.D. Shin (1)
Stuartella Fabre (6)
Xenolophium Syd. (ca. 5)

***Pleosporomycetidae* genus incertae sedis**

- Hysterographium* Corda (3)

***Dothideomycetes* orders incertae sedis**

Abrothallales Pérez-Ort. & Suija [= *Lichenoconiales* Diederich, Lawrey & K.D. Hyde]

Lichenoconiaceae Diederich & Lawrey [= *Abrothallaceae* Pérez-Ort. & Suija]*

- Abrothallus* De Not (= *Epinephroma* Zhurb.; *Vouauxiomyces* Dyko & D. Hawks.) (42)*

Lichenoconium Petr. & Syd. (15)

Acrospermales Minter, Peredo & A.T. Watson

Acrospermaceae Fuckel

Acrospermum Tode (12)

Gonatophragmium Deighton (17)

Oomyces Berk. & Broome (7)

Acrospermales genus *incertae sedis*

Pseudovirgaria H.D. Shin, U. Braun, Arzanlou & Crous (2)

Asterinales M.E. Barr ex D. Hawksw. & O.E. Erikss. (= *Asterotexales* Firmino et al.)

Asterinaceae Hansf.

Asterina Lév. (ca. 1085)

Asterinella Theiss. (ca. 39)

Asterolibertia G. Arnaud (ca. 30)

Asterostomella Speg.

Batistinula Arx (1)

Cirsosia G. Arnaud (18)

Dothidasteromella Höhn. (11)

Echidnodella Theiss. & Syd. (35)

Halbania Racib. (3)

Meliolaster Höhn. (3)

Parasterinopsis Bat. (3)

Platypeltella Petr. (3)

Prillieuxina G. Arnaud (66)

Pycnocarpon Theiss.

Schenckiella Henn. (1)

Trichasterina G. Arnaud (11)

Trichopeltospora Bat. & Cif. (2)

Uleothyrium Petr. (3)

Vizellopsis Bat., J.L. Bezerra & T.T. Barros (1)

Asterotexaceae Firmino, O.L. Pereira & Crous

Asterotexis Arx (2)

Hemigraphaceae D.Q. Dai & K.D. Hyde*

Hemigrapha (Müll. Arg.) D. Hawksw. (8)

Lembosiaceae Hosag.

Lembosia Lév. (ca. 200)

Melaspileellaceae D.Q. Dai & K.D. Hyde*

Melaspileella (P. Karst.) Vain. (1)

Morenoinaceae Hongsanan & K.D. Hyde

Morenoina Theiss. (ca. 25)

Neobueliellaceae Hongsanan & K.D. Hyde

Neobueliella Hongsanan & K.D. Hyde

Stictographaceae D.Q. Dai & K.D. Hyde*

- Buelliella* Fink (12)
- Karschia* Körb. (4)
- Labrocarpon* Etayo & Pérez-Ort. (1)
- Melaspileopsis* (Müll. Arg.) Ertz & Diederich (1)
- Stictographa* Mudd (2)

Asterinales genera *incertae sedis*

- Andamanomyces* Hosag. (1)
- Caribaeomyces* Cif. (1)
- Discopycnothyrium* Hongsanan & K.D. Hyde (1)
- Hazslinszkyia* Körb. (4)
- Inocyclus* Theiss. & Syd. (6)
- Melanographa* Müll. Arg. (1)
- Pirozynskiella* S. Hughes (3)
- Vishnumyces* Hosag. (1)

Botryosphaeriales C.L. Schoch, Crous & Shoemaker

Aplosporellaceae Slippers, Boissin & Crous

- Alanomyces* Roh. Sharma (1)*
- Aplosporella* Speg. (= *Bagnisiella* Speg.) (10)*

Botryosphaeriaceae Theiss. & Syd. (= *Endomelanconiopsidaceae* Tao Yang & Crous)*

- Alanphillipsia* Crous & M.J. Wingf. (5)
- Barriopsis* A.J.L. Phillips, A. Alves & Crous (5)
- Botryobambusa* Phook., J.K. Liu & K.D. Hyde (2)
- Botryosphaeria* Ces. & De Not. (13)
- Cophinforma* Doilom, J.K. Liu & K.D. Hyde (2)
- Diplodia* Fr. (more than 1000 names in MycoBank, 30 known from culture)
- Dothiorella* Sacc. (389 names in MycoBank, 38 known from culture) (= *Spencermartinsia* A.J.L. Phillips, A. Alves & Crous)*
- Endomelanconiopsis* Rojas & Samuels (2)*
- Eutiarosporella* Crous (7)*
- Lasiodiplodia* Ellis & Everh. (35)
- Macrophomina* Petr. (2)
- Marasasiomyces* Crous (1)*
- Mucoharknessia* Crous, R.M. Sánchez & Bianchin. (2)*
- Neodeightonia* Booth (6)
- Neofusicoccum* Crous, Slippers & A.J.L. Phillips (4)
- Neoscytalidium* Crous & Slippers (3)*
- Oblongocollomyces* Tao Yang & Crous (1)*
- Phaeobotryon* Theiss. & Syd. (4)
- Sakireeta* Subram. & K. Ramakr. (1)*
- Sardiniella* Linaldeddu, A. Alves & A.J.L. Phillips (1)*
- Sphaeropsis* Sacc. (more than 600 names in MycoBank, 4 known from culture)
- Tiarosporella* Höhn. (2)

Melanopsaceae Phillips A.J.L., Slippers, Boissin & Crous

- Melanops* Nitschke ex Fuckel (105 names in MycoBank, 4 known from culture)

Phyllostictaceae Fr. (= *Pseudofusicoccumaceae* Tao Yang & Crous)

- Phyllosticta* Pers. (ca. 53)

Pseudofusicoccum Mohali, Slippers & M.J. Wingf. (7)*

Planistromellaceae M.E. Barr

Kellermania Ellis & Everh. (ca. 16)*

Mycosphaerellopsis Höhn. (1)

Planistroma A.W. Ramaley (6)

Umthunziomyces Crous & M.J. Wingf. (1)*

Saccharataceae Slippers, Boissin & Crous (= *Septorioideaceae* Wyka & Broders)

Neoseptorioides Crous, Jacq. Edwards & Pascoe (1)*

Pileospora Tanney & Seifert (1)

Saccharata Denman & Crous (20)

Septorioides Quaedvl., Verkley & Crous (2)*

Botryosphaeriales genera *incertae sedis*

Auerswaldiella Theiss. & Syd. (7)

Coccostromella Petr. (1)

Leptoguignardia E. Müll. (1)

Metameris Theiss. & Syd. (5)

Phyllachorella Syd. (8)

Pilgeriella Henn. (2)

Sivanesia W.H. Hsieh & Chi Y. Chen (1)

Vestergrenia Rehm (3)

Catinellales Ekanayaka, K.D. Hyde & Ariyaw.

Catinellaceae Ekanayaka, K.D. Hyde & Ariyaw.

Catinella Boud. (1 or 2)

Cladoriellales Crous

Cladoriellaceae Crous

Cladoriella Crous (5)

Collemopsidiales Pérez-Ort., Garrido-Ben. & Grube

Xanthopyreniaceae Zahlbr.

Collemopsidium Nyl. (27)

Didymellopsis (Sacc.) Clem. & Shear (6)

Frigidopyrenia Grube (1)

Xanthopyrenia Bachm. (2)

Zwackhiomacromyces Etayo & van den Boom (2)

Zwackhiomyces Grube & Hafellner (35)

Dyfrolomycetales K.L. Pang, K.D. Hyde & E.B.G. Jones

Pleurotremataceae Walt. Watson

Dyfrolomyces K.D. Hyde, K.L. Pang, Alias, Suetrong & E.B.G. Jones (8)

Melomastia Nitschke ex Sacc. (4)

Pleurotrema Müll. Arg. (1)

Eremithallales Lücking & Lumbsch

Melaspileaceae W. Watson (= *Eremithallaceae* Lücking & Lumbsch)

Encephalographa A. Massal. (1)

Melaspilea Nyl. (1 + c. 75 orphaned) (= *Eremithallus* Lücking et al.)

Eremomycetales Pem & Hyde

Eremomycetaceae Malloch & Cain

Eremomyces Malloch & Cain (2)

Rhexothecium Samson & Mouch. (1)

Eremomycetales genus *incertae sedis*

Arthrographis G. Cochet ex Sigler (12)

Jahnulales K.L. Pang, Abdel-Wahab, El-Shar., E.B.G. Jones & Sivichai

Aliquandostipitaceae Inderbitzin

Aliquandostipite Inderbitzin (7)

Brachiosphaera Nawawi (2)

Jahnula Kirschst. (19)

Megalohypha A. Ferrer & Shearer (1)

Neojahnula W. Dong, H. Zhang & K.D. Hyde (1)

Pseudojahnula W. Dong, H. Zhang & K.D. Hyde (1)

Xylomyces Goos, R.D. Brooks & Lamore (8)*

Manglicolaceae Suetrong & E.B.G. Jones

Manglicola Kohlm. & E. Kohlm. (1)*

Kirschsteiniotheliales Hern.-Restr., R.F. Castañeda, Gené & Crous

Kirschsteiniotheliaceae Boonmee & K.D. Hyde

Kirschsteiniothelia D. Hawksw. (29)

Kirschsteiniotheliales genera *incertae sedis*

Brachysporiella Bat. (*Brachysporiella s. lato.*) (15)

Taeniolella S. Hughes *sensu lato**

Lembosinales Crous

Lembosinaceae Crous

Lembosina Theiss. (21)

Lichenotheliales K. Knudsen, Muggia & K.D. Hyde

Lichenotheliaceae Henssen

Lichenothelia D. Hawksw. (27)

Endococcus Nyl. (44)

Microthyriales G. Arnaud

Microthyriaceae Sacc.

Arnaudiella Petr. (12)

Calothyriopsis Höhn. (4)

Chaetothyriotheceum Hongsanan & K.D. Hyde (1)

Hamatispora L.T.H. Yen, K. Yamag. & K. Ando (1)

Microthyrium Desm. (ca. 180)

Neoanungitea Crous (1)

Paramicrothyrium H.X. Wu & K.D. Hyde (1)

Pseudomicrothyrium X.Y. Zeng, S. Hongsanan & K.D. Hyde (1)

Pseudopenidiella Crous & Koukol (1)

Seynesiella G. Arnaud (5)

Tumidispora Hongsanan & K.D. Hyde (1)

Microthyriales genera *incertae sedis*

- Heliocephala* V. Rao, K.A. Reddy & de Hoog (7)
- Mitopeltis* Speg. (2)
- Neoscoleobasidium* Crous (1)
- Parazalerion* Madrid, Gené & Cano (1)*
- Thyriodictyella* Cif (1)
- Tothia* Bat. (2)

Minutisphaerales Raja, Oberlies, Shearer & A.N. Mill.

Acrogenosporaceae Jayasiri & K.D. Hyde*

- Acrogenospora* M.B. Ellis (12)

Minutisphaeraceae Raja, Oberlies, Shearer & A.N. Mill.

- Minutisphaera* Shearer, A.N. Mill. & A. Ferrer (4)

Monoblastiales Lücking, M.P. Nelsen & K.D. Hyde

Monoblastiaceae Walt. Watson

- Acrocordia* A. Massal. (6)
- Anisomeridium* (Müll. Arg.) M. Choisy (ca. 80)
- Caprettia* Bat. & H. Maia (8)
- Megalotremis* Aptroot (12)
- Monoblastia* Riddle (11)
- Trypetheliopsis* Asahina (6)

Murramarangomycetales Crous

Murramarangomycetaceae Crous

- Murramarangomyces* Crous (1)

Muyocoprionales Mapook, Boonmee & K.D. Hyde

Muyocoproneae K.D. Hyde

- Arxiella* Papendorf (3)
- Leptodiscella* Papendorf (5)
- Muyocopron* Speg. (51)
- Mycoleptodiscus* Ostaz. (18)
- Neocochlearomyces* Pinruan, Sommai, Suetrong, J.Z. Groenew. & Crous (1)
- Neomycoleptodiscus* Hern.-Restr., J.D.P. Bezerra & Crous (1)
- Paramycoleptodiscus* Crous & M.J. Wingf. (1)
- Pseudopalawania* Mapook & K.D. Hyde (1)
- Setoapiospora* Mapook & K.D. Hyde (1)

Natipusillales Raja, Shearer, A.N. Mill. & K.D. Hyde

Natipusillaceae Raja, Shearer & A.N. Mill.

- Natipusilla* A. Ferrer, A.N. Mill. & Shearer (4)

Parmulariales D.Q. Dai & K.D. Hyde*

Parmulariaceae E. Müll. & Arx ex M.E. Barr

- Aldona* Racib. (3)
- Aldonata* Sivan. & A.R.P. Sinha (1)
- Antoniomyces* Inácio (1)
- Aulacostroma* Syd. & P. Syd. (5)
- Campoa* Speg. (4)
- Cirsosiopsis* Butin & Speer (1)

Cocconia Sacc. (13)
Cycloschizon P. Henn. (13)
Cyclostomella Pat. (4)
Dothidasteroma Höhn. (4)
Ferrarisia Sacc. (ca. 8)
Hysterostomella Speg. (23)
Kiehlia Viégas (2)
Mintera Inácio & P.F. Cannon (1)
Pachypatella Theiss. & Syd. (1)
Palawaniella Doidge (7)
Parmularia Lév. (6)
Parmulariopsella Sivan. (1)
Parmulariopsis Petr. (1)
Parmulina Theiss. & Syd. (6)
Placoasterella Sacc. ex Theiss. & Syd. (4)
Placosoma Syd. (2)
Placostromella Petr. (3)
Pleiomastix Bat., J.L. Bezerra & H. Maia (1)
Polycyclina Theiss. & Syd. (1)
Polycyclus Höhn. (2)
Protothyrium G. Arnaud (4)
Pseudolembosia Theiss. (4)
Rhagadolobiosis Guatim. & R.W. Barreto (1)
Rhagadolobium P. Henn. & Lindau (10)
Rhipidocarpon (Theiss.) Theiss. & Syd. (1)
Symphaeophyma Speg. (1)
Syrropeltis Bat., J.L. Bezerra & Matta (1)
Thallomyces H.J. Swart (1)
Viegasella Inácio & P.F. Cannon (1)

Patellariales D. Hawksw. & O.E. Erikss.

Patellariaceae Corda

Baggea Auersw. (1)
Banhegyia L. Zeller & Tóth (2)
Colensoniella Hafellner (1)
Endotryblidium Petr. (1)
Glyphium Nitschke ex F. Lehm. (ca. 4)
Haematomyxa Sacc (2)
Holmiella Petrini, Samuels & E. Müll. (4)
Hysteropatella Rehm (3)
Hysteropeltella Petr. (1)
Lahmiomyces Cif. & Tomas. (1)
Lecanidiella Sherwood (1)
Lirelloisca Aptroot (1)
Murangium Seaver (1)
Patellaria Fr. (12)
Poetschia Körb. (4)
Pseudoparodia Theiss. & Syd. (1)
Rhizodiscina Hafellner (1)
Rimula Velen. (1)
Schrakia Hafellner (1)
Stratisporella Hafellner (1)

Tryblidaria (Sacc.) Rehm (9)

Phaeotrichales Ariyaw., Jian K. Liu & K.D. Hyde

Phaeotrichaceae Cain

Echinoascotheca Matsush. (1)

Phaeotrichum Cain & M.E. Barr (2)

Trichodelitschia Munk (4)

Stigmatodiscales Voglmayr & Jaklitsch

Stigmatodiscaceae Voglmayr & Jaklitsch

Stigmatodiscus Voglmayr & Jaklitsch (= *Asterodiscus* Voglmayr et al.) (6)*

Strigulales Lücking, M.P. Nelsen & K.D. Hyde

Strigulaceae Zahlbr. (= *Phyllobatheliaceae* Bitter & F. Schill.)

Dichoporis Clem. (18)

Flagellostrigula Lücking & S.H. Jiang (1)

Flavobathelium Lücking, Aptroot & G. Thor (1)

Phyllobathelium (Müll. Arg.) Müll. Arg (8)

Phyllocharis Fée (1)

Phyllocraterina Sérus. & Aptroot (= *Phyllocratera* Sérus. & Aptroot) (2)

Phylloporis Clem. (ca. 10)

Puiggariella Speg. (3)

Raciborskiella Höhnelt (2)

Racoplaca Fée (5)

Serusiauxiella S.H. Jiang, Lücking & J.C. Wei (3)

Strigula Fr. (ca. 30)

Swinscowia S.H. Jiang & Lücking (33)

Tenuitholiascaceae S.H. Jiang, Lücking & J.C. Wei*

Tenuitholiascus S.H. Jiang, Lücking & J.C. Wei. (1)

Superstratomyces van Nieuwenh., Miądl., Houbraken, Adan, Lutzoni & Samson

Superstratomyces van Nieuwenh., Miądl., Houbraken, Adan, Lutzoni & Samson

Superstratomyces van Nieuwenh., Miądl. & Samson (4)

Trypetheliales Lücking, Aptroot & Sipman

Polycoccaceae Ertz, Hafellner & Diederich

Clypeococcum D. Hawksw. (ca. 10)

Polycoccum Saut. ex Körb. (ca. 60)

Trypetheliaceae Zenker

Alloarthopyrenia Phukhams., Lücking & K.D. Hyde (1)

Aptrootia Lücking & Sipman (3)

Architrypethelium Aptroot (8)

Astrothelium Eschw. (= *Campylothelium* Müll.) (ca. 275)

Bathelium Ach. (16)

Bogoriella Zahlbr. (= *Distothelia* Aptroot) (29)

Constrictolumina Lücking, M.P. Nelsen & Aptroot (9)

Dictyomeridium Aptroot, M.P. Nelsen & Lücking (7)

Macroconstrictolumina Lücking, R. Miranda & Aptroot (5)

Marcelaria Aptroot (= *Buscalonia* Sambo) (3)

Nigrovothelium Lücking, M.P. Nelsen & Aptroot (3)

Novomicrothelia Aptroot, M.P. Nelsen & Lücking (1)
Polymeridium (Müll. Arg.) R.C. Harris (51)
Polypyrenula D. Hawksw. (1)
Pseudobogoriella Lücking, R. Miranda & Aptroot (15)
Pseudopyrenula Müll. Arg. (21)
Schummia Lücking, R. Miranda & Aptroot (1)
Trypethelium Sprengel (16)
Viridothelium Lücking, M.P. Nelsen & Aptroot (= ?*Exiliseptum* R.C. Harris *vide* Hongsanan et al. 2020) (11)

Tubeufiales Boonmee & K.D. Hyde (= *Bezerromycetales* J.D.P. Bezerra et al.; = *Wiesneriomycetales* J.D.P. Bezerra et al.)

Bezerromycetaceae J.D.P. Bezerra, Souza-Motta & Crous

Bezerromyces J.D.P. Bezerra, Souza-Motta & Crous (2)
Neorhamphoria Boonmee, E. Hüseyin & F. Selçuk (1)
Xiliomyces J.D.P. Bezerra, Souza-Motta & Crous (1)

Tubeufiaceae M.E. Barr

Acanthohelicospira Boonmee & K.D. Hyde (4)
Acanthophiobolus Berl. (6)
Acanthostigma De Not. (64)
Acanthostigmia Höhn. (7)
Acanthotubeufia Y.Z. Lu & K.D. Hyde (1)
Aquaphila Goh, K.D. Hyde & W.H. Ho (2)
Artocarpomyces Subram. (1)
Berkleasmium Zobel (ca. 40)
Bifrontia Norman (2)
Boerlagiomyces Butzin (9)
Camporesiomyces D.P. Wei & K.D. Hyde (1)
Chaetosphaerulina I. Hino (6)
Chlamydotubeufia Boonmee & K.D. Hyde (8)
Dematiohelicoma Y.Z. Lu, J.C. Kang & K.D. Hyde (2)
Dematiohelicomyces Y.Z. Lu, Boonmee & K.D. Hyde (1)
Dematiohelicosporum Y.Z. Lu, J.K. Liu & K.D. Hyde (1)
Dematiotubeufia Y.Z. Lu, Boonmee & K.D. Hyde (1)
Dictyospora Brahaman., Y.Z. Lu, Boonmee & K.D. Hyde (1)
Discotubeufia Jayasiri, E.B.G. Jones & K.D. Hyde (1)
Helicangiospora Boonmee, Bhat & K.D. Hyde (1)
Helicoarctatus Y.Z. Lu, J.C. Kang & K.D. Hyde (1)
Helicodochium J.S. Monteiro, R.F. Castañeda, A.C. Cruz & Gusmão (2)
Helicohyalinum Y.Z. Lu, J.K. Liu & K.D. Hyde (2)
Helicoma Corda (ca. 40)
Helicomycetes Link (14)
Helicosporium Nees (ca. 15)
Helicotruncatum Y.Z. Lu, J.C. Kang & K.D. Hyde (1)
Helicotubeufia Y.Z. Lu & J.K. Liu (3)
Kamalomyces R.K. Verma, N. Sharma & Soni (5)
Kevinhydea N.G. Liu, Y.Z. Lu & J.K. Liu (1)
Manoharachariella Bagyan., N.K. Rao & Kunwar (4)
Muripulchra Z.L. Luo, Hong Y. Su & K.D. Hyde (1)
Neoacanthostigma Boonmee, Bhat & K.D. Hyde (8)
Neochlamydotubeufia Y.Z. Lu, Boonmee & K.D. Hyde (2)

Neohelicoma Y.Z. Lu, Boonmee & K.D. Hyde (1)
Neohelicomyces Z.L. Luo, Bhat & K.D. Hyde (3)
Neohelicosporium Y.Z. Lu, J.C. Kang & K.D. Hyde (7)
Neotubeufia Chaiwan, Boonmee, Y.Z. Lu & K.D. Hyde (1)
Pleurohelicosporium Y.Z. Lu, J.C. Kang & K.D. Hyde (1)
Podonectria Petr. (11)
Pseudohelicomyces Y.Z. Lu, J.K. Liu & K.D. Hyde (5)
Pseudohelicoon Y.Z. Lu & K.D. Hyde (2)
Tamhinispora Rajeshkumar & Rahul Sharma (2)
Thaxteriella Petr. (15)
Thaxteriellopsis Sivan., Panwar & S.J. Kaur (3)
Tubeufia Penz. & Sacc. (ca. 60)

Wiesneriomycetaceae Suetrong, Rungjind., Somrith. & E.B.G. Jones

Parawiesneriomyces Crous & M.J. Wingf. (1)
Phalangispora Nawawi & J. Webster (3)
Pseudogliophragma Phadke & V.G. Rao (1)
Setosynnema D.E. Shaw & B. Sutton (3)
Speiropsis Tubaki (8)
Wiesneriomyces Koord. (4)

Valsariales Jaklitsch, K.D. Hyde & Voglmayr

Valsariaceae Jaklitsch, K.D. Hyde & Voglmayr

Bambusaria Jaklitsch, D.Q. Dai, K.D. Hyde & Voglmayr (1)
Myrmaecium Nitschke ex Fuckel (ca. 3)
Valsaria Ces. & De Not. (140 epithets)

Venturiales Y. Zhang ter, C.L. Schoch & K.D. Hyde

Symptoventuriaceae Y. Zhang ter, C.L. Schoch & K.D. Hyde

Acroconidiellina M.B. Ellis (4)
Clavatispora Boonmee & K.D. Hyde (1)
Fusicladium Bonord. (75)
Matsushimaea Subram. (4)
Mycosisymbrium Carris (1)
Ochroconis de Hoog & Arx (28)
Symptoventuria Crous & Seifert (3)
Veronaeopsis Arzanlou & Crous (1)
Verruconis Samerp., H.J. Choi, van den Ende, Horré & de Hoog (5)
Yunnanomyces Tibpromma & K.D. Hyde (2)

Venturiaceae E. Müll. & Arx ex M.E. Barr

Apiosporina Höhn. (6)
Atopospora Petr. (4)
Caproventuria U. Braun (2)
Coleroa (Fr.) Rabenh. (56)
Dimeriella Speg. (51)
Dimerosporiopsis Henn. (1)
Magnohelicospora R.F. Castañeda, Hern.-Restr., Gené & Guarro (2)
Metacoleroa Petr. (1)
Neocoleroa Petr. (6)
Protoventuria Berl. & Sacc. (45)
Pseudoanungitea Crous (3)*

Pseudoparodiella F. Stevens (1)
Tyrannosorus Unter. & Malloch (1)
Venturia Sacc. (ca. 60)

Venturiales genera *incertae sedis*

Cylindrosympodioides Crous & M.J. Wingf. (1)
Cylindrosyndium W.B. Kendr. & R.F. Castañeda (12)
Lasiobotrys Kunze (9)

Zeloasperisporiales Hongsanan & K.D. Hyde

Zeloasperisporiaceae Crous
Zeloasperisporium R.F. Castañeda (8)

Dothideomycetes families *incertae sedis*

Alinaceae Boonmee & K.D. Hyde
Alina Racib. (1)

Argynnaceae Shearer & J.L. Crane

Argynna Morgan (1)
Lepidopterella Shearer & J.L. Crane (2)

Ascoporiaceae Kutorga & D. Hawksw.

Ascoporia Samuels & A.I. Romero (1)

Aulographaceae Luttr. ex P.M. Kirk, P.F. Cannon & J.C. David

Aulographum Lib. (ca. 30)
Echidnodes Theiss. & Syd. (31)
Lembosiella Sacc. (1)
Thyriopsis Theiss. & Syd. (3)

Balladynaceae Boonmee & K.D. Hyde

Balladyna Racib. (41)
Balladynocallia Bat. (3)
Balladynopsis Theiss. & Syd. (10)

Cleistosphaeraceae Boonmee & K.D. Hyde

Cleistosphaera Syd. & P. Syd. (1)

Coccoideaceae P. Henn. ex Sacc. & D. Sacc.

Coccoidea P. Henn. (4)
Cocoidella Höhn. (9)
Englerodothis Theiss. & Syd. (3)

Cookellaceae Höhn. ex Saccardo & Trotter

Cookella Sacc. (4)
Pycnoderma Syd. & P. Syd. (2)

Dimeriaceae E. Müll. & Arx ex Arx & E. Müll.

Dimerium (Sacc. & P. Syd.) McAlpine (79)

Dubujianaceae D. Pem, Doilom & K.D. Hyde

Dubujiana D.R. Reynolds & G.S. Gilbert (1)

Dysrhynchisceae Boonmee & K.D. Hyde

Dysrhynchis Clem. (4)

Endosporiaceae D. Pem

Endosporium Tsuneda (2)

Englerulaceae P. Henn.

Allosoma Syd. (5)

Digitosarcinella S. Hughes (1)

Englerula P. Henn. (13)

Goosia B. Song (1)

Parenglerula Höhn. (7)

Rhytidenglerula Höhn. (11)

Sarcinella Sacc. (ca. 70)

Thrauste Theiss. (3)

Eriomycetaceae Huanraluek & K.D. Hyde

Eriomyces Huanraluek, Thambugala & K.D. Hyde (1)

Funbolia Crous & Seifert (1)

Heleiosa Kohlm., Volkm.-Kohlm. & O.E. Erikss. (1)

Phellinocrescentia Crous & Decock (1)

Pseudopassalora Pseudopassalora Crous (1)

Homortomycetaceae Thambug., A.J.L. Phillips & K.D. Hyde

Homortomyces Crous & M.J. Wingf. (2)

Hyalomeliolinaceae Boonmee & K.D. Hyde

Hyalomeliolina F. Stevens (2)

Leptopeltidaceae Höhn. ex Trotter

Dothiopeltis E. Müll. (2)

Leptopeltis Höhn. (11)

Ronnigeria Petr. (1)

Staibia Bat. & Peres (1)

Macrovalsariaceae D. Pem, Doilom & K.D. Hyde

Macrovalsaria Petr. (1)

Meliolinaceae S. Hughes

Briania D.R. Reynolds (1)

Meliolina Syd. & P. Syd. (ca. 40)

Mesnieraceae Arx & E. Müll.

Bondiella Piroz. (1)

Mesniera Sacc. & P. Syd. (1)

Stegasphaeria Syd. & P. Syd. (3)

Naetrocymbaceae Höhn. ex R.C. Harris

Bonaria Bat. (4)

Jarxia D. Hawksw. (2)

Leptorhaphis Körb. (14)

Naetrocymbe Körb. (1)

- Tomasellia* A. Massal. (ca. 5)
- Nematotheciaceae*** Boonmee & K.D. Hyde
Nematothecium Syd. & P. Syd. (5)
Nematostigma Syd. & P. Syd. (5)
Ophioparodia Petr. & Cif. (1)
- Neoparodiaceae*** Boonmee & K.D. Hyde
Neoparodia Petr. & Cif. (1)
- Palawaniaceae*** Mapook & K.D. Hyde
Palawania Syd. & P. Syd. (2)
- Paranectriellaceae*** S. Boonmee & K.D. Hyde
Paranectriella (Henn. ex Sacc. & D. Sacc.) Magnus. (= *Araneomyces* Höhn.) (9)
Puttemansia Henn. (18)
- Parodiellaceae*** Theiss. & H. Syd. ex M.E. Barr
Parodiella Speg. (4)
- Perisporiopsidaceae*** E. Müll. & Arx ex R. Kirschner & T.A. Hofm. (= *Parodiopsidaceae* Toro)
Asteronia (Sacc.) Henn. (2)
Byssocallis Syd. (3)
Chevalieropsis G. Arnaud (1)
Parodiellina Henn. ex G. Arnaud (1)
Perisporiopsis Henn. (22)
- Phaeodimeriellaceae*** Boonmee, Mapook & K.D. Hyde
Phaeodimeriella Speg. (30)
- Pododimeriaceae*** Boonmee & K.D. Hyde
Chaetoscutula E. Müll. (1)
Pododimeria E. Müll. (4)
- Polyclypeolinaceae*** Boonmee & K.D. Hyde
Polyclypeolina Bat. & I.H. Lima (1)
- Polystomellaceae*** Theiss. & H. Syd.
Dermatodothella Viégas (1)
Dothidella Speg. (2)
Munkiella Speg. (3)
Parastigmatea Doidge (3)
- Protoscyphaceae*** Kutorga & D. Hawksw.
Protoscypha Syd. (2)
- Pseudoperisporiaceae*** Toro
Bryomyces Döbbeler (12)
Eudimeriolum Speg. (8)
Lasiostemma Theiss. (5)
Nematostoma Syd. & P. Syd. (13)

Pseudorobillardaceae Crous

Pseudorobillarda M. Morelet (12)

Pyrenidiaceae Zahlbr.

Pyrenidium Nyl. (11)

Seynesiopeltidaceae K.D. Hyde

Seynesiopeltis F. Stevens & R.W. Ryan (1)

Stomatogeneaceae Boonmee & K.D. Hyde

Stomatogene Theiss. (3)

Thyrinulaceae X.Y. Zeng, S. Hongsanan & K.D. Hyde

Blastacervulus H.J. Swart (2)

Paraopeba V.P. Abreu, A.A.M. Gomes, Firmino & O.L. Pereira (1)

Thyrinula Petr. & Syd. (= *Alysiidiella* Crous) (1)

Toroaceae Boonmee & K.D. Hyde

Toroa Syd. (2)

Trichopeltinaceae Bat., C.A.A. Costa & Cif.

Acrogenotheca Cif. & Bat. (3)

Brefeldiella Speg. (4)

Saccardinula Speg. (11)

Trichopeltella Höhn. (1)

Trichopeltheca Bat. (2)

Trichopeltina Theiss. (2)

Trichothyrinula Petr. (2)

Trichothyriaceae Theiss.

Lichenopeltella Höhn. (48)

Macrographa Etayo (1)

Pachythyrium G. Arnaud ex Spooner & P.M. Kirk (1)

Trichothyrium Speg. (12)

Vizellaceae H.J. Swart

Acarella Syd. (1)

Blasdalea Sacc. & P. Syd. (1)

Vizella Sacc. (11)

Dothideomycetes genera *incertae sedis*

Acanthorus Bat. & Cavalc. (1)

Acanthostigmella Höhn. (6)

Achorella Theiss. & Syd. (10)

Actinomyxa Syd. & P. Syd. (1)

Alascospora Raja, Violi & Shearer (1)

Ampullifera Deighton (6)

Anguillosporella U. Braun (2)

Anopeltis Bat. & Peres (1)

Arkoola J. Walker & Stovold (1)

Armata W. Yamam. (1)

Ascominuta Ranghoo & K.D. Hyde (2)

Asterinema Bat. & Gayão (3)
Asterodothis Theiss. (1)
Asteromassaria Höhn. (12)
Asteromella Pass. & Thüm. (ca. 265)
Asteroporum Müll. Arg. (7)
Auerswaldia Sacc. (ca. 20)
Bactrodesmium Cooke (ca. 50)
Bahusakala Subram. (4)
Brachyconidiella R.F. Castañeda & W.B. Kendr. (1)
Brooksia Hansf. (1)
Bryorella Döbbeler (10)
Bryostroma Döbbeler (8)
Bryothele Döbbeler (2)
Bysso gene Syd. (2)
Callebaea Bat. (1)
Calyptra Theiss. & Syd. (5)
Capillataspora K.D. Hyde (1)
Caryosporella Kohlm. (1)
Catulus Malloch & Rogerson (1)
Ceramoclasteropsis Bat. & Cavalc. (2)
Ceratophoma Höhn. (2)
Cercidospora Körb. (101)
Cerodothis Muthappa (1)
Chaetocrea Syd. (1)
Chaetosticta Petr. & Syd. (3)
Chionomyces Deighton & Piroz. (7)
Chuppia Deighton (2)
Cilioplea Munk (ca. 10)
Cirsosina Bat. & J.L. Bezerra (2)
Clavariopsis De Wild. (ca. 5)
Clypeostroma Theiss. & Syd. (ca. 3)
Cocciscia Norman (2)
Coccochora Höhn. (4)
Coccochorina Hara (2)
Coccodothis Theiss. & Syd. (2)
Comesella Speg. (1)
Comminutispora A.W. Ramaley (1)
Coniosporium Link (ca. 20)
Crauatamyces Viégas (1)
Crotone Theiss. & Syd. (1)
Cryomyces Selbmann, de Hoog, Mazzaglia, Friedmann & Onofri (4)
Cyclothea Theiss. (9)
Dactuliophora C.L. Leakey (5)
Dawsomyces Döbbeler (2)
Dawsophila Döbbeler (3)
Dermatodothis Racib. ex Theiss. & Syd. (6)
Dianesea Inácio & P.F. Cannon (1)
Dictyoasterina Hansf. (1)
Dictyodochium Sivan. (1)
Dictyopeltis Theiss. (6)
Dictyostomiopelta Viégas (1)
Dictyothyriella Speg. (1)

Dictyothyria Theiss. (1)
Dictyothyrium Theiss. (2)
Didymocyrtidium Vain. (2)
Didymolepta Munk (2)
Didymopleella Munk (3)
Diplochorina Gutner (1)
Dothichiza Lib. ex Roum. (15)
Dothideopsella Höhn. (1, but more epithets exist)
Dothivalsaria Petr. (1)
Dubitatio Speg. (1)
Echinothecium Zopf (2)
Elmerinula Syd. (1)
Epibelonium E. Müll. (1)
Eriomyopsis Speg. (13)
Eriothyrium Speg. (1, but more epithets exist)
Eupelte Syd. (5)
Excipulariopsis P.M. Kirk & Spooner (1)
Extrusotheceum Matsush. (2)
Fusicladiella Höhn. (5)
Gibbera Fr. (ca. 28)
Gilletiella Sacc. & P. Syd. (3)
Globoa Bat. & H. Maia (2)
Globulina Speg. (1 *vide* Kirk et al. 2008)
Gloeodiscus Dennis (1)
Govindua Bat. & H. Maia (1)
Griggsia F. Stevens & Dalbey (1)
Halokirschsteiniothelia Boonmee & K.D. Hyde (1)
Hansfordiella S. Hughes (8)
Hansfordiellopsis Deighton (5)
Hansfordiopsis Bat. (1)
Harknessiella Sacc. (1)
Helminthopeltis Sousa da Câmara (1)
Heptameria Rehm & Thuem. (2)
Heptaster Cif., Bat. & Nascim. (3)
Heteroconium Petr. (21)
Heterosphaeriopsis Hafellner (1)
Hidakaea I. Hino & Katum. (2)
Hyalocrea Syd. & P. Syd. (4)
Hyaloscolecostroma Bat. & J. Oliveira (1)
Hyalosphaera F. Stevens (4)
Hyalotheles Speg. (1)
Hypobryon Döbbeler (7)
Hysteropsis Rehm (4)
Isomunkia Theiss. & Syd. (1)
Isthmospora F. Stevens (3)
Jaffuela Speg. (1)
Kabatia Bubák (ca. 10)
Keratosphaera H.P. Upadhyay (6)
Kriegeriella Höhn. (4)
Krishnamyces Hosag. (1)
Kullhemia P. Karst. (2)
Kusanobotrys P. Henn. (2)

Lanatosphaera Matzer (2)
Lautitia S. Schatz (1)
Lazarenkoa Zerova (1)
Lembosiopeltis Bat. & J.L. Bezerra (2)
Leptomeliola Höhn. (13)
Letendraeopsis K.F. Rodriguez & Samuels (1)
Leveillella Theiss. & Syd. (1)
Leveillina Theiss. & Syd. (2)
Lichenotubeufia Etayo (5)
Licopolia Sacc., Syd. & P. Syd. (2)
Lignosphaeria Boonmee, Thambug. & K.D. Hyde (2)
Limaciniopsis Mend. (1)
Lineolata Kohlm. & Volkm.-Kohlm. (1)
Linopeltis I. Hino & Katum. (2)
Lophionema Sacc. (9)
Lucidascocarpa A. Ferrer, Raja & Shearer (1)
Macowaniella Doidge (2)
Maheshwaramyces Hosag. (2)
Maireella Syd. & Maire (ca. 5)
Malacaria Syd. (2)
Manginula G. Arnaud (ca. 5)
Marquesius L.B. Conç., R.F. Castañeda & Gusmão (1)
Massariola Füsting (2)
Maublancia G. Arnaud (1)
Melioliphila Speg. (7)
Mendoziopeltis Bat. (4)
Microcyclella Theiss. (1)
Microdothella Syd. & P. Syd. (2)
Monoblastiopsis R.C. Harris & C.A. Morse (2)
Monodictys S. Hughes (ca. 50)
Monorhizina Theiss. & Syd. (1)
Montagnella Speg. (9)
Moriolomyces Cif. & Tomas. (1)
Muricopeltis Viégas (1)
Muroia I. Hino & Katum. (1)
Mycocryptospora J. Reid & C. Booth (1)
Mycodidymella C.Z. Wei, Y. Harada & Katum. (1)
Mycoglaena Höhn. (16)
Mycoporellum Müll. Arg. (7)
Mycoporopsis Müll. Arg. (ca. 10)
Mycothyridium Petr. (30)
Myriangiopsis P. Henn. (2)
Myriostigmella G. Arnaud (1)
Mytilostoma P. Karst. (2)
Myxophora Döbbeler & Poelt (7)
Nannfeldtia Petr. (2)
Neodactylaria Guevara-Suarez, Deanna A. Sutton, Wiederh. & Gené (1)
Neopeckia Sacc. (1 *vide* Kirk et al. 2008)
Neosporidesmium Mercado & J. Mena (15)
Neottiosporina Subram. (11)
Neoventuria Syd. & P. Syd. (1)
Ocala Raja & Shearer (1)

Oletheriostrigula Huhndorf & R.C. Harris (1)
Omphalospora Theiss. & Syd. (2)
Oncopodiella G. Arnaud ex Rifai (13)
Ophioirenina Sawada & W. Yamam. (1)
Ophiotrichum Kunze (3)
Otthia Nitschke ex Fuckel (11)
Parmulariella P. Henn. (1)
Paropodia Cif. & Bat. (1)
Passeriniella Berl. (7)
Passerinula Sacc. (1)
Pauahia F. Stevens (1)
Peltaster Syd. & P. Syd. (8)
Peltasterella Bat. & H. Maia (1)
Pendulispora M.B. Ellis (1)
Perischizon P. Syd. (3)
Peroschaeta Bat. & A.F. Vital (1)
Petrakina Cif. (3)
Petrakiopeltis Bat., A.F. Vital & Cif. (1)
Phacidina Höhn. (1)
Phaeocyrtidula Vain. (2)
Phaeopeltosphaeria Berl. & Peglion (2)
Phaeosclera Sigler, Tsuneda & J.W. Carmich. (1)
Phaeosperma Nitschke ex Fuckel (1)
Phaeostigme Syd. & P. Syd. (6)
Phaeotomasellia Katum. (1)
Phanerococcus Cif. (1)
Philobryon Döbbeler (1)
Philonectria Hara (3)
Phragmaspidium Bat. (3)
Phragmogibbera Samuels & Rogerson (3)
Phragmoscutella Woron. & Abramov ex Woron. (1)
Phragmosperma Theiss. & Syd. (1)
Phycorella Döbbeler (1)
Physalosporopsis Bat. & H. Maia (1)
Pirozynskia Subram. (1)
Placoasterina Toro (1)
Placodothis Syd. (1)
Placomelan Cif. (1)
Placosphaeria (De Not.) Sacc. (1, but several other epithets exist)
Plagiostromella Höhn. (1)
Plejobolus (E. Bommer et al.) O.E. Erikss. (1 or 2 species)
Plenotrichaius Bat. & Valle (1)
Pleomerium Speg. (1)
Pleotrichiella Sivan. (1)
Polycyclinopsis Bat., A.F. Vital & I.H. Lima (1)
Polyrhizon Theiss., Syd. & P. Syd. (2)
Polysporidiella Petr. (1)
Polystomellopsis F. Stevens (1)
Proliferosphaera T.P. Devi (1)
Pseudoarthrographis Crous & Thangavel (1)
Pseudomorfea Punith. (1)
Pseudopleospora Petr. (1)

Punctillum Petr. & Syd. (1)
Pyrenobotrys Theiss. & Syd. (1)
Pyrenochium Link (1)
Pyrenocyclus Petr. (1)
Pyrenostigma Syd. (1)
Radulidium Arzanlou, W. Gams & Crous (3)
Rhizotexis Theiss. & Syd. (1)
Rhopoglyphus Nitschke ex Fuckel (6)
Rosellinula R. Sant. (4)
Rosenscheldia Speg. (1)
Roumegueria (Sacc.) P. Henn. (1)
Rupestriomyces Lei Su, Li Y. Guo & Xing Z. Liu (3)
Sapucchaka K. Ramakr. (2)
Saxomyces L. Selbmann & D. Isola (2)
Scleroconidioma Tsuneda, Currah & Thormann (1)
Scolecobonaria Bat. (2)
Scolecoxyphium Cif. & Bat. (5)
Scolionema Theiss. & Syd. (1)
Semisphaeria K. Holm & L. Holm (1)
Septoidium G. Arnaud (ca. 7)
Shearia Petr. (2)
Shivamyces Hosag. (2)
Sivanesaniella Gawande & D.K. Agarwal (1)
Solicorynespora R.F. Castañeda & W.B. Kendr. (29)*
Soloacrosporiella Crous & M.J. Wingf. (1)
Spilodochium Syd. (4)
Spissomyces Lei Su, Li Y. Guo & Xing Z. Liu (2)
Stegothyrium Höhn. (2)
Stephanotheca Syd. & P. Syd. (4)
Stigmatodothis Syd. & P. Syd. (1)
Stigmatophragma Tehon & G.L. Stout (1)
Symphaster Theiss. & Syd. (1)
Taphrophila Scheuer (4)
Teichosporella (Sacc.) Sacc. (26)
Teratoschaeta Bat. & Fons.) (1)
Tetracrium Henn. (7)
Thallassoascus Ollivier (3)
Thelenidia Nyl. (1)
Thryptospora Petr. (1)
Tilakiella Srinivas. (1)
Tomeoa I. Hino (1)
Torulopsiella Bender (2)
Trematosphaeriopsis Elenkin (1)
Tretospora M.B. Ellis (8)
Trichodothella Petr. (1)
Trichodothis Theiss. & Syd. (3)
Trichometasphaeria Munk (8)
Trichothyriella Theiss. (1)
Tropospora P. Karst. (4)
Uredinophila Rossman (2)
Wentomyces Koord. (ca. 50)
Westea H.J. Swart (1)

Wettsteinina Höhn. (30)
Xenomeris Syd. (11)
Xenosporium Penz. & Sacc. (18)
Xenostomella Syd. (2)
Xylopezia Höhn. (ca. 3)
Yoshinagaia Henn. (1)
Yoshinagella Höhn. (4)

Eurotiomycetes Tehler ex O.E. Eriksson & K. Winka

Chaetothyriomycetidae Doweld

Chaetothyriales M.E. Barr

Chaetothyriaceae Hansf. ex M.E. Barr

Actinocymbe Höhn. (3)
Aithaloderma Syd. & P. Syd. (13)
Aphanophora Réblová & Unter. (1)
Arthrophia (D.J. Soares, R.W. Barreto & U. Braun) W.S. Lisboa, Meir. Silva & R.W. Barreto (1)*
Beelia F. Stevens & R.W. Ryan (3)
Camptophora Réblová & Unter. (2)*
Ceramothyrium Bat. & H. Maia (35)
Ceratocarpia Rolland (2)
Chaetothyriomyces Pereira-Carv., Inácio & Dianese (1)
Chaetothyrium Speg. (51)
Cyphellophoriella Crous & A.J. Sm. (1)
Euceramia Bat. & Cif. (3)
Longihyalospora D.S. Tennakoon, C.H. Kuo & K.D. Hyde (2)
Microcallis Syd. (10)
Nullicomyces Crous (1)
Phaeosaccardinula P. Henn. (27)
Stanhughesia Constant. (1)
Treubiomyces Höhn. (7)
Vonarxia Bat. (2)
Yatesula Syd. & P. Syd. (2)

Coccodiniaceae Höhn. ex O.E. Erikss.

Coccodinium A. Massal. (4)
Dennisiella Bat. & Cif. (= *Microxiphium* (Harv. ex Berk. & Desm.) Thüm.) (9)
Limacinula Höhn. (17)

Cyphellophoraceae Réblová & Unter.

Anthopsis Fil. March., A. Fontana & Luppi Mosca (2)*
Cyphellophora G.A. de Vries (25)*

Epibryaceae S. Stenroos & Gueidan

Epibryon Döbbeler (ca. 40)

Herpotrichiellaceae Munk

Aculeata W. Dong, H. Zhang & K.D. Hyde (1)*
Brycekendrickomyces Crous & M.J. Wingf. (1)
Capronia Sacc. (ca. 81)
Cladophialophora Borelli (35)*
Exophiala J.W. Carmich. (51)*

Fonsecaea Negroni (8)*
Marinophialophora J.F. Li, Phook. & K.D. Hyde (1)
Melanoctona Qing Tian, Doilom & K.D. Hyde (1)
Metulocladosporiella Crous, Schroers, J.Z. Groenew., U. Braun & K. Schub. (6)
Minimelanolocus R.F. Castañeda & Heredia (33)*
Phialophora Medlar (7)*
Pleomelogramma Speg. (2)
Rhinocladiella Nannf. (17)
Sorocybe Fr. (3)
Thysanorea Arzanlou, W. Gams & Crous (2)*
Veronaea Cif. & Montemart. (20)

Lyrommataceae Lücking

Lyromma Bat. (7)

Microtheliopsidaceae O.E. Erikss.

Microtheliopsis Müll. Arg. (4)

Paracladophialophoraceae Crous

Paracladophialophora Crous (2)*

Pyrenotrichaceae Zahlbr

Pyrenothrix Riddle (2)

Neophaeococcomyces Crous & M.J. Wingf. (2)

Trichomeriaceae Chomnunti & K.D. Hyde (= *Strelitzianaceae* Crous & M.J. Wingf.)

Arthrocladium Papendorf (4)*

Bradomyces Hubka, Réblová, Selbmann & M. Kolařík (3)*

Knufia L.J. Hutchison & Unter. (13)*

Lithohypha Selbmann & Isola (1)

Lithophila Selbmann & Isola (1)*

Neostrelitziana Crous & M.J. Wingf. (1)

Strelitziana Arzanlou & Crous (8)

Trichomerium Speg. (28)

Chaetothyriales genera *incertae sedis*

Atrokyliindriopsis Y.R. Ma & X.G. Zhang (1)

Bacillicladium Hubka, Réblová & Thureborn (1)*

Lichenodiplis Dyko & D. Hawksw. (= *Laeviomyces* D. Hawksw.) (13)

Lichenodiplisiella S.Y. Kondr. & Kudratov (1)

Melnikomycetes Crous & U. Braun (1)

Minutoexcipula V. Atienza & D. Hawksw. (7)

Muellerella Hepp (14)*

Pleostigma Kirschst. (9)

Sarcinomyces Lindner (5)

Uncispora R.C. Sinclair & Morgan-Jones (3)

Phaeomoniellales K.H. Chen, A.E. Arnold, Gueidan & Lutzoni

Celotheliaceae Lücking, Aptroot & Sipman (= *Phaeomoniellaceae* P.M. Kirk)

Aequabiliella Crous (1)

Celerioriella Crous (3)

Celothelium A. Massal. (8)

Minutiella Crous (1)
Moristroma A.I. Romero & Samuels (4)
Neophaeomoniella Rooney-Latham & Crous (3)
Paraphaeomoniella Crous (1)
Phaeomoniella Crous & W. Gams (2)
Pseudophaeomoniella Nigro, Antelmi & Crous (2)
Xenocylindrosporium Crous & Verkley (1)

Pyrenulales Fink ex D. Hawksw. & O.E. Erikss.

Pyrenulaceae Rabenh.

Anthracotheceium Hampe ex A. Massal. (5)
Blastodesmia A. Massal. (1)
Clypeopyrenis Aptroot (2)
Distopyrenis Aptroot (8)
Granulopyrenis Aptroot (6)
Lithothelium Müll. Arg. (28)
Mazaediotheceium Aptroot (4)
Pyrenographa Aptroot (1)
Pyrenowilmsia R.C. Harris & Aptroot (1)
Pyrenula Ach. (= *Heufleridium* Müll. Arg.; = *Stromatothelium* Trevis.) (ca. 225)
Pyrgillus Nyl. (8)
Sulcopyrenula H. Harada (5)

Pyrenulales genera *incertae sedis*

Rhaphidicyrtis Vain. (1)
Xenus Kohlm. & Volkm.-Kohlm. (1)

Verrucariales Mattick ex D. Hawksw. & O.E. Erikss.

Adelococcaceae Triebel

Adelococcus Theiss. & Syd. (4)
Pseudopyrenidium Nav.-Ros., Zhurb. & Cl. Roux (1)
Sagediopsis Sacc. ex Vain. (10)

Sarcopyreniaceae Nav.-Ros. & Cl. Roux

Sarcopyrenia Nyl. (11)

Verrucariaceae Zenker

Agonimia Zahlbr. (ca. 20)
Anthracoarpon Breuss (1)
Atla S. Savić & Tibell (10)
Awasthiella Kr.P. Singh (1)
Bagliettoa A. Massal. (17)
Bellemerella Nav.-Ros. & Cl. Roux (4)
Catapyrenium Flot. (6)
Clauzadella Nav.-Ros. & Cl. Roux (1)
Clavascidium Breuss (9)
Dermatocarpon Eschw. (20)
Endocarpon Hedw. (ca. 75)
Flakea O.E. Erikss. (1)
Glomerilla Norman (1)
Haleomyces D. Hawksw. & Essl. (1)
Halospora (Zschacke) Tomas. & Cif. (4)

Henrica de Lesd. (4)
Heterocarpon Müll. Arg. (1)
Heteroplacidium Breuss (12)
Hydropunctaria C. Keller, Gueidan & Thüs (8)
Involucropyrenium Breuss (9)
Mastodia Hook.f. & Harv. (= *Turgidosculum* Kohlm. & E. Kohlm.) (5)
Moriola Norman (ca. 15)
Neocatapyrenium H. Harada (5)
Normandina Nyl. (= *Lauderlindsaya* J.C. David & D. Hawksw.) (3)
Norrlinia Theiss. & Syd. (2)
Parabagliettoa Gueidan & Cl. Roux (3)
Phaeospora Hepp ex Stein (14)
Phylloblastia Vain. (12)
Placidiopsis Beltr. (20)
Placidium A. Massal. (28)
Placocarpus Trevis. (5)
Placopyrenium Breuss (22)
Placothelium Müll. Arg. (1)
Plurisperma Sivan. (1)
Polyblastia A. Massal. (ca. 40 + ca. 50 orphaned)
Psoroglaena Müll. Arg. (17)
Rhabdopsora Müll. Arg. (2)
Scleropyrenium H. Harada (2)
Servitia M.S. Christ. & Alstrup (1)
Spheconisca (Norman) Norman (ca. 20)
Sporodictyon A. Massal. (5)
Staurothele Norman (ca. 40)
Teloga Nik. Hoffm. & Hafellner (2)
Thelediopsis Vain. (4)
Thelidium A. Massal. (ca. 50 + ca. 50 orphaned)
Trimmathele Norman ex Zahlbr. (3)
Verrucaria Schrad. (ca. 300)
Verrucula J. Steiner (22)
Verruculopsis Gueidan, Nav.-Ros. & Cl. Roux (ca. 10)
Wahlenbergiella Gueidan & Thüs (3)
Willeya Müll. Arg. (12)

***Verrucariales* genera incertae sedis**

Botryolepraria Canals, Hern.-Mar., Gómez-Bolea & Llimona (2)
Gemmaspora D. Hawksw. & Halici (1)
Kalbiana Henssen (1)
Merismatium Zopf (10)

***Chaetothyriomycetidae* family incertae sedis**

***Rhynchostomataceae* Winka & O.E. Erikss.**

Rhynchomeliola Speg. (3)
Rhynchostoma P. Karst. (23)

***Coryneliomycetidae* A.R. Wood, Damm, J.Z. Groenew., Cheew. & Crous**

***Coryneliales* Seaver & Chardon**

***Coryneliaceae* Sacc. ex Berl. & Voglino**

Caliciopsis Peck (36)

Corynelia Ach. (16)
Coryneliopsis Butin (2)
Coryneliospora Fitzp. (2)
Fitzpatrickella Benny, Samuelson & Kimbr. (1)
Lagenulopsis Fitzp. (1)
Tripospora Sacc. ex Berl. & Vogl. (5)

Eremascaceae Engl. & E. Gilg
Eremascus Eidam (2)

Eurotiomycetidae Geiser & Lutzoni
Arachnomycetales Gibas, Sigler & Currah
Arachnomycetaceae Gibas, Sigler & Currah
Arachnomycetes Masee & E.S. Salmon (10)
Onychocola Sigler (4)

Eurotiales G.W. Martin ex Benny & Kimbr.
Aspergillaceae Link (= *Monascaceae* J. Schröt.)
Aspergillago Samson, Houbraken & Frisvad (1)
Aspergillus P. Micheli ex Haller (428)
Dichlaena Durieu & Mont. (4)
Hamigera Stolk & Samson (9)
Leiothecium Samson & Mouch. (2)
Monascus Tiegh. (38)
Penicillago Guevara-Suarez, Gené & Dania García (1)
Penicilliopsis Solms (15)
Penicillium Link (467)
Phialomyces P.C. Misra & P.H.B. Talbot (5)
Pseudopenicillium Guevara-Suarez, Cano & Guarro (2)
Sclerocleista Subram. (2)
Sclerocleista Subram. (2)
Xerochrysium Pitt (2)
Xeromyces Fraser (1)

Elaphomycetaceae Tul. ex Paol.
Elaphomyces Nees (101)
Pseudotulostoma O.K. Miller & T. Henkel (2)

Thermoascaceae Apinis
Paecilomyces Bainier (10)
Thermoascus Miehe (5)

Trichocomaceae E. Fisch.
Chaetotheca Zukal (2)
Dendrosphaera Pat. (1)
Rasamsonia Houbraken & Frisvad (11)
Sagenomella W. Gams (8)
Talaromyces C.R. Benj. (149)
Thermomyces Tsikl. (6)
Trichocoma Jungh. (2)

Onygenales Cif. ex Benny & Kimbr.

Ajellomycetaceae Unter., J.A. Scott & Sigler

- Blastomyces* Gilchrist & W.R. Stokes (=Ajellomyces McDonough & A.L. Lewis; *Emmonsia* Cif. & Montemart.) (9)
- Emmonsiiopsis* Y. Marín, Stchigel, Guarro & Cano (2)
- Emergomyces* Dukik, Sigler & de Hoog (5)*
- Histoplasma* Darling (4 epithets in Index Fungorum 2020)
- Lacazia* Taborda, V.A. Taborda & McGinnis (1)
- Paracoccidioides* F.P. Almeida (6)

Arthrodermataceae Currah

- Arthroderma* Curr. & Berk. (32)
- Ctenomyces* Eidam (7)
- Epidermophyton* Sabour. (1)
- Guarromyces* Y Gräser & de Hoog (1)
- Lophophyton* Matr. & Dassonv. (1)
- Microsporum* Gruby (3)
- Nannizzia* Stockdale (9)
- Paraphyton* Y Gräser, Dukik & de Hoog (3)
- Shanorella* R.K. Benj. (1)
- Trichophyton* Malmsten (16)

Ascosphaeraceae L.S. Olive & Spiltoir

- Arrhenosphaera* Stejskal (1)
- Ascosphaera* L.S. Olive & Spiltoir (27)
- Bettsia* Skou (2)

Gymnoascaceae Baran.

- Aciascus* Doweld (1)
- Amauroscopsis* Guarro, Gené & De Vroey (1)
- Arachniotus* J. Schröt. (21)
- Gymnascella* Peck (9)
- Gymnoascoideus* G.F. Orr, K. Roy & G.R. Ghosh (1)
- Gymnoascus* Baran. (=Narasimhella Thirum. & P.N. Mathur) (26)
- Kraurogymnocarpa* Udagawa & Uchiyama (1)
- Mallochia* Arx & Samson (4)
- Oncocladium* Wallr. (1)
- Orromyces* Sur & G.R. Ghosh (1)

Nannizziopsidaceae Guarro, Stchigel, Deanna A. Sutton & Cano

- Nannizziopsis* Currah (16)

Onygenaceae Berk.

- Amauroascus* J. Schröt. (ca. 15)
- Aphanoascus* Zukal (18)
- Apinisia* La Touche (3)
- Arachnotheca* Arx (1)
- Ascocalvatia* Malloch & Cain (1)
- Auxarthron* G.F. Orr & Kuehn (13)
- Auxarthronopsis* Rah. Sharma, Y. Gräser & S.K. Singh (2)
- Bifidocarpus* Cano, Guarro & R.F. Castañeda (2)
- Byssoonygena* Guarro, Punsola & Cano (1)
- Castanedomyces* Cano, L.B. Pitarch & Guarro (1)

Chlamydosauromyces Sigler, Hambl. & Paré (1)
Chrysosporium Corda (66)
Coccidioides G.W. Stiles (6)
Kuehniella G.F. Orr (2)
Leucothecium Arx & Samson (3)
Malbranchea Sacc. (23)
Myotisia Kubátová, M. Kolařík & Hubka (1)
Myriodontium Samson & Polon. (1)
Neoarachnotheca Ulfig, Cano & Guarro (1)
Neogymnomyces G.F. Orr (2)
Onygena Pers. (10)
Ophidiomyces Sigler, Hambl. & Paré (1)
Paranannizziopsis Sigler (4)
Pectinotrichum Varsavsky & G.F. Orr (2)
Polytolypa J.A. Scott & Malloch (1)
Pseudoamauroascus Cano, M. Solé & Guarro (1)
Renispora Sigler & J.W. Carmich. (2)
Sporendonema Desm. (2)
Testudomyces Cano, M. Solé & Guarro (1)
Uncinocarpus Sigler & G.F. Orr (2)
Xanthothecium Arx & Samson (1)

Spiromastigaceae Guarro, Cano & Stchigel

Pseudospiromastix Guarro, Stchigel & Cano (1)
Sigleria Hirooka, Tanney & Seifert (2)
Spiromastigoides Doweld (8)
Spiromastix Kuehn & G.F. Orr (5)

Onygenales genera *incertae sedis*

Arthrospis Sigler, M.T. Dunn & J.W. Carmich. (4)
Ovadendron Sigler & J.W. Carmich. (1)*
Sphaerosporium Schwein. *sensu lato* (2)*

Eurotiomycetidae genera *incertae sedis*

Azureothecium Matsush. (1)
Calyptrozyna Boekhout & Spaay (1)
Pisomyxa Corda (1)
Samarospora Rostr. (1)
Veronaia Benedek (2)

Mycocaliciomycetidae Tibell

Mycocaliciales Tibell & Wedin

Mycocaliciaceae A.F.W. Schmidt (= *Sphinctrinaceae* M. Choisy)

Brunneocarpos Giraldo & Crous (1)
Chaenothecopsis Vain. (ca. 40)
Mycocalicium Vain. ex Reinke (12)
Phaeocalicium A.F.W. Schmidt (11)
Pyrgidium Nyl. (3)
Sphinctrina Fr. (ca. 9)
Stenocybe (Nyl.) Körb. (14)

Sclerococomycetidae Réblová, Unter. & W. Gams

Sclerococcales Réblová, Unter. & W. Gams

Dactylosporaceae Bellem. & Hafellner (= *Sclerococcaceae* Réblová, Unter. & W. Gams)

- Cylindroconidiis* H. Zhang & X.D. Yu (1)
- Fusichalara* S. Hughes & Nag Raj (5)*
- Longimultiseptata* H. Zhang & W. Dong (2)
- Rhopalophora* Réblová, Unter. & W. Gams (1)
- Sclerococcum* Fr. (= *Dactylospora* Körb.) (ca. 80)*

Eurotiomycetes genus *incertae sedis*

- Neocladophialophora* Crous & R.K. Schumach. (1)

Geoglossomycetes Zheng Wang, C.L. Schoch & Spatafora

Geoglossales Zheng Wang, C.L. Schoch & Spatafora

Geoglossaceae Corda

- Geoglossum* Pers. (40)
- Glutinoglossum* Hustad, A.N. Mill., Dentinger & P.F. Cannon (13)
- Hemileucoglossum* Arauzo (5)
- Leucoglossum* S. Imai (2)
- Maasoglossum* K.S. Thind & R. Sharma (2)
- Sabuloglossum* Hustad, A.N. Mill., Dentinger & P.F. Cannon (1)
- Trichoglossum* Boud. (19)

Geoglossomycetes genera *incertae sedis*

- Nothomitra* Maas Geest. (3)*
- Sarcoleotia* S. Ito & S. Imai (3)*

Laboulbeniomycetes Engler

Herpomycetales Haelew. & Pfister*

Herpomycetaceae I.I. Tav.

- Herpomyces* Thaxt. (26)

Laboulbeniales Lindau

Ceratomycetaceae S. Colla

- Autoicomycetes* Thaxt. (28)
- Ceratomyces* Thaxt. (32)
- Drepanomyces* Thaxt. (1)
- Eusynaptomyces* Thaxt. (5)
- Helodiomyces* F. Picard (1)
- Phurmomyces* Thaxt. (1)
- Plectomyces* Thaxt. (1)
- Rhynchophoromyces* Thaxt. (8)
- Synaptomyces* Thaxt. (1)
- Tettigomyces* Thaxt. (16)
- Thaumasiomyces* Thaxt. (3)
- Thripomyces* Speg. (2)

Euceratomycetaceae I.I. Tav.

- Cochliomyces* Speg. (2)
- Colonomyces* R.K. Benj. (2)
- Euceratomyces* Thaxt. (1)
- Euzodiomyces* Thaxt. (2)
- Pseudoecteinomyces* W. Rossi (1)

Laboulbeniaceae G. Winter

- Acallomyces* Thaxt. (3)
- Acompsomyces* Thaxt. (6)
- Acrogynomyces* Thaxt. (6)
- Amorphomyces* Thaxt. (15)
- Amphimyces* Thaxt. (1)
- Apatelomyces* Thaxt. (1)
- Apatomyces* Thaxt. (1)
- Aphanandromyces* W. Rossi (1)
- Aporomyces* Thaxt. (11)
- Arthrorhynchus* Kolen. (3)
- Asaphomyces* Thaxt. (2)
- Autophagomyces* Thaxt. (17)
- Benjaminiomyces* I.I. Tav. (4)
- Blasticomyces* I.I. Tav. (3)
- Bordea* Maire (15)
- Botryandromyces* I.I. Tav. & T. Majewski (2)
- Camptomyces* Thaxt. (8)
- Cantharomyces* Thaxt. (29)
- Capillistichus* Santam. (1)
- Carpophoromyces* Thaxt. (1)
- Cesariella* W. Rossi & Santam. (1)
- Chaetarthriomyces* Thaxt. (3)
- Chaetomyces* Thaxt. (2)
- Chitonomyces* Peyr. (ca. 98)
- Clematomyces* Thaxt. (5)
- Clonophoromyces* Thaxt. (2)
- Columnomyces* R.K. Benj. (1)
- Compsomyces* Thaxt. (7)
- Coreomyces* Thaxt. (22)
- Corethromyces* Thaxt. (ca. 85)
- Corylophomyces* R.K. Benj. (5)
- Cryptandromyces* Thaxt. (= *Peyerimhoffiella* Maire) (19)
- Cucujomyces* Speng. (20)
- Cupulomyces* R.K. Benj. (= *Balazucia* R.K. Benj.) (1)
- Dermapteromyces* Thaxt. (1)
- Diandromyces* Thaxt. (2)
- Diaphoromyces* Thaxt. (5)
- Diclonomyces* Thaxt. (3)
- Dimeromyces* Thaxt. (118)
- Dimorphomyces* Thaxt. (32)
- Dioicomycetes* Thaxt. (32)
- Diphymyces* I.I. Tav. (25)*
- Diplomyces* Thaxt. (3)
- Diplopodomycetes* W. Rossi & Balazuc (6)
- Dipodomycetes* Thaxt. (2)
- Distolomyces* Thaxt. (3)
- Dixomyces* I.I. Tav. (14)
- Ecteinomyces* Thaxt. (1)
- Enarthromyces* Thaxt. (1)
- Eucantharomyces* Thaxt. (26)
- Euhaplomyces* Thaxt. (1)

Eumonoicomycetes Thaxt. (2)
Euphoriomyces Thaxt. (15)
Filariomyces Shanor (1)
Gloeandromyces Thaxt. (4)
Haplomyces Thaxt. (3)
Hesperomyces Thaxt. (8)*
Histeridomyces Thaxt. (6)
Homaromyces R.K. Benj. (1)
Hydraeomyces Thaxt. (1)
Hydrophilomyces Thaxt. (12)
Idiomyces Thaxt. (1)
Ilyomyces F. Picard (2)
Ilytheomyces Thaxt. (15)
Kainomyces Thaxt. (3)
Kleidiomyces Thaxt. (4)
Kruphaiomyces Thaxt. (1)
Kyphomyces I.I. Tav. (14)
Laboulbenia Mont. & C.P. Robin (= *Scalenomyces* I.I. Tav.) (ca. 633)*
Limnaiomyces Thaxt. (3)
Majewskia Y.B. Lee & Sugiyama (1)
Meionomyces Thaxt. (6)
Microsomyces Thaxt. (2)
Mimeomyces Thaxt. (16)
Misgomyces Thaxt. (4)
Monandromyces R.K. Benj. (11)
Monoicomycetes Thaxt. (47)
Nanomyces Thaxt. (48)
Neohaplomyces R.K. Benj. (3)
Nycteromyces Thaxt. (2)
Opilionomyces Santam., Enghoff, Gruber & Reboleira (1)*
Ormomyces I.I. Tav. (1)
Osoriomyces Terada (1)
Parvomyces Santam. (1)
Peyritschiella Thaxt. (47)
Phalacrichomyces R.K. Benj. (2)
Phaulomyces Thaxt. (14)
Picardella I.I. Tav. (2)
Polyandromyces Thaxt. (1)
Polyascomyces Thaxt. (1)
Porophoromyces Thaxt. (1)
Prolixandromyces R.K. Benj. (20)
Pselaphidomyces Speg. (1)
Rhachomyces Thaxt. (ca. 75)
Rhipidiomyces Thaxt. (1)
Rhizomyces Thaxt. (10)
Rhizopodomycetes Thaxt. (7)
Rickia Cavara (144)
Rodaucea W. Rossi & Santam. (2)
Rossiomyces R.K. Benj. (1)
Sandersoniomyces R.K. Benj. (1)
Scaphidiomyces Thaxt. (5)
Scelophoromyces Thaxt. (1)

Scepastocarpus Santam. (1)
Siemaszkoa I.I. Tav. & Maj. (7)
Smeringomyces Thaxt. (4)
Sphaleromyces Thaxt. (3)
Stemmatomyces Thaxt. (2)
Stichomyces Thaxt. (7)
Stigmatomyces H. Karst. (= *Fanniomyces* T. Majewski) (150)
Sugiyamaemyces I.I. Tav. & Balazuc (1)
Symplectromyces Thaxt. (3)
Sympodomycetes R.K. Benj. (1)
Synandromyces Thaxt. (9)
Tavaresiella T. Majewski (4)
Teratomyces Thaxt. (11)
Tetrandromyces Thaxt. (6)
Thaxteromyces Santam., Reboleira & Enghoff (1)
Trenomycetes Chatton & F. Picard (11)
Triainomyces W. Rossi & A. Weir (1)
Triceromyces T. Majewski (5)
Trochoideomyces Thaxt. (1)
Troglomyces S. Colla (8)
Zeugandromyces Thaxt. (4)
Zodiomyces Thaxt. (4)

***Laboulbeniales* genera incertae sedis**

Cainomyces Thaxt. (1)
Coreomycetopsis Thaxt. (1)
Gliocephalis Matr. (2)

***Pyxidiophorales* P.F. Cannon**

***Pyxidiophoraceae* Arnold**

Mycorhynchidium Malloch & Cain (1)
Pleurocatena G. Arnaud ex Aramb., Gamundí, W. Gams & G.R.W. Arnold (3)
Pyxidiophora Bref. & Tavel (17)

***Laboulbeniomycetes* genus incertae sedis**

Laboulbeniopsis Thaxt. (1)

***Lecanoromycetes* O.E. Erikss. & Winka**

***Acarosporomycetidae* V. Reeb, Lutzoni & Cl. Roux**

***Acarosporales* V. Reeb, Lutzoni & Cl. Roux**

***Acarosporaceae* Zahlbr.**

Acarospora A. Massal. (200)
Caeruleum Arcadia (2)
Glypholecia Nyl. (1)
Lithoglypha Brusse (1)
Myriospora Nägeli ex Uloth (9)
Pleopsidium Körb. (4)
Polysporina Vězda (10)
Sarcogyne Flot. (28)
Thelocarpella Nav.-Ros. & Cl. Roux (1)
Timdalia Hafellner (1)
Trimmatothelopsis Zschacke (1)

Eigleraceae Hafellner

Eiglera Hafellner (2)

Lecanoromycetidae P.M. Kirk, P.F. Cannon, J.C. David & Stalpers ex Miądl., Lutzoni & Lumbsch

Caliciales Bessey

Caliciaceae Chevall.

Acolium (Ach.) Gray (5)

Acroscyphus Lév. (1)

Allocalicium M. Prieto & Wedin (1)

Amandinea M. Choisy ex Scheid. & M. Mayrhofer (35)

Australiaena Matzer, H. Mayrhofer & Elix (1)

Baculifera Marbach (14)

Buellia De Not. (= *Dirinastrum* Müll. Arg.) (300)

Caliciella Vain. (1)

Calicium Pers. (= *Cyphelium* Ach.) (ca. 30)

Chrimofulvea Marbach (4)

Ciposia Marbach (1)

Cratiria Marbach (ca. 20)

Culbersonia Essl. (1)*

Dermatiscum Nyl. (3)

Dermiscellum Hafellner, H. Mayrhofer & Poelt (1)

Dimelaena Norman (10)

Diploicia A. Massal. (ca. 12)

Diplotomma Flot. (ca. 30)

Dirinaria (Tuck.) Clem. (ca. 35)

Endohyalina Marbach (10)

Fluctua Marbach (1)

Gassicurtia Fée (30)

Hypoflavia Marbach (3)

Monerolechia Trevis. (4)

Orcularia (Malme) Kalb & Giralt (4)

Pseudothelomma M. Prieto & Wedin (2)

Pyxine Fr. (ca. 75)

Redonia C.W. Dodge (2)

Santessonina Hale & Vobis (10)

Sculptolumina Marbach (4)

Sphinctrinopsis Woron. (1)

Stigmatochroma Marbach (9)

Tetramelas Norman (16)

Texosporium Nádv. ex Tibell & Hofsten (1)

Thelomma A. Massal. (5)

Tholurna Norman (1)

Physciaceae Zahlbr.

Anaptychia Körb. (ca. 15)

Coscinocladium Kunze (2)

Heterodermia Trevis. (ca. 90)

Hyperphyscia Müll. Arg. (9)

Kashiwadia S.Y. Kondr. (1)

Leucodermia Kalb (10)

Mischoblastia A. Massal. (3)

Mobergia H. Mayrhofer & Sheard (1)
Oxnerella S.Y. Kondr., Lökös & Hur (1)
Phaeophyscia Mob. (66)
Phaeorrhiza H. Mayrhofer & Poelt (2)
Physcia (Schreb.) Michaux (ca. 80)
Physciella Essl. (4)
Physconia Poelt (ca. 25)
Polyblastidium Kalb (18)
Rinodina (Ach.) Gray (ca. 300)
Rinodinella H. Mayrhofer & Poelt (6)
Tornabea Oesth. (1)

Lecanorales Nannf.

Bruceomycetaceae Rikkinen & A.R. Schmidt

Bruceomyces Rikkinen (4)
Resinogalea Rikkinen & A.R. Schmidt (1)*

Catillariaceae Hafellner

Austrolecia Hertel (1)
Catillaria A. Massal. (ca. 30 + several orphaned names)
Placolecis Trevis. (1)
Solenopsora A. Massal. (11)
Xanthopsorella Kalb & Hafellner (1)

Cladoniaceae Zenker (= *Squamarinaceae* Hafellner, = *Stereocaulaceae* Chevall.)*

Calathaspis I.M. Lamb & W.A. Weber (1)
Carassea S. Stenroos (1)
Cetradonia J.C. Wei & Ahti (1)
Cladia Nyl. (ca. 27)
Cladonia Hill ex P. Browne (ca. 500)
Gymnoderma Nyl. (3)
Herteliana P. James (3)
Hertelidea Printzen & Kantvilas (6)
Heteromyces Müll. Arg. (1)
Lepraria Ach. (76)
Metus D.J. Galloway & P. James (3)
Notocladonia S. Hammer (2)
Paralecia Brackel, Greiner, Peršoh & Rambold (1)
Pilophorus Th. Fr. (17)
Pulchrocladia S. Stenroos, Pino-Bodas, Lumbsch & Ahti (3)
Pycnothelia Duf. (2)
Sphaerophoropsis Vain. (2)
Squamarina Poelt (25)
Squamella S. Hammer (1)
Stereocaulon Hoffm. (ca. 140)
Thysanothecium Mont. & Berk. (3)
Xyleborus R.C. Harris & Ladd (1)

Gypsoplacaceae Timdal

Gypsoplaca Timdal (5)

Haematommataceae Hafellner

Haematomma A. Massal. (ca. 50)

Lecanoraceae Körb. (= *Carbonicolaceae* Bendiksby & Timdal)

Adelolecia Hertel & Hafellner (4)*
Ameliella Fryday & Coppins (2)
Bryodina Hafellner (2)
Bryonora Poelt (11)
Carbonicola Bendiksby & Timdal (3)
Cladidium Hafellner (2)
Claurouxia D. Hawksw. (1)
Clauzadeana Cl. Roux (1)
Edrudia W.P. Jordan (1)
Frutidella Kalb (3)*
Huea C.W. Dodge & G.E. Baker (= *Carbonea* (Hertel) Hertel) (20)
Japewia Tønsberg (3)*
Japewiella Printzen (7)
Lecanora Ach. (ca. 550)
Lecidella Körb. (80)
Maronina Hafellner & R.W. Rogers (6)
Maronora Kalb & Aptroot (1)
Miriquidica Hertel & Rambold (30)
Myriolecis Clements (43)
Palicella Rodr. Flakus & Printzen (4)
Protoparmeliopsis Choisy (= *Sedelnikovaea* S.Y. Kondr., M.H. Jeong & Hur) (ca. 20)
Psorinia Gotth. Schneid. (2)
Punctonora Aptroot (2)
Pyrrhospora Körb. (7)
Rhizoplaca Zopf (11)
Sagema Poelt & Grube (1)
Traponora Aptroot (8)
Vainionora Kalb (9)

Malmideaceae Kalb, Rivas Plata & Lumbsch

Cheiromycina B. Sutton (4)
Crustospathula Aptroot (4)*
Kalbionora Sodamuk, S.D. Leav. & Lumbsch (1)
Malmidea Kalb, Rivas Plata & Lumbsch (52)
Savoronala Ertz, Eb. Fisch., Killmann, Razafindr. & Sérus (1)
Sprucidea M.Cáceres, Aptroot & Lücking (4)
Zhurbenkoa Flakus, Etayo, Pérez-Ortega & Rodr. Flakus (3)

Megalariaceae Hafellner

Catillochroma Kalb (2)
Megalaria Hafellner (ca. 30)*

Parmeliaceae Zenker

Alectoria Ach. (= *Gowardia* Halonen, Myllys, Velmala & Hyvärinen) (9)
Allantoparmelia (Vain.) Essl. (3)
Anzia Stizenb. (34)
Arctoparmelia Hale (5)
Asahinea W.L. Culb. & C.F. Culb. (2)
Austromelanelixia Divakar, A. Crespo & Lumbsch (5)

Austroparmelina A. Crespo, Divakar & Elix (13)
Brodoa Goward (3)
Bryocaulon Kärnefelt (4)
Bryoria Brodo & D. Hawksw. (ca. 52)
Bulbothrix Hale (62)
Canoparmelia Elix & Hale (35)
Cetraria Ach. (= *Allocetraria* Kurok. & M.J. Lai, = *Cetrariella* Kärnefelt & Thell, = *Usnocetraria* M.J. Lai & J.C. Wei, = *Vulpicida* Mattson & M.J. Lai) (35)
Cetrelia W.L. Culb. & C.F. Culb. (18)
Coelopogon Brusse & Kärnefelt (2)
Cornicularia (Schreb.) Ach. (1)
Dactylina Nyl. (2)
Davidgallowaya Aptroot (1)
Dolichousnea (Y. Ohmura) Articus (3)
Emodomelanelia Divakar & A. Crespo (1)
Esslingeriana Hale & M.J. Lai (1)
Eumitria Stirt. (13)
Evernia Ach. (10)
Everniopsis Nyl. (1)
Flavoparmelia Hale (32)
Flavopunctelia Hale (5)
Himantormia I.M. Lamb (2)
Hypogymnia (Nyl.) Nyl. (90)
Hypotrachyna (Vain.) Hale (262)
Imshaugia F.C. Mey. (1)
Letharia (Th. Fr.) Zahlbr. (9)
Lethariella (Motyka) Krog (11)
Masonhalea Kärnefelt (2)*
Melanelia Essl. (2)
Melanelixia O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch (11)
Melanohalea O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch (22)
Menegazzia A. Massal. (70)
Montanelia Divakar, A. Crespo, Wedin & Essl. (5)
Myelochroa (Asahina) Elix & Hale (30)
Neoprotoparmelia Garima Singh, Lumbsch & I. Schmitt (14)
Nephromopsis Müll. Arg. (= *Ahtiana* Goward; = *Arctocetraria* Kärnefelt & Thell; = *Cetrariopsis* Kurok.; = *Flavocetraria* Kärnefelt & Thell; = *Flavocetrariella* D.D. Awasthi; = *Kaernefeltia* Thell & Goward; = *Tuckermanella* Essl.; = *Tuckermannopsis* Gyeln.) (62)
Nesolechia A. Massal. (ca. 2)
Nipponoparmelia (Kurok.) K.H. Moon, Y. Ohmura & Kashiw. (4)
Nodobryoria Common & Brodo (3)
Notoparmelia A. Crespo, Ferencová & Divakar (16)
Omphalodium Meyen & Flot. (4)
Omphalora T.H. Nash & Hafellner (1)
Oropogon Th. Fr. (42)
Pannoparmelia (Müll. Arg.) Darb. (5)
Parmelia Ach (43)
Parmelina Hale (10)
Parmelinella Elix & Hale (8)
Parmeliopsis (Nyl.) Nyl. (3)
Parmotrema A. Massal. (= *Crespoa* (D. Hawksw.) Lendemer & B.P. Hodk.) (255)
Parmotremopsis Elix & Hale (2)

Phacopsis Tul. (10)
Platismatia W.L. Culb. & C.F. Culb. (11)
Pleurosticta Petr. (2)
Protoparmelia M. Choisy (11)
Protousnea (Motyka) Krog (8)
Pseudephebe M. Choisy (2)
Pseudevernia Zopf (4)
Pseudoparmelia Lynge (15)
Psiloparmelia Hale (13)
Punctelia Krog (48)
Relicina (Hale & Kurok.) Hale (59)
Remototrachyna Divakar & A. Crespo (19)
Raesaenenia D. Hawksw. (1)
Sulcaria Bystr. (5)
Usnea Dill. ex Adans. (355)
Xanthoparmelia (Vain.) Hale (822)

Pilocarpaceae Zahlbr.

Aquacidia Aptroot (3)*
Badimiella Malcolm & Vězda (1)
Baflavia Lücking (1)
Bapalmuia Sérus. (22)
Barubria Vězda (2)
Brasilicia Lücking, Kalb & Sérus. (6)
Bryogomphus Lücking, W.R. Buck, Sérus. & L.I. Ferraro (1)
Byssolecania Vain. (7)
Byssoloma Trevis. (60)
Calopadia Vězda (27)
Calopadiopsis Lücking & R. Sant. (2)
Eugeniella Lücking, Sérus. & Kalb (11)
Fellhanera Vězda (ca. 100)
Fellhaneropsis Sérus. & Coppins (9)
Kantvilasia P.M. McCarthy, Elix & Sérus. (1)
Lasioloma R. Sant. (9)
Leimonis R.C. Harris (2)
Loflammia Vězda (5)
Loflammiopsis Lücking & Kalb (1)
Logilvia Vězda (1)
Micarea Fr. (102)
Podotara Malcolm & Vězda (1)
Pseudocalopadia Lücking (1)
Roccellinastrum Follmann (7)
Schadonia Körb. (4)*
Septotrapelia Aptroot & Chaves (4)
Sporopodiopsis Sérus. (2)
Sporopodium Mont. (24)
Szczawinskia A. Funk (5)
Tapellaria Müll. Arg. (23)
Tapellariopsis Lücking (1)

Psilolechiaceae S. Stenroos, Miądl. & Lutzoni

Psilolechia A. Massal. (4)

Psoraceae Zahlbr.

- Brianaria* S. Ekman & M. Svensson (4)
- Glyphopeltis* Brusse (1)
- Protoblastenia* (Zahlbr.) J. Steiner (30)
- Protomicarea* Hafellner (2)
- Psora* Hoffm. (35)
- Psorula* Gotth. Schneid. (1)

Ramalinaceae C. Agardh*

- Auriculora* Kalb (1)
- Bacidia* De Not. (= *Bacidiopsora* Kalb) (230)*
- Bacidina* Vězda (12)
- Badimia* Vězda (20)
- Bellicidia* Kistenich, Timdal, Bendiksby & Ekman (1)*
- Biatora* Fr. (= *Myrionora* R.C. Harris; = *Ivanpisutia* S.Y. Kondr., Lökös & Hur) (42)*
- Bibbya* J.H. Willis (10)*
- Bilimbia* De Not. (= *Myxobilimbia* Hafellner) (6)
- Cenozosia* A. Massal. (1)
- Cliostomum* Fr. (25)
- Echidnocymbium* Brusse (1)
- Eschatogonia* Trevis. (7)
- Heppsora* D.D. Awasthi & K. Singh (1)
- Jarmania* Kantvilas (2)
- Kiliasia* Hafellner (9)*
- Krogia* Timdal (7)
- Lecania* A. Massal. (50)
- Lueckingia* Aptroot & Umana (1)
- Mycobilimbia* Rehm (5)*
- Myelorrhiza* Verdon & Elix (2)*
- Niebla* Rundel & Bowler (23)
- Parallopsora* Kistenich, Timdal & Bendiksby (3)*
- Phyllopsora* Müll. Arg. (= *Crocynia* (Ach.) A. Massal.) (75)*
- Physcidia* Tuck. (10)
- Ramalina* Ach. (230)
- Rolfidium* Moberg (3)
- Scutula* Tul. (= *Karsteniomyces* D. Hawksw.; = *Libertiella* Speg. & Roum.) (43)*
- Sporacestra* A. Massal. (1)*
- Stirtoniella* D.J. Galloway, Hafellner & Elix (1)
- Thalloidima* A. Massal. (17)*
- Thamnolecania* (Vain.) Gyeln. (1)
- Tibellia* Vězda & Hafellner (1)
- Toninia* A. Massal. (= *Arthrosporium* A. Massal.) (85)*
- Toniniopsis* Frey (7)
- Tylothallia* P. James & H. Kiliass (3)*
- Waynea* Moberg (7)

Ramboldiaceae S. Stenroos, Miádl. & Lutzoni

- Ramboldia* Kantvilas & Elix (34)

Scoliciosporaceae Hafellner

- Scoliciosporum* A. Massal. (15)

***Sphaerophoraceae* Fr.**

- Austropeltum* Henssen, H. Döring & Kantvilas (1)
- Bunodophoron* A. Massal. (25)
- Calycidium* Stirt. (2)
- Leifidium* Wedin (1)
- Neophyllis* F. Wilson (2)
- Sphaerophorus* Pers. (8)

***Tephromelataceae* Hafellner**

- Calvitimela* Hafellner (11)
- Mycoblastus* Norman (10)
- Tephromela* M. Choisy (ca. 30)
- Violella* T. Sprib. (2)

Lecanorales* genera *incertae sedis

- Catinaria* Vain. (2)*
- Compsocladium* I.M. Lamb (2)*
- Coronoplectrum* Brusse (1)
- Corticiruptor* Wedin & Hafellner (2)
- Lichenosticta* Zopf (5)
- Myochroidea* Printzen, T. Sprib. & Tønsberg (4)*
- Neopsoromopsis* Gyeln. (1)
- Nimisiostella* Calat., Barreno & O.E. Erikss. (1)
- Psoromella* Gyeln. (1)
- Puttea* S. Stenroos & Huhtinen (4)
- Ramalea* Nyl. (4)
- Tasmidella* Kantvilas, Hafellner & Elix (1)*
- Umbilithecium* Etayo (1)
- Umushamyces* Etayo (1)

***Lecideales* Vain.**

***Lecideaceae* Chevall.**

- Amygdalaria* Norman (11)
- Bahianora* Kalb (1)
- Bellemerea* Hafellner & Cl. Roux (10)
- Bryobilimbia* Fryday (6)*
- Catarrhospora* Brusse (2)
- Cecidonia* Triebel & Rambold (2)
- Clauzadea* Hafellner & Bellem. (7)
- Cryptodictyon* A. Massal. (2)
- Eremastrella* Vogel (2)
- Farnoldia* Hertel (6)
- Immersaria* Rambold & Pietschm. (8)
- Koerberiella* Stein (2)
- Labyrintha* Malcolm, Elix & Owe-Larss. (1)
- Lecidea* Ach. (ca. 100)
- Lecidoma* Gotth. Schneid. & Hertel (1)
- Melanolecia* Hertel (7)
- Pachyphysis* R.C. Harris & Ladd (1)
- Paraporpidia* Rambold & Pietschm. (3)
- Poeltiaria* Hertel (8)
- Poeltidea* Hertel & Hafellner (3)

Porpidia Körb. (51)
Porpidinia Timdal (1)
Pseudopannaria (B. de Lesd.) Zahlbr. (1)
Rhizolecia Hertel (1)
Romjularia Timdal (1)
Schizodiscus Brusse (1)
Stenhammarella Hertel (1)
Stephanocyclos Hertel (1)
Xenolecia Hertel (2)

Lopadiaceae Hafellner

Lopadium Körb. (10)

Leprocaulales Lendemer & B.P. Hodk.

Leprocaulaceae Lendemer & B.P. Hodk.

Halecania M. Mayrhofer (22)
Leprocaulon Nyl. (ca. 10)
Speerschneidera Trevis. (1)

Peltigerales W. Watson

Coccocarpiaceae Henssen ex Henssen

Coccocarpia Pers. (ca. 50)
Peltularia R. Sant. (4)
Spilonema Bornet (4)

Collemataceae Zenker

Blennothallia Trevis. (4)
Callome Otálora & Wedin (1)
Collema F.H. Wigg. (ca. 35)
Enchylium (Ach.) Gray (11)
Lathagrium (Ach.) Gray (10)
Leptogium (Ach.) Gray (ca. 110)
Pseudoleptogium Müll. Arg. (1)
Rostania Trevis. (3 + 4 orphaned species)*
Scytinium (Ach.) Gray (49)

Koerberiaceae T. Sprib. & Muggia

Henssenia Ertz, R.S. Poulsen & Søchting (4)*
Koerberia A. Massal. (2)
Vestergrenopsis Gyeln. (2)

Massalongiaceae Wedin, P.M. Jørg. & E. Wiklund.

Leptochidium M. Choisy (2)
Massalongia Körb. (2 + 6 orphaned species)
Polychidium (Ach.) Gray (1)

Pannariaceae Tuck.

Austrella P.M. Jørg. (3)
Degelia Arv. & D.J. Galloway (16)
Erioderma Feé (32)
Fuscoderma (D.J. Galloway & P.M. Jørg.) P.M. Jørg. & D.J. Galloway (5)
Fuscopannaria P.M. Jørg. (= *Kroswia* P.M. Jørg.) (58)

Gibbosporina Elvebakk, S.G. Hong & P.M. Jørg. (13)
Homothecium A. Massal. (4)
Joergensenia Passo, S. Stenroos & Calvelo (1)
Leciophysma Th. Fr. (2)
Leightoniella Henssen (1)
Leioderma Nyl. (7)
Lepidocollema Vain. (22)
Leptogidium Nyl. (3)
Nebularia P.M. Jørg. (2)
Nevesia P.M.Jørg, L. Lindblom, Wedin & S. Ekman (1)
Pannaria Del. ex Bory (ca. 40)
Parmeliella Müll. Arg. (ca. 40)
Pectenaria P.M. Jørg. (4)
Physma A. Massal. (12)
Protopannaria (Gyeln.) P.M. Jørg. & S. Ekman (7)
Psoroma Michaux (ca. 70)
Psoromaria Nyl. ex Nyl. (= *Degeliella* P.M. Jørg.) (2)
Psoromidium Stirt. (2)
Ramalodium Nyl. (6)
Siphulastrum Müll. Arg. (4)
Staurolemma Körb. (3)
Steineropsis T. Sprib. & Muggia (1)

Peltigeraceae Dumort. (= *Lobariaceae* Chevall.; = *Nephromataceae* Wetm. ex J.C. David & D. Hawksw.)*

Crocodia Link (5)
Dendrioscicta Moncada & Lücking (5)
Lobaria (Schreb.) Hoffm. (ca. 60)
Lobariella Yoshim. (35)
Lobarina Nyl. ex Cromb. (15)
Nephroma Ach. (ca. 36)
Parmostictina Nyl. (15)
Peltigera Willd. (ca. 100)
Podostictina Clem. (5)
Pseudocyphellaria Vain. (ca. 100)
Ricasolia De Not. (15)
Solorina Ach. (ca. 10)
Sticta (Schreb.) Ach. (ca. 200)
Yarrumia D.J. Galloway (2)
Yoshimuriella Moncada & Lücking (8)

Placynthiaceae Å.E. Dahl

Hertella Henssen (3)
Placynthiopsis Zahlbr. (1)
Placynthium (Ach.) Gray (ca. 20)

Vahliellaceae Wedin

Vahliella P.M. Jørg. (10)

Peltigerineae genus *incertae sedis*

Erinacellus T. Sprib., Muggia & Tønsberg (2)

Rhizocarpales Miadl. & Lutzoni ex Miadl. & Lutzoni ex Miadl. & Lutzoni

Rhizocarpaceae M. Choisy & Hafellner

- Catolechia* Flot. (1)
- Epilichen* Clem. (2)
- Poeltinula* Hafellner (2)
- Rhizocarpon* Ramond ex DC. (225)

Sporastatiales Lumbsch & Leavitt*

Sporastatiaceae Bendiksby & Timdal

- Sporastatia* A. Massal. (4)
- Toensbergia* Bendiksby & Timdal (1)

Teloschistales D. Hawksw. & O.E. Erikss.

Brigantiaeaceae Hafellner & Bellem. (= *Letrouitiaceae* Bellem. & Hafellner)*

- Brigantiaea* Trevis. (26)
- Letrouitia* Hafellner & Bellem. (18)

Megalosporaceae Vězda ex Hafellner & Bellem.

- Megaloblastenia* Sipman (2)
- Megalospora* Meyen (36)
- Sipmaniella* Kalb (1)

Teloschistaceae Zahlbr.

- Amundsenia* Søchting, Garrido-Ben., Arup & Frödén (2)
- Apatoplaca* Poelt & Hafellner (1)
- Athallia* Arup, Frödén & Søchting (= ?*Coppinsiella* S. Y. Kondr. et al.; = ?*Fominiella* S. Y. Kondr., Upreti & Hur) (17)
- Austroplaca* Søchting, Frödén & Arup (10)
- Blastenia* A. Massal. (11)
- Brownliella* S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur (4)
- Bryoplaca* Søchting, Frödén & Arup (3)
- Calogaya* Arup, Frödén & Søchting (= *Lazarenkoella* S.Y. Kondr. et al.; = *Seawardiella* S.Y. Kondr. et al.) (19)
- Caloplaca* Th. Fr. (351)
- Catenarina* Søchting, Søgaaard, Arup, Elvebakk & Elix (3)
- Cephalophysis* (Hertel) H. Kiliyas (1)
- Cerothallia* Arup, Frödén & Søchting (4)
- Charcotiana* Søchting, Garrido-Ben. & Arup (1)
- Dijigiella* S.Y. Kondr. & L. Lökös (2)
- Dufourea* Ach. (= *Xanthodactylon* P.A. Duvign.) (25)
- Eilifdahlia* S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur (2)
- Fauriea* S.Y. Kondr., Lökös & Hur (2)
- Filsoniana* S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur (= *Harusavskia* S.Y. Kondr.; = *Nevilleiella* S.Y. Kondr. & Hur; = *Thelliana* S.Y. Kondr. et al.) (9)
- Flavoplaca* Arup, Søchting & Frödén (28)
- Follmannia* C.W. Dodge (2)
- Franwilsia* S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur (3)
- Gondwania* Søchting, Frödén & Arup (4)
- Gyalolechia* A. Massal. (= *Hanstrassia* S.Y. Kondr.; = *Laundonia* S. Y. Kondr., L. Lökös & Hur; = *Lazarenkoiopsis* S.Y. Kondr., L. Lökös & Hur; = *Opeltia* S.Y. Kondr. & L. Lökös; = *Oxneriopsis* S.Y. Kondr., D. Upreti & Hur) (40)
- Haloplaca* Arup, Søchting & Frödén (31)

Hosseusiella S.Y. Kondr., L. Lökös, Kärnefelt & A. Thell (3)
Huneckia S.Y. Kondr., Elix, Kärnefelt, A. Thell & Hur (2)
Ioplaca Poelt (2)
Jasonhuria S.Y. Kondr., Lökös & S.O. Oh (1)
Josefpoeltia S.Y. Kondr. & Kärnefelt (3)
Kaernefia S.Y. Kondr., Elix, A. Thell & Hur (3)
Leproplaca (Nyl.) Nyl. (7)
Loekoesia S.Y. Kondr., S.O. Oh & Hur (1)
Marchantiana S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur (= *Streimanniella* S.Y. Kondr. et al.) (5)
Olegblumia S.Y. Kondr., Lökös & Hur (1)
Orientophila Arup, Søchting & Frödén (4)
Pachypeltis Søchting, Arup & Frödén (4)
Parvoplaca Arup, Søchting & Frödén (6)
Polycauliona Hue (= ? *Tomnashia* S.Y. Kondr. & Hur) (18)
Pyrenodesmia A. Massal. (6)
Rehmaniella S.Y. Kondr. et al. (1)
Rufoplaca Arup, Søchting & Frödén (6)
Rusavskia S.Y. Kondr. & Kärnefelt (= ? *Zeroviella* S.Y. Kondr. & J.-S. Hur) (19)
Scutaria Søchting, Arup & Frödén (1)
Seiophora Poelt (ca. 8)
Shackletonia Søchting, Frödén & Arup (5)
Sirenophila Søchting, Arup & Frödén (= *Elixjohnia* S.Y. Kondr. & Hur; = *Tarasginia* S.Y. Kondr. et al.) (14)
Solitaria Arup, Søchting & Frödén (1)
Squamulea Arup, Søchting & Frödén (= *Huriella* S.Y. Kondr. & D. Upreti) (8)
Stellarangia Frödén, Arup & Søchting (3)
Tassiloa S.Y. Kondr., Kärnefelt, A. Thell, Elix & Hur (2)
Teloschistes Norman (ca. 24)
Teloschistopsis Frödén, Søchting & Arup (3)
Teuvoahtiana S.Y. Kondr. & Hur (3)
Upretia S.Y. Kondr., A. Thell & Hur
Usnochroma Søchting, Arup & Frödén (2)
Variospora Arup, Søchting & Frödén (16)
Villophora Søchting, Arup & Frödén (= *Tayloriella* S.Y. Kondr. et al.; = *Tayloriellina* S.Y. Kondr. et al.) (4)
Wetmoreana Arup, Søchting & Frödén (3)
Xanthocarpia A. Massal. & De Not. (12)
Xanthomendoza S.Y. Kondr. & Kärnefelt (20)
Xanthopeltis R. Sant. (1)
Xanthoria (Fr.) Th. Fr. (10)
Yoshimuria S.Y. Kondr., Kärnefelt, Elix, A. Thell & Hur (= *Ikaeria* S.Y. Kondr., D. Upreti & Hur) (4)

Teloschistales* genus *incertae sedis

Malcolmiella Vězda (1)

Lecanoromycetidae* familis *incertae sedis

***Biatorrellaceae* M. Choisy ex Hafellner & Casares-Porcel**

Biatorrella De Not. (ca. 30)

***Helocarpaceae* Hafellner**

Helocarpon Fr. (3)

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

Pachyascus Poelt & Hertel (1)

Ostropomycetidae V. Reeb, Lutzoni & Cl. Roux

Baeomycetales Lumbsch, Huhndorf & Lutzoni. (= *Arctomiales* S. Stenroos, Miądl. & Lutzoni; = *Hymeneliales* S. Stenroos, Miądl. & Lutzoni; = *Trapeliales* B.P. Hodk. & Lendemmer)*

Arctomiaceae Th. Fr.

Arctomia Th. Fr. (14)

Gregorella Lumbsch (1)

Steinera Zahlbr. (14)*

Waweia Henssen & Kantvilas (1)

Arthrorhaphidaceae Poelt & Hafellner

Arthrorhaphis Th. Fr. (13)

Baeomycetaceae Dumort.

Ainoa Lumbsch & I. Schmitt (2)

Anamylopsora Timdal (1)

Baeomyces Pers. (10)

Parainoa Resl & T. Sprib. (1)

Phyllobaeis Gierl & Kalb (6)

Cameroniaceae Kantvilas & Lumbsch

Cameronia Kantvilas (2)

Hymeneliaceae Körb.

Hymenelia Kremp. (26)

Ionaspis Th. Fr. (7)

Tremolecia M. Choisy (6)

Protothelenellaceae Vězda, H. Mayrhofer & Poelt (= *Thrombiaceae* Poelt & Vězda ex J.C. David & D. Hawksw.)*

Mycowinteria Sherwood (3)

Protothelenella Räsänen (11)

Thrombium Wallr. (5)

Trapeliaceae M. Choisy ex Hertel

Amylora Rambold (1)

Aspiciliopsis (Müll. Arg.) M. Choisy (1)

Coppinsia Lumbsch & Heibel (1)

Ducatina Ertz & Söchting (1)*

Lignoscripta B.D. Ryan (1)

Orceolina Hertel (2)

Placopsis (Nyl.) Linds. (ca. 60)

Placynthiella Elenkin (7)

Rimularia Nyl. (4)*

Sarea Fr. (2)

Trapelia M. Choisy (24)

Trapeliopsis Hertel & Gotth. Schneid. (20)

Xylographaceae Tuck.

- Lambiella* Hertel (12)
- Lithographa* Nyl. (10)
- Ptychographa* Nyl. (1)
- Xylographa* (Fr.) Fr. (2)

Graphidales Bessey

Diploschistaceae Zahlbr.

- Acanthothecis* Clem. (ca. 60)
- Acanthotrema* Frisch (5)
- Aggregatorygma* M. Cáceres, Aptroot & Lücking (1)
- Ampliotrema* Kalb ex Kalb (12)
- Asteristion* Leight. (9)
- Austrotrema* I. Medeiros, Lücking & Lumbsch (3)
- Borinquenotrema* Merc.-Díaz, Lücking & Parmen (1)
- Byssotrema* M. Cáceres (1)
- Carbacanthographis* Staiger & Kalb (28)
- Compositrema* Rivas Plata, Lücking & Lumbsch (4)
- Corticorygma* M. Cáceres, S.C. Feuerst., Aptroot & Lücking (1)
- Diploschistes* Norman (33)
- Fibrillithecis* A. Frisch (15)
- Gintarasia* Kraichak, Lücking & Lumbsch (5)
- Glaucotrema* Rivas Plata & Lumbsch (5)
- Gyrotrema* A. Frisch (6)
- Heiomasia* Nelsen, Lücking & Rivas Plata (3)
- Melanotopelia* Lumbsch & Mangold (4)
- Melanotrema* A. Frisch (12)
- Myriochapsa* M. Cáceres, Lücking & Lumbsch (3)
- Myriotrema* Fée (55)
- Nadvornikia* Tibell (5)
- Nitidochapsa* Parmen, Lücking & Lumbsch (5)
- Ocellularia* G. Mey. (ca. 400)
- Phaeographopsis* Sipman (3)
- Pseudoramonia* Kantvilas & Vězda (4)
- Redingeria* A. Frisch (8)
- Reimnitzia* Kalb (1)
- Rhabdodiscus* Vain. (35)
- Sanguinotrema* Lücking (1)
- Schizotrema* Mangold & Lumbsch (6)
- Stegobolus* Mont. (16)
- Topeliopsis* Kantvilas & Vězda (20)
- Wirthiotrema* Rivas Plata, Kalb, Frisch & Lumbsch (5)
- Xalocoa* Kraichak, Lücking & Lumbsch (1)

Fissurinaceae (Rivas Plata, Lücking & Lumbsch) B.P. Hodk.

- Clandestinotrema* Rivas Plata, Lücking & Lumbsch (17)
- Cruentotrema* Rivas Plata, Papong, Lumbsch & Lücking (6)
- Dyplolabia* A. Massal. (5)
- Enigmatrema* Lücking (1)
- Fissurina* Fée (ca. 155)
- Pycnotrema* Rivas Plata & Lücking (2)

Gomphillaceae Walt. Watson

- Actinoplaca* Müll. Arg. (2)
Aderkomyces Bat. (30)
Aplanocalenia Lücking, Sérus. & Vězda (1)
Arthotheliopsis Vain. (5)
Asterothyrium Müll. Arg. (32)
Aulaxina Fée (14)
Calenia Müll. Arg. (30)
Caleniopsis Vězda & Poelt (2)
Corticifraga D. Hawksw. & R. Sant. (7)*
Diploschistella Vain. (4)
Echinoplaca Fée (40)
Ferraroa Lücking, Sérus. & Vězda (1)
Gomphillus Nyl. (6)
Gyalectidium Müll. Arg. (52)
Gyalidea Lettau (50)
Gyalideopsis Vězda (91)
Hippocrepidea Sérus. (1)
Jamesiella Lücking, Sérus. & Vězda (4)
Lithogyalideopsis Lücking, Sérus. & Vězda (4)
Paratricharia Lücking (1)
Paragyalideopsis Etayo (4)
Phyllogyalidea Lücking & Aptroot (2)
Psorotheciopsis Rehm (7)
Rolueckia Papong, Thammath. & Boonpr. (2)
Taitaia Suija, Kaasalainen, Kirika & Rikkinen (1)*
Tricharia Fée (ca. 30)

Graphidaceae Dumort.

- Allographa* Chevall. (183)*
Amazonotrema Kalb & Lücking (1)
Anomalographis Kalb (2)
Anomomorpha Nyl. ex Hue (8)
Creographa A. Massal. (1)
Cryptoschizotrema Aptroot, Lücking & M. Cáceres (1)
Diaphorographis A.W. Archer & Kalb (2)
Diorygma Eschw. (74)
Flegographa A. Massal. (1)
Glyphis Ach. (7)
Graphis Adans. (ca. 275)
Halegrapha Rivas Plata & Lücking (9)
Hemithecium Trevis. (ca. 50)
Kalbographa Lücking (5)
Leiorreuma Eschw. (18)
Malmographina M. Cáceres, Rivas Plata & Lücking (1)
Mangoldia Lücking, Parnmen & Lumbsch (2)
Pallidogramme Staiger, Kalb & Lücking (13)
Phaeographis Müll. Arg. (ca. 180)
Platygramme Fée (30)
Platythecium Staiger (27)
Pliariona A. Massal. (= *Phaeographina* Müll. Arg.) (1)
Polistroma Clemente (1)

Pseudochapsa Parmen, Lücking & Lumbsch (18)
Pseudotopeliopsis Parmen, Lücking & Lumbsch (4)
Sarcographa Fée (37)
Sarcographina Müll. Arg. (6)
Schistophoron Stirt. (5)
Thalloloma Trevis. (20)
Thecaria Fée (4)
Thecographa A. Massal. (3)

Redonographaceae (Lücking, Tehler & Lumbsch) Lumbsch (Bas.: *Redonographoideae* Lücking, Tehler & Lumbsch, Am. J. Bot. 100: 846 2013)

Gymnographopsis C.W. Dodge (2)
Redonographa Lücking, Tehler & Lumbsch (4)

Thelotremataceae Stizenb.

Astrochapsa Parmen, Lücking & Lumbsch (28)
Chapsa A. Massal. (ca. 60)
Chroodiscus (Müll. Arg.) Müll. Arg. (17)
Crutarndina Parmen, Lücking & Lumbsch (1)
Leucodecton A. Massal. (31)
Paratopeliopsis Merc.-Díaz, Lücking & Parmen (1)
Thelotrema Ach. (= *Tremotylum* Nyl.) (106)

Gyalectales Henssen ex D. Hawksw. & O.E. Erikss.

Coenogoniaceae (Fr.) Stizenb.

Coenogonium Ehrenb. ex Nees (ca. 91)

Gyalectaceae (A. Massal.) Stizenb.

Gyalecta Ach. (= *Cryptolechia* A. Massal.) (50)
Ramonia Stizenb. (24)
Semigyalecta Vain. (1)

Phlyctidaceae Poelt & Vězda ex J.C. David & D. Hawksw.

Phlyctis (Wallr.) Flot. (20)
Psathyrophlyctis Brusse (1)

Sagiolechiaceae Baloch, Lücking, Lumbsch & Wedin

Rhexophiale Th. Fr. (1)
Sagiolechia A. Massal. (3)

Trichotheliaceae Bitter & F. Schill. (= *Porinaceae* Walt. Watson; = *Porinaceae* Rchb.)

Clathroporina Müll. Arg. (ca. 25)
Flabelloporina Sobreira, M. Cáceres & Lücking (1)
Myeloconis P.M. McCarthy & Elix (4)
Porina Müll. Arg. (ca. 145)
Pseudosagedia (Müll. Arg.) Choisy (80)
Segestria Fr. (70)
Trichothelium Müll. Arg. (40)

Ostropales Nannf.

Odontotremataceae D. Hawksw. & Sherwood

Claviradulomyces P.R. Johnst., D.C. Park, H.C. Evans, R.W. Barreto & D.J. Soares (1)

Coccomycetella Höhn. (2)
Odontotrema Nyl. (7)
Odontura Clem. (1)
Paschelkiella Sherwood (1)
Potriphila Döbbeler (3)
Rogellia Döbbeler (2)
Stromatothecia D.E. Shaw & D. Hawksw. (1)
Tryblis Clem. (2)
Xerotrema Sherwood & Coppins (2)

Phaneromycetaceae Gamundí & Spinedi

Phaneromyces Speg. & Har. ex Speg. (2)

Spirographaceae Flakus, Etayo & Miadlikowska

Spirographa Zahlbr. (5)

Stictidaceae Fr.

Absconditella Vězda (12)
Acarosporina Sherwood (5)
Biostictis Petr. (5)
Carestiella Bres. (1)
Conotremopsis Vězda (1)
Cryptodiscus Corda (= *Lettauia* D. Hawksw. & R. Sant.) (9)*
Cyanodermella O.E. Erikss. (2)
Delpontia Penz. & Sacc. (1)
Dendroseptoria Alcalde (3)
Fitzroyomyces Crous (1)
Geisleria Nitschke (1)
Glomerobolus Kohlm. & Volkm.-Kohlm. (1)
Ingvariella Guderley & Lumbsch (1)
Karstenia Fr. (10)
Lillicoa Sherwood (4)
Nanostictis M.S Christ. (ca. 8)
Neofitzroyomyces Crous (1)
Ostropa Fr. (1)
Propoliopsis Rehm (1)
Robergea Desm. (8)
Schizoxylon Pers. (ca. 35)
Sphaeropezia Sacc. (= *Lethariicola* Grumann) (19)
Stictis Pers. (4)
Stictophaacidium Rehm (3)
Thelopsis Nyl. (9)
Topelia P.M. Jørg. & Vězda (6)
Trinathotrema Lücking, Rivas Plata & Mangold (3)
Xyloschistes Vain. ex Zahlbr. (1)

Ostropales genera *incertae sedis*

Aabaarnia Diederich (1)
Biazrovia Zhurb. & Etayo (1)
Elongaticonidia W.J. Li, E. Camporesi & K.D. Hyde (1)
Epicladonia D. Hawksw. *sensu lato* (2)*
Normanogalla Diederich (1)

Paraethariicola Calat., Etayo & Diederich (1)

Pertusariales M. Choisy ex D. Hawksw. & O.E. Erikss.

Agyriaceae Corda (= *Miltideaceae* Hafellner)*

Agyrium Fr. (3)

Miltidea Stirt. (1)

Coccotremataceae Henssen ex J.C. David & D. Hawksw.

Coccotrema Müll. Arg. (16)

Gyalectaria I. Schmitt, Kalb & Lumbsch (3)

Parasiphula Kantvilas & Grube (7)

Icmadophilaceae Triebel

Dibaeis Clem. (ca. 14)

Endocena Cromb. (= *Chirleja* Lendemmer & B.P. Hodk.) (2)

Icmadophila Trevis. (4)

Pseudobaeomyces M. Satì (1)

Siphula Fr. (26)

Siphulella Kantvilas, Elix & P. James (1)

Thamnotia Ach. ex Schaerer (4)

Megasporaceae Lumbsch

Aspicilia A. Massal. (ca. 200)

Circinaria Link (ca. 40)

Lobothallia (Clauzade & Cl. Roux) Hafellner (12)

Megaspora (Clauzade & Cl. Roux) Hafellner & V. Wirth (4)

Sagedia Ach. (ca. 30)

Teuvoa Sohrabi & S. Leavitt (5)

Microcaliciaceae Tibell*

Microcalicium Vain. (4)

Ochrolechiaceae R.C. Harris ex Lumbsch & I. Schmitt

Ochrolechia A. Massal. (60)

Pertusariaceae Körb. ex Körb.

Loxosporopsis Henssen (1)

Pertusaria DC. (ca. 400)*

Thamnochrolechia Aptroot & Sipman (1)

Varicellariaceae B.P. Hodk., R.C. Harris & Lendemmer ex Lumbsch & Leavitt

Varicellaria Nyl. (8)*

Variolariaceae Fée ex Zenker

Lepra Scop. (= *Marfloraea* S.Y. Kondr., Lökös & Hur) (94)

Sarrameanales B.P. Hodk. & Lendemmer

Sarrameanaceae Hafellner

Loxospora A. Massal. (13)

Sarrameana Vězda & P. James (1)

Schaereriales Lumbsch & Leavitt

Schaereriaceae M. Choisy ex Hafellner
Schaereria Körb. (= *Hafellnera* Houmeau & Cl. Roux) (16)

Thelenellales Lumbsch & Leavitt
Thelenellaceae O.E. Erikss. ex H. Mayrhofer
Aspidothelium Vain. (17)
Chromatochlamys Trevis. (3)
Thelenella Nyl. (30)

Ostropomycetidae family *incertae sedis*
Epigloeaceae Zahlbr.
Epigloea Zúkal (12)

Ostropomycetidae genera *incertae sedis*
Amphorotheceium P.M. McCarthy, Kantvilas & Elix (1)
Anzina Scheid. (1)
Aspilidea Hafellner (1)
Bachmanniomyces D. Hawksw. (8)
Dictyocatenulata Finley & E.F. Morris (1)
Malvinia Döbbeler (1)
Pleioapatella Rehm (1)

Umbilicariomycetidae Bendiksby, Hestmark & Timdal
Umbilicariales J.C. Wei & Q.M. Zhou

Elixiaceae Lumbsch
Elixia Lumbsch (2)
Meridianelia Kantvilas & Lumbsch (1)

Fuscideaceae Hafellner
Fuscidea V. Wirth & Vězda (ca. 40)
Hueidea Kantvilas & P.M. McCarthy (1)
Maronea A. Massal. (13)
Orphniospora Körb. (4)

Ophioparmaceae R.W. Rogers & Hafellner
Boreoplaca Timdal (1)
Hypocenomyce M. Choisy (3)
Ophioparma Norman (9)

Ropalosporaceae Hafellner
Ropalospora A. Massal. (9)

Umbilicariaceae Chevall.
Fulgidea Bendiksby & Timdal (2)
Umbilicaria Hoffm. (= *Lasallia* Mérat) (ca. 90) *
Xylopsora Bendiksby & Timdal (2)

Lecanoromycetes order *incertae sedis*
Micropeltidales X.Y. Zeng, H.X. Wu & K.D. Hyde
Micropeltidaceae Clem. & Shear*
Anariste Syd. (1)
Caudella Syd. & P. Syd. (2)

Cyclopeltella Petr. (1)
Dictyopeltella Bat. & I.H. Lima (2)
Haplopelthea Bat., J.L. Bezerra & Cavalc. (1)
Micropeltis Mont. (ca. 110)
Neopeltella Petr. (1)
Scolecopeltidium F. Stevens & Manter (ca. 80)
Stomiopeltis Theiss. (25)
Stomiopeltopsis Bat. & Cavalc. (2)
Stomiotheca Bat. (2)

Turquoiseomycetales Crous

Turquoiseomycetaceae Crous

Turquoiseomyces Crous (1)

Lecanoromycetes genera *incertae sedis*

Argopsis Th. Fr. (1)
Ascographa Velen. (1)
Bartlettiella D.J. Galloway & P.M. Jørg. (1)
Bouvetiella Øvstedal (1)
Buelliastrum Zahlbr. (1)
Haploloma Trevis. (1)
Hosseusia Gyeln. (3)
Korfiomyces Iturr. & D. Hawksw. (1)
Maronella M. Steiger (1)
Notolecidea Hertel (1)
Petractis Fr. (3)
Piccolia A. Massal. (ca. 7)
Ravenelula Speg. (1)
Robincola Velen. (1)
Roburnia Velen. (1)

Leotiomyces O.E. Erikss. & Winka

Chaetomellales Crous & Denman

Chaetomellaceae Baral, P.R. Johnst. & Rossman

Chaetomella Fuckel (26)
Pilidium Kunze (23)
Sphaerographium Sacc. (23)
Synchaetomella Decock & Seifert (3)

Cyttariales Luttr. ex Gamundí

Cyttariaceae Speg.

Cyttaria Berk. (13)

Helotiales Nannf. ex Korf & Lizoň

Amorphothecaceae Parbery*

Amorphotheca Parbery (21 *vide* Baral 2016)

Arachnopezizaceae Hosoya, J.G. Han & Baral

Arachnopeziza Fuckel (35)
Arachnoscypha Boud. (1)
Austropezia Spooner (1)
Eriopezia (Sacc.) Rehm (21)

Parachnopeziza Korf (8)

Ascocorticiaceae J. Schrot

Ascocorticiellum Julich & B. de Vries (1)

Ascocorticium Bref. (2)

Ascosorus P. Henn. & Ruhland (1)

Ascodichaenaceae D. Hawksw. & Sherwood

Ascodichaena Butin (2)

Delpinoia Kuntze (1)

Bloxamiaceae Locq.

Bloxamia Berk. & Broome (10)

Bryoglossaceae Ekanayaka & Hyde

Bryoclaviculus L. Ludw., P.R. Johnst. & Steel (1)

Bryoglossum Redhead (2)

"*Crocicreas*" *multicuspidatum* (1)

Neocudoniella S. Imai (3)

"*Roseodiscus*" *formosus* (1)

Calloriaceae Marchand

Aivenia Svrcek (4)

Calloria Fr. (28)

Chaetonaevia Arx (3)

Diplonaevia Sacc. (33)

Duebenia Fr. (6)

Eupropolella Hohn. (8)

Hyalacrotus (Korf & L.M. Kohn) Raitv. (5)

Iridinea Velen. (2)

Laetinaevia Nannf. (19)

Loricella Velen. (6)

Micropodia Boud. (15)

Naeviella (Rehm) Clem. (3)

Naeviopsis B. Hein (14)

Ploettnera Henn. (6)

Cenangiaceae Rehm (= *Hemiphacidiaceae* Korf)*

Cenangiopsis Rehm (9)

Cenangium Fr. (47)

Chlorencoelia J.R. Dixon (4)

Crumenulopsis J.W. Groves (3)

Encoelia (Fr.) P. Karst. (38)

Fabrella Kirschst. (1)

Heyderia Link (4)

Rhabdocline Syd. (7)

Sarcotrochila Hohn. (7)

Trochila Fr. (33)

Velutarina Korf (3)

Chlorociboriaceae Baral & P.R. Johnst.*

Chlorociboria Seaver ex C.S. Ramamurthi, Korf & L.R. Batra (23)

Chlorospleniaceae Ekanayaka & Hyde

Chlorosplenium Fr. (17)

Chrysodiscaceae Baral & Haelew.*

Chrysodisca Baral, Polhorský & G. Marson (1)

Cordieritidaceae Sacc.

- Ameghiniella* Speg. (2)
Annabella Fryar, Haelew. & D.E.A. Catches. (1)
Austrocenangium Gamundí (2)
Cordierites Mont. (5)
Diplocarpa Masee (1)
Diplolaeviopsis Giralt & D. Hawksw. (3)
“*Encoelia*” *fimbriata* Spooner & Trigaux (1)
“*Encoelia*” *heteromera* (Mont.) Nannf. (1)
Ionomidotis E.J. Durand ex Thaxt. (4)
Llimoniella Hafellner & Nav.-Ros. (21)
Macroskyttea Etayo, Flakus, Suija & Kukwa (1)
Midotiopsis Henn. (2)
Rhymbocarpus Zopf (10)
Sabahriopsis Crous & M.J. Wingf. (1)
Skyttea Sherwood, D. Hawksw. & Coppins (30)
Skyttella D. Hawksw. & R. Sant. (2)
Thamnogalla D. Hawksw. (1)
Unguiculariopsis Rehm (29)

Dermateaceae Fr.

- Coleophoma* Hohn. (= *Parafabraea* Chen Chen et al.) (30)*
Corniculariella P. Karst. (3)
Dermea Fr. (24)
Gelatinoamylaria Prasher & R. Sharma (1)*
Neodermea W.J. Li, D.J. Bhat & K.D. Hyde (1)
Neofabraea H.S. Jacks. (9)
Neogloeosporidina W.J. Li, Camporesi & K.D. Hyde (1)
Pezicula Tul. & C. Tul. (92)
Phlyctema Desm. (60)
Pseudofabraea Chen Chen, Verkley & Crous (1)
Rhizodermea Verkley & Zijlstra (1)
Schizothyrioma Hohn (4)
Verkleyomyces Y. Marin & Crous (1)
Xenochalara M.J. Wingf. & Crous (1)

Discinellaceae Ekanayaka & K.D. Hyde*

- Articulospora* Ingold (6)
Cladochasiella Marvanova (1)
Discinella Boud. (13)
Fontanospora Dyko (4)
Gyoerffyella Kol (10)
Lemonniera De Wild. (8)
Margaritispota Ingold (2)
Naevala B. Hein (5)
Pezoloma Clem. (14)

Pseudopezicula Korf (2)
Tetrachaetum Ingold (1)
Varicosporium W. Kegel (9)

Drepanopezizaceae Baral*

Blumeriella Arx (7)
Diplocarpon F.A. Wolf (7)
Drepanopeziza (Kleb.) Hohn. (5)
Felisbertia Viegas (7)
Leptotrochila P. Karst. (15)
Pseudopeziza Fuckel (2)
Spilopodia Boud. (4)
Spilopodiella E. Mull. (1)

Erysiphaceae Tul. & C. Tul.

Arthrocladiella Vassilkov (1)
Blumeria Golovin ex Speer (1)
Brasiliomyces Viegas (6)
Bulbomicroidium Marm., S. Takam. & U. Braun (1)*
Caespitotheca S. Takam. & U. Braun (1)
Cystotheca Berk. & Curtis (9)
Erysiphe DC. (478)
Golovinomyces (U. Braun) Heluta (66)
Leveillula G. Arnaud (49)
Microidium (To-anun & S. Takam.) To-anun & S. Takam. (3)
Neoerysiphe U. Braun (15)
Parauncinula S. Takam. & U. Braun (4)
Phyllactinia Lev. (117)
Pleochaeta Sacc. & Speg. (5)
Podosphaera Kunze (124)
Pseudoidium Y.S. Paul & J.N. Kapoor (80)
Queirozia Viegas & Cardoso (1)
Sawadaea Miyabe (10)
Takamatsuella U. Braun & A. Shi (1)
Typhulochaeta Ito & Hara (4)

Gelatinodiscaceae S.E. Carp

Ascocoryne J.W. Groves & D.E. Wilson (8)
Ascotremella Seaver (2)
Chloroscypha Seaver (14)
Didymocoryne Sacc. & Trotter (1)
Neobulgaria Petr. (11)
Ombrophila Fr. (11)
Phaeangellina Dennis (1)
Skyathea Spooner & Dennis (1)
Xerombrophila Baral (1)

Godroniaceae Baral

Ascocalyx Naumov (4)
Atropellis Zeller & Goodd. (4)
Godronia Moug. & Lev. (30)
Gremmeniella M. Morelet (3)

Grovesiella M. Morelet (2)*

***Helotiaceae* Rehm**

Ascoconidium Seaver (3)
Bisporella Sacc. (19)
Bryoscyphus Spooner (19)
Calycella (Sacc.) Sacc. (1)
Cudoniella Sacc. (31)
Cyathicula De Not. (30)
Dicephalospora Spooner (4)
Dimorphospora Tubaki (1)
Discorehmia Kirschst. (5)
Eubelonis Hohn. (2)
Filosporella Nawawi (6)
Geniculospora Sv. Nilsson ex Marvanová & Sv. Nilsson (2)
Glarea Bills & Palaez (2)
Gloeotinia M. Wilson, Noble & E.G. Gray (2)
Graddonia Dennis (7)
Gremmenia Korf (4)
Helicodendron Peyronel (3)
Hymenoscyphus Gray (170)
Hymenotorrendiella P.R. Johnst., Baral & R. Galán (9)
Muscicola Velen. (1)
Mycofalcella Marvanová, Om-Kalth. & J. Webster (2)
Mytilodiscus Kropf & S.E. Carp. (1)
Neocrinula Crous (2)
Phaeohelotium Kanouse (41)
Pithyella Boud. (8)
Pseudohelotium Fuckel (50)
Pseudoniptera Velen. (25)
Roesleria Thüm. & Pass. (4)*
Scytalidium Pesante (30)
Symphyosirinia E.A. Ellis (6)
Tatraea Svrcek (2)
Tricladium Ingold (25)
Xylogramma Wallr. (18)

***Heterosphaeriaceae* Rehm**

Heterosphaeria Grev. (7)

Hyaloscyphaceae* Nannf.

Aeruginoscyphus Dougoud (7)*
Ambrodiscus S.E. Carp. (1)
Amicodisca Svrcek (6)
Arbusculina Marvanova & Descals (3)
Asperopilum Spooner (1)
"Chalara" longipes (Preuss) Cooke (1)
Clathrosphaerina Beverw. (2)
Crucellisporiopsis Nag Raj (3)
Dematioscypha Svrcek (4)
Dimorphotricha Spooner (1)
Echinula Graddon (1)

Endoscypha Syd. (1)
Fuscolachnum J.H. Haines (7)
Gamarada D.J. Midgley & Tran-Dinh (1)
Graddonidiscus Raitv. & R. Galan (3)
Grahamiella Spooner (3)
Haplographium Berk. & Broome (15)
Hegermila Raitv. (4)
Hyalopeziza Fuckel (15)
Hyaloscypha Boud. (45)
Hyphodiscus Kirschst. (16)
Hyphopeziza J.G. Han, Hosoya & H.D. Shin (1)
Incrupila Raitv. (10)
Meliniomyces Hambl. & Sigler (3)
Mycoarthritis Marvanova & P.J. Fisher (1)
Olla Velen. (2)
Polaroscyphus Huhtinen (1)
Proprioscypha Spooner (1)
Protounguicularia Raitv. & Galan (10)
Pseudaegerita J.L. Crane & Schokn. (7)*
Psilocistella Svrcek (10)
Rhizoscyphus W.Y. Zhuang & Korf (1)
Scolecolachnum Guatim., R.W. Barreto & Crous (2)*
Thindiomyces Arendh. & R. Sharma (1)
Unguiculariella K.S. Thind & R. Sharma (1)
Unguiculella Hohn (17)
Venturiocistella Raitv (7)

Lachnaceae (Nannf.) Raitv.

Albotricha Raitv. (19)
Belonidium Mont. & Dur. (1)
Brunnipila Baral (10)
Capitotricha (Raitv.) Baral (10)
Dasyscyphella Tranzschel (1)
Erioscyphella Kirschst. (10)
Incrucipulum Baral (6)
Lachnellula P. Karst. (40)
Lachnopsis Guatim., R.W. Barreto & Crous (2)*
Lachnum Retz. (50)
Lasiobelonium Ellis & Everh. (20)
Neodasyscypha Sukova & Spooner (2)
Perrotia Boud. (19)
Proliferodiscus J.H. Haines & Dumont (8)
Solenopezia Sacc. (7)
Trichopeziza Fuckel (30)
Tubolachnum Velen (2)
Velebitea I. Kušan, Matočec & Jadan (1)

Leptodontidiaceae Hern.-Restr., Crous & Gené

Leptodontidium de Hoog. (11)

Loramycetaceae Dennis ex Digby & Goos

Loramycetes W. Weston (2)

Obtectodiscus E. Müll., Petrini & Samuels (2)

Mitrulaceae Rehb.

Mitrulella Fr. (16)

Mollisiaceae Rehm

- Barrenia* E. Walsh & N. Zhang (2)*
- Bulbomollisia* Graddon (1)
- Cheirospora* Moug. & Fr. (2)*
- Cystodendron* Bubak (2)
- Discocurtisia* Nannf. (12)
- Fuscosclera* Hern.-Restr., J. Mena & Gené (1)*
- Mollisia* (Fr.) P. Karst. (130)
- Neotapesia* E. Müll. & Hutter (3)
- Niptera* Fr. (10)
- Nipterella* Starback ex Dennis (2)
- Phialocephala* W.B. Kendr. (37)*
- Pseudonaevia* Dennis & Spooner (2)
- Sarconiptera* Raitv. (1)
- Scutobelonium* Graddon (1)
- Scutomollisia* Nannf. (14)
- Tapesia* (Pers.) Fuckel (110)*
- Trimmatostroma* Corda (30)
- Variocladium* Descals & Marvanova (1)

Myxotrichaceae Currah*

- Byssoascus* Arx (1)
- "*Malbranchea*" *flavorosea* Sigler & J.W. Carmich. (1)
- Myxotrichum* Kunze (17)
- Oidiodendron* Robak (26)

Neolauriomycetaceae Crous*

- Exochalara* W. Gams & Hol.-Jech. (3)
- Lareunionomyces* Crous & M.J. Wingf. (4)
- Neolauriomycetes* Crous (1)

Pezizellaceae Velen.

- Allophylaria* (P. Karst.) P. Karst. (6)
- Antinoa* Velen. (8)
- Calycellina* Hohn (45)
- Calycina* Nees ex Gray (30)
- Chalara* (Corda) Rabenh. (99)
- Ciliolarina* Svrcek (1)
- Curvoclavula* G. Delgado, F.A. Fernández & A.N. Mill. (1)
- Hamatocanthoscypha* Svrcek (3)
- Hyalodendriella* Crous (1)
- Micropeziza* Fuckel (12)
- Microscypha* Syd. & P. Syd. (6)
- Mollisina* Hohn. ex Weese (11)
- Mollisinopsis* Arendh. & R. Sharma (3)
- Moserella* Poder & Scheuer (1)
- Phaeoscypha* Spooner (1)

Phialina Höhn. (6)*
Poculinia Spooner (1)
Psilachnum Hohn. (28)
Rodwayella Spooner (3)
Scleropezicula Verkley (6)
Velutaria Fuckel (1)
Xenopolyscytalum Crous (1)
Zymochalara Guatim., R.W. Barreto & Crous (2)*

Ploettnerulaceae Kirschst.

Cadophora Lagerb. & Melin (15)
Collembolispora Marvanova & Pascoal (2)
Cylindrosporium Grev. (168)*
Dennisiodiscus Svrcek (10)
Lasiomollisia Raitv. & Vesterh. (1)
Mastigosporium Riess (4)
Mycochaetophora Hara & Ogawa (2)
Nothophaacidium J. Reid & Cain (1)
Oculimacula Crous & W. Gams (6)
Pirottaea Sacc. (28)
Pyrenopeziza Fuckel (3)
Rhynchosporium Heinsen ex A.B. Frank (5)

Rutstroemiaceae Holst-Jensen, L.M. Kohn & T. Schumach.*

Bicornispora Checa, Barrasa, M.N. Blanco & A.T. Martínez (2)
Dencoeliopsis Korf (2)
Lambertella Hohn. (6)
Lanzia Sacc. (1)
Pseudolanzia Baral & G. Marson (1)*
Rutstroemia P. Karst. (100)
Torrendiella Boud. & Torrend (3)

Sclerotiniaceae Whetzel ex Whetzel

Amphobotrys Hennebert (1)
Botrytis P. Micheli ex Pers. (3)
Ciboria Fuckel (21)
Ciborinia Whetzel (16)
Cristulariella Hohn. (5)
Cudoniopsis Speg. (1)
Dumontinia L.M. Kohn (5)
Elliottinia L.M. Kohn (1)
Grovesinia M.N. Cline, J.L. Crane & S.D. Cline (2)
Haradamycetes Masuya, Kusunoki, Kosaka & Aikawa (1)
Kohninia Holst-Jensen, Vrålstad & T. Schumach. (1)
Martininia Dumont & Korf (1)
Monilinia Honey (30)
Mycopappus Redhead & G.P. White (3)*
Myrioconium Syd. & P. Syd. (10)
Myriosclerotinia N.F. Buchw. (10)
Ovulinia Weiss (9)
Phaeosclerotinia Hori (1)
Piceomphale Svrcek (1)

Pseudociboria Kanouse (1)
Pycnopeziza W.L. White & Whetzel (5)
Redheadia Y. Suto & Suyama (1)
Sclerencoelia Pärtel & Baral (3)*
Scleromitrulea S. Imai (6)
Sclerotinia Fuckel (15)
Sclerotium Tode (100)
Seaverinia Whetzel (2)
Septotinia Whetzel ex J.W. Groves & M.E. Elliott (2)
Streptotinia Whetzel (3)
Stromatinia (Boud.) Boud. (15)
Valdensia Peyronel (3)

Vibrisseaceae Korf

Acephala Grunig & T.N. Sieber (2)
Chlorovibrissea L.M. Kohn (4)
Leucovibrissea (A. Sanchez) Korf (1)
Pocillum De Not. (1)
Vibrissea Fr (34)

Helotiales genera *incertae sedis*

Acidea Hujslova & M. Kolarik (1)
Acidomelania E. Walsh & N. Zhang (1)
Algincola Velen. (1)
Amylocarpus Curr. (1)
Angelina Fr. (1)
Apiculospora Wijayaw., Camporesi, A.J.L. Phillips & K.D. Hyde (1)
Aquadiscula Shearer & J.L. Crane (2)
Aquapoterium Raja & Shearer (1)
Ascluella DiCosmo, Nag Raj & W.B. Kendr. (1)
Ascoclavulina Otani (8)
Banksiamyces G. Beaton (4)
Belonioscyphella Hohn. (4)
Benguetia Syd. & P. Syd. (1)
Bioscypha Syd. (2)
Brachyalara Reblova & W. Gams (1)
Brefeldochium Verkley (1)
Bulgariella P. Karst. (4)
Bulgariopsis Henn. (2)
Calycellinopsis W.Y. Zhuang (1)
Capillipes R. Sant. (1)
Capricola Velen. (1)
Cashiella Petr. (3)
Cejpia Velen. (3)
Cenangiumella J. Frohl. & K.D. Hyde (1)
Chloroepilichen Etayo (1)
Chlorospleniella P. Karst. (1)
Chondroderris Maire (1)
Ciliella Sacc. & P. Syd. (1)
Cistella Quel. (50)
Clathrosporium Nawawi & Kuthub. (1)
Coleosperma Ingold (1)

Colipila Baral & Guy Garcia (2)
Comesia Sacc. (3)
Cornuntum Velen. (1)
Coronellaria P. Karst. (4)
Criserosphaeria Speg. (1)
Crocicreas Fr. (4)
Crucellisporium M.L. Farr (3)
Crumenella P. Karst. (1)
Cryptohymenium Samuels & L.M. Kohn (1)
Cryptopezia Hohn. (1)
Dactylaria Sacc. (100)
Dawsicola Dobbeler (1)
Dermateopsis Nannf. (2)
Didonia Velen. (5)
Didymascella Maire & Sacc. (5)
Discomycella Hohn. (1)
Durella Tul. & C. Tul. (22)*
Echinodiscus Etayo & Diederich (2)
Encoeliopsis Nannf. (4)
Episclerotium L.M. Kohn (2)
Erikssonopsis M. Morelet (1)
Fulvoflamma Crous (1)
Gloeopeziza Zokal (8)
Godroniopsis Diehl & E.K. Cash (3)
Gorgoniceps (P. Karst.) P. Karst. (3)
Grimmicola Dobbeler & Hertel (1)
Grovesia Dennis (1)
Hemiglossum Pat. (2)
Humicolopsis Cabral & S. Marchand (2)
Hydrocina Scheuer (1)
Hymenobolus Durieu & Mont. (3)
Hyphoscypha Velen. (1)
Hysteronaevia Nannf. (12)
Hysteropezizella Hohn. (26)
Hysterostegiella Hohn. (10)
Infundichalara Reblova & W. Gams (2)
Involucroscypha Raitv. (10)
Jacobsonia Boedijn (1)
Korfia J. Reid & Cain (1)
Lareunionomyces Crous & M.J. Wingf. (2)
Larissia Raitv. (1)
Lasseria Dennis (1)
Lemalis Fr. (3)
Libartania Nag Raj (2)
Livia Velen. (1)
Masseea Sacc. (4)
Melanopeziza Velen. (1)
Merodontis Clem. (1)
Microdiscus Sacc. (1)
Mitrulinia Spooner (1)
Monochaetiellopsis B. Sutton & DiCosmo (2)
Mycosphaerangium Verkley (3)

Obconicum Velen. (2)
Obscurodiscus Raitv. (1)
Orbiliopsis (Sacc. & D. Sacc.) Syd. & P. Syd. (2)
Otwaya G. Beaton (12)
Pachydisca Boud. (32)*
Parencoelia Petr. (4)
Patellariopsis Dennis (5)
Patinellaria H. Karst. (1)
Peltigeromyces Möller (3)
Pestalopezia Seaver (3)
Pezolepis Syd. (2)
Pezomela Syd. (1)
Phacidiella P. Karst. (1)
Phaeofabraea Rehm (1)
Phaeopyxis Rambold & Triebel (1)
Phragmonaevia Rehm (16)*
Piceomphale Svrček (1)
Pleoscutula Vou. (3)
Podophacidium Niessl (2)
Polydesmia Boud. (7)
Polyphilus D.G. Knapp, Ashrafi, W. Maier & Kovács (2)
Potridiscus Dobbeler & Triebel (1)
Pseudohelotium Fuckel (50)
Pseudolachnum Velen. (1)
Pseudomitrla Gamundi (1)
Pseudopeltis L. Holm & K. Holm (1)
Pseudotryblidium Rehm (1)
Psilophana Syd. (1)
Pteromyces E. Bommer, M. Rousseau & Sacc. (1)
Pubigera Baral, Gminder & Svrček (1)
Radotinea E. Bommer, M. Rousseau & Sacc. (1)
Rhexocercosporidium U. Braun (2)
Rhizocladospodium Crous & U. Braun (1)
Rhizothyrium Naumov (1)
Rommelaarsia Baral & Haelew. (1)
Roseodiscus Baral (4)
Sageria A. Funk (1)
Sambucina Velen. (1)
Sarcomyces Masee (1)
Sclerocrana Samuels & L.M. Kohn (4)
Scutulopsis Velen. (1)
Soosiella Hujslova & M. Kolarik (1)
Sorokina Sacc. (1)
Sorokinella J. Frohl. & K.D. Hyde (2)
Spirosphaera Beverw. (8)
Stamnaria Fuckel (7)
Stilbopeziza Speg. (1)
Strossmayeria Schulzer (20)
Tetracladium De Wild. (10)
Thegonia B. Sutton (6)
Themisia Velen. (8)
Tovariella Syd. (1)

Trichohelotium Killerm. (2)
Triposporium Corda (14)
Unguicularia Hohn. (7)*
Urceolella Boud. (44)
Vandijckella Sand.-Den. (1)
Waltonia Saho (1)
Woodiella Sacc. & P. Syd. (3)
Xeromedulla Korf & W.Y. Zhuang (3)
Zugazaea Korf, Iturr. & Lizoñ (1)

Lahmiales O.E. Erikss.

Lahmiaceae O.E. Erikss.

Lahmia Korb. (2)

Lauriomycetales Hern.-Restr., R.F. Castañeda & Guarro

Lauriomycetaceae Hern.-Restr., R.F. Castañeda & Guarro

Lauriomyces R.F. Castaneda (11)

Leotiales Korf & Lizoñ

Cochlearomycetaceae Crous

Cochlearomyces Crous (1)*

Satchmopsis B. Sutton & Hodges (4)

Leotiaceae Corda

Halenospora E.B.G. Jones (1)

Leotia Pers. (23)

Microglossum Gillet (26)

Miniancora Marvanova & Barl. (1)

Mniaeciaceae Baral*

Epithamnia Zhurb. (7)*

Mniaecia Boud. (3)

Tympanidaceae Baral & Quijada

Claussenomyces Kirschst. (15)*

Collophorina Damm & Crous (7)

Durandiella Seaver (15)

Gelatinosporium Peck (12)*

Myriodiscus Boedijn (2)

Pragmopora A. Massal. (8)

Tympanis Fr. (64)

Leotiales genera *incertae sedis*

Aotearomyces P.R. Johnst., J.A. Cooper & Quijada (1)*

Alatospora Ingold (4)

Flagellospora Ingold (6)*

Lichinodiales M. Prieto, M. Schultz, Olariaga & Wedin

Lichinodiaceae M. Prieto, M. Schultz, Olariaga & Wedin

Lichinodium Nyl. (4)*

Marthamycetales R. Johnst. & Baral*

Marthamycetaceae Baral, Lantz, Hustad & Minter

- Cyclaneusma* DiCosmo, Peredo & Minter (2)
- Marthamyces* Minter (18)
- Mellitiosporiella* Hohn. (3)
- Mellitiosporium* Corda (10)
- Naemacyclus* Fuckel (13)
- Phragmiticola* Sherwood (1)
- Propolina* Sacc. (1)
- Propolis* (Fr.) Corda (8)
- Ramomarthamyces* P.R. Johnst. (4)*

Medeolariales Korf

Medeolariaceae Korf

- Medeolaria* Thaxt (1)

Micraspidales Quijada & Tanney*

Micraspidaceae Quijada & Tanney

- Micraspis* Darker (3)

Phacidiales C.E. Bessey*

Helicogoniaceae Baral

- Calloriopsis* Syd. & P. Syd. (1)
- Eleutheromycella* Hohn. (1)
- Eleutheromyces* Fuckel (2)
- Gelatinipulvinella* Hosoya & Y. Otani (1)
- Gelatinopsis* Rambold & Triebe (8)
- Geltingia* Alstrup & D. Hawksw. (1)
- Helicogonium* W.L. White (19)

Phacidiaceae Fr.

- Allantophomopsiella* Crous (1)
- Allantophomopsis* Petr. (4)
- Bulgaria* Fr. (12)
- Darkera* H.S. Whitney, J. Reid & Piroz. (5)
- Lophophacidium* Lagerb. (2)
- Phacidiopycnis* Potebnia (6)
- Phacidium* Fr. (40)
- Pseudophacidium* P. Karst. (11)
- Starbaeckia* Rehm ex Starback (1)

Phacidiales genus *incertae sedis*

- Coma* Nag Raj & W.B. Kendr. (1)

Rhytismatales M.E. Barr ex Minter

Cudoniaceae P.F. Cannon

- Cudonia* Fr. (20)
- Spathularia* Pers. (10)

Rhytismataceae Chevall.

- Bifusella* Hohn. (9)
- Bifusepta* Darker (1)

Bivallum P.R. Johnst. (7)
Canavirgella W. Merr, Wenner & Dreisbach (1)
Cavaraella Speg. (1)
Ceratophacidium J. Reid & Piroz. (1)
Cerion Masee (2)
Coccomyces De Not. (119)
Colpoma Wallr. (14)
Criella (Sacc.) Sacc. & P. Syd. (2)
Cryptomyces Grev. (3)
Davisomycella Darker (11)
Discocainia J. Reid & A. Funk (4)
Duplicaria Fuckel (1)
Duplicariella B. Erikss. (1)
Elytroderma Darker (3)
Gelineostroma H.J. Swart (2)
Heufleria Auersw. (2)*
Hypoderma De Not. (56)
Hypodermella Tubeuf (3)
Hypodermellina Höhn. (1)
Hypohelion P.R. Johnst. (4)
Lasiostictella Sherwood (1)
Lirula Darker (12)
Lophodermella Hohn. (9)
Lophodermium Chevall. (185)
Macroderma Hohn. (2)
Meloderma Darker (5)
Moutoniella Penz. & Sacc. (1)
Mycamelanea Velen. (1)
Myriophacidium Sherwood (6)
Nematococcomyces C.L. Hou, M. Piepenbr. & Oberw. (2)
Neococcomyces Y.R. Lin, C.T. Xiang & Z.Z. Li (3)
Neophacidium Petr. (2)
Nothorhytisma Minter, P.F. Cannon, A.I. Romero & Peredo (1)
Parvacoccum R.S. Hunt & A. Funk (1)
Phaeophacidium P. Henn. & Lindau (3)
Ploioderma Darker. (8)
Propolidium Sacc. (15)
Pseudographis Nyl. (10)*
Pseudorhytisma Juel (1)
Pureke P.R. Johnst. (1)
Rhytisma Fr. (30)
Soleella Darker (7)
Sporomega Corda (1)
Terriera B. Erikss. (34)
Therrya Sacc. (7)
Tryblidiopsis P. Karst. (5)
Virgella Darker (1)
Vladracula P.F. Cannon, Minter & Kamal (2)
Xyloschizon Syd. (2)
Zeus Minter & Diamandis (1)

Tribliidiaceae Rehm*

Huangshania O.E. Erikss. (2)
Triblidium Rebent. (13)

***Rhytismatales* genera incertae sedis**

Apiodiscus Petr. (1)
Bonanseja Sacc. (1)
Didymascus Sacc. (2)
Haplophyse Theiss. (1)
Irydyonia Racib. (1)
Laquearia Fr. (2)
Mycosymbiaces J.L. Frank (1)
Nymanomyces P. Henn. (2)
Pseudotrochila Hohn. (1)

***Thelebolales* P.F. Cannon**

***Pseudeurotiaceae* Malloch & Cain**

Connersia Malloch (1)
Geomyces Traaen (9)
Gymnostellatospora Udagawa, Uchiy. & Kamiya (6)*
Leuconeurospora Malloch & Cain (2)
Neelakesa Udaiyan & Hosag. (3)
Pleuroascus Masee & E.S. Salmon (3)
Pseudeurotium J.F.H. Beyma (8)
Pseudogymnoascus Raillo (12)*

***Thelebolaceae* (Brumm.) Eckblad**

Antarctomyces Stchigel & Guarro (2)
Ascophanus Boud. (56)
Ascozonus (Renny) E.C. Hansen (9)
Caccobius Kimbr. (1)
Cleistothelebolus Malloch & Cain (1)
Coprobolus Cain & Kimbr. (1)
Leptokalpion Brumm. (1)
Pseudascozonus Brumm. (1)
Ramgea Brumm. (2)
Thelebolus Tode (16)

***Leotiomycetes* genera incertae sedis**

Adelodiscus Syd. (1)
Bagnisimitrula S. Imai (1)
Callerascus Whitton, K.D. Hyde & McKenzie (1)
Deltopyxis Baral & G. Marson (1)
Epicladonia D. Hawksw. (5)
Gorgomyces M. Gonczol & Revay (2)
Helicentralis Sri-indr., Chuaseehar., Boonyuen, K. Yamag., Suetrong & C.K.M. Tsui (1)
Helotiella Sacc. (17)
Holwaya Sacc. (2)
Leohumicola N.L. Nick. (7)
Melanormia Korb. (1)
Metapezizella Petr. (1)
Ocotomyces H.C. Evans & Minter (1)
Patinella Sacc. (25)*

Phyllopezis Petr. (1)
Physmatomyces Rehm (1)
Polydiscina Syd. (1)
Psilothecium Clem. (1)
Schnablia Sacc. & P. Syd. (1)
Trullula Ces. (5)

Lichinomycetes V. Reeb, Lutzoni & Cl. Roux

Lichinales Henssen & Büdel

Gloeoheppiaceae Henssen

Gloeoheppia Gyeln. (5)
Gudelia Henssen (1)
Pseudopeltula Henssen (1)

Lichinaceae Nyl.

Anema Nyl. ex Forssell (21)
Calotrichopsis Vain. (4)
Corynecystis Brusse (1)
Cryptothele Th. Fr. (7)
Digitothyrea P. Moreno & Egea (3)
Edwardiella Henssen (1)
Ephebe Fr. (13)
Finkia Vain. (1)
Gyrocollema Vain. (2)
Heppia Nägeli (4)
Jenmania W. Wächt. (2)
Lecidopyrenopsis Vain. (1)
Lemmopsis (Vain.) Zahlbr. (3)
Lempholemma Körb. (35)
Leprocollema Vain. (3)
Lichina C. Agardh (9)
Lichinella Nyl. (30)
Mawsonia C.W. Dodge (1)
Metamelanea Henssen (3)
Paulia Feé (10)
Peccania A. Massal. ex Arnold (3)
Phloeopeccania J. Steiner (4)
Phylliscidiopsis Sambo (1)
Phylliscidium Forssell (1)
Phyllisciella Henssen & Büdel (3)
Phylliscum Nyl. (8)
Porocyphus Körb. (8)
Pseudarctomia Gyeln. (1)
Pseudoheppia Zahlbr. (1)
Pseudopaulia M. Schultz (1)
Psorotichia A. Massal. (50)
Pterygiopsis Vain. (17)
Pyrenocarpon Trevis. (1)
Pyrenopsis Nyl. (40)
Solorinaria (Vain.) Gyeln. (1)
Stromatella Henssen (1)
Synalissa Fr. (30)

Thallinocarpon A.E. Dahl (2)
Thelignya A. Massal. (2)
Thermutis Fr. (2)
Thermutopsis Henssen (1)
Thyrea A. Massal. (13)
Zahlbrucknerella Herre (10)

Peltulaceae Büdel

Peltula Nyl. (32)

Orbiliomycetes O.E. Erikss. & Baral

Orbiliales Baral, O.E. Erikss., G. Marson & E. Weber

Orbiliaceae Nannf.

Arthrobotrys Corda (ca. 100+)
Dactylella Grove (31)
Dactylellina M. Morelet (= *Gamsylella* M. Scholler et al.) (26)
Drechslerella Subram. (ca. 7)
Dwayaangam Subram. (8)
Helicoon Morgan (ca. 15)
Hyalorbilia Baral & G. Marson (40)
Orbilia Fr. (ca. 400)
Pseudotriporiconidium Z.F. Yu & K.Q. Zhang (1)
Pseudorbilia Y. Zhang, Z.F. Yu, Baral & K-Q Zhang (1)
Retiarius D.L. Olivier (4)
Vermispora Deighton & Piroz. (7)

Orbiliales genus *incertae sedis*

Microdochiella Hern.-Restr. & Crous (1)

Orbiliomycetes genus *incertae sedis*

Mycoceros D. Magyar & Z. Merényi (1)*

Pezizomycetes O.E. Erikss. & Winka

Pezizales J. Schröt.

Ascobolaceae Boud. ex Sacc.

Ascobolus Pers. (ca. 70)
Cleistoiodophanus J.L. Bezerra & Kimbr. (1)
Cubonia Sacc. (ca. 7)
Saccobolus Boud. (33)
Thecotheus Boud. (23)*

Ascodesmidaceae J. Schröt.

Ascodesmis Tiegh. (~10)
Cephaliphora Thaxt. (2)*
Chalazion Dissing & Sivertsen (3)
Coprotiella Jeng & J.C. Krug (1)
Dictyocoprotus J.C. Krug & R.S. Khan (1)
Eleutherascus Arx (4)
Lasiobolus Sacc. (11)
Luciotrichus R. Galán & Raitv. (1)
Ochotrichobolus Kimbr. & Korf (1)
Trichobolus (Sacc.) Kimbr. & Cain (6)

Caloscyphaceae Harmaja

Caloscypha Boud. (2)

Chorioactidaceae Pfister

Chorioactis Kupfer ex Eckblad (1)

Desmazierella Lib. (2)

Neournula Paden & Tylutki (2)

Pseudosarcosoma M. Carbone, Agnello & P. Alvarado (1)

Trichaleurina Rehm (3)

Wolfina Seaver ex Eckblad (2)

Discinaceae Benedix

Discina (Fr.) Fr. (20)

Gymnohydnotrya B.C. Zhang & Minter (3)

Gyromitra Fr. (25)

Hydnotrya Berk. & Broome (11)

Pseudorhizina Jacz. (3)

Glaziellaceae J.L. Gibson

Glaziella Berk. (1)

Helvellaceae Fr.

Balsamia Vittad. (21)

Barssia Gilkey (8)

Helvella L. (ca. 80)

Underwoodia Peck (2)

Wynnella Boud. (3)

Kallistoskyphaceae Ekanayaka, K.D. Hyde, Q. Zhao & E.B.G. Jones

Kallistoskypha Pfister, Agnello, Lantieri & LoBuglio (1)

Karstenellaceae Harmaja

Karstenella Harmaja (1)

Morchellaceae H.G.L. Reichenbach

Disciotis Boud. (3)

Fischerula Mattir. (2)

Imaia Trappe & Kovács (1)

Kalapuya M.J. Trappe, Trappe & Bonito (1)

Leucangium Quéf. (1)

Morchella Dill. ex Pers. (~60)

Verpa Sw. (4)

Pezizaceae Dumort. (= *Carbomycetaceae* Trappe)

Adelphella Pfister, Matočec & I. Kušan (1)

Amylascus Trappe (1)

Antrelloides P.S. Catches. & D.E.A. Catches. (1)

Aquapeziza D.M. Hu, L. Cai & K.D. Hyde (1)

Boudiera Cooke (10)

Calongea Healy, Bonito & Trappe (1)*

Carbomyces Gilkey (3)

Cazia Trappe (2)

Delastria Tul. & C. Tul. (6)
Elderia McLennan (1)
Eremiomyces Trappe & Kagan-Zur (3)
Galactinia (Cooke) Boud. (ca. 5)
Hapsidomyces J.C. Krug & Jeng (1)
Hydnobolites Tul. & C. Tul. (ca. 6)
Hydnotryopsis Gilkey (4)
Iodophanus Korf (15)
Iodowynnea Medel, Guzmán & S. Chacón (1)
Kalaharituber Trappe & Kagan-Zur (1)
Lepidotia Boud. (1)
Luteoamylascus Cabero, P. Alvarado & G. Moreno (1)
Marcelleina Brumm., Korf & Rifai (11)
Mattiolomyces E. Fisch. (5)
Mycoclelandia Trappe & G.W. Beaton (2)
Pachyella Boud. (12)
Pachyphlodes Zobel (ca. 10)*
Peziza Dill. ex Fr. (ca. 120)
Plicaria Fuckel (10)
Plicariella (Sacc.) Rehm (2)*
Rhodopeziza Hohmeyer & Moravec (1)
Ruhlandiella P. Henn. (7)
Sarcopeziza Loizides, Agnello & P. Alvarado (1)*
Sarcosphaera Auersw. (4)
Sphaerozone Zobel (1)
Stouffera Kovács & Trappe (1)
Temperantia K. Hansen, Healy & Kovács (1)
Terfezia (Tul. & C. Tul.) Tul. & C. Tul. (19)
Tirmania Chatin (3)
Ulurua Trappe, Claridge & Kovács (1)

Pseudombrophilaceae Ekanayaka, K.D. Hyde, Q. Zhao & E.B.G. Jones

Heydenia Fresen. (3)
Lasiobolidium Malloch & Cain (7)
Orbicula Cooke (1)
Pseudombrophila Boud. (37)

Pulvinulaceae Ekanayaka, K.D. Hyde, Q. Zhao & E.B.G. Jones

Lazuardia Rifai (1)
Pseudoboubovia U. Lindem., M. Vega, B. Perić & R. Tena (1)
Pulvinula Boud. (~30)

Pyronemataceae Corda (= *Otideaceae* Eckblad)

Acervus Kanouse (9)
Aleuria Fuckel (ca. 10)
Aleurina Masee (ca. 10)
Anthracobia Boud. (ca. 10)
Arpinia Berthet (4)
Ascosparrassis Kobayasi (1)
Byssonectria P. Karst. (7)*
Chaetothiersia B.A. Perry & Pfister (1)
Cheilymenia Boud. (67)

Cupulina Dougoud, Van Vooren & M. Vega (2)
Diehliomyces Gilkey (1)
Eoaleurina Korf & W.Y. Zhuang (1)
Galeoscypha Svrček & J. Moravec (1)
Genabea Tul. & C. Tul. (4)
Genea Vittad. (ca. 40)
Geneosperma Rifai (2)
Geopora Harkn. (ca. 20)
Gilkeya M.E. Sm., Trappe & Rizzo (1)
Hoffmannoscypha Stielow, Göker & Klenk (1)*
Humaria Fuckel (ca. 10)
Jafnea Korf (2)
Lamprospora De Not. (ca. 50)
Lasiocupulina Van Vooren & M. Vega (1)
Lathraeodiscus Dissing & Sivertsen (1)
Lotinia Pérez-Butrón Fern.-Vic. & P. Alvarado (1)*
Melastiza Boud. (ca. 10)
Micronematobotrys Xiang Sun & L.D. Guo (1)
Miladina Svrček (1)
Monascella Guarro & Arx (1)
Myrmecocystis Harkn. (7)*
Neottiella (Cooke) Sacc. (ca. 5)
Octospora Hedw. (ca. 50)
Octosporopsis U. Lindem. & M. Vega (2)
Otidea (Pers.) Bonord. (ca. 52)
Oviascoma Y.J. Yao & Spooner (1)
Parascutellinia Svrček (6)
Paratricharina Van Vooren, U. Lindemann, M. Vega, Ribes, Illescas & Matočec (1)
Paratrichophaea Trigaux (5)
Petchiomyces E. Fisch. & Mattir. (1)
Picoa Vittad. (2)*
Planamyces Crous & Decock (1)
Pseudaleuria Lusk (2)
Pseudotrucharina Van Vooren, Tello & M. Vega (3)
Pyronema Carus (3)
Pyropyxis Egger (1)
Ramsbottomia W.D. Buckley (3)
Rhizoblepharia Rifai (2)
Scutellinia (Cooke) Lambotte (70)
Selenaspora R. Heim & Le Gal (1)
Sepultariella Van Vooren, U. Lindemann & Healy (2)*
Smardaea Svrček (9)
Smarodsia Raitv. & Vimba (1)
Sowerbyella Nannf. (17)
Sphaerosporella (Svrček) Svrček & Kubička (3)
Sphaerosporium Schwein. *sensu stricto* (1)*
Spooneromyces T. Schumach. & J. Moravec (5)
Tricharina Eckblad (= *Ascorhizoctonia* Chin S. Yang & Korf) (12)
Trichophaea Boud. (26)
Trichophaeopsis Korf & Erb (4)
Warcupia Paden & J.V. Cameron (1)
Wenylingia Zheng Wang & Pfister (1)

Wilcoxina Chin S. Yang & Korf (5)

Rhizinaceae Bonord.

Phymatotrichopsis Hennebert (1)

Psilopezia Berk. (7)

Rhizina Fr. (1)

Sarcoscyphaceae LeGal ex Eckblad

Aurophora Rifai (1)

Cookeina Kuntze (11)

Geodina Denison (1)

Komposocypha Pfister (4)

Microstoma Bernstein (7)

Nanoscypha Denison (8)

Phillipsia Berk. (~20)

Pithya Fuckel (2)

Pseudopithyella Seaver (2)

Sarcoscypha (Fr.) Boud. (18)

Thindia Korf & Waraitch (1)

Wynnea Berk. & M.A. Curtis (7)

Sarcosomataceae Kobayasi

Conoplea Pers. (11)

Donadinia Bellem. & Mel.-Howell (5)

Galiella Nannf. & Korf (9)

Korfiella D.C. Pant & V.P. Tewari (1)

Plectania Fuckel (ca. 20)

Pseudoplectania Fuckel (4)

Sarcosoma Casp. (5)

Strumella Fr. (8)

Urnula Fr. (9)

Strobiloscyphaceae Ekanayaka, K.D. Hyde, Q. Zhao & E.B.G. Jones

Strobiloscypha N.S. Weber & Denison (2)

Tarzettaceae Ekanayaka, K.D. Hyde, Q. Zhao & E.B.G. Jones

Densocarpa Gilkey (2)*

Geopyxis (Pers.) Sacc. (7)

Hydnocystis Tul. (= *Stephensia* Tul. & C. Tul.) (5)*

Hypotarzetta Donadini (1)

Paurocotylis Berk. (4)

Tarzetta (Cooke) Lambotte (ca. 10)

Tuberaceae Dumort.

Choiromyces Vittad. (5)

Dingleya Trappe (6)

Labyrinthomyces Boedijn (1)

Nothojafnea Rifai (2)

Paradoxa Mattir. (2)

Reddellomyces Trappe, Castellano & Malajczuk (4)

Tuber P. Micheli ex F.H. Wigg. (ca. 120)

***Pezizales* genera incertae sedis**

- Aparaphysaria* Speg. (1)
- Ascocalathium* Eidam ex J. Schröt. (1)
- Boubovia* Svrček (5)*
- Boudierella* Sacc. (1)
- Cidaris* Fr. (1)
- Coprotus* Korf ex Korf & Kimbr. (33)*
- Dennisiopsis* Subram. & Chandras. (2)
- Filicupula* Y.J. Yao & Spooner (1)
- Heydenia* Fresen.
- Hiemsia* Svrček (2)
- Leucoscypha* Boud (4)
- Microeurotium* Ghatak (1)
- Moravecia* Benkert, Caillet & Moyne (2)
- Mycoarctium* K.P. Jain & Cain (2)
- Mycogalopsis* Gjurašin (1)
- Octosporella* Döbbeler (9)
- Orcadia* G.K. Sutherl. (1)
- Sphaerosoma* Klotzsch (3)

***Sordariomycetes* O.E. Erikss. & Winka**

***Diaporthomycetidae* Senan., Maharachch. & K.D. Hyde**

***Annulatascales* M.J. D'souza, Maharachch. & K.D. Hyde**

***Annulatascaleae* S.W. Wong, K.D. Hyde & E.B.G. Jones**

- Annulatasclus* K.D. Hyde (18)
- Annulismagnus* J. Campb. & Shearer (1)
- Aqualignicola* Ranghoo, C.K.M. Tsui & K.D. Hyde (2)
- Ascitendus* J. Campb. & Shearer (2)
- Ayria* Fryar & K.D. Hyde (2)
- Cataractispora* K.D. Hyde, S.W. Wong & E.B.G. Jones (5)
- Chaetorostrum* Zelski, Raja, A.N. Mill. & Shearer (1)
- Longicollum* Zelski, F.R. Barbosa, Raja, A.N. Mill. & Shearer (1)
- Submersisphaeria* K.D. Hyde (5)
- Vertexicola* K.D. Hyde, Ranghoo & S.W. Wong (3)

***Annulatascales* genus incertae sedis**

- Clohiesia* K.D. Hyde (3)

***Atractosporales* H. Zhang, K.D. Hyde & Maharachch.**

***Atractosporaceae* H. Zhang, K.D. Hyde & Maharachch.**

- Atractospora* Réblová & J. Fourn. (5)
- Rubellisphaeria* Réblová & J. Fourn. (1)

***Conlariaceae* H. Zhang, K.D. Hyde & Maharachch.**

- Conlarium* F. Liu & L. Cai (3)
- Riomyces* A. Ferrer, A.N. Mill., Sarmiento & Shearer (1)

***Pseudoproboscisporaceae* H. Zhang, K.D. Hyde & Maharachch.**

- Diluviicola* K.D. Hyde, S.W. Wong & E.B.G. Jones (2)
- Pseudoproboscispora* Punith. (3)

***Calosphaeriales* M.E. Barr**

Calosphaeriaceae Munk

Calosphaeria Tul. & C Tul. (114)

Flabellascus Réblová (1)

Jattaea Berl (27)

Togniniella Réblová, L. Mostert, W. Gams & Crous (1)

Pleurostomataceae Réblová, L. Mostert, W. Gams & Crous

Pleurostoma Tul. & C. Tul. (7)

Calosphaeriales genera *incertae sedis*

Calosphaeriopsis Petr. (1)

Enchnoa Fr. (21)

Kacosphaeria Speg. (1)

Sulcatistroma A.W. Ramaley (1)

Diaporthales Nannf.

Apiosporopsidaceae Senan., Maharachch. & K.D. Hyde

Apiosporopsis (Traverso) Mariani. (3)

Apharknessiaceae Senan., Maharachch. & K.D. Hyde

Apharknessia Crous & S.J. Lee (3)

Lasmenia Speg. (5)

Asterosporiaceae Senan., Maharachch. & K.D. Hyde

Asterosporium Kunze (5)

Auratiopycnidiellaceae Senan., Maharachch. & K.D. Hyde

Auratiopycnidiella Crous & Summerell (1)

Coryneaceae Corda (=Pseudovalsaceae M.E. Barr)

Coryneum Nees (30)

Cryphonectriaceae Gryzenh. & M.J. Wingf.

Amphilogia Gryzenh., H.F. Glen & M.J. Wingf. (2)

Aurantioportha G. Beier & R.A. Blanchette (1)

Aurantiosacculus Dyko & B. Sutton (3)

Aurapex Gryzenh. & M.J. Wingf. (1)

Aurifilum Begoude, Gryzenh. & Jol. Roux (1)

Capillaureum M.E.S. Oliveira (1)

Celoportha Nakab., Gryzenh., Jol. Roux & M.J. Wingf. (2)

Chromendothia Lar.N. Vassiljeva (2)

Chrysofolia Crous & M.J. Wingf. (1)

Chrysomorbus S.F. Chen (1)

Chrysoportha Gryzenh. & M.J. Wingf. (9)

Corticimorbus S.F. Chen & M.J. Wingf. (1)

Cryphonectria (Sacc.) Sacc. & D. Sacc. (1)

Cryptometrion Gryzenh. & M.J. Wingf. (1)

Diversimorbus S.F. Chen & J. Roux (1)

Endothia Fr. (2)

Eriocamporesia R.H. Perera, Samarak. & K.D. Hyde (1)

Foliocryphia Cheew. & Crous (2)

Holocryphia Gryzenh. & M.J. Wingf. (1)

Immersiporthe S.F. Chen, M.J. Wingf. & Jol. Roux (1)
Latruncellus M. Verm., Gryzenh. & Jol. Roux (1)
Luteocirrhus C.F. Crane & T.I. Burgess (1)
Mastigosporella Höhn. (= *Wuestneiopsis* J. Reid & Dowsett) (5)
Microthia Gryzenh. & M.J. Wingf. (2)
Myrtonectria Marinc., D.B. Ali & J. Roux (1)
Rostraureum Gryzenh. & M.J. Wingf. (2)
Ursicollum Gryzenh. & M.J. Wingf. (1)
Wuestneia Auersw. ex Fuckel (13)

Cytosporaceae Fr. (= *Valsaceae* Tul. & C. Tul.)

Cryptascoma Ananthap. (2)
Cytospora Ehrenb. (123)
Pachytrype Berl. ex M.E. Barr, J.D. Rogers & Y.M. Ju (1)
Paravalsa Ananthap. (1)
Waydora B. Sutton (1)
Xenotypa Petr. (1)

Diaporthaceae Höhn. ex Wehm.

Apioporthella Petr. (1)
Apiosphaeria Höhn. (5)
Chaetoconis Clem. (1)
Chiangraiomycetes Senan. & K.D. Hyde (1)
Diaportha Nitschke (= *Allantoportha* Petr.; = *Clypeoporthella* Petr.) (173)
Hyaliaappendispora Senan., Camporesi & K.D. Hyde (1)
Leucodiaportha M.E. Barr & Lar.N. Vassiljeva (1)
Massariothea Syd. (10)
Mazzantia Mont. (4)
Ophioportha Y.M. Ju, H.M. Hsieh, C.H. Fu, Chi Y. Chen & T.T. Chang (1)
Paradiaportha Senan., Camporesi & K.D. Hyde (1)
Phaeocystroma Petr. (4)
Phaeodiaportha Petr. (2)
Pustulomyces D.Q. Dai, Bhat & K.D. Hyde (1)
Stenocarpella Syd. & P. Syd. (2)

Diaporthosporellaceae C.M. Tian & Q. Yang*

Diaporthosporella C.M. Tian & Q. Yang (1)

Diaporthostomataceae X.L. Fan & C.M. Tian*

Diaporthostoma X.L. Fan & C.M. Tian (1)*

Dwiroopaceae K.V. Xavier, A.N. KC, J.Z. Groenew., Vallad & Crous

Dwiroopa Subram. & Muthumary (2)

Erythroglloeaceae Senan., Maharachch. & K.D. Hyde

Chrysocrypta Crous & Summerell (1)
Dendrostoma X.L. Fan & C.M. Tian (4)*
Disculoides Crous, Pascoe, I.J. Porter & Jacq. Edwards (2)
Erythroglloeum Petr. (2)

Gnomoniaceae G. Winter

Alnecium Voglmayr & Jaklitsch (2)

Ambarignomonina Sogonov (1)
Amphiporthe Petr. (= *Amphicytostroma* Petr.) (2)
Anisomyces Theiss. & Syd. (5)
Apiognomonina Höhn. (= *Discula* Sacc.) (28)
Apioplagiostoma M.E. Barr (3)
Asteroma DC. (54)
Bagcheea E. Müll. & R. Menon (2)
Chadefaudiomyces Kamat (1)
Clypeoporthe Höhn. (5)
Cryptosporella Sacc. (ca. 26)
Dictyoporthe Petr. (4)
Diplacella Syd. (2)
Ditopella De Not. (16)
Ditopellopsis J. Reid & C. Booth (4)
Flavignomonina C.M. Tian, Qin Yang & N. Jiang (1)*
Gloeosporidina Petr. (6)
Gnomonia Ces. & De Not. (ca. 70)
Gnomoniella Sacc. (= *Cylindrosporella* Höhn.) (ca. 70)
Gnomoniopsis Berl. (25)
Maculatipalma J. Fröhlich & K.D. Hyde (1)
Mamianiella Höhn. (= *Anisogramma* Theiss. & Syd.; = *Mamiania* Ces & De Not.) (2)
Marsupiomycetes Senan. & K.D. Hyde (2)
Millerburtonia Cif. (1)
Occultocarpon L.C. Mejía & Zhu L. Yang (1)
Ophiognomonina (Sacc.) Sacc. (49)
Phragmoporthe Petr. (1)
Phylloporthe Syd. (2)
Plagiostoma Fuckel (52)
Pleuroceras Riess. (12)
Sirococcus Preuss (5)
Spataporthe Bronson, Klymiuk, Stockey & Tomescu (1)
Tenuignomonina Minosh., D.M. Walker & Hirooka (1)
Uleoporthe Petr. (1)
Valsalnicola D.M. Walker & Rossman (1)
Vismaya V.V. Sarma & K.D. Hyde (1)

Harknessiaceae Crous

Harknessia Cooke (ca. 50)
Mebarria J. Reid & C. Booth (1)

Juglanconidaceae Voglmayr & Jaklitsch (= *Melanosporellaceae* C.M. Tian & Z. Du)

Juglanconis Voglmayr & Jaklitsch (4)

Lamproconiaceae Norph., T.C. Wen & K.D. Hyde

Hercospora Fr. (= *Rabenhorstia* Fr.) (1)
Lamproconium (Grove) Grove (1)

Macrohilaceae Crous

Macrohilum H.J. Swart (1)

Melanconidaceae G. Winter

Melanconis Tul. & C. Tul. (1)

Melanconiellaceae Senan., Maharachch. & K.D. Hyde

- Dicarpella* Syd. & P. Syd. (7)
- Greeneria* Scribn. & Viala (3)
- Massariovalsa* Sacc. (= *Melanconiopsis* Ellis & Everh.) (4)
- Melanconiella* Sacc. (2)
- Microascospora* Senan. & K.D. Hyde (2)
- Septomelanconiella* Samarak. & K.D. Hyde (1)*
- Sheathospora* X.L. Fan (1)*
- Sphaeronaemella* P. Karst. *sensu lato* (10)

Neomelanconiellaceae Crous

- Neomelanconiella* Crous (1)*

Phaeoappendicosporaceae Crous & M.J. Wingf.

- Phaeoappendicospora* Senan., Q.R. Li & K.D. Hyde (1)
- Neophaeoappendicospora* Crous & M.J. Wingf. (1)

Prosopidicolaceae Senan. & K.D. Hyde

- Prosopidicola* Crous & C.L. Lennox (2)

Pseudomelanconidaceae C.M. Tian & X.L. Fan*

- Pseudomelanconis* C.M. Tian & X.L. Fan (1)*
- Neopseudomelanconis* C.M. Tian & N. Jiang (1)

Pseudoplagiostomataceae Cheew., M.J. Wingf. & Crous

- Pseudoplagiostoma* Cheew., M.J. Wingf. & Crous (7)

Schizoparmaceae Rossman

- Coniella* Höhn. (34)

Stilbosporaceae Link

- Crinitospora* B. Sutton & Alcorn (1)
- Natarajania* Pratibha & Bhat (1)
- Stegosporium* Corda (8)
- Stilbospora* Pers. (20)

Sydowiellaceae Lar.N. Vassiljeva

- Alorbis* Senan. & K.D. Hyde (1)
- Breviappendix* Senan. & K.D. Hyde (3)
- Cainiella* E. Müll. (2)
- Calosporella* J. Schröt (1)
- Caudospora* Starbäck (2)
- Chapeckia* M.E. Barr (2)
- Hapalocystis* Auersw. ex Fuckel (9)
- Italiomyces* Senan., Camporesi & K.D. Hyde (1)
- Lambro* Racib. (3)
- Paragnomonina* Senan. & K.D. Hyde (1)
- Ranulospora* Senan., Camporesi & K.D. Hyde (1)
- Rossmania* Lar.N. Vassiljeva (2)
- Sillia* P. Karst. (9)
- Sydowiella* Petr. (11)
- Tenuiappendicula* Senan., Camporesi & K.D. Hyde (1)

Tortilispora Senan. & K.D. Hyde (3)

Synnemasporellaceae X.L. Fan & J.D.P. Bezerra*

Synnemasporella X.L. Fan & J.D.P. Bezerra (2)*

Tubakiaceae U. Braun, J.Z. Groenew. & Crous*

Apiognomonioides U. Braun, J.Z. Groenew. & Crous (1)

Involutscutellula U. Braun & C. Nakash. (1)

Oblongisporothyrium U. Braun & C. Nakash. (1)

Paratubakia U. Braun & C. Nakash. (2)

Racheliella Crous & U. Braun (2)

Saprothyrium U. Braun, Crous & J.Z. Groenew. (1)

Sphaerosporothyrium U. Braun, Crous, O. Moreno-Rico & Marm. (1)

Tubakia B. Sutton (25)

***Diaporthales* genera incertae sedis**

Ceratopithe Petr. (1)

Cryptoleptosphaeria Petr. (1)

Cryptonectriella (Höhn.) Weese (2)

Cryptonectriopsis (Höhn.) Weese (1)

Cytomelanconis Naumov (1)

Diaporthella Petr. (5)

Diatrypoidiella Manohar., Kunwar & D.K. Agarwa (1)

Ditopellina J. Reid & C. Booth (1)

Durispora K.D. Hyde (2)

Exormatostoma Gray (10 epithets in Index Fungorum 2020)

Fremineavia Nieuwl. (1)

Gibellia Sacc. (1)

Gyrostroma Naumov (3)

Hyalorostratum Raja & Shearer (1)

Hypophloeda K.D. Hyde & E.B.G. Jones (1)

Hypospilina (Sacc) Traverso (4)

Kapooria J. Reid & C. Booth (1)

Keinstirschia J. Reid & C. Booth (1)

Kensinjinia J. Reid & C. Booth (1)

Lollipopaia Inderb. (1)

Macrodiaporthe Petr. (1)

Melanamphora Lafl. (1)

Phragmodiaporthe Wehm. (3)

Phruensis Pinruan (1)

Plagiophiale Petr. (2)

Plagiostigme Syd. (1)

Prostratus Sivan., W.H. Hsieh & Chi Y. Chen (1)

Pseudocryptosporella J. Reid & C. Booth (1)

Pseudothis Theiss. & Syd. (12)

Pseudovalsella Höhn. (2)

Savulescua Petr. (1)

Skottsbergiella Petr. (1)

Sphaerognomoniella Naumov & Kusnezowa (1)

Stioclettia Dennis (1)

Trematovalsa Jacobesco (1)

Wehmeyera J. Reid & C. Booth (1)

Distoseptisporales Z.L. Luo, K.D. Hyde & H.Y. Su
Distoseptisporaceae K.D. Hyde & McKenzie
Distoseptispora K.D. Hyde, McKenzie & Maharachch. (18)

Magnaporthales Thongk., Vijaykr. & K.D. Hyde
Ceratospaeriaceae Z.L. Luo, H.Y. Su & K.D. Hyde
Ceratospaeria Niessl. (24)

Magnaporthaceae P.F. Cannon

Bifusisporella R.M.F. Silva, R.J.V. Oliveira, J.D.P. Bezerra, Souza-Motta & G.A. Silva (1)*
Budhanggurabania P. Wong, Khemmuk & R.G. Shivas (1)
Buergenerula Syd. (1)
Bussabanomyces Klaubauf, M.-H. Lebrun & Crous (1)
Ceratospaerella Huhndorf, Greif, Mugambi & A.N. Mill. (2)
Clasterosphaeria Sivan. (2)
Clasterosporium Schwein (41)
Clavatisporella K.D. Hyde (1)
Falciphora J. Luo & N. Zhang (1)
Falciphoriella M. Hern.-Restr. & Crous (1)
Gaeumannomycella M. Hern.-Restr. & Crous (2)
Gaeumannomyces Arx & D.L. Olivier (20)
Herbampulla Scheuer & Nogrsek (1)
Kohlmeyeriopsis Klaubauf, M.-H. Lebrun & Crous (1)
Magnaporthiopsis J. Luo & N. Zhang (7)
Muraeriata Huhndorf, Greif, Mugambi & A.N. Mill. (2)
Nakataea Hara (8)
Neogaeumannomyces D.Q. Dai & K.D. Hyde (1)
Omnidemtus P.F. Cannon & Alcorn (3)
Plagiosphaera Petr. (1)*
Pseudophialophora J. Luo & N. Zhang (9)
Pyriculariopsis M.B. Ellis (9)
Slopeiomyces Klaubauf, M.-H. Lebrun & Crous (1)

Ophioceraceae Klaubauf, E.G. LeBrun & Crous
Ophioceras Sacc. (50)

Pseudohalonectriaceae Hongsanan & K.D. Hyde
Pseudohalonectria Minoura & T. Muroi (16)

Pyriculariaceae Klaubauf, E.G. LeBrun & Crous
Bambusicularia Klaubauf, M.-H. Lebrun & Crous (1)
Barretomyces Klaubauf, M.-H. Lebrun & Crous (1)
Deightoniella S. Hughes (20)
Macgarvieomyces Klaubauf, M.-H. Lebrun & Crous (3)
Neocordana Hern.-Rest. & Crous (6)
Neopyricularia Klaubauf, M.-H. Lebrun & Crous (1)
Proxipyricularia Klaubauf, M.-H. Lebrun & Crous (2)
Pseudopyricularia Klaubauf, M.-H. Lebrun & Crous (7)
Pyricularia Sacc. (84)
Pyriculariomyces Y. Marín, M.J. Wingf. & Crous (1)
Xenopyricularia Klaubauf, M.-H. Lebrun & Crous (1)

Myrmecridiales Crous

Myrmecridiaceae Crous

Myrmecridium Arzanlou, W. Gams & Crous (14)

Neomyrmecridium Crous (2)

Xenodactylariaceae Crous

Xenodactylaria Crous (1)*

Ophiostomatales Benny & Kimbr.

Kathistaceae Malloch & M. Blackw.

Kathistes Malloch & M. Blackw. (3)

Mattirolella S. Colla (2)

Termitariopsis M. Blackw., Samson & Kimbr. (1)

Ophiostomataceae Nannf.

Afroraffaele C.C. Bateman, Y.T. Huang & D.R. Simmons (1)

Aureovirg J.A. van der Linde, Z.W. de Beer & Jol. Roux (1)

Ceratocystiopsis H.P. Upadhyay & W.B. Kendr. (5)

Fragosphaeria Shear (2)

Graphilbum H.P. Upadhyay & W.B. Kendr. (13)

Hawksworthiomyces Z.W. de Beer, Marinc. & M.J. Wingf. (4)

Klasterskya Petr. (3)

Leptographium Lagerb. & Melin (= *Grosmannia* Gold.) (74)

Ophiostoma Syd. & P. Syd. (= *Hyalorhinocladiella* H.P. Upadhyay & W.B. Kendr.; =

Pesotum J.L. Crane & Schokn.) (134)

Raffaelea Arx & Hennebert (33)

Sporothrix Hektoen & C.F. Perkins (79)

Spumatoria Masee & E.S. Salmon (1)

Subbaromyces Hesselt. (2)

Phomatosporales Senan., Maharachch. & K.D. Hyde

Phomatosporaceae Senan. & K.D. Hyde

Lanspora K.D. Hyde & E.B.G. Jones (2)

Phomatospora Sacc. (ca. 100)

Tenuimurus Senan., Camporesi & K.D. Hyde (1)

Sporidesmiales Crous

Sporidesmiaceae Fr.

Sporidesmium Link (ca. 330)

Tirisporellales Suetrong, E.B.G. Jones & K.L. Pang

Tirisporellaceae Suetrong, E.B.G. Jones & K.L. Pang

Bacusphaeria Norlail., Alias & Suetrong (1)

Thailandiomyces Pinruan, Sakay., K.D. Hyde & E.B.G. Jones (1)

Tirisporella E.B.G. Jones, K.D. Hyde & Alias (1)

Togniniales Senan., Maharachch. & K.D. Hyde

Togniniaceae Réblová, L. Mostert, W. Gams & Crous

Conidiotheca Réblová & L. Mostert (1)

Phaeoacremonium W. Gams, Crous & M.J. Wingf. (65)

Xenosporidiales Hern.-Restr., J. Mena & Gené

Xenospadicoidaceae Hern.-Restr., J. Mena & Gené (= *Lentomitellaceae* H. Zhang, K.D. Hyde & Maharachch)*

Calyptosphaeria Réblová & A.N. Mill. (4)

Lentomitella Höhn. (13)

Neospadicoides Z.L. Luo (3)

Spadicoides S. Hughes (= *Xenospadicoides* Hern.-Restr., J. Mena & Gené;
Pseudodiplococcium Hern.-Restr., J. Mena & Gené) (45)*

Torrentispora K.D. Hyde, W.H. Ho, E.B.G. Jones (= *Fusoidispora* Vijaykr., Jeewon & K.D. Hyde; = *Pseudoannulatasacus* Z.L. Luo, Maharachch. & K.D. Hyde) (9)*

Diaporthomycetidae families *incertae sedis*

Barbatosphaeriaceae H. Zhang, K.D. Hyde & Maharachch.*

Barbatosphaeria Réblová (9)

Ceratostomella Sacc. (18)

Xylomelasma Réblová (4)

Papulosaceae Winka & O.E. Erikss.

Brunneospora V.M. Ranghoo & K.D. Hyde (1)

Fluminicola S.W. Wong, K.D. Hyde & E.B.G. Jones (4)

Papulosa Kohlm & Volkm-Kohlm (1)

Wongia Khemmuk, Geering & R.G. Shivas (3)

Rhamphoriaceae Réblová*

Rhamphoria Niessl (15)*

Rhamphoriopsis Réblová & Gardiennet (1)*

Rhodoveronaea Arzanlou, W. Gams & Crous (1)*

Xylolentia Réblová (1)*

Thyridiaceae O.E. Erikss & J.Z. Yue

Pleurocytospora Petr. (3)

Thyridium Nitschke (34)

Trichosphaeriaceae G. Winter

Brachysporium Sacc. (25)

Collematospora Jeng & Cain (1)

Coniobrevicolla Réblová (1)

Eriosphaeria Sacc. (24)

Koorchaloma Subram. (= *Kananascus* Nag Raj) (11)

Rizalia Syd. & P. Syd. (6)

Schweinitziella Speg. (4)

Setocampanula Sivan. & W.H. Hsieh (1)

Trichosphaeria Fuckel (20)

Unisetosphaeria Pinnoi, E.B.G. Jones, McKenzie & K.D. Hyde (1)

Woswasiaceae H. Zhang, K.D. Hyde & Maharachch.

Cyanoannulus Raja, J. Campb. & Shearer (1)

Woswasia Jaklitsch, Réblová & Voglmayr (1)

Xylochrysis Réblová (1)

Diaporthomycetidae genera *incertae sedis*

Aquapteridospora Jiao Yang, K.D. Hyde & Maharachch. (1)

Aquaticola W.H. Ho, C.K.M. Tsui, Hodgkiss & K.D. Hyde (5)

Aquimonospora J. Yang & K.D. Hyde (1)*
Fusoidispora D. Vijaykr., Jeewon & K.D. Hyde (1)
Platytrachelon Réblová (1)
Proliferophorum G.N. Wang, H. Zhang & Senan. (1)*
Pseudoconlarium N.G. Liu, K.D. Hyde & J.K. Liu (1)
Pseudostanjuhughesia J. Yang & K.D. Hyde (1)

Hypocreomycetidae O.E. Erikss. & Winka

Coronophorales Nannf. (= *Melanosporales* N. Zhang & M. Blackw.)

Bertiaceae Smyk

Bertia De Not. (48)
Gaillardiella Pat. (6)

Ceratostomataceae G. Winter

Arxiomyces P.F. Cannon & D. Hawksw. (3)
Dactylidispora Y. Marín, Stchigel, Guarro & Cano (3)
Echinusithea Y. Marín, Stchigel, Dania García, Guarro, A.N. Mill. & Cano (1)
Erythrocarpon Zúkal (1)
Harzia Costantin (10)
Melanospora Corda (= *Gonatobotrys* Corda) (69)
Microthecium Corda (= *Pteridiosperma* J.C. Krug & Jeng) (ca. 20)
Pseudomicrothecium Y. Marín, Stchigel, Guarro & Cano (1)
Pustulipora P.F. Cannon (1)
Rhytidospora Jeng & Cain (5)
Scopinella Lév. (9)
Setiferothea Matsush. (1)
Sypastospora P.F. Cannon & D. Hawksw. (4)
Vittatispora P. Chaudhary, J. Campb., D. Hawksw. & K.N. Sastry (1)

Chaetosphaerellaceae Huhndorf, A.N. Mill. & F.A. Fernández

Chaetosphaerella E. Müll. & C. Booth (4)
Crassochaeta Réblová (2)
Spinulosphaeria Sivan. (2)

Coronophoraceae Höhn.

Coronophora Fuckel (2)

Nitschkiaceae (Fitzp.) Nannf.

Acanthonitschkea Speg. (10)
Biciliosporina Subram. & Sekar (1)
Botryola Bat. & J.L. Bezerra (1)
Fracchiaea Sacc. (35)
Groenhiella Jørg. Koch, E.B.G. Jones & S.T. Moss (1)
Janannfeldtia Subram. & Sekar (1)
Lasiosphaeriopsis D. Hawksw. & Sivan. (7)
Loranitschkia Lar.N. Vassiljeva (1)
Neochaetosphaerella Lar.N. Vassiljeva, S.L. Stephenson & Chernyshev (4)
Neotrotteria Sacc. (1)
Nitschkia G.H. Otth ex P. Karst. (66)
Rhagadostoma Körb. (7)
Rhagadostomella Etayo (1)
Tortulomyces Lar.N. Vassiljeva, S.L. Stephenson, Chernyshev & K.D. Hyde (1)

Scortechiniaceae Huhndorf, A.N. Mill. & F.A. Fernández

- Biciliospora* Petr. (1)
- Coronophorella* Höhn. (1)
- Cryptosphaerella* Sacc. (20)
- Euacanth*e Theiss. (2)
- Neofracchiaea* Teng (1)
- Pseudocatenomyces* Crous & L.A. Shuttlew. (1)
- Scortechinia* Sacc. (9)
- Scortechiniella* Arx & E. Müll. (1)
- Scortechiniellopsis* Sivan. (1)
- Tympanopsis* Starbäck (1)

Coronophorales genera *incertae sedis*

- Papulaspora* Preuss (33)
- Sphaerodes* Clem. (9)

Falcocladiales R.H. Perera, Maharachch., Somrith., Suetrong & K.D. Hyde

Falcocladiaceae Somrith., E.B.G. Jones & K.L. Pang

- Falcocladium* S.F. Silveira, Alfenas, Crous & M.J. Wingf. (5)

Glomerellales Chadeff. ex Réblová, W. Gams & Seifert

Australiascaceae Réblová & W. Gams

- Monilochaetes* Halst. ex Harter (8)

Glomerellaceae Locq. ex Seifert & W. Gams

- Colletotrichum* Corda (ca. 895)

Malaysiascaceae Tibpromma & K.D. Hyde

- Malaysiasca* Crous & M.J. Wingf. (1)

Plectosphaerellaceae W. Gams, Summerb. & Zare

- Acremoniisimulans* Tibpromma & K.D. Hyde (1)
- Acrostalagmus* Corda (13)
- Brunneochlamydosporium* Giraldo López & Crous (4)
- Brunneomyces* A. Giraldo, Gené & Guarro (3)
- Chlamydosporiella* Giraldo López & Crous (1)
- Chordomyces* Bilanenko, Georgieva & Grum-Grzhim. (2)
- Furcasterigmium* Giraldo López & Crous (1)
- Fuscohypha* Giraldo López & Crous (1)
- Gibellulopsis* Bat. & H. Maia (3)
- Lectera* P.F. Cannon (6)
- Longitudinalis* Tibpromma & K.D. Hyde (1)
- Musicillium* Zare & W Gams (2)
- Musidium* Giraldo López & Crous (1)
- Nigrocephalum* Giraldo López & Crous (1)
- Paragibellulopsis* Giraldo López & Crous (1)
- Paramusicillium* Giraldo López & Crous (1)
- Phialoparvum* Giraldo López & Crous (1)
- Plectosphaerella* Kleb. (17)
- Sayamraella* Giraldo López & Crous (1)
- Sodiomyces* A.A. Grum-Grzhim., Debets & Bilanenko (5)
- Stachylidium* Link (7)

Summerbellia Giraldo López & Crous (1)
Theobromium Giraldo López & Crous (1)
Verticillium Nees (81)

Reticulascaceae Réblová & W. Gams

Blastophorum Matsush. (5)
Cylindrotrichum Bonord. (23)
Kylindria DiCosmo, S.M. Berch & W.B. Kendr. (11)
Sporoschismopsis Hol-Jech. & Hennebert (8)

Glomerellales genus *incertae sedis*

Ascocodinaea Samuels, Cand. & Magni (2)

Hypocreales Lindau

Bionectriaceae Samuels & Rossman

Acremonium Link (ca. 150)
Anthonectria Döbbeler (1)
Aphanotria Döbbeler (1)
Battarrina (Sacc.) Clem. & Shear (1)
Bryocentria Döbbeler (15)
Bryotria Döbbeler & P.G. Davison (2)
Bullanockia Crous (1)
Chrysonectria Lechat & J. Fourn. (1)*
Clibanites (P. Karst.) P. Karst. (1)
Clonostachys Corda (78)
Dimerosporiella Speg. (8)
Fusariella Sacc. (17)
Geonectria Lechat & J. Fourn. (1)*
Geosmithia J. Pitt (24)
Gliomastix Guég. (24)
Globonectria Etayo (1)
Gracilistilbella Seifert (4)
Halonectria E.B.G. Jones (1)
Heleococcum P.M. Jørg. (5)
Hydropisphaera Dumort (29)
Ijuhya Starbäck (22)
Kallichroma Kohlm. & Volkm.-Kohlm. (4)
Laniatria Döbbeler & P.G. Davison (1)
Lasionectria (Sacc.) Cooke (23)
Lasionectriella Lechat & J. Fourn. (2)*
Mycoarachis Malloch & Cain (2)
Mycocitrus Möller (3)
Nectriella Nitschke ex Fuckel (84)
Nectriopsis Maire (70)
Nigrosabulum Malloch & Cain (1)
Ochronectria Rossman & Samuels (3)
Ovicuculispora Etayo (2)
Paracylindrocarpon Crous, Roets & L. Lombard (4)
Paranectria Sacc. (4)
Periantria Döbbeler & P.G. Davison (2)
Peristomialis (W. Phillips) Boud. (6)
Pronectria Clem. (44)

Protocreopsis Yoshim Doi (12)
Roumegueriella Speg. (4)
Selinia P. Karst. (6)
Stephanonectria Schroers & Samuels (1)
Stilbocrea Pat. (7)
Stromatonectria Jaklitsch & H. Voglmayr (1)
Synnemellisia N.K. Rao, Manohar. & Goos (2)
Trichonectria Kirschst. (19)
Verrucostoma Hirooka, Tak. Kobay. & P. Chaverri (2)
Xanthonectria Lechat, J. Fourn. & P.-A. Moreau (1)*

Calcarisporiaceae Jing Z. Sun, X.Z. Liu & K.D. Hyde
Calcarisporium Preuss (8)

Clavicipitaceae (Lindau) Earle ex Rogerson

Aciculosporium I. Miyake (= *Neoclaviceps* J.F. White, Bills, S.C. Alderman & Spatafora) (4)
Aschersonia Mont. (= *Hypocrella* Sacc. *vide* Hyde et al. 2020) (170+)
Atkinsonella Diehl (2)
Balansia Speg. (49)
Cavimalum Yoshim. Doi, Dargan & K.S. Thind (2)
Claviceps Tul. (111)
Collarina A. Giraldo, Gené & Guarro (1)
Conoideocrella D. Johnson, G.H. Sung, Hywel-Jones & Spatafora (3)
Coralloctostroma Y.N. Yu & Z.Y. Zhang (2)
Dussiella Pat. (3)
Ephelis Fr. (4)
Epichloë (Fr.) Tul. & C. Tul. (75)
Epicrea Petr. (1)
Helicocollum Luangsa-ard (3)
Helminthascus Tranzschel (1)
Heteroepichloë E. Tanaka, C. Tanaka, Gafur & Tsuda (2)
Konradia Racib. (2)
Loculistroma F. Patt & Charles (1)
Metapochonia Kepler, S.A. Rehner & Humber (6)
Metarhiziosis D.W. Li, R.S. Cowles & C.R. Vossbrinck (1)
Metarhizium Sorokīn (= *Chamaeleomyces* Sigler; = *Metacordyceps* G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora; = *Nomuraea* Maubl.; = *Stereocrea* Syd. & P. Syd.) (78)
Moelleriella Bres. (57)
Mycomalus A. Möller (1)
Mycophilomyces Crous & M.J. Wingf. (1)
Myriogenospora G.F. Atk. (4)
Neobarya Lowen (12)
Neocordyceps Kobayasi (1)
Nigelia Luangsa-ard (2)
Nigrocornus Ryley & Langdon (1)
Orbiocrella D. Johnson, G.H. Sung, Hywel-Jones & Spatafora (1)
Parepichloë J.F. White & P.V. Reddy (4)
Periglandula U. Steiner, E. Leistner & Leuchtm. (2)
Pochonia Bat. & O.M. Fonseca (4)
Pseudomeria G.L. Barron (1)
Regiocrella Chaverri & K.T. Hodge (2)
Romanoa Thirum. (1)

Rotiferophthora G.L. Barron (27)
Samuelsia Chaverri & K.T. Hodge (6)
Shimizuomyces Kobayasi (2)
Sphaerocordyceps Kobayasi (2)
Tyrannicordyceps Kepler & Spatafora (5)
Ustilaginoidea Bref. (19)

Cocoonihabitaceae W.Y. Zhuang & Z.Q. Zeng
Cocoonihabitatus W.Y. Zhuang & Z.Q. Zeng (1)

Cordycipitaceae Kreisel ex G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora
Akanthomyces Lebert (= *Torrubiella* Boud., = *Lecanicillium* W. Gams & Zare) (21)*
Amphichorda Fr. (1)
Ascopolyporus Möller (7)
Beauveria Vuill. (54)
Beejasamuha Subram. & Chandrash. (1)
Blackwellomyces Spatafora & Luangsa-ard (2)
Cordyceps (Fr.) Link (= *Isaria* Pers.; = *Microhilum* H.Y. Yip & A.C. Rath) (498)
Coremiopsis Sizova & Suprun (2)
Engyodontium de Hoog (5)
Gibellula Cavara (= *Granulomanus* de Hoog & Samson) (29)
Hevansia Luangsa-ard, Hywel-Jones & Spatafora (8)
Hyperdermium J.F. White, R.F. Sullivan, Bills & Hywel-Jones (3)
Leptobacillium Zare & W. Gams (1)
Parengyodontium C.C. Tsang, J.F.W. Chan, W.M. Pong, J.H.K. Chen, A.H.Y. Ngan, M. Cheung, C.K.C. Lai, D.N.C. Tsang, S.K.P. Lau & P.C.Y. Woo (1)
Pseudogibellula Samson & H.C. Evans (1)
Samsoniella Mongkols., Noisrip., Thanakitp., Spatafora & Luangsa-ard (3)
Simplicillium W. Gams & Zare (12)

Flammoclaadiellaceae Crous, L. Lombard & R.K. Schumach.
Flammoclaadiella Crous, L. Lombard & R.K. Schumach. (2)

Hypocreaceae De Not.
Arachnocrea Z. Moravec. (3)
Dialhypocrea Speg. (1)
Escovopsioides H.C. Evans & J.O. Augustin (1)
Escovopsis J.J. Muchovej & Della Lucia (14)
Hypocreopsis P. Karst. (14)
Hypomyces (Fr.) Tul. & C. Tul. (ca. 150)
Kiflimonium Summerb., J.A. Scott, Guarro & Crous (1)
Lichenobarya Etayo, Diederich & Lawrey (1)
Mycogone Link (28)
Protocrea Petch (6)
Rogersonia Samuels & Lodge (1)
Sepedonium Link (13)
Sphaerostilbella (Henn.) Sacc. & D. Sacc (13)
Sporophagomyces K. Pöldmaa & Samuels (3)
Stephanoma Wallr. (?6)
Trichoderma Pers. (400+)
Verticimonosporium Matsush. (3)

Myrotheciomycetaceae Crous

- Emericellopsis* J.F.H. Beyma (23)
- Leucosphaerina* Arx (2)
- Myrotheciomyces* Crous (1)
- Trichothecium* Link (9)

Nectriaceae Tul. & C. Tul.

- Albonectria* Rossman & Samuels (1)
- Allantonectria* Earle (1)
- Allonectella* Petr. (2)
- Aphanocladium* W. Gams (4)
- Aquanectria* L. Lombard & Crous (3)
- Atractium* Link (3)*
- Baipadisphaeria* Pinruan (1)
- Bisifusarium* L. Lombard, Crous & W. Gams (7)
- Calonectria* De Not. (400)
- Calostilbe* Sacc. & Syd. (4)
- Campylocarpon* Halleen, Schroers & Crous (3)
- Chaetonectrioides* Matsush. (1)
- Chaetopsina* Rambelli (19)
- Coccinonectria* Lombard & Crous (2)
- Corallomycetella* Henn. (4)
- Corallonectria* C. Herrera & P. Chaverri (1)
- Corinectria* C. González & P. Chaverri (3)
- Cosmospora* Rabenh. (50)
- Cosmosporella* S.K. Huang, R. Jeewon & K.D. Hyde (1)
- Curviciadiella* Decock & Crous (1)
- Cyanochyta* Höhn. (1)
- Cyanonectria* Samuels & Chaverri (2)
- Cyanophomella* Höhn. (1)
- Cylindrocladiella* Boesew. (45)
- Cylindrodendrum* Bonord. (4)
- Dacryoma* Samuels (2)
- Dactylonectria* L. Lombard & Crous (14)
- Dematiocladium* Allegr., Aramb., Cazau & Crous (2)
- Fusarium* Link (ca. 120)
- Fusicolla* Bonord (18)
- Geejayessia* Schroers, Gräfenhan & Seifert (7)
- Gliocephalotrichum* J.J. Ellis & Hesselt. (13)
- Gliocladiopsis* S.B. Saksena (15)
- Ilyonectria* P. Chaverri & C. Salgado (23)
- Macroconia* (Wollenw.) Gräfenhan, Seifert & Schroers (5)
- Mariannaea* G. Arnaud ex Samson (22)
- Microcera* Desm. (4)
- Murinectria* M. Niranjana & V.V. Sarma (4)
- Nalanthamala* Subram. (6)
- Nectria* (Fr.) Fr. (29)
- Neocosmospora* E.F. Sm. (84)
- Neonectria* Wollenw. (30)
- Neothyronectria* Crous & Thangavel (2)
- Ophionectria* Sacc. (39)
- Pandanaceomyces* Tibpromma & K.D. Hyde (1)

Paracremonium L. Lombard & Crous (5)
Payosphaeria W.F. Leong (1)
Penicillifer Emden (7)
Persiciospora P.F. Cannon & D. Hawksw. (4)
Pleiocarpon L. Lombard & D. Aiello (3)
Pleogibberella Sacc. (3)
Pleurocolla Petr. (1)
Pseudoachroiostachys Tibpromma & K.D. Hyde (1)
Pseudocosmospora C. Herrera & P. Chaverri (13)
Pseudonectria Seaver (17)
Rectifusarium L. Lombard, Crous & W. Gams (2)
Rugonectria P. Chaverri & Samuels (5)
Sarcopodium Ehrenb. (22)
Stylonectria Höhn. (5)
Thehonectria P. Chaverri & C.G. Salgado (46)
Thyronectria Sacc. (41)
Varicosporella Lechat & J. Fourn. (1)
Varicosporellopsis Lechat & J. Fourn. (1)*
Volutella Fr. (127)
Xenoacremonium Lombard & Crous (2)
Xenocylindrocladium Decock, Hennebert & Crous (3)
Xenogliocladiopsis Crous & W.B. Kendr. (2)
Xenoleptographium Marinc., T.A. Duong, Z.W. de Beer & M.J. Wingf. (1)
Xenonectriella Weese (18)

Niessliaceae Kirschst.

Atronectria Etayo (1)
Circinoniesslia Samuels & M.E. Barr (1)
Cryptoniesslia Scheuer (1)
Eucasphaeria Crous (2)
Hyaloseta A.W. Ramaley (1)
Malmeomyces Starb. (1)
Melchioria Penz. & Sacc. (6)
Miyakeomyces Hara (1)
Myrmaeciella Lindau (2)
Myrtacremonium Crous (1)
Neoeucasphaeria Crous (1)
Niesslia Auersw. (43)
Paraniesslia K.M. Tsui, K.D. Hyde & Hodgkiss (2)
Pseudohyaloseta Tibpromma & K.D. Hyde (1)
Pseudonectriella Petr. (1)
Pseudorhynchia Höhn. (2)
Rosasphaeria Jaklitsch & Voglmayr (1)
Taiwanascus Sivan & H.S. Chang (2)
Trichosphaerella E. Bommer, M. Rousseau & Sacc. (= *Neorehmia* Höhn.; = *Oplothecium* Syd.) (4)
Valetoniella Höhn. (3)
Valetoniellopsis Samuels & M.E. Barr (1)

Ophiocordycipitaceae G.H. Sung, J.M. Sung, Hywel-Jones & Spatafora

Drechmeria W. Gams & H.B. Jansson (12)
Harposporium Lohde (37)

Hirsutella Pat. (50+)
Hymenostilbe Petch (12)
Ophiocordyceps Petch (263)
Paraisaria Samson & B.L. Brady (11)
Perennicordyceps Matočec & I. Kušan (4)*
Polycephalomyces Kobayasi (18)*
Purpureocillium Luangsa-ard, Hywel-Jones, Houbraken & Samson (5)
Tolypocladium W. Gams (47)

Sarocladiaceae L. Lombard

Parasarocladium Summerb., J.A. Scott, Guarro & Crous (4)
Sarocladium W. Gams & D. Hawksw. (22)

Stachybotryaceae L. Lombard & Crous

Achroiostachys L. Lombard & Crous (6)
Albifimbria L. Lombard & Crous (5)
Albosynnema E.F. Morris (2)
Alfaria Crous, Montañó-Mata & García-Jim. (13)
Alfariaclediella Crous & R.K. Schumach. (1)
Brevistachys L. Lombard & Crous (5)
Capitofimbria L. Lombard & Crous (1)
Cymostachys L. Lombard & Crous (3)
Didymostilbe Henn. (14)
Digitiseta Gordillo & Decock (4)*
Dimorphiseta L. Lombard & Crous (1)
Globobotrys L. Lombard & Crous (1)
Grandibotrys L. Lombard & Crous (3)
Gregatothecium L. Lombard & Crous (1)
Hyalinostachys C.G. Lin & K.D. Hyde (1)
Inaequalispora L. Lombard & Crous (3)
Kastanostachys L. Lombard & Crous (1)
Koorchalomella Chona, Munjal & J.N. Kapoor (2)
Melanopsamma Niessl (ca. 5)
Memmoniella Höhn. (9)
Myrothecium Tode (2)
Myxospora L. Lombard & Crous (6)
Neomyrothecium L. Lombard & Crous (1)
Paramyrothecium L. Lombard & Crous (14)
Parasarcopodium Melnik, S.J. Lee & Crous (3)
Parvothecium L. Lombard & Crous (2)
Peethambara Subram. & Bhat (1)
Pseudoornatispora Tibpromma & K.D. Hyde (1)
Septomyrothecium Matsush. (4)
Sirastachys L. Lombard & Crous (9)
Smaragdiniseta L. Lombard & Crous (1)
Stachybotrys Corda (12 phylogenetically studied, 81 epithets remain be studied)
Striatibotrys L. Lombard & Crous (7)
Striaticonidium L. Lombard & Crous (5)
Tangerinosporium L. Lombard & Crous (1)
Virgatospora Finley (2)
Xenomyrothecium L. Lombard & Crous (1)
Xepicula Nag Raj (4)

Xepiculopsis Nag Raj (2)

Tilachlidiaceae Lombard & Crous

Psychronectria J. Pawłowska, Istel, Wrzosek, D. Hawksw. (47)

Septofusidium W. Gams (5)

Tilachlidium Preuss (1)

Hypocreales genera *incertae sedis*

Acremoniopsis A. Giraldo, Gené & Guarro (1)

Berkelella (Sacc.) Sacc. (2)

Bulbithecium Udagawa & T Muroi (1)

Cephalosporiopsis Peyronel (10)

Chondronectria Etayo, Flakus & Kukwa (1)

Cylindronectria Etayo (1)

Diploöspora Grove (ca. 7)

Gynonectria Döbbeler (1)

Hapsidospora Malloch & Cain (2)

Haptospora G.L. Barron (3)

Illosporiopsis D. Hawksw. (1)

Illosporium Mart. (17)

Leptobarya Etayo (2)

Lichenopenicillus Etayo (1)

Metadothella Henn. (1)

Munkia Speg. (4)

Neomunkia Petr. (1)

Peloronectria Möller (3)

Pseudoacremonium Crous (1)

Pseudoidriella Crous & R.G. Shivas (1)

Pseudomeliola Speg. (10)

Rodentomyces Doveri, Pecchia, Sarrocco & Vannacci (1)

Roselliniella Vain (19)

Saksenamyces A.N. Rai & P.N. Singh (1)

Sedecimiella K.L. Pang, Alias & E.B.G. Jones (1)

Stanjemonium W. Gams, O'Donnell, Schroers & M. Chr. (4)

Stilbella Lindau (61)

Ticonectria Döbbeler (3)

Tilakidium Vaidya, C.D. Naik & Rathod (1)

Jobellisiales M.J. D'souza & K.D. Hyde

Jobellisiaceae Réblová

Jobellisia M.E. Barr (8)

Microascales Luttr. ex Benny & Kimbr.

Ceratocystidaceae Locq. ex Réblová, W. Gams & Seifert

Ambrosiella Brader ex Arx & Hennebert (10)

Berkeleyomyces W.J. Nel, Z.W. de Beer, T.A. Duong & M.J. Wingf. (2)

Bretziella Z.W. de Beer, Marinc., T.A. Duong & M.J. Wingf. (1)

Ceratocystis Ellis & Halst. (105)

Chalaropsis Peyronel (3)

Davidsoniella Z.W. de Beer, T.A. Duong & M.J. Wingf. (4)

Endoconidiophora Münch (9)

Huntiella Z.W. de Beer, T.A. Duong & M.J. Wingf. (29)

Meredithiella McNew, C. Mayers & T.C. Harr. (3)
Phialophoropsis L.R. Batra emend. T.C. Harr. (2)
Thielaviopsis Went. (7)

Chadefaudiellaceae Faurel & Schotter ex Benny & Kimbr.
Chadefaudiella Faurel & Schotter (2)
Faurelina Locq-Lin. (4)

Gondwanamycetaceae Réblová, W. Gams & Seifert
Custingophora Stolk (1)
Knoxdaviesia M.J. Wingf., P.S. van Wyk & Marasas. (5)

Graphiaceae De Beer
Graphium Corda (20)

Halosphaeriaceae E. Müll & Arx ex Kohlm.
Alisea J. Dupont & E.B.G. Jones (1)
Amphitrite S. Tibell (1)
Aniptodera Shearer & M. Miller (21)
Aniptosporopsis (K.D. Hyde) K.L. Pang (1)
Anisostagma K.R.L. Petersen & Jørg. Koch (1)
Antennospora Meyers (2)
Appendichordella R.G. Johnson, E.B.G. Jones & S.T. Moss (1)
Arenariomyces Höhnk (5)
Ascosacculus J. Campbell, J.L. Anderson & Shearer (1)
Bathyascus Kohlm. (5)
Carbosphaerella I. Schmidt (2)
Ceriosporopsis Linder (9)
Chadefaudia Feldm.-Maz. (6)
Corallicola Volkm.-Kohlm. & Kohlm. (1)
Corollospora Werderm (= *Cirrenalia* Meyers & R.T. Moore; = *Sigmoidea* J.L. Crane) (25)
Cucullosporella K.D. Hyde & E.B.G. Jones (1)
Ebullia K.L. Pang (1)
Fluviatispora K.D. Hyde (3)
Gesasha Abdel-Wahab & Nagah. (3)
Haiyanga K.L. Pang & E.B.G. Jones (1)
Haligena Kohlm. (1)
Halosarpheia Kohlm. & E. Kohlm. (8)
Halosphaeria Linder (1)
Halosphaeriopsis T.W. Johnson (1)
Havispora K.L. Pang & Vrijmoed (1)
Iwilsoniella E.B.G. Jones (1)
Kitesporella Jheng & K.L. Pang (1)
Kochiella Sakay., K.L. Pang & E.B.G. Jones (1)
Lautisporopsis E.B.G. Jones, Yusoff & S.T. Moss (1)
Lignincola Höhnk (2)
Limacospora Jørg. Koch & E.B.G. Jones (1)
Luttrellia Shearer (4)
Magnisphaera J. Campb., J.L. Anderson & Shearer (2)
Marinospora A.R. Caval. (2)
Moana Kohlm. & Volkm.-Kohlm. (1)
Morakotiella Sakay. (1)

Nais Kohlm. (3)
Natantispora J. Campb., J.L. Anderson & Shearer (3)
Nautosphaeria E.B.G. Jones (1)
Neptunella K.L. Pang & E.B.G. Jones (1)
Nereiospora E.B.G. Jones, R.G. Johnson & S.T. Moss. (2)
Nimbospora Jørg. Koch (1)
Nohea Kohlm. & Volkm.-Kohlm. (3)
Oceanitis Kohlm. (4)
Ocostaspora E.B.G. Jones, R.G. Johnson & S.T. Moss (1)
Okeanomyces K.L. Pang & E.B.G. Jones (1)
Ondiniella E.B.G. Jones, R.G. Johnson & S.T. Moss (1)
Ophiodeira Kohlm. & Volkm.-Kohlm. (1)
Paraaniptodera K.L. Pang, C.L. Lu, W.T. Ju & E.B.G. Jones (1)
Phaeonectriella R.A. Eaton & E.B.G. Jones (1)
Praelongicaulis E.B.G. Jones, Abdel-Wahab & K.L. Pang (1)
Panorbis J. Campb., J.L. Anderson & Shearer (1)
Pileomyces K.L. Pang & Jheng (1)
Pseudolignicola Chatmala & E.B.G. Jones (1)
Remispora Linder (5)
Saagaromyces K.L. Pang & E.B.G. Jones (3)
Sablicola E.B.G. Jones, K.L. Pang & Vrijmoed (1)
Thalassogena Kohlm. & Volkm.-Kohlm. (1)
Thalespora Chatmala & E.B.G. Jones (1)
Tinhaudeus K.L. Pang, S.Y. Guo & E.B.G. Jones (1)
Tirispota E.B.G. Jones & Vrijmoed (1)
Toriella Sakay., K.L. Pang & E.B.G. Jones (1)
Trailia G.K. Sutherl. (1)
Trichomaris Hibbits, G.C. Hughes & Sparks (1)
Tubakiella Sakay., K.L. Pang & E.B.G. Jones (1)
Tunicatispora K.D. Hyde (1)

Microascaceae Luttr. ex Malloch

Acaulium Sopp (4)
Brachyconidiellopsis Decock, R.F. Castañeda & Adhikari (1)
Canariomyces Arx (3)
Cephalotrichum Link (37)
Doratomyces Corda (3)
Echinobotryum Corda (2)
Enterocarpus Locq.-Lin. (2)
Fairmania Sacc. (1)
Gamsia M. Morelet (5)
Kernia Nieuwl. (14)
Lomentospora Hennebert & B.G. Desai (1)
Lophotrichus R.K. Benj. (8)
Microascus Zukal (60)
Parascedosporium Gilgado, Gené, Cano & Guarro (2)
Petriella Curzi (8)
Pseudallescheria Negrone & I. Fisch. (8)
Pseudoscopulariopsis Sand.-Den., Gené & Guarro (2)
Rhinocladium Sacc. & Marchal (11)
Scedosporium Sacc. ex Castell. & Chalm. (12)
Scopulariopsis Bainier (87)

Wardomyces F.T. Brooks & Hansf. (11)
Wardomycopsis Udagawa & Furuya (5)
Yunnania H.Z. Kong (3)

Triadelphiaceae Y.Z. Lu, J.K. Liu, Z.L. Luo & K.D. Hyde
Synnematotriadelphia Chuaseehar., Somrith., Nuankaew & Boonyuen (2)
Triadelphia Shearer & J.L. Crane (18)*

Microascales genera *incertae sedis*
Bisporostilbella Brandsb. & E.F. Morris (1)
Cephalotrichiella Crous (1)
Cornuvesica C.D. Viljoen, M.J. Wingf. & K. Jacobs (4)
Gabarnaudia Samson & W. Gams (2)
Sporendocladia G. Arnaud ex Nag Raj & W.B. Kendr. (7)

Pararamichloridiales Crous
Pararamichloridiaceae Crous
Pararamichloridium Crous (2)

Torpedosporales E.B.G. Jones, Abdel-Wahab & K.L. Pang
Etheiophoraceae Rungjind., Somrith. & Suetrong
Etheiophora Kohlm. & Volkm.-Kohlm. (3)
Swampomyces Kohlm. & Volkm. (2)

Juncigenaceae E.B.G. Jones, Abdel-Wahab & K.L. Pang
Elbamycella A. Poli, E. Bovio, V. Prigione & G.C. Varese (1)
Fulvocentrum E.B.G. Jones & Abdel-Wahab (3)
Juncigena Kohlm Kohlm., Volkm.-Kohlm. & O.E. Erikss. (2)
Khaleijomyces Abdel-Wahab (1)*
Marinokulati E.B.G. Jones & K.L. Pang (1)
Moheitospora Abdel-Wahab, Abdel-Aziz & Nagah. (2)

Torpedosporaceae E.B.G. Jones & K.L. Pang
Torpedospora Meyers (3)

Hypocreomycetidae genera *incertae sedis*
Campylospora Ranzoni (5)
Dendroclathra Voglmayr & G. Delgado (2)

Lulworthiomycetidae Dayar., E.B.G. Jones & K.D. Hyde
Koralionastetales Kohlm., Volkm.-Kohlm., J. Campb. & Inderb.
Koralionastetaceae Kohlm. & Volkm.-Kohlm.
Koralionastes Kohlm. & Volkm.-Kohlm. (5)
Pontogeneia Kohlm. (8)

Lulworthiales Kohlm., Spatafora & Volkm.-Kohlm.
Lulworthiaceae Kohlm., Spatafora & Volkm.-Kohlm.
Cumulospora I. Schmidt (2)
Halazoon Abdel-Aziz, Abdel-Wahab & Nagah. (2)
Haloguignardia A. Cribb & J. Cribb (1)
Hydea K.L. Pang & E.B.G Jones (1)
Kohlmeyeriella E.B.G. Jones, R.G. Johnson & S.T. Moss (2)

Lindra I. Wilson (2)
Lulwoana Kohlm., Volkm.-Kohlm., J. Campb., Spatafora & Gräfenhan (1)
Lulwoidea Kohlm., Volkm.-Kohlm., J. Campb., Spatafora & Gräfenhan (1)
Lulworthia G.K. Sutherl (32)
Matsusporium E.B.G. Jones & K.L. Pang (1)
Moleospora Abdel-Wahab, Abdel-Aziz & Nagah (1)
Moromyces Abdel-Wahab, K.L. Pang, Nagah., Abdel-Aziz & E.B.G. Jones (1)
Orbimyces Linder (1)
Rostrupiella Jørg Koch, K.L. Pang & E.B.G. Jones. (1)
Sammeyersia S. Y. Guo, E.B.G. Jones & K.L. Pang (1)

Pisorisporiomycetidae Bundhun, Maharachch. & K.D. Hyde

Pisorisporiales Réblová & J. Fourn.

Pisorisporiaceae Réblová & J. Fourn.

Achroceratosphaeria Réblová, Fourn., K.D. Hyde & Ranghoo (2)

Pisorisporium Réblová & J. Fourn. (2)

Savoryellomycetidae Hongsanan, K.D. Hyde & Maharachch.

Conioscyphales Réblová & Seifert

Conioscyphaceae Réblová & Seifert

Conioscypha Höhn. (16)

Fuscosporellales Jing Yang, Bhat & K.D. Hyde

Fuscosporellaceae Jing Yang, Bhat & K.D. Hyde

Bactrodesmiastrum Hol.-Jech. (5)

Fuscosporella Jing Yang (2)

Mucispora Jing Yang (2)

Parafuscosporella Jing Yang & K.D. Hyde (3)

Plagiascoma Réblová & J. Fourn. (1)

Pseudoascotaiwania Jing Yang, Bhat & K.D. Hyde (1)

Pleurotheciales Réblová & Seifert

Pleurotheciaceae Réblová & Seifert

Adelosphaeria Réblová (1)

Anapleurothecium Hern.-Restr., R.F. Castañeda & Gené (1)

Helicoön Morgan (28)

Melanotrigonum Réblová (1)

Monotosporella S. Hughes (4)

Neomonodictys Y.Z. Lu, C.G. Lin & K.D. Hyde (1)

Phaeoisaria Höhn. (23)

Phragmocephala E.W. Mason & S. Hughes (15)

Pleurotheciella Réblová (11)

Pleurothecium Höhn. (11)

Sterigmatobotrys Oudem. (6)

Savoryellales Boonyuen, Suetrong, Sivichai, K.L. Pang & E.B.G. Jones

Savoryellaceae Jaklitsch & Réblová

Ascotaiwania Sivan. & H.S. Chang (= *Neoascotaiwania* Hern.-Restr., R.F. Castañeda & Guarro *vide* Dayarathne et al. 2019) (9)

Canalisporium Nawawi & Kuthub. (= *Ascothailandia* Sri-indr., Boonyuen, Sivichai & E.B.G. Jones) (15)

Rhexoacrodictys W.A. Baker & Morgan-Jones (5)*

Savoryella E.B.G. Jones & R.A. Eaton (11)

Sordariomycetidae O.E. Erikss & Winka (= *Meliolomycetidae* P.M. Kirk & K.D. Hyde)*

Bolinales P.F. Cannon

Boliniaceae Rick

- Apiocamarops* Samuels & J.D. Rogers (4)
- Apiorhynchostoma* Petr. (4)
- Camaropella* Lar.N. Vassiljeva (2)
- Camarops* P. Karst. (= *Bolinia* (Nitschke) Sacc.) (28)
- Cornipulvina* Huhndorf, A.N. Mill., F.A. Fernández & Lodge (1)
- Endoxyla* Fuckel (3)
- Mollicamarops* Lar.N. Vassiljeva (1)
- Neohypodiscus* J.D. Rogers, Y.M. Ju & Læssøe (3)
- Pseudovalsaria* Spooner (3)

Cephalothecales Maharachch. & K.D. Hyde

Cephalothecaceae Höhn.

- Albertiniella* Kirschst. (2)
- Cephalotheca* Fuckel (ca. 10)
- Cryptendoxyla* Malloch & Cain (2)
- Phialemonium* W. Gams & McGinnis (6)
- Victoriomyces* D. Davolos, B. Pietrangeli, A.M. Persiani & O. Maggi (1)

Chaetosphaeriales Huhndorf, A.N. Mill. & F.A. Fernández

Chaetosphaeriaceae Réblová, M.E. Barr & Samuels

- Adautomilanezia* Gusmão, S.S. Silva, Fiuza, L.A. Costa & T.A.B. Santos (1)
- Anacacumisporium* Y.R. Ma & X.G. Zhang (1)
- Ascochalara* Réblová (1)
- Bahusutrabeeja* Subram. & Bhat (6)
- Brunneodinemasporium* Crous & R.F. Castañeda (2)
- Catenularia* Grove (13)
- Chaetosphaeria* Tul. & C. Tul. (ca. 150)
- Chloridium* Link (= *Melanopsammella* Höhn.) (ca. 30)
- Codinaea* Maire (15)
- Conicomycetes* R.C. Sinclair, Eicker & Morgan-Jones (4)
- Craspedodidymum* Hol.-Jech. (14)
- Cryptophiale* Piroz. (ca. 20)
- Cryptophialoidea* Kuthub. & Nawawi (5)
- Dendrophoma* Sacc. (ca. 100)
- Dictyoachaeta* Speg. (84)
- Dictyoachaetopsis* Aramb. & Cabello (14)
- Dinemasporium* Lév. (35)
- Eucalyptostroma* Crous & M.J. Wingf. (2)
- Exserticlava* S. Hughes (7)
- Hemicorynespora* M.B. Ellis (12)
- Infundibulomyces* Plaingam, Somrith. & E.B.G. Jones (2)
- Kionochaeta* P.M. Kirk & B. Sutton (13)
- Lecythothecium* Réblová & Winka (1)
- Menispora* Pers. (14)
- Menisporopsis* S. Hughes (ca. 10)
- Miyoshiella* Kawam. (3)
- Morrisiella* Saikia & A.K. Sarbhoy (1)

Nawawia Marvanová (7)
Neopseudolachnella A. Hashim. & Kaz. Tanaka (3)
Paliphora Sivan. & B. Sutton (7)
Phialosporostilbe Mercado & J. Mena (5)
Polynema Lév. (13)
Pseudodinemasporium A. Hashim. & Kaz. Tanaka (1)
Pseudolachnea Ranoj. (5)
Pseudolachnella Teng (18)
Pyrigemmula D. Magyar & R. Shoemaker (1)
Rattania Prabhug. & Bhat (1)
Sporoschisma Berk. & Broome (15)
Striatosphaeria Samuels & E. Müll. (1)
Tainosphaeria F.A. Fernández & Huhndorf (3)
Thozetella Kuntze (22)
Umbrinosphaeria Réblová (1)
Verhulstia Hern.-Rest. (1)
Zanclospora S. Hughes & W.B. Kendr. (10)

Helminthosphaeriaceae Samuels, Cand. & Magni.

Echinospaeria A.N. Mill. & Huhndorf (14)
Endophragmiella B. Sutton (ca. 80)
Helminthosphaeria Fuckel (ca. 20)
Hilberina Huhndorf & A.N. Mill. (ca. 20)
Ruzenia O. Hilber (1)
Synaptospora Cain (5)
Tengiomyces Réblová (1)

Leptosporrellaceae Konta & K.D. Hyde

Leptosporrella Penz. & Sacc. (17)

Linocarpaceae Konta & K.D. Hyde

Linocarpon Syd. & P. Syd. (42)
Neolinocarpon K.D. Hyde (13)

Chaetosphaeriales genera *incertae sedis*

Calvolachnella Marinc., T.A. Duong & M.J. Wingf. (1)
Caudatispora J. Fröhl. & K.D. Hyde (2)
Erythromada Huhndorf, A.N. Mill., F.A. Fernández & Lodge (1)
Lasiosphaeriella Sivan. (6)
Neoleptosporrella Phukhams., Perera & K.D. Hyde (2)
Neonawawia Jing Yang, K.D. Hyde & J.K. Liu (1)
Rimaconus Huhndorf, F.A. Fernández, Joanne E. Taylor & K.D. Hyde (2)

Coniochaetales Huhndorf, A.N. Mill. & F.A. Fernández (= *Cordanales* M. Hern.-Rest. & Crous)

Coniochaetaceae Malloch & Cain

Barrina A.W. Ramaley (1)
Coniochaeta (Sacc.) Cooke (82)

Cordanaceae Nann.

Cordana Preuss (19)

Coniochaetales genera *incertae sedis*

Cannonia J.E. Taylor & K.D. Hyde (1)
Pseudogliomastix W. Gams (1)

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

Armatellaceae Hosag.

Armatella Theiss. & Syd. (19)

Meliolaceae G.W. Martin ex Hansf.

Amazonia Theiss. (60)

Appendiculella Höhn. (70)

Asteridiella McAlpine (2)

Cryptomeliola S. Hughes & Piroz. (3)

Endomeliola S. Hughes & Piroz. (1)

Irenopsis F. Stevens (150)

Meliola Fr. (1700)

Setameliola D.R. Reynolds (17)

Phyllachorales M.E. Barr

Phaeochoraceae K.D. Hyde, P.F. Cannon & M.E. Barr

Cocoicola K.D. Hyde (5)

Phaeochora Höhn. (4)

Phaeochoropsis K.D. Hyde & P.F. Cannon (4)

Serenomyces Petr. (4)

Phaeochorellaceae Guterres, Galvão-Elias & Dianese

Phaeochorella Theiss. & Syd. (6)

Phyllachoraceae Theiss. & H. Syd.

Ascovaginospora Fallah, Shearer & W.D. Chen (1)

Brobdingnagia K.D. Hyde & P.F. Cannon (4)

Camarotella Theiss. & Syd. (8)

Cocodiella Hara (27)

Cyclodomus Höhn. (5)

Deshpandiella Kamat & Ullasa (1)

Diachora Müll. Arg. (4)

Diatractium Syd. & P. Syd. (4)

Erikssonia Penz. & Sacc. (5)

Frematomyces P.F. Cannon & H.C. Evans (2)

Geminispora Pat. (2)

Gibellina Pass. Ex Roum. (2)

Imazekia Tak. Kobay. & Y. Kawabe (1)

Isothea Fr. (4)

Lichenochora Hafellner (44)

Lindauella Rehm (1)

Linochora Höhn. (37)

Lohwagia Petr. (3)

Maculatifrones K.D. Hyde (1)

Malthomyces K.D. Hyde & P.F. Cannon (2)

Muelleromyces Kamat & Anahosur (1)

Neoflageoletia J. Reid & C. Booth (1)

Neophyllachora Dayar. & K.D. Hyde (4)

Ophiodothis Sacc. (6)

Ophiodothella (Henn.). Höhn. (31)
Orphnodactylis Malloch & Mallik (2)
Oxodeora K.D. Hyde & P.F. Cannon (1)
Parberya C.A. Pearce & K.D. Hyde (2)
Petrakiella Syd. (1)
Phycomelaina Kohlm. (1)
Phyllachora Nitschke ex Fuckel (1513)
Phylleutypa Petr. (3)
Phyllocrea Höhn. (3)
Pseudothiella Petr. (1)
Pseudothiopsella Petr. (1)
Pterosporidium W.H. Ho & K.D. Hyde (2)
Rehmiodothis Theiss. & Syd. (10)
Retroa P.F. Cannon (2)
Rhodosticta Woron. (2)
Rikatlia P.F. Cannon (1)
Schizochora Syd. & P. Syd. (3)
Sphaerodothella C.A. Pearce & K.D. Hyde (1)
Sphaerodothis (Sacc. & P. Syd.) Shear (43)
Stigmatula (Sacc.) Syd. & P. Syd. (10)
Stigmochora Theiss. & Syd. (12)
Stromaster Höhn. (1)
Tamsiniella S.W. Wong, K.D. Hyde, W.H. Ho & S.J. Stanley (1)
Telimenella Petr. (3)
Telimenochora Sivan. (1)
Trabutia Sacc. & Roum. (1)
Tribulatia J.E. Taylor, Hyde & E.B.G. Jones (1)
Uropolystigma Maubl. (1)
Vitreostroma P.F. Cannon (3)
Zimmermanniella Henn. (1)

Telimenaceae Mardones, T. Trampe & M. Piepenbr
Telimenia Racib. (14)

Phyllachorales genus *incertae sedis*
Marinosphaera K.D. Hyde (1)

Pseudodactylariales Crous
Pseudodactylariaceae Crous
Pseudodactylaria Crous (3)

Sordariales Chad. ex D. Hawksw. & O.E. Erikss.
Chaetomiaceae G. Winter
Achaetomium J.N. Rai, Tewari & Mukerji (16)
Acrophialophora Edward (17)
Allobotryotrichum M. Raza & L. Cai (1)
Amesia X. Wei Wang, Samson & Crous (4)
Arcopilus X. Wei Wang, Samson & Crous (5)
Arxotrichum A. Nováková & M. Kolařík (2)
Botryotrichum Sacc. & Marchal (11)
Brachychaeta X. Wei Wang & Houbraken (1)
Carteria X. Wei Wang & Houbraken (1)

Chaetomium Kunze (359)
Chrysanthotrichum X. Wei Wang & Houbraken (4)
Chrysocorona X. Wei Wang & Houbraken (1)
Collariella X. Wei Wang, Samson & Crous (9)
Condensascus X. Wei Wang & Houbraken (1)
Corynascella Arx & Hodges (1)
Crassicarpon Y. Marín, Stchigel, Guarro & Cano (3)
Dichotomopilus X. Wei Wang, Samson & Crous (12)
Floropilus X. Wei Wang & Houbraken (1)
Guanomyces M.C. Gonzáles, Hanlin & Ulloa (1)
Humicola Traaen (86)
Hyalosphaerella X. Wei Wang & Houbraken (1)
Madurella Brumpt (15)
Melanocarpus Arx (5)
Microthielavia X. Wei Wang & Houbraken (1)
Myceliophthora Costantin (4)
Ovatospora X. Wei Wang, Samson & Crous (6)
Parathielavia X. Wei Wang & Houbraken (3)
Pseudothielavia X. Wei Wang & Houbraken (4)
Remersonia Samson & Seifert (2)*
Retroconis de Hoog & Bat. Vegte (1)*
Staphylotrichum J.A. Mey. & Nicot (8)
Stolonocarpus X. Wei Wang & Houbraken (1)
Subramaniula Arx (9)
Thermothelomyces Y. Marín, Stchigel, Guarro & Cano (4)
Thermothielavioides X. Wei Wang & Houbraken (1)
Thielavia Zopf (47)
Trichocladium Harz (44)

***Lasiosphaeriaceae* Nannf.**

Anopodium Lundq. (2)
Apiosordaria Arx & W. Gams (31)
Apodospora Cain & J.H. Mirza (6)
Apodus Malloch & Cain (2)
Arnium Nitschke ex G. Winter (34)
Bellojisia Réblová (1)
Biconiosporella Schaumann (1)
Bombardia (Fr.) P. Karst. (43)
Bombardioidea C. Moreau ex N. Lundqv. (5)
Camptosphaeria Fuckel (4)
Cercophora Fuckel (77)
Corylomyces Stchigel, M. Caldusch & Guarro (1)
Diffractella Guarro, P.F. Cannon & Aa (1)
Diplogelasinospora Cain (4)
Emblemospora Jeng & J.C. Krug (2)
Eosphaeria Höhn. (2)
Episternus Górz & Boroń (1)
Fimetariella N. Lundq. (9)
Immersiella A.N. Mill. & Huhndorf (2)
Jugulospora N. Lundq. (1)
Lasiosphaeria Ces. & De Not. (229)
Mammaria Ces. ex Rabenh. (2)

Periamphispora J.C. Krug (1)
Ramophialophora M. Calduch, Stchigel, Gené & Guarro (4)*
Rinaldiella Deanna A. Sutton, Y. Marín, Guarro & E.H. Thomps (1)
Schizothecium Corda (31)
Strattonia Cif. (11)
Thaxteria Sacc. (8)
Tripterosporella Subram. & Lodha (5)
Zopfiella G. Winter (22)
Zygopleurage Boedijn (3)
Zygospormella Cain (3)

Podosporaceae X. Wei Wang & Houbraken

Cladorrhinum Sacc. & Marchal (13)*
Triangularia Boedijn (7)
Podospora Ces. (92)

Sordariaceae G. Winter

Copromyces N. Lundq. (1)
Effetia Bartoli, Maggi & Persiani (1)
Guilliermondia Boud. (1)
Neurospora Shear & B.O. Dodge (= *Gelasinospora* Dowding) (60)
Pseudoneurospora Dania García, Stchigel & Guarro (2)
Sordaria Ces. & De Not. (37)
Stellatospora T. Ito & A. Nakagiri (1)

Sordariales genera *incertae sedis*

Abyssomyces Kohlm (1)
Acanthotheciella Höhn. (3)
Ascolacicola Ranghoo & K.D. Hyde (1)
Bombardiella Höhn. (1)
Coronatomyces Dania García, Stchigel & Guarro (1)
Cuspidatispora Shearer & Bartolata (1)
Globosphaeria D. Hawksw. (1)
Isia D. Hawksw & Manohar (2)
Lasiosphaeris Clem. (3)
Lunulospora Ingold (2)
Lockerbia K.D. Hyde (2)
Nitschkiopsis Nannf. & R. Sant. (1)
Onygenopsis Henn. (1)
Phaeosporis Clem. (2)
Reconditella Matzer & Hafellner (1)
Rhexodenticula W.A. Baker & Morgan-Jones (4)
Rhexosporium Udagawa & Furuya (1)
Roselliniomyces Matzer & Hafellner (7)
Roselliniopsis Matzer & Hafellner (7)
Stromatographium Höhn. (= *Fluviostroma* Samuels & E. Müll.) (2)
Utriascus Réblová (1)
Ypsilonia Lév. (3)

Sordariomycetidae family *incertae sedis*

Batistiaceae Samuels & K.F. Rodrigues

Batistia Cif. (1)

Sordariomycetidae genera *incertae sedis*

- Arecacicola* Joanne E. Taylor, J. Fröhl. & K.D. Hyde (1)
- Bullimyces* A. Ferrer, A.N. Mill., Sarmiento & Shearer (3)
- Cancellidium* Tubaki (2)
- Ceratolenta* Réblová (1)
- Chaetosphaerides* Matsush. (1)
- Cryptophyllachora* L. Kiss, Kovács & R.G. Shivas (2)*
- Hanliniomyces* Raja & Shearer (1)
- Hydromelitis* A. Ferrer, A.N. Mill., Sarmiento & Shearer (1)
- Merugia* Rogerson & Samuels (1)
- Mycomedusiospora* G.C. Carroll & Munk (1)
- Myxocephala* G. Weber, Spaaij & Oberw. (1)
- Nigromammilla* K.D. Hyde & J. Fröhl. (1)
- Phaeotrichosphaeria* Sivan. (4)
- Phragmodiscus* Hansf. (2)
- Pseudobotrytis* Krzemien. & Badura (2)

Xylariomycetidae O.E. Erikss & Winka

Amphisphaeriales D. Hawksw. & O.E. Erikss.

Amphisphaeriaceae G. Winter

- Amphisphaeria* Ces. & De Not. (66)
- Griphosphaerioma* Höhn. (2)
- Lepteutypa* Petr. (14)

Apiosporaceae K.D. Hyde, J. Fröhl., Joanne E. Taylor & M.E. Barr

- Appendicospora* K.D. Hyde (2)
- Arthrinium* Kunze (74)
- Dictyoarthrinium* S. Hughes (6)
- Endocalyx* Berk. & Broome (8)
- Nigrospora* Zimm. (ca. 20)

Beltraniaceae Nann.

- Beltrania* Penz. (17)
- Beltraniella* Subram. (25)
- Beltraniopsis* Bat. & J.L. Bezerra (11)
- Hemibeltrania* Piroz. (13)
- Parapleurotheciopsis* P.M. Kirk (5)
- Porobeltraniella* Gusmão (2)
- Pseudobeltrania* Henn. (9)
- Subramaniomyces* Varghese & V.G. Rao (3)
- Subsessila* C.G. Lin & K.D. Hyde (1)

Clypeophysalosporaceae Giraldo & Crous

- Bagadiella* Cheew. & Crous (4)
- Clypeophysalospora* H.J. Swart (1)
- Neophysalospora* Crous & M.J. Wingf. (1)
- Plectosphaera* Theiss. (28)

Cylindriaceae Crous & L. Lombard*

- Cylindrium* Bonord (6)

Hansfordiaceae Crous

Hansfordia S. Hughes (7)

Hyponectriaceae Petr.

Apiothyrium Petr. (2)
Areomyces K.D. Hyde (10)
Arwidsonia B. Erikss. (2)
Cesatiella Sacc. (3)
Chamaeascus L. Holm, K. Holm & M.E. Barr (1)
Discosphaerina Höhn. (21)
Exarmidium P. Karst. (14)
Frondicola K.D. Hyde (1)
Hyponectria Sacc. (30)
Lichenoverruculina Etayo (1)
Micronectria Speg. (4)
Papilionovela Aptroot (1)
Pellucida Dulym., Sivan., P.F. Cannon & Peerally (1)
Phragmitensis M.K.M. Wong, Poon & K.D. Hyde (2)
Physalospora Niessl (37)
Rachidicola K.D. Hyde & J. Fröhl. (1)
Xenothecium Höhn. (1)

Iodosphaeriaceae O. Hilber

Iodosphaeria Samuels (8)

Melogrammataceae G. Winter

Melogramma Fr. (20)

Phlogicylindriaceae Senan. & K.D. Hyde

Ciferriascosea Senan., Bhat, Camporesi & K.D. Hyde (2)
Idriellomyces Crous (1)
Phlogicylindrium Crous, Summerb. & Summerell (5)

Pseudomassariaceae Senan. & K.D. Hyde

Leiosphaerella Höhn. (15)
Pseudapiospora Petr. (3)
Pseudomassaria Jacz. (24)
Pseudomassariella Petr (1)

Pseudotruncatellaceae Crous

Pseudotruncatella R.H. Perera, Camporesi, Maharachch. & K.D. Hyde (2)

Sporocadaceae Corda*

Allelochaeta Petr. (50)
Annellolacinia B. Sutton (2)
Bartalinia Tassi (19)
Broomella Sacc. (2)
Ciliochorella Syd. (4)
Dilophospora Desm. (ca. 2 + few orphaned names)
Diploceras (Sacc.) Died (2)
Disaeta Bonar (1)
Discosia Lib. (ca. 17)
Distononappendiculata F. Liu, L. Cai & Crous (3)

Diversimediispora F. Liu, L. Cai & Crous (1)
Doliomyces Steyaert (3)
Heterotruncatella F. Liu, L. Cai & Crous (17)
Hyalotiella Papendorf (6)
Hymenopleella Munk (= *Dyrithiopsis* L. Cai, Jeewon & K.D. Hyde; = *Neotruncatella* Hyang B. Lee & T.T.T. Nguyen) (7)
Immersidiscosia Kaz. Tanaka, Okane & Hosoya (1)
Monochaetia (Sacc.) Allesch. (ca. 30)
Morinia Berl. & Bres. (= *Zetiasplozina* Nag Raj) (2)
Neopestalotiopsis Maharachch., K.D. Hyde & Crous (33)
Nonappendiculata F. Liu, L. Cai & Crous (1)
Parabartalinia F. Liu, L. Cai & Crous (1)
Pestalotiopsis Steyaert (ca. 100)
Pseudopestalotiopsis Maharachch., K.D. Hyde & Crous (12)
Pseudosarcostroma F. Liu, L. Cai & Crous (1)
Robillarda Sacc. (ca. 15)
Sarcostroma Cooke (28)
Seimatosporium Corda (ca. 100)
Seiridium Nees (20)
Sporocadus Corda (49)
Strickeria Körb. (10)
Synnemapestaloides T. Handa & Y. Harada (2)
Truncatella Steyaert (13)
Xenoseimatosporium F. Liu, L. Cai & Crous (1)

Vialaeaceae P.F. Cannon

Vialaea Sacc. (50)

Amphisphaeriales genus *incertae sedis*

Chitonospora E. Bommer, M. Rousseau & Sacc. (1)

Delonicicolales R.H. Perera, Maharachch. & K.D. Hyde

Delonicicolaceae R.H. Perera, Maharachch. & K.D. Hyde

Delonicicola R.H. Perera, Maharachch. & K.D. Hyde (1)

Furfurella Voglmayr & Jaklitsch (3)

Xylariales Nannf.

Anungitiomycetaceae Crous

Anungitiomyces Crous (1)

Barrmaeliaceae Voglmayr & Jaklitsch*

Barrmaelia Rappaz. (8)

Entosordaria (Sacc.) Höhn. (ca. 18)

Castanediellaceae Hern.-Restr., Guarro & Crous

Castanediella Hern.-Restr., Crous & M.J. Wingf. (12)

Clypeosphaeriaceae G. Winter

Aquasphaeria K.D. Hyde (1)

Apioclypea K.D. Hyde (7)

Brunneiapiospora K.D. Hyde, J. Fröhl. & Joanne E. Taylor (9)

Clypeosphaeria Fuckel (37)

Crassoascus Checa, Barrasa & A.T. Martínez (3)
Palmaria K.D. Hyde, J. Fröhl. & Joanne E. Taylor (1)

Conioceciaceae Asgari & Zare

Coniocecia Dania García, Stchigel, D. Hawksw. & Guarro (5)
Paraxylaria Wanas., E.B.G. Jones, Gafforov & K.D. Hyde (1)

Diatrypaceae Nitschke

Allocryptovalsa Senwana, Phook. & K.D. Hyde (2)
Anthostoma Nitschke (ca. 101)
Cryptosphaeria Ces & De Not. (48)
Cryptovalsa Ces. & De Not. ex Fuckel (43)
Diatrypasimilis J.J. Zhou & Kohlm. (1)
Diatrype Fr. (ca. 244)
Diatrypella (Ces. & De Not.) De Not. (ca. 115)
Echinomyces Rappaz (2)
Endoxylina Romell (16)
Eutypa Tul. & C. Tul. (ca. 131)
Eutypella (Nitschke) Sacc. (ca. 196)
Halodiatrype Dayar. & K.D. Hyde (3)
Halocryptovalsa Dayar. & K.D. Hyde (2)
Leptoperidia Rappaz (4)
Libertella Desm. (ca. 72)
Monosporascus Pollack & Uecker (4)
Neoeutypella M. Raza, Q.J. Shang, Phook. & L. Cai (1)*
Pedumispora K.D. Hyde & E.B.G. Jones (1)
Peroneutypa Berl. (30)
Quaternaria Tul. & C. Tul. (14)

Fasciatisporaceae S.N. Zhang, K.D. Hyde & J.K. Liu

Fasciatispora K.D. Hyde (11)

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

Biscogniauxia Kuntze (ca. 76)
Camillea Fr. (50)
Graphostroma Piroz. (1)
Obolarina Pouzar (2)
Vivantia J.D. Rogers, Y.M. Ju & Cand. (1)

Hypoxylaceae DC.

Annulohypoxylon Y.M. Ju, J.D. Rogers & H.M. Hsieh (ca. 60)
Anthocanalis Daranag., Camporesi & K.D. Hyde (1)
Chlorostroma A.N. Mill., Lar.N. Vassiljeva & J.D. Rogers (3)
Daldinia Ces. & De Not. (ca. 67)
Durotheca Læssøe, Srikit., Luangsa-ard & M. Stadler (4)*
Entonaema Möller (10)
Hypomontagnella Sir, L. Wendt & C. Lambert (4)*
Hypoxylon Bull. (141)
Jackrogersella L. Wendt, Kuhnert & M. Stadler (6)
Natonodosa Heredia (1)
Phylacia Lév. (12)
Pyrenomyxa Morgan (3)

- Pyrenopolyporus* Lloyd (5)
Rhopalostroma D. Hawksw. (11)
Rostrohypoxylon J. Fourn. & M. Stadler (1)
Ruwenzoria J. Fourn., M. Stadler, Læssøe & Decock (1)
Thamnomycetes Ehrenb. (11)
Theissenia Maubl. (8)
Thuemenella Penz. & Sacc. (10)
- Induratiaceae*** Samarak., Thongbai, K.D. Hyde & M. Stadler
Emarcea Duong, Jeewon & K.D. Hyde (3)
Induratia Samuels, E. Müll. & Petrini (26)
- Leptosilliacae*** Voglmayr & Jaklitsch
Leptosillia Höhn. (= *Cresporhaphis* M.B. Aguirre) (9)*
- Lopadostomataceae*** Daranag. & K.D. Hyde
Creosphaeria Theiss. (3)
Jumillera J.D. Rogers, Y.M. Ju & F. San Martín (8)
Lopadostoma (Nitschke) Traverso (27)
Whalleya J.D. Rogers, Y.M. Ju & F. San Martín (2)
- Microdochiaceae*** Hern.-Restr., Crous & J.Z. Groenew.
Idriella P.E. Nelson & S. Wilh. (= *Monographella* Petr.) (24)
Microdochium Syd. (38)
Selenodriella R.F. Castañeda & W.B. Kendr. (7)
- Myelospermataceae*** K.D. Hyde & S.W. Wong
Myelosperma Syd. & P. Syd. (5)
- Nothodactylariaceae*** Crous
Nothodactylaria Crous (1)
- Oxydothidaceae*** Konta & K.D. Hyde
Oxydothis Penz. & Sacc. (79)
- Polystigmataceae*** Höhn. ex Nannf.*
Polystigma DC. (23)
- Pseudosporidesmiaceae*** Crous
Pseudosporidesmium K.D. Hyde & McKenzie (2)
- Requienellaceae*** Boise*
Acrocordiella O.E. Erikss. (2)
Lacrymospora Aptroot (1)
Parapyrenis Aptroot (8)
Requienella Fabre (8)
- Xyladictyochaetaceae*** Crous & Hern.-Restr*
Xyladictyochaeta Hern.-Restr., R.F. Castañeda & Gené (1)
- Xylariaceae*** Tul. & C. Tul.
Abieticola Hyang B. Lee (1)

Amphirosellinia Y.M. Ju, J.D. Rogers, H.M. Hsieh & Lar.N. Vassiljeva (6)
Anthostomella Sacc. (ca. 100)
Anthostomelloides Tibpromma & K.D. Hyde (5)
Ascotricha Berk. (27)
Astrocystis Berk. & Broome (24)
Brunneiperidium Daranag., Camporesi & K.D. Hyde (2)
Collodiscula I. Hino & Katum. (5)
Coniolarrella Dania García, Stchigel & Guarro (5)
Engleromyces Henn. (2)
Entalbostroma J.D. Rogers & P.R. Johnst. (1)
Entoleuca Syd. (3)
Euepaxydon Füsting (2)
Halorosellinia Whalley, E.B.G. Jones, K.D. Hyde & Læssøe (3)
Helicogermis Lodha & D. Hawksw. (9)
Hypocopra (Fr) J. Kickx f. (58)
Hypocreodendron Henn. (1)
Kretzschmaria Fr. (ca. 57)
Kretzschmaria Viégas (2)
Leprieuria Læssøe, J.D. Rogers & Whalley (1)
Lunatiannulus Daranag., Camporesi & K.D. Hyde (1)
Nemania Gray (57)
Podosordaria Ellis & Holw. (35)
Poronia Willd. (ca. 24)
Rosellinia De Not. (ca. 359)
Sarcoxydon Cooke (6)
Squamotubera Henn. (1)
Stilbohypoxydon Henn. (12)
Vamsapriya Gawas & Bhat (8)
Virgaria Nees (11)
Wawelia Namysl. (5)
Xylaria Hill ex Schrank (ca. 571)

Zygosporiaceae J.F. Li, Phook. & K.D. Hyde.

Zygosporium Mont. (25)

Xylariales genera *incertae sedis*

Adomia S. Schatz (1)
Alloanthostomella Daranag., Camporesi & K.D. Hyde (1)
Anungitea B. Sutton (22)
Ascotrichella Valldos. & Guarro (1)
Basifimbria Subram. & Lodha (1)
Biporispora J.D. Rogers, Y.M. Ju & Cand. (1)
Botryohypoxydon Samuels & J.D. Rogers (1)
Castellaniomyces Senan., Camporesi & K.D. Hyde (1)
Chaenocarpus Rebent. (4)
Circinotrichum Nees (15)
Cryptostroma P.H. Greg. & S. Waller (1)
Cyanopulvis J. Fröhl. & K.D. Hyde (1)
Diamantina A.N. Mill., Læssøe & Huhndorf (1)
Gigantospora B.S. Lu & K.D. Hyde (1)
Guestia G.J.D. Sm. & K.D. Hyde (1)
Gyrothrix (Corda) Corda (22)

Hadrotrichum Fuckel (22)
Idriellopsis Hern.-Restr. & Crous (1)
Kirstenboschia Quaedvl., Verkley & Crous (1)
Lanceispora Nakagiri, Okane, Tad. Ito & Katum. (2)
Lasiobertia Sivan. (2)
Leptomassaria Petr. (4)
Melanographium Sacc. (11)
Neoanthostomella D.Q. Dai & K.D. Hyde (2)
Neoidriella Hern.-Restr. & Crous (1)
Nipicola K.D. Hyde (4)
Occultitheca J.D. Rogers & Y.M. Ju (1)
Ophiorosellinia J.D. Rogers, A. Hidalgo, F.A. Fernández & Huhndorf (1)
Palmicola K.D. Hyde (4)
Pandanicola K.D. Hyde (2)
Paraidriella Hern.-Restr. & Crous (1)
Paramphisphaeria F.A. Fernández, J.D. Rogers, Y.M. Ju, Huhndorf & L. Umaña (1)
Paraphysalospora Crous (1)
Paucithecium Lloyd (1)
Pidoplitchkoviella Kiril. (1)
Polyancora Voglmayr & Yule (1)
Polyscytalum Riess (28)
Poroleprieuria M.C. González, Hanlin, Ulloa & Elv. Aguirre (1)
Pseudoanthostomella Daranag., Camporesi & K.D. Hyde (5)
Pseudophloeospora Crous & R.G. Shivas (2)
Pseudosubramaniomyces Crous (1)
Pulmosphaeria Joanne E. Taylor, K.D. Hyde & E.B.G. Jones (1)
Pyriformiascoma Daranag., Camporesi & K.D. Hyde (1)
Roselymyces Fiuza, C.R. Silva, R.F. Castañeda & Gusmão (1)*
Sabalicola K.D. Hyde (1)
Spirodecospora B.S. Lu, K.D. Hyde & W.H. Ho (2)
Sporidesmina Subram. & Bhat (1)
Striatodecospora D.Q. Zhou, K.D. Hyde & B.S. Lu (1)
Stromatoneurospora S.C. Jong & E.E. Davis (2)
Surculiseria Okane (1)
Synnemadiella Crous & M.J. Wingf. (1)
Tristratiperidium Daranag., Camporesi & K.D. Hyde (1)
Xenoanthostomella Mapook & K.D. Hyde (1)
Xylocrea Möller (2)
Xylotumulus J.D. Rogers, Y.M. Ju & Cand. (1)
Yuea O.E. Erikss. (1)

Xylariomycetidae family *incertae sedis*

Cainiaceae J.C. Krug

Alishanica A. Karunaratna, C.H. Kuo & K. D. Hyde (1)
Amphibambusa D.Q. Dai & K.D. Hyde (1)
Arecophila K.D. Hyde (14)
Atrotorquata Kohlm. & Volkm.-Kohlm. (2)
Cainia Arx & E. Müll. (6)
Seynesia Sacc. (ca. 46)

Xylariomycetidae genus *incertae sedis*

Calceomyces Udagawa & S. Ueda (1)

Sordariomycetes* orders *incertae sedis

Amplistromatales M.J. D'souza, Maharachch. & K.D. Hyde

Amplistromataceae Huhndorf, A.N. Mill., Greif & Samuels*

Acidothrix Hujšlová & M. Kolařík (1)

Amplistroma Huhndorf, A.N. Mill., Greif & Samuels (9)

Wallrothiella Sacc. (ca. 10)

Catabotryaceae Petr. ex M.E. Barr

Catabotrys Theiss. & Syd. (3)

Parasymphodiellales Hern.-Restr., Gené, R.F. Castañeda & Crous

Parasymphodiellaceae Hern.-Restr., Gené, Guarro & Crous

Parasymphodiella Ponnappa (10)

Spathulosporales Kohlm.

Hispidicarpomycetaceae Nakagiri

Hispidicarpomyces Nakagiri (1)

Spathulosporaceae Kohlm.

Retrostium Nakagiri & Tad Ito (1)

Spathulospora A.R. Caval. & T.W. Johnson (4)

Tracyllalales Crous

Tracyllaceae Crous

Tracylla (Sacc.) Tassi (3)

Vermiculariopsiellales Hern.-Restr., J. Mena, Gené & Crous

Vermiculariopsiellaceae Hern.-Restr., J. Mena, Gené & Crous

Vermiculariopsiella Bender (22)

Sordariomycetes* families *incertae sedis

Acrodictyaceae J.W. Xia & X.G. Zhang*

Acrodictys M.B. Ellis (25)

Junewangiaceae J.W. Xia & X.G. Zhang*

Dictyosporella Abdel-Aziz (2)

Junewangia W.A. Baker & Morgan-Jones (6)

Lautosporaceae Kohlm., Volkm.-Kohlm. & O.E. Erikss

Lautospora K. D. Hyde & E.B.G. Jones (2)

Obryzaceae Körb.

Obryzum Wallr. (3)

Sordariomycetes* genera *incertae sedis

Acerbiella Sacc. (4)

Acropermoides Miller & G.E. Thomps. (2)

Ameromassaria Hara (1)

Amphisphaerellula Gucevič (1)

Amphisphaerina Höhn. (3 epithets in Index Fungorum 2020)

Amphorulopsis Petr. (1)

Amylis Speg. (1)

Anisomycopsis I. Hino & Katum. (1)
Antennopsis R. Heim (1)*
Anthostomaria (Sacc.) Theiss. & Syd. (1)
Anthostomellina L.A. Kantsch. (2)
Apodothina Petr. (1)
Apogaeumannomyces Matsush. (1)
Aquadulciospora Fallah & Shearer (1)
Areolospora S.C. Jong & E.E. Davis (2 epithets in Index Fungorum 2020)
Aropsichus Kohlm. & Volkm.-Kohlm. (1)
Ascorhiza Lecht.-Trinka (1)
Ascoyunnania L. Cai & K.D. Hyde (1)
Atrogeniculata J.S. Monteiro, Gusmão & R.F. Castañeda (1)
Aulospora Speg. (1)
Azbukinia Lar.N. Vassiljeva (1)
Bactrosphaeria Penz. & Sacc. (1)
Basidiobotrys Höhn. (1)
Biciliopsis Diederich (2)
Bombardiastrum Pat. (1)
Boothiella Lodhi & Mirza (1)
Botryosporium Corda (11)
Brenesiella Syd. (1)
Byrsomyces Cavalc. (1)
Byssotheciella Petr. (2)
Caleutypa Petr. (1)
Caproniella Berl. (1)
Chaetoamphisphaeria Hara (1)
Charonectria Sacc. (3)
Ciliofusospora Bat. & J.L. Bezerra (1)
Clypeoceriospora Sousa da Câmara (1)
Clypeosphaerulina Sousa da Câmara (1)
Cryptoascus Petri (2)
Cryptomycella Höhn. (2)
Cryptomycina Höhn. (2)
Cucurbitopsis Bat. & Cif. (1)
Curvatispora V.V. Sarma & K.D. Hyde (1)
Dasysphaeria Speg. (1)
Delpinoëlla Sacc. (1)
Diacrochordon Petr. (1)
Didymobotryum Sacc. (6)
Duradens Samuels & Rogerson (1)
Ellisemia Subram. (ca. 60)
Esfandiaromyces Ershad (1)
Fantasmomyces Dong Hyeon Lee, Marinc., Z.W. de Beer & M.J. Wingf. (1)
Farrowia D. Hawksw. (3)
Fassia Dennis (1)
Flammispora Pinruan, Sakay., K.D. Hyde & E.B.G. Jones (2)
Frondisphaeria K.D. Hyde (2)
Hapsidascus Kohlm. & Volkm.-Kohlm. (1)
Hassea Zahlbr. (1)
Heliastrum Petr. (1)
Hyaloderma Speg. (1)
Hyalotiopsis Punith. (1)

Hydronectria Kirschst. (1)
Immersisphaeria Jaklitsch (1)
Iraniella Petr. (1)
Konenia Hara (1)
Kravtzevia Schwartzman (1)
Kurssanovia Kravtzev (1)
Lecythiomyces Doweld (1)
Leptosacca Syd. (1)
Leptosphaerella Speg. (14 epithets in Index Fungorum 2020)
Mangrovispora K.D. Hyde & Nageire (1)
Marisolaris Jørg. Koch & E.B.G. Jones (1)
Microcyclephaeria Bat. (1)
Mirannulata Huhndorf, F.A. Fernández, A.N. Mill. & Lodge (2)
Mycothermus D.O. Natvig, J.W. Taylor, A. Tsang, M.I. Hutch. & A.J. Powell ex X. Wei Wang, Houbraken & D.O. Natvig (2)
Natantiella Réblová (1)
Naumovela Kravtzev (2)
Neocryptospora Petr. (1)
Neoeriomycopsis Crous & M.J. Wingf. (1)
Neolamyia Theiss. & Syd. (3)
Neothyridaria Petr. (1)
Ophiomassaria Jacz. (1)
Ophiomeliola Starbäck (3)
Paoayensis Cabanela, Jeewon & K.D. Hyde (2)
Paradiplococcium Hern.-Restr., J. Mena & Gené (1)
Paramicrodochium Hern.-Restr. & Crous (1)
Pareutypella Y.M. Ju & J.D. Rogers (2)
Phialemoniopsis Perdomo, Dania García, Gené, Cano & Guarro (6)
Phragmeriella Hansf. (1)
Phyllocelis Syd. (2)
Pleocryptospora J. Reid & C. Booth (1)
Pleosphaeria Speg. (24)
Pleurophragmium Costantin (22)
Protocucurbitaria Naumov (1)
Pulvinaria Bon. (2)
Pumilus Viala & Marsais (1)
Rehmiomycella E. Müll. (1)
Rhamphosphaeria Kirschst. (1)
Rhizophila K.D. Hyde & E.B.G. Jones (1)
Rhopographella (Henn.) Sacc. & Trotter (2)
Rhynchosphaeria (Sacc.) Berl. (5)
Rivulicola K.D. Hyde (3)
Romellina Petr. (1)
Saccardoëlla Speg. (15)
Sartorya Vuill. (9 epithets in Index Fungorum 2020)
Scharifia Petr. (1)
Scoliocarpon Nyl. (1 epithets in Index Fungorum 2020)
Scotiosphaeria Sivan. (1)
Selenosporella G. Arnaud ex MacGarvie (12)
Servazziella J. Reid & C. Booth (1)
Sporoctomorpha J.V. Almeida & Sousa da Câmara (1)
Stanjehughesia Subram. (16)

Stearophora L. Mangin & Viala (1)
Steganopycnis Syd. & P. Syd. (1)
Stegophorella Petr. (1)
Stellosetifera Matsush. (1)
Stereosphaeria Kirschst. (1)
Stomatogenella Petr. (1)
Sungaiicola Fryar & K.D. Hyde (1)
Synsphaeria Bon. (4 epithets in Index Fungorum 2020)
Teracosphaeria Réblová & Seifert (1)
Thelediella Fink (1)
Thyridella (Sacc.) Sacc. (3)
Thyrotheca Kirschst. (1 epithets in Index Fungorum 2020)
Trichospermella Speg. (2)
Trichosphaeropsis Bat. & Nasc. (1)
Tulipispora Révay & Gönczöl (1)
Tunstallia Agnihotr. (3 epithets in Index Fungorum 2020)
Urosporella G.F. Atk. (5)
Urupe Viégas (1)
Vleugelia J. Reid & C. Booth (1)
Xenodium Syd. (1)
Zalerion R.T. Moore & Meyers (6)

Xylonomycetes Gazis & P. Chaverri
Symbiotaphrinales Baral & E. Weber
Symbiotaphrinaceae Baral & E. Weber
Symbiotaphrina Kühlw. & Jurzitza ex W. Gams & Arx (17)*

Xylonales Gazis & P. Chaverri
Xylonaceae Gazis & P. Chaverri
Trinosporium Crous & Decock (1)
Xylona Gazis & P. Chaverri (1)

Xylobotryomycetes Voglmayr & Jaklitsch
Xylobotryales Voglmayr & Jaklitsch
Cirrosporiaceae Voglmayr & Jaklitsch
Cirrosporium S. Hughes (1)

Xylobotryaceae Voglmayr & Jaklitsch
Xylobotryum Pat. (2)

Pezizomycotina orders *incertae sedis*
Thelocarpales Lücking & Lumbsch
Thelocarpaceae Zukai
Sarcosagium A. Massal. (1)
Thelocarpon Nyl (25)

Veizdaeales Lumbsch & Lücking
Veizdaeaceae Poelt & Vězda ex J.C. David & D. Hawksw.
Veizdaea Tsch.-Woess & Poelt (12)

Pezizomycotina family *incertae sedis*
Harpidiaceae Vězda ex Hafellner

Euopsis Nyl. (2)
Harpidium Körb. (3)

***Pezizomycotina* genera incertae sedis**

Angatia Syd. (5)
Biatoridium J. Lahm ex Körb. (3)
Cyanoporina Groenh. (1)
Melanophloea P. James & Vězda (1)
Milospium D. Hawksw. (4)
Oevstedalia Ertz & Diederich (1)
Psamma Sacc. & M. Rousseau ex E. Bommer & M. Rousseau (8)
Pygmaeosphaera Etayo & Diederich (3)
Pyrenocollema Reinke (1)
Solanella Vaňha (1)*
Wadeana Coppins & P. James (2)

***Saccharomycotina* O.E. Erikss. & Winka**

Saccharomycetes* O.E. Erikss. & Winka

***Saccharomycetales* Kudrjanzev**

***Alloascoideaceae* Kurtzman & Robnett**

Alloascoidea Kurtzman & Robnett (2)

***Ascoideaceae* J. Schröter**

Ascoidea Bref. (4)

***Cephaloascaceae* L.R. Batra**

Cephaloascus Hanawa (2)

***Debaryomycetaceae* Kurtzman & M. Suzuki**

Babjeviella Kurtzman & M. Suzuki (1)
Debaryomyces Lodder & Kreger-van Rij (15)
Hemisphaericaspora Hui, Ren, Chen, Li, Zhan & Niu (2)
Kurtzmaniella M.A. Lachance & W.T. Starmer (5)
Lodderomyces Van der Walt (2)*
Meyerozyma Kurtzman & M. Suzuki (8)
Millerozyma Kurtzman & M. Suzuki (5)
Priceomyces Kurtzman & M. Suzuki (8)
Scheffersomyces Kurtzman & M. Suzuki (18)
Schwanniomyces Klöcker emend. M. Suzuki & Kurtzman (7)
Spathaspora N.H. Nguyen, S.O. Suh & M. Blackwell (11)
Suhomyces M. Blackwell & Kurtzman (26)
Yamadazyma Billon-Grand (23)

***Dipodascaceae* Engl. & E. Gilg**

Dipodascus Lagerh. (14)
Galactomyces Redhead & Malloch (5)
Geotrichum Link (8)
Magnusiomyces Zender (7)
Saprochaete Coker & Shanor ex D.T.S. Wagner & Dawes (10)*

***Lipomycetaceae* E.K. Novák & Zsolt**

Dipodascopsis Batra & P. Millner emend. Kurtzman, Albertyn & Basehoar-Powers (3)

Kockiozyma Jindam., Yukphan & Y. Yamada (1)
Limtongia Jindam., Am-in, Yukphan & Y. Yamada (1)
Lipomyces Lodder & Kreger (16)
Myxozyma Van der Walt, Weijman & von Arx (12)

Metschnikowiaceae T. Kamienski*

Clavispora Rodr. Mir. (4)
Kodamaea Y. Yamada, T. Suzuki, Matsuda & Mikata emend. Rosa, Lachance, Starmer, Barker, Bowles & Schlag-Edler (8)
Metschnikowia T. Kamienski (64)

Phaffomycetaceae Y. Yamada, H. Kawas., Nagats., Mikata & Tats. Seki

Barnettozyma Kurtzman, Robnett & Basehoar-Powers (9)
Cyberlindnera Minter (27)
Phaffomyces Y. Yamada (4)
Starmera Y. Yamada, Higashi, Ando & Mikata (7)
Wickerhamomyces Kurtzman, Robnett & Basehoar-Powers (31)

Pichiaceae Zender

Brettanomyces Kufferath & van Laer (3)
Dekkera Van der Walt (2)*
Komagataella Y. Yamada, Matsuda, Maeda & Mikata (6)
Kregervanrija Kurtzman (3)
Kuraishia Y. Yamada, Maeda & Mikata (9)
Martiniozyma Kurtzman (2)
Ogataea Y. Yamada, K. Maeda & Mikata (46)
Pachysolen Boidin & Adzet (1)
Pichia E.C. Hansen (27)
Saturnispora Z.W. Liu & Kurtzman (21)

Saccharomycetaceae G. Winter

Citeromyces Santa Maria (4)
Cyniclomyces Van der Walt & D.B. Scott (1)
Eremothecium Borzi emend. Kurtzman (5)
Hagleromyces Sousa, Morais, Lachance & Rosa (1)
Kazachstania Zubcova (44)
Kluyveromyces Van der Walt (6)
Lachancea Kurtzman (10)
Nakaseomyces Kurtzman (2)
Naumovozya Kurtzman (3)
Saccharomyces Meyen (10)
Tetrapisispora Ueda-Nishimura & K. Mikata emend. Kurtzman (9)
Torulaspota Lindner (8)
Vanderwaltozyma Kurtzman (4)
Yueomyces Q.M. Wang, L. Wang, M. Groenewald & T. Boekhout (1)
Zygosaccharomyces B.T.P. Barker (11)
Zygotorulaspota Kurtzman (4)

Saccharomycodaceae Kudrjanzev

Hanseniaspora Zikes (17)*
Saccharomyces E.C. Hansen (2)

Saccharomycopsidaceae Arx & Van der Walt

Ambrosiozyma Van der Walt (14)

Saccharomycopsis Schiønning (19)

Trichomonascaceae Kurtzman & Robnett*

Blastobotrys Klopotek (23)

Diddensiella Péter, Dlačhy & Kurtzman (1)

Groenewaldozyma Kurtzman (3)

Spencermartinsiella Péter, Dlačhy, Tornai-Lehoczki, M. Suzuki & Kurtzman (4)

Starmerella Rosa & Lachance (44)

Sugiyamaella Kurtzman & Robnett (27)

Trichomonascus H.S. Jackson emend. Kurtzman & Robnett (6)*

Wickerhamiella Van der Walt (39)

Zygoascus M.T. Sm. (8)

Trigonopsidaceae M.A. Lachance & C.P. Kurtzman

Botryozyma Shann & M.T. Sm. emend. Lachance & Kurtzman (4)*

Tortispora Lachance & Kurtzman (8)

Trigonopsis Schachner emend. Kurtzman & Robnett (4)

Saccharomycetales genera *incertae sedis*

Aciculoconidium D.S. King & S.C. Jong (1)

Candida Berkhout (316)*

Coccidiascus Chatton (1)

Conidiascus Holterm. (1)

Danielozyma Kurtzman & Robnett (2)

Deakozyma Kurtzman & Robnett (2)

Diutina Khunnamwong, Lertwattanasakul, Jindam., Limtong & Lachance (10)

Endomyces Reess (4)

Hyphopichia von Arx & van der Walt (12)

Macrorhabdus Tomaszewski, Logan, Snowden, Kurtzman & Phalen. (1)

Metahyphopichia Sipiczki & Pfliegler (1)

Middelhovenomyces Kurtzman & Robnett (2)

Nadsonia Syd. (3)

Nakazawaea Y. Yamada, Maeda & Mikata (13)

Oscarbrefeldia Holterm. (1)*

Peterozyma Kurtzman & Robnett (2)

Phialoascus Redhead & Malloch (1)

Sporopachydermia Rodr. Mir. (3)

Teunomyces Kurtzman & M. Blackwell (12)

Wickerhamia Soneda (1)

Yarrowia Van der Walt & Arx (12)

TAPHRINOMYCOTINA O.E. Erikss. & Winka

Archaeorhizomycetes Rosling & T.Y. James

Archaeorhizomycetales Rosling & T.Y. James

Archaeorhizomycetaceae Rosling & T.Y. James

Archaeorhizomyces Rosling & T.Y. James (2)

Neoelectomyces O.E. Erikss. & Winka

Neoelectales Landvik, O.E. Erikss., Gargas & P. Gust.

Neoelectaceae Redhead

Neolecta Speg. (3)

Pneumocystomycetes O.E. Erikss. & Winka

Pneumocystidales O.E. Erikss.

Pneumocystidaceae O.E. Erikss.

Pneumocystis P. Delanoë & Delanoë (5)

Schizosaccharomycetes O.E. Erikss. & Winka

Schizosaccharomycetales O.E. Erikss.

Schizosaccharomycetaceae Beij. ex Klöcker

Schizosaccharomyces Lindner (4)

Taphrinomycetes O.E. Erikss. & Winka

Taphrinales Gäum. & C.W. Dodge

Protomycetaceae Gray

Buerenia M.S. Reddy & C.L. Kramer (4)

Protomyces Unger (ca. 10)

Protomycopsis Magnus (5)

Saitoella Goto, Sugiy., Hamam. & Komag. (2)

Taphridium Lagerh. & Juel ex Juel (2)

Volkartia Maire (1)

Taphrinaceae Gäum.

Taphrina Fr. (ca. 95)

Ascomycota families *incertae sedis*

Aphanopsidaceae Printzen & Rambold

Aphanopsis Nyl. ex Syd. (1)

Steinia Körb. (3)

Diporotheaceae R.K. Mibey & D. Hawksw.

Diporothea C.C. Gordon & C.G. Shaw (4)

Eoterfeziaceae G.F. Atk.

Acanthogymnomycetes Udagawa & Uchiyama (1)

Eoterfezia G.F. Atk. (2)

Mucomassariaceae Petr. & Cif.

Mucomassaria Petr. (1)

Saccardiaceae Höhn.

Ascolectus Samuels & Rogerson (1)

Cyanodiscus E. Müll. & M.L. Farr (2)

Henningsiella Rehm (2)

Phillipsiella Cooke (7)

Pseudodiscus Arx & E. Müll. (1)

Saccardia Cooke (3)

Schenckiella P. Henn. (1)

Seuratiaceae Vuill. ex M.E. Barr

Seuratia Pat. (5)

Seuratiopsis Woron. (1)

Strangosporaceae S. Stenroos, Miądl. & Lutzoni
Strangospora Körb. (ca. 11)

***Ascomycota* genera incertae sedis**

- Abropelta* B. Sutton (1)
- Acarellina* Bat. & H. Maia (1)
- Acaroconium* Kocourk. & D. Hawksw. (1)
- Acarocybe* Syd. (3)
- Acarocybella* M.B. Ellis (1)
- Acarocybellina* Subram. (1)
- Acarocybiopsis* J. Mena, A. Hern.-Gut. & Mercado (1)
- Acaropeltis* Petr. (1)
- Achoropeltis* Syd. (1)
- Acleistia* Bayl. Ell. (1)
- Acontium* Morgan (4)
- Acrodictyella* W.A. Baker & Partr. (1)
- Acrodictyopsis* P.M. Kirk (1)
- Acrodontiella* U. Braun & Scheuer (1)
- Acrophragmis* Kiffer & Reisinger (4)
- Acrospeira* Berk. & Broome (1)
- Acrostaurus* Deighton & Piroz. (1)
- Actinocladium* Ehrenb. (6)
- Actinotexis* Arx (1)
- Actinothecium* Ces. (5)
- Actinothyrium* Kunze (10)
- Acumispora* Matsush. (5)
- Agaricodochium* X.J. Liu (1)
- Agarwalomyces* R.K. Verma & Kamal (1)
- Agrabeeja* Subram. (1)
- Agyriella* Sacc. (2)
- Agyriellopsis* Höhn. (3)
- Ahmadia* Syd. (1)
- Ajrekarella* Kamat & Kalani (1)
- Alatosessilispora* K. Ando & Tubaki (1)
- Alciphila* Harmaja (1)
- Algonquinia* R.F. Castañeda & W.B. Kendr. (1)
- Allantophomoides* S.L. Wei & T.Y. Zhang (1)
- Alloneottiosporina* Nag Raj (2)
- Allophoron* Nád. (1)
- Allothyriella* Bat., Cif. & Nascim. (3)
- Allothyrina* Bat. & J.L. Bezerra (1)
- Allothyriopsis* Bat., Cif. & H. Maia (1)
- Alpakesa* Subram. & K. Ramakr. (4)
- Alpakesiopsis* Abbas, B. Sutton, Ghaffar & A. Abbas (1)
- Alveariospora* Meir. Silva, R.F. Castañeda, O.L. Pereira & R.W. Barreto (1)
- Alveophoma* Alcalde (1)
- Alysiidiopsis* B. Sutton (5)
- Amallospora* Penz. (1)
- Amblyosporium* Fresen. (4)
- Ameroconium* U. Braun & Zhurb. (1)
- Amerodiscosiella* M.L. Farr (1)
- Amerodiscosiellina* Bat. & Cavalc. (1)

Amerosporiopsis Petr. (1)
Amerosymphodula Matsush. (1)
Amoenodochium Peláez & R.F. Castañeda (1)
Amoenomyces R.F. Castañeda, Saikawa & Hennebert (1)
Amphichaetella Höhn. (1)
Amphophialis R.F. Castañeda, W.B. Kendr. & Guarro (1)
Amphoropycnium Bat. (1)
Ampullicephala R.F. Castañeda, Minter & M. Stadler (1)
Ampulliferina B. Sutton (2)
Amylogalla Suija, Motiej. & Kantvilas (1)
Anabahusakala Carmo, J.S. Monteiro, Gusmão & R.F. Castañeda (1)
Anacraspedodidymum C.R. Silva, R.F. Castañeda & Gusmão (2)
Anaexserticlava Santa Izabel, R.F. Castañeda & Gusmão (1)
Anaphysmene Bubák (2)
Anarhyma M.H. Pei & Z.W. Yuan (1)
Anaselenosporella Heredia, R.F. Castañeda & R.M. Arias (2)
Anaseptoidium R.F. Castañeda, Heredia & R.M. Arias (1)
Anaverticicladus P.O. Costa, Malosso & R.F. Castañeda (1)
Ancoraspora Mig. Rodr. (1)
Ancorasporella J. Mena, Mercado & Heredia (1)
Angiopomopsis Höhn. (1)
Angulimaya Subram. & Lodha (1)
Angulospora Sv. Nilsson (1)
Annelodontomyces Matsush. (1)
Annelodochium Deighton (1)
Annellophorella Subram. (5)
Annellospormosporella P.R. Johnst. (1)
Antennatula Fr. ex F. Strauss (10)
Anthracoderma Speg. (3)
Antimanoa Syd. (1)
Antromyces Fresen. (4)
Anulohypha Cif. (1)
Anungitopsis R.F. Castañeda & W.B. Kendr. (7)
Aoria Cif. (1)
Aphanofalx B. Sutton (2)
Apiocarpella Syd. & P. Syd. (8)
Apiotypa Petr. (1)
Apogloeum Petr. (1)
Apomelasmia Grove (8)
Aporellula B. Sutton (2)
Aposporella Thaxt. (1)
Apostrasseria Nag Raj (2)
Arachnophora Hennebert (11)
Arachnospora R.F. Castañeda, Minter & Camino (1)
Arborillus Munt.-Cvetk. & Gómez-Bolea (1)
Arborispora K. Ando (4)
Arcuadendron Sigler & J.W. Carmich. (2)
Ardhachandra Subram. & Sudha (3)
Argentinomyces Peña & Arambarri (1)
Argopericonia B. Sutton & Pascoe (2)
Aristastoma Tehon (1)
Arthrobotryum Ces. (5)

Arthrocristula Sigler, M.T. Dunn & J.W. Carmich. (1)
Arthromoniliphora S.S. Silva, Gusmão & R.F. Castañeda (1)
Arthrosporium Sacc. (2)
Arthrowallemia R.F. Castañeda, Dania García & Guarro (2)
Articulophora C.J.K. Wang & B. Sutton (1)
Artocarpomyces Subram. (1)
Ascochytopsis Henn. (5)
Ascochytulina Petr. (3)
Ascofascicula Matsush. (6)
Ascomauritiana V.M. Ranghoo & K.D. Hyde (1)
Ascsubramania Rajendran (1)
Ashtaangam Subram. (1)
Aspilaima Bat. & H. Maia (1)
Astelechia Cif. (2)
Asterinothyriella Bat. & Cif. (3)
Asterinothyrium Bat., Cif. & H. Maia (1)
Asteroconium Syd. & P. Syd. (2)
Asteroglobulus Brackel (2)
Asteromyces F. Moreau & V. Moreau (1)
Asterophoma D. Hawksw. (1)
Asteroscutula Petr. (1)
Asterostomopora Bat. & H. Maia (1)
Asterostomopsis Bat., Cif. & H. Maia (1)
Asterostomula Theiss. (4)
Asterostomulina Bat., J.L. Bezerra & H. Maia (1)
Astomella Thirum. (1)
Astronatelia Bat. & H. Maia (1)
Atractilina Dearn. & Barthol. (2)
Atractobolus Tode (1)
Atrosetaphiale Matsush. (1)
Atrosynnema J.W. Xia, X.G. Zhang & Z. Li (1)
Aurosphaeria Sun J. Lee, Strobel, Eisenman, Geary, P.N. Vargas & S.A. Strobel (1)
Avesicladiella W.P. Wu, B. Sutton & Gange (2)
Avettaea Petr. & Syd. (3)
Bacillopeltis Bat. (1)
Bactridium Kunze (15)
Bactrodesmiella M.B. Ellis (2)
Baculospora Zukal (1)
Badarisama Kunwar, J.B. Manandhar & J.B. Sinclair (1)
Bahuchashaka Subram. (1)
Bahugada K.A. Reddy & Vasant Rao (2)
Bahukalasa Subram. & Chandrash. (1)
Balaniopsis P.M. Kirk (4)
Balanium Wallr. (1)
Barbarosporina Kırulis (1)
Barnettella D. Rao & P. Rag. Rao (1)
Basauxia Subram. (1)
Batistina Peres (1)
Batistospora J.L. Bezerra & M.M.P. Herrera (1)
Beauveriphora Matsush. (1)
Beccopycnidium F. Stevens (1)
Beejadwaya Subram. (1)

Belemnospora P.M. Kirk (7)
Bellulicauda B. Sutton (2)
Beltramo Rashmi Dubey, A.K. Pandey bis & Manohar. (1)
Beltraniomyces Manohar., D.K. Agarwal & Rao (1)
Beniowskia Racib. (4)
Benjpalia Subram. & Bhat (1)
Berggrenia Cooke (2)
Bhadradriella Nagaraju, Kunwar & Manohar. (1)
Bhadradriomyces Sureshk., Manohar. & Kunwar (1)
Bharatheeya D'Souza & Bhat (3)
Bhatia W.A. Baker & Morgan-Jones (2)
Bibanasiella R.F. Castañeda & W.B. Kendr. (1)
Bicoloromyces Heuchert, U. Braun & D. Hawksw. (1)
Biflagellospora Matsush. (1)
Biflagellosporella Matsush. (1)
Biflua Jørgen Koch & E.B.G. Jones (1)
Bimeris Petr. (1)
Bioconiosporium Bat. & J.L. Bezerra (2)
Biophomopsis Petr. (3)
Bisbyopeltis Bat. & A.F. Vital (1)
Bispora Corda (31)
Bisseomyces R.F. Castañeda (1)
Blastocatena Subram. & Bhat (2)
Blastodictys M.B. Ellis (1)
Blastofusarioides Matsush. (1)
Blastophorella Boedijn (1)
Blastophragma Subram. (4)
Blennoria Moug. & Fr. (4)
Blennoriopsis Petr. (1)
Bleptosporium Steyaert (4)
Blodgettia Harv. (2)
Bostrichonema Ces. (4)
Botryoderma Papendorf & H.P. Upadhyay (4)
Botryodiplodina Dias & Sousa da Câmara (1)
Botryomonilia Goos & Piroz. (1)
Botryostroma Höhn. (2)
Brachycephala J.S. Monteiro, Gusmão & R.F. Castañeda (1)
Brachydesmiella G. Arnaud ex S. Hughes (8)
Brachysporiellina Subram. & Bhat (2)
Brachysporiopsis Yanna, W.H. Ho & K.D. Hyde (1)
Braunomyces V.A. Melnik & Crous (1)
Brefeldiopycnis Petr. & Cif. (1)
Brencklea Petrak (1)
Brevicatenospora R.F. Castañeda, Minter & Saikawa (1)
Briosia Cavara (6)
Brycekendrickia Nag Raj (1)
Bryophytomyces Cif. (1)
Bulbilopycnis Matsush. (1)
Bulbocatenospora R.F. Castañeda & Iturr. (1)
Bullaserpens Bat., J.L. Bezerra & Cavalc. (1)
Cacumisporium Preuss (9)

Caeruleoconidia Zhurb. & Pino-Bodas (= *Caeruleoconidia* Zhurb. & Diederich 2015 nom. inv.) (2)
Calcarispora Marvanová & Marvan (1)
Calceispora Matsush. (2)
Callistospora Petr. (1)
Calocline Syd. (1)
Calongeomyces D. Hawksw. & Etayo (1)
Camaroglobulus Speer (1)
Camaropycnis E.K. Cash (1)
Camarosporellum Tassi (1)
Camarosporiopsis Abbas, B. Sutton & Ghaffar (1)
Camposporidium Nawawi & Kuthub. (3)
Candelabrum Beverw. (7)
Candelosynnema K.D. Hyde & Seifert (1)
Capitrostrum Bat. (1)
Capnocheirides J.L. Crane & S. Hughes (1)
Capnofrasera S. Hughes (1)
Capsicumyces Gamundí et al. (1)
Carnegieispora Etayo & F. Berger (1)
Carnia Bat. (1)
Carrismyces R.F. Castañeda & Heredia (1)
Casaresia Gonz. Frag. (1)
Castanedaea W.A. Baker & Partr. (1)
Catenocuneiphora Matsush. (1)
Catenophora Luttr. (3)
Catenophoropsis Nag Raj & W.B. Kendr. (1)
Catenosubulispora Matsush. (1)
Catenosynnema Kodsueb, K.D. Hyde & W.H. Ho (1)
Catenulaster Bat. & C.A.A. Costa (1)
Catinopeltis Bat. & C.A.A. Costa (1)
Cecidiomyces U. Braun & Zhurb. (1)
Ceeveesubramaniomyces J. Pratibha, K.D. Hyde & Bhat (1)
Ceratocladium Corda (2)
Ceratophorum Sacc. (2)
Ceratopycnis Höhn. (2)
Ceratosporella Höhn. (19)
Ceratosporium Schwein. (11)
Ceuthodiplospora Died. (1)
Ceuthosira Petr. (1)
Ceuthosporella Petr. & Syd. (1)
Chaetendophragma Matsush. (7)
Chaetoblastophorum Morgan-Jones (1)
Chaetochalara B. Sutton & Piroz. (7)
Chaetocytostroma Petr. (1)
Chaetodiplis Clem. (1)
Chaetodiplodina Speg. (2)
Chaetopeltaster Katum. (1)
Chaetophiophoma Speg. (1)
Chaetoplaca Syd. & P. Syd. (1)
Chaetopsis Grev. (7)
Chaetopyrena Pass. (2)
Chaetoseptoria Tehon. (1)

Chalarodendron C.J.K. Wang & B. Sutton (1)
Chalarodes McKenzie (2)
Chantransiopsis Thaxt. (3)
Characonidia Bat. & Cavalc. (1)
Charomyces Seifert (2)
Chasakopama Manohar., Bagyan., N.K. Rao & Kunwar (1)
Cheilaria Lib. (1)
Cheiroidea W.A. Baker & Morgan-Jones (1)
Cheiromycella Höhn. (3)
Cheiromyceopsis Mercado & J. Mena (1)
Cheiromyces Berk. & M.A. Curtis (6)
Cheiropolyschema Matsush. (2)
Chiastospora Riess (1)
Chithramia Nag Raj (1)
Chlamydopsis Hol.-Jech. & R.F. Castañeda (1)
Choanatiara DiCosmo (2)
Choreospora Constant. & R. Sant. (1)
Chrysachne Cif. (2)
Chrysalidopsis Steyaert (1)
Chryseidea Onofri (1)
Ciferrina Gonz. Frag. (1)
Ciferrina Petr. (1)
Ciferriopeltis Bat. & H. Maia (1)
Ciferrioxyphium Bat. & H. Maia (2)
Ciliochora Höhn. (2)
Ciliophora Petr. (2)
Ciliophorella Petr. (2)
Ciliosporella Petr. (2)
Circinoconiopsis A. Hern.-Gut. (1)
Circinoconis Boedijn (1)
Cissococcomyces Brain (1)
Civisubramaniana Vittal & Dorai (2)
Cladoconidium Bandoni & Tubaki (1)
Cladoniicola Diederich, van den Boom & Aptroot (2)
Cladosphaera Dumort. (1)
Cladosporiopsis S.C. Ren & X.G. Zhang (1)
Clasteropycnis Bat. & Cavalc. (1)
Clathroconium Samson & H.C. Evans (2)
Clauzadeomyces Diederich (1)
Clavariana Nawawi (1)
Cleistocystis Sousa da Câmara (1)
Cleistonium Speer (1)
Cleistophoma Petr. & Syd. (2)
Clypeochorella Petr. (1)
Clypeolum Speg. (8)
Clypeopatella Petr. (1)
Clypeophialophora Bat. & Peres (1)
Clypeopycnis Petr. (3)
Clypeoseptoria F. Stevens & P.A. Young (3)
Clypeostagonospora Punith. (1)
Coccogloeum Petr. (1)
Codonmyces Calat. & Etayo (1)

Colemaniella Agnihothr. (1)
Coleodictyospora Charles (2)
Coleoseptoria Petr. (1)
Colispora Marvanová (3)
Colleticonis de Hoog & Aa (1)
Colletosporium Link (1)
Collostroma Petr. (1)
Columnodomus Petr. (1)
Columnothyrium Bubák (1)
Comatospora Piroz. & Shoemaker (1)
Comocephalum Syd. (1)
Complexipes C. Walker (2)
Condylospora Nawawi (4)
Coniambigua Etayo & Diederich (1)
Conioscyphopsis Goh & K.D. Hyde (1)
Coniothyria Syd. (1)
Conjunctospora Udagawa & Uchiy. (1)
Conostoma Bat. & J.L. Bezerra (2)
Conostroma Moesz (3)
Consetiella Hol.-Jech. & Mercado (1)
Coremiella Bubák & K. Krieg. (1)
Cornucopiella Höhn. (2)
Cornutispora Piroz. (9)
Cornutostilbe Seifert (1)
Coronospora M.B. Ellis (4)
Corynecercospora V.K. Pal, M. Akhtar, N. Ahmad, Kamal & D.K. Agarwal (1)
Coryneliella Har. & P. Karst. (1)
Corynesporella Munjal & H.S. Gill (11)
Corynesporina Subram. (1)
Corynesporopsis P.M. Kirk (16)
Costanetia Bat. & J.L. Bezerra (1)
Crandallia Ellis & Sacc. (4)
Craneomyces Morgan-Jones, R.C. Sinclair & Eicker (1)
Craspedodidimella F.R. Barbosa, R.F. Castañeda & Gusmão (1)*
Creodiplodina Petr. (1)
Creonecte Petr. (1)
Creoseptoria Petr. (1)
Creothyriella Bat. & C.A.A. Costa (1)
Cribropeltis Tehon (1)
Crinigera I. Schmidt (1)
Crousobrauniella Sh. Kumar, Raghv. Singh, D.P. Singh & Kamal (1)
Crustodiplodina Punith. (1)
Cryptoceuthospora Petr. (2)
Cryptocoryneopsis B. Sutton (1)
Cryptosporium Kunze (25)
Cryptumbellata Udagawa & Uchiy. (1)
Ctenosporium R. Kirschner (1)
Cubasina R.F. Castañeda (2)
Culicidospora R.H. Petersen (2)
Culicinomyces Couch, Romney & B. Rao (3)
Curucispora Matsush. (3)
Curvulariopsis M.B. Ellis (1)

Cyanopatella Petr. (1)
Cyanopyrenia Harada (1)
Cyclomarsonina Petr. (1)
Cylindrogloeum Petr. (1)
Cylindromyces Manohar., D.K. Agarwal & N.K. Rao (1)
Cylindrothyrium Maire (1)
Cylindroxylum Bat. & Cif. (1)
Cyrtidium Vain (1)
Cyrtidula Minks (ca. 5)
Cyrtopsis Vain. (1)
Cystodium Fée (1)
Cystotricha Berk. & Broome (1)
Cytodiscula Petr. (1)
Cytogloeum Petr. (1)
Cytonaema Höhn. (2)
Cytoplacosphaeria Petr. (2)
Cytosphaera Died. (2)
Cytosporella Sacc. (32)
Cyttariella Palm (1)
Dactylifera Alcorn (1)
Dactylosporium Harz (2)
Dasysticta Speg. (2)
Davisiella Petr. (2)
Dearnessia Bubák (1)
Deichmannia Alstrup & D. Hawksw. (1)
Delortia Pat. & Gaillard (3)
Dendrodomus Bubák (1)
Dendrographiella Agnihothr. (1)
Dendrographium Masee (8)
Dendrospora Ingold (10)
Dendrosporium Plakidas & Edgerton ex J.L. Crane (2)
Dendryphiosphaera Lunghini & Rambelli (4)
Dennisographium Rifai (2)
Denticularia Deighton (7)
Dentocircinomyces R.F. Castañeda & W.B. Kendr. (1)
Descalsia A. Roldán & Honrubia (1)
Desertella Mouch. (2)
Desmidiospora Thaxt. (3)
Dexhowardia J.J. Taylor (1)
Diaboliumbilicus I. Hino & Katum. (1)
Diademospora B.E. Söderstr. & Bååth (1)
Diarimella B. Sutton (3)
Dichelostroma Bat. & Peres (1)
Dicholobodigitus G.P. White & Illman (1)
Dichotomophthoropsis M.B. Ellis (2)
Dichotophora Whitton, K.D. Hyde & McKenzie (2)
Dictyoceratosporella Y.R. Ma & X.G. Zhang (3)*
Dictyodesmium S. Hughes (4)
Dictyophrynella Bat. & Cavalc. (1)
Dictyopolyschema M.B. Ellis (1)
Dictyorostrella U. Braun (1)
Dictyospiropes M.B. Ellis (1)

Dictyotrichocladium Fiuza, Gusmão & R.F. Castañeda (1)
Didymochaetina Bat. & J.L. Bezerra (1)
Didymochora Höhn. (1)
Didymopsis Sacc. & Marchal (5)
Didymosporina Höhn. (1)
Diedickea Syd. & P. Syd. (3)
Digicatenosporium S.M. Leão, Gusmão & R.F. Castañeda (1)
Digitodochium Tubaki & Kubono (1)
Digitopodium U. Braun et al. (1)
Digitoramispora R.F. Castañeda & W.B. Kendr. (4)
Dimastigosporium Faurel & Schotter (2)
Diplocladiella G. Arnaud ex M.B. Ellis (8)
Diplodinis Clem. (1)
Diplodinula Tassi (1)
Diploplenodomus Died. (2)
Diplosporonea Höhn. (1)
Diplozythiella Died. (1)
Dipyrgis Clem. (1)
Discogloeum Petr. (1)
Discomycetoidea Matsush. (1)
Discosiellina Subram. & K.R.C. Reddy (1)
Discosporina Höhn. (1)
Discotheciella Syd. & P. Syd (1)
Discozythia Petr. (1)
Dissitimurus E.G. Simmons, McGinnis & Rinaldi (1)
Distophragma R.F. Castañeda, S.M. Leão & Gusmão (1)
Ditangifibula G.C. Adams (1)
Domingoella Petr. & Cif. (4)
Dothideodiplodia Murashk. (1)
Dothioropsis Riedl (1)
Drepanospora Berk. & M.A. Curtis (1)
Drudeola Kuntze (1)
Drumopama Subram. (1)
Dryosphaera Jørg. Koch & E.B.G. Jones (3)
Dualomyces Matsush. (2)
Dwayabeeja Subram. (3)
Dwayaloma Subram. (1)
Dwayalomella Brisson, Piroz. & Pauzé (1)
Dwibahubeeja N. Srivast., A.K. Srivast. & Kamal (1)
Dwibeeja Subram. (1)
Dwiroopella Subram. & Muthumary (1)
Ebollia Minter & Caine (1)
Echinocatena R. Campb. & B. Sutton (1)
Echinochondrium Samson & Aa (1)
Echinoconidiophorum Pereira-Carv. & Dianese (1)
Eiona Kohlm. (1)
Elachopeltella Bat. & Cavalc. (2)
Elattopycnis Bat. & Cavalc. (1)
Elegantomyces Goh, C.K.M. Tsui & K.D. Hyde (1)
Elletevera Deighton (2)
Ellisembiopsis T.S. Santa Izabel & Gusmão (2)
Ellismarsporium R.F. Castañeda & X.G. Zhang (7)

Elotespora R.F. Castañeda & Heredia (1)
Embryonispota G.Z. Zhao (1)
Enantioptera Descals (2)
Endobotrya Berk. & M.A. Curtis (1)
Endobotryella Höhn. (1)
Endocolium Syd. (1)
Endoconospora Gjaerum (2)
Endocoryneum Petr. (3)
Endogenospora R.F. Castañeda, O. Morillo & Minter (1)
Endomelanconium Petr. (4)
Endophragmiopsis M.B. Ellis (2)
Endoplacodium Petr. (1)
Endoramularia Petr. (1)
Endosporoideus W.H. Ho, Yanna, K.D. Hyde & Goh (1)
Endozythia Petr. (1)
Enerthidium Syd. (1)
Engelhardtiella A. Funk (1)
Enridescalsia R.F. Castañeda & Guarro (1)
Enthallopycnidium F. Stevens (1)
Entoderma Hanula, Andreadis & M. Blackw. (1)
Epaphroconidia Calat. & V. Atienza (1)
Ephelidium C.W. Dodge & E.D. Rudolph (1)
Epiclinium Fr. (2)
Epicoccospora Budathoki & S.K. Singh (2)
Episporogoniella U. Braun (1)
Epistigme Syd. (2)
Epithyrium (Sacc.) Trotter (2)
Eriocercospora Deighton (3)
Eriocercosporella Rak. Kumar, A.N. Rai & Kamal ex U. Braun (2)
Eriospora Berk. & Broome (1)
Erispora Pat. (1)
Esteya J.Y. Liou, J.Y. Shih & Tzean (1)
Evanidomus Caball. (1)
Everhartia Sacc. & Ellis (6)
Everniicola D. Hawksw. (1)
Eversia J.L. Crane & Schokn. (2)
Excipularia Sacc. (2)
Exophoma Weedon (1)
Exosporella Höhn. (1)
Exosporodiella Ganie, Azam & A.H. Wani (1)
Fairmaniella Petr. & Syd. (1)
Farriolla Norman (1)
Favostroma B. Sutton & E.M. Davison (1)
Feltgeniomyces Diederich (4)
Fenestroconidia Calat. & Etayo (1)
Fissuricella Pore, D'Amatao & Ajello (1)
Flabellocladia Nawawi (2)
Flabellospora Alas. (6)
Flosculomyces B. Sutton (2)
Frigidispota K.D. Hyde & Goh (1)
Fujimyces Minter & Caine (2)
Fuligomyces Morgan-Jones & Kamal (4)

Fumagopsis Speg. (2)
Furcaspora Bonar (2)
Fusamen (Sacc.) P. Karst. (2)
Fuscophialis B. Sutton (4)
Fusticeps J. Webster & R.A. Davey (5)
Gaeumanniella Petr. (1)
Gallaicolichen Serux. & Lücking (1)
Gampsonema Nag Raj (1)
Gangliophora Subram. (1)
Gangliostilbe Subram. & Vittal (5)
Garnaudia Borowska (3)
Gaubaea Petr. (2)
Gelatinocrinis Matsush. (1)
Gelatinopycnis Dyko & B. Sutton (1)
Geminoarcus K. Ando (3)
Gemmulina Descals & Marvanová (1)
Gilmaniella G.L. Barron (9)
Glaphyriopsis B. Sutton & Pascoe (2)
Glioannellodochium Matsush. (1)
Glioblastocladium Matsush. (1)
Globoconidiopsis G.F. Sepúlveda, Pereira-Carv. & Dianese (1)
Globoconidium G.F. Sepúlveda, Pereira-Carv. & Dianese (1)
Gloeocoryneum Weindlm. (3)
Gloeodes Colby (1)
Gloeosporiella Cavara (1)
Gloiosphaera Höhn. (2)
Glutinium Fr. (2)
Goidanichiella G.L. Barron ex W. Gams (5)
Gonatobotryum Sacc. (4)
Goniopila Marvanová & Descals (1)
Goosiella Morgan-Jones, Kamal & R.K. Verma (1)
Goosomyces N.K. Rao & Manohar. (2)
Grallomyces F. Stevens (1)
Graphiothecium Fuckel (6)
Groveolopsis Boedijn (6)
Guarroa M. Calduch, Gené, Heredia & R.F. Castañeda (1)
Guedea Rambelli & Bartoli (3)
Guelichia Speg. (6)
Gymnoxyphium Cif., Bat. & I.J. Araújo (6)
Gyrophthorus Hafellner & Sancho (3)
Hadronema Syd. & P. Syd. (4)
Hadrosporium Syd. (2)
Halysiomycetes E.G. Simmons (1)
Hansfordiopeltis Bat. & C.A.A. Costa (5)
Hansfordiopeltopsis M.L. Farr (1)
Hapalosphaeria Syd. (1)
Haplariopsis Oudem. (2)
Haplobasidion Erikss. (3)
Haplolipsis Syd. (3)
Haptocara Drechsler (1)
Harmoniella V.N. Boriss. (2)*
Harpographium Sacc. (5)

Harpostroma Höhn. (1)
Hawksworthiana U. Braun (4)
Heimiodora Nicot (1)
Helensiella Minter, R.F. Castañeda & Heredia (1)
Helhonia B. Sutton (1)
Helicofilia Matsush. (2)
Helicogoosia Hol.-Jech. (1)
Helicominopsis Deighton (2)
Helicorhoidion S. Hughes (6)
Helicosingula P.S. van Wyk, Marasas, Baard & Knox-Dav. (1)
Helicothyrium I. Hino & Katum. (1)
Helicoubisia Lunghini & Rambelli (1)
Heliscella Marvanová (2)
Heliscina Marvanová (2)
Helminthosporiomyces G.F. Sepúlveda, Pereira-Carv. & Dianese (1)
Helochora Sherwood (1)
Hemicorynesporella Subram. (1)
Hemidothis Syd. & P. Syd. (1)
Hemisphaeropsis Petr. (1)
Hendersoniella Tassi (1)
Hendersonina E.J. Butler (1)
Hendersoniopsis Höhn. (1)
Hendersonula Speg. (20)
Hendersonulina Petr. (1)
Henfellra Halici, D. Hawksw., Z. Kocak. & M. Kocak (1)
Henicospora P.M. Kirk & B. Sutton (6)
Herposira Syd. (1)
Herreromyces R.F. Castañeda & W.B. Kendr. (1)
Heterocephalum Thaxt. (2)
Heterosporiopsis Petr. (1)
Heuflera Bail (1)
Hexacladium D.L. Olivier (1)
Himantia Pers. (4)
Hinoa Hara & I. Hino (2)
Hirudinaria Ces. (2)
Hobsoniopsis D. Hawksw. (1)
Hoehneliella Bres. & Sacc. (2)
Holubovaea Mercado (2)
Homalopeltis Bat. & Valle (1)
Hoornsmania Crous (1)
Hormiactis Preuss (5)
Hormiscioideus M. Blackw. & Kimbr. (1)
Hormocephalum Syd. (1)
Hormographis Guarro, Punsola & Arx (1)
Hughesinia J.C. Lindq. & Gamundí (3)
Hyalobelemnospora Matsush. (1)
Hyalocamposporium Révay & J. Gönczöl (4)
Hyalocephalotrichum Nagaraju, Kunwar, Sureshk. & Manohar. (1)
Hyalocladium Mustafa (1)
Hyalocylindrophora J.L. Crane & Dumont (3)
Hyalodermella Speg. (1)
Hyalodictyum Woron. (1)

Hyalohelicomina T. Yokoy. (1)
Hyalopleiochaeta R.F. Castañeda, Guarro & Cano (1)
Hyalopyrenia H. Harada (1)
Hyalosynnema Matsush. (1)
Hyalothyridium Tassi (1)
Hydrometrospora J. Gönczöl & Révay (1)
Hymenella Fr. (11)
Hymeniopeltis Bat. (3)
Hymenobactron (Sacc.) Höhn.
Hymenobia Nyl. (1)
Hymenopsis Sacc. (13)
Hyphodiscosia Lodha & K.R.C. Reddy (5)
Hyphodiscosoides Matsush. (1)
Hyphopolynema Nag Raj (6)
Hyphostereum Pat. (1)
Hyphothyrium B. Sutton & Pascoe (1)
Hyphozyma de Hoog & M.T. Sm. (4)
Hypnotheca Tommerup (1)
Hypocline Syd. (1)
Hypodermina Höhn. (1)
Hypogloeum Petr. (1)
Hypotrachynicola Etayo (1)
Hysteridium P. Karst. (1)
Hysterodiscula Petr. (1)
Hysteropycnis Hilitzer (1)
Ialomitzia Gruia (1)
Idiocercus B. Sutton (2)
Igneocumulus A.W. Ramaley (10)
Imicles Shoemaker & Hambl. (6)
Impudentia Vujanović (1)
Inesiosporium R.F. Castañeda & W. Gams (2)
Inifatiella R.F. Castañeda (1)
Intercalarispora J.L. Crane & Schokn. (1)
Intralichen D. Hawksw. & M.S. Cole (4)*
Ionophragmium Peres (1)
Irpicomycetes Deighton (3)
Isariella Henn. (2)
Ischnostroma Syd. & P. Syd. (1)
Isthmoconidium Etayo & Fr. Berger (1)
Isthmolongispora Matsush. (11)
Isthmophragmospora Kuthub. & Nawawi (2)
Isthmotricladia Matsush. (3)
Ityorhoptrum P.M. Kirk (4)
Iyengarina Subram. (3)
Jahniella Petr. (3)
Javonarxia Subram. (2)
Jayarambhatia J. Pratibha (1)
Jerainum Nawawi & Kuthub. (1)
Jubispora B. Sutton & H.J. Swart (1)
Junctospora Minter & Hol.-Jech. (1)
Kalamarospora G. Delgado (1)
Kalchbrenneriella Diederich & M.S. Christ. (1)

Kaleidosporium Van Warmelo & B. Sutton (1)
Kamatella Anahosur (1)
Kamatia V.G. Rao & Subhedar (1)
Kameshwaromyces Kamal, R.K. Verma & Morgan-Jones (2)
Katherinomyces Khodos. (1)
Keissleriomyces D. Hawksw. (1)
Kendrickiella K. Jacobs & M.J. Wingf. (1)
Ketubakia Kamat, Varghese & V.G. Rao (1)
Kiliophora Kuthub. & Nawawi (3)
Kionocephala P.M. Kirk (1)
Kmetia Bres. & Sacc. (1)
Kmetiopsis Bat. & Peres (1)
Knemiothyrium Bat. & J.L. Bezerra (1)
Kodonospora K. Ando (1)
Kolletes Kohlm. & Volkm.-Kohlm. (1)
Kontospora A. Roldán et al. (1)
Korunomyces Hodges & F.A. Ferreira (3)
Kostermansinda Rifai (4)
Kostermansindiopsis R.F. Castañeda (1)
Kramabeeja G.V. Rao & K.A. Reddy (1)
Kramasamuha Subram. & Vittal (1)
Kreiseliella Braun (1)
Kumanasamuha P. Rag. Rao & D. Rao (5)
Kutilakesa Subram. (2)
Kyphophora B. Sutton (1)
Lacellina Sacc. (3)
Lacellinopsis Subram. (3)
Laciniocladium Petri (1)
Lagenomyces Cavalc. & A.A. Silva (1)
Lambdasporium Matsush. (3)
Lambinonia Sérus. & Diederich (1)
Laocoön J.C. David (1)
Lappodochium Matsush. (1)
Lasiodiplodiella Zambett. (3)
Lasiothyrium Syd. & P. Syd. (1)
Lasmeniella Petr. & Syd. (13)
Latericonis G.V. Rao, K.A. Reddy & de Hoog (1)
Lateriramulosa Matsush. (5)
Laterispora Uecker, W.A. Ayers & P.B. Adams (1)
Lawalreea Diederich (1)
Lecaniocola Brain (1)
Lecanostictopsis B. Sutton & Crous (4)
Leeina Petr. (1)
Leightoniomyces D. Hawksw. & B. Sutton (2)
Lembuncula Cif. (1)
Lemkea Morgan-Jones & R.C. Sinclair (1)
Lepisticola W. Gams (1)
Leprieurinella Bat. & H. Maia (1)
Leptascospora Speg. (1)
Leptochlamys Died. (1)
Leptodermella Höhn. (1)
Leptophyllosticta I.E. Brezhnev (2)

Leptostromella (Sacc.) Sacc. (2)
Leptothyrella Sacc. (10)
Leptothyrina Höhn. (1)
Leptothyrium Kunze (2)
Leucoconiella Bat., H. Maia & Peres (1)
Leucoconis Theiss. & Syd. (1)
Leucodochium Syd. & P. Syd. (1)
Leuliisinea Matsush. (2)
Lichenobactridium Diederich & Etayo (1)
Lichenohendersonia Calat. & Etayo (3)
Lichenopeziza Zúkal (1)
Lichenophoma Keissl. (2)
Lichenopuccinia D. Hawksw. & Hafellner (1)
Lichenostella Calat. & Etayo (1)
Linkosia A. Hern. Gut. & B. Sutton (12)
Linochorella Syd. & P. Syd. (1)
Linodochium Höhn. (5)
Listeromyces Penz. & Sacc. (1)
Lithopythium Bornet & Flahault (3)
Lobatopedis P.M. Kirk (5)
Loliomyces Maire (1)
Lomaantha Subram. (3)
Lomachashaka Subram. (5)
Ludwigomyces Kirschst. (1)
Luxuriomyces R.F. Castañeda (1)
Luzfridiella R.F. Castañeda & W.B. Kendr. (1)
Lylea Morgan-Jones (6)
Lysotheca Cif. (6)
Mackenziella Yanna & K.D. Hyde (1)
Macroallantina Speer (1)
Macrodiplodia Sacc. (2)
Macrotrichum Grev. (2)
Magmopsis Nyl. (1)
Mahabalella B. Sutton & S.D. Patil (4)
Manginella Bat. & H. Maia (2)
Mapletonia B. Sutton (1)
Margarinomyces Laxa (1 *vide* Kirk et al. 2008)
Martinellisia V.G. Rao & Varghese (1)
Massalongina Bubák (2)
Matsushimiella R.F. Castañeda & Heredia (2)
Matsushimomyces V.G. Rao & Varghese (2)
Medusamyces G.L. Barron & Szijarto (1)
Megalodochium Deighton (4)
Megaloseptoria Naumov (1)
Melanocephala S. Hughes (5)
Melanophoma Papendorf & J.W. du Toit (1)
Melophia Sacc. (4)
Menidochium R.F. Castañeda & W.B. Kendr. (1)
Mercadomyces J. Mena (1)
Merismella Syd. (6)
Metadiplodia Syd. (40)
Metazythia Petr. (1)

Metazythiopsis M. Morelet (1)
Microblastosporon Cif. (1)
Microclava F. Stevens (5)
Microdiscula Höhn. (2)
Microdothiorella C.A.A. Costa & Sousa da Câmara (1)
Microhendersonula Dias & Sousa da Câmara (1)
Micromastia Speg. (2)
Microperella Höhn. (1)
Micropustulomyces R.W. Barreto (1)
Microtyle Speg. (1)
Microxyphiella Speg. (15)
Microxyphiopsis Bat. (2)
Mindoa Petr. (2)
Minimidochium B. Sutton (8)
Minteriella Heredia, R.F. Castañeda & R.M. Arias (1)
Minutophoma D. Hawksw. (1)
Mirandina G. Arnaud ex Matsush. (ca. 10)
Miricatena Punith. & Spooner (2)
Mirimyces Nag Raj (1)
Monochaetiella E. Castell. (3)
Monochaetinula Muthumary, Abbas & B. Sutton (6)
Monochaetopsis Pat. (1)
Monodia Breton & Faurel (2)
Monodidymaria U. Braun (5)
Monodisma Alcorn (1)
Monostichella Höhn. (15)
Moorella P. Rag. Rao & D. Rao (3)
Moralesia Urries (1)
Morrisographium M. Morelet (8)
Mucosetospora M. Morelet (1)
Muiogone Thaxt. (2)
Muirella R. Sprague (1)
Murogenella Goos & E.F. Morris (3)
Mycelephas R.F. Castañeda (2)
Mycocentrodochium K. Matsush. & Matsush. (1)
Mycöenterolobium Goos (3)
Mycohypallage B. Sutton (2)
Mycopara Bat. & J.L. Bezerra (1)
Mycospraguea U. Braun & Rogerson (1)
Mycosticta Höhn. (1)
Mycosylva M.C. Tulloch (3)
Mycotodea Kirschst. (14)
Mycousteria M.L. Farr (2)
Myiocoprula Petr. (2)
Myriellina Höhn. (2)
Myrmecomycetes Jouvenaz & Kimbr. (1)
Myrotheciastrum Abbas & B. Sutton (1)
Mystrosporiella Munjal & Kulshr. (4)
Myxoparaphysella Caball. (2)
Myxosporella Sacc. (1)
Myxosporidiella Negru (1)
Myxostomellina Syd. (1)

Myxothyriopsis Bat. & A.F. Vital (1)
Myxothyrium Bubák & Kabát (1)
Naemosphaera P. Karst. (1)
Naemosphaerella Höhn. (2)
Nagrajia R.F. Castañeda & W.B. Kendr. (1)
Nagrajomyces Mel'nik (1)
Nakatopsis Whitton, McKenzie & K.D. Hyde (2)
Nanoschema B. Sutton (1)
Naothyrsium Bat. (1)
Necraphidium Cif. (1)
Nematogonum Desm. (1)
Nematographium Goid. (5)
Nemozythiella Höhn. (1)
Neoalpakesa Punith. (1)
Neoarbuscula B. Sutton (1)
Neobarclaya Sacc. (2)
Neodiplodina Petr. (1)
Neofuckelia Zeller & Goodd. (1)
Neoheteroceras Nag Raj (2)
Neojohnstonia B. Sutton (2)
Neoligniella Naumov (4)
Neomarssoniella U. Braun (1)
Neomelanconium Petr. (3)
Neoovularia U. Braun (6)
Neopeltis Syd. (3)
Neopericonia Kamal, A.N. Rai & Morgan-Jones (1)
Neophoma Petr. & Syd. (2)
Neoplaconema B. Sutton (2)
Neopodoconis Rifai (3)
Neoramularia U. Braun (9)
Neospegazzinia Petr. & Syd. (2)
Neottiospora Desm. (2)
Neozythia Petr. (1)
Neta Shearer & J.L. Crane (10)
Nidulispora Nawawi & Kuthub. (1)
Nigrolentilocus R.F. Castañeda & Heredia (6)
Nigromacula Etayo (1)
Nigropuncta D. Hawksw. (2)
Nosophloea Fr. (3)
Nothospora Peyronel (1)
Novozymia W.P. Wu (1)
Nummospora E. Müll. & Shoemaker (1)
Nusia Subram. (2)
Nyctalospora E.F. Morris (1)
Nypaella K.D. Hyde & B. Sutton (2)
Obeliospora Nawawi & Kuthub. (5)
Obstipipilus B. Sutton (1)
Octopodotus Kohlm. & Volkm.-Kohlm. (1)
Odontodictyospora Mercado (1)
Oedothea Syd. (1)
Ojibwaya B. Sutton (1)
Omega B. Sutton & Minter (1)

Oncopodium Sacc. (12)
Oncospora Kalchbr. (8)
Oncosporella P. Karst. (1)
Oncostroma Bat. & Marasas (1)
Onychophora W. Gams, P.J. Fisher & J. Webster (1)
Oothyrium Syd. (1)
Ophiosira Petr. (1)
Orphanocoela Nag Raj (3)
Ostracoderma Fr. (3)
Ostracodermidium Mukerji (1)
Oswaldina Rangel (1)
Paathramaya Subram. (5)
Pachycladina Marvanová (3)
Palawaniopsis Bat., Cif. & Nascim. (1)
Papilionospora V.G. Rao & B. Sutton (1)
Pappimyces B. Sutton & Hodges (1)
Paraaoria R.K. Verma & Kamal (1)
Pararthrocladium Matsush. (1)
Parablastocatena Y.D. Zhang & X.G. Zhang (1)
Paraceratocladium R.F. Castañeda (6)
Parachionomyces Thaug (1)
Paracostantinella Subram. & Sudha (1)
Paracryptophiale Kuthub. & Nawawi (2)
Paracytospore Petr. (1)
Paradendryphiopsis M.B. Ellis (5)
Paradidymobotryum C.J.K. Wang & B. Sutton (1)
Paradiplodia Speg. ex Trotter (6)
Paradischloridium Bhat & B. Sutton (1)
Paradiscula Petr. (1)
Paraëpicocccum Matsush. (1)
Parafulvia Kamal, A.N. Rai & Morgan-Jones (1)
Parahaplotrichum W.A. Baker & Partr. (1)
Paraharknessia Matsush. (1)
Parahyalotriopsis Nag Raj (1)
Paramassariothea Subram. & Muthumary (1)
Paramenisporopsis Matsush. (1)
Parapericonia M.B. Ellis (2)
Parapericoniella U. Braun, Heuchert & K. Schub. (1)
Paraphaeoisaria de Hoog & Morgan-Jones (1)
Parapithomyces Thaug (1)
Parapyricularia M.B. Ellis (4)
Pararobillarda Matsush. (1)
Parasphaeropsis Petr. (1)
Parastigmatellina Bat. & C.A.A. Costa (1)
Paratetraploa M.K.M. Wong & K.D. Hyde (1)
Paratomenticola M.B. Ellis (2)
Paratrichoconis Deighton & Piroz. (4)
Paraulocladium R.F. Castañeda (2)
Paspalomyces Linder (1)
Patriciomyces D. Hawksw. (1)
Pazschkeella Syd. & P. Syd.
Peethasthabeeja P. Rag. Rao (1)

Pellionella (Sacc.) Sacc. (1)
Peltasterinostroma Punith. (1)
Peltasteropsis Bat. & H. Maia (7)
Peltistroma Henn. (1)
Peltistromella Höhn. (1)
Peltosoma Syd. (1)
Peltostromellina Bat. & A.F. Vital (1)
Peltostromopsis Bat. & A.F. Vital (1)
Penzigomyces Subram. (13)
Perelegamyces R.F. Castañeda & W.B. Kendr. (1)
Perizomella Syd. (1)
Pestalozziella Sacc. & Ellis ex Sacc. (4)
Petrakiopsis Subram. & K.R.C. Reddy (1)
Phacostroma Petr. (1)
Phacostromella Petr. (1)
Phaeoblastophora Partr. & Morgan-Jones (2)
Phaeocandelabrum R.F. Castañeda, Gusmão, Guarro & Iturr. (3)
Phaeodactylium Agnihotr. (7)
Phaeodiscula Cub. (1)
Phaeodomus Höhn. (3)
Phaeohiratsukaea Udagawa & Iwatsu (1)
Phaeoidiomyces Dorn.-Silva & Dianese (2)
Phaeolabrella Speg. (1)
Phaeomonilia R.F. Castañeda, Heredia & R.M. Arias (5)
Phaeomonostichella Keissl. ex Petr. (1)
Phaeophloeospora Crous & B. Sutton (1)
Phaeophomopsis Höhn. (1)
Phaeoschizotrichum C.R. Silva, Gusmão & R.F. Castañeda (1)
Phaeostalagmus W. Gams (7)
Phaeostilbelloides Armando, Z.M. Chaves & Dianese (1)
Phaeothyrium Petr. (1)
Phaeotrichoconis Subram. (8)
Phaeoxyphiella Bat. & Cif. (7)
Phellostroma Syd. & P. Syd. (1)
Phialoarthrobotryum Matsush. (2)
Phialogeniculata Matsush. (4)
Phialophaeosisaria Matsush. (1)
Phialostele Deighton (1)
Phialotubus R.Y. Roy & Leelav. (1)
Phloeosporina Höhn. (1)
Phlyctaeniella Petr. (2)
Phomachora Petr. & Syd. (2)
Phomachorella Petr. (1)
Phomatospora Tak. Kobay. & K. Sasaki (1)
Phomyces Clem. (1)
Phragmoconidium G.F. Sepúlveda, Pereira-Carv. & Dianese (1)
Phragmopeltis Henn. (5)
Phragmospathula Subram. & N.G. Nair (3)
Phragmospathulella J. Mena & Mercado (1)
Phthora d'Hérelle (1)
Phylloedium Fr. (1)
Phyllohendersonia Tassi (25)

Physalidiella Rulamort (2)
Physalidiopsis R.F. Castañeda & W.B. Kendr. (1)
Piggotia Berk. & Broome (3)
Pinatubo J.B. Manandhar & Mew (1)
Piperivora Siboe, P.M. Kirk & P.F. Cannon (1)
Piricauda Bubák (8)
Piricaudilium Hol.-Jech. (2)
Piricaudiopsis J. Mena & Mercado (1)
Pirispora Faurel & Schotter (1)
Pirostomella Sacc. (2)
Pithosira Petr. (1)
Pittostroma Kowalski & T.N. Sieber (1)
Placella Syd. (1)
Placodiplodia Bubák (2)
Placonema (Sacc.) Petr. (3)
Placonemina Petr. (1)
Placosphaerina Maire (1)
Placothoa Syd. (1)
Placothyrium Bubák (1)
Plagiostigmella Petr. (1)
Plasia Sherwood (1)
Plectonaemella Höhn. (1)
Plectopeltis Syd. (1)
Plectophomopsis Petr. (1)
Plectopycnis Bat. & A.F. Vital (4)
Plectosira Petr. (1)
Plectronidiopsis Nag Raj (1)
Plectronidium Nag Raj (4)
Plenocatenuelis Bat. & Cif. (1)
Plenophysa Syd. & P. Syd. (1)
Plenotrichopsis Bat. (1)
Plenotrichum Syd. (2)
Plenozythia Syd. & P. Syd. (2)
Pleocouturea G. Arnaud (2)
Plesiospora Drechsler (1)
Pleurodesmospora Samson, W. Gams & H.C. Evans (1)
Pleurodiscula Höhn. (1)
Pleurodomus Petr. (1)
Pleuropedium Marvanová & S.H. Iqbal (3)
Pleurophomopsis Petr. (7)
Pleuroplaconema Petr. (2)
Pleuroplacosphaeria Syd. (1)
Pleurostromella Petr. (15)
Pleurotheciopsis B. Sutton (6)
Pleurothyriella Petr. & Syd. (1)
Pleurovularia R. Kirschner & U. Braun (1)
Pocillopycnis Dyko & B. Sutton (1)
Podoplaconema Petr. (1)
Podosporiella Ellis & Everh. (4)
Podosporiopsis Jian Ma, X.G. Zhang & R.F. Castañeda (2)
Podosporium Schwein. (67)
Poikilosperma Bat. & J.L. Bezerra (1)

Polybulbophiale Goh & K.D. Hyde (1)
Polychaetella Speg. (3)
Polycladium Ingold (1)
Polydesmus Mont. (14)
Polyetron Bat. & Peres (1)
Polylobatispora Matsush. (3)
Polyrostrata T.P. Devi & N. Mathur (2)
Polystomellomyces Bat. (1)
Polystratorictus Matsush. (2)
Polytretophora Mercado (3)
Porocladium Descals (1)
Poropeltis Henn. (1)
Porophilomyces U. Braun (1)
Porosubramania Hol.-Jech. (2)
Porrectotheca Matsush. (1)
Potamomyces K.D. Hyde (1)
Proboscispora Punith. (1)
Protostegiomyces Bat. & A.F. Vital (1)
Protostroma Bat. (1)
Pseudoacrodictys W.A. Baker & Morgan-Jones (14)
Pseudoanguillospora S.H. Iqbal (3)
Pseudoaristastoma Suj. Singh (1)
Pseudoasperisporium U. Braun (3)
Pseudobasidiospora Dyko & B. Sutton (1)
Pseudocanalisorium R.F. Castañeda & W.B. Kendr. (1)
Pseudocenangium P. Karst. (1)
Pseudochuppia Kamal et al. (1)
Pseudoclathrosphaerina Voglmayr (2)
Pseudoconium Petr. (1)
Pseudocytosphaeria Punith. & Spooner (1)
Pseudocytospora Petr. (1)
Pseudodichomera Höhn. (3)
Pseudodidymaria U. Braun (3)
Pseudodiplodia (P. Karst.) Sacc. (45)
Pseudodiscula Laubert (2)
Pseudofuscophialis Sivan. & H.S. Chang (1)
Pseudogaster Höhn. (1)
Pseudographiella E.F. Morris (3)
Pseudohepatica P.M. Jørg. (1)
Pseudomicrodochium B. Sutton (8)
Pseudoneottiospora Faurel & Schotter (2)
Pseudopatellina Höhn. (1)
Pseudopeltistroma Katum. (1)
Pseudoperitheca Elenkin (1)
Pseudopetrakia M.B. Ellis (2)
Pseudophloeosporella U. Braun (1)
Pseudophragmotrichum W.P. Wu, B. Sutton & Gange (1)
Pseudopolystigmina Murashk. (2)
Pseudoramularia Matsush. (2)
Pseudorhizopogon Kobayasi (1)
Pseudoschizothyra Punith. (1)
Pseudosigmoidea K. Ando & N. Nakam. (2)

Pseudostegia Bubák (1)
Pseudothyrium Höhn. (1)
Pseudotorula Subram. (3)
Pseudotracylla B. Sutton & Hodges (2)
Pseudotrichoconis W.A. Baker & Morgan-Jones (1)
Pseudozythia Höhn. (1)
Psilosphaeria Cooke (1)
Pteromycula P. Cannon (1)
Pterulopsis Wakef. & Hansf. (1)
Pterygosporopsis P.M. Kirk (2)
Puccinospora Speg. (1)
Pulchromyces Hennebert (1)
Pullospora Faurel & Schotter (2)
Pulvinella A.W. Ramaley (1)
Punctillina Toro (1)
Pycmaeosphaera Etayo & Diederich (3)
Pycnidioarxiella Punith. & N.D. Sharma (1)
Pycnidiopeltis Bat. & C.A.A. Costa (1)
Pycnis Bref. (1)
Pycnodactylus Bat., A.A. Silva & Cavalc. (1)
Pycnodallia Kohlm. & Volkm.-Kohlm. (1)
Pycnoharknessia Matsush. (1)
Pycnomma Syd. (1)
Pycnomoreletia Rulamort (2)
Pycnoseynesia Kuntze (1)
Pycnothera N.D. Sharma & G.P. Agarwal (1)
Pycnothyriella Bat. (2)
Pycnothyrium Diederich (6)
Pyramidospora Sv. Nilsson (9)
Pyrenyllum Clem. (2)
Pyrgostroma Petr. (2)
Pyripnomycetes Cavalc. (1)
Quadracaea Lunghini, Pinzari & Zucconi (3)
Quadricladium Nawawi & Kuthub. (1)
Quasidiscus B. Sutton (1)
Quasiphloeospora B. Sutton, Crous & Shamoun (1)
Queenslandia Bat. & H. Maia (5)
Quezelia Faurel & Schotter (1)
Raciborskiomyces Siemaszko (4)
Radiatispora Matsush. (1)
Raizadenia S.L. Srivast. (1)
Ramakrishnanella Kamat & Ullasa ex Ullasa (1)
Ramicapitulum Whitton, K.D. Hyde & McKenzie (1)
Ramicephala Voglmayr & G. Delgado (1)
Ramoconidiifera B. Sutton, Carmarán & A.I. Romero (2)
Redbia Deighton & Piroz. (5)
Refractohilum D. Hawksw. (5)
Repetoblastiella R.F. Castañeda, Minter & M. Stadler (1)
Rhabdoctema Syd. (2)
Rhabdogloeopsis Petr. (2)
Rhabdostromella Höhn. (1)
Rhabdostromina Died. (3)

Rhexoampullifera P.M. Kirk (3)
Rhexoprolifer Matsush. (1)
Rhinotrichella G. Arnaud ex de Hoog (4)
Rhipidocephalum Trail (2)
Rhizosphaerina B. Sutton (2)
Rhodesia Grove (2)
Rhodesiopsis B. Sutton & R. Campb. (2)
Rhodothallus Bat. & Cif. (2)
Rhombostilbella Zimm. (2)
Rhopalocladium Schroers, Samuels & W. Gams (1)
Rhynchodiplodia Briosi & Farneti (1)
Rhynchomyces Willk. (1)
Rhynchoseptoria Unamuno (1)
Rhynchosporina Arx (2)
Riclaretia Peyronel (1)
Rileya A. Funk (1)
Robakia Petr. (1)
Rogergoosiella A. Hern.-Gut. & J. Mena (1)
Roscoepoundia Kuntze (1)
Rosulomyces S. Marchand & Cabral (1)
Rota Bat., Cif. & Nascim. (1)
Ruggieria Cif. & Montemart. (1)
Saania Zhurb. (1)
Sadasivania Subram. (3)
Sanjuanomyces R.F. Castañeda & W.B. Kendr. (1)
Sarcinosporon D.S. King & S.C. Jong (1)
Sarcoexcipula Etayo (1)
Sarcophoma Höhn. (3)
Sarophorum Syd. & P. Syd. (1)
Satchmopsis B. Sutton & Hodges (1)
Sativumoides S.C. Ren, Jian Ma & X.G. Zhang (1)
Scaphidium Clem. (1)
Sceptrifera Deighton (1)
Schizothyra Bat. & C.A.A. Costa (1)
Schizothyrella Thüm. (1)
Schizothyropsis Bat. & A.F. Vital (1)
Schizotrichum McAlpine (1)
Schroeteria G. Winter (1)
Schwarzmannia Pisareva (1)
Scirrhophoma Petr. (1)
Sclerographiopsis Deighton (1)
Sclerographium Berk. (4)
Scleromeris Syd. (3)
Sclerophoma Höhn. (30)
Scleropycnis Syd. & P. Syd. (2)
Sclerozythia Petch (1)
Scolecobasidiella M.B. Ellis (2)
Scolecobeltrania Iturr., R.F. Castañeda & Rob. Fernández (1)
Scolecodochium K. Matsush. & Matsush. (1)
Scolecosporiella Petr. (6)
Scolecotecha Søchting & B. Sutton (1)
Scolecocythia Curzi (1)

Scoliotidium Bat. & Cavalc. (1)
Scopaphoma Dearn. & House (1)
Scopulariella Gjaerum (1)
Scothelius Bat., J.L. Bezerra & Cavalc. (1)
Scutisporus K. Ando & Tubaki (1)
Scutopeltis Bat. & H. Maia (2)
Scutopycnis Bat. (2)
Seimatosporiopsis B. Sutton, Ghaffer & Abbas (2)
Selenosira Petr. (1)
Selenosporopsis R.F. Castañeda & W.B. Kendr. (1)
Semipseudocercospora J.M. Yen (2)
Septocytella Syd. (1)
Septogloeum Sacc. (2)
Septomyxella (Höhn.) Höhn. (1)
Septopatella Petr. (1)
Septosporiopsis W.A. Baker & Morgan-Jones (1)
Septosporium Corda (5)
Septotrullula Höhn. (2)
Sessiliospora D. Hawksw. (1)
Setolibertella Punith. & Spooner (1)
Setophiale Matsush. (1)
Setosporella Mustafa & Abdul-Wahid (1)
Seychellomyces Matsush. (1)
Seynesiopsis Henn. (1)
Shawiella Hansf. (1)
Sheariella Petr. (1)
Sheathnema Dubey & Moonambeth (2)
Shivomyces Hosag. (2)
Siamia V. Robert, Decock & R.F. Castañeda (1)
Sigmatomyces Sacc. & P. Syd. (1)
Simmonsiella J.L. Crane & A.N. Mill. (1)
Sirexipula Bubák (1)
Sirocyphis Clem. (1)
Sirogloea Petr. (1)
Siroligniella Naumov (1)
Sirophoma Höhn. (3)
Siroplacodium Petr. (6)
Siropleura Petr. (1)
Siroscyphellina Petr. (2)
Sirosperma Syd. & P. Syd. (2)
Sirosphaera Syd. & P. Syd. (2)
Sirosporonaemella Naumov (1)
Sirothecium P. Karst. (3)
Sirothyriella Höhn. (2)
Sirothyrium Syd. & P. Syd. (1)
Sirozythia Höhn. (2)
Sirozythiella Höhn. (1)
Sitochora H.B.P. Upadhyay (1)
Slimacomycetes Minter (2)
Soloacrospora W.B. Kendr. & R.F. Castañeda (2)
Solosympiella Matsush. (8)
Solotermiospora Matsush. (1)

Spermatoloncha Speg. (1)
Spermatoloncha Speg. (1)
Spermochaetella Cif. (1)
Spermospora R. Sprague (9)
Spermosporella Deighton (4)
Sphaeridium Fresen. (5)
Sphaeriostromella Bubák (1)
Sphaeriothyrium Bubák (2)
Sphaeromma H.B.P. Upadhyay (2)
Sphaeronaema Fr. (50)
Sphaerophoma Petr. (2)
Sphaerulomyces Marvanová (1)
Spinulospora Deighton (1)
Spiralum J.L. Mulder (2)
Spiropes Cif. (ca. 40)
Splanchospora Lar.N. Vassiljeva (1)
Spondylocladiella Linder (2)
Spondylocladiopsis M.B. Ellis (2)
Sporhaplus H.B.P. Upadhyay (1)
Sporidesmiopsis Subram. & Bhat (6)
Sporoglena Sacc. (1)
Sporophiala P. Rag. Rao (3)
Sporotretophora Whitton, McKenzie & K.D. Hyde (1)
Stachybotryella Ellis & Barthol. (3)
Stachybotryna Tubaki & T. Yokoy. (6)
Stagonopatella Petr. (1)
Stagonopsis Sacc. (4)
Stagonosporina Tassi (1)
Stagonostromella Petr. & Syd. (1)
Staheliella Emden (2)
Stalagmochaetia Cif. & Bat. (2)
Stanhughesiella R.F. Castañeda & D.W. Li (1)
Stauronema (Sacc.) Syd., P. Syd. & E.J. Butler (5)
Stauronematopsis Abbas, B. Sutton & Ghaffar (1)
Staurophoma Höhn. (1)
Stegonsporiopsis Van Warmelo & B. Sutton (1)
Stellifraga Alstrup & Olech (1)
Stellomyces Morgan-Jones, R.C. Sinclair & Eicker (2)
Stellopeltis Bat. & A.F. Vital (2)
Stellospora Alcorn & B. Sutton (2)
Stellothyriella Bat. & Cif. (2)
Stenocephalopsis Chamuris & C.J.K. Wang (1)
Stenoccladiella Marvanová & Descals (1)
Stenospora Deighton (1)
Stephembruneria R.F. Castañeda (1)
Stevensonula Petr. (1)
Stictopatella Höhn. (1)
Stictosepta Petr. (1)
Stigmatellina Bat. & H. Maia (1)
Stigmaea Fr. (1)
Stigmella Lév. (28)
Stigmopeltis Syd. (2)

Stilbellula Boedijn (1)
Stilbodendron Syd. & P. Syd. (1)
Stilbophoma Petr. (1)
Strasseriosis B. Sutton & Tak. Kobay. (1)
Stratiphoromyces Goh & K.D. Hyde (2)
Striosphaeropsis Verkley & Aa (1)
Stromatocrea W.B. Cooke (1)
Stromatopogon Zahlbr. (3)
Stromatopycnis A.F. Vital (1)
Stromatostysanus Höhn. (3)
Strongylohallus Bat. & Cif. (1)
Stygiomyces Coppins & S.Y. Kondr. (1)
Stylaspergillus B. Sutton, Alcorn & P.J. Fisher (1)
Subhysteropycnis Wedin & Hafellner (1)
Subicularium M.L. Farr & Goos (1)
Subulispora Tubaki (8)
Suttoniella S. Ahmad (3)
Suttonina H.C. Evans (1)
Syamithabeeja Subram. & Natarajan (1)
Sylviacollaea Cif. (1)
Symphysos Bat. & Cavalc. (1)
Sympodiella W.B. Kendr. (5)
Sympodiocladium Descals (1)
Sympodioclathra Voglmayr (1)
Sympodioplanus R.C. Sinclair & Boshoff (3)
Sympodiosynnema J.W. Xia & X.G. Zhang (1)
Synchronoblastia Uecker & F.L. Caruso (1)
Syncladium Rabenh. (1)
Synnemacrodictys W.A. Baker & Morgan-Jones (1)
Synnemaseimatoides K. Matsush. & Matsush. (1)
Synnematomyces Kobayasi (1)
Synostomina Petr. (1)
Syphosphaera Dumort. (1)
Systremmopsis Petr. (1)
Taeniolina M.B. Ellis (6)
Talekpea Lunghini & Rambelli (1)
Talpapellis Alstrup & M.S. Cole (4)
Tandonea M.D. Mehrotra (1)
Tarsodisporus Bat. & A.A. Silva (1)
Tectacervulus A.W. Ramaley (1)
Telioclipeum Viégas (1)
Temerariomyces B. Sutton (1)
Teratosperma Syd. & P. Syd. (11)
Termitaria Thaxt. (6)
Tetrabrachium Nawawi & Kuthub. (1)
Tetrabrunneospora Dyko (1)
Tetracoccosporium Szabó (4)
Tetrameronycha Speg. ex W. Rossi & M. Blackw. (1)
Tetranacriella Kohlm. & Volkm.-Kohlm. (1)
Tetranacrium H.J. Huds. & B. Sutton (1)
Tetraposporium S. Hughes (2)
Textotheca Matsush. (1)

Thaptozpora B. Sutton & Pascoe (3)
Thirumalacharia Rathaiah (1)
Tholomyces Matsush. (1)
Thoracella Oudem. (1)
Thrinacospora Petr. (1)
Thyriostromella Bat. & C.A.A. Costa (1)
Thyrostromella Höhn. (3)
Thyrsidiella Höhn. ex Höhn. (2)
Thyrsidina Höhn. (1)
Tiarosporellivora Punith. (1)
Ticogloea G. Weber et al. (2)
Ticosynnema R.F. Castañeda, Granados & Mardones (1)
Titaea Sacc. (23)
Titaeopsis B. Sutton & Deighton (1)
Titaeospora Bubák (2)
Tomenticola Deighton (1)
Tompetchia Subram. (1)
Toxosporiella B. Sutton (1)
Toxosporiopsis B. Sutton & Sellar (1)
Toxosporium Vuill. (2)
Trematophoma Petr. (2)
Tremellidium Petr. (1)
Tretendophragmia Subram. (1)
Tretocephala Subram. (1)
Tretolylea Cantillo, R.F. Castañeda & Gusmão (1)
Tretospeira Piroz. (1)
Tretovularia Deighton (1)
Tribolospora D.A. Reid (1)
Tricellula Beverw. (8)
Trichobolbus Bat. (1)
Trichobotrys Penz. & Sacc. (4)
Trichoconis Clem. (21)
Trichodiscula Vouaux (1)
Trichodochium Syd. (3)
Trichomatoclava G.F. Sepúlveda, Pereira-Carv. & Dianese (1)
Trichomatomyces Dorn.-Silva & Dianese (1)
Trichomatosphaera Pereira-Carv., G.F. Sepúlveda & Dianese (1)
Trichopeltulum Speg. (1)
Trichoseptoria Cavara (2)
Trichosporiella Kamyschko (4)
Trichosporodochium Dorn.-Silva & Dianese (1)
Trichotheca P. Karst. (1)
Tricladiella K. Ando & Tubaki (1)
Tricliadiopsis Descals (2)
Tricladiospora Nawawi & Kuthub. (3)
Tricornispora Bonar (1)
Trifurcospora K. Ando & Tubaki (2)
Trigonosporium Tassi (2)
Tripoconidium Subram. (1)
Triposporina Höhn. (2)
Triramulispora Matsush. (3)
Triscelophorus Ingold (8)

Triscelosporium Nawawi & Kuthub. (1)
Trisulcosporium H.J. Huds. & B. Sutton (1)
Tromeropsis Sherwood (1)
Troposporium Harkn. (1)
Troposporopsis Whitton, McKenzie & K.D. Hyde (2)
Tryblidiopycnis Höhn. (1)
Tryssglobulus B. Sutton & Pascoe (1)
Tuberculispora Deighton & Piroz. (1)
Tunicago B. Sutton & Pollack (2)
Turturconchata J.L. Chen, T.L. Huang & Tzean (2)
Tympanosporium W. Gams (1)
Uberispora Piroz. & Hodges (4)
Ubrizsya Negru (1)
Ulocoryphus Michaelides, L. Hunter & W.B. Kendr. (1)
Umbellidion B. Sutton & Hodges (1)
Uniseta Ciccar. (1)
Urohendersonia Speg. (5)
Urohendersoniella Petr. (1)
Uvarispora Goos & Piroz. (1)
Vagnia D. Hawksw. & Miądl. (1)
Vanakripa Bhat et al. (9)
Vanbeverwijkia Agnihothr. (1)
Vanderystiella Henn. (1)
Vanterpoolia A. Funk (1)
Vasudevella Chona et al. (1)
Velloziomyces Armando, Z.M. Chaves & Dianese (1)
Velutipila D. Hawksw. (1)
Ventrographium H.P. Upadhyay, Cavalc. & A.A. Silva (1)
Venustocephala Matsush. (2)
Venustosynnema R.F. Castañeda & W.B. Kendr. (3)
Veracruzomyces Mercado, Guarro, Heredia & J. Mena (1)
Veramyrella G. Delgado (1)
Veramyces Matsush. (1)
Verdipulvinus A.W. Ramaley (1)
Veronaella Subram. & K.R.C. Reddy (1)
Veronidia Negru (1)
Verrucariella S. Ahmad (1)
Verrucaster Tobler (1)
Verrucophragma Crous, M.J. Wingf. & W.B. Kendr. (1)
Verticicladius Matsush. (3)
Vesicladiella Crous & M.J. Wingf. (1)
Vesiculohyphomyces Armando, Pereira-Carv. & Dianese (1)
Vestigium Piroz. & Shoemaker (2)
Virgariella S. Hughes (11)
Viridiannula Etayo (1)
Vittalia Gaws & Bhat (1)
Vizellopsidites M.A. Khan, M. Bera & Bera (1)
Vouauxiella Petr. & Syd. (3)
Waihonghopes Yanna & K.D. Hyde (1)
Wardinella Bat. & Peres (1)
Websteromyces W.A. Baker & Partr. (2)
Weufia Bhat & B. Sutton (1)

Wolkia Ramsb. (1)
Xenidiocercus Nag Raj (1)
Xenochora Petr. (1)
Xenodomus Petr. (1)
Xenoheteroconium Bhat, W.B. Kendr. & Nag Raj (1)
Xenokylindria DiCosmo, S.M. Berch & W.B. Kendr. (2)
Xenomyxa Syd. (1)
Xenopeltis Syd. & P. Syd. (1)
Xenoplaca Petr. (1)
Xenostroma Höhn. (1)
Xeroconium D. Hawksw. (1)
Xiphomyces Syd. & P. Syd. (2)
Xiuguozhangia K. Zhang, R.F. Castañeda, Jian Ma & L.G. Ma (5)
Xylochia B. Sutton (2)
Xyloglyphis Clem. (1)
Xylohypha (Fr.) E.W. Mason (6)
Xylohyphopsis W.A. Baker & Partr. (3)
Yalomyces Nag Raj (6)
Yinmingella Goh, C.K.M. Tsui & K.D. Hyde (1)
Ypsilomyces D.A.C. Almeida & Gusmão (1)
Yuccamyces Gour, Dyko & B. Sutton (6)
Zakatoshia B. Sutton (2)
Zebrospora McKenzie (1)
Zelandiocoela Nag Raj (1)
Zelodactylaria A.C. Cruz, Gusmão & R.F. Castañeda (1)
Zelopelta B. Sutton & R.D. Gaur (1)
Zelosatchmopsis Nag Raj (1)
Zetesimomyces Nag Raj (1)
Zevadia J.C. David & D. Hawksw. (1)
Zilingia Petr. (1)
Zinzipegasa Nag Raj (1)
Zopheromyces B. Sutton & Hodges (1)
Zunura Nag Raj (1)
Zythia Fr. (1)
Zyxiphora B. Sutton (1)

BASIDIOLOMYCOTA Doweld

Basidiobolomycetes Doweld*

Basidiobolales Jacz. & P.A. Jacz.*

Basidiobolaceae Engl. & E. Gilg

Basidiobolus Eidam (10)

Schizangiella J. Dwyer, B. Burwell, Humber, C. Mcleod, M. Fleetwood & T. Johnson bis (1)

BASIDIOMYCOTA R.T. Moore

Basidiomycota R.T. Moore

Agaricomycotina Doweld

Agaricomycetes Doweld

Agaricales Underw.

Agaricaceae Chevall.

Abstoma G. Cunn. (8)

Acutocapillitium P. Ponce de León (3)

Agaricus L. (ca. 500)
Arachnion Schwein. (13)
Barcheria T. Lebel (1)
Battarrea Pers. (3)
Battarreoides T. Herrera (1)
Calvatiopsis Hollós (1)
Chamaemyces Battarra ex Earle (2)
Chlamydopus Speg. (1)
Chlorolepiota Sathe & S.D. Deshp. (3)
Chlorophyllum Masee (19)
Clarkeinda Kuntze (5)
Clavogaster Henn. (2)
Coniolepiota Vellinga (1)
Coprinus Pers. (ca. 17)
Crucispora E. Horak (2)
Cystolepiota Singer (ca. 12)
Dictyocephalos L.M. Underwood ex V.S. White (1)
Disciseda Czern. (15)
Echinoderma (Locq. ex Bon) Bon (ca. 15)
Endolepiotula Singer (1)
Eriocybe Vellinga (1)
Gasterellopsis Routien (1)
Glyptoderma R. Heim & Perr.-Bertr. (1)
Heinemannomyces Watling (2)
Hiatulopsis Singer & Grinling (2)
Holocotylon Lloyd (3)
Hymenagaricus Heinem. (20)
Janauaria Singer (1)
Japonogaster Kobayasi (1)
Lepiota (Pers.) Gray (ca. 450)
Leucoagaricus Locq. ex Singer (ca. 135)
Leucocoprinus Pat. (ca. 50)
Lycoperdopsis Henn. (1)
Macrolepiota Singer (ca. 40)
Melanophyllum Velen. (3)
Metrodia Raithelh. (2)
Micropsalliota Höhn. (ca. 70)
Montagnea Fr. (5)
Mycenastrum Desv. (18)
Neosecotium Singer & A.H. Sm. (2)
Panaeolopsis Singer (4)
Phellorinia Berk. (1)
Phyllogaster Pegler (1)
Podaxis Desv. (10)
Pseudoauricularia Kobayasi (1)
Pseudolepiota Z.W. Ge (1)
Queletia Fr. (2)
Rugosospora Heinem. (2)
Schinzinia Fayod (1)
Schizostoma Ehrenb. ex Lév. (1)
Singerina Sathe & S.D. Deshp. (1)
Smithiogaster J.E. Wright (1)

Smithiomyces Singer (3)
Termiticola E. Horak (1)
Tulostoma Pers. (ca. 83)
Xanthagaricus (Heinem.) Little Flower, Hosag. & T.K. Abraham (12)
Xerocoprinus Maire (1)

Amanitaceae E.-J. Gilbert

Amanita Pers. (ca. 570)
Catatrama Franco-Mol. (2)
Limacella Earle (ca. 15)
Limacellopsis Zhu L. Yang, Q. Cai & Y.Y. Cui (2)
Zhuliangomyces Redhead (5)

Biannulariaceae Jülich

Anupama K.N.A. Raj, K.P.D. Latha & Manim. (1)
Callistosporium Singer (14)
Catathelasma Lovejoy (4)
Guyanagarika Sánchez-García, T.W. Henkel & Aime (3)
Macrocybe Pegler & Lodge (7)
Pleurocollybia Singer (6)
Pseudolaccaria Vizzini, Contu & Z.W. Ge (1)

Bolbitiaceae Singer

Agrogaster D.A. Reid (1)
Bolbitius Fr. (ca. 70)
Conocybe Fayod (ca. 221)
Cyttarophyllopsis R. Heim (1)
Descolea Singer (ca. 15)
Galerella Earle (8)
Galeropsis Velen. (9)
Gymnoglossum Masee (1)
Pholiotina Fayod (56)
Ptychella Roze & Boud. (1)
Rhodoarrhenia Singer (8)
Tubariella E. Horak & Hauskn. (1)
Tubariopsis R. Heim (1)
Tympanella E. Horak (1)
Wielandomyces Raitelh. (1)

Broomeiaceae Zeller

Broomeia Berk. (2)

Chromocyphellaceae Knudsen

Chromocyphella De Toni & Levi (5)

Clavariaceae Chevall.

Camarophyllopsis Herink (26)
Clavaria Vaill. ex L. (32)
Clavicornia Doty (10)
Clavulinopsis Overeem (34)
Hirticlavula J.H. Petersen & Læssøe (1)
Hodophilus R. Heim (13)

Hyphodontiella Å. Strid (2)
Lamelloclavaria Birkebak & Adamčík (1)
Ramariopsis (Donk) Corner (48)
Setigeroclavula R.H. Petersen (1)

Cortinariaceae R. Heim ex Pouzar

Cortinarius (Pers.) Gray (ca. 2250)
Protoglossum Masee (8)
Pyrrhoglossum Singer (12)
Quadrispora Bougher & Castellano (3)
Stephanopus M.M. Moser & E. Horak (5)

Crassisporiaceae Vizzini, Consiglio & M. Marchetti

Crassisporium Matheny, P.-A. Moreau & Vizzini (3)
Romagnesiella Contu, Matheny, P.-A. Moreau, Vizzini & A. de Haan (2)

Crepidotaceae (S. Imai) Singer

Crepidotus (Fr.) Staude (ca. 200)
Episphaeria Donk (1)
Nanstelocephala Oberw. & R.H. Petersen (1)
Pellidiscus Donk (3)
Pleuroflammula Singer (10)
Simocybe P. Karst. (26)

Cyphellaceae Lotsy

Asterocyphella W.B. Cooke (3)
Campanophyllum Cifuentes & R.H. Petersen (1)
Catilla Pat. (1)
Cheimonophyllum Singer (4)
Chondrostereum Pouzar (4)
Cunninghammyces Stalpers (2)
Cyphella Fr. (2)
Gloeocorticium Hjortstam & Ryvarde (1)
Gloeostereum S. Ito & S. Imai (1)
Granulobasidium Jülich (1)
Hyphoradulum Pouzar (1)
Incrustocalyptella Agerer (3)
Phaeoporothelium (W.B. Cooke) W.B. Cooke (2)
Seticyphella Agerer (3)
Sphaerobasidioscypha Agerer (2)
Thujacorticium Ginns (1)

Cystostereaceae Jülich

Cericium Hjortstam (1)
Crustomyces Jülich (3)
Cystidodontia Hjortstam (2)
Cystostereum Pouzar (7)
Parvobasidium Jülich (3)
Parvodontia Hjortstam & Ryvarde (2)
Rigidotubus J. Song, Y.C. Dai & B.K. Cui (1)

Entolomataceae Kotl. & Pouzar

Clitocella Kluting, T.J. Baroni & Bergemann (6)
Clitopilopsis Maire (2)
Clitopilus (Fr. ex Rabenh.) P. Kumm. (ca. 140)
Entocybe T.J. Baroni, V. Hofst. & Largent (10)
Entoloma P. Kumm. (ca. 1800)
Rhodocybe Maire (ca. 50)
Rhodophana Kühner (7)

Hemigasteraceae Gäum. & C.W. Dodge
Hemigaster Juel (1)

Hydnangiaceae Gäum. & C.W. Dodge
Hydnangium Wallr. (ca. 20)
Laccaria Berk. & Broome (ca. 85)
Maccagnia Mattir. (1)
Podohydangium G.W. Beaton, Pegler & T.W.K. Young (1)

Hygrophoraceae Lotsy
Acantholichen P.M. Jørg. (6)
Aeruginospora Höhn. (2)
Ampulloclitocybe Redhead, Lutzoni, Moncalvo & Vilgalys (3)
Aphroditeola Redhead & Manfr. Binder (1)
Arrhenia Fr. (ca. 36)
Cantharocybe H.E. Bigelow & A.H. Sm. (3)
Chromosera Redhead, Ammirati & Norvell (5)
Chrysomphalina Cléménçon (4)
Cora Fr. (189)
Corella Vain. (2)
Cuphophyllus (Donk) Bon (ca. 25)
Cyphellostereum D.A. Reid (9)
Dictyonema C. Agardh ex Kunth (28)
Eonema Redhead, Lücking & Lawrey (1)
Gliophorus Herink (ca. 17)
Haasiella Kotl. & Pouzar (2)
Humidicutis (Singer) Singer (12)
Hygroaster Singer (3)
Hygrocybe (Fr.) P. Kumm. (ca. 120)
Hygrophorus Fr. (ca. 200)
Lichenomphalia Redhead, Lutzoni, Moncalvo & Vilgalys (14)
Neohygrocybe Herink (5)
Porpolomopsis Bresinsky (5)
Pseudoarmillariella Singer (3)
Semiomphalina Redhead (1)
Sinohygrocybe C.Q. Wang, Ming Zhang & T.H. Li (1)

Hymenogastraceae Vittad.
Anamika K.A. Thomas, Peintner, M.M. Moser & Manim. (3)
Flammula (Fr.) P. Kumm. (ca. 10)
Galerina Earle (ca. 250)
Gymnopilus P. Karst. (ca. 200)
Hebeloma (Fr.) P. Kumm. (ca. 190)
Hymenogaster Vittad. (c.170)

Naucoria (Fr.) P. Kumm. (30)
Phaeocollybia R. Heim (ca. 80)
Psathyroma Soop, J.A. Cooper & Dima (2)
Psilocybe (Fr.) P. Kumm. (ca. 326)

Inocybaceae Jülich

Auritella Matheny & Bougher (8)
Inocybe (Fr.) Fr. (ca. 1000)
Tubariomyces Esteve-Rav. & Matheny (3)

Limnoperdaceae G.A. Escobar

Limnoperdon G.A. Escobar (1)

Lycoperdaceae Chevall.

Apioperdon (Kreisel & D. Krüger) Vizzini (1)
Bovista Pers. *Bryoperdon* Vizzini (ca. 58)
Calbovista Morse ex M.T. Seidl (1)
Calvatia Fr. (ca. 43)
Gastropila Homrich & J.E. Wright (4)
Lycoperdon Pers. (ca. 55)
Morganella Zeller (7)

Lyophyllaceae Jülich

Asterophora Ditmar (3)
Blastosporella T.J. Baroni & Franco-Mol. (1)
Calocybe Kühner ex Donk (46)
Calocybella Vizzini, Consiglio & Setti (4)
Clitolyophyllum Sesli, Vizzini & Contu (1)
Gerhardtia Bon (ca. 7)
Hypsizygus Singer (3)
Lyophylloopsis Sathe & J.T. Daniel (1)
Lyophyllum P. Karst. (ca. 60)
Myochromella V. Hofst., Cléménçon, Moncalvo & Redhead (2)
Ossicaulis Redhead & Ginns (2)
Rugosomyces Raithelh. (ca. 12)
Sagaranelia V. Hofst., Cléménçon, Moncalvo & Redhead (4)
Sphagnurus Redhead & V. Hofst. (1)
Tephrocybe Donk (ca. 47)
Tephrocybella Picillo, Vizzini & Contu (1)
Termitomyces R. Heim (ca. 34)
Tricholomella Zerova ex Kalamees (1)

Macrocystidiaceae Kühner

Macrocystidia Joss. (5)

Marasmiaceae Roze ex Kühner

Amyloflagellula Singer (4)
Brunneocorticium Sheng H. Wu (1)
Campanella Henn. (ca. 39)
Chaetocalathus Singer (ca. 20)
Crinipellis Pat. (ca. 65)
Hymenogloea Pat. (1)

Marasmius Fr. (ca. 600)
Moniliophthora H.C. Evans, Stalpers, Samson & Benny (7)
Neocampanella Nakasone, Hibbett & Goranova (1)
Tetrapyrgos E. Horak (18)

Mycenaceae Overeem

Atheniella Redhead, Moncalvo, Vilgalys, Desjardin & B.A. Perry (7)
Cruentomyцена R.H. Petersen, Kovalenko & O.V. Morozova (3)
Decapitatus Redhead & Seifert (1)
Favolaschia (Pat.) Pat. (ca. 54)
Flabellimycena Redhead (1)
Heimiomyces Singer (ca. 7)
Hemimycena Singer (ca. 60)
Hydropus Kühner ex Singer (ca. 100)
Mycena (Pers.) Roussel (ca. 600)
Mycopan Redhead, Moncalvo & Vilgalys (1)
Panellus P. Karst. (ca. 55)
Resinomyцена Redhead & Singer (ca. 10)
Roridomyces Rexer (9)
Sarcomyxa P. Karst. (2)
Tectella Earle (3)
Xeromphalina Kühner & Maire (ca. 32)

Mythicomycetaceae Vizzini, Consiglio & M. Marchetti

Mythicomyces Redhead & A.H. Sm. (1)
Stagnicola Redhead & A.H. Sm. (1)

Niaceae Jülich

Digitatispora Doguet (2)
Flagelloscypha Donk (ca. 25)
Halocyphina Kohlm. & E. Kohlm. (1)
Lachnella Fr. (6)
Maireina W.B. Cooke (ca. 18)
Merismodes Earle (20)
Nia R.T. Moore & Meyers (3)
Peyronelina P.J. Fisher, J. Webster & D.F. Kane (1)
Woldmaria W.B. Cooke (1)

Omphalotaceae Bresinsky

Anthracophyllum Ces. (12)
Caripia Kuntze (1)
Connopus R.H. Petersen (1)
Gymnopanella Sand.-Leiva, J.V. McDonald & Thorn (1)
Gymnopus (Pers.) Gray (ca. 325)
Hymenoporus Tkalčec, Mešić & Chun Y. Deng (1)
Lentinula Earle (8)
Marasmiellus Murrill (ca. 260)
Mycetinis Earle (15)
Neonothopanus R.H. Petersen & Krisai (3)
Omphalotus Fayod (6)
Rhodocollybia Singer (ca. 35)
Paragymnopus J.S. Oliveira (6)

Pusillomyces J.S. Oliveira (3)

Physalacriaceae Corner

Anastrophella E. Horak & Desjardin (3)
Armillaria (Fr.) Staude (39)
Cibaomyces Zhu L. Yang, Y.J. Hao & J. Qin (1)
Cribbea A.H. Sm. & D.A. Reid (5)
Cryptomarasmius T.S. Jenkinson & Desjardin (15)
Cylindrobasidium Jülich (7)
Cyptotrampa Singer (16)
Dactylosporina (Cléménçon) Dörfelt (5)
Desarmillaria (Herink) R. A. Koch & Aime (2)
Epicnaphus Singer (2)
Flammulina P. Karst. (14)
Gloiocephala Masee (ca. 40)
Guyanagaster T.W. Henkel, M.E. Sm. & Aime (2)
Hymenopellis R.H. Petersen (ca. 50)
Laccariopsis Vizzini (1)
Manuripia Singer (1)
Mucidula Pat. (2)
Mycaureola Maire & Chemin (1)
Naiadolina Redhead, Labbé & Ginns (1)
Oudemansiella Speg. (ca. 20)
Paraxerula R.H. Petersen (4)
Physalacria Peck (33)
Ponticulomyces R.H. Petersen (2)
Protoxerula R.H. Petersen (1)
Rhizomarasmius R.H. Petersen (5)
Rhodotus Maire (2)
Strobilurus Singer (10)
Xerula Maire (ca. 17)

Pleurotaceae Kühner

Agaricochaete Eichelb. (4)
Hohenbuehelia Schulzer (ca. 50)
Lignomyces R.H. Petersen & Zmitr. (1)
Pleurotus (Fr.) P. Kumm. (25)
Resupinatus Nees ex Gray (33)

Pluteaceae Kotl. & Pouzar

Pluteus Fr. (ca. 500)
Volvariella Speg. (ca. 50)
Volvopluteus Vizzini, Contu & Justo (4)

Porotheleaceae Murrill

Phloeomana Redhead (6)
Porotheleum Fr. (ca. 16)

Psathyrellaceae Vilgalys, Moncalvo & Redhead

Coprinellus P. Karst. (70)
Coprinopsis P. Karst. (ca. 150)
Cystoagaricus Singer (7)

Gasteroagaricoides D.A. Reid (1)
Homophron (Britzelm.) Örstadius & E. Larss. (3)
Hormographiella Guarro & Gené (3)
Kauffmania Örstadius & E. Larss. (1)
Lacrymaria Pat. (14)
Macrometrula Donk & Singer (1)
Parasola Redhead, Vilgalys & Hopple (ca. 27)
Psathyrella (Fr.) Quél. (ca. 420)
Rhacophyllus Berk. & Broome (1)
Typhrasa Örstadius & E. Larss. (2)

Pseudoclitocybaceae Vizzini, Consiglio, P.-A. Moreau & P. Alvarado

Bonomyces Vizzini (3)
Cleistocybe Ammirati, A.D. Parker & Matheny (5)
Clitopaxillus G. Moreno, Vizzini, Consiglio & P. Alvarado (2)
Harmajaea Dima, P. Alvarado & Kekki (3)
Musumecia Vizzini & Contu (4)
Pogonoloma (Singer) Sánchez-García (3)
Pseudoclitocybe (Singer) Singer (16)

Pterulaceae Corner

Actiniceps Berk. & Broome (6)
Allantula Corner (1)
Aphanobasidium Jülich (17)
Chaetotyphula Corner (7)
Coronicium J. Erikss. & Ryvarde (5)
Deflexula Corner (ca. 11)
Lepidomyces Jülich (2)
Merulicium J. Erikss. & Ryvarde (1)
Parapterulicium Corner (3)
Pterula Fr. (ca. 50)
Pterulicium Corner (1)
Radulomyces M.P. Christ. (10)
Radulotubus Y.C. Dai, S.H. He & C.L. Zhao (1)

Schizophyllaceae Quél.

Auriculariopsis Maire (3)
Porodisculus Murrill (2)
Schizophyllum Fr. (6)

Stephanosporaceae Oberw. & E. Horak

Athelidium Oberw. (3)
Cristinia Parmasto (10)
Lindtneria Pilát (10)
Mayamontana Castellano, Trappe & Lodge (1)
Stephanospora Pat. (6)

Strophariaceae Singer & A.H. Sm.

Agrocybe Fayod (ca. 100)
Bogbodia Redhead (1)
Brauniella Rick ex Singer (1)
Deconica (W.G. Sm.) P. Karst. (44)

Hypholoma (Fr.) P. Kumm. (ca. 45)
Leratiomyces Bresinsky & Manfr. Binder ex Bridge, Spooner, Beever & D.C. Park (13)
Melanotus Pat. (ca. 33)
Pholiota (Fr.) P. Kumm. (ca. 157)
Protostropharia Redhead, Moncalvo & Vilgalys (14)
Pseudogymnopilus Raithelh. (1)
Stropharia (Fr.) Quél. (ca. 20)

Tricholomataceae R. Heim ex Pouzar

Albomagister Sánchez-García, Birkebak & Matheny (2)
Corneriella Sánchez-García (3)
Dennisiomyces Singer (5)
Dermoloma J.E. Lange ex Herink (ca. 25)
Leucopaxillus Boursier (ca. 16)
Porpoloma Singer (ca. 13)
Pseudobaeospora Singer (ca. 26)
Pseudoporpoloma Vizzini & Consiglio (1)
Pseudotricholoma (Singer) Sánchez-García & Matheny (2)
Tricholoma (Fr.) Staude (ca. 210)

Tubariaceae Vizzini

Cyclocybe Velen. (6)
Flammulaster Earle (10)
Hemistropharia Jacobsson & E. Larss. (1)
Pachylepyrium Singer (1)
Phaeomarasmius Scherff. (ca. 20)
Pleuromyces Dima, P.-A. Moreau & V. Papp (1)*
Tubaria (W.G. Sm.) Gillet (ca. 21)

Typhulaceae Jülich

Lutypha Khurana, K.S. Thind & Berthier (1)
Macrotyphula R.H. Petersen (6)
Tygervalleyomyces Crous (1)
Typhula (Pers.) Fr. (ca. 100)

***Agaricales* genera incertae sedis**

Acanthocorticium Baltazar, Gorjón & Rajchenb. (1)
Acinophora Raf. (1)
Aleurocystis Lloyd ex G. Cunn. (3)
Amparoina Singer (2)
Amylolepiota Harmaja (1)
Aphyllotus Singer (1)
Arthromyces T.J. Baroni & Lodge (2)
Arthrosporella Singer (1)
Asproincybe R. Heim (5)
Aspropaxillus Kühner & Maire (3)
Atractosporocybe P. Alvarado, G. Moreno & Vizzini (2)
Austroclitocybe Raithelh. (2)
Austroomphaliaster Garrido (1)
Baeospora Singer (13)
Callistodermatium Singer (1)
Calyptella Quél. (20)

Caulorhiza Lennox (3)
Cellypha Donk (10)
Cephaloscypha Agerer (1)
Cercopomyces T.J. Baroni, Kropp & V.S. Evenson (3)
Clavomphalia E. Horak (1)
Clitocybe (Fr.) Staude (ca. 300)
Clitocybula (Singer) Singer ex Métrod (25)
Coccobotrys Boud. & Pat. (2)
Collybia (Fr.) Staude (3)
Conchomyces Overeem (2)
Crucibulum Tul. & C. Tul. (7)
Cyathus Haller (ca. 59)
Cymatella Pat. (4)
Cymatellopsis Parmasto (1)
Cynema Maas Geest. & E. Horak (1)
Cyphellocalathus Agerer (1)
Cystoderma Fayod (ca. 36)
Cystodermella Harmaja (16)
Deigloria Agerer (5)
Delicatula Fayod (ca. 3)
Dendrocollybia R.H. Petersen & Redhead (1)
Dendrothele Höhn. & Litsch. (58)
Disporotrichum Stalpers (1)
Fayodia Kühner (ca. 10)
Fibulochlamys A.I. Romero & Cabral (2)
Fissolimbus E. Horak (1)
Fistulina Bull. (9)
Floccularia Pouzar (6)
Gamundia Raithelh. (ca. 7)
Gerronema Singer (58)
Giacomia Vizzini & Contu (1)
Glabrocypbella W.B. Cooke (12)
Gloioxanthomyces Lodge, Vizzini, Ercole & Boertm. (2)
Gramincola Velen. (1)
Hemipholiota (Singer) Bon (2)*
Henningsomyces Kuntze (ca. 21)
Hispidocalyptella E. Horak & Desjardin (1)
Hygrophorocybe Vizzini & Contu (1)
Infundibulicybe Harmaja (22)
Lactocollybia Singer (20)
Lecanocybe Desjardin & E. Horak (1)
Lepista (Fr.) W.G. Sm. (ca. 50)
Lepistella T.J. Baroni & Ovrebo (ca. 50)
Leucocalocybe X.D. Yu & Y.J. Yao (1)
Leucocortinarius (J.E. Lange) Singer (1)
Leucocybe Vizzini, P. Alvarado, G. Moreno & Consiglio (3)
Leucoinocybe Singer ex Antonín, Borovička, Holec & Kolařík (3)
Leucopholiota (Romagn.) O.K. Mill., T.J. Volk & Bessette (2)
Lignomphalia Antonín, Borovička, Holec & Kolařík (1)
Lulesia Singer (3)
Lycogalopsis E. Fisch. (1)
Megacollybia Kotl. & Pouzar (9)

Melanoleuca Pat. (ca. 60)
Melanomphalia M.P. Christ. (1)
Meotatomyces Vizzini (1)
Mesophelliopsis Bat. & A.F. Vital (1)
Metraria (Cooke) Cooke & Massee (2)
Metulocyphella Agerer (2)
Mucronella Fr. (8)
Mycenella (J.E. Lange) Singer (10)
Mycoalvimia Singer (1)
Mycocalia J.T. Palmer (7)
Mycospongia Velen. (1)
Myxomphalia Hora (ca. 2)
Neoclitocybe Singer (11)
Neopaxillus Singer (6)
Nidula V.S. White (6)
Nidularia Fr. (3)
Nochascypha Agerer (3)
Notholepista Vizzini & Contu (1)
Omphaliaster Lamoure (7)
Omphalina Quél. (ca. 50)
Palaeocephala Singer (1)
Panaeolina Maire (2)
Panaeolus (Fr.) Quél. (15)
Paralepistopsis Vizzini (2)
Peglerochaete Sarwal & Locq. (1)
Pegleromyces Singer (1)
Phaeodepas D.A. Reid (2)
Phaeolepiota Maire ex Konrad & Maubl. (1)
Phaeomycena R. Heim ex Singer & Digilio (5)
Phaeopholiota Locq. & Sarwal (1)
Phlebonema R. Heim (1)
Phlebophyllum R. Heim (1)
Phyllotopsis E.-J. Gilbert & Donk ex Singer (5)
Physocystidium Singer (1)
Pleurella E. Horak (1)
Pleurocybella Singer (5)
Plicatura Peck (1)
Polygaster Fr. (1)
Pseudoclitopilus Vizzini & Contu (2)
Pseudofistulina O. Fidalgo & M. Fidalgo (3)
Pseudohiatula (Singer) Singer (ca. 5)
Pseudohygrophorus Velen. (1)
Pseudolasiobolus Agerer (1)
Pseudoomphalina (Singer) Singer (ca. 6)
Pseudotyphula Corner (1)
Radulomycetopsis Dhingra, Priyanka & J. Kaur (1)
Rectipilus Agerer (11)
Rhizocybe Vizzini, G. Moreno, P. Alvarado & Consiglio (4)
Rimbachia Pat. (11)
Ripartitella Singer (1)
Ripartites P. Karst. (5)
Secotium Kunze (ca. 10)

Singerocybe Harmaja (7)
Skepperiella Pilát (4)
Squamanita Imbach (10)
Stanglomyces Raitelh. (1)
Stemastrum Raf. (1)
Stromatocyphella W.B. Cooke (3)
Tephroderma Contu & Musumeci (1)
Trichocybe Vizzini (1)
Tricholomopsis Singer (ca. 33)
Tricholosporum Guzmán (7)
Trogia Fr. (ca. 94)
Ugola Adans. (3)
Vanromburghia Holterm. (1)
Verrucospora E. Horak (2)

Amylocorticiales K.H. Larss., Manfr. Binder & Hibbett

Amylocorticiaceae Jülich

Amyloathelia Hjortstam & Ryvarde (3)
Amylocorticiellum Spirin & Zmitr. (4)
Amylocorticium Pouzar (11)
Amyloxyenasma (Oberw.) Hjortstam & Ryvarde (6)
Anomoloma Niemelä & K.H. Larss. (6)
Anomoporia Pouzar (8)
Ceraceomyces Jülich (16)
Irpicodon Pouzar (1)
Plicaturopsis D.A. Reid (2)
Podoserpula D.A. Reid (2)
Serpulomyces (Zmitr.) Zmitr. (1)

Atheliales Jülich

Atheliaceae Jülich

Amphinema P. Karst. (4)
Athelia Pers. (32)
Athelium K.H. Larss. & Hjortstam (2)
Athelocystis Hjortstam & Ryvarde (1)
Athelopsis Oberw. ex Parmasto (14)
Butlerelfia Weresub & Illman (1)
Bysocorticium Bondartsev & Singer (11)
Elaphocephala Pouzar (1)
Hypochnella J. Schröt. (2)
Hypochniciellum Hjortstam & Ryvarde (1)
Leptosporomyces Jülich (15)
Lobulium K.H. Larss. & Hjortstam (1)
Lyoathelia Hjortstam & Ryvarde (1)
Melzerium Hauerslev (3)
Mycostigma Jülich (1)
Piloderma Jülich (6)
Pteridomyces Jülich (4)
Taeniospora Marvanová (2)
Tretomyces K.H. Larss., Kotir. & Saaren. (2)
Tylospora Donk (2)

Auriculariales J. Schröt.

Auriculariaceae Fr.

- Amphistereum* Spirin & Malysheva (2)
- Auricularia* Bull. (ca. 21)
- Eichleriella* Bres. (ca. 14)
- Elmerina* Bres. (7)
- Exidia* Fr. (ca. 26)
- Exidiopsis* (Bref.) Möller (ca. 30)
- Fibulosebacea* K. Wells & Raitv. (1)
- Heterochaete* Pat. (ca. 40)
- Heteroradulum* Lloyd ex Spirin & Malysheva (7)
- Protodaedalea* Imazeki (2)
- Pseudostypella* McNabb (1)
- Sclerotrema* Spirin & Malysheva (1)

Hyaloriaceae Lindau

- Helicomysa* R. Kirschner & Chee J. Chen (1)
- Hyaloria* Möller (3)
- Myxarium* Wallr. (14)

Auriculariales genera *incertae sedis*

- Basidi dendron* Rick (ca. 15)
- Bourdotia* (Bres.) Bres. & Torrend (1)
- Ceratosebacina* P. Roberts (3)
- Dendrogloeon* Spirin & Miettinen (1)
- Ductifera* Lloyd (ca. 11)
- Endoperplexa* P. Roberts (6)
- Gelacantha* V. Malysheva & Spirin (1)
- Grammatus* H.S. Yuan & C. Decock (2)
- Guepinia* Fr. (1)
- Hauerslevia* P. Roberts (1)
- Heterorepetobasidium* Chee J. Chen & Oberw. (2)
- Heteroscypha* Oberw. & Agerer (1)
- Hyalodon* V. Malysheva & Spirin (2)
- Hydrophana* V. Malysheva & Spirin (1)
- Metabourdotia* L.S. Olive (1)
- Microsebacina* P. Roberts (2)
- Mycostilla* Spirin & V. Malysheva (1)
- Myxariellum* Spirin & V. Malysheva (2)
- Ofella* Spirin & V. Malysheva (1)
- Porpopycnis* R. Kirschner (1)
- Protoacia* Spirin & V. Malysheva (1)
- Protodontia* Höhn. (3)
- Protograndinia* Rick (1)
- Protohydnum* Möller (3)
- Protomerulius* Möller (7)
- Protoradulum* Rick (1)
- Pseudohydnum* P. Karst. (1)
- Renatobasidium* Hauerslev (1)
- Stypella* Möller (4)
- Stypellopsis* Spirin & V. Malysheva (2)
- Tremellacantha* Jülich (1)

Boletales E.-J. Gilbert

Boletaceae Chevall.

- Afroboletus* Pegler & T.W.K. Young (8)
Afrocastellanoa M.E. Sm. & Orihara (1)
Alessioporos Gelardi, Vizzini & Simonini (2)
Aureoboletus Pouzar (33)
Australopilus Halling & N.A. Fechner (1)
Austroboletus (Corner) Wolfe (ca. 36)
Baorangia G. Wu & Zhu L. Yang (4)
Binderoboletus T.W. Henkel & M.E. Sm. (1)
Boletellus Murrill (ca. 50)
Boletochaete Singer (5)
Boletus L. (ca. 350)
Borofutus Hosen & Zhu L. Yang (1)
Bothia Halling, T.J. Baroni & Manfr. Binder (2)
Buchwaldoboletus Pilát (11)
Butyriboletus Arora & J.L. Frank (ca. 25)
Caloboletus Vizzini (14)
Carolinigaster M.E. Sm. & S. Cruz (1)
Castellanea T.W. Henkel & M.E. Sm. (1)
Chalciporus Bataille (ca. 30)
Chamonixia Rolland (8)
Chiua Y.C. Li & Zhu L. Yang (4)
Corneroboletus N.K. Zeng & Zhu L. Yang (1)
Costatisporus T.W. Henkel & M.E. Sm. (1)
Crocinoletus N.K. Zeng, Zhu L. Yang & G. Wu (2)
Cupreoboletus Simonini, Gelardi & Vizzini (1)
Cyanoboletus Gelardi, Vizzini & Simonini (7)
Durianella Desjardin, A.W. Wilson & Manfr. Binder (1)
Erythrophylloporus Ming Zhang & T.H. Li (1)
Fistulinella Henn. (ca. 25)
Gastroboletus Lohwag (14)
Gastroleccinum Thiers (1)
Guyanaporus T.W. Henkel & M.E. Sm. (1)
Gymnogaster J.W. Cribb (1)
Harrya Halling, Nuhn & Osmundson (6)
Heimioporus E. Horak (14)
Heliogaster Orihara & K. Iwase (1)
Hemileccinum Šutara (5)
Hortiboletus Simonini, Vizzini & Gelardi (7)
Hourangia Xue T. Zhu & Zhu L. Yang (4)
Hymenoboletus Y.C. Li & Zhu L. Yang (1)
Imleria Vizzini (5)
Imperator G. Koller, Assyov, Bellanger, Bertéa, Loizides, G. Marques, P.-A. Moreau, J.A. Muñoz, Oppicelli, Puddu & F. Richard (3)
Indoporus A. Parihar, K. Das, Hembrom & Vizzini (1)
Ionosporus O. Khmel'nitsky (2)
Jimtrappea T.W. Henkel, M.E. Sm. & Aime (2)
Kombocles Castellano, T.W. Henkel & Dentinger (1)
Lanmaoa G. Wu & Zhu L. Yang (7)
Leccinellum Bresinsky & Manfr. Binder (17)
Leccinum Gray (ca. 130)

Mackintoshia Pacioni & Sharp (1)
Mucilopilus Wolfe (1)
Mycoamaranthus Castellano, Trappe & Malajczuk (3)
Neoboletus Gelardi, Simonini & Vizzini (11)
Nigroboletus Gelardi, Vizzini, E. Horak, T.H. Li & Ming Zhang (1)
Octaviania Vittad. (ca. 40)
Parvixerocomus G. Wu & Zhu L. Yang (2)
Paxillogaster E. Horak (1)
Phylloboletellus Singer (1)
Phyllobolites Singer (1)
Phylloporus Qué. (ca. 90)
Porphyrellus E.-J. Gilbert (ca. 20)
Pseudoaustroboletus Y.C. Li & Zhu L. Yang (3)
Pseudoboletus Šutara (2)
Pulchroboletus Gelardi, Vizzini & Simonini (1)
Pulveroboletus Murrill (38)
Retiboletus Manfr. Binder & Bresinsky (12)
Rheubarbariboletus Vizzini, Simonini & Gelardi (2)
Rhodactina Pegler & T.W.K. Young (3)
Rossbiveera T. Lebel, Orihara & N. Maek. (10)
Royoungia Castellano, Trappe & Malajczuk (6)
Rubroboletus Kuan Zhao & Zhu L. Yang (14)
Rugiboletus G. Wu & Zhu L. Yang (2)
Setogyroporus Heinem. & Rammeloo (1)
Singerocomus T.W. Henkel & M.E. Sm. (2)
Singeromyces M.M. Moser (1)
Soliococcus Trappe, Osmundson, Manfr. Binder, Castellano & Halling (1)
Spongiforma Desjardin, Manfr. Binder, Roekring & Flegel (2)
Spongispora G. Wu, S.M.L. Lee, E. Horak & Zhu L. Yang (1)
Strobilomyces Berk. (ca. 27)
Suillellus Murrill (23)
Sutorius Halling, Nuhn & N.A. Fechner (2)
Tengioboletus G. Wu & Zhu L. Yang (2)
Tubosaeta E. Horak (6)
Turmalinea Orihara & N. Maek. (4)
Tylocinum Y.C. Li & Zhu L. Yang (1)
Tylopilus P. Karst. (ca. 100)
Veloporphyrellus L.D. Gómez & Singer (7)
Wakefieldia Corner & Hawker (2)
Xanthoconium Singer (10)
Xerocomellus Šutara (17)
Xerocomus Qué. (ca. 120)
Zangia Y.C. Li & Zhu L. Yang (6)

Boletinellaceae P.M. Kirk, P.F. Cannon & J.C. David

Boletinellus Murrill (1)
Phlebopus (R. Heim) Singer (14)

Calostomataceae E. Fisch.

Calostoma Desv. (16)

Coniophoraceae Ulbr.

Chrysoconia McCabe & G.A. Escobar (1)
Coniophora DC. (20)
Coniophoropsis Hjortstam & Ryvarde (2)
Gyrodontium Pat. (3)
Sedecula Zeller (1)

Diplocystidiaceae Kreisel

Astraeus Morgan (11)
Diplocystis Berk. & M.A. Curtis (2)
Endogonopsis R. Heim (1)
Tremellogaster E. Fisch. (1)

Gasterellaceae Zeller

Gasterella Zeller & L.B. Walker (1)

Gomphidiaceae Maire ex Jülich

Chroogomphus (Singer) O.K. Mill. (25)*
Cystogomphus Singer (1)
Gomphidius Fr. (10)
Gomphogaster O.K. Mill. (1)

Gyroporaceae (Singer) Manfr. Binder & Bresinsky

Gyroporus Qué. (24)

Hygrophoropsidaceae Kühner

Hygrophoropsis (J. Schröt.) Maire ex Martin-Sans (16)
Leucogyrophana Pouzar (13)

Paxillaceae Lotsy

Alpova C.W. Dodge (16)
Austrogaster Singer (4)
Gyrodon Opat. (10)
Hoehnelogaster Lohwag (1)
Hydnomerulius Jarosch & Besl (1)
Meiorganum R. Heim (3)
Melanogaster Corda (ca. 26)
Neoalpova Vizzini (1)
Paragyrodon (Singer) Singer (1)
Paxillus Fr. (19)

Protogastraceae Zeller

Protogaster Thaxt. (1)

Rhizopogonaceae Gäum. & C.W. Dodge

Fevansia Trappe & Castellano (1)
Rhizopogon Fr. (ca. 157)
Rhopalogaster J.R. Johnst. (1)

Sclerodermataceae Corda

Chlorogaster Læssøe & Jalink (1)
Favillea Fr. (2)
Horakiella Castellano & Trappe (2)

Pisolithus Alb. & Schwein. (17)
Scleroderma Pers. (ca. 46)

Serpulaceae Jarosch & Bresinsky
Austropaxillus Bresinsky & Jarosch (9)
Gymnopaxillus E. Horak (4)
Serpula (Pers.) Gray (ca. 11)

Suillaceae Besl & Bresinsky
Psiloboletinus Singer (1)
Suillus Gray (ca. 60)

Tapinellaceae C. Hahn
Bondarcevomyces Parmasto (1)
Pseudomerulius Jülich (4)
Tapinella E.-J. Gilbert (2)

Boletales genera *incertae sedis*
Corditubera Henn. (5)
Corneromyces Ginns (2)
Marthanella States & Fogel (1)
Phaeoradulum Pat. (1)

Cantharellales Gäum.

Aphelariaceae Corner
Aphelaria Corner (20)
Phaeoaphelaria Corner (1)
Tumidapexus D.A. Crawford (1)

Botryobasidiaceae Jülich
Acladium Link (20)
Allescheriella Henn. (5)
Alysidium Kunze (4)
Botryobasidium Donk (ca. 58)
Suillosporium Pouzar (4)

Ceratobasidiaceae G.W. Martin
Ceratobasidium D.P. Rogers (ca. 19)
Ceratoporia Ryvarden & de Meijer (1)
Ceratorhiza R.T. Moore (7)
Rhizoctonia DC. (ca. 50)
Scotomyces Jülich (1)
Thanatephorus Donk (12)

Hydnaceae Chevall.
Burgoa Goid. (9)
Burgella Diederich & Lawrey (2)
Burgellopsis Diederich & Lawrey (1)
Cantharellus Adans.ex Fr. (ca. 300)
Clavulina J. Schröt. (ca. 75)
Corallofungus Kobayasi (2)
Craterellus Pers. (ca. 80)

Gloeomucro R.H. Petersen (10)
Hydnum L. (49)
Ingoldiella D.E. Shaw (3)
Membranomyces Jülich (1)
Multiclavula R.H. Petersen (13)
Neoburgoa Diederich, E. Zimm. & Lawrey (1)
Parastereopsis Corner (1)
Osteomorpha G. Arnaud ex Watling & W.B. Kendr. (1)
Paulliacortium J. Erikss. (5)
Repetobasidiellum J. Erikss. & Hjortstam (1)
Repetobasidium J. Erikss. (12)
Rogersiomyces J.L. Crane & Schokn. (2)
Sistotrema Fr. (ca. 55)
Sistotremella Hjortstam (3)

Oliveoniaceae P. Roberts
Oliveonia Donk (5)

Tulasnellaceae Juel
Pseudotulasnella Lowy (1)
Tulasnella J. Schröt. (ca. 70)

Cantharellales genera *incertae sedis*
Boidinella Nakasone (2)
Bulbilla Diederich, Flakus & Etayo (1)
Clavulicium Boidin (3)
Minimedusa Weresub & P.M. LeClair (3)
Odontiochaete Rick (1)
Radulochaete Rick (2)
Schildia Franchi & M. Marchetti (1)
Stilbotulasnella Oberw. & Bandoni (1)

Corticiales K.H. Larss.
Corticaceae Herter
Capillosclerotium Prameela & Deeba (1)
Corticirama Pilát (2)
Corticium Pers. (25)
Erythricium J. Erikss. & Hjortstam (6)
Galzinia Bourdot (9)
Giulia Tassi (1)
Laetisaria (Burds. (7)
Lawreymyces Lücking & Moncada (7)
Marchandiomyces Diederich & D. Hawksw. (3)
Necator Masee (1)
Tretopileus B.O. Dodge (3)
Waitea Warcup & P.H.B. Talbot (1)

Dendrominiaceae Ghobad-Nejhad
Dendrominia Ghobad-Nejhad & Duhem (4)

Punctulariaceae Donk
Dendrocortium M.J. Larsen & Gilb. (9)

Punctularia Pat. (2)
Punctulariopsis Ghobad-Nejhad (4)

Vuilleminiaceae Maire ex Lotsy

Australovuilleminia Ghobad-Nejhad & Hallenb. (1)
Cytidia Quéf. (5)
Vuilleminia Maire (8)

Corticiales genera *incertae sedis*

Ambivina Katz (1)
Amylobasidium Ginns (1)
Leptocorticium Hjortstam & Ryvarden (8)
Melzerodontia Hjortstam & Ryvarden (3)
Nothocorticium Gresl. & Rajchenb. (1)
Papyrodiscus D. A. Reid (1)
Ripexicium Hjortstam (1)

Geastrales K. Hosaka & Castellano

Geastraceae Corda

Geasteroides Long (1)
Geastrum Pers. (130)
Myriostoma Desv. (4)
Nidulariopsis Greis (2)
Phialastrum Sunhede (1)
Schenella T. Macbr. (4)
Sphaerobolus Tode (3)

Sclerogastraceae Locq. ex P. M. Kirk

Sclerogaster R. Hesse (11)

Geastrales genus *incertae sedis*

Boninogaster Kobayasi (1)

Gloeophyllales Thorn

Gloeophyllaceae Jülich

Boreostereum Parmasto (4)
Campylomyces Nakasone (2)
Chaetodermella Rauschert (1)
Gloeophyllum P. Karst. (13)
Griseoporia Ginns (2)
Heliocybe Redhead & Ginns (1)
Hispidaedalea Y. C. Dai & S.H. He (1)
Mycothele Jülich (1)
Neolentinus Redhead & Ginns (14)
Osmoporus Singer (2)
Stiptophyllum Ryvarden (1)
Veluticeps Cooke (12)

Gloeophyllales genus *incertae sedis*

Pileodon P. Roberts & Hjortstam (2)

Gomphales Jülich

Clavariadelphaceae Corner

Beenakia D. A. Reid (7)

Clavariadelphus Donk (20)

Gomphaceae Donk

Araeocoryne Corner (1)

Ceratellopsis Konrad & Maubl. (9)

Delentaria Corner (1)

Destuntzia Fogel & Trappe (5)

Gautieria Vittad. (37)

Gloeocantharellus Singer (12)

Gomphus Pers. (7)

Phaeoclavulina Brinkmann (41)

Protogautieria A. H. Sm. (2)

Pseudogomphus R. Heim (1)

Ramaria Fr. ex Bonord. (230)

Ramaricium J. Erikss. (5)

Terenodon Maas Geest. (1)

Turbinellus Earle (5)

Lentariaceae Jülich

Hydnocristella R.H. Petersen (2)

Kavinia Pilát (4)

Lentaria Corner (19)

Hymenochaetales Oberw.

Hymenochaetaceae Donk

Arambarria Rajchenb. & Pildain (1)

Asterodon Pat. (1)

Aurificaria D.A. Reid (2)

Botryodontia (Hjortstam & Ryvarden) Hjortstam (6)

Clavariachaete Corner (2)

Coltricia Gray (40)

Coltriciella Murrill (13)

Coniferiporia L.W. Zhou & Y. C. Dai (3)

Cylindrosporus L.W. Zhou (1)

Deviodontia (Parmasto) Hjortstam & Ryvarden (1)

Dichochaete Parmasto (2)

Erythromyces Hjortstam & Ryvarden (1)

Fomitiporella Murrill (13)

Fomitiporia Murrill (46)

Fulvifomes Murrill (33)

Fuscoporia Murrill (62)

Hastodontia (Parmasto) Hjortstam & Ryvarden (2)

Hydnochaete Bres. (1)

Hymenochaete Lév. (149)

Hymenochaetopsis S. H. He & Jiao Yang (16)

Inocutis Fiasson & Niemelä (9)

Inonotopsis Parmasto (1)

Inonotus P. Karst. (120)

Mensularia Lázaro Ibiza (6)

Neomensularia F. Wu, L. W. Zhou & Y.C. Dai (4)

Nothophellinus Rajchenb. (1)
Onnia P. Karst. (8)
Phellinidium (Kotl.) Fiasson & Niemelä (5)
Phellinopsis Y. C. Dai (10)
Phellinotus Drechsler-Santos, Robledo & Rajchenb. (2)
Phellinus Quél. (202)
Phellopilus Niemelä, T. Wagner & M. Fisch. (1)
Phylloporia Murrill (38)
Porodaedalea Murrill (14)
Pseudoinonotus T. Wagner & M. Fisch. (8)
Pyrrhoderma Imazeki (2)
Sanghuangporus Sheng H. Wu, L.W. Zhou & Y. C. Dai (13)
Tropicoporus L.W. Zhou, Y. C. Dai & Sheng H. Wu (12)
Tubulicrinis Donk (34)
Xanthoporia Murrill (3)

Neoantrodidiellaceae Y.C. Dai, B. K. Cui, Jia J. Chen & H. S. Yuan
Neoantrodidiella Y. C. Dai, B. K. Cui, Jia J. Chen & H.S. Yuan (2)

Nigrofomitaceae Jülich
Nigrofomes Murrill (3)

Oxyporaceae Zmitr. & V. Malysheva
Oxyporus (Bourdot & Galzin) Donk (18)

Rickenellaceae Vizzini
Alloclavaria Dentinger & D. J. McLaughlin (1)
Atheloderma Parmasto (2)
Contumyces Redhead, Moncalvo, Vilgalys & Lutzoni (3)
Cotylidia P. Karst. (10)
Globulicium Hjortstam (1)
Peniophorella P. Karst. (25)
Resinicium Parmasto (8)
Rickenella Raitheh. (10)

Schizoporaceae Jülich
Alutaceodontia (Parmasto) Hjortstam & Ryvarde (1)
Basidioradulum Nobles (1)
Echinoporia Ryvarde (3)
Fibrodontia Parmasto (6)
Hyphodontia J. Erikss. (86)
Lagarobasidium Jülich (5)
Leucophellinus Bondartsev & Singer (1)
Paratrachaptum Corner (1)
Poriodontia Parmasto (1)
Rogersella Liberta & A.J. Navas (1)
Odontiopsis Hjortstam & Ryvarde (2)
Schizopora Velen. (7)
Xylodon (Pers.) Gray (60)

Hymenochaetales genera *incertae sedis*
Caeruleomyces Stalpers (1)

Cantharellopsis Kuyper (1)
Cyanotrama Ghobad-Nejhad & Y.C. Dai (1)
Fibricium J. Erikss. (5)
Ginnsia Sheng H. Wu & Hallenb. (1)
Gyroflexus Raithelh. (1)
Kurtia Karasiński (3)
Lawryomyces Karasiński (1)
Muscinipta Redhead, Lücking & Lawrey (1)
Physodontia Ryvarden & H. Solheim (1)
Sidera Miettinen & K. H. Larss. (6)
Skvortzovia Bononi & Hjortstam (1)
Subulicium Hjortstam & Ryvarden (3)
Trichaptum Murrill (27)
Tsugacorticium Nakasone & Burds. (1)

Hysterangiales K. Hosaka & Castellano

Gallaceaceae Locq. ex P. M. Kirk

Austrogautieria E. L. Stewart & Trappe (7)
Gallacea Lloyd (6)
Hallingea Castellano (3)

Hysterangiaceae E. Fisch.

Aroramyces Castellano & Verbeken (5)
Circulocolumella S. Ito & S. Imai (1)
Clathrogaster Petri (2)
Hysterangium Vittad. (54)

Mesophelliaceae Jülich

Andebbia Trappe, Castellano & Amar. (1)
Castoreum Cooke & Masee (3)
Chondrogaster Maire (2)
Gummiglobus Trappe, Castellano & Amar. (2)
Gummivena Trappe & Bougher (1)
Malajczukia Trappe & Castellano (8)
Mesophellia Berk. (15)
Nothocastoreum G. W. Beaton (1)

Phallogastraceae Locq.

Phallogaster Morgan (1)
Protubera Möller (13)

Trappeaceae P.M. Kirk

Phallobata G. Cunn. (1)
Restingomyces Sulzbacher, Grebenc & Baseia (1)
Trappea Castellano (1)

Jaapiales Manfr. Binder, K. H. Larss. & Hibbett

Jaapiaceae Manfr. Binder, K. H. Larss. & Hibbett

Jaapia Bres. (2)

Lepidostromatales B.P. Hodk. & Lücking

Lepidostromataceae Ertz, Eb. Fisch., Killmann, Sérus. & Lawrey

Ertzia B.P. Hodk. & Lücking (1)
Lepidostroma Mägd. & S. Winkl. (1)
Sulzbacheromyces B. P. Hodk. & Lücking (6)

Phallales E. Fisch.

Claustulaceae G. Cunn.

Claustula K.M. Curtis (1)
Gelopellis Zeller (6)
Kjeldsenia W. Colgan, Castellano & Bougher (1)
Phlebogaster Fogel (2)
Pseudogelopellis K. Tao & B. Liu (1)

Gastrosporiaceae Pilát

Gastrosporium Mattir. (2)

Phallaceae Corda

Abrachium Baseia & T. S. Cabral (1)
Aporophallus Möller (1)
Aseroë Labill. (2)
Blumenavia Möller (3)
Calvarula Zeller (1)
Clathrus P. Micheli ex L. (20)
Colus Cavalier & Séchier (4)
Echinophallus Henn. (1)
Endoclathrus B. Liu, Yin H. Liu & Z.J. Gu (1)
Endophallus M. Zang & R. H. Petersen (1)
Ileodictyon Tul. & C. Tul. (2)
Itajahya Möller (4)
Kobayasia S. Imai & A. Kawam. (1)
Laternea Turpin (2)
Ligiella J.A. Sáenz (1)
Lysurus Fr. (30)
Mutinus Fr. (21)
Neolysurus O. K. Mill., Ovrebo & Burk (1)
Phallus Junius ex L. (34)
Protuberella S. Imai & A. Kawam. (1)
Pseudoclathrus B. Liu & Y.S. Bau (5)
Pseudocolus Lloyd (2)
Staheliomyces E. Fisch. (1)
Staurophallus Mont. (1)
Stephanophallus MacOwan (1)
Xylophallus (Schltld.) E. Fisch. (2)

Phallales genera *incertae sedis*

Saprogaster Fogel & States (1)
Vandasiasia Velen. (1)

Polyporales Gäum.

Cerrenaceae Miettinen, Justo & Hibbett

Cerrena Gray (7)
Irpiciporus Murrill (1)
Pseudolagarobasidium J. C. Jang & T. Chen (7)

Radulodon Ryvarden (11)

Dacrybolaceae Jülich

Amylocystis Bondartsev & Singer ex Singer (1)
Dacryobolus Fr. (7)
Jahnoporus Nuss (4)
Oligoporus Bref. (15)
Osteina Donk (1)
Postia Fr. (40)
Spongiporus Murrill (7)

Fomitopsidaceae Jülich*

Adustoporia Audet (1)
Anthoporia Karasiński & Niemelä (1)
Antrodia P. Karst. (80)
Antrodiopsis Audet (1)
Brunneoporus Audet (5)
Buglossoporus Kotl. & Pouzar (9)
Daedalea Pers. (12)
Dentiporus Audet (1)
Flavidoporia Audet (3)
Fomitopsis P. Karst. (40)
Fragifomes B. K. Cui, M.L. Han & Y. C. Dai (1)
Laricifomes Kotl. & Pouzar (1)
Lentoporia Audet (1)
Neoantrodia Audet (13)
Neolentiporus Rajchenb. (2)
Niveoporofomes B. K. Cui, M. L. Han & Y. C. Dai (1)
Ranadivia Zmitr. (5)*
Resinoporia Audet (11)
Rhizoporia Audet (1)
Rhodofomes Kotl. & Pouzar (5)
Rhodofomitopsis B.K. Cui, M. L. Han & Y. C. Dai (4)
Rubellofomes B. K. Cui, M.L. Han & Y. C. Dai (2)
Subantrodia Audet (2)
Ungulidaedalea B. K. Cui, M.L. Han & Y. C. Dai (1)
Wolfiporia Ryvarden & Gilb. (6)

Fragiliporiaceae Y. C. Dai, B.K. Cui & C. L. Zhao

Fragiliporia Y. C. Dai, B.K. Cui & C. L. Zhao (1)

Gelatoporiaceae Miettinen, Justo & Hibbett

Cinereomyces Jülich (2)
Gelatoporia Niemelä (2)
Obba Miettinen & Rajchenb. (2)
Sebipora Miettinen (1)

Grifolaceae Jülich

Aegis Gómez-Montoya, Rajchenb. & Robledo (1)
Grifola Gray (5)

Hyphodermataceae Jülich

Hyphoderma Fr. (20)

***Incrustoporiaceae* Jülich**

Gloeoporellus Zmitr. (1)*
Incrustoporia Domanski (5)
Piloporia Niemelä (2)
Skeletocutis Kotl. & Pouzar (40)
Tyromyces P. Karst. (41)

***Irpicaceae* Spirin & Zmitr.**

Byssomerulius Parmasto (8)
Ceriporia Donk (ca. 50)
Cytdiella Pouzar (2)
Efibula Sheng H. Wu (18)
Emmia Zmitr., Spirin & Malysheva (2)
Flavodon Ryvarde (3)
Gloeoporus Mont. (13)
Hydnopolyporus D. A. Reid (2)
Irpex Fr. (10)
Leptoporus Qué. (1)
Meruliopsis Bondartsev (4)
Raduliporus Spirin & Zmitr. (1)
Resiniporus Zmitr. (2)*
Trametopsis Tomšovský (4)

***Ischnodermataceae* Jülich**

Ischnoderma P. Karst. (10)

***Laetiporaceae* Jülich**

Kusaghiporia J. Hussein, S. Tibell & Tubuhwa (1)*
Laetiporus Murrill (15)
Phaeolus (Pat.) Pat. (3)

***Meripilaceae* Jülich**

Meripilus P. Karst. (5)
Pseudonadsoniella T. O. Kondr. & S. Y. Kondr. (1)
Rigidoporus Murrill (30)

***Meruliaceae* Rea**

Aurantipileus Ginns, D. L. Lindner & T. J. Baroni (3)
Aurantiporus Murrill (6)
Ceriporiopsis Domański (40)
Climacodon P. Karst. (7)
Crustodontia Hjortstam & Ryvarde (1)
Geesterania Westphalen, Tomšovský & Rajchenb. (2)*
Hermanssonia Zmitr. (1)*
Hydnophanerochaete Sheng H. Wu & C.C. Chen (1)*
Hydnophlebia Parmasto (5)
Lilaceophlebia (Parmasto) Spirin & Zmitr. (2)
Luteoporia F. Wu, Jia J. Chen & S. H. He (1)
Merulius Fr. (150)
Mycoacia Donk (16)

Mycoaciella J. Erikss. & Ryvarden (5)
Odoria V. Papp & Dima (1)
Pappia Zmitr. (1)*
Phlebia Fr. (60)
Phlebiporia Jia J. Chen, B. K. Cui & Y. C. Dai (1)
Physisporinus P. Karst. (15)
Sarcodontia Schulzer (1)
Scopuloides (Masse) Höhn. & Litsch. (5)
Stereophlebia Zmitr. (1)*

Panaceae Miettinen, Justo & Hibbett

Cymatoderma Jungh. (11)
Panus Fr. (20)

Phanerochaetaceae Jülich

Bjerkandera P. Karst. (5)
Crepatura C.L. Zhao (1)*
Donkia Pilát (1)
Efibulella Zmitr. (1)
Geliporus Yuan Yuan, Jia J. Chen & S. H. He (1)
Hapalopilus P. Karst. (11)
Hyphodermella J. Erikss. & Ryvarden (7)
Odontoefibula C. C. Chen & Sheng H. Wu (1)*
Oxychaete Miettinen (1)
Phaeophlebiopsis D. Floudas & Hibbett (3)
Phanerina Miettinen (1)
Phanerochaete P. Karst. (80)
Phlebiopsis Jülich (22)
Pirex Hjortstam & Ryvarden (1)
Porostereum Pilát (15)
Rhizochaete Gresl., Nakasone & Rajchenb. (13)
Riopa D.A. Reid (3)
Terana Adans. (1)

Podoscyphaceae D.A. Reid

Abortiporus Murrill (4)
Podoscypha Pat. (36)
Pouzaroporia Vampola (1)

Polyporaceae Fr. ex Corda

Abundisporus Ryvarden (8)
Amauroderma Murrill (40)
Atroporus Ryvarden (3)
Australoporus P.K. Buchanan & Ryvarden (1)
Bresadolia Speg. (4)*
Cerarioporia F. Wu, L.W. Zhou & J. Si (1)
Cerioporus Quél. (15)
Cinereomycetella Zmitr. (1)*
Colospora Miettinen & Spirin (2)
Coriolopsis Murrill (19)
Cryptoporus (Peck) Shear (2)
Daedaleopsis J. Schröt. (7)

Datronia Donk (9)
Datroniella B.K. Cui, Hai J. Li & Y.C. Dai (6)
Dentocorticium (Parmasto) M.J. Larsen & Gilb. (3)*
Dextrinoporus H.S. Yuan (1)*
Dichomitus D.A. Reid (13)
Donkioporia Kotl. & Pouzar (2)
Donkioporiella L.W. Zhou (1)
Earliella Murrill (1)
Echinochaete D.A. Reid (5)
Endopandanicola Tibpromma & K.D. Hyde (1)
Epithele (Pat.) Pat. (17)
Epithelopsis Jülich (2)
Favolus Fr. (20)
Flammeopellis Y.C. Dai, B.K. Cui & C.L. Zhao (1)
Fomes (Fr.) Fr. (3)
Fomitella Murrill (2)
Globifomes Murrill (1)
Foraminispora Robledo, Costa-Rezende & Drechsler-Santos (1)
Funalia Pat. (10)
Furtadoa Costa-Rezende, Robledo & Drechsler-Santos (3)
Ganoderma P. Karst. (180)
Grammothele Berk. & M.A. Curtis (20)
Grammothelopsis Jülich (7)
Haddowia Steyaert (3)
Haploporus Bondartsev & Singer (13)
Hexagonia Fr. (17)
Hornodermoporus Teixeira (2)
Humphreya Steyaert (4)
Laccocephalum Mc Alpine & Tepper (5)
Leifiporia Y.C. Dai, F. Wu & C.L. Zhao (2)
Lentinus Fr. (55)
Lignosus Lloyd ex Torrend (8)
Lopharia Kalchbr. & MacOwan (7)
Megasporia B.K. Cui, Y.C. Dai & Hai J. Li (10)
Megasporoporia Ryvarde & J.E. Wright (3)
Megasporoporiella B.K. Cui, Y.C. Dai & Hai J. Li (5)
Melanoderma B.K. Cui & Y.C. Dai (2)
Microporellus Murrill (20)
Microporus P. Beauv. (13)
Mollicarpus Ginns (1)
Murinicarpus B.K. Cui & Y.C. Dai (2)
Myriothele Nakasone (1)
Navisporus Ryvarde (8)
Neodatronia B.K. Cui, Hai J. Li & Y.C. Dai (2)
Neodictyopus Palacio, Robledo, Reck & Drechsler-Santos (3)
Neofavolus Sotome & T. Hatt. (4)
Neofomitella Y.C. Dai, Hai J. Li & Vlasák (3)
Pachykytospora Kotl. & Pouzar (4)
Perenniporia Murrill (100)
Perenniporiella Decock & Ryvarde (5)
Perenniporiopsis C.L. Zhao (1)
Phaeotrametes Lloyd ex J. E. Wright (1)

Picipes Zmitr. & Kovalenko (16)
Pilatotrama Zmitr. (1)*
Podofomes Pouzar (3)
Polyporopsis Audet (1)
Polyporus [P. Micheli ex Adans.] Fr. (35)
Porogramme (Pat.) Pat. (4)
Pseudofavolus Pat. (4)
Pseudomegasporoporia X.H. Ji & F. Wu (1)
Pseudopiptoporus Ryvarden (2)
Pyrofomes Kotl. & Pouzar (8)
Rubroporus Log.-Leite, Ryvarden & Groposo (1)
Sparsitubus L.W. Hsu & J.D. Zhao (1)
Szczepkamyces Zmitr. (1)*
Theleporus Fr. (9)
Thermophymatospora Udagawa, Awao & Abdullah (1)
Tinctoporellus Ryvarden (4)
Tomophagus Murrill (2)
Trametes Fr. (70)
Truncospora Pilát (23)
Vanderbylia D.A. Reid (7)
Yuchengia B.K. Cui & K.T. Steffen (1)

Sparassidaceae Jülich

Crustoderma Parmasto (16)
Pycnoporellus Murrill (2)
Sparassis Fr. (7)

Steccherinaceae Parmasto

Antella Miettinen (3)
Antrodiella Ryvarden & I. Johans. (50)
Atraporrella Ryvarden (2)
Austeria Miettinen (1)
Butyrea Miettinen (2)
Cabalodontia Piątek (5)
Caudicicola Miettinen, M. Kulju & Kotir. (1)
Citripora Miettinen (2)
Elaphroporia Z.Q. Wu & C.L. Zhao (1)
Flabellophora G. Cunn. (18)
Flaviporus Murrill (14)
Frantisekia Spirin & Zmitr. (4)
Junghuhnia Corda (35)
Lamelloporus Ryvarden (1)
Loweomyces (Kotl. & Pouzar) Jülich (6)
Metuloidea G. Cunn. (5)
Mycorrhaphium Maas Geest. (6)
Niemelaea Zmitr., Ezhov & Khimich (5)
Nigroporus Murrill (3)
Steccherinum Gray (40)
Trullella Zmitr. (6)*
Xanthoporus Audet (2)

***Polyporales* genera incertae sedis**

- Aegeritopsis* Höhn. (1)
Amaropostia B.K. Cui, L.L. Shen & Y.C. Dai (2)
Amaurohydnum Jülich (1)
Amauromyces Jülich (1)
Amethicium Hjortstam (1)
Amyloporia Singer (5)
Aquascypha D.A. Reid (1)
Auriporia Ryvarden (4)
Australicium Hjortstam & Ryvarden (2)
Australohydnum Jülich (2)
Austrolentinus Ryvarden (1)
Bourdotiella Duhem & Schultheis (1)
Bulbillomyces Jülich (1)
Calcipostia B.K. Cui, L.L. Shen & Y.C. Dai (1)
Candelabrochaete Boidin (12)
Climacocystis Kotl. & Pouzar (2)
Columnodontia Jülich (1)
Conohypha Jülich (2)
Coralloderma D.A. Reid (2)
Cordochaete Sanyal, Samita, Dhingra & Avn. P. Singh (1)
Cryptomphalina R. Heim (1)
Cyanodontia Hjortstam (1)
Cyanosporus McGinty (1)
Cystidiopostia B.K. Cui, L.L. Shen & Y.C. Dai (3)
Dendrophlebia Dhingra & Priyanka (1)
Diacanthodes Singer (3)
Diplomitoporus Domański (25)
Erastia Niemelä & Kinnunen (1)
Faerberia Pouzar (1)
Fibroporia Parmasto (10)
Fuscopostia B.K. Cui, L.L. Shen & Y.C. Dai (4)
Gilbertsonia Parmasto (1)
Globosomyces Jülich (1)
Globuliciopsis Hjortstam & Ryvarden (2)
Gyrophanopsis Jülich (2)
Henningsia Möller (5)
Hymenogramme Mont. & Berk. (1)
Hyphodontiastra Hjortstam (1)
Hypochnicium J. Erikss. (30)
Inflatostereum D.A. Reid (2)
Irpicochaete Rick (1)
Laetifomes T. Hatt. (1)
Macrohyporia I. Johans. & Ryvarden (2)
Meruliophana Duhem & Buyck (1)
Mycoleptodonoides Nikol. (4)
Mycorrhaphoides Hembrom, K. Das & Hallenb. (1)
Nigrohydnum Ryvarden (1)
Phaneroites Hjortstam & Ryvarden (1)
Phanerodontia Hjortstam & Ryvarden (4)
Phlebiella P.Karst. (20)
Piptoporellus B.K. Cui, M.L. Han & Y.C. Dai (3)

Pseudofibroporia Yuan Y. Chen, B.K. Cui & Y.C. Dai (1)
Repetobasidiopsis Dhingra & Avn. P. Singh (1)
Rhodonina Niemelä (1)
Rickiopora Westphalen, Tomšovský & Rajchenb. (1)
Roseofavolus T. Hatt. (1)
Roseograndinia Hjortstam & Ryvarden (1)
Ryvardenia Rajchenb. (2)
Sarcoporia P. Karst. (9)
Skeletohydnum Jülich (1)
Sparassiella Schwarzman (1)
Spathulina Pat. (1)
Spongioides Lázaro Ibiza (1)
Spongipellis Pat. (8)
Stegiacantha Maas Geest. (1)
Taiwanofungus Sheng H. Wu, Z.H. Yu, Y.C. Dai & C.H. Su (2)
Uncobasidium Hjortstam & Ryvarden (2)

Russulales Kreisel ex P. M. Kirk, P. F. Cannon & J. C. David

Albatrellaceae Nuss

Albatrellopsis Teixeira (8)
Albatrellus Gray (22)
Byssoporia M.J. Larsen & Zak (1)
Leucogaster R. Hesse (20)
Leucophleps Harkn. (3)
Mycolevis A.H. Sm. (1)
Polyporoletus Snell (4)
Scutiger Paulet (10)

Auriscalpiaceae Maas Geest.

Amylonotus Ryvarden (6)
Artomyces Jülich (17)
Auriscalpium Gray (8)
Dentipratulum Domański (3)
Lentinellus P. Karst. (30)
Stalpersia Parmasto (1)

Bondarzewiaceae Kotl. & Pouzar

Amylaria Corner (1)
Amylosporus Ryvarden (12)
Bondarzewia Singer (14)
Gloiodon P. Karst. (3)
Heterobasidion Bref. (15)
Laurilia Pouzar (2)
Lauriliella Nakasone & S.H. He (2)
Stecchericium D.A. Reid (7)
Wrightoporia Pouzar (32)

Echinodontiaceae Donk

Echinodontiellum S.H. He & Nakasone (1)
Echinodontium Ellis & Everh. (4)
Larssoniporia Y.C. Dai, Jia J. Chen & B.K. Cui (2)

Hericiaceae Donk

- Dentipellicula* Y.C. Dai & L.W. Zhou (3)
- Dentipellis* Donk (7)
- Hericium* Pers. (23)
- Laxitextum* Lentz (3)
- Pseudowrightoporia* Y.C. Dai, Jia J. Chen & B.K. Cui (10)
- Wrightoporiopsis* Y.C. Dai, Jia J. Chen & B.K. Cui (5)

Hybogasteraceae Jülich

- Hybogaster* Singer (1)

Peniophoraceae Lotsy

- Amylofungus* Sheng H. Wu (2)
- Asterostroma* Masee (19)
- Baltazaria* Leal-Dutra, Dentinger & G.W. Griff. (4)
- Dendrophora* (Parmasto) Chamuris (3)
- Dichostereum* Pilát (11)
- Duportella* Pat. (13)
- Entomocorticium* H.S. Whitney, Bandoni & Oberw. (1)
- Gloiothele* Bres. (12)
- Lachnocladium* Lév. (40)
- Licrostroma* P.A. Lemke (1)
- Metulodontia* Parmasto (1)
- Peniophora* Cooke (60)
- Sceptrulum* K.H. Larss. (1)
- Scytinostroma* Donk (35)
- Vararia* P. Karst. (50)
- Vesiculomyces* E. Hagstr. (1)

Russulaceae Lotsy

- Boidinia* Stalpers & Hjortstam (11)
- Gloeopeniophorella* Rick (6)
- Lactarius* Pers. (450)
- Lactifluus* (Pers.) Roussel (207)
- Multifurca* Buyck & V. Hofst. (10)
- Pseudoxenasma* K.H. Larss. & Hjortstam (1)
- Russula* Pers. (>3000)

Stereaceae Pilát

- Acanthobasidium* Oberw. (6)
- Acanthofungus* Sheng H. Wu, Boidin & C.Y. Chien (6)
- Acanthophysellum* Parmasto (14)
- Acanthophysium* (Pilát) G. Cunn. (20)
- Aleurobotrys* Boidin (10)
- Aleurodiscus* Rabenh. ex J. Schröt. (27)
- Aleuromyces* Boidin & Gilles (1)
- Amylohyphus* Ryvarden (1)
- Amylosporomyces* S. S. Rattan (2)
- Confertextum* Priyanka & Dhingra (2)
- Conferticum* Hallenb. (4)
- Dextrinocystidium* Sheng H. Wu (2)
- Gloeocystidiellum* Donk (8)

Gloeocystidiopsis Jülich (1)
Gloeomyces Sheng H. Wu (3)
Gloeosoma Bres. (1)
Matula Masee (2)
Megalocystidium Jülich (7)
Neoaleurodiscus Sheng H. Wu (2)
Scotoderma Jülich (1)
Stereum Hill ex Pers. (40)
Xylobolus P. Karst. (10)

Xenasmataceae Oberw.

Xenasma Donk (16)
Xenasmatella Oberw. (14)
Xenosperma Oberw. (4)

Russulales genera *incertae sedis*

Aleurocystidiellum P.A. Lemke (3)
Dentipellopsis Y.C. Dai & L.W. Zhou (1)
Dichantharellus Corner (2)
Dichopleuropus D. A. Reid (1)
Gleoasterostroma Rick (1)
Gloeodontia Boidin (8)
Gloehypochnicium (Parmasto) Hjortstam (2)
Haloaleurodiscus N. Maek., Suhara & K. Kinjo (1)
Laeticutis Audet (1)
Neoalbatrellus Audet (4)
Perplexostereum Ryvarden & S. Tutka (1)
Polypus Audet (1)
Scopulodontia Hjortstam (3)
Scytinostromella Parmasto (6)
Xeroceps Audet (2)

Sebacinales M. Weiss, Selosse, Rexer, A. Urb. & Oberw.

Sebacinaceae K. Wells & Oberw.

Chaetospermum Sacc. (4)
Ditangium P. Karst. (3)
Efibulobasidium K. Wells (1)
Globulisebacina Oberw., Garnica & K. Riess (2)
Helvellosebacina Oberw., Garnica & K. Riess (2)
Paulisebacina Oberw., Garnica & K. Riess (1)
Sebacina Tul. & C. Tul. (17)
Tremelloscypha D.A. Reid (4)

Serendipitaceae M. Weiss, Waller, A. Zuccaro & Selosse

Serendipita P. Roberts (11)

Stereopsidales Sjökvist, E. Larss., B.E. Pfeil & K.H. Larss.

Stereopsidaceae Sjökvist, E. Larss., B.E. Pfeil & K.H. Larss.

Stereopsis D.A. Reid (15)

Thelephorales Corner ex Oberw.

Bankeraceae Donk

Bankera Coker & Beers ex Pouzar (8)
Boletopsis Fayod (10)
Corneroporus T. Hatt. (1)
Hydnellum P. Karst. (39)
Sarcodon Quéél. ex P. Karst. (49)

Thelephoraceae Chevall.

Amaurodon J. Schröt (10)
Lenzitopsis Malençon & Bertault (2)
Phellodon P. Karst. (18)
Polyozellus Murrill (1)
Pseudotomentella Svrček (17)
Skepperia Berk. (5)
Thelephora Ehrh. ex Willd. (50)
Tomentella Pers. ex Pat. (100)
Tomentellopsis Hjortstam (8)

Thelephorales genus *incertae sedis*

Thelephorella P. Karst. (1)

Trechisporales K.H. Larss.

Hydnodontaceae Jülich

Brevicellicium K. H. Larss. & Hjortstam (13)
Dextrinocystis Gilb. & M. Blackw. (2)
Dextrinodontia Hjortstam & Ryvarde (1)
Hydnodon Banker (1)
Litschauerella Oberw. (3)
Luellia K.H. Larss. & Hjortstam (3)
Porpomyces Jülich (1)
Scytinopogon Singer (5)
Sistotremastrum J. Erikss. (6)
Sphaerobasidium Oberw. (3)
Subulicystidium Parmasto (20)
Trechispora P. Karst. (48)
Tubulicium Oberw. (7)

Tremellodendropsidales Vizzini

Tremellodendropsidaceae Jülich

Tremellodendropsis (Corner) D.A. Crawford (8)

Agaricomycetes genera *incertae sedis*

Akenomyces G. Arnaud ex D. Hornby (1)
Aldridgea Masee (1)
Arthrodochium R.F. Castañeda & W.B. Kendr. (1)
Arualis Katz (1)
Blasiphalia Redhead (1)
Bridgeoporus T.J. Volk, Burds. & Ammirati (2)
Cenangiomycetes Dyko & B. Sutton (1)
Ceraceopsis Hjortstam & Ryvarde (1)
Cilicia Fr. (2)
Corticomyces A.I. Romero & S. E. López (1)
Cruciger R. Kirschner & Oberw. (1)

Dendrosporomyces Nawawi, J. Webster & R.A. Davey (1)
Ellula Nag Raj (1)
Fibulocoela Nag Raj (1)
Fibulotaeniella Marvanová & BärI. (1)
Geotrichopsis Tzean & Estey (1)
Gloeosynnema Seifert & G. Okada (2)
Glomerulomyces A.I. Romero & S.E. López (1)
Glutinoagger Sivan. & Watling (1)
Hallenbergia Dhingra & Priyanka (1)
Heteroacanthella Oberw. (3)
Intextomyces J. Erikss. & Ryvarden (4)
Korupella Hjortstam & P. Roberts (1)
Loreleia Redhead, Moncalvo, Vilgalys & Lutzoni (3)
Minostroscyta Hjortstam & Ryvarden (1)
Mylittopsis Pat. (1)
Myriococcum Fr. (1)
Odonticium Parmasto (7)
Pagidospora Drechsler (1)
Phlyctibasidium Jülich (1)
Purpureocorticium S.H. Wu (1)
Pycnovellomyces R.F. Castañeda (1)
Riessia Fresen. (5)
Riessiella Jülich (2)
Taiwanoporia T.T. Chang & W.N. Chou (1)
Titaeella G. Arnaud ex K. Ando & Tubaki (1)
Trechinothus E.C. Martini & Trichiès (1)
Trimitiella Dhingra (1)
Tubulicrinopsis Hjortstam & Kotir. (4)
Xerotus Fr. (4)

Bartheletiomycetes Thines

Bartheletiales Thines

Bartheletiaceae R. Bauer, Scheuer, M. Lutz & Grube

Bartheletia G. Arnaud ex Scheuer, R. Bauer, M. Lutz, Stabenth., Melnik & Grube (1)

Dacrymycetes Doweld

Dacrymycetales Henn.

Cerinomycetaceae Jülich

Cerinomyces G. W. Martin (13)

Dacrymycetaceae J. Schröt.

Calocera (Fr.) Fr. (18)

Cerinosterus R.T. Moore (1)

Dacrymyces Nees (50)

Dacryonaema Nannf. (1)

Dacryopinax G.W. Martin (24)

Dacryoscyphus R. Kirschner & Zhu L. Yang (1)

Ditiola Fr. (10)

Femsjonina Fr. (7)

Guepiniopsis Pat. (8)

Heterotextus Lloyd (6)

Unilacrymales Shirouzu, Tokum. & Oberw.
Unilacrymaceae Shirouzu, Tokum. & Oberw.
Unilacryma Shirouzu, Tokum. & Oberw. (1)

Tremellomycetes Doweld
Cystofilobasidiales Fell, Roeyjms & Boekhout
Cystofilobasidiaceae K. Wells & Bandoni
Cystofilobasidium Oberw. & Bandoni (8)

Mrakiaceae X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout
Itersonilia Derx (3)
Krasilnikovozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (3)
Mrakia Y. Yamada & Komag. (12)
Phaffia M.W. Mill., Yoney. & Soneda (1)
Tausonia Babeva (3)
Udeniomyces Nakase & Takem. (4)
Vustinia Kachalkin, Turchetti & Yurkov (1)

Filobasidiales Jülich
Filobasidiaceae L.S. Olive
Filobasidium L.S. Olive (9)
Goffeauzyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (6)
Heterocephalacria Berthier (8)
Naganishia S. Goto (8)
Syzygospora G.W. Martin (2)

Piskurozymaceae X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout
Piskurozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (12)
Solicoccozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (7)

Holtermanniales Libkind, Wuczk., Turchetti & Boekhout
Holtermanniaceae Redhead
Holtermannia Sacc. & Traverso (8)
Holtermanniella Libkind, Wuczk., Turchetti & Boekhout (5)

Tremellales Fr.
Bulleraceae X. Zh. Liu, F.Y. Bai, M. Groenew. & Boekhout
Bullera Derx (4)
Fonsecazyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (3)
Genolevuria X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (4)
Pseudotremella X.Z. Liu, F.Y. Bai, A.M. Yurkov, M. Groenew. & Boekhout (4)

Bulleribasidiaceae X. Z. Liu, F.Y. Bai, M. Groenew. & Boekhout
Bulleribasidium J.P. Samp., M. Weiss & R. Bauer (11)
Deroxomyces F.Y. Bai & Q.M. Wang (24)
Dioszegia Zsolt (18)
Hannaella F.Y. Bai & Q.M. Wang (11)
Nielozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (2)
Vishniacozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (11)

Carcinomycetaceae Oberw. & Bandoni
Carcinomyces Oberw. & Bandoni (3)

Cryptococcaceae Kütz. ex Castell. & Chalm.

Cryptococcus Vuill. (12)

Kwoniella Statzell & Fell (14)

Cuniculitremaeae J.P. Samp., R. Kirschner & M. Weiss

Fellomyces Y. Yamada & I. Banno (4)

Kockovaella Nakase, I. Banno & Y. Yamada (19)

Sterigmatosporidium G. Kraep. & U. Schulze (1)

Naemateliaceae X. Z. Liu, F. Y. Bai, M. Groenew. & Boekhout

Dimennazyma X. Z. Liu, F. Y. Bai, M. Groenew. & Boekhout (1)

Naematelia Fr. (4)

Phaeotremellaceae A.M. Yurkov & Boekhout

Gelidatrema A.M. Yurkov, X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (1)

Phaeotremella Rea (11)

Phragmoxenidiaceae Oberw. & R. Bauer

Phragmoxenidium Oberw. (1)

Rhynchogastremaceae Oberw. & B. Metzler

Papiliotrema J.P. Samp., M. Weiss & R. Bauer (30)

Rhynchogastrema B. Metzler & Oberw. (9)

Tetragoniomyces Oberw. & Bandoni (1)

Sirobasidiaceae Lindau

Fibulobasidium Bandoni (3)

Tremellaceae Fr.

Hormomyces Bonord. (6)

Mycocryptococcus Pollacci & Nann. (1)

Tremella Pers. (>500)

Trimorphomycetaceae X. Z. Liu, F.Y. Bai, M. Groenew. & Boekhout

Carlosrosaea A.M. Yurkov, X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (3)

Saitozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (4)

Sugitazyma A.M. Yurkov, X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (1)

Trimorphomyces Bandoni & Oberw. (2)

Tremellales genera *incertae sedis*

Biatoropsis Räsänen (4)

Dictyotremella Kobayasi (1)

Neotremella Lowy (1)

Sigmogloea Bandoni & J.C. Krug (1)

Sirobasidium Lagerh. & Pat. (8)

Sirotrema Bandoni (3)

Tremellina Bandoni (1)

Xenolachne D.P. Rogers (2)

Trichosporonales Boekhout & Fell

Tetragoniomycetaceae Oberw. & Bandoni

Bandonia A.M. Yurkov, X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (1)

Cryptotrichosporon Okoli & Boekhout (5)

Takashimella Q.M. Wang (4)

Trichosporonaceae Nann.

Apiotrichum Stautz (21)

Cutaneotrichosporon X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (15)

Effuseotrichosporon A.M. Yurkov, X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (1)

Haglerozyma X.Z. Liu, F.Y. Bai, M. Groenew. & Boekhout (1)

Pascua Takashima, Manabe, Nishimura, Sriswasdi, Ohkuma, Iwasaki & Sugita (1)

Prillingera Takashima, Manabe, Nishimura, Sriswasdi, Ohkuma, Iwasaki & Sugita (1)

Trichosporon Behrend (12)

Vanrija R. T. Moore (9)

Tremellomycetes genera *incertae sedis*

Heteromycophaga P. Roberts (2)

Phyllopta (Fr.) Fr. (1)

Trichosporonoides Haskins & J.F.T. Spencer (6)

Pucciniomycotina R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Agaricostilbomycetes R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Agaricostilbales Oberw. & R. Bauer

Agaricostilbaceae Oberw. & R. Bauer

Agaricostilbum J.E. Wright (4)

Pseudobensingtonia F.Y. Bai, Q.M. Wang, M. Groenewald & Boekhout (2)

Sterigmatomyces Fell (5)

Chionosphaeraceae Oberw. & Bandoni

Ballistosporomyces Nakase, G. Okada & Sugiy. (4)

Chionosphaera D.E. Cox (6)

Cystobasidiopsis R. Bauer, B. Metzler, Begerow & Oberw. (3)

Kurtzmanomyces Y. Yamada, Itoh, H. Kawas., I. Banno & Nakase (4)

Stilbum Tode (10)

Kondoaceae R. Bauer, Begerow, J. P. Samp., M. Weiss & Oberw.

Bensingtonia Ingold (5)

Kondoa Y. Yamada, Nakagawa & I. Banno (10)

Ruineniaceae Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout

Ruinenia Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (5)

Agaricostilbales genera *incertae sedis*

Jianyunia Q. M. Wang, F. Y. Bai, M. Groenew. & Boekhout (1)

Mycogloea L. S. Olive (7)

Atractiellomycetes R. Bauer, Begerow, J. P. Samp., M. Weiss & Oberw.

Atractiellales Oberw. & Bandoni

Atractogloeaceae Oberw. & R. Bauer

Atractogloea Oberw. & Bandoni (1)

Hoehnelomycetaceae Jülich

Basidiopycnis Oberw., R. Kirschner, R. Bauer, Begerow & Arenal (1)

Proceropycnis M. Villarreal, Arenal, V. Rubio, Begerow, R. Bauer, R. Kirschner & Oberw.
(2)

Phleogenaceae Gäum.

Atractidochium Oono, Urbina & Aime (1)
Atractiella Sacc. (7)
Bourdotigloea Aime (9)
Helicogloea Pat. (25)
Hobsonia Berk. ex Masee (2)
Phleogena Link (1)
Saccosoma Spirin (9)

Classiculomycetes R. Bauer, Begerow, J. P. Samp., M. Weiss & Oberw.

Classiculales R. Bauer, Begerow, Oberw. & Marvanová

Classiculaceae R. Bauer, Begerow, Oberw. & Marvanová

Classicula R. Bauer, Begerow, Oberw. & Marvanová (2)
Jaculispora H. J. Huds. & Ingold (1)

Cryptomycocolacomycetes R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Cryptomycocolacales Oberw. & R. Bauer

Cryptomycocolacaceae Oberw. & R. Bauer

Colacosiphon R. Kirschner, R. Bauer & Oberw. (1)
Cryptomycocolax Oberw. & R. Bauer (1)

Cystobasidiomycetes R. Bauer, Begerow, J. P. Samp., M. Weiss & Oberw.

Buckleyzymales R.L. Zhao & K.D. Hyde

Buckleyzymaceae Q. M. Wang, F.Y. Bai, M. Groenew. & Boekhout

Buckleyzyma Q. M. Wang, F.Y. Bai, M. Groenew. & Boekhout (5)

Cystobasidiales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Cystobasidiaceae Gäum.

Cystobasidium (Lagerh.) Neuhoff (20)
Halobasidium Z. Guo, Y.R. Wang, Q.C. Hou, W.C. Li, H. J. Zhao, Z. H. Sun & Z.D. Zhang
(1)
Occultifur Oberw. (?9)

Erythrobasidiales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Erythrobasidiaceae Denchev

Bannoa Hamam. (4)
Erythrobasidium Hamam, Sugiy. & Komag. (3)

Erythrobasidiales genera *incertae sedis*

Cyphobasidium Millanes, Diederich & Wedin (2)
Cyrenella Goch. (1)
Hasegawazyma Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)

Naohideales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Naohideaceae Denchev

Naohidea Oberw. (1)

Sakaguchiales R.L. Zhao & K. D. Hyde

Sakaguchiaceae Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout

Sakaguchia Y. Yamada, K. Maeda & Mikata (5)

Cystobasidiomycetes families *incertae sedis*

Microsporomycetaceae Q.M. Wang, F. Y. Bai, M. Groenew. & Boekhout

Microsporomyces Q.M. Wang, F. Y. Bai, M. Groenew. & Boekhout (4)

Symmetrosporaceae Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout

Symmetrospora Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (10)

Cystobasidiomycetes genus *incertae sedis*

Queiroziella C.R. Félix, J.D.P. Bezerra, R.P. Neves & Landell (1)

Microbotryomycetes R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Heterogastridiales Oberw. & R. Bauer

Heterogastridiaceae Oberw. & R. Bauer

Hyalopycnis Höhn. (1)

Krieglsteinera Pouzar (1)

Pycnopulvinus Toome & Aime (1)

Kriegeriales Toome & Aime

Camptobasidiaceae R.T. Moore

Camptobasidium Marvanová & Suberkr. (1)

Glaciozyma Turchetti, Connell, Thomas-Hall & Boekhout (4)

Kriegeriaceae Toome & Aime

Kriegeria Bres. (1)

Meredithblackwellia Toome & Aime (1)

Phenoliferia Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (4)

Yamadamyces Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)

Leucosporidiales Sampaio, M. Weiss & Bauer

Leucosporidiaceae Sampaio, M. Weiss & Bauer

Leucosporidium Fell, Statzell, I.L. Hunter & Phaff (11)

Microbotryales R. Bauer & Oberw.

Microbotryaceae R.T. Moore

Bauerago Vánky (9)

Microbotryum Lév. (100)

Sphacelotheca de Bary (50)

Zundeliomyces Vánky (1)

Ustilentylomataceae R. Bauer & Oberw.

Aurantiosporium M. Piepenbr., Vánky & Oberw. (4)

Fulvisporium Vánky (1)

Microbotryozyma S.O. Suh, D.A. Maslov, Molestina & J.J. Zhou (1)

Ustilentyloma Savile (4)

Sporidiobolales Doweld

Sporidiobolaceae R.T. Moore

Rhodosporeidiobolus Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (11)

Rhodotorula F.C. Harrison (15)

Sporobolomyces Kluyver & C.B. Niel (10)

Microbotryomycetes families *incertae sedis*

Chrysozymaceae Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout

- Bannozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (2)
- Chrysozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (2)
- Fellozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)
- Hamamotoa* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (4)

Colacogloeaceae Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout

- Colacogloea* Oberw. & Bandoni (13)

Microbotryomycetes genera *incertae sedis*

- Atractocolax* R. Kirschner, R. Bauer & Oberw. (1)
- Curvibasidium* Samp. & Golubev (3)
- Heitmania* X.Z. Liu, F.Y. Bai, M. Groenew. & T. Boekhout (3)
- Libkindia* Mašínová, A. Pontes, J.P. Samp. & Baldrian (1)
- Oberwinklerozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (3)
- Pseudohyphozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (3)
- Pseudoleucosporidium* V. de Garcia, M.A. Coelho, T. Maia, L.H. Rosa, A.B.M. Vaz, C.A. Rosa, J.P. Samp., P. Gonç., M.R. Van Broock & Libkind (1)
- Sampaiozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (2)
- Slooffia* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (4)
- Spencerozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)
- Trigonosporomyces* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)
- Udeniozyma* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)
- Vonarxula* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (1)
- Yunzhangia* Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (2)
- Yurkovia* Mašínová, A. Pontes, J.P. Samp. & Baldrian (1)

Mixiomycetes R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Mixiales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Mixiaceae C.L. Kramer

- Mixia* C.L. Kramer (1)

Pucciniomycetes R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Helicobasidiales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Helicobasidiaceae P.M. Kirk

- Helicobasidium* Pat. (6)
- Tuberculina* Tode ex Sacc. (26)

Pachnocybales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Pachnocybaceae Oberw. & R. Bauer

- Pachnocybe* Berk. (1)

Platyglloeales R.T. Moore

Eocronartiaceae Jülich

- Eocronartium* G.F. Atk. (1)
- Herpobasidium* Lind (6)
- Jola* Möller (1)
- Platycarpa* Couch (2)
- Ptechetelium* Oberw. & Bandoni (1)

Platyglouaceae Racib.

- Glomerogloea* Doweld (1)
- Glomopsis* D.M. Hend. (2)
- Insolibasidium* Oberw. & Bandoni (1)
- Platyglouea* J. Schröt. (16)

Pucciniales Clem. & Shear

Chaconiaceae Cummins & Y. Hirats.

- Achrotelium* Syd. (5)
- Aplopsora* Mains (6)
- Botryorhiza* Whetzel & Olive (1)
- Ceraceopsisora* Kakish., T. Sato & S. Sato (1)
- Chaconia* Juel (12)
- Goplana* Racib. (13)
- Maravalia* Arthur (41)
- Olivea* Arthur (8)
- Telomapea* G.F. Laundon (1)

Coleosporiaceae Dietel

- Ceropsora* B.K. Bakshi & Suj. Singh (1)
- Chrysomyxa* Unger (38)
- Coleosporium* Lév. (125)
- Diaphanopellis* P.E. Crane (2)
- Gallowaya* Arthur (3)

Cronartiaceae Dietel

- Cronartium* Fr. (34)
- Endocronartium* Y. Hirats. (2)
- Peridermium* (Link) J.C. Schmidt & Kunze (50)

Melampsoraceae Dietel

- Melampsora* Castagne (100)

Mikronegeriaceae Cummins & Y. Hirats.

- Blastospora* Dietel (5)
- Chrysocelis* Lagerh. & Dietel (5)
- Mikronegeria* Dietel (3)

Phakopsoraceae Cummins & Hirats. f.

- Aeciure* Buriticá & J.F. Hennen (1)
- Arthuria* H.S. Jacks. (6)
- Cerotelium* Arthur (27)
- Crossopsora* Syd. & P. Syd. (16)
- Dasturella* Mundk. & Khesw. (3)
- Kweilingia* Teng (4)
- Macabuna* Buriticá & J.F. Hennen (7)
- Monosporidium* Barclay (3)
- Newinia* Thaug (3)
- Nothoravenelia* Dietel (3)
- Phakopsora* Dietel (116)
- Phragmidiella* Henn. (8)
- Pucciniostele* Tranzschel & K.L. Kom. (4)

Scalarispora Buriticá & J.F. Hennen (1)

Uredopeltis Henn. (7)

Phragmidiaceae Corda

Arthuriomyces Cummins & Y. Hirats. (3)

Campanulospora Salazar-Yepes, Pardo-Card. & Buriticá (1)

Gerwasia Racib. (19)

Gymnoconia Lagerh. (4)

Hamaspora Körn. (15)

Joerstadia Gjaerum & Cummins (4)

Kuehneola Magnus (22)

Morispora Salazar-Yepes, Pardo-Card. & Buriticá (1)

Phragmidium Link (100)

Physonema Lév. (1)

Scutelliformis Salazar-Yepes, Pardo-Card. & Buriticá (1)

Trachyspora Fuckel (5)

Xenodochus Schltld. (2)

Pileolariaceae Cummins & Y. Hirats.

Atelocauda Arthur & Cummins (3)

Pileolaria Castagne (16)

Skierka Racib. (13)

Uromycladium McAlpine (11)

Pucciniaceae Chevall.

Allodus Arthur (1)

Chrysella Syd. (1)

Chrysocyclus Syd. (3)

Chrysopsora Lagerh. (1)

Cleptomycetes Arthur (1)

Coleopucciniella Hara ex Hirats. (2)

Corbulopsora Cummins (3)

Cumminsiella Arthur (8)

Cystopsora E.J. Butler (2)

Endophyllum Lév. (43)

Gymnosporangium R. Hedw. ex DC. (64)

Kernella Thirum. (1)

Miyagia Miyabe ex Syd. & P. Syd. (3)

Polioma Arthur (5)

Puccinia Pers. (3300)

Ramakrishnania Ramachar & Bhagyan. (1)

Roestelia Rebent. (15)

Stereostratum Magnus (1)

Uromyces (Link) Unger (1500)

Xenosteles Syd. & P. Syd. (4)

Zaghouania Pat. (2)

Pucciniastraceae Gäum. ex Leppik

Hyalopsora Magnus (21)

Melampsorella J. Schröt. (2)

Melampsoridium Kleb. (11)

Milesia F.B. White 1878 (20)

Milesina Magnus (65)
Naohidemyces S. Sato, Katsuya & Y. Hirats. (2)
Peridiopsora Kamat & Sathe (2)
Pucciniastrum G.H. Otth (50)
Thekopsora Magnus (7)
Uredinopsis Magnus (30)

Puccinosiraceae Cummins & Y. Hirats.

Alveolaria Lagerh. (2)
Baeodromus Arthur (6)
Ceratocoma Buriticá & J.F. Hennen (1)
Chardonella F. Kern (4)
Cionothrix Arthur (5)
Didymopsora Dietel (6)
Dietelia Henn. (13)
Gambleola Masee (1)
Puccinosira Lagerh. (17)
Trichopsora Lagerh. (1)

Raveneliaceae Leppik

Allotelium Syd. (1)
Anthomyces Dietel (1)
Anthomycetella Syd. & P. Syd. (1)
Apra J.F. Hennen & F.O. Freire (1)
Bibulocystis J. Walker, Beilharz, Pascoe & Priest (3)
Cumminsina Petr. (1)
Cystomyces Syd. (1)
Diabole Arthur (1)
Diabolidium Berndt (1)
Dicheirinia Arthur (14)
Diorchidiella J.C. Lindq. (2)
Diorchidium Kalchbr. (20)
Endoraecium Hodges & D.E. Gardner (22)
Esalque J.F. Hennen, Figueiredo & A.A. Carvalho (1)
Hapalophragmium Syd. & P. Syd. (18)
Kernkampella Rajendren (8)
Lipocystis Cummins (1)
Nyssopsora Arthur (11)
Ravenelia Berk. (250)
Sphenospora Dietel (6)
Spumula Mains (7)
Triphragmiopsis Naumov (3)
Triphragmium Link (7)
Ypsilospora Cummins (3)

Sphaerophragmiaceae Cummins & Y. Hirats.

Austropuccinia Beenken (1)
Sphaerophragmium Magnus (24)

Uncolaceae Buriticá

Calidion Syd. & P. Syd. (4)
Uncol Buriticá & P.A. Rodr. (1)

Uropyxidaceae (P. Syd. & Syd.) Cummins & Y. Hirats.

- Canasta* A.A. Carvalho & J.F. Hennen (3)
- Dasyscypha* Berk. & M.A. Curtis (13)
- Didymopsorella* Thirum. (2)
- Dipyxis* Cummins & J.W. Baxter (2)
- Kimuromyces* Dianese, L.T.P. Santos, R.B. Medeiros & Furlan. (1)
- Leucotelium* Tranzschel (3)
- Macruropyxis* Azbukina (2)
- Mimema* H.S. Jacks. (1)
- Ochropsora* Dietel (3)
- Phragmopyxis* Dietel (4)
- Poliomopsis* A.W. Ramaley (1)
- Porotenus* Viégas (7)
- Prospodium* Arthur (84)
- Sorataea* Syd. (8)
- Tranzschelia* Arthur (19)
- Uropyxis* J. Schröt. (15)

Pucciniales genera *incertae sedis*

- Aecidiconium* Vuill. (1)
- Aecidiolum* Unger (12)
- Aecidium* Pers. (ca. 800)
- Caeoma* Link (ca. 50)
- Caetea* Salazar-Yepes & A.A. Carvalho (1)
- Cerradoa* J.F. Hennen & Y. Ono (1)
- Coleopuccinia* Pat. (1)
- Desmella* Syd. & P. Syd. (4)
- Desmellopsis* J.M. Yen (1)
- Desmosorus* Ritschel, Oberw. & Berndt (1)
- Edythea* H.S. Jacks. (5)
- Elateraecium* Thirum., F. Kern & B.V. Patil (3)
- Flaminia* Sacc. & P. Syd. (1)
- Hemileia* Berk. & Broome (55)
- Hennenia* Buriticá (1)
- Intrapes* J.F. Hennen & Figueiredo (1)
- Masseella* Dietel (6)
- Mehtamyces* Mundk. & Thirum. (1)
- Phragmotelium* Syd. (10)
- Puccorchidium* Beenken (2)
- Schroeteriaster* Magnus (4)
- Sphenorchidium* Beenken (2)
- Uraecium* Arthur (12)
- Uredo* Pers. (600)

Septobasidiales Couch ex Donk

Septobasidiaceae Racib.

- Aphelariopsis* Jülich (2)
- Auriculoscypha* D.A. Reid & Manim. (1)
- Coccidiodyton* Oberw. (1)
- Johncouchia* S. Hughes & Cavalc. (1)
- Septobasidium* Pat. (200)
- Uredinella* Couch (2)

Spiculogloeomycetes Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout

Spiculogloales R. Bauer, Begerow, J.P. Samp., M. Weiss & Oberw.

Spiculogloeaceae Denchev

Phyllozyma Q.M. Wang, F.Y. Bai, M. Groenew. & Boekhout (7)

Spiculogloea P. Roberts (5)

Tritirachiomycetes Aime & Schell

Tritirachiales Aime & Schell

Tritirachiaceae Aime & Schell

Tritirachium Limber (4)

Paratritirachium Beguin, Pyck & Detandt (2)

Pucciniomycotina genera *incertae sedis*

Kryptastrina Oberw (1)

Paraphelaria Corner (2)

Zygogloea P. Roberts (1)

Ustilaginomycotina Doweld

Exobasidiomycetes Begerow, M. Stoll & R. Bauer

Ceraceosorales Begerow, M. Stoll & R. Bauer

Ceraceosoraceae Denchev & R.T. Moore

Ceraceosorus B.K. Bakshi (3)

Doassansiales R. Bauer & Oberw.

Doassansiaceae R.T. Moore ex P.M. Kirk, P.F. Cannon & J.C. David

Burrillia Setch. (4)

Doassansia Cornu (12)

Doassinga Vánky, R. Bauer & Begerow (1)

Entylomaster Vánky & R.G. Shivas (2)

Heterodoassansia Vánky (8)

Nannfeldtiomyces Vánky (2)

Narasimhania Thirum. & Pavgi (1)

Pseudodermatosorus Vánky (2)

Pseudodoassansia (Setch.) Vánky (2)

Pseudotracya Vánky (1)

Tracya Syd. & P. Syd. (2)

Melaniellaceae R. Bauer, Vánky, Begerow & Oberw.

Melaniella R. Bauer, Vánky, Begerow & Oberw. (2)

Rhamphosporaceae R. Bauer & Oberw.

Rhamphospora D.D. Cunn. (2)

Entylomatales R. Bauer & Oberw.

Entylomataceae R. Bauer & Oberw.

Entyloma de Bary (163)

Tilletiopsis Derx (3)

Exobasidiales Henn.

Brachybasidiaceae Gäum.

Brachybasidium Gäum. (1)

Dicellomyces L.S. Olive (4)

Kordyana Racib. (8)
Meira Boekhout, Scorzetti, Gerson & Sztejn. (4)
Proliferobasidium J.L. Cunn. (1)

Cryptobasidiaceae Malençon ex Donk

Acaromyces Boekhout, Scorzetti, Gerson & Sztejn. (1)
Botryoconis Syd. & P.Syd. (2)
Clinoconidium Pat. (6)
Coniodictyum Har. & Pat. (1)
Drepanoconis J. Schröt. & Henn. (3)
Phacellula Syd. (1)

Exobasidiaceae J. Schröt.

Arcticomyces Savile (1)
Austrobasidium Palfner (1)
Exobasidium Woronin (51)
Muribasidiospora Kamat & Rajendren (3)

Graphiolaceae Clem. & Shear

Graphiola Poit. (12)
Stylina Syd. & P. Syd. (1)

Laurobasidiaceae Pinruan, Sommai, Suetrong, Somrith. & E.B.G. Jones

Laurobasidium Jülich (2)

Georgefischeriales R. Bauer, Begerow & Oberw.

Eballistraceae R. Bauer, Begerow, A. Nagler & Oberw.

Eballistra R. Bauer, Begerow, A. Nagler & Oberw. (4)

Georgefischeriaceae R. Bauer, Begerow & Oberw.

Georgefischeria Thirum. & Naras. (4)
Jamesdicksonia Thirum., Pavgi & Payak (20)

Gjaerumiaceae R. Bauer, M. Lutz & Oberw.

Gjaerumia R. Bauer, M. Lutz & Oberw. (3)

Tilletiariaceae R.T. Moore

Phragmotenium R. Bauer, Begerow, A. Nagler & Oberw. (5)
Tilletiaria Bandoni & B.N. Johri (1)
Tolyposporella G.F. Atk. (6)

Golubeviales Q.M. Wang, Begerow, F.Y. Bai & Boekhout

Golubeviaceae Q.M. Wang, F.Y. Bai, Begerow & Boekhout

Golubevia Q.M. Wang, F.Y. Bai, Begerow & Boekhout (1)

Microstromatales R. Bauer & Oberw.

Microstromataceae Jülich

Microstroma Niessl (16)

Quambalariaceae Z.W. de Beer, Begerow & R. Bauer

Quambalaria J.A. Simpson (7)

Volvocisporiaceae Begerow, R. Bauer & Oberw.

Volvocisporium Begerow, R. Bauer & Oberw. (2)

Microstromatales genera *incertae sedis*

Jaminaea Sipiczki & Kajdacs ex T. Kij. & Aime (4)

Parajaminaea T. Kij. & Aime (2)

Pseudomicrostroma T. Kij. & Aime (3)

Sympodiomyopsis Sugiy., Tokuoka & Komag. (3)

Robbaueriales Boekhout, Begerow, Q.M. Wang & F.Y. Bai

Robbaueraceae Boekhout, Begerow, Q.M. Wang & F.Y. Bai

Robbauera Boekhout, Begerow, Q.M. Wang & F.Y. Bai (1)

Tilletiales Kreisel ex R. Bauer & Oberw.

Erratomycetaceae Denchev & T. Denchev

Erratomyces M. Piepenbr. & R. Bauer (5)

Tilletiaceae J. Schröt.

Conidiosporomyces Vánky (3)

Ingoldiomyces Vánky (1)

Neovossia Körn. (1)

Oberwinkleria Vánky & R. Bauer (1)

Salmacisia D.R. Huff & A. Chandra (1)

Tilletia Tul. & C. Tul. (179)

Malasseziomycetes Q.M. Wang & F.Y. Bai

Malasseziales R.T. Moore

Malasseziaceae Denchev & R.T. Moore

Malassezia Baillon (18)

Moniliellomycetes Q.M. Wang, F.Y. Bai & Boekhout

Moniliellales Q.M. Wang, F.Y. Bai & Boekhout

Moniliellaceae Q.M. Wang, F.Y. Bai & Boekhout

Moniliella Stolk & Dakin (15)

Ustilaginomycetes R. Bauer, Oberw. & Vánky

Uleiellales Garnica, K. Riess, M. Schön, H. Butin, M. Lutz, Oberw. & R. Bauer

Uleiellaceae Vánky

Uleiella J. Schröt. (2)

Urocystidales R. Bauer & Oberw.

Doassansiopsidaceae Begerow, R. Bauer & Oberw.

Doassansiopsis (Setch.) Dietel (14)

Fereydowniaceae S. Nasr, Soudi, H.D.T. Nguyen, M. Lutz & Piątek

Fereydownia S. Nasr, M.R. Soudi, H.D.T. Nguyen, M. Lutz & Piątek (1)

Floromycetaceae S. Nasr, Soudi, H.D.T. Nguyen, M. Lutz & Piątek

Antherospora R. Bauer, M. Lutz, Begerow, Piątek & Vánky (12)

Floromyces Vánky, M. Lutz & R. Bauer (1)

Glomosporiaceae Cif.

Thecaphora Fingerh. (61)

Mycosyringaceae R. Bauer & Oberw.

Mycosyrinx Beck (4)

Urocystidaceae Begerow, R. Bauer & Oberw.

Flamingomyces R. Bauer, M. Lutz, Piątek, Vánky & Oberw. (1)

Melanoxa M. Lutz, Vánky & R. Bauer (2)

Melanustilospora Denchev (2)

Mundkurella Thirum. (5)

Urocystis Rabenh. ex Fuckel (166)

Ustacystis Zundel (2)

Vankya Ershad (3)

Ustilaginales G. Winter

Anthracoideaceae Denchev

Anthracoidea Bref. (112)

Cintractia Cornu (13)

Dermatosorus Sawada ex L. Ling (6)

Farysia Racib. (23)

Farysporium Vánky (1)

Heterotolyposporium Vánky (2)

Kuntzeomyces Henn. Ex Sacc. & P. Syd. (2)

Leucocintractia M. Piepenbr., Begerow & Oberw. (4)

Moreaua Liou & H.C. Cheng (39)

Orphanomyces Savile (3)

Pilocintractia Vánky (2)

Planetella Savile (1)

Portalia V. González, Vánky & Platas (1)

Schizonella J. Schröt. (5)

Stegocintractia M. Piepenbr., Begerow & Oberw. (6)

Testicularia Klotzsch (3)

Tolyposporium Woronin ex J. Schröt. (5)

Trichocintractia M. Piepenbr. (1)

Ustanciosporium Vánky (22)

Cintractiellaceae Vánky

Cintractiella Boedijn (2)

Clintamraceae Vánky

Clintamra Cordas & Durán (1)

Geminaginaceae Vánky

Geminago Vánky & R. Bauer (1)

Melanotaeniaceae Begerow, R. Bauer & Oberw.

Exoteliospora R. Bauer, Oberw. & Vánky (1)

Melanotaenium de Bary (9)

Yelsemia J. Walker (4)

Pericladiaceae Vánky

Pericladium Pass. (3)

Ustilaginaceae Tul. & C. Tul.

- Anthracocystis* Bref. (134)
- Macalpinomyces* Langdon & Full. (41)
- Moesziomyces* Vánky (8)
- Sporisorium* Ehrenb. ex Link (195)
- Tranzscheliella* Lavrov (17)
- Ustilago* (Pers.) Roussel (170)

Websdaneaceae Vánky

- Restiosporium* Vánky (21)
- Websdanea* Vánky (1)

Ustilaginales genera *incertae sedis*

- Ahmadiago* Vánky (1)
- Aizoago* Vánky (2)
- Anomalomyces* Vánky, M. Lutz & R.G. Shivas (2)
- Bambusiomycetes* Vánky (1)
- Centrolepidosporium* R.G. Shivas & Vánky (1)
- Dirkmeia* F.Y. Bai, Q.M. Wang, Begerow & Boekhout (1)
- Eriocaulago* Vánky (2)
- Eriocortex* Vánky & R.G. Shivas (1)
- Eriosporium* Vánky (2)
- Franzpetrakia* Thirum. & Pavgi (3)
- Kalmanozyma* Q.M. Wang, F.Y. Bai, Begerow & Boekhout (3)
- Langdonia* McTaggart & R.G. Shivas (8)
- Melanopsichium* Beck (2)
- Mycosarcoma* Bref (5)
- Parvulago* R. Bauer, M. Lutz, Piątek, Vánky & Oberw. (1)
- Pattersoniomycetes* Piątek, M. Lutz & C.A. Rosa (1)
- Shivasia* Vánky, M. Lutz & Piątek (1)
- Stollia* McTaggart & R.G. Shivas (5)
- Triodiomycetes* McTaggart & R.G. Shivas (6)
- Yunchangia* L. Guo & B. Xu (1)

Violaceomycetales Albu, Toome & Aime

Violaceomycetaceae Albu, Toome & Aime

- Violaceomyces* Albu, Toome & Aime (1)

Ustilaginomycetes genus *incertae sedis*

- Capitulocladosporium* L.Y. Sun, X. Sun & L.D. Guo (1)

Wallemiomycotina Doweld

Wallemiomycetes Zalar, de Hoog & Schroers

Geminibasidiales H.D.T. Nguyen, N.L. Nick. & Seifert

Geminibasidiaceae H.D.T. Nguyen, N.L. Nick. & Seifert

- Basidioascus* Matsush. (3)
- Geminibasidium* H.D.T. Nguyen, N.L. Nick. & Seifert (2)

Wallemiales Zalar, de Hoog & Schroers

Wallemiaceae R.T. Moore

- Wallemia* Johan-Olsen (8)

Wallemiomycetes genus *incertae sedis*
Chernovia A.M. Yurkov & Begerow (1)

Basidiomycota genera *incertae sedis*
Anastomyces W.P. Wu, B. Sutton & Gange (1)
Anguillomyces Marvanová & Bärli. (1)
Arcispora Marvanová & Bärli. (1)
Arrasia Bernicchia, Gorjón & Nakasone (1)
Brevicellopsis Hjortstam & Ryvarden (1)
Celatogloea P. Roberts (1)
Cystogloea P. Roberts (1)
Microstella K. Ando & Tubaki (1)
Neotyphula Wakef. (1)
Radulodontia Hjortstam & Ryvarden (1)
Restilago Vánky (1)

Blastocladiomycota T.Y. James
Blastocladiomycetes Doweld
Blastocladiales H.E. Petersen
Blastocladiaceae H.E. Petersen
Allomyces E.J. Butler (13)
Blastocladia Reinsch (31)
Blastocladiopsis Sparrow (2)

Catenariaceae Couch
Catenophlyctis Karling (2)
Nematoceromyces Doweld (3)

Paraphysodermataceae Doweld
Paraphysoderma Boussiba, Zarka & T.Y. James (1)

Sorochytriaceae Dewel
Sorochytrium Dewel (1)

Blastocladiales genus *incertae sedis*
Endoblastidium Codreanu (1)

Callimastigales Doweld
Callimastigaceae Fonseca
Callimastix Weissenb. (2)

Catenomycetales Doweld
Catenomycetaceae Doweld
Catenomyces A.M. Hanson (2)

Coelomomycetaceae Couch
Coelomomyces Keilin (66)
Coelomycidium Debais. (2)

Blastocladiomycetes genus *incertae sedis*
Microallomyces R. Emers. & J.A. Robertson (1)

Physodermatomyces Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Physodermatales Caval.-Sm.

Physodermataceae Sparrow

Physoderma Wallr. (99)

Calcarisporiellomycota Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Calcarisporiellomycotina Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Calcarisporiellomyces Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Calcarisporiellales Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Calcarisporiellaceae Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Calcarisporiella de Hoog (1)

Echinochlamydosporium X.Z. Jiang, H.Y. Yu, M.C. Xiang, X.Y. Liu & Xing Z. Liu (1)

Caulochytriomycota Doweld

Caulochytriomyces Doweld

Caulochytriales Doweld

Caulochytriaceae Subram.

Caulochytrium Voos & L.S. Olive (2)

Chytridiomycota Doweld

Chytridiomyces Caval.-Sm.

Chytridiales Cohn

Asterophlyctaceae Doweld

Asterophlyctis H.E. Petersen (2)

Wheelerophlyctis P.M Letcher, M.J. Powell, W.J. Davis (2)*

Chytridiaceae Nowak.

Chytridium A. Braun (143)

Dendrochytridium Letcher, Longcore & M.J. Powell (1)

Dinochytrium Lesham, Letcher & M.J. Powell (1)

Irineochytrium Letcher, Longcore & M.J. Powell (1)

Polyphlyctis Karling (3)

Zopfochytrium M.J. Powell, Longcore, Letcher (1)*

Chytriomycetaceae Letcher

Avachytrium Vélez & Letcher (1)

Chytriomyces Karling (33)

Entophlyctis A. Fisch. (29)

Fayochytriomyces W.J. Davis, Letcher, Longcore & M.J. Powell (1)

Obelidium Nowak. (3)

Odontochytrium Vélez & Letcher (1)

Pendulichytrium K. Seto & Degawa (1)

Physocladia Sparrow (1)

Podochytrium Pfitzer (7)

Rhizoclosmatium H.E. Petersen (4)

Siphonaria H.E. Petersen (3)

Phlyctochytriaceae Doweld

Phlyctochytrium J. Schröt. (73)

Phlyctorhizaceae Doweld

Phlyctorhiza A.M. Hanson (3)

Pseudorhizidiaceae Doweld

Pseudorhizidium M.J. Powell, Letcher & Longcore (1)

Scherffeliomycetaceae Doweld

Scherffeliomyces Sparrow (4)

Zygorhizidiaceae Doweld

Zygorhizidium Löwenthal (12)

Chytridiales genus *incertae sedis*

Delfinachytrium Vélez & Letcher (1)

Nephridiophagales Doweld

Nephridiophagaceae R. Radek, Letcher, Wijayaw., P.M. Kirk & K.D. Hyde

Coleospora Gibbs (1)

Nephridiophaga Ivanić (12)

Oryctospora Purrini & Weiser (1)

Peltomyces Léger (1)

Polyphagales Doweld

Polyphagaceae F. Maekawa

Polyphagus Nowak. (15)

Saccopodiales Doweld

Saccopodiaceae Jacz. & P.A. Jacz.

Saccopodium Sorokīn (1)

Chytridiomycetes families *incertae sedis*

Amoebocytriaceae Doweld

Amoebocytrium Zopf (1)

Sparrowiaceae Doweld

Sparrowia Willoughby (2)

Sphaeromonadaceae Doweld

Sphaeromonas E. Liebet. (6)

Tetrachytriaceae Doweld

Tetrachytrium Sorokīn (1)

Thalassochytriaceae Doweld

Thalassochytrium Nyvall, M. Pedersén & Longcore (1)

Chytridiomycetes genera *incertae sedis*

Aphanistis Sorokīn (2)

Bertramia Mesnil & Caullery (3)

Blyttomyces A.F. Bartsch (11)
Canteria Karling (1)
Dangeardia Schröd. (11)
Dangeardiana Valkanov ex A. Batko (4)
Dictyomorpha Mullins (2)
Gamolpidium Vlădescu (2)
Ichthyochytrium Plehn (1)
Loborhiza A.M. Hanson (1)
Macrochytrium Minden (1)
Megachytrium Sparrow (1)
Mitochytridium P.A. Dang. (2)
Mucophilus Plehn (1)
Nowakowskia Borzí (1)
Olpidiaster Pascher (4)
Perolpidium Doweld (2)
Physorhizophidium Scherff. (1)
Plasmophagus De Wild. (3)
Pseudopileum Canter (1)
Rhizidiocystis Sideris (1)
Rhizosiphon Scherff. (4)
Rhopalophlyctis Karling (1)
Riethophlyctis Doweld (1)
Saccomyces Serbinow (2)
Sagittospora Lubinsky (1)
Scherffeliomycopsis Geitler (1)
Schizolpidium Doweld (1)
Septolpidium Sparrow (1)
Septosperma Whiffen ex R.L. Seym. (5)
Solutoparies Whiffen ex W.H. Blackw. & M.J. Powell (1)
Sorokinocystis Doweld (1)
Sporophlyctidium Sparrow (2)
Sporophlyctis Serbinow (2)
Trematophlyctis Pat. (1)
Truittella Karling (1)
Volvorax Doweld (1)
Zygochytrium Sorokīn (1)
Zygophlyctis Doweld (1)

Cladochytriomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Cladochytriales Mozl.-Standr.

Catenochytridiaceae Doweld

Catenochytridium Berdan (6)

Cladochytriaceae J. Schröt.

Cladochytrium Nowak. (51)

Endochytriaceae Sparrow ex D.J.S. Barr

Diplophlyctis J. Schröt. (12)

Endochytrium Sparrow (7)

Nowakowskiellaceae Sparrow ex Mozl.-Standr.

Nowakowskiella J. Schröt. (18)

Septochytriaceae Mozl.-Standr.

Septochytrium Berdan (5)

Cladochytriales genera *incertae sedis*

Allochytridium D.J.S. Barr & Désauln. (2)

Cylindrochytridium Karling (2)

Nephrochytrium Karling (8)

Lobulomyces Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Lobulomycetales D.R. Simmons

Alogomycetaceae Doweld

Alogomyces D.R. Simmons & Letcher (1)

Lobulomycetaceae D.R. Simmons

Clydaea D.R. Simmons (1)

Cyclopsomyces K. Seto & Degawa (1)

Lobulomyces D.R. Simmons (2)

Maunachytrium D.R. Simmons (1)

Lobulomycetales genus *incertae sedis*

Algochytrops Doweld (1)

Mesochytriomyces Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Gromochytriales Karpov & Aleoshin

Gromochytriaceae Karpov & Aleoshin

Gromochytrium Karpov & Aleoshin (1)

Mesochytriales Doweld

Mesochytriaceae Doweld

Mesochytrium B.V. Gromov, Mamkaeva & Pljuschi (1)

Polychytriomyces Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Polychytriales Longcore & D.R. Simmons

Arkayaceae Doweld

Arkaya Longcore & D.R. Simmons (2)

Polychytriaceae Doweld

Karlingiomyces Sparrow (8)

Lacustromyces Longcore (1)

Neokarlingia Longcore & D.R. Simmons (1)

Polychytrium Ajello (1)

Rhizophyidiomyces Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Rhizophydiales Letcher

Alphamycetaceae Letcher

Alphamyces Letcher (1)

- Betamyces* Letcher (1)
Gammamyces Letcher (1)
- Angulomycetaceae*** Letcher
Angulomyces Letcher (1)
- Aquamycetaceae*** Letcher
Aquamycetes Letcher (1)
- Batrachochytriaceae*** Doweld
Batrachochytrium Longcore, Pessier & D.K. Nichols (2)
- Collimycetaceae*** K. Seto & Degawa
Collimyces K. Seto & Degawa (1)
- Coralloidiomycetaceae*** Doweld
Coralloidiomyces Letcher (1)
- Dinomycetaceae*** Karpov & Guillou
Dinomyces Karpov & Guillou (1)
- Globomycetaceae*** Letcher
Globomyces Letcher (1)
Urceomyces Letcher (1)
- Gorgonomycetaceae*** Letcher
Gorgonomyces Letcher (1)
- Halomycetaceae*** Letcher & M.J. Powell
Halomyces Letcher & M.J. Powell (1)
Paludomyces Letcher & M.J. Powell (1)
Paranomyces Letcher & M.J. Powell (1)
Ulkenomyces Letcher & M.J. Powell (1)
- Kappamycetaceae*** Letcher
Kappamyces Letcher & M.J. Powell (1)
- Operculomycetaceae*** Doweld
Operculomyces M.J. Powell, Letcher & Longcore (1)
- Pateramycetaceae*** Letcher
Pateramyces Letcher (1)
- Protrudomycetaceae*** Letcher
Protrudomyces Letcher (1)
- Rhizophydiaceae*** Letcher
Rhizophyidium Schenk ex Rabenh. (218)
- Staurastromycetaceae*** S. Van den Wyngaert, K. Seto & K. Rojas
Staurastromyces Van den Wyngaert, K. Seto & K. Rojas (1)

Terramycetaceae Letcher

Boothiomyces Letcher (1)

Terramyces Letcher (1)

Uebelmesseromycetaceae M.J. Powell & Letcher

Uebelmesseromyces M.J. Powell & Letcher (1)

Rhizophydiales genus *incertae sedis*

Homolaphlyctis Longcore, Letcher & T.Y. James (1)

Rhizophlyctidomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Rhizophlyctidales Letcher

Arizonaphlyctidaceae Letcher

Arizonaphlyctis Letcher (1)

Borealophlyctidaceae Letcher

Borealophlyctis Letcher (2)

Rhizophlyctidaceae H.E. Petersen

Rhizophlyctis A. Fisch. (31)

Sonoraphlyctidaceae Letcher

Sonoraphlyctis Letcher (1)

Spizellomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Spizellomycetales D.J.S. Barr

Powellomycetaceae D.R. Simmons

Fimicolochytrium D.R. Simmons & Longcore (2)

Geranomyces D.R. Simmons (4)

Powellomyces Longcore (2)

Thoreauomyces D.R. Simmons & Longcore (1)

Spizellomycetaceae D.J.S. Barr

Barromyces M.J. Powell & Letcher (1)

Brevicalcar Letcher & M.J. Powell (1)

Bulbosomyces Letcher & Longcore (1)

Gaertneriomyces D.J.S. Barr (4)

Gallinipes Letcher & M.J. Powell (3)

Kochiomyces D.J.S. Barr (1)

Spizellomyces D.J.S. Barr (8)

Triparticalcar D.J.S. Barr (2)

Synchytriomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Synchytriales Doweld

Synchytriaceae J. Schröt.

Carpenterophlyctis Doweld (2)

Endodesmidium Canter (1)

Johnkarlingia Pavgi & S.L. Singh (1)

Synchytrium de Bary & Woronin (255)

Synchytriales genus *incertae sedis*

Micromyces P.A. Dang. (19)

Chytridiomycota genera *incertae sedis*

Achlyella Lagerh. (1)

Coenomyces K.N. Deckenb. (1)

Achlyogeton Schenk (4)

Entomophthoromycota Humber

Entomophthoromycotina Humber

Entomophthoromycetes Humber

Entomophthorales G. Winter

Ancylistaceae J. Schröt.

Ancylistes Pfitzer (6)

Conidiobolus Bref. (54)

Macrobiotophthora Reukauf (2)

Completoriaceae Humber

Completoria Lohde (1)

Entomophthoraceae Nowak.

Batkoa Humber (10)

Entomophaga A. Batko (22)

Entomophthora Fresen. (63)

Erynia (Nowak. ex A. Batko) Remaud. & Hennebert (27)

Eryniopsis Humber (5)

Furia (A. Batko) Humber (16)

Massospora Peck (15)

Orthomyces Steinkr., Humber & J.B. Oliv. (1)

Strongwellsea A. Batko & J. Weiser (3)

Tarichium Cohn *sensu stricto* (26)

Zoophthora A. Batko (38)

Meristacraceae Humber

Meristacrum Drechsler (= *Tabanomyces* Couch, R.J. Andrejeva, Laird & Nolan) (2)

Neozygitomycetes Humber

Neozygiales Humber

Neozygitaceae Ben Ze'ev, R.G. Kenneth & Uziel

Apterivorax S. Keller (2)

Neozygites Witolaczil (22)

Tarichium Cohn pro parte (27)

Thaxterosporium Ben Ze'ev & R.G. Kenneth (1)

Entorrhizomycota R. Bauer, Garnica, Oberw., Riess, Weiß & Begerow

Entorrhizomycetes Begerow, M. Stoll & R. Bauer

Entorrhizales R. Bauer & Oberw.

Entorrhizaceae R. Bauer & Oberw.

Entorrhiza C.A. Weber (c.15)

Talbotiomycetales K. Riess, R. Bauer, R. Kellner, Kemler, Piątek, Vánky & Begerow

Talbotiomycetaceae K. Riess, R. Bauer, R. Kellner, Kemler, Piątek, Vánky & Begerow
Talbotiomyces Vánky, R. Bauer & Begerow (1)

Glomeromycota C. Walker & A. Schüssler

Archaeosporomycetes Sieverd., G.A. Silva, B.T. Goto & Oehl

Archaeosporales C. Walker & A. Schüssler

Ambisporaceae C. Walker, Vestberg & A. Schüssler (= *Appendicisporaceae* C. Walker, Vestberg & A. Schüssler)

Ambispora C. Walker, Vestberg & A. Schüssler (basonym *Appendicispora* Spain, Oehl & Sieverding) (11)

Archaeosporaceae J.B. Morton & D. Redecker

Archaeospora J.B. Morton & D. Redecker (6)

Intraspora Oehl & Sieverd. (1)

Palaeospora Oehl, Palenz., Sánchez-Castro & G.A. Silva (1)

Geosiphonaceae Engl. & E. Gilg

Geosiphon F. Wettst. (1)

Glomeromycetes Caval.-Sm. emend. Oehl, G.A. Silva, B.T. Goto & Sieverd.

Diversisporales C. Walker & A. Schüssler emend. Oehl, G.A. Silva & Sieverd.

Acaulosporaceae J.B. Morton & Benny

Acaulospora Gerd. & Trappe (= *Kuklospora* Oehl & Sieverd.) (57)

Diversisporaceae C. Walker & A. Schüssler

Corymbiglomus Błaszk. & Chwat (3)

Desertispora Błaszk., Kozłowska, Ryszk, Al-Yahya'ei & Symanczik (1)

Diversispora C. Walker & A. Schüssler (21)

Otospora Oehl, Palenz. & N. Ferrol (1)

Redeckera C. Walker & A. Schüssler (6)

Sieverdingia Błaszk., Niezgodna & B.T. Goto (1)

Tricispora Oehl, Sieverd., G.A. Silva & Palenz. (1)

Pacisporaceae C. Walker, Błaszk., A. Schüssler & Schwarzott

Pacispora Sieverd. & Oehl (7)

Sacculosporaceae Oehl, Sieverd., G.A. Silva, B.T. Goto, Sánchez-Castro & Palenz.

Sacculospora Oehl, Sieverd., G.A. Silva, B.T. Goto, I.C. Sánchez & Palenz. (2)

Gigasporales S.P. Gautam & U.S. Patel (= *Gigasporales* Sieverd., G.A. Silva, B.T. Goto & Oehl)

Dentiscutataceae F.A. Souza, Oehl & Sieverd.

Dentiscutata Sieverd., F.A. Souza & Oehl (9)

Fuscutata Oehl, F.A. Souza & Sieverd. (5)

Quatunica F.A. Souza, Sieverd. & Oehl (1)

Gigasporaceae J.B. Morton & Benny

Gigaspora Gerd. & Trappe (7)

Intraornatosporaceae B.T. Goto & Oehl

Intraornatospora B.T. Goto, Oehl & G.A. Silva (1)

Paradentiscutata B.T. Goto, Oehl & G.A. Silva (2)

Racocetraceae Oehl, Sieverd. & F.A. Souza

Cetraspora Oehl, F. A. Souza & Sieverd. (8)

Racocetra Oehl, F.A. Souza & Sieverd. (13)

Scutellosporaceae Sieverd., F.A. Souza & Oehl

Bulbospora Oehl & G.A. Silva (1)

Orbispora Oehl, G.A. Silva & D.K. Silva (2)

Scutellospora C. Walker & F.E. Sanders (10)

Glomerales J.B. Morton & Benny emend. Oehl, G.A. Silva, B.T. Goto & Sieverd.

Entrophosporaceae Oehl & Sieverd.

Albahypha Oehl, G.A. Silva, B.T. Goto & Sieverd. (2)

Claroideoglomus C. Walker & A. Schüssler (6)

Entrophospora R.N. Ames & R.W. Schneid. (2)*

Glomeraceae Piroz. & Dalpé emend. Oehl, G.A. Silva & Sieverd.

Dominikia Błaszk., Chwat & Kovács (11)

Funneliglomus Corazon-Guivin, G.A. Silva & Oehl (1)

Funneliformis C. Walker & A. Schüssler emend. Oehl, G.A. Silva & Sieverd. (11)

Glomus Tul. & C. Tul. emend. Oehl, G.A. Silva & Sieverd. (49)

Halonatospora Błaszk., Niezgoda, B.T. Goto & Kozłowska (1)

Kamienskia Błaszk., Chwat & Kovács (1)

Microdominikia Oehl, Corazon-Guivin & G.A. Silva (1)

Microkamienskia Corazon-Guivin, G.A. Silva & Oehl (3)*

Nanoglomus Corazon-Guivin, G.A. Silva & Oehl (1)

Oehlia Błaszk., Kozłowska, Niezgoda, B.T. Goto & Dalpé (1)

Orientoglomus G.A. Silva, Oehl & Corazon-Guivin (1)

Rhizoglomus Sieverd., G.A. Silva & Oehl (22)*

Sclerocystis Berk. & Broome (8)

Sclerocarpum B.T. Goto, Błaszk., Niezgoda, Kozłowska & Jobim (1)

Septoglomus Sieverd., G.A. Silva & Oehl (13)

Simiglomus Sieverd., G.A. Silva & Oehl (1)

Viscospora Sieverd. Oehl & G.A. Silva (1)

Paraglomeromycetes Oehl, G.A. Silva, B.T. Goto & Sieverd.

Paraglomerales C. Walker & A. Schüssler

Paraglomeraceae J.B. Morton & D. Redecker

Paraglomus J.B. Morton & D. Redecker (8)

Innospora Błaszk., Kovács, Chwat & Kozłowska (1)

Pervetustaceae Błaszk., Chwat, Kozłowska, Symanczik & Al-Yahya'ei

Pervetustus Błaszk., Chwat, Kozłowska, Symanczik & Al-Yahya'ei (1)

Kickxellomycota Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Asellariomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Asellariales Manier ex Manier & Lichtw.

Asellariaceae Manier ex Manier & Lichtw.

Asellaria R.A. Poiss. (9)

Asellariales genus *incertae sedis*

Baltomyces Cafaro (1)

Barbatosporomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Barbatosporales Doweld

Barbatosporaceae Doweld

Barbatospora M.M. White, Siri & Lichtw. (1)

Dimargaritomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Dimargaritales R.K. Benj.

Dimargaritaceae R.K. Benj.

Dimargaris Tiegh. (7)

Dispira Tiegh. (4)

Tieghemiomyces R.K. Benj. (2)

Dimargaritales genus *incertae sedis*

Spinalia Vuill. (1)

Harpellomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Harpellales Lichtw. & Manier

Harpellaceae L. Léger & Duboscq ex P.M. Kirk & P.F. Cannon

Carouxella Manier, Rioux & Whisler (2)

Harpella L. Léger & Duboscq (7)

Harpellomyces Lichtw. & S.T. Moss (4)

Klastostachys Lichtw., M.C. Williams & M.M. White (1)

Stachylina L. Léger & M. Gauthier (40)

Stachylinoides Lichtw. & López-Lastra (1)

Legeriomycetaceae Pouzar

Austrosmittium Lichtw. & M.C. Williams (5)

Bactromyces William & Strongman (1)

Baetimyces L.G. Valle & Santam. (1)

Bojamyces Longcore (3)

Capniomyces S.W. Peterson & Lichtw. (3)

Caudomyces Lichtw., Kobayasi & Indoh (3)

Coleopteromyces Ferrington, Lichtw. & López-Lastra (1)

Dacryodiomyces Lichtw. (1)

Ejectosporus S.W. Peterson, Lichtw. & M.C. Williams (1)

Ephemerellomyces M.M. White & Lichtw. (1)

Furculomyces Lichtw. & M.C. Williams (3)

Gauthieromyces Lichtw. (3)

Genistelloides S.W. Peterson, Lichtw. & B.W. Horn (5)

Genistellospora Lichtw. (6)

Glotzia M. Gauthier ex Manier & Lichtw. (7)

Graminella L. Léger & M. Gauthier ex Manier (3)

Laculus William & Strongman (1)

Lancisporomyces Santam. (5)

Legerioides M.M. White (1)

Legeriomyces Pouzar (11)

Legeriosimilis M.C. Williams, Lichtw., M.M. White & J.K. Misra (8)

Orphella L. Léger & M. Gauthier (12)
Pennella Manier (8)
Plecopteromyces Lichtw., Ferrington & López-Lastra (3)
Pseudoharpella Ferrington, M.M. White & Lichtw. (1)
Pteromaktron Whisler (2)
Simuliomyces Lichtw. (1)
Sinotrichium Juan Wang (1)
Smittium R.A. Poiss. (1)
Spartiella Tuzet & Manier ex Manier (3)
Stipella L. Léger & M. Gauthier (2)
Stypomyces Doweld (2)
Tectomyces L.G. Valle & Santam. (3)
Trichozygospora Lichtw. (1)
Trifoliellum Strongman & M.M. White (1)
Zancudomyces Yan Wang, Tretter, Lichtw. & M.M. White (1)
Zygopolaris S.T. Moss, Lichtw. & Manier (2)
Zygopolaropsis Hirok. Sato & Degawa (1)

Harpellales* genus *incertae sedis

Trissocladyces Doweld (1)

Kickxellomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Kickxellales Kreisel ex R.K. Benj.

Kickxellaceae Linder

Coemansia Tiegh. & G. Le Monn. (25)
Dipsacomycetes R.K. Benj. (1)
Kickxella Coem. (1)
Linderina Raper & Fennell (2)
Martensella Coem. (1)
Martensiomyces J.A. Mey. (1)
Mycoemilia Kurihara, Degawa & Tokum. (1)
Myconymphaea Kurihara, Degawa & Tokum. (1)
Pinnaticoemansia Kurihara & Degawa (1)
Spirodactylon R.K. Benj. (1)
Spiromycetes R.K. Benj. (2)

Ramicandelaberomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Ramicandelaberales Doweld

Ramicandelaberaceae Doweld

Ramicandelaber Y. Ogawa, S. Hayashi, Degawa & Yaguchi (4)

Kickxellomycotina* genera *incertae sedis

Aenigmatospora R.F. Castañeda, Saikawa, Guarro & M. Caldich (1)
Ballocephala Drechsler (1)
Zygnemomyces K. Miura (2)

Monoblepharomycota Doweld

Hyaloraphidiomycetes Doweld

Hyaloraphidiales Doweld

Hyaloraphidiaceae Doweld

Hyaloraphidium Korshikov (1)

Monoblepharidomycetes J.H. Schaffn.

Monoblepharidales Sparrow

Gonapodyaceae H.E. Petersen ex P.M. Kirk, P.F. Cannon & J.C. David

Gonapodya A. Fisch. (5)

Monoblepharella Sparrow (5)

Harpochytriaceae Wille

Harpochytrium Lagerh. (12)

Monoblepharidaceae A. Fisch.

Monoblepharis Cornu (15)

Oedogoniomycetaceae D.J.S. Barr

Oedogoniomyces Kobayasi & M. Ôkubo (1)

Telasphaerulaceae Longcore & T.Y. James

Telasphaerula Longcore & T.Y. James (1)

Sanchytriomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Sanchytriales Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Sanchytriaceae Karpov & Aleoshin

Amoeboradix Karpov, López-García, Mamkaeva & Moreira (1)

Sanchytrium Karpov & Aleoshin (1)

Mortierellomycota Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov

Mortierellomycotina Kerst. Hoffm., K. Voigt & P.M. Kirk

Mortierellomycetes Doweld

Mortierellales Caval.-Sm.

Mortierellaceae A. Fisch.

Aquamortierella Embree & Indoh (1)

Dissophora Thaxt. (3)

Gamsiella (R.K. Benj.) Benny & M. Blackw. (1)

Lobosporangium M. Blackw. & Benny (1)

Modicella Kanouse (2)

Mortierella Coem. (112)*

Mucoromycota Doweld

Mucoromycotina Benny

Endogonomycetes Doweld

Endogonales Jacz. & P.A. Jacz.

Densosporaceae Desirò, M.E. Sm., Bidartondo, Trappe & Bonito

Densospora McGee (9)*

Endogonaceae Paol.

Endogone Link (26)

Jimgerdemannia Trappe (2)

Peridiospora C.G. Wu & Suh J. Lin (2)
Sclerogone Warcup (1)
Sphaerocreas Sacc. & Ellis (4)

Mucoromycetes Doweld

Mucorales Fr.

Backusellaceae K. Voigt & P.M. Kirk
Backusella Hesselt. & J.J. Ellis (13)

Choanephoraceae J. Schröt.

Blakeslea Thaxt. (2)
Choanephora Curr. (2)
Gilbertella Hesselt. (2)
Poitrasia P.M. Kirk (1)

Cunninghamellaceae Naumov ex R.K. Benj.

Absidia Tiegh. (20)
Chlamydoabsidia Hesselt. & J.J. Ellis (1)
Cunninghamella Matr. (13)
Gongronella Ribaldi (6)
Halteromyces Shipton & Schipper (1)
Hesseltinella H.P. Upadhyay (1)

Lentamyetaceae K. Voigt & P.M. Kirk

Lentamyces Kerst. Hoffm. & K. Voigt (4)

Lichtheimiaceae Kerst. Hoffm., Walther & K. Voigt

Circinella Tiegh. & G. Le Monn. (11)
Dichotomocladium Benny & R.K. Benj. (5)
Fennellomyces Benny & R.K. Benj. (4)
Lichtheimia Vuill. (7)
Phascolomyces Boedijn ex Benny & R.K. Benj. (1)
Rhizomucor Lucet & Costantin (6)
Thamnostylum Arx & H.P. Upadhyay (4)
Thermomucor Subrahm., B.S. Mehrotra & Thirum. (1)
Zychaea Benny & R.K. Benj. (1)

Mucoraceae Dumort.

Actinomucor Schostak. (1)
Ambomucor R.Y. Zheng & X.Y. Liu (3)
Benjaminiella Arx (3)
Chaetocladium Fresen. (2)
Cokeromyces Shanor (1)
Dicranophora J. Schröt. (1)
Ellisomyces Benny & R.K. Benj. (1)
Helicostylum Corda (2)
Hyphomucor Schipper & Lunn (1)
Isomucor J.I. Souza, Pires-Zottar. & Harakava (2)
Kirkiana L.S. Loh, Kuthub. & Nawawi (1)
Kirkomyces Benny (1)
Mucor Fresen. (91)*
Nawawiella L.S. Loh & Kuthub. (1)

Parasitella Bainier (1)
Pilaira Tiegh. (7 and 1 subspecies)
Pirella Bainier (2)
Rhizopodopsis Boedijn (1)
Thamnidium Link (1)
Tortumyces L.S. Loh (2)

Mycocladaceae Kerst. Hoffm.
Mycocladus Beauverie (1)

Mycotyphaceae Benny & R.K. Benj.
Mycotypha Fenner (4)

Phycomycetaceae Arx
Phycomyces Kunze (3)
Spinellus Tiegh. (5)

Pilobolaceae Corda
Pilobolus Tode (10 and 1 subspecies)
Utharomyces Boedijn ex P.M. Kirk & Benny (1 sp. and 1 subspecies)

Radiomycetaceae Hesselt. & J.J. Ellis
Radiomyces Embree (3)

Rhizopodaceae K.voigt & P.M. Kirk
Rhizopus Ehrenb. (13)
Sporodiniella Boedijn (1)
Syzygites Ehrenb. (1)

Saksenaeaceae Hesselt. & J.J. Ellis
Apophysomyces P.C. Misra (5)
Saksenaea S.B. Saksena (5)

Syncephalastraceae Naumov ex R.K. Benj.
Protomyocladus Schipper & Samson (1)
Syncephalastrum J. Schröt. (2)

Umbelopsidomycetes Tedersoo, Sanchez-Ramirez, Kõljalg, Bahram, M. Döring, Schigel, T.W. May, M. Ryberg & Abarenkov
Umbelopsidales Spatafora & Stajich
Umbelopsidaceae W. Gams & W. Mey.
Umbelopsis Amos & H.L. Barnett (16)

Mucoromycotina genera *incertae sedis*
Bifiguratus Torr.-Cruz & Porras-Alfaro (1)
Mucorodinium K.W. Zaleski (1)
Palaeoendogone Strullu-Derr., Kenrick, Pressel, Duckett, J.P. Rioult & Strullu (1)
Planticonsortium C. Walker & D. Redecker (1)

Mucoromycota genus *incertae sedis*
Nothadelphia Degawa & W. Gams

Neocallimastigomycota M.J. Powell
Neocallimastigomycetes M.J. Powell
Neocallimastigales J.L. Li, I.B. Heath & L. Packer
Neocallimastigaceae I.B. Heath (= *Piromonadaceae* Doweld; = *Anaeromycetaceae* Doweld)
Anaeromyces Breton, Bernalier, Dusser, Fonty, B. Gaillard & J. Guillot (4)
Buwchfawromyces T.M. Callaghan & G.W. Griff. (1)
Caecomycetes J.J. Gold (5)
Cyllamyces Ozkose, B.J. Thomas, D.R. Davies, G.W. Griff. & Theodorou (1)
Feramyces Radwa Hanafy, Mostafa Elshahed & Noha Youssef (1)
Liebetanzomyces Joshi, G.W. Griff. & Dagar (1)
Neocallimastix Vávra & Joyon ex I.B. Heath (7)
Oontomyces Dagar (1)
Orpinomyces D.J.S. Barr, H. Kudo, Jakober & K.J. Cheng (2)
Pecoramyces Hanafy, N.H. Youssef, G.W. Griff. & Elshahed (1)
Piromyces J.J. Gold, I.B. Heath & Bauchop (= *Piromonas* E. Liebet.) (6)

Olpidiomycota Doweld
Olpidiomycetes Doweld
Olpidiales Caval.-Sm.
Olpidiaceae J. Schröt.
Chytridhaema Moniez (1)
Cibdelia Juel (1)
Leiolpidium Doweld (5)
Olpidium (A. Braun) J. Schröt. (ca. 50)

Rozellomycota Doweld
Rudimicrosporea Sprague
Metchnikovellida Vivier
Amphiacanthidae Larsson
Amphiacantha Caullery & Mesnil (3)

Metchnikovellidae Caullery & Mesnil emend. Larsson
Amphiamblys Caullery & Mesnil (7)
Caulleryetta Dogiel (8)
Desportesia Issi & Voronin (1)
Metchnikovella Caullery & Mesnil (8)

Microsporidea Corliss & Levine
Amblyosporida Tokarev & Issi
Amblyosporidae Weiser emend. Tokarev & Issi
Aedispora Kilochitskii (1)
Amblyospora Hazard & Oldacre (90)
Andreanna Simakova, Vossbrinck & Andreadis (1)
Becnelia Tonka & Weiser (1)
Crepidulospora Simakova, Pankova & Issi (1)
Cristulospora Khodzhaeva & Issi (3)
Culicospora Weiser (2)
Culicosporella Weiser (1)
Dimeiospora Simakova, Pankova & Issi (1)
Edhazardia Becnel, V. Sprague & Fukuda (1)
Hyalinocysta Hazard & Oldacre (1)
Intrapredatorus Chen, Kuo & Wu (1)

Novothelohania Andreadis, Simakova, Vossbrinck, Shepard & Yurchenko (1)
Parastempellia Khodzhaeva (2)
Parathelohania Codreanu (25)
Trichoctosporea Larsson (1)
Tricornia Pell & Canning (1)

Caudosporidae Weiser emend. Tokarev & Issi

Binucleospora Bronnvall & Larsson (1)
Caudospora J. Weiser (1)
Flabelliforma Canning, R. Killick-Kendrick & Killick-Kendrick (4)
Myrmecomorba R.M. Plowes, J.J. Becnel, E.G. LeBrun, D.H. Oi, S.M. Valles, N.T. Jones & L.E. Gilbert (1)
Neoflabelliforma Morris & Freeman (2)
Octosporea Flu (18)
Polydispyrenia Canning & Hazard (2)
Ringueletium Garcia (1)
Scipionospora Bylén & Larsson (1)
Weiseria Doby & Saguez (3)

Gurleyidae Sprague emend. Tokarev & Issi

Agglomerata Larsson & Yan (5)
Binucleata Refardt, Decaestecker, Johnson & Vávra (1)
Conglomerata Vavra, Fiala, Krylova, Petrusek, Hylis (1)
Episeptum Larsson (6)
Gurleya Doflein (10)
Lanatospora Voronin (4)
Larssonia Vidtmann & Sokolova (2)
Marssoniella Lemmermann (1)
Norlevinea Vávra (1)
Paraepiseptum Hylis, Oborník, Nebesářová & Vávra (4)
Pseudoberwaldia Vavra, Fiala, Krylova, Petrusek, Hylis (1)
Senoma Simakova, Pankova, Tokarev & Issi (1)
Zelenkaia Hylis, Oborník, Nebesářová & Vávra (1)

Amblyosporida genera *incertae sedis*

Alfvenia Larsson (4)
Hazardia Weiser (2)
Multilamina Becnel, Scheffrahn, Vossbrinck & Bahder (1)
Takaokaspora Andreadis, Takaoka, Otsuka & Vossbrinck (1)
Trichotuzetia Vávra, Larsson & Baker (1)

Neopereziiida Tokarev & Issi

Berwaldiidae Simakova, Tokarev & Issi

Berwaldia Larsson (4)
Fibrillanosema Slothouber Galbreath, Smith, Terry, Becnel & Dunn (1)

Neopereziiidae Voronin emend. Issi, Tokarev, Seliverstova & Voronin

Bacillidium Janda (5)
Bryonosema Canning, Refardt, Vossbrinck, Okamura & Curry (2)
Neoperezia Issi & Voronin (2)
Pseudonosema Canning, Refardt, Vossbrinck, Okamura & Curry (1)
Schroedera Morris & Adams (2)

- Trichonosema* Canning, Refardt, Vossbrinck, Okamura & Curry (2)
- Tubulinosematidae*** Franzen, Fischer, Schröder, Schölmerich & Schneuwly emend. Tokarev & Issi
Anncaliia Issi, Krylova & Nikolaeva (6)
Kneallhazia Sokolova & Fuxa (2)
Tubulinosema Franzen, Fischer, Schröder, Schölmerich & Schneuwly (5)
- Neoperezüida*** genera *incertae sedis*
Janacekia Larsson (6)
Systemostrema Hazard & Oldacre (5)
- Ovavesiculida*** Tokarev & Issi
Ovavesiculidae Sprague, Becnel & Hazard emend. Tokarev & Issi
Antonospora Fries, Paxton, Tengo, Slemenda, da Silva, & Pieniazek (2)
Ovavesicula Andreadis & Hanula (1)
Paranosema Sokolova, Dolgikh, Morzhina, Nassonova, Issi, Terry, Ironside, Smith (4)
- Ovavesiculida*** genus *incertae sedis*
Nematocida Troemel, Félix, Whiteman, Barrière & Ausubel (1)
- Glugeida*** Gurley emend. Tokarev & Issi
Facilisporidae Jones, Prosperi-Porta & Kim
Facilispora Jones, Prosperi-Porta & Kim (1)
- Glugeidae*** Gurley emend. Tokarev & Issi
Alloglugea Paperna & Lainson (1)
Amazonospora Azevedo & Matos (1)
Glugea Thélohan (40)
Ichthyosporidium Caullery & Mesnil (5)
Johenrea Lange, Becnel, Razafindratiana, Przybyszewski & Razafindrafara (1)
Loma Morrison & Sprague (12)
Parapleistophora Issi, Kadyrova, Pushkar, Khodzhaeva & Krylova (1)
Pseudoloma J.L. Matthews, A.M.V. Br., K. Larison, J.K. Bishop-Stewart, P. Rogers & M.L. Kent (6)
- Myosporidae*** Stentiford, Bateman, Small, Moss, Shields, Reece & Tuck
Myospora Stentiford, Bateman, Small, Moss, Shields, Reece & Tuck (1)
- Perezüidae*** Loubes, Maurand, Comps & Campillo emend. Tokarev & Issi
Ameson Sprague (2)
Nadelspora Olson, Tiekotter & Reno (1)
Perezia Léger & Duboscq (12)
Pernicivesicula Bylén & Larsson (1)
- Pleistophoridae*** Doflein emend. Tokarev & Issi
Dasyatispora Diamant, Goren, Yokeş, Galil, Klopman, Huchon, Szitenberg & Karhan (1)
Heterosporis Schubert (4)
Myosporidium Baquero, Rubio, Moura, Pieniazek & Jordana (1)
Ovipleistophora Pekkarinen, Lom & Nilsen (2)
Pleistophora Gurley (10)
Trachipleistophora Hollister, Canning, Weidner, Field, Kench & Marriott (3)

Vavraia Weiser (10)

Spragueiidae Weissenberg emend. Tokarev & Issi

- Apotaspora* Sokolova & Overstreet (1)
- Inodosporus* Overstreet & Weidner (2)
- Microgemma* Ralphs & Matthews (6)
- Spraguea* Weissenberg (2)
- Potaspora* Casal, Matos, Teles-Grilo & Azevedo (3)
- Pseudokabatana* Liu, Stentiford, Voronin, Sato, Li & Zhang (1)
- Tetramicra* Matthews & Matthews (1)

Thelohaniidae Hazard & Oldacre emend. Tokarev & Issi

- Bohuslavia* Larsson (1)
- Chapmanium* Hazard & Oldacre (4)
- Coccospora* Wallr. (1)
- Cucumispora* Ovcharenko, Bacela, Wilkinson, Ironside, Rigaud & Wattier (2)
- Hyperspora* Stentiford, Ramilo, Abollo, Kerr, Bateman, Feist, Bass & Villalba (1)
- Napamichum* Larsson (3)
- Nudispora* Larsson (1)
- Octotetraspora* Issi, Kadyrova, Pushkar, Khodzhaeva & Krylova (1)
- Ormieresia* Vivarès, Bouix & Manier (1)
- Orthothelohania* Codreanu & Codreanu-Balcescu (1)
- Paradoxium* Stentiford, Ross, Kerr, Bass & Bateman (1)
- Pegmatheca* Hazard & Oldacre (2)
- Resiomeria* Larsson (1)
- Spherospora* Garcia (1)
- Thelohania* Henneguy (50)

Unikaryonidae Sprague emend. Tokarev & Issi

- Canningia* Weiser, Wegensteiner & Žižka (2)
- Dictyocoela* Terry, Smith, Sharpe, Rigaud, Littlewood, Ironside, Rollinson, Bouchon, MacNeil, Dick & Dunn (8)
- Larssoniella* Weiser & David (2)
- Unikaryon* Canning, Lai & Lie (18)

Glugeida genus *incertae sedis*

- Triwangia* Wang, Nai, Chih Wang, Solter, Hsu, Wang & Lo (1)

Nosematida Labbe emend. Tokarev & Issi

Encephalitozoonidae Voronin

- Encephalitozoon* Levaditi, Nicolau & Schoen (12)
- Mockfordia* Sokolova, Sokolov & C.E. Carlton (1)

Enterocytozoonidae Cali & Owen emend. Tokarev & Issi

- Desmozoon* Freeman & Sommerville (3)
- Enterocytozoon* Desportes, Le Charpentier, Galian, Bernard, Cochand-Priollet, Lavergne, Ravisse & Modigliani (2)
- Enterospora* Stentiford, Bateman, Longshaw & Feist (2)
- Hepatospora* Stentiford, Bateman, Dubuffet, Chambers & Stone (1)
- Nucleospora* Hedrick, Groff & Baxa (3)
- Obruspora* Diamant, Rothman, Goren, Galil, Yokes, Szitenberg & Huchon (1)

Heterovesiculidae Lange, Macvean, Henry & Streett
Heterovesicula Lange, Macvean, Henry & Streett (1)

Mrazekiidae Léger & Hesse emend. Tokarev & Issi
Agmasoma Hazard & Oldacre (3)
Anostracospora Rode, Landes, Lievens, Flaven, Segard, Jabbour-Zahab, Michalakis, Agnew, Vivarés & Lenormand (1)
Euplotespora Fokin, Di Giuseppe, Erra & Dini (1)
Helmichia Larsson (5)
Hrabyeia Lom & Dyková (1)
Jirovecia Weiser (7)
Mrazekia Léger & Hesse (17)
Rectispora Larsson (1)

Nosematidae Tokarev, Huang, Solter, Malysh, Becnel & Vossbrinck
Nosema Nägeli (20)
Vairimorpha Pilley (15)

Ordosporidae Larsson, Ebert & Vávra
Ordospora Larsson, Ebert & Vávra (2)

Nosematida genera *incertae sedis*
Alternosema Lipa, Tokarev, Issi (1)
Anisofilariata Tokarev, Voronin, Seliverstova, Dolgikh, Pavlova, Ignatieva & Issi (1)
Crispospora Tokarev, Voronin, Seliverstova, Pavlova & Issi (1)
Cystosporogenes Canning, Barker, Nicholas & Page (4)
Endoreticulatus Brooks, Becnel & Kennedy (5)
Enterocytopora Rode, Landes, Lievens, Flaven, Segard, Jabbour-Zahab, Michalakis, Agnew, Vivarés & Lenormand (1)
Enteropsectra Zhang, Sachse, Prevost, Luallen, Troemel & Felix (2)
Glugoides Larsson, Ebert, Vávra & Voronin (1)
Liebermannia Sokolova, Lange & Fuxa (3)
Orthosomella Canning, Wigley & Barker (2)
Pancytopora Zhang, Sachse, Prevost, Luallen, Troemel & Felix (2)
Parahepatospora Bojko, Clark, Bass, Dunn, Stewart-Clark, Stebbing & Stentiford (1)
Percutemincola Nishikori, Setiamarga, Tanji, Kuroda, Shiraishi & Okashi-Kobayashi (1)
Sporanauta Ardila-Garcia & Fast (1)
Vittaforma Silveira & Canning (1)

Microsporidia families *incertae sedis*

Abelsporidae Azevedo
Abelspora Azevedo (1)

Areosporiidae Stentiford, Bateman, Feist, Oyarzún, Uribe, Palacios & Stone
Areospora Stentiford, Bateman, Feist, Oyarzún, Uribe, Palacios & Stone (1)

Burenellidae Jouvenaz & Hazard
Burenella Jouvenaz & Hazard (1)
Pilosporella Hazard & Oldacre (2)
Tabanispora Bykova, Sokolova & Issi (2)

Cougourdellidae Poisson

- Cougourdella* Hesse (7)
- Cylindrosporidae*** Issi & Voronin
Cylindrospora Issi & Voronin (2)
- Duboscqiidae*** R. Sprague
Duboscqia Pérez (11)
Mitoplastophora Codreanu (1)
Pulicispora Vedmed, Krylova & Issi (1)
Tardivesicula Larsson & Bylén (1)
Trichoduboscqia Léger (1)
- Golbergiidae*** Issi
Golbergia Weiser (1)
Krishtalia Kilochitskii (1)
Simuliospora Khodzhaeva, Krylova & Issi (2)
- Microfilidae*** Sprague, Becnel & Hazard
Microfilum Faye, Toguebaye & Bouix (1)
- Neonosemoidiidae*** Faye, Toguebaye & Bouix
Neonosemoides Faye & Toguebaye (4)
- Pleistosporidiidae*** Codreanu-Balcescu & Codreanu
Pleistosporidium Codreanu-Balcescu & Codreanu (1)
- Pseudopleistophoridae*** Sprague
Pseudopleistophora Sprague (1)
Steinhausia Sprague, Ormières & Manier (4)
- Striatosporidae*** Issi & Voronin
Striatospora Issi & Voronin (1)
- Telomyxidae*** Léger & Hesse
Telomyxa Léger & Hesse (4)
- Toxoglugeidae*** Larsson
Toxoglugea Léger & Hesse (15)
Toxospora Voronin (2)
- Tuzetiidae*** Sprague, Tuzet & Maurand
Nelliemelba Larsson (1)
Pankovaia Simakova, Tokarev & Issi (1)
Paratuzetia Poddubnaya, Tokarev & Issi (1)
Tuzetia Maurand, Fize, Vernick & Michel (7)
- Microsporidia*** genera *incertae sedis*
Auraspora Weiser & Purrini (1)
Baculea Loubès & Akbarieh (1)
Burkea Sprague (2)
Chytridioides Tregouboff (1)
Ciliatosporidium Foissner & Foissner (1)

Cryptosporina Hazard & Oldacre (1)
Evlachovaia Voronin (1)
Geusia Rühl & Korn (1)
Gurleyides Voronin (1)
Hamiltosporidium Haag, Larsson, Refardt & Ebert (2)
Hirsutosporos Batson (1)
Holobispora Voronin (1)
Issia Weiser (3)
Kinorhynchospora Adrianov & Rybakov (1)
Mariona Stempell (1)
Merocinta Pell & Canning (1)
Microsporidium Balbiani (120)#
Myxocystis Mrazek (1)
Nematocenator Sapir, Dillman, Connon, Grupe, Ingels, Mundo-Ocampo, Levin, Bladwin, Orphan & Sternberg (1)
Nosemoides Vinckier (5)
Pyrotheca Hesse (4)
Spiroglugea Léger & Hesse (1)
Stempellia Léger & Hesse (19)
Wittmannia Czaker (1)

Rozellomycota orders *incertae sedis*

Chytridiopsidea Weiser

Buxtehudidae Larsson

Jiroveciana Larsson (1)

Buxtehudea Larsson (1)

Chytridiopsidae Sprague, Ormières & Manier

Acarispora Radek and Alberti (1)

Chytridiopsis Schneider (11)

Intexta Larsson, Steiner & Bjørnson (1)

Nolleria Beard, Butler & Becnel (1)

Sheriffia Larsson (1)

Hesseidae Ormières & Sprague

Hessea Ormières & Sprague (1)

Rozellomycota genera *incertae sedis*

Mitosporidium Haag, James, Pombert, Larsson, Schaer, Refardt & Ebert (2)

Morellospora Corsaro, Walochnik, Venditti, Hauröder & Michel (1)

Nucleophaga Dangeard (2)

Paramicrosporidium Corsaro, Walochnik, Venditti, Steinmann, Müller & Michel (1)

Rozella Cornu (20)

#*Microsporidium* is a collective genus which incorporate species with uncertain genus allocation

Zoopagomycota Gryganskyi, M.E. Sm., Spatafora & Stajich

Zoopagomycetes Doweld

Zoopagales Bessey ex R.K. Benj.

Cochlonemataceae Dudd.

Aenigmatomyces R. F. Castañeda & W.B. Kendr. (1)

Amoebophilus P.A. Dang. (4)

Aplectosoma Drechsler (1)
Bdellospora Drechsler (1)
Cochlonema Drechsler (11)
Endocochlus Drechsler (4)
Euryancale Drechsler (4)

Helicocephalidaceae Boedijn

Brachymyces G.L. Barron (1)
Helicocephalum Thaxt. (6)
Rhopalomyces Corda (11)
Verrucocephalum Degawa (1)

Piptocephalidaceae J. Schröt.

Kuzuhaea R.K. Benj. (1)
Piptocephalis de Bary (ca. 25)
Syncephalis Tiegh. & G. Le Monn. (ca. 55)

Sigmoideomycetaceae Benny, R.K. Benj. & P.M. Kirk

Reticulocephalis Benny, R.K. Benj. & P.M. Kirk (2)
Sigmoideomyces Thaxt. (1)
Sphondylocephalum Stalpers (1)
Thamnocephalis Blakeslee (3)

Zoopagaceae Drechsler

Acaulopage Drechsler (27)
Cystopage Drechsler (9)
Lecophagus M.W. Dick (2)
Stylopage Drechsler (17)
Tentaculophagus Doweld (1)
Zoopage Drechsler (11)
Zoophagus Sommerst. (4)

Zoopagales genus *incertae sedis*

Massartia De Wild. (1)

Zoopagomycotina genus *incertae sedis*

Basidiolum Cienk. (1)

Outline of Fossil fungi

The legitimate fungal genera known so far are listed below (with number of species in each genus in brackets). Here we list genera based on Saccardoan System (Table 4), fossil fungal sporophores, mycelia and other fungal remains (Table 5) and modern fungal genera to which fossil species have been assigned (Table 6).

Table 4 Fossil fungal spores (according to Saccardoan System).

Fungi	Family	Genera
Imperfecti		
	<i>Amerosporae</i>	<i>Asyregraamspora</i> Locq. & Sal.-Cheb. (1) <i>Basidiosporites</i> Elsik (4)* <i>Biporipsilonites</i> Kalgutkar & Janson. (11)*

Table 4 Continued.

Fungi Imperfecti	Family	Genera
		<i>Biporisporites</i> Ke & Shi (2) <i>Cervichlamydospora</i> R. Kar, Mand. & R.K. Kar (1) <i>Diporisporites</i> Hammen (ca. 34)* <i>Dremuspora</i> Sal.-Cheb. & Locq. (1) <i>Exesisporites</i> Elsik (4)* <i>Foliopollenites</i> Sierotin (3) <i>Foveodiporites</i> C.P. Varma & Rawat (11)* <i>Fusidiporosporonites</i> Z.C. Song (1) <i>Geotrichites</i> Stubblef., C.E. Mill., T.N. Taylor & G.T. Cole (1) <i>Graphiolites</i> Fritel (1) <i>Haplographites</i> Félix(2) <i>Hypoxylonites</i> Elsik (ca. 60)* <i>Inapertisporites</i> Hammen (ca. 67)* <i>Incertisporites</i> Hammen (1) <i>Lacrimasporonites</i> R.T. Clarke (9) <i>Magnosporites</i> Rouse (1) <i>Microsporonites</i> R.K. Jain (2) <i>Monoporisporites</i> Hammen (ca. 58) <i>Nigrosporites</i> Debi Mukh. (1) <i>Palaeoamphisphaerella</i> Ramanujam & Srisailam (3)* <i>Palaeopericonia</i> C.G. Ibañez & Zamuner (1)* <i>Portalites</i> Hemer & Nygreen (1) <i>Psiamspora</i> Locq. & Sal.-Cheb. in Sal.-Cheb. & Locq. (2) <i>Retidiporites</i> C.P. Varma & Rawat (1)
		<i>Saccisporonites</i> Kalgutkar & Janson. (1) <i>Spirotremesporites</i> Dueñas (ca. 20)* <i>Sporotrichites</i> Göpp. & Berendt (3) <i>Striadiporites</i> C.P. Varma & Rawat (14)* <i>Trichosporites</i> Félix (1) <i>Triporisporites</i> Hammen (1) <i>Uncinulites</i> Pampal. (3)* <i>Xylariasporites</i> Debi Mukh. (1) <i>Xylohyphites</i> Kalgutkar & Sigler (1)
	<i>Didymosporae</i>	<i>Ampulliferinites</i> Kalgutkar & Sigler (1) <i>Cladosporites</i> Félix (3)* <i>Dicellaeporisporites</i> Kalgutkar (3) <i>Dicellaesporites</i> Elsik (ca. 58) <i>Didymoporisporonites</i> Sheffy & Dilcher (ca. 25) <i>Didymosporonites</i> Sal.-Cheb. & Locq. (1) <i>Dyadosporites</i> Hammen ex R.T. Clarke (ca. 41)* <i>Felixites</i> Elsik ex Janson. & Hills (2) <i>Fusiformisporites</i> Rouse (21)* <i>Hilidicellites</i> Kalgutkar & Janson. (21)*
	<i>Phragmosporae</i>	<i>Alleppeysporonites</i> Ramanujam & K.P. Rao (1)* <i>Anatolinites</i> Elsik, V.S. Ediger & Bati (13)* <i>Axisporonites</i> Kalgutkar & Janson. (1)* <i>Brachysporisporites</i> R.T. Lange & P.H. Sm. (23)* <i>Ceratohirudispora</i> R. Kar, Mand. & R.K. Kar (2) <i>Cercosporites</i> E.S. Salmon (3)* <i>Chaetosphaerites</i> Félix (4)* <i>Chordecystia</i> C.B. Foster (1) <i>Circinoconites</i> R. Kar, Mand. & R.K. Kar (1) <i>Cladosporiumsporinites</i> Debi Mukh. (1) <i>Diporicellaesporites</i> Elsik (ca. 61) <i>Diporipollis</i> S.K. Dutta & S.C.D. Sah emend. Kalgutkar & Janson. (2)

Table 4 Continued.

Fungi Imperfecti	Family	Genera
		<i>Dwayabeejaesporonites</i> Debi Mukh. (1) <i>Edmundmasonaesporites</i> Debi Mukh. (1) <i>Foveoletisporonites</i> Ramanujam & K.P. Rao (3) <i>Fractisporonites</i> R.T. Clarke (9) <i>Heterocystinella</i> Cookson & Eisenack (1) <i>Jansoniisporites</i> Kalgutkar (1) <i>Kumarisporites</i> Kalgutkar & Janson. (1)* <i>Mathurisporites</i> Kalgutkar & Janson. (2)* <i>Monilites</i> Pampal. (1) <i>Multicellaesporites</i> Elsik emend. P. Kumar (ca. 14) <i>Multicellites</i> Kalgutkar & Janson. (48) <i>Ornasporonites</i> Ramanujam & K.P. Rao (1)* <i>Paragranatisporites</i> Zhong Y. Zhang (5) <i>Phialophoronites</i> Debi Mukh. (1) <i>Pluricellaesporites</i> Hammen (ca. 72)* <i>Quilonia</i> K.P. Jain & R.C. Gupta emend. Kalgutkar & Janson. (11) <i>Ramasricellites</i> Kalgutkar & Janson. (2)* <i>Reduviasporonites</i> L.R. Wilson (9) <i>Reticellites</i> D.L.E. Glass, D.D. Br. & Elsik (1) <i>Scolecospores</i> R.T. Lange & P.H. Sm. (4) <i>Tripithonites</i> Sat. K. Srivastava & Al-Tayyar (2) <i>Tympanicysta</i> Malme (1) <i>Varmasporites</i> Kalgutkar & Janson. (1)*
	<i>Dictyosporae</i>	<i>Centonites</i> Peppers (1) <i>Ctenosporites</i> Elsik & Janson. (3) <i>Dictyosporites</i> Félix emend. Kalgutkar & Janson. (ca. 20) <i>Dictyostromata</i> R. Kar, Mand. & R.K. Kar (2) <i>Kutchiathyrites</i> R.K. Kar emend. Kalgutkar & Janson. (7)* <i>Lirasporis</i> R. Potonié & S.C.D. Sah (3) <i>Octosporites</i> Sal.-Cheb. & Locq. (1) <i>Palambages</i> Wetzel (3) <i>Papulosporonites</i> Schmied. & G. Schwab (7)* <i>Polyadosporites</i> Hammen (ca. 9) <i>Polycellaesporonites</i> Anil Chandra, R.K. Saxena & Setty (7)* <i>Staphlosporonites</i> Sheffy & Dilcher (c.21)*
	<i>Helicosporae</i>	<i>Colligerites</i> K.P. Jain & R.K. Kar (3)* <i>Elsikisporonites</i> P. Kumar (1) <i>Helicominites</i> Barlinge & Paradkar (1) <i>Helicoönites</i> Kalgutkar & Sigler (1) <i>Helicosporiates</i> Kalgutkar & Sigler (1) <i>Involutisporonites</i> R.T. Clarke (ca. 8) <i>Palaeocirrenalia</i> Ramanujam & Srisailam (3) <i>Paleoslimacomyces</i> Kalgutkar & Sigler (3)* <i>Retihelicosporonites</i> Ramanujam & K.P. Rao (1)*
	<i>Staurosporae</i>	<i>Eoglobella</i> W.H. Bradley (1) <i>Frasnacritetrus</i> Taug. (7)* <i>Mossopisporites</i> Kalgutkar & Janson. (1)* <i>Pesavis</i> Elsik & Janson. (3) <i>Spegazzinites</i> Félix (3) <i>Tribolites</i> W.H. Bradley (2)* <i>Trihyphites</i> Kalgutkar & Janson. (1)* <i>Triporicellaesporites</i> Ke & Shi (4)*

Table 5 Fossil fungal fructifications, mycelia and other fungal remains.

Phylum	Order	Genera
<i>Ascomycota</i>	<i>Botryosphaeriales</i>	<i>Guignardiocarpites</i> Debi Mukh. (1)
	<i>Capnodiales</i>	<i>Mycosphaerellascoideites</i> Debi Mukh. (1)
	<i>Dothideales</i>	<i>Cucurbitariaceites</i> R.K. Kar, R.Y. Singh & S.C.D. Sah (2)*
		<i>Leptosphaerites</i> Richon (2)
		<i>Palaeoleptosphaeria</i> Barlinge & Paradkar (1)
	<i>Erysiphales</i>	<i>Perisporiacites</i> Félix (4)
		<i>Erisiphites</i> Pampal. (1)
		<i>Meliolinites</i> Selkirk (9)
		<i>Meliostroma</i> R. Kar, Mand. & R.K. Kar (1)
		<i>Palaeosclerotium</i> G.W. Rothwell (1)*
		<i>Perisporites</i> Pampal. (2)
	<i>Eurotiales</i>	<i>Coleocarpon</i> Stubblef., T.N. Taylor, C.E. Miller & G.T. Cole (1)
		<i>Cryptocolax</i> R.A. Scott (2)
		<i>Memnonillasporonites</i> Debi Mukh. (1)
		<i>Mycocarpon</i> S.A. Hutch. (7)*
		<i>Roannaisia</i> T.N. Taylor, Galtier & Axsmith (1)
		<i>Sporocarpon</i> Will. (13)*
		<i>Traquairia</i> Carruth. ex Scott (4)
	<i>Hysteriales</i>	<i>Hysterites</i> Unger (16)
	<i>Microthyriales</i>	<i>Appendicisporonites</i> R.K. Saxena & S. Khare (1)
		<i>Asterinites</i> Doub. & D. Pons ex Kalgutkar & Janson. (2)
		<i>Asterothyrites</i> Cookson (16)
		<i>Brefeldiellites</i> Dilcher (2)
		<i>Caldesites</i> Puri (1)
		<i>Callimothallus</i> Dilcher (11)
		<i>Cribrites</i> R.T. Lange (1)
		<i>Dictyotopileos</i> Dilcher (1)
		<i>Euthythyrites</i> Cookson (4)
		<i>Haplopeltis</i> Theiss. (5)
		<i>Kalviwadithyrites</i> M.R. Rao (1)
		<i>Koshalia</i> S. Sarkar & V. Prasad (1)
		<i>Mariusia</i> D. Pons & Boureau (1)
		<i>Melanosporites</i> Pampal. (1)
		<i>Microthyriacites</i> Cookson (19)
		<i>Microthyrites</i> Pampal. (1)
		<i>Molinaea</i> Doub. & D. Pons (1)
		<i>Palmellathyrites</i> Locq., D. Pons & Sal.-Cheb. (1)
		<i>Parmathyrites</i> K.P. Jain & R.C. Gupta (5)
		<i>Pelicothallos</i> Dilcher (1)
		<i>Phragmothyrites</i> W.N. Edwards (24)*
		<i>Plochmopeltinites</i> Cookson (3)
		<i>Polyhyphaethyrites</i> R. Srivast. & R.K. Kar (1)
<i>Ratnagiriathyrites</i> R.K. Saxena & N.K. Misra (1)*		
<i>Spinosporonites</i> R.K. Saxena & S. Khare (1)*		
<i>Stomiopeltites</i> Alvin & M.D. Muir (3)		
<i>Trichopeltinites</i> Cookson (5)		
<i>Trichothyrites</i> Rosend. (13)*		
<i>Ussurithyrites</i> Krassilov (1)		
<i>Patellariales</i>		<i>Rhytidhysteriumites</i> Debi Mukh. (1)
<i>Pezizales</i>		<i>Ascodesmisites</i> Trivedi, Chaturv. & C.L. Verma (1)\
		<i>Paleomorchella</i> Poinar (1)
	<i>Pezizites</i> Göpp. & Berendt (4)	
<i>Phyllachorales</i>	<i>Paleoserenozyces</i> Currah, Stockey & B.A. LePage (1)	
<i>Pleosporales</i>	<i>Cryptodidymosphaerites</i> Currah, Stockey & B.A. LePage (1)*	
	<i>Dictyosporiuminites</i> Debi Mukh. (1)	
	<i>Pleosporites</i> Y. Suzuki (1)	

Table 5 Continued.

Phylum	Order	Genera
Basidiomycota	Sphaeriales	<i>Diploneurospora</i> K.P. Jain & R.C. Gupta (1)* <i>Palaeosordaria</i> Sahni & H.S. Rao (1) <i>Petrosphaeria</i> Stopes & H. Fujii (1) <i>Valsarites</i> Puri (1)
	Uredinales	<i>Aeciosporonites</i> Debi Mukh. (1)
	Xylariales.	<i>Chaethomites</i> Pampal. (1) <i>Sphaerites</i> Unger (48)
	Incertae sedis	<i>Cephalothecoidomyces</i> G. Worobiec, Neumann & E. Worobiec (1)
	Agaricales.	<i>Archaeomarasmius</i> Hibbett, D. Grimaldi & Donoghue (1) <i>Coprinites</i> Poinar & Singer (1)* <i>Gondwanagaricites</i> Heads, A.N. Mill & J.L. Crane (1) <i>Protomyцена</i> Hibbett, D. Grimaldi & Donoghue (1)
	Polyporales.	<i>Eopolyporoides</i> Rigby (1) <i>Phellinites</i> Singer & S. Archang. (1) <i>Pseudopolyporus</i> Hollick (1) <i>Trametites</i> A. Straus (3)
	Pucciniales.	<i>Shuklania</i> J.N. Dwivedi (1)
	Sphaeropsidales	<i>Arcephoma</i> Kyoto Watanabe, H. Nishida & Tak. Kobay. (1) <i>Ascochyrites</i> Barlinge & Paradkar (2)* <i>Deccanodia</i> Singhai (1) <i>Diplodites</i> D.N. Babajan & Tasl. ex Kalgutkar, Nambudiri & Tidwell (5)* <i>Entopeltacites</i> Selkirk (6) <i>Meniscoideisporites</i> Kyoto Watanabe, H. Nishida & Tak. Kobay. (1) <i>Mohgaonidium</i> Singhai (1) <i>Palaeocytophaera</i> R.B. Singh & G.V. Patil (1) <i>Palaeophoma</i> Singhai (1)* <i>Phomites</i> Fritel (2) <i>Rabenhorstinidium</i> R.B. Singh & G.V. Patil (1)
	Uredinales	<i>Aecidites</i> Debey & Ettingsh. (4) <i>Aeciosporonites</i> Debi Mukh. (1) <i>Hapalophragmites</i> Ramanujam & Ramachar (1) <i>Milesites</i> Ramanujam & Ramachar (1) <i>Pucciniasporonites</i> Ramanujam & Ramachar (1)
	Ustilaginales	<i>Chlamydosporites</i> Paradkar (1) <i>Teliosporites</i> R. Kar, Mand. & R.K. Kar (2)
	Chytridiomycota	Chytridiales <i>Grilletia</i> Renault & C.E. Bertrand (1) <i>Guizhounema</i> X. Mu (1) <i>Krispiromyces</i> T.N. Taylor, Hass & W. Remy (1) <i>Lyonomyces</i> T.N. Taylor, Hass & W. (1) <i>Milleromyces</i> T.N. Taylor, Hass & W. Remy (1) <i>Oochytrium</i> Renault (1)
	Mucoromycota	Endogonales <i>Chlamydospora</i> R. Kar, Mand. & R.K. Kar (1) <i>Endochaetophora</i> J.F. White & T.N. Taylor (1) <i>Gigasporites</i> Carlie J. Phipps & T.N. Taylor (1) <i>Palaeogigaspora</i> R. Kar, Mand. & R.K. Kar (1) <i>Palaeomycites</i> Mesch. (21)* <i>Udaria</i> A. Gupta (2) <i>Lithomucorites</i> R. Kar, Mand. & R.K. Kar (2)
	Mucoromycota genera incertae sedis	
	Mycelia Sterilia	<i>Animikiea</i> Bargh. (1) <i>Archaeorestis</i> Bargh. (1) <i>Celyphus</i> Batten (1) <i>Dendromyceliates</i> K.P. Jain & R.K. Kar (2) <i>Entosphaeroides</i> Bargh. (1)

Table 5 Continued.

Phylum	Order	Genera
Fossil fungi <i>incertae sedis</i>		<i>Eoastrion</i> Bargh. (2)
		<i>Eomycetopsis</i> J.W. Schopf (2)
		<i>Fungites</i> Hallier (7)
		<i>Gunflintia</i> Bargh. (2)
		<i>Laevitubulus</i> N.D. Burgess & D. Edwards (5)
		<i>Ornatifilum</i> N.D. Burgess & D. Edwards (2)
		<i>Palaeancistrus</i> R.L. Dennis (1)
		<i>Palaeofibulus</i> J.M. Osborn, T.N. Taylor & J.F. White (1)
		<i>Sclerotites</i> A. Massal. (16)
		<i>Tormentella</i> H.D. Pflug (2)
		<i>Annella</i> Sat. K. Srivast. (2)
		<i>Caenomyces</i> E.W. Berry (<i>Pyrenomycetes</i> Schwein?) (1)
		<i>Dictyomykus</i> R. Kar, Mand. & R.K. Kar (1)
		<i>Lithosporocarpia</i> R. Kar, Mand. & R.K. Kar (1)
		<i>Mycokidstonia</i> D. Pons & Locq. (1)
		<i>Mycozygosporangia</i> R. Kar, Mand. & R.K. Kar (1)
		<i>Netothyrites</i> C.M. Misra, S.N. Swamy, B. Prasad, B.S. Pundeer, R.S. Rawat & K. Singh (2)
		<i>Palaeocercospora</i> S. Mitra and Manju Banerjee (1)
		<i>Palaeocolletotrichum</i> S. Mitra and Manju Banerjee (1)
		<i>Paleoblastocladia</i> W. Remy, T.N. Taylor & Hass (1)
		<i>Palynomorphites</i> L.R. Moore (1)
		<i>Pilula</i> Harker, Sarjeant & Caldwell ex Harker & Sarjeant (2)
		<i>Protoascon</i> L.R. Batra, Segal & R.W. Baxter (1)
		<i>Protocolletotrichum</i> R. Kar, Mand. & R.K. Kar (1)
		<i>Reymanella</i> Marcink. (1)
		<i>Sorosporonites</i> X. Mu (1)
		<i>Stauromyca</i> R. Kar, Mand. & R.K. Kar (1)
	<i>Tetradigita</i> R. Kar, Mand. & R.K. Kar (1)	
	<i>Tricellaesporonites</i> Sheffy & Dilcher (3)	

Table 6 Modern fungal genera to which fossil species have been assigned.

Phylum	Order	Family	Modern genera	Fossil species
<i>Ascomycota</i>	<i>Asterinales</i>	<i>Asterinaceae</i>	<i>Asterina</i> Lév.	<i>A. eocenica</i> Dilcher, <i>A. kosciuskensis</i> Selkirk, <i>A. nodosaria</i> Dilcher, <i>A. indodeightonii</i> Vishnu, Khan & Bera, <i>A. mioconsobrina</i> Vishnu, Khan & Bera, <i>A. miosphaerelloides</i> Vishnu, Khan & Bera, <i>A. neocombreticola</i> Vishnu, Khan & Bera, <i>A. neoelaeocarpi</i> Vishnu, Khan & Bera, <i>A. presaracae</i> Vishnu, Khan & Bera, <i>D. rodei</i> Mahab. [Now: <i>Diplodites rodei</i> (Mahab.) Kalgutkar, Nambudiri & Tidwell], <i>D. sahnii</i> Singhai [Now: <i>Diplodites sahnii</i> (Singhai) Kalgutkar, Nambudiri & Tidwell]
	<i>Botryosphaeriales</i>			

Table 6 Continued.

Phylum	Order	Family	Modern genera	Fossil species
	<i>Capnodiales</i>	<i>Mycosphaerellaceae</i>	<i>Ramularia</i> Sacc.	<i>R. oblongispora</i> Casp.
	<i>Chaetosphaeriales</i>	<i>Chaetosphaeriaceae</i>	<i>Chaetosphaeria</i> Tul. & C. Tul.	<i>C. elsikii</i> M.J. Pound, J.M.K. O'Keefe, N.B. Nuñez Otaño, J.B. Riding
	<i>Eurotiales</i>	<i>Aspergillaceae</i>	<i>Penicillium</i> Link	<i>P. curtipes</i> Berk.
	<i>Helotiales</i>	<i>Mollisiaceae</i>	<i>Trimmatostroma</i> Corda.	<i>Trimmatostroma</i> <i>intertrappea</i> K.S. Patil & Datar
	<i>Hypocreales</i>	<i>Bionectriaceae</i>	<i>Acremonium</i> Link	<i>A. succineum</i> Casp.
		<i>Ceratostomatacea</i>	<i>Gonatobotrys</i> Corda	<i>G. primigenius</i> Casp.
	<i>Laboulbeniales</i>	<i>Laboulbeniaceae</i>	<i>Stigmatomyces</i> H. Karst.	<i>Stigmatomyces succini</i> W. Rossi, Kotrba & Triebel
	<i>Lecanorales</i>	<i>Sphaerophoraceae</i>	<i>Sphaerophorus</i> Pers.	<i>S. moniliformis</i> Menge
	<i>Meliolales</i>	<i>Meliolaceae</i>	<i>Meliola</i> Fr.	<i>M. anfracta</i> Dilcher [Now: <i>Meliolinites anfractus</i> (Dilcher) Kalgutkar & Janson.], <i>M. spinksii</i> Dilcher [Now: <i>Meliolinites spinksii</i> (Dilcher) Selkirk]
	<i>Microthyriales</i>	<i>Microthyriaceae</i>	<i>Trichopeltina</i> Theiss.	<i>T. exporrecta</i> Dilcher
	<i>Mycocaliciales</i>	<i>Mycocaliciaceae</i>	<i>Chaenothecopsis</i> Vain.	<i>C. bitterfeldensis</i> Rikkinen & Poinar
	<i>Pleosporales</i>	<i>Didymellaceae</i>	<i>Epicoccum</i> Link	<i>E. deccanense</i> R. Srivast., Kapgate & S. Chatterjee
		<i>Pleosporaceae</i>	<i>Alternaria</i> Nees ex Fr.	<i>A. malayensis</i> Trivedi & C.L. Verma [Now: <i>Pluricellaesporites</i> <i>malayensis</i> (Trivedi & C.L. Verma) Kalgutkar & Janson.]
		<i>Torulaceae</i>	<i>Torula</i> Pers. ex Fr.	<i>T. globulifera</i> Casp., <i>T.</i> <i>heteromorpha</i> Casp., <i>T.</i> <i>mengeana</i> Casp. & R. Klebs in Casp.
	<i>Sporidesmiales</i>	<i>Sporidesmiaceae</i>	<i>Sporidesmium</i> Link ex Fr.	<i>S. henryense</i> Dilcher
	<i>Taphrinales</i>	<i>Protomycetaceae</i>	<i>Protomyces</i> Unger	<i>P. protogenes</i> W. Sm.
	<i>Trichosphaeriales</i>	<i>Trichosphaeriaceae</i>	<i>Brachysporium</i> Sacc.	<i>B. minutum</i> Trivedi & C.L. Verma [Now: <i>Pluricellaesporites minutus</i> (Trivedi & C.L. Verma) ex Kalgutkar & Janson.]
	<i>Dothideomycetes</i> family <i>incertae</i> <i>sedis</i>	<i>Vizellaceae</i>	<i>Vizella</i> Sacc.	<i>V. discontinua</i> Selkirk, <i>V.</i> <i>memorabilis</i> (Dilcher) Selkirk
	<i>Incertae sedis</i>	<i>Incertae sedis</i>	<i>Desmidiospora</i> Thaxt. <i>Manginula</i> G. Arnaud	<i>D. marginiconvoluta</i> Kalgutkar <i>M. maegdefraui</i> Lange [Now: <i>Entopeltacites</i> <i>maegdefraui</i> (Lange) Selkirk], <i>M. memorabilis</i>

Table 6 Continued.

Phylum	Order	Family	Modern genera	Fossil species
				(Dilcher) Lange [Now: <i>Vizella memorabilis</i> (Dilcher) Selkirk], <i>M. osbornii</i> Lange [Now: <i>Entopeltacites osbornii</i> (Lange) Selkirk]
			<i>Sarcophoma</i> Höhn.	<i>S. deccani</i> R.B. Singh & G.V. Patil
			<i>Tetracoccusporium</i> Szabó	<i>T. eocenum</i> Biradar & Mahab.
			<i>Monotosporella</i> S. Hughes	<i>M. doerfeltii</i> Sadowski, Beimforde, Gube & A.R. Schmidt
			<i>Rhexoampullifera</i> (M.B. Ellis) P.M. Kirk & C.M. Kirk	<i>R. stogieana</i> M.J. Pound, J.M.K. O'Keefe, N.B. Nuñez Otaño, J.B. Riding, <i>R. sufflata</i> M.J. Pound, J.M.K. O'Keefe, N.B. Nuñez Otaño, J.B. Riding
<i>Basidiomycota</i>	<i>Agaricostilbales</i>	<i>Chionosphaeraceae</i>	<i>Stilbum</i> Tode ex Fr.	<i>S. succini</i> Casp.
	<i>Boletales</i>	<i>Sclerodermataceae</i>	<i>Scleroderma</i> Pers.	<i>S. echinosporites</i> Rouse
	<i>Cantharellales</i>	<i>Hydnaceae</i>	<i>Hydnum</i> L. ex Fr.	<i>H. argillae</i> R. Ludw.
	<i>Gaestrales</i>	<i>Gaestraceae</i>	<i>Gastrum</i> Pers.	<i>G. tepexense</i> Magallon-Puebla & Cevallos-Ferriz
	<i>Nidulariales</i>	<i>Nidulariaceae</i>	<i>Nidula</i> V.S. White	<i>N. baltica</i> Poinar
	<i>Polyporales</i>	<i>Polyporaceae</i>	<i>Cyathus</i> Haller	<i>C. dominicanus</i> Poinar
	<i>Urocystidales</i>	<i>Urocystidaceae</i>	<i>Fomes</i> (Fr.) Fr.	<i>F. idahoensis</i> R.W. Br.
			<i>Mundkurella</i> Thirum.	<i>M. mohgaoensis</i> Chitaley & Yawale
	<i>Ustilaginales</i>	<i>Ustilaginaceae</i>	<i>Ustilago</i> (Pers.) Roussel	<i>U. deccani</i> Chitaley & Yawale [Now: <i>Inapertisporites deccani</i> (Chitaley & Yawale) Kalgutkar & Janson.]
<i>Chytridiomycota</i>	<i>Chytridiales</i>	<i>Chytriomycetaceae</i>	<i>Entophlyctis</i> A. Fisch.	<i>E. willoughbyi</i> W.H. Bradley [Now: <i>Desmidiospora willoughbyi</i> (W.H. Bradley) D.L.E. Glass, D.D. Br. & Elsik]
<i>Fungi incertae sedis</i>			<i>Patoullardiella</i> Speg.	<i>P. imbricata</i> Dilcher

Outline of fungus-like organisms

Obazoa Brown et al.

Opisthokonta Cavalier-Smith

Holomycota Liu et al. = Nucletmycea Brown et al.

Nucleariae Tedersoo et al.

Fonticulida Tedersoo et al.

Fonticulea Tedersoo et al.

Fonticulida Cavalier-Smith

Fonticulidae Worley, Raper & Hohl

Fonticula Worley, Raper & M. Hohl

Diaphoretickes Adl et al.
S A R Burki et al. emend. Adl et al.
Rhizaria Cavalier-Smith
Endomyxa Cavalier-Smith
Phytomyxea Engler & Prantl
Plasmodiophorida Cook
Plasmodiophoridae Loeblich & Tappan
 Ligniera Maire & A. Tison
 Plasmodiophora Worona
 Polymyxa Ledingham
 Sorosphaerula Neuh. & Kirchm.
 Spongospora Brunch.
 Woronina Cornu

Phagomyxida Cavalier-Smith
Phagomyxidae Cavalier-Smith
 Maullinia I. Maier, E.R. Parodi, Westermeier & D.G. Müll
 Phagomyxa Karling

Cercozoa Cavalier-Smith
Sainouroidea Schuler et al.
Guttulinopsidae L.S. Olive
 Guttulinopsis E.W. Olive

Straminipila M.W. Dick
Labyrinthulomycota Whittaker
Labyrinthulomycetes Dick
Labyrinthulales E.A. Bessey
Aplanochytriaceae Leander ex Cavalier-Smith
 Aplanochytrium Bahnweg & Sparrow

Stellarchytriaceae Bennett et al. ad int.
 Stellarchytrium FioRito & Leander

Labyrinthulaceae Haeckel
 Labyrinthula Cienk.

Oblongichytridiales Bennett et al. ad int.
Oblongichytriaceae Cavalier-Smith
 Oblongichytrium R. Yokoy. & D. Honda

Thraustochytriales Sparrow
Althornidiaceae Jones and Alderman
 Althornia E.B.G. Jones & Alderman

Thraustochytriaceae Sparrow ex Cejp
 Aurantiochytrium R. Yokoy. & D. Honda
 Botryochytrium R. Yokoy., Salleh & D. Honda
 Japanochytrium
 Monorhizochytrium K. Doi & D. Honda
 Parietichytrium R. Yokoy., Salleh & D. Honda
 Schizochytrium S. Goldst. & Belsky ex Raghuk.

Sicyoidochytrium R. Yokoy., Salleh & D. Honda
Thraustochytrium Sparrow
Ulkenia A. Gaertn. ex M.W. Dick

Amphitremida Gomaa et al.

Amphitremidae Poch

Amphitrema Archer
Archerella Loeblich & Tappan
Paramphitrema Valkanov

Diplophrydae Cavalier-Smith

Diplophrys J.S.F. Barker

Amphifilida Cavalier-Smith

Amphifilidae Cavalier-Smith

Amphifila Caval.-Sm.

Sorodiplophryidae Cavalier-Smith

Fibrophrys Takahashi et al.
Sorodiplophrys L.S. Olive & Dykstra

Hyphochytriomycota Whittaker

Hyphochytriomycetes Sparrow

Hyphochytriales Bessey ex Sparrow

Hyphochytriaceae Fischer

Canteriomyces Sparrow
Cystochytrium Ivimey Cook
Hyphochytrium Zopf

Rhizidiomycetaceae Karling ex Kirk, Cannon & David

Latrostium Zopf
Reessia Fisch
Rhizidiomyces Zopf

Oomycota Arx

Peronosporomycetes M.W. Dick

Albuginales Thines

Albuginaceae Schroet.

Albugo (Pers.) Roussel (40)
Pustula Thines (11)
Wilsoniana Thines (5)

Peronosporales A.N. Beketov

Peronosporaceae de Bary

Basidiophora Roze & Cornu (3)
Baobabopsis R.G. Shivas, Y.P. Tan, Telle & Thines (2)
Benua Constant. (1)
Bremia Regel (15)
Calycofera R. Bennett & Thines (2)
Eraphthora Telle & Thines (1)
Graminivora Thines (1)
Halophytophthora H.H. Ho & S.C. Jong (6)

Hyaloperonospora Constant. (35)
Nothophytophthora T. Jung, Scanu, Bakonyi & M. Horta Jung (6)
Novotelnova Voglmayr & Constant. (1)
Paraperonospora Constant. (9)
Perofascia Constant. (2)
Peronospora Corda (350)
Peronosclerospora (S. Ito) Hara (15)
Phytophthora de Bary (150)
Phytopythium Abad, de Cock, Bala, Robideau, A.M. Lodhi & Lévesque (25)
Plasmopara J. Schröt. (150)
Plasmoverna Constant., Voglmayr, Fatehi & Thines (7)
Poakatesthia Thines (1)
Protobremia Voglmayr, Riethm., Göker, Weiss & Oberw. (1)
Pseudoperonospora Rostov. (9)
Sclerophthora Thirum., C.G. Shaw & Naras. (5)
Sclerospora J. Schröt. (2)
Viennotia Göker, Voglmayr, Riethm., M. Weiss & Oberw. (1)

Pythiaceae Schroet.

Elongisporangium Uzuhashi, Tojo & Kakish. (5)
Globisporangium Uzuhashi, Tojo & Kakish. (70)
Lagen Vanterp. & Ledingham (1)
Lagenidium Schenk (40)
Myzocytiopsis M.W. Dick (18)
Myzocytiium Schenk (2)
Pilasporangium (Uzuhashi & Tojo) Uzuhashi, Tojo & Kakish. (1)
Pythiogeton Minden (16)
Pythium Pringsh. (200)

Salisapiliaceae

Salisapilia Hulvey, Nigrelli, Telle, Lamour & Thines (9)

Rhipidiales M.W. Dick

Rhipidiaceae Cejp

Aqualinderella Emerson & Weston (1)
Araiospora Thaxt. (4)
Mindeniella Kanouse (2)
Nellymyces A. Batko (1)
Rhipidium Cornu (6)
Sapromyces Fritsch (4)

Salispinaceae R. Bennett & Thines

Salispina Marano, A.L. Jesus & Pires-Zottar. (4)

Peronosporomycetes genera *incertae sedis*

Kawakamia Miyabe (4)
Paralagenidium Grooters, C.F.J. Spies, de Cock & Lévesque (2)
Trachysphaera Tabor & Bunting (1)

Saprolegniomycetes Thines & Beakes

Leptomitales Kanouse

Atkinsiellaceae Sparrow

Atkinsiella Vishniac (1)
Bolbea Buaya & Thines (1)

***Leptomitaceae* Kütz**

Apodachlya Pringsh. (5)
Apodachlyella Indoh (1)
Blastulidium Pérez (1)
Leptomitus C. Agardh (11)

***Ectrogellaceae* Cejp**

Crypticola Humber, Frances & A.W. Sweeney (1)
Ectrogella Zopf (8)
Lagenisma Schnepf (1)

***Saprolegniales* K. Prantl**

***Achlyaceae* ined.**

Achlya Nees (80)
Brevilegnia Coker & Couch (16)
Dictyuchus Leitg. (9)
Thraustotheca Humphrey (4)

***Saprolegniaceae* Warm.**

Aplanopsis Höhnk (1)
Calyptralegnia Coker (3)
Couchia W.W. Martin (3)
Isoachlya Kauffmann (9)
Newbya M.W. Dick & M.A. Spencer (13)
Protoachlya Coker (7)
Pythiopsis de Bary (7)
Saprolegnia Nees (80)
Scoliolegnia M.W. Dick (5)

***Verrucalvaceae* M.W. Dick**

Aphanomyces de Bary (40)
Aquastella Glockling & D.P. Molloy (2)
Geolegnia Coker (4)
Leptolegnia de Bary (9)
Pachymetra B.J. Croft & M.W. Dick (1)
Plectospora Drechsler (4)
Verrucalvus P. Wong & M.W. Dick (1)

Saprolegniomycetes* genera *incertae sedis

Aphanomycopsis Scherff. (6)
Brevilegniella M.W. Dick (1)
Cornumyces M.W. Dick (8)
Clamydomycium M.W. Dick (7)
Ducellieria Teiling (1)
Eurychasmopsis Canter & M.W. Dick (1)
Leptolegniella Huneycutt (7)
Nematophthora Kerry & D.H. Crump (1)
Pythiella Couch (3)
Sommerstorffia Arnaudov (1)

Synchaetophagus Apstein (1)

Oomycota orders *incertae sedis*
Anisolpidiales M.W. Dick
Anisolpidiaceae Karling
Anisolpidium Karling (7)

Diatomophthoraceae Buaya & Thines
Diatomophthora Buaya & Thines (3)

Eurychasmales Sparrow
Eurychasmataceae Petersen
Eurychasma Magnus (3)

Haliphthorales ined.
Haliphthoraceae Vishniac
Halioticida Muraosa & Hatai (1)
Halocrusticida K. Nakam. & Hatai (7)
Haliphthoros Vishniac (3)

Haptoglossales M.W. Dick
Haptoglossaceae M.W. Dick
Haptoglossa Drechsler (12)

Miraculales ined.
Miraculaceae Buaya, Hanic & Thines
Miracula Buaya, Hanic & Thines (2)

Olpidiopsidales M.W. Dick
Olpidiopsidaceae Sparrow
Olpidiopsis Cornu (12)

Pontismatales Thines
Postismataceae H.E. Petersen
Petersenia Sparrow (3)
Pontisma H.E. Petersen (10)
Sirolpidium H.E. Petersen (7)

Rozellopsidales M.W. Dick
Rozellopsidaceae M.W. Dick
Rozellopsis Karling (5)

Amorphea Adl et al.
Amoebozoa Lühe
Evosea Kang et al.
Eumycetozoa L.S. Olive
Dictyosteliomycetes Doweld
Acytosteliales S. Baldauf, S. Sheikh & Thulin
Acytosteliaceae Raper ex Raper & Quinlan
Acytostelium Raper
Heterostelium S. Baldauf, S. Sheikh & Thulin
Rostrostelium S. Baldauf, S. Sheikh & Thulin

Cavenderiaceae S. Baldauf, S. Sheikh & Thulin
Cavenderia S. Baldauf, S. Sheikh & Thulin

Dictyosteliales L.S. Olive ex P.M. Kirk et al.

Dictyosteliaceae Rostaf. ex Cooke

Dictyostelium Bref.

Polysphondylium Bref.

Raperosteliaceae S. Baldauf, S. Sheikh & Thulin

Hagiwaraea S. Baldauf, S. Sheikh & Thulin

Raperostelium S. Baldauf, S. Sheikh & Thulin

Speleostelium S. Baldauf, S. Sheikh & Thulin

Tieghemostelium S. Baldauf, S. Sheikh & Thulin

Dictyosteliales genus *incertae sedis*

Coremiostelium S. Baldauf, S. Sheikh, Thulin & Spiegel

Dictyosteliomycetes genera *incertae sedis*

Coenonia Tiegh.

Synstelium S. Baldauf, S. Sheikh & Thulin

Ceratiomyxomycetes D. Hawksw., B. Sutton & Ainsw. in Leontyev et al. (2019)

Ceratiomyxales G.W. Martin ex M.L. Farr & Alexop.

Ceratiomyxaceae J. Schröt.

Ceratiomyxa J. Schröt.

Protosporangiaceae Leontyev, Stephenson, Schnittler, Shchepin, Novozhilov

Clastostelium L.S. Olive & Stoian.

Protosporangium L.S. Olive & Stoian.

Myxomycetes G. Winter

Lucisporomycetidae Leontyev, Schnittler, S.L. Stephenson, Novozhilov & Shchepin

Cribrariales T. Macbr.

Cribrariaceae Corda

Cribraria Pers.

Licaethalium Rostaf.

Lindbladia Fr.

Reticulariales Leontyev, Schnittler, S.L. Stephenson, Novozhilov & Shchepin

Reticulariaceae Chevall. ex Corda

Alwisia Berk. & Broome (6)

Lycogala Adans.

Reticularia Bull.

Tubifera J.F. Gmel.

Siphoptychium Rostaf.

Thecotubifera Leontyev, Schnittler, S.L. Stephenson & Novozh.

Liceales E. Jahn

Liceaceae Chevall.

Licea Schrad.

Listerella E. Jahn

Trichiales T. Macbr.

Dianemataceae T. Macbr.

Calomyxa Nieuwl.
Dianema Rex
Dictydiaethalium Rostaf.
Prototrichia Rostaf.

Trichiaceae Chevall.

Arcyodes O.F. Cook
Arcyria F.H. Wigg.
Cornuvia Rostaf.
Hemitrichia Rostaf.
Metatrichia Ing
Oligonema Rostaf.
Perichaena Fr.
Trichia Haller

Lucisporomycetidae genera incertae sedis

Arcyriatella Hochg. & Gottsb.
Calonema Morgan
Minakatella G. Lister
Trichioides Novozh., Hoof & Jagers

Columellomycetidae Leontyev, Schnittler, S.L. Stephenson, Novozhilov & Shchepin

Echinosteliopsidales Shchepin, Leontyev, Schnittler, S.L. Stephenson, Novozhilov

Echinosteliopsidaceae L.S. Olive

Echinosteliopsis Reinhardt & L.S. Olive

Echinosteliales G.W. Martin

Echinosteliaceae Rostaf. ex Cooke

Barbeyella Meyl.
Echinostelium de Bary
Semimorula E.F. Haskins, McGuinn. & C.S. Berry

Clastodermatales Leontyev, Schnittler, S.L. Stephenson, Novozhilov & Shchepin

Clastodermataceae Alexop. & T.E. Brooks

Clastoderma A. Blytt.

Meridermatales Leontyev, Schnittler, S.L. Stephenson, Novozhilov & Shchepin

Meridermataceae Leontyev, Schnittler, S.L. Stephenson, Novozhilov & Shchepin

Meriderma Mar. Mey. & Poulain

Stemonitidales T. Macbr.

Amaurochaetaceae Rostaf. ex Cooke

Amaurochaete Rostaf.
Brefeldia Rostaf.
Comatricha Preuss
Enerthenema Bowman
Paradiacheopsis Hertel.
Stemonaria Nann.-Bremek., R. Sharma & Y. Yamam.
Stemonitopsis (Nann.-Bremek.) Nann.-Bremek.

Stemonitidaceae Fr.

Macbrideola H.C. Gilbert

Stemonitis Gled.

Symphytocarpus Ing & Nann.-Bremek.

Physarales T. Macbr.

Lamprodermataceae T. Macbr.

Collaria Nann.-Bremek.

Colloderma G. Lister

Diacheopsis Meyl.

Elaeomyxa Hagelst.

Lamproderma Rostaf.

Didymiaceae Rostaf. ex Cooke

Diderma Pers.

Didymium Schrad.

Lepidoderma de Bary

Mucilago Battarra

Physaraceae Chevall.

Badhamia Berk.

Craterium Trentep.

Fuligo Haller

Kelleromyxa Eliasson

Leocarpus Link

Physarella Peck.

Physarina Höhn.

Physarum Pers.

Willkommlangea Kuntze

Columellomycetidae genera *incertae sedis*

Diachea Fr.

Leptoderma G. Lister

Paradiachea Hertel

Protophysarum M. Blackw. & Alexop.

Trabrooksia H.W. Keller

Variosea Cavalier-Smith et al.

Protosteliida Olive & Stoian. sensu Shadwick et Spiegel in Adl et al. 2012

Protosteliidae Olive & Stoian., emend Spiegel

Protostelium L.S. Olive & Stoian.

Fractovitellida Lahr et al. sensu Kang et al. 2017

Schizoplasmodiidae Shadwick & Spiegel in Adl et al.

Ceratiomyxella L.S. Olive & Stoian.

Nematostelium L.S. Olive & Stoian.

Schizoplasmodium L.S. Olive & Stoian.

Soliformoviidae Lahr & Katz

Soliformovum Spiegel

Cavosteliida Shadwick & Spiegel in Adl et al.

Cavosteliidae S.L. Olive
Cavostelium S.L. Olive
Schizoplasmodiopsis S.L. Olive
Tychosporium Spiegel

Tubulinea Smirnov et al.
Elardia Kang et al.
Euamoebida Lepši
Copromyxidae L.S. Olive & Stoian.
Copromyxa Zopf

Discosea Cavalier-Smith et al. sensu Smirnov et al. 2011
Flabellinea Smirnov et al.
Thecamoebida Schaeffer
Sappinia P.A. Dang.

Vannellida Smirnov et al.
Protosteliopsis L.S. Olive & Stoian.

Centramoebia Cavalier-Smith et al.
Acanthopodida Page
Acanthamoeba Volkonsky
Luapelamoeba Shadwick et al.

Pellitida Smirnov & Cavalier-Smith sensu Kang et al. 2017
Endostelium L.S. Olive, W.E. Benn. & Deasey
Discoba Simpson in Hampl et al.
Heterolobosea Page & Blanton
Tetramitia Cavalier-Smith
Eutetramitia Hanousková et al.
Acrasidae Poche
Acrasis Tiegh. (incl. *Pocheina* A.R. Loeb. & Tappan)

Discussion

Alternative classification of *Leotiomycetes* (Authors: A.H. Ekanayaka & K.D. Hyde)

The arrangement of *Leotiomycetes* in Ekanayaka et al. (2019) and Johnston et al et al. (2019) are based on morphological interpretations and phylogenies using different data, however, they are generally congruent. Johnston et al. (2019) used three phylogenetic reconstructions, one based on 3156 single-copy genes for 49 taxa, the second based on 15 genes for 279 taxa, and the third based on ITS alone for 568 taxa. Ekanayaka et al. (2019) used five genes with 482 taxa. There are, however, some differences and therefore the outline from Ekanayaka et al. (2019) with modifications is given below with notes. Understandably, if different taxa were used in the Ekanayaka et al. (2019) and Johnston et al. (2019) phylogenies, different conclusions have been drawn and therefore the classification of *Leotiomycetes* is not settled. We hope that by providing an alternative outline, this will initiate positive discussion and further research with fresh collections to resolve inconsistencies. However, with insufficient taxa in this class having been sequenced it will take several years before the classification is stabilized.

Taxa with notes in this section are indicated by #.

Chaetomellales Crous & Denman
Chaetomellaceae Baral, P.R. Johnst. & Rossman

Chaetomella Fuckel (26)
Corniculariella P. Karst. (1)
Pilidium Kunze (23)
Sphaerographium Sacc. (23)
Synchaetomella Decock & Seifert (3)
Xeropilidium Baral & Pärtel (1)

Cyttariales Luttr. ex Gamundí

Cordieritidaceae Sacc.[#]

Ameghiniella Speg. (2)
Annabella Fryar, Haelew., & D.E.A. Catches. (1)
Austrocenangium Gamundí (2)
Cordierites Mont. (5)
Diplocarpa Masee (2)
Diplolaeviopsis Giralt & D. Hawksw. (3)
Gelatinopsis Rambold & Triebel (8)
Ionomidotis E.J. Durand ex Thaxt. (13)
Llimoniella Hafellner & Nav.-Ros. (19)
Macroskyttea Etayo, Flakus, Suija & Kukwa (1)
Midotiopsis Henn. (2)
Phaeangella (Sacc.) Masee (11)
Rhymbocarpus Zopf (12)
Rhizocladosporium Crous & U. Braun (1)
Skyttea Sherwood, D. Hawksw. & Coppins (30)
Skyttella D. Hawksw. & R. Sant. (2)
Sabahriopsis Crous & M.J. Wingf. (1)
Thamnogalla D. Hawksw. (1)
Unguiculariopsis Rehm (25)

Cyttariaceae Lév.

Cyttaria Berk. (13)

Deltopyxidaceae Ekanayaka & K.D. Hyde[#]

Deltopyxis Baral & G. Marson (1)
Phaeopyxis Rambold & Triebel (1)

Erysiphales Gwynne-Vaughan[#]

Amorphothecaceae Parbery (= *Myxotrichaceae* Locq. ex Currah *fide* Ekanayaka et al. 2019)[#]

Amorphotheca Parbery (1)
Brefeldochium Verkley (1)
Byssoascus Arx (2)
Myxotrichum Kunze (12)
Oidiodendron Robak (ca. 30)
Polydesmia Boud. (7)
Hormoconis Arx & G.A. de Vries (2)

Erysiphaceae Tul. & C. Tul.

Arthrocladiella Vassilkov (1)
Blumeria Golovin ex Speer (1)
Brasiliomyces Viégas (6)
Bulbomicroidium Marm., S. Takam. & U. Braun (1)
Caespitotheca S. Takam. & U. Braun (1)

Cystotheca Berk. & M.A. Curtis (9)
Erysiphe R. Hedw. ex DC. (478)
Golovinomyces (U. Braun) V.P. Heluta (66)
Leveillula G. Arnaud (49)
Microidium (To-anun & S. Takam.) To-anun & S. Takam. (3)
Neoerysiphe U. Braun (15)
Oidiopsis Scalia (ca. 12)
Oidium Link (ca. 200+)
Ovulariopsis Pat. & Har. (ca. 13)
Parauncinula S. Takam. & U. Braun (4)
Phyllactinia Lév. (117)
Pleochaeta Sacc. & Speg. (5)
Podosphaera Kunze (124)
Pseudoidium Y.S. Paul & J.N. Kapoor (ca. 80)
Queirozia Viégas & Cardoso (1)
Sawadaea Miyabe (10)
Takamatsuella U. Braun & A. Shi (1)
Typhulochaeta S. Ito & Hara (ca. 4)

Helotiales Nannf. ex Korf & Lizoň

Arachnopezizaceae Hosoya, J.G. Han & Baral

Arachnopeziza Fuckel (15)
Arachnoscypha Boud. (3)
Austropezia Spooner (1)
Eriopezia (Sacc.) Rehm (30)
Durella Tul. & C. Tul. (5)

Bryoglossaceae Ekanayaka & K.D. Hyde

Bryoclaviculus L. Ludw., P.R. Johnst. & Steel (1)
Bryoglossum Redhead (2)
Neocudoniella S. Imai (2)

Chlorociboriaceae Baral & P.R. Johnst.[#]

Chlorociboria Seaver ex C.S. Ramamurthi, Korf & L.R. Batra (22)

Chlorospleniaceae Ekanayaka & K.D. Hyde

Chlorosplenium Fr. (5)

Chrysodiscaceae Baral & Haelew.

Chrysodisca Baral, Polhorský & G. Marson (1)

Discinellaceae Ekanayaka & K.D. Hyde

Articulospora Ingold (ca. 5)
Acidea Hujslová & M. Kolařík (1)
Cladochasiella Marvanová (1)
Discinella Boud. (ca. 15)
Fontanospora Dyko (1)
Gyoerffyella Kol (10)
Lemonniera De Wild. (7)
Naevala B. Hein (6)
Margaritispota Ingold (1)
Pezoloma Clem. (ca. 15)
Tetrachaetum Ingold (3)

Drepanopezizaceae Baral (= *Drepanopezizaceae* Bat. & H. Maia; Nom. inval., Arts 32.1(c), 36, 39.1 (Melbourne))

- Blumeriella* Arx (= *Higginsia* Nannf.; = *Phloeosporella* Höhn., = *Microgloeum* Petr.) (7)
- Diplocarpon* F.A. Wolf (7)
- Drepanopeziza* (Kleb.) Höhn. (= *Gloeosporidiella* Petr.) (5)
- Felisbertia* Viégas (7)
- Leptotrochila* P. Karst. (= *Ephelina* Sacc.; = *Fabraea* Sacc.; = *Sporonema* Desm.) (15)
- Pseudopezicula* Korf (2)
- Spilopodia* Boud. (= *Holmiodiscus* Svrček; = *Melanodiscus* Höhn.) (ca. 4)
- Spilopodiella* E. Müll. (1)
- Thegonia* B. Sutton (6)

Gelatinodiscaceae S.E. Carp

- Ascocoryne* J.W. Groves & D.E. Wilson (= *Didymocoryne* Sacc. & Trotter) (8)
- Ascotremella* Seaver (2)
- Chloroscypha* Seaver (14)
- Dimorphospora* Tubaki (1)
- Helicodendron* Peyronel (3)
- Neobulgaria* Petr. (11)
- Phaeangellina* Dennis (1)
- Skyathea* Spooner & Dennis (1)

Godroniaceae Baral

- Ascocalyx* Naumov (4)
- Atropellis* Zeller & Goodd. (4)
- Godronia* Moug. & Lév. (ca. 30)
- Gremmeniella* M. Morelet (3)
- Grovesiella* M. Morelet (2)

Helotiaceae Rehm (= *Roesleriaceae* Y.J. Yao & Spooner *vide* Ekanayaka et al. 2019)

- Amylocarpus* Curr. (1)
- Asterocalyx* Höhn. (1)
- Ascoconidium* Seaver (3)
- Bryoscyphus* Spooner (19)
- Calycella sensu* (Sacc.) Sacc. (1)
- Crocicreas* Fr. (5)
- Eubelonis* Clem. (2)
- Cudoniella* Sacc. (31)
- Cyathicula* De Not. (30)
- Dicephalospora* Spooner (4)
- Endoscypha* Syd. (1)
- Discorehmia* Kirschst. (5)
- Glarea* Bills & Paláez (2)
- Gloeotinia* M. Wilson, Noble & E.G. Gray (2)
- Helicocentralis* Sri-indr., Chuaseehar., Boonyuen, K. Yamag., Suetrong & C.K.M. Tsui (1)
- Hymenoscyphus* Gray (170)
- Hymenotorrendiella* P.R. Johnst., Baral & R. Galán (9)
- Lanzia* Sacc. (55)
- Muscicola* Velen. (1)
- Mytilodiscus* Kropp & S.E. Carp. (1)
- Ombrophila* Fr. (11)

Phaeohelotium Kanouse (41)
Pirottaea Sacc. (28)
Pithyella Boud. (8)
Pseudoniptera Velen. (25)
Roesleria Thüm. & Pass. (ca. 10)
Roeslerina Redhead (3)
Symphyosirinia E.A. Ellis (6)
Tatraea Svrcek (2)
Torrendiella Boud. & Torrend (3)
Xylogramma Wallr. (18)

Heterosphaeriaceae Rehm

Heterosphaeria Grev. (7)

Hyaloscyphaceae Nannf.

Ambrodiscus S.E. Carp. (1)
Aeruginoscyphus Dougoud (7)
Arbusculina Marvanová & Descals (3)
Clathrosphaerina Beverw. (2)
Curviclavula G. Delgado, F.A. Fernández & A.N. Mill. (1)
Dimorphotricha Spooner (1)
Echinula Graddon (1)
Glutinomyces Nor. Nakam. (1)
Graddonidiscus Raitv. & R. Galán (3)
Grahamiella Spooner (3)
Hegermila Raitv. (4)
Hyaloscypha Boud. (45)
Hyalodendriella Crous (1)
Hypopeziza J.G. Han, Hosoya & H.D. Shin (1)
Incrupila Raitv. (10)
Meliniomyces Hambl. & Sigler (3)
Olla Velen. (2)
Parachnopeziza Korf (8)
Polaroscyphus Huhtinen (1)
Proprioscypha Spooner (1)
Protounguicularia Raitv. & R. Galán (10)
Pseudaegerita J.L. Crane & Schokn. (7)
Psilocistella Svrcek (10)
Rhizoscyphus W.Y. Zhuang & Korf (1)
Scytalidium Pesante (ca. 30)
Thindiomyces Arendh. & R. Sharma (1)
Unguiculariella K.S. Thind & R. Sharma (1)
Unguiculella Höhn. (17)

Hydrocinaceae Ekanayaka & K.D. Hyde

Clathrosporium Nawawi & Kuthub. (1)
Filosporella Nawawi (6)
Hydrocina Scheuer (1)
Varicosporium W. Kegel (11)
Xerombrophila Baral (1)

Lachnaceae Raitv.

Albotricha Raitv. (19)
Asperopilum Spooner (1)
Belonidium Mont. & Dur. (1)
Brunnipila Baral (10)
Capitotricha (Raitv.) Baral (10)
Crucellisporiopsis Nag Raj (3)
Crucellisporium M.L. Farr (3)
Dasyscyphella Tranzschel (1)
Erioscyphella Kirschst. (10)
Incrucipulum Baral (6)
Lachnellula P. Karst. (40)
Lachnum Retz. (50)
Lachnopsis Guatim., R.W. Barreto & Crous (1)
Neodasyscypha Suková & Spooner (2)
Perrotia Boud. (19)
Proliferodiscus J.H. Haines & Dumont (8)
Tubolachnum Velen. (2)
Velebitea I. Kušan, Matočec & Jadan (1)

Loramycetaceae Dennis ex Digby & Goos

Acidomelania E. Walsh & N. Zhang (1)
Loramycetes W. Weston (2)
Obtectodiscus E. Müll., Petrini & Samuels (2)

Mitrulaceae Rchb.

Mitrula Fr. (8)

Mollisiaceae Rehm

Bulbomollisia Graddon (1)
Cystodendron Bubák (2)
Discocurtisia Nannf. (12)
Mollisia (Fr.) P. Karst. (130)
Neotapesia E. Müll. & Hütter (3)
Niptera Fr. (10)
Nipterella Starbäck ex Dennis (2)
Phialocephala W.B. Kendr. (37)
Pseudonaevia Dennis & Spooner (2)
Pyrenopeziza Fuckel (3)
Sarconiptera Raitv. (1)
Scutobelonium Graddon (1)
Scutomollisia Nannf. (14)
Tapesia (Pers.) Fuckel (ca. 25)
Trimmatostroma Corda (30)
Variocladium Descals & Marvanová (1)

Ploettnerulaceae Kirschst.

Cadophora Lagerb. & Melin (15)
Collembolispota Marvanová & Pascoal (2)
Cylindrosporium Grev. (3)
Dennisiodiscus Svrcek (10)
Lasiomollisia Raitv. & Vesterh. (1)
Mastigosporium Riess (4)
Mycochaetophora Hara & Ogawa (2)

Nothopacidium J. Reid & Cain (1)
Oculimacula Crous & W. Gams (6)
Peltigeromyces A. Möller (3)
Ploettnerula Kirschst. (1)
Pseudopeziza Fuckel (4)
Rhexocerosporidium U. Braun (2)
Rhynchosporium Heinsen ex A.B. Frank (5)
Ypsilina J. Webster, Descals & Marvanová (1)

Solenopeziaceae Ekanayaka & K.D. Hyde

Geniculospora Sv. Nilsson ex Marvanová & Sv. Nilsson (2)
Graddonia Dennis (7)
Halenospora E.B.G. Jones (1)
Lasiobelonium Ellis & Everh. (20)
Mycofalcella Marvanová, Om-Kalth. & J. Webster (2)
Solenopezia Sacc. (7)
Trichopeziza Fuckel (30)
Trichopezizella Dennis ex Raitv. (12)
Tricladium Ingold (25)

Vibrisseaceae Korf

Acephala Grünig & T.N. Sieber (2)
Cheirospora Moug. & Fr. (2)
Diplococcium Grove (30)
Fuscosclera Hern.-Restr., J. Mena & Gené (1)
Gorgoniceps (P. Karst.) P. Karst. (3)
Leucovibrisea (A. Sánchez) Korf (1)
Pocillum De Not. (1)
Strossmayeria Schulzer (= *Pseudospiropes* M.B. Ellis) (16)
Srinivasanomyces S. Rana & S.K. Singh (1)
Vibrisea Fr. (34)

Helotiales genera *incertae sedis*

Aquapoterium Raja & Shearer (1)
Arboricolonus S. Bien & Damm (1)
Barrenia E. Walsh & N. Zhang (2)
Brackelia Zhurb. (1)
Bulgariella P. Karst. (4)
Cecidioskyttea Etayo (1)
Chlorovibrisea L.M. Kohn (4)
Colipila Baral & Guy García (2)
Connersia Malloch (1)
Cryptocline Petr. (20)
Encoeliopsis Nannf. (4)
Gamarada D.J. Midgley & Tran-Dinh (1)
Larissia Raitv. (1)
Lemalis Fr. (3)
Libartania Nag Raj (2)
Merodontis Clem. (1)
Mitrulinia Spooner (1)
Mollisiopsis Rehm (7)
Muscia Gizhitsk (1)

Patellariopsis Dennis (5)
Pestalopezia Seaver (3)
Phacidiella P. Karst. (1)
Pleuroascus Masee & E.S. Salmon (11)
Pseudomitrla Gamundí (1)
Sambucina Velen. (1)
Sarcomyces Masee (1)
Unguicularia Höhn. (7)

Lahmiales O.E. Erikss.

Lahmiaceae O.E. Erikss.

Lahmia Körb. (1)

Lauriomycetales Hern.-Restr., R.F. Castañeda & Guarro

Lauriomycetaceae Hern.-Restr., R.F. Castañeda & Guarro

Lauriomyces R.F. Castañeda (11)

Leotiales Korf & Lizoñ

Cochlearomycetaceae Crous[#]

Cochlearomyces Crous (1)

Leotiaceae Corda

Geocoryne Korf (2)

Leotia Pers. (4)

Microglossum Gillet (ca. 10)

Thuemenidium Kuntze (1)

Mniaeciaceae Baral

Mniaecia Boud. (= *Epiglia* Boud.) (6)

Tympanidaceae Baral & Quijada

Aotearoamyces P.R. Johnst., J.A. Cooper & Quijada (1)

Claussenomyces Kirschst. (ca. 19)

Collophorina Damm & Crous (6)

Durandiella Seaver (15)

Gelatinosporium Peck (15)

Myriodiscus Boedijn (1)

Pragmopora A. Massal. (7)

Tympanis Fr. (ca. 27)

Leotiales genus *incertae sedis*

Gelatinomyces Sanoam., Sanoam., Jitjak, Rodtong & Whalley (2)

Lichinodiales M. Prieto, M. Schultz, Olariaga & Wedin

Lichinodiaceae M. Prieto, M. Schultz, Olariaga & Wedin

Lichinodium Nyl. (4)

Mycosymbioces J.L. Frank (1)

Lichinodiales genera *incertae sedis*

Epithamnolia Zhurb. (6)

Fulvoflamma Crous (1)

Marthamycetales P.R. Johnst. & Baral

Marthamycetaceae Baral, Lantz, Hustad & Minter
Cyclaneusma DiCosmo, Peredo & Minter (2)
Marthamyces Minter (13)
Mellitiosporiella Höhn. (2)
Mellitiosporium Corda (11)
Naemacyclus Fuckel (6)
Phragmiticola Sherwood (1)
Propolina Sacc. (1)
Propolis (Fr.) Corda (ca. 9)

Medeolariales Korf[#]

Ascocorticiaceae J. Schröt.
Ascocorticiellum Jülich & B. de Vries (3)
Ascocorticium Bref. (8)
Ascosorus P. Henn. & Ruhland (1)

Ascodichaenaceae D. Hawksw. & Sherwood

Ascodichaena Butin (2)
Delpinoina Kuntze (2)

Dermateaceae Fr.

Arctomollisia Raitv. (2)
Cashiella Petr. (3)
Davidhawksworthia Crous (1)
Dermea Fr. (25)
Gelatinoamylaria Prasher & R. Sharma (1)
Neofabraea H.S. Jacks. (7)
Pezicula Tul. & C. Tul. (50)
Phlyctema Desm. (30)
Pseudofabraea Chen Chen, Verkley & Crous (1)
Rhizodermea Verkley & J.D. Zijlstra (1)
Schizothyrioma Höhn. (1)
Verkleyomyces Y. Marín & Crous (1)

Medeolariaceae Korf

Medeolaria Thaxt. (1)

Medeolariales genera *incertae sedis*

Coleophoma Höhn. (35)
Parafabraea Chen Chen, Verkley & Crous (2)

Phacidiales C.E. Bessey

Helicogoniaceae Baral

Eleutheromycella Höhn. (1)
Eleutheromyces Fuckel (1)
Gelatinipulvinella Hosoya & Y. Otani (2)
Geltingia Alstrup & D. Hawksw. (1)
Helicogonium W.L. White (19)
Humicolopsis Cabral & S. Marchand (2)

Phacidiaceae Fr. (= *Bulgariaceae* Fr.; = *Phacidiostromataceae* Höhn. *fide* Jaklitsch et al. 2016a)

Allantophomopsiella Crous (1)
Allantophomopsis Petr. (8)
Bulgaria Fr. (2)
Calvophomopsis J.B. Tanney & Seifer (1)
Ceuthospora Grev. (ca. 100)[#]
Cornibusella J.B. Tanney & Seifer (1)
Darkera H.S. Whitney, J. Reid & Piroz. (5)
Gloeopycnis J.B. Tanney & Seifer (1)
Phacidiopycnis Potebnia (5)
Phacidium Fr. (ca. 200)
Potebniamyces Smerlis (1)[#]
Pseudophacidium P. Karst. (5)
Starbaeckia Rehm ex Starbäck (1)
Strasseria Bres. & Sacc. (1)[#]
[#]Ekanayaka et al. (2019) accepted these genera in *Phacidiaceae*

Phacidiales* genus *incertae sedis

Coma Nag Raj & W.B. Kendr. (2)

***Rhytismatales* M.E. Barr ex Minter**

***Rhytismataceae* Chevall. (= *Hypodermataceae* Rehm; = *Cryptomycetaceae* Höhn. nom. inval. *fide* Jaklitsch et al. 2016a; = *Cudoniaceae* P.F. Cannon *fide* Ekanayaka et al. 2019)**

Angelina Fr. (1)
Apiodiscus Petr. (1)
Bifusella Höhn. (11)
Bifusepta Darker (1)
Bivallum P.R. Johnst. (7)
Bonanseja Sacc. (1)
Canavirgella W. Merr, Wenner & Dreisbach (1)
Cavaraella Speg. (1)
Ceratophacidium J. Reid & Piroz. (1)
Cerion Masee (2)
Coccomyces De Not. (118)
Colpoma Wallr. (14)
Criella (Sacc.) Henn. (2)
Cryptomyces Grev. (1)
Cudonia Fr. (9)
Davisomycella Darker (10)
Didymascus Sacc. (1)
Discocainia J. Reid & A. Funk (4)
Duplicaria Fuckel (1)
Duplicariella B. Erikss. (1)
Elytroderma Darker (1)
Gelineostroma H.J. Swart (1)
Haplophyse Theiss. (10)
Heufleria Auersw. (1)
Hypoderma De Not. (1)
Hypodermella Tubeuf (3)
Hypodermellina Höhn. (1)
Hypohelion P.R. Johnst. (3)
Irydyonia Racib. (1)

Laquearia Fr. (1)
Lasiostictella Sherwood (1)
Lirula Darker (3)
Lophodermella Höhn. (9)
Lophodermium Chevall. (145)
Lophopacidium Lagerb. (5)
Macroderma Höhn. (1)
Meloderma Darker (9)
Moutoniella Penz. & Sacc. (1)
Mycomelanea Velen. (1)
Myriopacidium Sherwood (6)
Nematococcomyces C.L. Hou, M. Piepenbr. & Oberw. (9)
Neococcomyces Y.R. Lin, C.T. Xiang & Z.Z. Li (3)
Neopacidium Petr. (2)
Nothorhytisma Minter, P.F. Cannon, A.I. Romero & Peredo (3)
Nymanomyces Henn. (1)
Parvacoccum R.S. Hunt & A. Funk (1)
Phaeopacidium P. Henn. & Lindau (4)
Ploioderma Darker (7)
Propolidium Sacc. (2)
Pseudorhytisma Juel (1)
Pseudotrochila Höhn. (2)
Pureke P.R. Johnst. (7)
Rhytisma Fr. (21)
Soleella Darker (7)
Spathularia Pers. (ca. 12)
Sporomega Corda (7)
Terriera B. Erikss. (26)
Therrya Sacc. (7)
Triblidiopsis P. Karst. (2)
Tryblidiopsis P. Karst. (3)
Virgella Darker (1)
Vladracula P.F. Cannon, Minter & Kamal (2)
Xyloschizon Syd. (2)
Zeus Minter & Diamandis (2)

***Tribliaceae* Rehm**

Huangshania O.E. Erikss. (2)
Pseudographis Nyl. (3)
Triblidium Rebm. (6)

***Thelebolales* P.F. Cannon**

***Thelebolaceae* A. Engler (= *Pseudeurotiaceae* Malloch & Cain *vide* Ekanayaka et al. 2019)**

Antarctomyces Stchigel & Guarro (1)
Ascophanus Boud. (20)
Ascozonus (Renny) E.C. Hansen (6)
Caccobius Kimbr. (6)
Cleistothelebolus Malloch & Cain (13)
Coprobolus Cain & Kimbr. (1)
Geomyces Traaen (ca. 10)
Gymnostellatospora Udagawa, Uchiy. & Kamiya (ca. 6)
Holwaya Sacc. (= *Crinula* Fr.) (2)

Leptokalpion Brumm. (2)
Leuconeurospora Malloch & Cain (3)
Neelakesa Udaiyan & Hosag. (3)
Patinella Sacc. (1)
Pseudascozonus Brumm. (1)
Pseudeurotium J.F.H. Beyma (6)
Pseudogymnoascus Raillo (ca. 10)
Ramgea Brumm. (2)
Thelebolus Tode (13)

***Thelebolales* genera incertae sedis**

Alatospora Ingold (4)
Gorgomyces M. Gönczöl & Révay (2)
Miniancora Marvanová & Bärl. (1)

***Leotiomyces* families incertae sedis**

***Cenangiaceae* Rehm[#]**

Cenangium Fr. (30)
Moellerodiscus Henn. (7)
Piceomphale Svrček (1)

***Calloriaceae* L. Marchand[#]**

Aivenia Svrček (4)
Belonioscyphella Höhn. (4)
Calloria Fr. (5)
Chaetonaevia Arx (3)
Cistella Quél. (45)
Dactylaria Sacc. (ca. 100)
Diplonaevia Sacc. (23)
Duebenia Fr. (5)
Eupropolella Höhn. (7)
Hyalacrotis (Korf & L.M. Kohn) Raitv. (2)
Iridinea Velen. (2)
Laetinaevia Nannf. (15)
Leohumicola N.L. Nick. (7)
Loricella Velen. (2)
Micropodia Boud. (2)
Mycoarthritis Marvanová & P.J. Fisher (1)
Naeviella (Rehm) Clem. (3)
Naeviopsis B. Hein (3)
Ploettnera Henn. (5)
Polyphilus D.G. Knapp, Ashrafi, W. Maier & Kovács (2)
Psilachnum Höhn. (28)
Rodwayella Spooner (3)
Rommelaarsia Baral & Haelew. (1)
Roseodiscus Baral (6)
Stammaria Fuckel (5)
Tetracladium De Wild. (11)
Urceolella Boud. (24)

***Hamatocanthoscyphaceae* Ekanayaka & K.D. Hyde**

Brachyalara Réblová & W. Gams (1)

Chalara (Corda) Rabenh. (ca. 100)
Ciliolarina Svrček (1)
Gremmenia Korf (4)
Hamatocanthoscypha Svrček (3)
Infundichalara Réblová & W. Gams (2)
Microscypha Syd. & P. Syd. (6)
Pseudohelotium Fuckel (50)
Xenochalara M.J. Wingf. & Crous (1)
Xenopolyscytalum Crous (1)

Hemiphacidiaceae Korf[#]

Calycellinopsis W.Y. Zhuang (1)
Cenangiosis Rehm (2)
Chlorencoelia J.R. Dixon (4)
Crumenulopsis J.W. Groves (1)
Didymascella Maire & Sacc. (5)
Encoelia (Fr.) P. Karst. (40)
Fabrella Kirschst. (1)
Heyderia Link (6)
Hysterostegiella Höhn. (10)
Korfia J. Reid & Cain (1)
Rhabdocline Syd. (4)
Sarcotrochila Höhn. (4)
Trochila Fr. (15)
Velutarina Korf (3)

Hyphodiscaceae Ekanayaka & K.D. Hyde

Fuscolachnum J.H. Haines (7)
Hyalopeziza Fuckel (15)
Hyphodiscus Kirschst. (16)
Soosiella Hujslová & M. Kolařík (1)
Scolecachnum Guatim., R.W. Barreto & Crous (2)
Venturiocistella Raitv. (7)

Leptodontidiaceae Hern.-Restr., Crous & Gené[#]

Leptodontidium de Hoog. (11)

Neocrinulaceae Crous

Neocrinula Crous (2)

Neolauriomycetaceae Crous[#]

Exochalara W. Gams & Hol.-Jech. (3)
Lareunionomyces Crous & M.J. Wingf. (2)
Neolauriomycetes Crous (1)

Pezizellaceae Velen. (= *Bloxamiaceae* Locq. ex Hern.-Restr., Gené, R.F. Castañeda, J. Mena, Crous & Guarro *fide* Ekanayaka et al. 2019)[#]

Allophylaria (P. Karst.) P. Karst. (6)
Antinoa Velen. (8)
Bisporella Sacc. (19)
Bloxamia Berk. & Broome (19)
Calycellina Höhn (45)

Calycina Nees ex Gray (= *Pezizella* Fuckel) (30)
Micropeziza Fuckel (12)
Mollisina Höhn. ex Weese (11)
Mollisinopsis Arendh. & R. Sharma (3)
Moserella Pöder & Scheuer (1)
Orbiliopsis (Sacc. & D. Sacc.) Syd. & P. Syd. (2)
Phaeoscypha Spooner (1)
Phialina Höhn. (ca. 13)
Triposporium Corda (14)
Poculinia Spooner (1)
Scleropezicula Verkley (6)
Velutaria Fuckel (1)
Xiambola Minter & Hol.-Jech. (1)
Zymochalara Guatim., R.W. Barreto & Crous (2)

Rutstroemiaceae Holst-Jensen, L.M. Kohn & T. Schumach. #

Bicornispora Checa, Barrasa, M.N. Blanco & A.T. Martínez (2)
Dencoeliopsis Korf (2)
Lambertella Höhn. (6)
Neometulocladosporiella Crous & M.J. Wingf. (1)
Rutstroemia P. Karst. (ca. 100)

Sclerotiniaceae Whetzel#

Amerosporium Speg. (31)
Amphobotrys Hennebert (1)
Banksiamyces G. Beaton (4)
Botrytis P. Micheli ex Pers. (3)
Ciboria Fuckel (21)
Ciborinia Whetzel (ca. 16)
Clarireedia L.A. Beirn, B.B. Clarke, C. Salgado & J.A. Crouch (4)
Coprotinia Whetzel (1)
Cristulariella Höhn. (5)
Cudoniopsis Speg. (1)
Dumontinia L.M. Kohn (5)
Elliottinia L.M. Kohn (1)
Grovesinia M.N. Cline, J.L. Crane & S.D. Cline (2)
Haradamyces Masuya, Kusunoki, Kosaka & Aikawa (1)
Kohninia Holst-Jensen, Vrålstad & T. Schumach. (1)
Martininia Dumont & Korf (1)
Monilinia Honey (30)
Mycopappus Redhead & G.P. White (4)
Myrioconium Syd. & P. Syd. (10)
Myriosclerotinia N.F. Buchw. (10)
Ovulinia Weiss (9)
Phaeosclerotinia Hori (1)
Poculum Velen. (ca. 22)
Pseudociboria Kanouse (1)
Pycnopeziza W.L. White & Whetzel (5)
Redheadia Y. Suto & Suyama (1)
Sclerencoelia Pärtel & Baral (3)
Scleromitrlula S. Imai (6)
Sclerotinia Fuckel (15)

Sclerotium Tode (100)
Seaverinia Whetzel (2)
Septotinia Whetzel ex J.W. Groves & M.E. Elliott (2)
Streptotinia Whetzel (3)
Stromatinia (Boud.) Boud. (15)
Valdensia Peyronel (3)
Valdensinia Peyronel (1)

Vandijkellaceae Sandoval-Denis
Vandijkella Sandoval-Denis (1)

Leotiomyces family *incertae sedis*

Porodiplodiaceae Crous
Porodiplodia Crous (1)

Leotiomyces genera *incertae sedis*

Adelodiscus Syd. (3)
Algincola Velen. (1)
Apiculospora Wijayaw., Camporesi, A.J.L. Phillips & K.D. Hyde (1)
Aquadiscula Shearer & J.L. Crane (2)
Ascluella DiCosmo, Nag Raj & W.B. Kendr. (1)
Ascoclavulina Otani (8)
Bagnisimitrula S. Imai (1)
Benguetia Syd. & P. Syd. (1)
Bioscypha Syd. (2)
Bulgariopsis Henn. (2)
Callerascus Whitton, K.D. Hyde & McKenzie (1)
Calloriopsis Syd. & P. Syd. (2)
Capillipes R. Sant. (1)
Capricola Velen. (1)
Cejpia Velen. (3)
Cenangiumella J. Fröhl. & K.D. Hyde (1)
Chloroepilichen Etayo (1)
Chlorospleniella P. Karst. (1)
Chondroderris Maire (1)
Ciliella Sacc. & P. Syd. (1)
Coleosperma Ingold (1)
Comesia Sacc. (3)
Cornuntum Velen. (1)
Coronellaria P. Karst. (4)
Criserosphaeria Speg. (1)
Crumenella P. Karst. (1)
Cryptohymenium Samuels & L.M. Kohn (1)
Cryptopezia Höhn. (1)
Dawsicola Döbbeler (1)
Dermateopsis Nannf. (2)
Didonia Velen. (5)
Discomycella Höhn. (1)
Echinodiscus Etayo & Diederich (2)
Epicladonia D. Hawksw. *sensu stricto* (3)
Episclerotium L.M. Kohn (2)
Erikssonopsis M. Morelet (1)

Flagellospora Ingold (6)
Gloeopeziza Zúkal (8)
Godroniopsis Diehl & E.K. Cash (3)
Grimmicola Döbbeler & Hertel (1)
Grovesia Dennis (1)
Helotiella Sacc. (1)
Hemiglossum Pat. (2)
Hymenobolus Durieu & Mont. (3)
Hyphoscypha Velen. (1)
Hysteronaevia Nannf. (12)
Hysteropezizella Höhn. (19)
Involucroscypha Raitv. (10)
Jacobsonia Boedijn (1)
Lasseria Dennis (1)
Livia Velen. (1)
Massea Sacc. (4)
Melanopeziza Velen. (1)
Melanormia Körb. (1)
Metapezizella Petr. (1)
Micraspis Darker (3)
Microdiscus Sacc. (1)
Monochaetiollopsis B. Sutton & DiCosmo (2)
Mycosphaerangium Verkley (3)
Obconicum Velen. (2)
Obscurodiscus Raitv. (1)
Ocotomyces H.C. Evans & Minter (1)
Otwaya G.W. Beaton (12)
Pachydisca Boud. (1)
Parencoelia Petr. (4)
Patinellaria P. Karst. (1)
Pezolepis Syd. (2)
Pezomela Syd. (1)
Phaeofabraea Rehm (1)
Phragmonaevia Rehm (?1)
Phyllopezis Petr. (1)
Physmatomyces Rehm (1)
Pleoscutula Vouaux (3)
Podophacidium Niessl (2)
Polydiscidium Wakef. (7)
Polydiscina Syd. (1)
Potridiscus Döbbeler & Triebel (1)
Pseudolachnum Velen. (1)
Pseudopeltis L. Holm & K. Holm (1)
Pseudotryblidium Rehm (1)
Psilophana Syd. (1)
Psilotheceum Clem. (1)
Pteromyces E. Bommer, M. Rousseau & Sacc. (1)
Pubigera Baral, Gminder & Svrček (1)
Radotinea Velen. (1)
Rhizocalyx Petr. (1)
Rhizothyrium Naumov (1)
Riedera Fr. (1)

Sageria A. Funk (1)
Schnablia Sacc. & P. Syd. (1)
Sclerocrana Samuels & L.M. Kohn (4)
Scutulopsis Velen. (1)
Sinofavus W.Y. Zhuang (1)
Sorokina Sacc. (1)
Sorokinella J. Fröhl. & K.D. Hyde (2)
Spirosphaera Beverw. (8)
Stilbopeziza Speg. (1)
Themisia Velen. (8)
Tovariella Syd. (1)
Trichohelotium Killerm. (2)
Trizodia Laukka (1)
Trullula Ces. (15)
Waltonia Saho (1)
Woodiella Sacc. & P. Syd. (3)
Xeromedulla Korf & W.Y. Zhuang (3)
Zugazaea Korf, Iturr. & Lizoñ (1)

Notes for alternative classification of *Leotiomycetes*

Amorphothecaceae (= *Myxotrichaceae*) – Ekanayaka et al. (2019) placed this family under *Erysiphales*, considering its morphological similarity with other taxa in *Erysiphales*.

The authors accept the synonymy of *Myxotrichaceae* under *Amorphothecaceae* as the close phylogenetic relatedness of these two families were shown in the phylogeny provided in Ekanayaka et al. (2019) (A.H. Ekanayaka & K.D. Hyde).

Calloriaceae* and *Pezizellaceae – In other classification systems, *Calloriaceae* and *Pezizellaceae* are members of *Helotiales*. Ekanayaka et al. (2019) placed *Calloriaceae* and *Pezizellaceae* under *Rhytismatales* based on their phylogeny. Johnston et al. (2019) placed these families within *Helotiales*. However, the placement of *Calloriaceae* is not clear. In addition, whereas *Pezizellaceae* was retrieved as a monophyletic family in the “pezizelloid clade” of the 15-gene tree, taxa from this family are polyphyletic in the ITS tree. In the present alternative classification for *Leotiomycetes* we accept these families under *Leotiomycetes* families *incertae sedis*, until we have more data to provide a stable classification (A.H. Ekanayaka & K.D. Hyde).

Cenangiaceae*, *Chlorociboriaceae*, *Hemiphacidiaceae*, *Rutstroemiaceae*, *Sclerotiniaceae – Those families formed a well-supported distinct clade in Ekanayaka et al. (2019). Therefore, here we keep them in *Leotiomycetes* families *incertae sedis* until we have more data (A.H. Ekanayaka & K.D. Hyde).

Cochlearomycetaceae – Within the phylogeny of Ekanayaka et al. (2019), this family clustered within *Leotiales*, and also Johnston et al. (2019) suggested its position should be within *Leotiales* based on their ITS phylogeny. As a result, we placed this family in *Leotiales* (A.H. Ekanayaka & K.D. Hyde).

Cordieritidaceae – Taxa of this family differ from other *Helotiales* by having a unique ionomidotic reaction (solubility of excipular pigments in KOH). Hence, Jaklitsch et al. (2016) suggested a separate phylogenetic position for this family away from other *Helotiales*. In Johnston et al. (2019), this family clustered in the “sclerotinoid clade” within *Helotiales* in their 15-gene tree. In the phylogeny of Ekanayaka et al. (2019), however, this family grouped sister to

Deltopyxidaceae within *Cyttariales*. Therefore, here we place this family under *Cyttariales* until we have more data to confirm its placement (A.H. Ekanayaka & K.D. Hyde).

Deltopyxidaceae – In the phylogeny of Ekanayaka et al. (2019), this family grouped sister to *Cordieritidaceae* with strong statistical support within *Cyttariales*. We are unable to compare with Johnston et al. (2019), as these authors did not include taxa from this family (A.H. Ekanayaka & K.D. Hyde).

Erysiphales – In Ekanayaka et al. (2019), this order formed a distinct clade, while in Johnston et al. (2019) its placement was within *Helotiales* both in the genomic-scale and 15-gene trees. However, we believe that this order is distinct as it has a unique morphology, which differs from taxa in *Leotiomyces*. Further studies are needed to resolve this inconsistency (A.H. Ekanayaka & K.D. Hyde).

Leptodontidiaceae – This family sat in a well-supported clade away from *Helotiales* in the phylogeny provided by Ekanayaka et al. (2019). We cannot compare its placement with Johnston et al. (2019) as their phylogenies did not include taxa from this family. Therefore, we placed this family in *Leotiomyces* families *incertae sedis* until more data are available to provide a stable classification (A.H. Ekanayaka & K.D. Hyde).

Medeolariales – *Ascocorticiaceae*, *Ascodichaenaceae*, *Dermateaceae*, *Medeolariaceae* – Ekanayaka et al. (2019) accommodated these families in *Medeolariales* based on morphological similarities and phylogenetic analysis. In Johnston et al. (2019), *Dermateaceae* formed the basal-most clade within *Helotiales*. However, Johnston et al. (2019) did not include *Ascocorticiaceae*, *Ascodichaenaceae* and *Medeolariaceae* in their phylogeny, thus, we were unable to compare their placements in *Leotiomyces*. Future studies are needed to resolve the placement of these families (A.H. Ekanayaka & K.D. Hyde).

Neolauriomycetaceae – This family produces a well-supported clade within “Sclerotinales” in the phylogeny of Ekanayaka et al. (2019). We cannot compare its placement with Johnston et al. (2019) as their phylogenies did not include taxa from this family. Therefore, we placed this family under *Leotiomyces* families *incertae sedis* until more data become available to provide a stable classification (A.H. Ekanayaka & K.D. Hyde).

Multi-locus phylogenies and comprehensive treatments of the Xylariales (Author: M. Stadler)

Wendt et al. (2018) provided a multigene genealogy of the stromatic families of the *Xylariales*, including a significant number of representative species of the main lineages in the *Xylariaceae* and four DNA loci. This study resulted in the segregation of the *Xylariaceae sensu lato* in the traditional definition, and the *Hypoxylaceae* were resurrected and amended. Moreover, the genera *Biscogniauxia* and *Camillea* were transferred to the *Graphostromataceae*. The molecular phylogeny corresponds with the distribution of secondary metabolites and types of conidiogenous structures, while the ascospore morphology, which had traditionally constituted the salient feature to define the family, had to be abandoned. Notably, the *Lopadostomaceae* also contains genera with similar ascospores that had previously been accommodated in the *Xylariaceae sensu lato* and some genera like *Whalleya* and *Jumillera* were transferred to *Lopadostomataceae*.

Wendt et al. (2018) also proposed to exclude several genera of which no information on the asexual morph and no molecular data are available, from the *Xylariaceae* and place them at interim in *Xylariales incertae sedis*. Moreover, they resurrected the genus *Pyrenonopolyporus* for some species formerly placed in *Hypoxylon* with massive stromata and long tubular perithecia and segregated the new genus *Jackrogersella* from *Annulohypoxylon* as an outcome of their polyphasic study. Concurrently with the study by Wendt et al. (2018), Daranagama et al. (2018)

provided a very comprehensive overview on the families of the “stromatic” *Xylariales*, which roughly comprise the genera that had traditionally been classified in the *Xylariaceae* according to the traditional concept of the late 1990s, which was based on ascospore morphology. In the first comprehensive study of this type, they provided illustrations of most of the type species or other representative species and revised the history of their taxonomy. A molecular phylogeny was also presented, using data from additional taxa that represented genera that were not included in the paper by Wendt et al. (2018). Therefore, certain deviations from the concept were observed. In addition Daranagama et al. (2018) retained some genera in the *Xylariaceae* that were expelled from the family in the concurrent study. Helaly et al. (2018) reviewed the taxonomy, ecology and in particular the secondary metabolite production of the *Xylariales*. Even though no taxonomic novelties are provided in this paper, the records of endophytic and marine strains of *Xylariales* that had previously been reported in the literature to produce novel bioactive compounds were revised and numerous incongruities between the data published in chemistry journals and the current taxonomy were found. The authors gave an overview on the current taxonomic status of the taxonomy of the order in relation to the numbers of known metabolites and pointed out some genera and families that deserve further study as they seem to be hitherto unexplored. Recently, the genus *Dematophora* has been resurrected and divided from *Rosellinia* based on a comparison of molecular data, morphology of the asexual morphs and chemotaxonomic evidence (Wittstein et al. 2020), and all the serious pathogens like *D. necatrix* and *D. bunodes* now no longer belong to *Rosellinia*, which mainly comprises saprotrophic and endophytic species. Finally, Samarakoon et al. (2020) have recently found out that the sexual morph of the economically important endophytic genus *Muscodor* is close to *Induratia*, which was erected earlier and takes preference over the latter genus. They provided a polyphasic study involving a multi-locus phylogeny, divergence time estimations, morphological studies and comparison of volatile secondary metabolite profiles, which resulted in the recognition of a new family *Induratiaceae* in the order *Xylariales*. This family is sister to the *Xylariaceae* sensu stricto and also includes the genus *Emarcea*. All names in *Muscodor* were newly combined in *Induratia*, and two new species were described with their full life cycle, comprising both the asexual and sexual morph.

Placement and phylogenies of *Laboulbeniomycetes* (Author: D. Haelewaters)

The placement of *Laboulbeniomycetes* has been traditionally problematic (Blackwell et al. 2020). First considered as cuticle hairs or even parasitic worms, life history studies and molecular phylogenetic analyses have helped in placing these fungi among filamentous *Ascomycota*. The first phylogenetic analysis of the class by Weir & Blackwell (2001) was based on SSU rDNA and supported the placement of *Laboulbeniales–Pyxidiophora* as a separate clade within *Ascomycota*, sister to *Sordariomycetes* although without statistical support for this sister relationship. Schoch et al. (2009) were the first ones to obtain support for the sister relationship between *Laboulbeniomycetes* and *Sordariomycetes* based on a six-locus dataset. Their results were later confirmed by Goldmann & Weir (2018) as well as Haelewaters et al. (2019b) who proposed the informal taxon ‘laboulbeniomyceta’ as a descriptor of the most recent common ancestor of both classes.

To date, limited sequence data are available for members of *Laboulbeniomycetes*. An NCBI GenBank search for ‘*Laboulbeniomycetes*’ resulted in 727 sequences only, the majority of which are SSU sequences (17 February 2020). An SSU-based phylogeny by Goldmann & Weir (2018) including 65 isolates resulted in evidence for multiple clades in the class. Haelewaters et al. (2019b), based on a three-locus dataset with 61 isolates, described the third order in the class, *Herpomycetales*, to accommodate the genus *Herpomycetes*. Blackwell et al. (2020) presented a phylogenetic reconstruction of the *Laboulbeniomycetes* from a concatenated SSU–LSU dataset of 75 isolates and found high support for 5 clades: orders *Herpomycetales*, *Laboulbeniales* and *Pyxidiophorales*, in addition to two unnamed clades, *Chantransiopsis* clade (*Chantransiopsis* sp., *Tetrameronycha* spp., *Subbaromyces splendens*) and *Laboulbeniopsis* clade (with *Laboulbeniopsis termitarius*). Finally, several recent studies have pointed at the polyphyly of accepted higher taxa

in the *Laboulbeniales* order (Goldmann & Weir 2018, Haelewaters et al. 2018b), and so future integration of molecular data will undoubtedly change the classification of the order and by extension the whole class.

Structural and functional organization of *Microsporidia* (Author: Yuri S. Tokarev)

Microsporidia is a monophyletic group of highly specialized intracellular parasites which are ultimately dependent upon and being able to develop only within the host cell (Vavra & Lukes 2013). *Microsporidia* infect *Metazoa* and some protists: *Gregarina*, *Ciliata*, *Paramyxea* (Fokin et al. 2008, Sokolova et al. 2013, Larsson 2014, Cali et al. 2017, Stentiford et al. 2017). Host switching between representatives of different families (Ghani et al. 2013, Malysch et al. 2018a, 2019), orders (Schuld et al. 1999, Ovcharenko et al. 2017, Malysch et al. 2018b), classes (Hinney et al. 2016) and phyla may occur (Franzen et al. 2006, Ironside et al. 2008, Nylund et al. 2010, Choudhary et al. 2011, Meissner et al. 2012). Parasite-host interactions are diverse, ranging from asymptomatic presence in the form of a latent infection to devastating epizootics especially in arthropods and fishes (Bader et al. 1998, Stentiford et al. 2013, Sokolova et al. 2015, Yu et al. 2019). Routes of transmission include alimentary and transovarial/ transplacental infection, transfer from host to host by parasites etc. (Becnel & Andreadis 1999, Dunn & Smith, 2001, Didier et al. 2004, Wang-Peng et al. 2018).

Typical life cycle includes merogonial (for parasite multiplication) and sporogonial sequence (for multiplication and spore formation). The cells multiply either by binary or multiple fission. The merogonial developmental stages are single cells or plasmodia delineated with a plasma membrane (Dunn & Smith 2001). In early sporogonial stages, cytoplasm becomes more condensed, electron dense material is deposited on the cell surface which further transforms into the spore wall. Other primordial spore structures emerge in late sporogonial stages (Issi et al. 2012a, Sokolova et al. 2015, Cali & Takvorian 2014). The nuclear apparatus is mono- or diplokaryotic, the number of nuclei varies from one to many (in plasmodia). In some species the transformation of the nuclear apparatus from one type to another one takes place (sometimes accompanied by meiosis) in the course of life cycle (Lee et al. 2014). The parasites develop either in direct contact with the host cell cytoplasm or within a parasitophorous vacuole which is derived from the membranes of endoplasmic reticulum, Golgi complex or nuclear envelope of the host cell (Bohne et al. 2011, Issi et al. 2012b, Vavra & Lukes 2013).

The spore is a specialized parasite cell which serves for invasion into the host cell, dissemination over the host organism and spreading within the host population (Vavra & Lukes 2013). The spore wall is a complex chitin- and protein-rich structure consisting of inner electron-translucent endospore layer with an underlying plasma membrane and outer electron-dense exospore layer (Bigliardi & Sacchi 2001). The main distinctive feature of microsporidia spore is the extrusion apparatus, which includes polar tube (polar filament), polar cap (polar sac – anchoring disc complex), polaroplast and posterior vacuole (Fig. 2) (Vavra & Larsson 2014). The polar tube is attached to the apical pole of the spore by the polar cap (Franzen 2004, Xu & Weiss 2005). The length, diameter and structure of polar tube vary greatly among species. Most often, the polar tube is thin and long, exceeding the length of the spore, with proximal and distal parts straight and coiled, respectively (Delbac & Polonais 2008, Issi et al. 2012a).

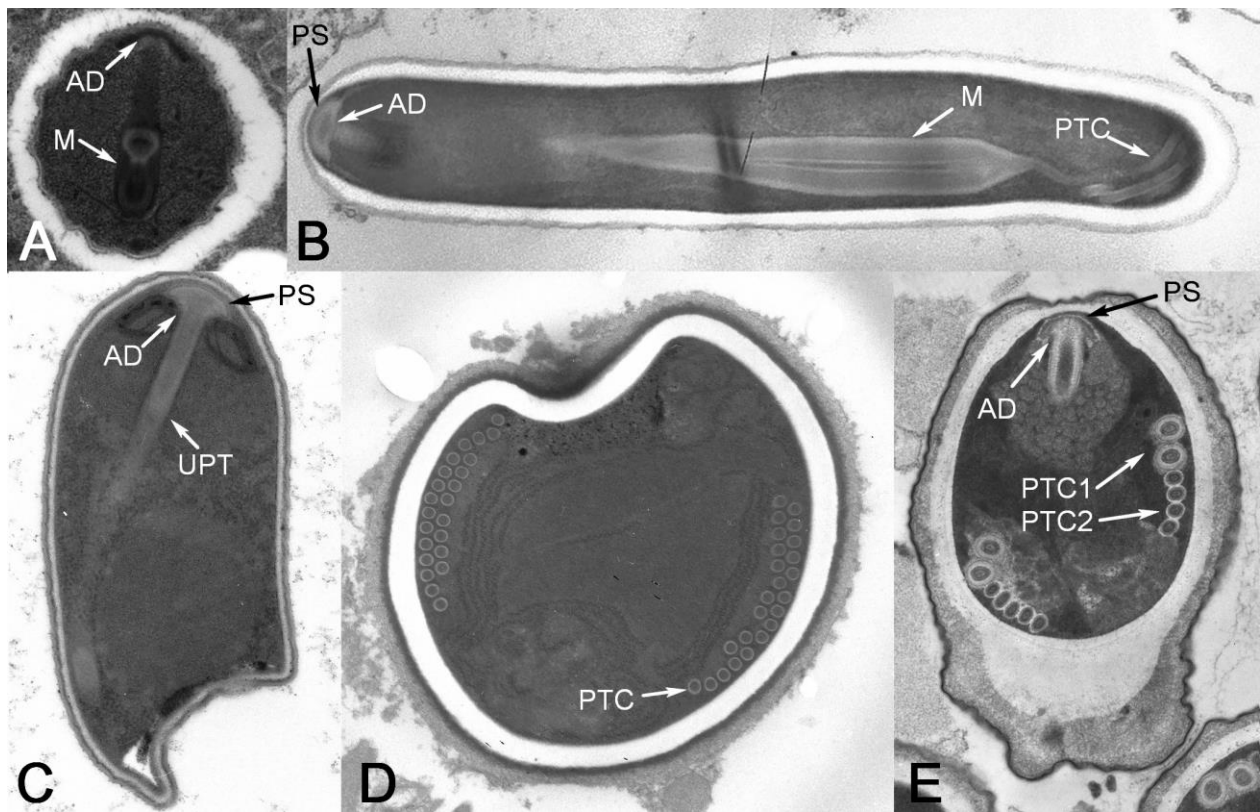


Figure 2 – Spore structure of *Microsporidia* with different types of polar tube. A *Metchnikovella incurvata* with a manubrial polar tube. B *Mrazekia macrocyclopis* with a manubrial polar tube containing a coiled distal part. C *Helmichia lacustris* with an uncoiled polar tube (UPT). D *Neoperezia* sp. with numerous coils of isofilar polar tube. E *Crepidulospora beklemishevi* with anterior (PTC1) and posterior (PTC2) polar tube coils of different structure and size. AD – anchoring disc; M – manubrium; PS – polar sac; PTC – polar tube coils. Figs 2A, 2E are reproduced with a kind permission of Yuliya Y. Sokolova (Institute of Cytology RAS, St. Petersburg, Russia) and Anastasia V. Simakova (Tomsk State University, Tomsk, Russia), respectively.

The number of coils ranges from 3 to 30. In isofilar polar tube, the diameter is the same throughout the tube length. It is either coiled (Fig. 2D) or uncoiled (Fig. 2C), as its length exceeds or do not exceed the spore length, respectively (Issi et al. 2012a, Tokarev et al. 2012). In anisofilar polar tube, several posterior coils are of lesser diameter and sometimes of different electron density (Tokarev et al. 2010). In heterofilar polar tube, the anterior coils are remarkably bigger as compared to the posterior ones and their structure is different (Fig. 2E) (Vavra & Larsson 2014). The manubrium is thick and short, not exceeding the spore length, cylindrical, usually thicker at central or distal ‘bulbal’ part, which is interconnected with manubrial cisternae associated with vesicles and/or short tubules (Fig. 2A) (Issi et al. 2010, Sokolova et al. 2013). Another type of polar tube is clavate, which is thick and short, not exceeding the spore length, thicker at distal ‘bulbar’ part, which is continued into thin polar tube with several coils (Fig. 2B). This clavate polar tube is sometimes referred to as “manubrium” (Issi et al. 2010, which is not correct. The manubrium is present in Rudimicrosporea (Sokolova et al. 2013), being different in its structure and supposed to be a primitive form of the canonical polar tube of higher *Microsporidia* (Vivier 1975). The polaroplast is a lamellar or vesicular (or combined), occupying the anterior part of the spore and surrounding the straight part of the polar tube (Vavra & Larsson 2014). Its function is unclear and participation in extrusion process is supposed. The spores are formed as separate units (“free spores”) or by packets enclosed within a common envelope of parasite origin, so called sporophorous vesicle (Dunn & Smith 2001, Sokolova et al. 2015).

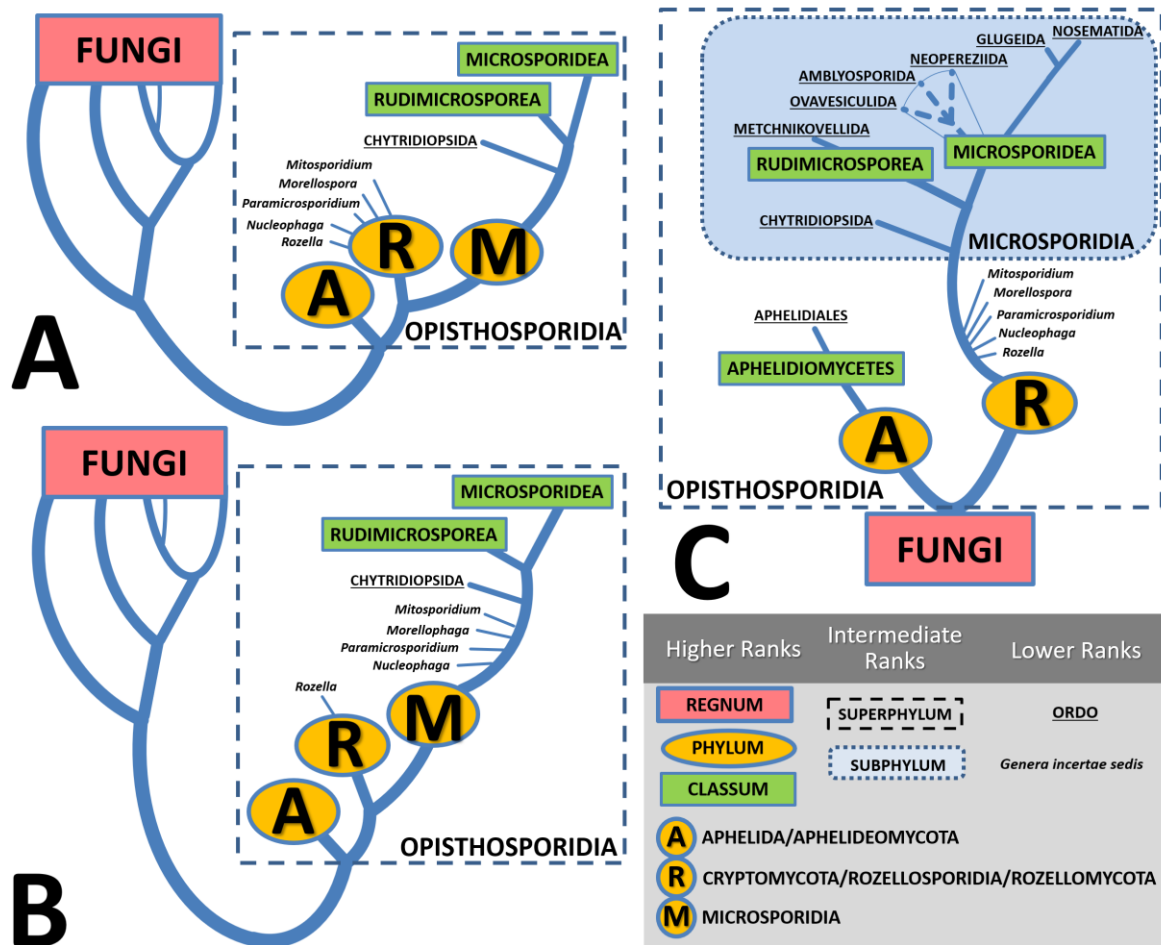


Figure 3 – Alternative hypotheses of phylogenetic and taxonomic relationships within Fungi-like representatives of *Aphelida* (*Aphelidiomycota*) – *Rozellomycota* (*Rozellida*/ *Cryptomycota*/ *Rozellosporidia*) – *Microsporidia* (ARM) clade and its relations to *Fungi*. The schematic phylogenetic trees follow the recent phylogenetic reconstructions by Karpov et al. (2014), Tedersoo et al. (2018), Bass et al. (2018), Corsaro et al. (2019, 2020). Three alternative schemes are presented as nowadays there is no consensus among the specialists. A Karpov et al. (2014) proposed the superphylum *Opisthospordia* for the ARM clade, which was considered as a sister to *Fungi*. Several new genera related to *Rozella* and *Microsporidia* have been added to the tree more recently (Corsaro et al. 2014a, b, 2016, 2019, 2020, Haag et al. 2014). B In the interpretation of Bass et al. (2018) the boundaries of *Microsporidia* should be expanded to include all these genera except *Rozella*. C According to Tedersoo et al. (2018); Wijayawardene et al. (2018) ARM clade should be included into kingdom *Fungi*, and phylum *Microsporidia* should be merged with *Rozellomycota*. To further conserve *Microsporidia* as a monophyletic taxon within *Rozellomycota* it has been redefined as a subphylum. The labels for taxon ranks and phyla abbreviations are explained in the right lower corner. The synonymic names for the phyla are indicated: *Aphelidiomycota* Tedersoo et al 2018 = *Aphelida* Karpov, Aleoshin & Mikhailov 2014 = *Rozellida* Lara, Moreiro, López-García, 2010 = *Rozellomycota* James & Berbee, 2011 emend. Corsaro & Michel 2014 = *Cryptomycota* Jones & Richards 2011 emend. Karpov & Aleoshin 2014 = *Rozellosporidia* Karpov, Torruella, Moreira, Mamkaeva, López-García 2017.

Many of the basic physiological functions and biochemical processes in *Microsporidia* are reduced as they mostly rely on the host cell. As a result of deep adaptation to intracellular parasitism, structural organization of prespore stages is simplified, and many biochemical

pathways are absent. Basic nutrients are imported from the host cell including ATP (Tsaousis et al. 2008). The physiological processes in the host cell are altered and can be managed by the actively proliferating parasites to provide the latter with enough nutrients including sugars, amino- and fatty acids (Cuomo et al. 2012, Senderskiy et al. 2014). Exploitation of host cell metabolic pathways results in reorganization of host cell organelles: mitochondria, endoplasmic reticulum and Golgi complex, which come into contact with the parasite cells (Simakova et al. 2005, Tokarev et al. 2010, Issi et al. 2012b, Vavra & Lukes 2013). Other adaptations to survival within the host cell include alteration of host cell cycle, suppression of host cell apoptosis (Martin-Hernandez et al. 2017, Sokolova et al. 2019) and renewal of infected epithelial cells (Issi 1986).

Mitochondria are reduced to mitosomes which lack genome (Williams et al. 2002). Vesicular transport of cargo proteins is absent (Beznoussenko et al. 2007). The genomes of *Microsporidia* are reduced and compact, many genes and gene families are lost and the sequences of ribosomal RNA and protein-coding genes are shortened and highly derived (Peyretailade et al. 2015). The genome size is ranged from 2.3 to ~50 Mb, in the vast majority of sequenced species it does not exceed 15 Mb (Keeling et al. 2014).

Phylogenetic approaches and current status of *Rozellomycota* (Author: Yuri S. Tokarev)

With the advent of molecular phylogeny studies, major groups within *Microsporidia* Tree of Life were primarily recognized and polyphyletic nature of traditional high rank taxa was demonstrated (Fig. 3) (Vossbrinck & Debrunner-Vossbrinck 2005, Vossbrinck et al. 2014). Later on, some basal or sister groups of parasites were examined using molecular phylogenetic and phylogenomic approaches. In particular, relationships between *Aphelida*, *Rozellomycota* and *Microsporidia* were established (Karpov et al. 2014). Several new representatives of *Rozellomycota* were discovered and examined (Haag et al. 2014, Corsaro et al. 2014a, b, 2016, Quandt et al. 2017). Genome surveys of *Metchnikovellida* were provided (Mikhailov et al. 2016, Galindo et al. 2018) confirming basal position of this lineage within *Microsporidia* and demonstrating shared genomic signatures with other *Microsporidia*. Notably, the order of *Metchnikovellida* was always referred to as “primitive *Microsporidia*” (class *Rudimicrosporea*) on the basis of ultrastructural features, such as poorly developed or absent polaroplast and absent posterior vacuole as well as specific structure of polar tube, so called manubrium. Finally, phylogenetic position of *Chytridiopsis typographi* (order *Chytridiopsida*) was also resolved (Corsaro et al. 2019), showing more basal position than *Metchnikovellida*. In this parasite species, only the sequences of rRNA genes are available, showing less compact organization as compared to other *Microsporidia*. In addition, spore structure of *C. typographi* is described as “unique” as compared to other *Microsporidia* (Purrini & Weiser 1985) and essentially, the developmental sequence of *C. typographi* includes a unique budding stage, unknown for other species of *Microsporidia*, which multiply by fission of cells only (Tonka et al. 2010). Thus, ultrastructural and developmental traits support the basal position of *Chytridiopsida* inferred in the phylogenetic reconstructions. Here the order *Chytridiopsida* includes the composition of the families and genera suggested by Larsson (2014) with exclusion of *Burkeidae*, which is less similar to the chytridiopsids and was attributed to this group only temporarily. The mentioned taxon is provisionally placed to *Microsporidia genera incertae sedis* as possessing more canonical ultrastructure.

Recently, Bass et al. (2018) proposed taxonomic expansion of *Microsporidia* to include unclassified genera of *Cryptomycota* (*Rozellomycota*). This assumption was based upon monophyletic arrangement of *Microsporidia* and sister taxa, though the vast majority of sequences used in that analysis were short (below 400 bp). We prefer to preserve *Microsporidia* as a more compact group unless more robust phylogenies are available. Thus, such representatives of *Rozellomycota* as *Nucleophaga*, *Paramicrosporidium*, *Morellospora* and *Mitosporidium* are not considered here as *Microsporidia*.

Upon following the ranking of Tedersoo et al. (2016) who proposed *Rozellomycota* (including *Microsporidia*) and *Aphelidiomycota* as phyla in Kingdom *Fungi*, the phylum

Microsporidia becomes obsolete. To recognize this group as a monophyletic lineage of highly specialized intracellular parasites with specific developmental, structural and genetic features (see above, Structural and functional organization of *Microsporidia*), we propose an intermediate rank of subphylum for this taxon. The superphylum *Opisthosporidia* proposed by Karpov et al. (2014) is also retained to include *Aphelidiomycota* and *Rozellomycota*. However recent transcriptomic data provide poor support for the monophyly of *Opisthosporidia* (Toruella et al. 2018), and in future the aphelids may be excluded and the higher ranks may be again reshuffled.

The *Microsporidia* Tree of Life consists of five major clades (Vossbrinck & Debrunner-Vossbrinck 2005, Vossbrinck et al. 2014). To accommodate these clades within a formal class-order-family system, the following changes to the taxonomy of *Microsporidia* are proposed. Orders *Dissociodihaplophasida* and *Meiodihaplophasida* are suppressed as polyphyletic. Orders *Glugeida* and *Nosematida* are redefined for the purposes of the current revision. Three new orders, *Amblyosporida* ord. nov., *Neopereziida* ord. nov. and *Ovavesiculida* ord. nov. are introduced in this study. All these orders are referred to as distinct monophyletic clades of the *Rozellomycota* Tree of Life, each presented by the type family: *Glugeidae*, *Nosematidae*, *Amblyosporidae*, *Neopereziidae* and *Ovavesiculidae*, respectively, and related taxa. Order *Chytridiopsidea* is excluded from *Microsporidia* (see the outline) and family *Enterocytozoonidae* is transferred to *Nosematida*. Allocation of order *Metchnikovellida* to class *Rudimicrosporea* is also supported.

Each phylogenetic lineage corresponding to the taxa of class, order or family rank contains representatives with diverse features. This makes it difficult to define these taxa using developmental, structural or ecological features, so that primary taxonomic allocation of species is based upon phylogeny.

Classification of *Glomeromycota* (Authors: B.T. Goto & N. Wijayawardene)

Outline of arbuscular mycorrhizal fungi (AMF) was initially organized in Gerdemann & Trappe (1974) and updated by Schenck & Pérez (1990). Initially, AMF fungi have been included in one order (i.e. *Glomerales*) in *Zygomycota* (Morton & Benny 1990). However, Schüßler et al. (2001) established new phylum, *Glomeromycota* to accommodate AMF. Since Schüßler et al. (2001), taxonomy of AMF has been rapidly updating over the last years (Oehl et al. 2011a, b, c, d, e, f, Goto et al. 2012, Błaszowski et al. 2015, 2018a, b, 2019a, b, Corazon-Guivin et al. 2019a, b, Jobim et al. 2019). Oehl et al. (2008) introduced *Dentiscutataceae*, *Racocetraceae* and *Scutellosporaceae* and later Oehl et al. (2011b) introduced *Gigasporales*, to include these families along with *Gigasporaceae*. At the same time, Oehl et al. (2011b) introduced two new classes (i.e. *Archaeosporomycetes* and *Paraglomeromycetes*) thus currently *Glomeromycota* comprises three classes.

Morton & Msiska (2010) did not recognize families introduced in Oehl et al. (2008) and *Gigasporales* was not accepted in Wijayawardene et al. (2018b). Nevertheless, phylogenetic reconstructions using different genes (TUB2, RPB1, ITS, SSU and LSU rRNA) (e.g. Goto et al. 2012, Mello et al. 2012, Silva et al. 2012, Marinho et al. 2014, de Souza et al. 2018, Tedersoo et al. 2018) supported the monophyletic nature of the families and or genera proposed by Oehl et al. (2008). Hence, we conclude that higher level classification of families in *Glomeromycota* is debatable. Therefore, in this study, we include an alternative classification for *Glomeromycota* which was included in Wijayawardene et al. (2018b).

Alternative classification for *Glomeromycota*

Glomeromycota C. Walker & A. Schüßler

Archaeosporomycetes Sieverd., G.A. Silva, B.T. Goto & Oehl

Archaeosporales C. Walker & A. Schüßler

Ambisporaceae C. Walker, Vestberg & A. Schüßler

Ambispora C. Walker, Vestberg & A. Schüßler (10)

Archaeosporaceae J.B. Morton & D. Redecker

Archaeospora J.B. Morton & D. Redecker (= *Intraspora* Oehl & Sieverd.) (3)

Palaeospora Oehl, Palenz., Sánchez-Castro & G.A. Silva (1)

Geosiphonaceae Engl. & E. Gilg

Geosiphon F. Wettst. (1)

Glomeromycetes Caval.-Sm.

Diversisporales C. Walker & A. Schüßler

Acaulosporaceae J.B. Morton & Benny

Acaulospora Gerd. & Trappe (= *Kuklospora* Oehl & Sieverd.) (57)

Diversisporaceae C. Walker & A. Schüßler

Corymbiglomus Błaszk. & Chwat (2)

Desertispora Błaszk., Kozłowska, Ryszka, Al-Yahya'ei & Symanczik (1)

Diversispora C. Walker & A. Schüßler (18)

Otospora Oehl, Palenz. & N. Ferrol (1)

Redeckera C. Walker & A. Schüßler (3)

Tricispora Oehl, Sieverd., G.A. Silva & Palenz. (1)

Gigasporaceae J.B. Morton & Benny

Bulbospora Oehl & G.A. Silva (1)

Cetraspora Oehl, F. A. Souza & Sieverd. (6)

Dentiscutata Sieverd., F.A. Souza & Oehl (7)

Gigaspora Gerd. & Trappe (7)

Intraornatospora B.T. Goto, Oehl & G.A. Silva (1)

Paradentiscutata B.T. Goto, Oehl & G.A. Silva (2)

Racocetra Oehl, F.A. Souza & Sieverd. (14)

Scutellospora C. Walker & F.E. Sanders (21)

Pacisporaceae C. Walker, Błaszk., A. Schüßler & Schwarzott

Pacispora Sieverd. & Oehl (6)

Sacculosporaceae Oehl, Sieverd., G.A. Silva, B.T. Goto, Sánchez-Castro & Palenz.

Sacculospora Oehl, Sieverd., G.A. Silva, B.T. Goto, I.C. Sánchez & Palenz. (2)

Glomerales J.B. Morton & Benny

Claroideoglomeraceae C. Walker & A. Schüßler

Claroideoglomus C. Walker & A. Schüßler (8)

Glomeraceae Piroz. & Dalpé

Dominikia Błaszk., Chwat & Kovács (13)

Funneliformis C. Walker & A. Schüßler (16)

Glomus Tul. & C. Tul. (55)

Halonatospora Błaszk., Niezgoda, B.T. Goto & Kozłowska (1)

Kamienskia Błaszk., Chwat & Kovács (1)

Oehlia Błaszk., Kozłowska, Niezgoda, B.T. Goto & Dalpé (1)

Rhizoglomus Sieverd., G.A. Silva & Oehl (19)

Rhizophagus P.A. Dang. (ca. 19)

Sclerocystis Berk. & Broome (10)

Sclerocarpum B.T. Goto, Błaszk., Niezgoda, Kozłowska & Jobim (1)

Septoglomus Sieverd., G.A. Silva & Oehl (10)

Simiglomus Sieverd., G.A. Silva & Oehl (1)

Glomeromycetes genus *incertae sedis*

Entrophospora R.N. Ames & R.W. Schneid. (3)

Paraglomeromycetes Oehl, G.A. Silva, B.T. Goto & Sieverd.

Paraglomerales C. Walker & A. Schüßler

Paraglomeraceae J.B. Morton & D. Redecker

Paraglomus J.B. Morton & D. Redecker (1)

Innospora Błaszk., Kovács, Chwat & Kozłowska (7)

Pervetustaceae Błaszk., Chwat, Kozłowska, Symanczik & Al-Yahya'ei

Pervetustus Błaszk., Chwat, Kozłowska, Symanczik & Al-Yahya'ei (1)

Oomycota (Author: M. Thines, with contributions from H.P. Grossart)

Traditionally, the *Oomycota* (from Greek *ὠάριο* (egg) and *μύκης* (fungus) and were treated with other osmotrophic aseptate organisms in the polyphyletic "*Phycomycetes*". However, already at the turn from the 19th to the 20th century, it was known that the oomycetes differed in various aspects, and chlor-zinc-iodine solution, which gives a blue staining with cellulose, was widely used to identify oomycete thalli in their hosts (e.g. Petersen 1905). Already in 1939, just one year, after the first electron microscope became commercially available, Vlk (1939) reported that the zoospores of *Saprolegnia* did not resemble motile spores of fungi, but rather of heterokont algae. Since then, it was widely recognised that oomycetes belonged within heterokonta, which were suggested as an independent kingdom by Leedale (1974), largely congruent with the kingdom *Straminipila*, introduced by Dick (2001). By emphasizing periplastid protein targeting, cytoskeletal and periplastid evolution, Cavalier-Smith 2018 proposed a new classification, assuming that *Heterokonta*, *Alveolata*, *Rhizaria*, and *Hacrobia* (cryptophytes and haptophytes) are a monophylum which could be recognized as a re-circumscribed kingdom *Chromista*. However, there is still some controversy on the precise phylogenetic relationships between the different groups, in particular haptophytes and cryptomonads may not belong together with the heterokonts or the SAR clade, but be associated with the Archaeplastida (Burki et al. 2007, 2016).

Thus, oomycetes are currently best placed in the kingdom *Straminipila* and its phylum *Oomycota*. The kingdom *Straminipila* forms a major line of eukaryotes (e.g. van den Hoek et al. 1995) currently containing more than 25,000 known species, most of which belong to the two major phyla with photosynthetic members, *Phaeophyta* and *Bacillariophyta*. The osmotrophic *Oomycota* are, with about 1700 recognised species, the next largest phylum of the *Straminipila*. The main characteristic of the *Straminipila* is the formation of stiff hairs, one of the two flagella, which strengthens and reverses its thrust, rendering oomycete spores excellent swimmers. These stiff "straw hairs" gave their name to the whole group, derived from "stramen" (straw) and "pilus" (hair). The majority of the species of the *Oomycota* are parasitic (Beakes & Thines 2017), with *Phytophthora infestans*, the organism that triggered the Irish Potato Famine, being its most prominent member (Yoshida et al. 2013). Most *Oomycota* show an asexual reproduction via zoospores formed in zoosporangia or, in case of some genera of the obligate biotrophic downy mildes, such as *Peronospora*, *Hyaloperonospora*, and *Bremia*, via multinucleate, wind-dispersed conidiosporangia. Apart from the holocarpic oomycetes, in which the entire thallus is converted into a zoosporangium, asexual sporangia and conidiosporangia are formed by specialized parts of the mycelium, i.e. sporogenous hyphae, sporangiophores or sporangioophores (Beakes & Thines 2017). The holocarpic nature is the ancestral form for the whole group, but likely derived in members of *Lagenidiales* (Buaya & Thines 2020). Sexual reproduction in most of the species of the crown classes, *Peronosporomycetes* and *Saprolegniomycetes*, is by oogamy (gametangiogamy), whereby the zygote often converts into a thick-walled resting spore. However, in many species of the *Leptomitales* sexual reproduction is cryptic, e.g. by zoomeiospore fusion in

Lagenisma coscinodisci (Schnepf et al. 1977). *Leptomitales* are also unusual in that some have a significant amount of chitin in addition to glucans and cellulose in their cell walls (Lin & Aronson 1970). The orders of the oomycetes that branch before the crown classes are, with the exception of *Haliphthorales* not forming an extended hyphal network but, apart from the fragmenting thalli in some members of *Pontismatales* (Buaya et al. 2019), only simple globose to sacculate thalli that convert into zoosporangia. The oospore-like resting structures formed by *Olpidiopsidales* are likely reflecting convergent evolution to the crown groups. The oomycetes have likely originated in the marine environment more than 500 million years ago, have colonised limnic and terrestrial habitats several times independently and are now found in almost any environment in which eukaryotic organisms thrive (Marano et al. 2016). Most of the known species belong to the probably monophyletic downy mildews (Sharma et al. 2015), which are obligate biotrophic plant parasites that are similar to other obligate parasite groups, have diversified by host jumps, radiation and subsequent speciation (Choi & Thines 2015, Thines 2019). However, it can be assumed that across all oomycete groups only a small fraction of the existing species are known.

Myxomycetes (Author: D. Leontyev)

Even the limited phylogenetic data currently available support the conclusion that some very conspicuous characters traditionally considered as important for the classification of myxomycetes have evolved several times independently. This is the case for both the formation and reduction of the stalk and the capillitium, the crystallization of lime deposits, and the evolution of compound fruiting bodies (Leontyev et al. 2014, Leontyev & Schnittler 2017). All of these characters were used in the traditional system of classification to delimit genera, families and even orders (as was the case for the order *Liceales s. l.*, which was characterized by the absence of capillitium). However, in the light of the phylogenetic data, other characters appear to be better predictors of evolutionary relationships than the traditional criteria. These are, for example, the attachment of the capillitium to the peridium, details of stalk formation, color of the spore mass, or the presence of spore-like cells within the stalk. These new criteria were used to provide emended descriptions for some of the traditional myxomycete taxa in the recently published classification by Leontyev et al. (2019).

Dictyostelids (Author: D. Leontyev)

The new system of classification for dictyostelids works well for the genus level; however, it relies on 18S gene markers to distinguish species, and this does not always separate out some morphologically similar but genetically different taxa. Moreover, *Coremiostelium* and *Synstelium* still occupy a problematic position in the entire phylogeny (Sheikh et al. 2018). A consideration of morphological characteristics is essential for evaluating new species of dictyostelids. Identifying new genetic markers to use for distinguishing dictyostelids at the species level would be exceedingly worthwhile.

Hidden taxa of the fungal tree of life (Authors: F.Q. Brearley & D. Haelewaters)

Whereas four to five million species of fungi are estimated to be found across the globe, we have only described around 144,000 of these (i.e. less than 2%) (Willis et al. 2018). The question remains where are all these fungi yet to be described can be found? Lücking (2017) suggest that these missing fungi will be found in: **i)** habitats that are naturally diverse yet poorly explored, e.g., tropical forests; **ii)** cryptic taxa, those that are morphologically indistinguishable; and **iii)** in fungal collections that might contain cryptic or new species hidden under current names. These three categories are not mutually exclusive and, with the rapid rise of next-generation sequencing, we can also add **iv)** molecular novelties. A final category that is often neglected is the study of natural history collections of organisms other than fungi (plant herbaria, dried insect collections).

Large collections of dried, pinned insects have been dubbed “treasure troves” for the study of ectoparasitic fungi, such as the *Laboulbeniales* (*Laboulbeniomycetes*). During a study of different systematic insect collections around the world, *Laboulbeniales* fruit bodies were

discovered on 1,937 of 45,785 specimens (Haelewaters & Rossi 2017). This and other insect collections-based works have led to the description of multiple new species (e.g., Santamaria et al. 2016, Haelewaters & Rossi 2017), a better understanding of host usage patterns and global number of *Laboulbeniales* species (Weir & Hammond 1997), and estimates of parasite prevalences on a given host through time (Haelewaters et al. 2017). Likewise, plant herbaria can be screened for fungal “hitchhikers” inadvertently sampled along with the plant host (Lang et al. 2019). Examples are the causal agent of potato late blight (*Phytophthora infestans*), rust fungi, downy mildews, etc. Herbarium specimens allow for identification of fungal strains based on morphology and DNA sequence data, which can be coupled with host plant studies to provide a complete overview of host-pathogen dynamics.

Given that fungi are often microscopic, morphologically similar among species, occupy hidden habitats, and are often recalcitrant in axenic culture, it is difficult to find them, but perhaps they are simply ‘hiding’ in material already collected. Lücking et al. (2014) found that a single species of *Cora* was actually more than one-hundred species following more careful morphological observation and sequencing. This restudy/resequencing of currently known taxa is likely to increase the number of known species. An increasing number of examples of cryptic diversity is coming to light with the advances of molecular phylogenetic studies, in different groups, e.g., *Eurotiomycetes* (Pringle et al. 2005), *Laboulbeniomycetes* (Haelewaters et al. 2018a), *Lecanoromycetes* (Singh et al. 2015) and *Leotiomycetes* (Grünig et al. 2008) in *Ascomycota*; *Agaricomycetes* (Stefani et al. 2014, Accioli et al. 2019), and *Ustilaginomycetes* (Li et al. 2017) in *Basidiomycota*.

Because of the decreasing price and increasing availability, large-scale sequencing studies offer the opportunity to mined data for new species. These large-scale sequencing studies offer the opportunity to find new species as such studies regularly have a sizeable proportion of sequences that can only assigned at a phylum or even kingdom level. Indeed, the rate of accumulation of novel/unassigned sequences is massively outpacing the rate with which taxonomists can describe new species, especially given the lack of taxonomic expertise among, for example, the basal fungal clades.

Whilst some have called for a sequence-based taxonomy (Hibbett et al. 2016) we recognise that this is a controversial subject and, instead, note that these sequences can be used in a ‘taxonomic feedback’ capacity to identify new taxa. For example, Rosling et al. (2011) and Jones et al. (2011) described the class of ubiquitous soil-inhabiting fungi, the *Archaeorhizomycetes*, and the basal fungal phylum the *Cryptomycota*, respectively. Capitalising on the global sequencing of soil samples by Tedersoo et al. (2014), Tedersoo et al. (2017) re-analysed samples and found nearly 40 strongly supported new clades (roughly equivalent to orders) in the fungal tree of life. About half of these were in the basal clades (particularly *Rozellomycota*) and about half were found in tropical habitats. This study looked at soil samples only but fungi associated with other habitats such as aquatic fungi or endophytic fungi would benefit from further study – aquatic habitats may be particularly rich in new clades and taxa given the association of basal clades with aquatic habitats. The rich resource of DNA extracted from the millions of plant leaves stored in herbaria can also be fruitfully mined to find new plant-associated fungi (e.g. Datlof et al. 2017, Daru et al. 2018).

Another possibility is that the molecular markers we are currently using are not sufficient to delineate the full range of ‘species’ (OTUs, RSVs etc.) – this is certainly the case for *Glomeromycota* where the ITS region is not sufficiently phylogenetically informative and development and comparison of suitable primers has occupied a lot of energy (e.g. Kohout et al. 2014).

Whilst some have called for a molecular taxonomy, we recognise that this is controversial and, as yet, not incorporated into relevant taxonomic codes. Therefore, discovery of new physical specimens is required and the work of Henkel et al. (2012) and Hyde et al. (2018b) illustrate how dedicated work of mycologists over a number of years can lead to the discoveries and descriptions of numerous new fungal species. Indeed, Truong et al. (2017) show how this can be done with

straightforward short collecting expeditions of underexplored habitats (*Nothofagus* forest of South America in this case) combined with taxonomic work and sequencing of relevant material to advance our knowledge of fungal diversity in a comprehensive way.

Notes

Abrothallus De Not.

The phylogenetic reconstruction by Suija et al. (2015) showed that *Abrothallus* accommodates the monotypic *Epinephroma* Zhurb. and made a new combination based on that. Pérez-Ortega et al. (2011) showed that *Vouauxiomyces* Dyko & D. Hawksw. represents an asexual stage of *Abrothallus*. Synonymization with *Abrothallus* was done in Rossman et al. (2016) (A. Suija).

Abrothallaceae Pérez-Ort. & Suija

Diederich et al. (2018) proposed to synonymize *Licheniconiaceae* with *Abrothallaceae* as several studies beforehand (e.g. Liu et al. 2017) have revealed close relationships of these two monotypic families. However, Hngsanan et al. (2020) accepted *Licheniconiaceae* over *Abrothallaceae* (A. Suija & N. Wijayawardene).

Acrodictyaceae J.W. Xia & X.G. Zhang

Xia et al. (2017) established *Acrodictyaceae* and *Junewangiaceae* in *Sordariomycetes* (J. Ma).

Acrogenosporaceae Jayasiri & K.D. Hyde

Based on a multi-gene phylogeny, Jayasiri et al. (2018) showed that this is a distinct family within the *Minutisphaerales* (S. Fryar).

Aculeata W. Dong, H. Zhang & K.D. Hyde

Dong et al. (2018) introduced this genus in *Herpotrichiellaceae* based on phylogenetic analyses and distinct morphological characters (Q. Tian).

Adelolecia Hertel & Hafellner

Kistenich et al. (2018) transferred this genus from *Ramalinaceae* to *Lecanoraceae* (E. Timdal).

Aeruginoscyphus Dougoud

Dougoud (2012) introduced this genus within *Hyaloscyphaceae* to accommodate *Peziza sericea* (D. Haelewaters).

Agyriaceae Corda

Kraichak et al. (2018a) regarded that *Miltideaceae* Hafellner as a synonym of *Agyriaceae* (N. Wijayawardene).

Alanomyces Roh. Sharma

Sharma et al. (2017) showed that this genus is a separate lineage in *Aplosporellaceae* and introduced a new genus with a single species (A.J.L. Phillips).

Alleppeysporonites Ramanujam & K.P. Rao (fossil).

This genus shows striking similarity to the dematiaceous fungus *Grallomyces* F. Stevens (Barnett 1956, Ellis 1971, Subramanian 1971) (R.K. Saxena).

Allographa Chevall.

Lücking & Kalb (2018) resurrected *Allographa* from synonymy of *Graphis* (M. Kukwa).

***Alternaria* Nees**

Currently, *Alternaria* has about with 589 legitimate species epithets (MycoBank 2019). More than 150 of them have been synonymized or assigned as “indistinguishable as unique” by Simmons (2007) since their descriptions and illustrations are scanty while the type material is unavailable. Remaining list of species should be reduced by sixty five synonymic names due to revisions of Woudenberg et al. (2014, 2015). Thirteen species should be transferred to *Alternaria* from abolished genera *Ulocladium* and *Nimbya* (Gannibal 2018, Gannibal & Lawrence 2018). Thus the genus *Alternaria* at the moment contains 366 accepted and recognizable species. Not all of them have been subjected to molecular phylogenetic studies (P.B. Gannibal).

***Amarenomyces* O.E. Erikss.**

Rossmann et al. (2015) treated *Amarenomyces* as a synonym of *Amarenographium*. Based on molecular analyses coupled with morphological characteristic, Wijayawardene et al. (2016) introduced *Amarenographium ammophilae* Wanas.et al.; whereas, Hyde et al. (2017) introduced *Amarenomyces dactylidis* Mapook et al. Multigene phylogenetic analyses revealed that these two genera were not congeneric, thus Hyde et al. (2017) reinstated *Amarenomyces* (R. Phookamsak).

***Amazonotheca* Bat. & H. Maia**

Phookamsak et al. (2016) treated the genus in *Dothideomycetes*, genera *incertae sedis* based on herbarium study from Dr. Lima’s collection (P-4. Serra do Veado-Serra do Navio, 24 August 1961, Lima J.A. (Leg.), A.C. Batista A.C. & Xavier Filho L. (det.), URM 28927). The type specimen was deposited in the Universidade Federal de Pernambuco (URM), Brazil but it could not be loaned (R. Phookamsak).

***Amorphothecaceae* Parbery**

Amorphothecaceae is a monotypic family that was previously placed in *Leotiomyces* genera *incertae sedis* (Baral 2016). Ekanayaka et al. (2019) retrieved it as sister to *Erisyphaceae* but this placement was without support. Strong support came with the 15-gene tree of Johnston et al. (2019), in which *Amorphothecaceae* was placed in the pezizelloid clade of *Helotiales* (D. Haelewaters).

***Anatolinites* Elsik, V.S. Ediger & Bati (fossil)**

Spores of *Anatolinites* have a tendency to break apart along the septa. Kalgutkar & Jansonius (2000) considered *Cupulisporonites* Z.C. Song & Liu Cao a junior taxonomic synonym of *Anatolinites* (R.K. Saxena).

***Annabella* Fryar, Haelew., & D.E.A. Catches.**

Fryar et al. (2019) introduced this genus for *A. australiensis* Fryar, Haelew., & D.E.A. Catches. from mangrove wood with perithecioid hyaline to yellowish apothecia. The genus is confirmed as a member of *Cordieritidaceae* based on the molecular phylogenetic analysis of a concatenated dataset of three ribosomal nuclear loci (D. Haelewaters).

***Antennopsis* R. Heim**

Guswenrivo et al. (2018) used the partial 18S rRNA gene to place this genus within Ascomycota and found that it is positioned within Sordariomycetes. It has a sister relationship to *Graphium euwallaceae* (Graphiaceae), but we are reluctant in formally placing *Antennopsis* in this family, because the phylogeny was based only on 18S (D. Haelewaters).

***Anthopsis* Fil. March. et al.**

Phylogenetic analyses placed this genus in Cyphellophoraceae, Chaetothyriales. The type species, *A. deltoidea*, clusters within a large *Cyphellophora* clade and therefore *Anthopsis* might be a synonym of *Cyphellophora*. The synonymy, however, has not yet been properly proposed. *Anthopsis* currently includes three species, *A. deltoidea*, *A. catenata* and *A. microspora*, but DNA sequence data proved that *A. catenata* is not a member of *Chaetothyriales* (Moussa et al. 2017). No DNA sequence data is available for *A. microspora* (H. Madrid).

Aotearoamyces P.R. Johnst., J.A. Cooper & Quijada

Quijada et al. (2018a) introduced this genus for *A. nothofagi*, a species from fallen wood in Nothofagaceae forests in New Zealand. It was placed in the family *Tympanidaceae* within the order *Phacidiales* based on the phylogenetic analysis of three ribosomal nuclear loci. Based on a larger 15-locus analysis, Johnston et al. (2019) placed *Aotearoamyces* within *Leotiales* genera *incertae sedis* with high support (D. Haelewaters).

Aplosporella Speg.

Slippers et al. (2013) suggested that this genus is the sexual morph of *Aplosporella*, but they declined to make a formal synonymy. Phillips et al. (2019) formally placed *Bagnisiella* as a synonym of *Aplosporella* (A.J.L. Phillips).

Appendicisporonites R.K. Saxena & S. Khare (fossil).

Appendicisporonites appears to be related to the setose pycnidia found in some *Coelomyces* Grove (R.K. Saxena).

Aquacidia Aptroot

Aptroot et al. (2018) introduced this genus and confirmed its placement in *Pilocarpaceae* (N. Wijayawardene).

Aquimonospora J. Yang & K.D. Hyde

Yang et al. (2019) introduced this monotypic genus to accommodate the new species *Aquimonospora tratensis*. A new genus and species collected from freshwater habitat in Thailand (S. Tibpromma).

Arthrocladium Papendorf

This genus comprises four species which form a monophyletic group in *Trichomeriaceae*. They are associated mainly with plant material and occasionally also with opportunistic infections in humans (Nascimento et al. 2016) (H. Madrid).

Arthrophia (D.J. Soares, R.W. Barreto & U. Braun) W.S. Lisboa et al.

This monotypic genus was recently erected to accommodate the plant pathogenic fungus *Pseudocercospora arthrospora*. DNA sequence data revealed that this fungus is a member of *Chaetothyriales* (Crous et al. 2016), while true *Pseudocercospora* species belong in *Capnodiales*. In the protologue, *Arthrophia* was considered as a member of *Chaetothyriaceae*, but its definitive phylogenetic placement may require further study (H. Madrid).

Ascochyites Barlinge & Paradkar (fossil)

The genus name *Ascochyites* was first used by Teterevnikova-Babaian & Taslakhchian (1973), but not then validly published due to lack of illustration of the spores (R.K. Saxena).

Ascodesmisites Trivedi, Chaturv. & C.L. Verma (fossil)

The fossil specimen shows close affinity with family *Pezizaceae* but differs from the latter by the absence of exciple. Minute fruiting bodies and various sexual stages somewhat resemble

those of *Ascodesmis* Tiegh. In fossil specimen, the male and female sex organs are found growing on two different hyphae indicating that the fungus could be dioecious (R.K. Saxena).

Asterinites Doub. & D. Pons ex Kalgutkar & Janson. (fossil)

Jansonius & Hills (1976) remarked: "Two species described; until one of these is selected as type species, the genus is not validly published. The genus seems to be intended for mycelia, rather than definite fruiting bodies". The lectotype was designated by Kalgutkar & Jansonius (2000) (R.K. Saxena).

Asterothyrites Cookson emend. Kalgutkar & Janson. (fossil)

The lectotype was selected by Jansonius & Hills (1976). Kalgutkar & Jansonius (2000) emended the generic diagnosis. *Paramicrothallites* K.P. Jain & R.C. Gupta is a junior taxonomic synonym of *Asterothyrites* (Kalgutkar & Jansonius 2000) (R.K. Saxena).

Astragalicola Jaklitsch & Voglmayr

Jaklitsch et al. (2018) proposed this new genus based on morphological and molecular data (S. Fryar).

Atractium Syd. & P. Syd.

For many years, this genus was considered as a synonym of *Fusarium*, but a multilocus phylogenetic study by Gräfenhan et al. (2011) proved that *Atractium* represents a distinct genus in Nectriaceae (H. Madrid).

Axisporonites Kalgutkar & Janson. (fossil)

Kalgutkar and Jansonius (2000) designated *Multicellaesporites indicus* P. Kumar (Now: *Axisporonites indicus* (P. Kumar) Kalgutkar & Janson.) as type of this monotypic genus (R.K. Saxena).

Bacidia De Not.

Kistenich et al. (2018) treated *Bacidiodorsora* Kalb as synonym of *Bacidia* (E. Timdal).

Bacillicladium Hubka, Réblová & Thureborn

This monotypic genus, typified by *B. lobatum*, forms a distinct lineage in *Chaetothyriales* which might represent an undescribed family (Réblová et al. 2016) (H. Madrid).

Baeomycetales Lumbsch et al.

Kraichak et al. (2018a) regarded that *Arctomiales* S. Stenroos et al., *Hymeneliales* S. Stenroos et al and *Trapeliales* B.P. Hodk. & Lendemmer as synonyms of *Baeomycetales* (N. Wijayawardene).

Bahusandhika Subram.

Liu et al. (2018a) transferred this genus to the new family, *Lentimurisporaceae*, based on a multi-gene phylogeny (S. Fryar).

Barrenia E. Walsh & N. Zhang

Johnston et al. (2019) accepted this genus in *Mollisiaceae* (D. Haelewaters).

Barrmaeliaceae Voglmayr & Jaklitsch

Voglmayr et al. (2018) recognised the family *Barrmaeliaceae* with the genera *Barrmaelia* and *Entosordaria* from phylogenetic analyses of a combined DNA data matrix containing ITS, LSU, *rpb2* and *tub2* sequences of representative Xylariales including the type species of both genera. They also established that the morphologically similar genus *Clypeosphaeria* belongs to

Xylariaceae sensu stricto. The other genera of the family *Clypeosphaeraceae* aside from *Clypeosphaeria*, however, still need to be studied by methods of polyphasic taxonomy to assure their affinities to the *Xylariaceae*. The study by Vogmayr et al. (2018) also revealed that some DNA sequence data of the genera *Alloanthostomella*, *Neoanthostomella*, and *Pseudoanthostomella* that are available in the public domain were erroneous, which gave rise to some serious doubt as to their familiar affinities. These genera are therefore placed in *Xylariales Incertae sedis* until the phylogenetic position has been verified based on new DNA sequence data (M. Stadler).

Basidiobolales Jacz. & P.A. Jacz.

Basidiobolales Caval.-Sm., Biological Reviews Cambridge 73: 246 (1998) is an isonym (K. Bensch).

Basidiobolomyces Doweld

Basidiobolomyces Humber, Mycotaxon 120: 484 (2012) is an isonym, Doweld was published already in 2001; see IF and MB (K. Bensch).

Basidiosporites Elsik (fossil)

Kalgutkar & Jansonius (2000) considered *Ameptospora* Sal.-Cheb. & Locq. a later synonym of this genus (R.K. Saxena).

Bellicidia Kistenich, Timdal, Bendiksby & S.Ekman

Kistenich et al. (2018) introduced this genus in *Ramalinaceae* (E. Timdal).

Biatora Fr.

Kistenich et al. (2018) reduced *Ivanpisutia* S.Y. Kondr., Lökös & Hur and *Myrionora* R.C. Harris under this genus (E. Timdal).

Bibhya J.H. Willis

Kistenich et al. (2018) resurrected this genus in *Ramalinaceae* (E. Timdal).

Bifusisporella R.M.F. Silva et al.

Silva et al (2019) placed this new genus in the family *Magnaporthaceae* based on molecular and morphological characters. This genus shown the phylogenetic inference related to *Omnidemptus* but differ in by having an asexual morph with sporodochial conidiomata (Cannon & Alcorn 1994) (S. Tibpromma).

Biporipsilonites Kalgutkar & Janson. (fossil)

Spores in this genus can be differentiated from *Diporisporites* Hammen by having pore chambers. Kalgutkar & Jansonius (2000) designated *Diporicellaesporites belluloides* Z.C. Song (Now: *Biporipsilonites belluloides* (Z.C. Song) Kalgutkar & Janson.) as type of this genus (R.K. Saxena).

Botryosphaeriaceae Theiss. & Syd.

See under *Endomelanconiopsis* E.I. Rojas & Samuels Tao (A.J.L. Phillips).

Botryozyma Shann & M.T. Sm. emend. Lachance & Kurtzman

Kurtzman & Boekhout (2017) include *Ascobotryozyma* J. Kerrigan, M.T. Sm. & J.D. Rogers (under *Botryozyma*) to comply with the Melbourne Code (W.P. Pfliegler & E. Horváth).

Boubovia Svrček

This genus and *Coprotus* Korf & Kimbr. represents an independent clade of *Pezizales*, not included in *Ascodesmidaceae*, as shown by Perry et al. (2007) and also Hansen et al. (2013) (P. Alvarado).

Brachysporisporites R.T. Lange & P.H. Sm. (fossil)

Granatisporites Elsik & Janson. is a junior taxonomic synonym of *Brachysporisporites* (Kalgutkar & Jansonius 2000). Spores of *Brachysporisporites* are usually compared to the conidia of the modern *Brachysporium* Sacc. (R.K. Saxena).

Bradymyces Hubka et al.

This genus currently includes with three species which form a monophyletic group within Trichomeriaceae (Réblová et al. 2016) (H. Madrid).

Brefeldiellites Dilcher (fossil)

The fossil form of this monotypic genus is similar to the *Brefeldiella* Speg. but cannot be placed in this extant genus because the spores are not known (R.K. Saxena).

Bresadolia Speg.

Motato-Vásquez et al. (2018) reinstated this genus and accepted as in Polyporaceae (V. Papp).

Brigantiaeaceae Hafellner & Bellem.

Kraichak et al. (2018a) regarded *Letrouitiaceae* as a synonym of *Brigantiaeaceae* (N. Wijayawardene).

Brunneofusispora S.K. Huang & K.D. Hyde

Brunneofusispora was introduced in Phookamsak et al. (2019) to accommodate massarina-like species and species identified as *Massarina rubi* (Fuckel) Sacc. Multi-gene phylogenetic analyses revealed that the genus formed a distinct clade within *Occultibambusaceae* (Phookamsak et al. 2019) (R. Phookamsak).

Brunneomurispora Phook. et al.

Phookamsak et al. (2019) introduced a monotypic genus *Brunneomurispora* to accommodate *B. loniceriae*. Multi-gene phylogenetic analyses showed that the genus formed a distinct clade basal to *Neosetophoma* in *Phaeosphaeriaceae*. However, the sexual morph of *Neosetophoma* has phragmosporous ascospores; whereas, *Brunneomurispora* has dictyosporous ascospores. Asexual morph of *Brunneomurispora* is undetermined (R. Phookamsak).

Bryobilimbia Fryday et al.

Fryday et al. (2014) introduced *Bryobilimbia* to accommodate six species, including *Lecidea hypnorum* and some related taxa based on morphological characters such as bacilliform conidia, slightly swollen paraphyses and thallus minutely squamulose without marginal lobes. Phylogenetic analyses revealed *Bryobilimbia* as a distinct monophyletic lineage within *Lecideaceae*, *Lecideales*, *Lecanoromycetes* (P. Rodriguez-Flakus).

Bulbomicroidium Marm. et al.

Marmolejo et al. (2018) introduced this monotypic genus and confirmed its placement in *Erysiphaceae* based on molecular phylogenetic analysis of the LSU (S. Takamatsu).

Byssonectria P. Karst.

The genus *Kotlabaea* Svrček has been reduced under *Byssonectria* by Lindemann et al. (2015) (P. Alvarado).

Callimothallus Dilcher (fossil)

Callimothallus lacks any central dehiscence and is characterized by numerous pores. Elsiek (1978) pointed out that the porate condition in *Callimothallus* is required for at least in a number of the cells to separate it from *Phragmothyrtes* W.N. Edwards and that if the porate nature is well represented, even fragments of the fructification are recognizable. Kalgutkar & Jansonius (2000) considered *Pseudosphaerialites* Venkatach. & R.K. Kar and *Siwalikiathyrites* R.K. Saxena & H.P. Singh as junior synonyms of *Callimothallus* (R.K. Saxena).

Calongea Healy, Bonito & Trappe

This genus was erected to accommodate *Pachyphloeus prieguensis* (Healy et al. 2009), reflecting a separate lineage within *Pezizaceae* (I. Kušan, N. Matočec & P. Alvarado).

Calyptosphaeria Réblová & A.N. Mill.

Réblová et al. (2018) introduced this genus to accommodate two new species and two new combinations based on a multi-gene phylogeny and morphological characters (S. Fryar).

Camptophora Réblová & Unter.

This genus, originally proposed to accommodate a '*Cyphellophora*' species clustering outside the *Cyphellophoraceae* clade. It currently includes two species, viz. *C. hylomeconis*, the generic type and *C. schimae* (Réblová et al. 2013, Yang et al. 2018a) (H. Madrid).

Candida Berkhout

Transfer of several *Candida* species to various yeast genera (including novel genera) is expected. But *Candida* is expected to be the retained genus name for the *C. tropicalis* clade instead of *Lodderomyces* Van der Walt in *Debaryomycetaceae* to comply with the Melbourne Code. Transferring the hundreds of *Candida* species to monophyletic genera is one of the main current challenges in yeast taxonomy (Kurtzman & Boekhout 2017) (W.P. Pfliegler & E. Horváth).

Castanedospora G. Delgado & A.N. Mill.

Delgado et al. (2018) introduced this hyphomycetous genus to accommodate *Sporidesmium pachyanthicola* R.F. Castañeda & W.B. Kendr. In the phylogenetic analyses, it grouped in *Extremaceae* (*Capnodiales*, *Dothideomycetes*) distant from *Sporidesmiaceae* sensu stricto in *Sordariomycetes* (G. Delgado & S. Fryar).

Catinaria Vain.

Kistenich et al. (2018) transferred this genus from *Ramalinaceae* to the *Lecanorales* genera *incertae sedis* (E. Timdal).

Cenangiaceae Rehm

In their 15-gene phylogeny, Johnston et al. (2019) found high support for a sclerotinioid clade including *Cenangiaceae* within the *Helotiales*. Here, we follow the emended concept of Pärtel et al. (2017) for the family *Cenangiaceae*, including the following genera: *Cenangiopsis*, *Cenangium*, *Chlorencoelia*, *Crumenulopsis*, *Encoelia*, *Fabrella*, *Heyderia*, *Rhabdocline*, *Sarcotrochila*, *Trochila*, and *Velutarina* (D. Haelewaters).

Cephaliphora Thaxt.

This genus is firmly nested as a separate lineage within *Ascodesmidaceae*, *Pezizales* (Kušan et al. 2018) (I. Kušan & N. Matočec).

Cercosporites E.S. Salmon (fossil)

Aspergillites Trivedi & C.L. Verma ex Janson., Hills & Hartk.-Fröd. is a taxonomic latter synonym of *Cercosporites* (Kalgutkar & Jansonius 2000) (R.K. Saxena).

***Chaetosphaerites* Félix (fossil)**

This genus is characterized by spores having two middle cells being dark brown and two end cells pale brown. The shape of the sporidia is strongly obtuse spindle-shaped, almost like that of a cylinder with rounded ends. *Cannanosporonites* Ramanujam & K.P. Rao is a latter taxonomic synonym of *Chaetosphaerites* (R.K. Saxena).

***Cheirospora* Moug. & Fr.**

Johnston et al (2019) accepted this genus in *Mollisiaceae* (D. Haelewaters).

***Chlorociboriaceae* Baral & P.R. Johnst.**

Based on Johnston et al.'s (2019) 15-gene phylogenetic analysis, *Chlorobiboriaceae* is part of the sclerotinioid clade within *Helotiales* (D. Haelewaters & N. Wijayawardene).

***Chroogomphus* (Singer) O.K. Mill.**

Scambler et al. (2018) revised the infrageneric classification of the genus, introduced three subgenera (*Chroogomphus*, *Floccigomphus* and *Siccigomphus*) and five sections/clades within subg. *Chroogomphus* (*Chroogomphus*, *Confusi*, *Filiformis*, *Fulminei* and the informal *Vinicolores* clade). *Chroogomphus subfulmineus* from Cyprus, Finland and the UK, and *C. pakistanicus* and *C. pruinus* from Pakistan were recently described bringing the number of recognized species to 25 (Scambler et al. 2018, Kiran et al. 2020) (D. Haelewaters).

***Chrysodiscaceae* Baral & Haelew.**

Baral & Polhorský (2019) introduced this family to accommodate *Chrysodisca peziculoides*, a broadly distributed European discomycete resembling *Pezicula* but phylogenetically separated from previously recognized families within *Helotiales* (D. Haelewaters).

***Chrysonectria* Lechat & J. Fourn**

Lechat et al (2018a) introduced this genus and showed that it is phylogenetically belongs to *Bionectriaceae* (N. Wijayawardene)

***Cinereomycetella* Zmitr.**

Justo et al. (2017) showed that *Diplomitoporus overholtsii* (Pilát) Gilb. & Ryvarden forms a distinct phylogenetic lineage in the family *Polyporaceae*. Hence, Zmitrovich (2018) introduced the monotypic genus *Cinereomycetella* in *Gelatoporiaceae* to accommodate *Diplomitoporus overholtsii* (V. Papp).

***Cladoniaceae* Zenker**

Kraichak et al. (2018a) revised *Lecanoromycetes* and showed that *Squamarinaceae* Hafellner, *Stereocaulaceae* Chevall are synonyms of *Cladoniaceae* Zenker (in *Lecanorales*) based on temporal-based classification (N. Wijayawardene).

***Cladophialophora* Borelli**

The genus *Cladophialophora* is polyphyletic within *Chaetothyriales*. The generic type, *C. carrionii* and most species of this genus belong in *Herpotrichiellaceae*, but a few species are related to other chaetothyrialean families, such as *Epibryaceae* and *Trichomeriaceae* (Madrid et al. 2016) (H. Madrid).

***Cladorrhinum* Sacc. & Marchal**

Phylogenetic studies by Cai et al. (2006), Madrid et al. (2011) and Carmarán et al. (2015) proved that this genus belongs in *Lasiosphaeriaceae*. Nevertheless, Hyde et al. (2020) accepted this genus in *Podosporaceae*. The genus, however, is polyphyletic within this fungal family (H. Madrid).

Cladosporites Félix (fossil)

The conidia greatly resemble those of the genera *Cephalothecium* Corda and *Cladosporium* Link. (R.K. Saxena).

Clarireedia L.A. Beirn

Salgado-Salazar et al. (2018) proposed this new genus with *C. homoeocarpa* as the type species (*Rutstroemiaceae*) based on molecular and morphological characters. The genus comprises three other species except the type species viz. *C. bennettii*, *C. jacksonii*, and *C. monteithiana* (Salgado-Salazar et al. 2018) (S. Fryar & S. Somrithipol).

Claussenomyces Kirschst.

According to Quijada et al (2018b) and Species Fungorum (2020), the genus *Claussenomyces* currently contains 16 species. However, the genus is “heterogeneous” (Jaklitsch et al. 2016a) and polyphyletic. As a result, it is currently under taxonomic revision. “*Claussenomyces*” *prasinulus* is treated as *Leotiales* genera incertae sedis based on its placement in Johnston et al.’s (2019) 15-gene tree. (D. Haelewaters, I. Kušan & N. Matočec).

Cochlearomyces Crous

Crous et al. (2017) established this genus to accommodate a synnematosus fungus on leaf litter of *Eucalyptus*. The same authors also introduced a new family (*Cochlearomycetaceae*) for the genera *Cochlearomyces* and *Satchmopsis*, which was retrieved in *Leotiales* based on the phylogenies of both Ekanayaka et al. (2019) and Johnston et al. (2019) (D. Haelewaters).

Coleophoma Hohn.

Using a polyphasic approach, Crous & Groenewald (2016) established the teleomorph-anamorph connection between *Coleophoma* and *Parafabraea* Chen Chen, Verkley & Crous, thus reducing *Parafabraea* to synonymy. *Coleophoma* is placed in *Dermateaceae* (Johnston et al. 2019) (D. Haelewaters).

Colligerites K.P. Jain & R.K. Kar (fossil).

Involutisporonites Elsik broadly resembles *Colligerites* but in the former, coiling is not perfect and it has a hyaline cell at the tip (R.K. Saxena).

Compsocladium I.M. Lamb

Kistenich et al. (2018) transferred this genus from *Ramalinaceae* to the *Lecanorales incertae sedis* (E. Timdal).

Coprotus Korf & Kimbr.

See under *Boubovia* Svrček (P. Alvarado).

Coprinites Poinar & Singer (fossil)

The fossil mushroom has affinity with the present day genus *Coprinus* Pers (R.K. Saxena).

Corticifraga D. Hawksw. & R. Sant.

The genus *Corticifraga*, comprising 7 species and has been recently transferred to *Gomphilaceae* (Pino-Bodas et al. 2017, Suija et al. 2018), but so far only the type species has been sequenced (M. Kukwa & A. Suija).

Craspedodidimella F.R. Barbosa, R.F. Castañeda & Gusmão

Barbosa et al. (2017) introduced this genus and showed that it belongs in *Ascomycota* genera *incertae sedis* (F.R. Barbosa).

Crassiclypeus A. Hashim. et al.

Hashimoto et al. (2018) proposed this genus with *Crassiclypeus aquaticus* as the type species, which was previously included in the *Lophiostoma bipolare* species complex (S. Fryar).

Crepatura C.L. Zhao

Zhao et al. (2019) proposed this new genus with *Crepatura ellipsohora* as the type species based on molecular and morphological characters. While, this genus phylogenetically closely related to *Pirex concentricus* but morphology is different (S. Tibpromma).

Crustospathula Aptroot

Kistenich et al. (2018) transferred this genus from the *Ramalinaceae* to the *Malmideaceae* (E. Timdal).

Cryptodidymosphaerites Currah, Stockey & B.A. LePage (fossil)

This genus from the Princeton chert presents sufficient characters such as the presence of a pseudothecium, ascospores morphology, orientation and the mycoparasitic habit to place it close to *Didymosphaeria* Fuckel. (Aptroot 1995) (R.K. Saxena).

Cryptodiscus Corda

Pino-Bodas et al. (2017) regarded that *Lettauia* D. Hawksw. & R. Sant. as a synonym of *Cryptodiscus*, however, 3 species are still orphaned under that name, but so far have not been relocated (M. Kukwa & A. Suija).

Cryptophyllachora L. Kiss, Kovács & R.G. Shivas

Kiss et al. (2018) proposed *Cryptophyllachora* to accommodate *C. eurasiatica* (the type species) collected from common ragweed (*Ambrosia artemisiifolia*) in Hungary, and *C. ambrosiae* that was transferred from *Phyllachora ambrosiae* (S. Somrithipol).

Cucitella Jaklitsch & Voglmayr

Jaklitsch et al. (2018) proposed this new genus based on morphological and molecular data (S. Fryar).

Cucurbitariaceites R.K. Kar, R.Y. Singh & S.C.D. Sah (fossil)

Cucurbitariaceites is easily distinguishable from all the fossil genera of *Microthyriales* G. Arnaud. by its circular to subcircular shape, darker outer layer and thin inner layer, in the absence of true paraphyses and the presence of cylindrical asci. *Cucurbitariaceites* closely resembles the extant family *Cucurbitariaceae* G. Winter in all the characters and *Cucurbitaria* Gray is the widely known genus of this family (Bessey 1950) (R.K. Saxena).

Culbersonia Essl.

This genus is considered part of the *Caliciaceae* by Aptroot et al. (2019) (P. Alvarado).

Cylindriaceae Crous & L. Lombard

Crous et al. (2018) introduced this new family to accommodate *Cylindrium*, which was previously in *incertae sedis*. Hyde et al. (2020) accepted this family in *Amphisphaeriales* (S. Fryar).

Cylindrosporium Grev.

Baral (2016) and Ekanayaka et al. (2019) accepted this genus in *Ploettnerulaceae* (D. Haelewaters & N. Wijayawardene).

Cyphellophora G.A. de Vries

Species of *Cyphellophora* are characterized by slow-growing colonies, dematiaceous mycelium and phialidic conidiogenous cells usually with conspicuous collarettes. Phylogenetically, they form a distinct clade in *Chaetothyriales* for which the family *Cyphellophoraceae* was erected (Réblová et al. 2013) (H. Madrid).

Deccanodia Singhai (fossil)

Deccanodia resembles *Diplodia* Fr. in its pycnidium and 2-celled, brown and mostly ellipsoid conidia (Barnett 1960, Gilman 1959). However, in *Diplodia*, black pycnidia and equal 2-celled conidia are present thus showing a distinct difference from the fossil fungus which has slightly brown pycnidium and unequally divided 2-celled conidia. *Deccanodia* also resembles *Apiocarpella* Syd., belonging to Fungi Imperfecti (Barnett 1960) (R.K. Saxena).

Dekkera Van der Walt

Expected transfer of species to *Brettanomyces* Kufferath & van Laer to comply with the Melbourne Code (Kurtzman & Boekhout 2017) (W.P. Pfliegler and E. Horváth).

Dendrostoma X.L. Fan & C.M. Tian

Fan et al. (2018a) placed this new genus in the family Erythroglloeaceae with three species viz. *D. mali* (the type species), *D. quercinum*, and *D. osmanthi*. The genus comprises 19 species associated wood canker disease (Jaklitsch et al. 2019, Jiang et al. 2019b, Zhu et al. 2019). (S. Fryar, X. Fan & S. Somrithipol).

Densocarpa Gilkey

According to recently shown phylogenies (e.g. Kumar et al. 2017), this genus should not be considered as a synonymy of *Stephensia* as it represents separate lineage in *Geopyxis* clade (I. Kušan & N. Matočec).

Densospora McGee

Single-locus and multigene phylogenetic reconstructions depict *Densosporaceae* as a distant sister clade of *Endogonaceae* within the order *Endogonales* (Desirò et al. 2017) (K. Bensch).

Dentocorticium (Parmasto) M.J. Larsen & Gilb.

Liu et al. (2018b) treated *Dendrodontia* Hjortstam & Ryvarden and *Fuscocerrena* Ryvarden as synonyms of *Dentocorticium* (V. Papp).

Dextrinoporus H.S. Yuan

Yuan & Qin (2018) introduced this monotypic genus to accommodate the new species *D. aquaticus* H.S. Yuan and showed that it forms a distinct phylogenetic lineage in the family *Polyporaceae* (V. Papp).

Diademosia Shoemaker & C.E. Babcock

This genus has been originally considered as a genus of *Diademaceae* (Shoemaker & Babcock 1992). Later it was transferred to *Pleosporaceae* (Ariyawansa et al. 2014) but molecular phylogeny has not still used for its replacement (P.B. Gannibal).

Diaporthosporellaceae C.M. Tian & Q. Yang

Yang et al. (2018b) introduced *Diaporthosporellaceae* for *Diaporthosporella cercidicola*, a new genus and species collected from diseased branches of *Cercis chinensis* in China (S. Somrithipol & S.S.N. Maharachchikumbura).

Diaporthostoma X.L. Fan & C.M. Tian

Diaporthostoma machili is the type species of recently introduced genus *Diaporthostoma* by Fan et al. (2018a) (S.S.N. Maharachchikumbura).

Diaporthostomataceae X.L. Fan & C.M. Tian

This monotypic family was introduced by Fan et al. (2018a) based on morphology and the analysis of partial ITS, LSU, rpb2 and tef1- α gene sequences. This family belongs to the order *Diaporthales* (S.S.N. Maharachchikumbura and S. Fryar).

Dictyoceratosporella Y.R. Ma & X.G. Zhang

Ma et al. (2016) established this hyphomycetous genus. Sequence data are lacking thus taxonomic placement is uncertain (J. Ma).

Dictyosporites Félix (fossil)

These spores are comparable to the conidia of some modern genera like *Dictyosporium* Corda, *Stemphylium* Wallr., *Septosporium* Corda and *Alternaria* Nees, and the ascospores of *Pleospora* Rabenh. ex Ces. & De Not. *Arbusculites* Paradkar, *Dactylosporites* Paradkar, *Pleosporonites* R.T. Lange & P.H. Sm. and *Ravenelites* Ramanujam & Ramachar are latter taxonomic synonyms of *Dictyosporites* (Kalgutkar & Jansonius 2000) (R.K. Saxena).

Digitiseta Gordillo & Decock

Gordillo & Decock (2018) proposed *Digitiseta* and transferred two *Myrothecium* (*M. setiramosum* and *M. dimorphum*) into the genus as *D. setiramosa* (the type species) and *D. dimorpha*. *Digitiseta parvidigitata* and *D. multidigitata* were described as new and also included. *Digitiseta* differs from the two closely related genera, *Inaequalispora* and *Parvothecium*, in having short apical branches of the setoid extension (S. Somrithipol).

Diphymyces I.I. Tav.

Diphymyces was introduced by Tavares (1985) to accommodate *Laboulbeniales* species with thalli that have a septum vertically separating cells II and VI, four tiers of perithecial wall cells, and (sub-) apical perithecial outgrowths. The separation of this genus from *Corethromyces* Thaxt. was primarily based on the position of cells II and VI, which is a variable character (discussed in De Kesel & Haelewaters 2019). Also the genera *Asaphomyces* Thaxt. and *Euphoriomyces* Thaxt. might be synonymous. These four genera are placed in three different subtribes (Tavares 1985), but several higher taxa (subtribes and tribes) from the Tavares (1985) classification are polyphyletic following molecular phylogenetic treatments (Goldmann & Weir 2018, Haelewaters et al. 2018b). Molecular phylogeny is needed to resolve these taxonomic and systematic problems (D. Haelewaters).

Diplodites D.N. Babajan & Tasl. ex Kalgutkar, Nambudiri & Tidwell (fossil)

Kalgutkar et al. (1993) validated the name *Diplodites* to encompass fossil taxa that are morphologically similar to the extant fungi *Diplodia* Fr., *Botryodiplodia* (Sacc.) Sacc. and other related genera such as *Dothiorella* Sacc. and *Macrophoma* (Sacc.) Berl. & Voglino. *Palaeodiplodites* Kyoto Watanabe, H. Nishida & Tak. Kobay. is a junior taxonomic synonym of *Diplodites* (Kalgutkar & Jansonius 2000). (R.K. Saxena).

Diploneurospora K.P. Jain & R.C. Gupta (fossil)

This monotypic genus accommodates two-celled (cells unequal), uniseriate, elliptical ascospores with uneven margin; upper cell prominent, dark brown, thick-walled, wall sculptured with longitudinal ribs; lower cell hyaline, appendage-like, small in size, rib sculpture faint. It closely resembles to the single celled ascospores of extant genus *Neurospora* Shear & B.O. Dodge (R.K. Saxena).

Diporisorites Hammen (fossil)

Kalgutkar & Jansonius (2000) considered *Scabradiporites* Y.K. Mathur a latter taxonomic synonym of *Diporisorites* (R.K. Saxena).

Discinellaceae Ekanayaka & K.D. Hyde

Ekanayaka et al. (2019) introduced this family within *Helotiales*. Johnston et al. (2019) found high support for what they referred to as the *Discinella-Pezoloma* lineage (sensu Baral 2016), placed as sister clade to *Gelatinodiscaceae* in the discinelloid clade of *Helotiales*. A number of genera that were previously placed elsewhere are now considered members of *Discinellaceae*: *Cladochasiella*, *Fontanospora*, *Margaritisporea*, *Naevala*, *Pseudopezicula* and *Tetrachaetum* (D. Haelewaters).

Dothiorella Sacc.

Yang et al. (2017) considered that *Spencermartinsia* should no longer be considered a separate genus and placed it as a synonym of *Dothiorella*. Currently 389 names are listed in MycoBank, but only 38 are known from culture (A.J.L. Phillips).

Drepanopezizaceae Baral

Introduced in Johnston et al. (2019) as sister family to *Ploettnerulaceae* within *Helotiales* (D. Haelewaters).

Ducatina Ertz & Søchting

Ertz et al. (2017b) introduced this genus which belongs in *Trapeliaceae* (N. Wijayawardene).

Durella Tul. & C. Tul.

Baral (2016) treated this genus in his “*Strossmayeria* lineage”, which was confirmed by the ITS tree of Johnston et al. (2019). However, two species, “*Durella*” *macrospora* and “*D.*” *melanochlora*, are phylogenetically distinct from the type (*D. connivens*) and are here placed under *Helotiales* genera *incertae sedis* (D. Haelewaters).

Durotheca Læssøe et al.

De Long et al. (2019) described two new species of *Durotheca* from China and provided a new molecular phylogeny that proved the affinities of the genus to the Hypoxylaceae. This had already been indicated by morphological data, such as the presence of a nodulisporium-like asexual morph in some species (M. Stadler).

Dyadosporites Hammen ex R.T. Clarke (fossil)

Jansonius & Hills (1976) remarked that “although van der Hammen (1954) gave a diagnosis and the name of the type species, the latter was never described (or illustrated)”. Therefore, *Dyadosporites* was not a validly published name of a taxon, but as merely proposed in anticipation of future acceptance of the group. Clarke (1965) was the first to have validly published this genus name and also the first to assign a species (*Dyadosporites ellipsus* R.T. Clarke) to it. *Dyadosporonites* Elsik and *Psidimobipiospora* Sal.-Cheb. & Locq. are latter taxonomic synonyms of *Dyadosporites* (Kalgutkar & Jansonius 2000) (R.K. Saxena).

Efibulella Zmitr.

Justo et al. (2017) showed that *Phlebia deflectens* (P. Karst.) Ryvar den forms a distinct phylogenetic lineage in the family Phanerochaetaceae. Hence, Zmitrovich (2018) introduced the monotypic genus *Efibulella* to accommodate *Phlebia deflectens* (V. Papp).

Elaphroporia Z.Q. Wu & C.L. Zhao

Wu et al. (2018) introduced this monotypic genus to accommodate the new species *E. ailaoshanensis* Z.Q. Wu & C.L. Zhao, and accepted it as a genus in the residual polyporoid clade based on phylogenetic analyses (V. Papp).

Emergomyces Dukik et al.

This genus of thermally dimorphic clinical fungi belongs in the family Ajellomycetaceae, according to multilocus phylogenetic studies by Dukik et al. (2017) (H. Madrid).

Endomelanconiopsis E.I. Rojas & Samuels Tao

Yang et al. (2017) considered that this genus warrants a separate family and thus introduced *Endomelanconiopsisaceae* to accommodate it. Phillips et al. (2019) took into account phylogeny (ITS, LSU), morphology and evolutionary divergence times and concluded that *Endomelanconiopsis* resides within *Botryosphaeriaceae*. Hence, Phillips et al. (2019) regarded *Endomelanconiopsisaceae* as a synonym of *Botryosphaeriaceae* (A.J.L. Phillips).

Endophoma Tsuneda & M.L Davey

This is a monotypic genus in *Didymellaceae*, typified by *E. elongata*. The fungus is an atypical coelomycete with endogenous conidiogenesis and its taxonomic position has been elucidated by DNA sequence analyses (Tsuneda et al. 2011a) (H. Madrid).

Enterodictyon Müll. Arg.

It is an autonomous genus in Wijayawardene et al. (2017a), but the type species, *E. indicum* Müll. Arg., was transferred to *Diorygma* (Joseph et al. 2018). However, some species still need to be studied and relocated (M. Kukwa).

Entrophospora Ames & Schneider

The fungus was treated as an *incertae sedis* in the last classification (Wijayawardene et al. 2018). Nevertheless, all partial rDNA sequences published within the last years, suggest that their type fungus (*E. infrequens*) belongs to *Claroideoglomerus* clade (Oehl et al 2011e,f), justifying the use of *Entrophosporaceae* instead of *Claroideoglomeraceae*.

Epicladonia D. Hawksw.

According to Pino-Bodas et al. (2017), the generic type, *E. sandstedei* (Zopf) D. Hawksw. belongs to *Leotiomyces* while other species are placed in *Ostropales* (A. Suija).

Epithamnolia Zhurb.

Suija et al. (2017) showed that lichenicolous species of *Hainesia* form a distinct phylogenetic lineage within *Phacidiales*, and provisionally transferred lichenicolous species to the morphologically similar genus *Epithamnolia*. According to molecular analysis by Quijada et al. (2018a), the genus was placed in the poorly known *Mniaecia* lineage, which is now family *Mniaeciaceae* within *Leotiales* (Johnston et al. 2019). In contrast, Ekanayaka et al. (2019) regarded this genus as a member of the *Epicladonia-Epithamnolia* clade in *Lichinodiales*, however this placement had no statistical support (D. Haelewaters, A. Suija & N. Wijayawardene).

Eudarluka Speg.

Rossmann et al. (2015) treated *Eudarluka* as a synonym of *Sphaerellopsis* based on a study of Trakunyingcharoen et al. (2014). The congeneric status of *Eudarluka* and *Sphaerellopsis* was

clarified based on *Eudarluca caricis* and *Sphaerellopsis filum*. However, Phookamsak et al. (2014) examined the isotype of *Eudarluca australis* and compared the morphology with *E. caricis*. Based on morphological examination, Phookamsak et al. (2014, 2019) mentioned that these two genera were not congeneric and suggested to instate *Eudarluca* in *Phaeosphaeriaceae* for pending further studies (R. Phookamsak).

***Eutiarosporella* Crous**

Based on ITS and LSU sequence phylogeny, Crous et al. (2015a) introduced *Eutiarosporella* as a new genus for tiarosporella-like fungi with long-necked conidiomata and holoblastic conidiogenesis (A.J.L. Phillips).

***Exesisporites* Elsik (fossil)**

The centrally located pore in *Exesisporites* is generally surrounded by a dark circular patch which is interpreted as a thickened wall. Ethridge Glass et al. (1986) cited possible affinity of *Exesisporites* to the extant fungus *Nigrospora* Zimm. (R.K. Saxena).

***Exochalara* W. Gams & Hol.-Jech.**

Crous et al (2018b) treat this genus as a member in *Neolauriomycetaceae* (K. Bensch).

***Exophiala* J.W. Carmich.**

This is a species-rich genus of black yeast-like fungi, polyphyletic within *Chaetothyriales*. The type species, *E. salmonis*, and most members of this genus belong in *Herpotrichiellaceae*, but some species are related to other chaetothyrialean families, such as *Trichomeriaceae* (Madrid et al. 2016) (H. Madrid).

***Extremaceae* Quaedvl. & Crous**

Paradevriesiaceae was introduced by Crous et al. (2019) and comprises *Paradevriesia compacta* (CBS 118294), *P. Americana* (CBS 117726), and *P. pseudoamericana* (CPC 16174). However, Crous et al. (2019) did not include sequence of *Extremaceae* in their phylogenetic tree. In Hongsanan et al. (in prep), *Paradevriesia* strains form a distinct lineages within *Extremaceae*. Hence, Hongsanan et al. (in prep.) regarded *Paradevriesiaceae* as a synonym of *Extremaceae* (S. Hongsanan & N. Wijayawardene).

***Flabellascoma* A. Hashim. et al.**

Hashimoto et al. (2018) proposed this genus to accommodate two species which were previously in the *Lophiostoma bipolare* species complex (S. Fryar).

***Flagellospora* Ingold**

Ekanayaka et al. (2019) retrieved this genus as a distinct phylogenetic lineage without support. We propose it here as *Leotiales* genera *incertae sedis* based on the placement of *F. curvula*, the type species, in the 15-gene tree of Johnston et al. (2019) (D. Haelewaters).

***Flavignomonium* N. Jiang et al.**

Jiang et al. (2019c) proposed this new genus based on morphological and molecular data with synnemata similar to *Synnemaspora* but differ in orange synnematal tips and hyaline conidia (S. Tibpromma).

***Fomitopsidaceae* Jülich**

Zmitrovich (2018) treated *Adustoporiaceae* Audet, *Amyloporiaceae* Audet, *Fibroporiaceae* Audet, *Lentoporiaceae* Audet, *Pycnoporellaceae* Audet, *Rhodontiaceae* Audet and *Sarcoporiaceae* Audet as synonyms of *Fomitopsidaceae* (V. Papp).

Fonsecaea Negroni

This genus currently includes eight species, most of which are associated with infections in humans. Phylogenetically, *Fonsecaea* belongs in *Herpotrichiellaceae* (Arzanlou et al. 2007, Madrid et al. 2016, Dong et al. 2018) (H. Madrid).

Foveodiporites C.P. Varma & Rawat emend. Kalgutkar & Janson. (fossil)

Punctodiporites C.P. Varma & Rawat is a later synonym of *Foveodiporites* as emended by Kalgutkar & Jansonius (2000) (R.K. Saxena).

Frasnacritetrus Taug. emend. R.K. Saxena & S. Sarkar (fossil)

Taugourdeau (1968) originally described this genus under *Acritarcha incertae sedis* from the Late Devonian (Frasnian) sediments of France. Kendrick & Carmichael (1973) published a list of staurosporous genera and their illustrations which strongly suggests that *Frasnacritetrus* is a fossil representative of *Tetraploa* Berk. & Broome, hence its placement under *Acritarcha incertae sedis* by Taugourdeau (1968) does not seem justified. All the seven assemblages studied by Saxena & Sarkar (1986), wherefrom the present microfossils have been recovered, contain poaceous pollen as well. Since *Tetraploa* mainly grows on Poaceae, the association of *Frasnacritetrus* with poaceous pollen is considered a supporting evidence for the affinity of *Frasnacritetrus* with *Tetraploa* (R.K. Saxena).

Frutidella Lalb

Kistenich et al. (2018) transferred this genus from the *Ramalinaceae* to the *Lecanoraceae* (E. Timdal).

Fuscosclera Hern.-Restr. et al.

Johnston et al (2019) accepted this genus in *Mollisiaceae* (D. Haelewaters).

Fusichalara S. Hughes & Nag Raj

Fusichalara minuta clustered in the family *Sclerococcaceae* (Réblová et al. 2016, Yu et al. 2018), but not type species (H. Zhang).

Fusiformisporites Rouse (fossil)

Striadyadosporites Dueñas is a later taxonomic synonym of *Fusiformisporites* (R.K. Saxena).

Galbinothrix Frisch et al.

This genus was recently introduced from Japan and Korea by Frish et al. (2018). Multi-gene phylogenetic analyses revealed that the monotypic genus formed a distinct clade together with *Chrysothrix*, *Melarthonia*, and *Arthonia* (P. Rodriguez-Flakus).

Geesterania Westphalen, Tomšovský & Rajchenberg

Westphalen et al. (2018) introduced this genus in Meruliaceae to accommodate *Junghuhnia carneola* (Bres.) Rajchenb. and *Geesterania davidii* Westphalen & Rajchenberg. (V. Papp).

Gelatinoamylaria Prasher & R. Sharma

Prasher et al. (2016) introduced *Gelatinoamylaria* as a new genus to accommodate a species with gelatinous apothecia and amyloid ascospores. It is tentatively placed in *Dermateaceae* but no sequences are available. It should be analyzed phylogenetically to determine its true systematic position (I. Kušan & N. Matočec).

Gelatinosporium Peck

This genus belongs to *Tympanidaceae* following the family concept of Baral (2016) and Quijada et al. (2020) (N. Wijayawardene).

Geonectria Lechat & J. Fourn.

This is newly described genus (Lechat et al. 2018b) that belongs to *Bionectriaceae* (I. Kušan & N. Matočec).

Gloeoporellus Zmitr.

Justo et al. (2017) showed that *Tyromyces merulinus* (Berk.) G. Cunn. forms a distinct phylogenetic lineage in the family Incrustoporiaceae. Hence, Zmitrovich (2018) introduced the monotypic genus *Gloeoporellus* to accommodate *Tyromyces merulinus* (V. Papp).

Gloniales Jayasiri & K.D. Hyde

Jayasiri et al. (2018) introduced this order as a distinct sister clade to the *Mytinidiales* (S. Fryar).

Grovesiella M. Morelet

Previously placed in *Tympanidaceae*. However, *G. abieticola*, the type species of the genus, was retrieved as a member of *Godroniaceae* in the ITS tree of Johnston et al. (2019) (D. Haelewaters).

Gymnostellatospora Udag. et al.

Previously regarded as a member of *Myxotrichaceae* (Baral 2016), this genus is now placed in *Pseudeurotiaceae*, *Thelebolales* based on the ITS phylogeny of Johnston et al. (2019). This placement agrees with the suggestion of Minnis & Lindner (2013) to consider the genera *Geomyces*, *Gymnostellatospora*, *Leuconeurospora*, *Pseudeurotium* and *Pseudogymnoascus* as members of the family *Pseudeurotiaceae* (D. Haelewaters).

Hanseniaspora Zikes

This teleomorph genus has a priority over its anamorphic counterpart, *Kloeckera*. *Kloeckera* species have recently been transferred here (Kurtzman & Boekhout 2017, Čadež et al. 2019) (W.P. Pfliegler & E. Horváth).

Harmoniella V.N. Boriss.

This enigmatic genus currently includes two species, the generic type *H. chrysocephala*, and *H. campanaensis*. They have been collected on plant material in Ukraine and Chile, respectively. Both are apparently non-culturable fungi and so far it has been impossible to generate DNA sequence data of them. No sexual morph is known for *Harmoniella* (H. Madrid).

Hemigraphaceae D.Q. Dai & K.D. Hyde

Dai et al. (2018) introduced this family in *Asterinales* to accommodate *Hemigrapha* (Müll. Arg.) D. Hawksw. (N. Wijayawardene).

Hemiphacidiaceae Korf

Ekanayaka et al. (2019) reinstated this family but careful analysis of previous work shows that this decision is flawed. Pärtel et al. (2017) included in their phylogenetic analysis the type species of the genus *Cenangium*, *C. ferruginosum*, to find that it is positioned in the clade that Ekanayaka et al. (2019) refer to as *Hemiphacidiaceae* but truly is *Cenangiaceae*. The clade named “*Cenangiaceae*” by Ekanayaka et al. (2019) is regarded as *Helotiales* genera *incertae sedis* by other studies, including Zhao et al. (2016) Pärtel et al. (2017), Johnston et al. (2019). This clade includes “*Cenangium*” *acuum*, *Piceomphale bulgarioides*, and *P. pinicola* (basionym *Moellerodiscus pinicola*). In this outline, we follow Pärtel et al.’s (2017) emended concept of *Cenangiaceae* including members of the previous *Hemiphacidiaceae* (see *Cenangiaceae*) (D. Haelewaters).

Hemipholiota (Singer) Bon

Bon (1986) elevated *Pholiota* subgen. *Hemipholiota* to genus level and typified by *Hemipholiota populnea* (Singer) Bon as the type species. Molecular data analyses confirmed that *Hemipholiota* is a separate genus from *Pholiota* with a unique and uncertain phylogenetic position, distinct from *Strophariaceae* (Moncalvo et al. 2002, Gulden et al. 2005) (B. Dima).

Henssenia Ertz, R.S. Poulsen & Søchting

Ertz et al. (2017a) introduced this genus and showed that it belongs in *Koerberiaceae* (N. Wijayawardene).

Hermanssonia Zmitr.

Justo et al. (2017) showed that *Phlebia centrifuga* P. Karst. forms a distinct phylogenetic lineage in the family Meruliaceae. Hence, Zmitrovich (2018) introduced the monotypic genus *Hermanssonia* to accommodate *Phlebia centrifuga* (V. Papp).

Herpomycetales Haelew. & Pfister

Haelewaters et al. (2019b) introduced this new order to accommodate the genus *Herpomycetes*, which was previously placed in *Laboulbeniales*. Blackwell et al. (2020) found high support for the polyphyly of the thallus-forming *Laboulbeniomycetes*, i.e. orders *Herpomycetales* and *Laboulbeniales* (D. Haelewaters).

Hesperomyces Thaxt.

Wijayawardene et al. (2017a) mentioned eleven species for this genus. This number will be much higher, after Haelewaters et al. (2018a) found that *H. virescens* Thaxt. is a complex of multiple species, each with their own host. At least 10 species can be recognized within *H. virescens* sensu lato (D. Haelewaters, unpubl. data) (D. Haelewaters).

Heufleria Auersw.

Baral (2016) and Ekanayaka et al. (2019) accepted this genus in *Rhytismataceae* (N. Wijayawardene & D. Haelewaters).

Hilidicellites Kalgutkar & Janson. (fossil)

Kalgutkar & Jansonius (2000) opined that *Dicellaesporites appendiculatus* Sheffy & Dilcher is a misfit in *Dicellaesporites* Elsik and therefore they proposed *Hilidicellites* to accommodate it (R.K. Saxena).

Hoffmannoscypha Stielow, Göker & Klenk

This genus, erected for a single species (*Geopora pellita*), was recently shown to represent a separate phylogenetic lineage (Van Vooren et al. 2017) (I. Kušan & N. Matočec).

Hortaea Nishim. & Miyaji

This genus currently includes two species, *H. werneckii* and *H. thailandica*. *Hortaea werneckii* is a well-known clinically relevant fungus, causing superficial skin infections in humans (Marchetta et al. 2018) (H. Madrid).

Hyaloscyphaceae Nannf.

This family is currently polyphyletic. Based on a four-gene phylogenetic analysis, Han et al. (2014) found that *Hyaloscyphaceae* sensu lato is a heterogeneous assemblage of 10 hyaloscyphaceous taxa. In Johnston et al. (2019), three highly supported clades were retrieved, Han Clade 4 (*Gamarada*, *Hyphodiscus*, *Hyphopeziza*, *Venturiocistella*), Han Clade 7 (*Amicodisca*, *Dematioscypha*), and *Hyaloscyphaceae* (“*Chalara*” *longipes*, *Hyalopeziza*, type genus

Hyaloscypha, *Meliniomyces*, *Olla*, *Rhizoscyphus*). More taxa and sequence data are needed to resolve the classification and taxonomy within *Hyaloscyphaceae sensu lato* (D. Haelewaters).

***Hydnocystis* Tul.**

Stephensia Tul. & C. Tul. has been treated as a synonym of *Hydnocystis* by Kumar et al. (2017) (P. Alvarado).

***Hydnophanerochaete* Sheng H. Wu & C.C. Chen**

Chen et al. (2018) introduced this monotypic genus in Meruliaceae to accommodate *Phanerochaete odontoidea* Sheng H. Wu (V. Papp).

***Hypomontagnella* Sir et al.**

Lambert et al. (2019) erected the new genus *Hypomontagnella* Sir et al. (*Hypoxylaceae*) based on a comparison of molecular and morphological data for *Hypoxyylon monticulosum* and similar species. Interestingly, all strains so far cultured produce the selective antifungal polyketides of the sporothiolide type, which can therefore be regarded as a chemotaxonomic marker (M. Stadler).

***Hypoxylonites* Elsik. (fossil)**

Hypoxylosporites P. Kumar is a later taxonomic synonym of *Hypoxylonites* Elsik (Elsik 1990) (R.K. Saxena).

***Immotthia* M.E. Barr**

Hyde et al. (2017) accommodated *Immotthia* in *Roussoellaceae* based on morphological characteristics resembling the genus *Roussoella*. However, phylogenetic affinity of the genus needs to be confirmed by molecular data (R. Phookamsak).

***Inapertisporites* Hammen (fossil)**

Triporisporonites Sheffy & Dilcher is a later taxonomic synonym of *Inapertisporites*. *Inapertisporites* "Hammen ex Rouse" is illegitimate name being a later homonym (and later taxonomic synonym) of *Inapertisporites* Hammen (R.K. Saxena).

***Intralichen* D. Hawksw. & M.S. Cole**

This genus was introduced by Hawksworth & Cole (2002) to accommodate dematiaceous hyphomycetes occurring in lichens, some of which were previously placed in *Bispora* or *Trimmatostroma*. The only available DNA sequence is labelled '*Bispora*' *christiansenii* IMI 227584, a sequence of 18S rDNA from a study by Sert et al. (2007), with the GenBank number AM279680. BLAST searches with this sequence, however, revealed that it shows 99% identity to yeasts of the genera *Candida*, *Debaryomyces* and *Meyerozyma*, indicating that probably a contaminant was sequenced (H. Madrid).

***Jansoniisporites* Kalgutkar (fossil)**

Brachysporisporites endophragmia Kalgutkar & Sigler is a misfit in *Brachysporisporites* R.T. Lange & P.H. Sm. and therefore Kalgutkar (1997) proposed *Jansoniisporites* to accommodate it (R.K. Saxena).

***Japewia* Tønsberg**

Kistenich et al. (2018) transferred this genus from the *Ramalinaceae* to the *Lecanoraceae* (E. Timdal)

***Junewangiaceae* J.W. Xia & X.G. Zhang**

See under *Acrodictyaceae* (J. Ma).

Kellermania Ellis & Everh.

Based on phylogenetic information and morphology, Minnis et al. (2012) placed *Alpakesa*, *Piptarthron*, *Planistroma*, and *Planistromella* as synonyms of *Kellermania* (A.J.L. Phillips).

Khaleijomyces Abdel-Wahab

Abdel-Wahab et al (2018) erected this new genus for a new marine species within *Juncigenaceae* (S. Fryar).

Kiliasia Hafellner

Kistenich et al. (2018) resurrected this genus in the *Ramalinaceae* (E. Timdal).

Knufia L.J. Hutchison & Unter.

The molecular phylogeny and taxonomy of this genus has been studied by Tsuneda et al. (2011b), Isola et al. (2016) and Mehrabi et al. (2018) among others, revealing its placement in *Trichomeriaceae* (H. Madrid).

Kumarisporites Kalgutkar & Janson. (fossil)

Imprimospora ramanujamii Kumar is a misfit in *Imprimospora* and therefore Kalgutkar & Jansonius (2000) proposed *Kumarisporites* to accommodate it (R.K. Saxena).

Kusaghiporia J. Hussein et al.

Hussein et al. (2018) described this genus with *K. usambarensis* Hussein J., Tibell S. & Tibuhwa as the type species and showed that it belongs to *Laetiporaceae* (V. Papp).

Kutchiathyrites R.K. Kar (fossil)

Kalgutkar & Jansonius (2000) opined that *Kutchiathyrites* is a multicellular spore/ conidium showing a clear attachment area, scar or pore. *Kutchiathyrites eccentricus* R.K. Kar demonstrates close similarity to the conidia of the hyphomycetous fungus *Mycocenterolobium platysporum* Goos (R.K. Saxena).

Laboulbenia Mont. & C.P. Robin

The most recent number of species in this genus is 633 (Song et al. 2019). This number will likely increase in the future; based on a preliminary concatenated ITS-LSU rDNA dataset, Haelewaters et al. (2019a) showed that one of the most cosmopolitan taxa in the genus, *L. flagellata* Peyr., is a complex of species. A number of taxa were recently lectotypified in Haelewaters et al. (2015, 2019a) (D. Haelewaters).

Lachnopsis Guatimosim et al.

Lachnopsis was introduced in *Lachnaceae* to accommodate two species that are only distinguishable from *Lachnum* based on DNA sequence data (Guatimosim et al. 2016) (D. Haelewaters).

Lasionectriella Lechat & J. Fourn.

Lechat et al. (2016a) described this genus to accommodate two species within the family *Bionectriaceae* (I. Kušan & N. Matočec).

Lecanoraceae Körb. (= *Carbonicolaceae* Bendiksby & Timdal)

Kraichak et al. (2018a) regarded *Carbonicolaceae* as a synonym of *Lecanoraceae* (N. Wijayawardene).

Lentimurispora N.G. Liu et al.

Liu et al. (2018a) introduced this genus and *Lentimurisporaceae* which has a distinct lineage in *Pleosporales* (S. Fryar).

Lentistoma A. Hashim.

Hashimoto et al. (2018) proposed this genus to accommodate *Lentistoma bipolare*, which was transferred from *Lophiostoma* based on molecular and morphological characters (S. Fryar).

Lentithecium K.D. Hyde et al.

Lentithecium aquaticum Yin. Zhang, J. Fourn. & K.D. Hyde, *L. arundinaceum* (Sowerby) K.D. Hyde, J. Fourn. & Yin. Zhang, and *L. lineare* (E. Müll. ex Dennis) K.D. Hyde, J. Fourn. & Yin. Zhang do not group with *L. fluviatile* (Aptroot & Van Ryck.) K.D. Hyde, J. Fourn. & Yin. Zhang, the type species of the genus *Lentithecium* in molecular phylogenetic analysis (MycBank: see under *Lentithecium carbonneanum* J. Fourn., Raja & Oberlies) (H. Raja).

Leptoparies A. Hashim.

Hashimoto et al. (2018) proposed this genus to accommodate a single species within the *Lophiostomataceae* (S. Fryar).

Leptosillia Höhn.

Voglmayr et al (2019) demonstrated that the genus *Leptosillia* belongs to the *Xylariales* based on a multi locus DNA sequence analyses of SSU-ITS-LSU rDNA, rpb1, rpb2, tef1 and tub2. They also established the genera *Cresporhaphis* and *Liberomyces* are congeneric with *Leptosillia* and erected the new family *Leptosilliaceae*. A number of taxa were epi-or lectotypified, and the new genus *Furfurella* was erected in family *Delonicicolaceae* (M. Stadler).

Lichinodium Nyl.

Lichinodium was previously placed in class *Lichinomycetes*. However, Prieto et al. (2019) showed that this genus is placed within *Leotiomycetes* as a previously unrecognized lineage and introduced a new order (*Lichinodiales*) and family (*Lichinodiaceae*) (M. Prieto).

Lithophila Selbmann & Isola

This monotypic genus, typified by *L. guttulata*, occurs on marble and was placed in *Trichomeriaceae* based on multilocus phylogenetic analyses (Isola et al. 2016) (H. Madrid).

Liua Phook. & K.D. Hyde

Phookamsak et al. (2019) introduced a monotypic genus *Liua* to accommodate camarosporium-like species and is typified by *L. muriformis* Phookamsak, H.B. Jiang & K.D. Hyde. Multi-gene phylogenetic analyses showed that *Liua* formed a sister lineage with *Cycasicola* in *Thyridariaceae* (R. Phookamsak).

Lodderomyces Van der Walt

Expected transfer of species to *Candida* Berkhout to comply with the Melbourne Code (Kurtzman & Boekhout 2017) (W.P. Pfliegler and E. Horváth).

Lonicericola Phook. et al.

Phookamsak et al. (2019) introduced the new genus *Lonicericola* based on DNA sequence analyses. The genus formed a distinct clade closely related with *Pseudomonodictys* and *Paratrimmatostroma* in *Parabambusicolaceae* (R. Phookamsak).

Lotinia Pérez-Butrón et al.

This genus, erected for a single species (*L. verna*), represents a separate phylogenetic lineage (Van Vooren et 2017) (I. Kušan & N. Matočec).

Manglicola Kohlm. & E. Kohlm.

Manglicola consists of two species, but molecular data supports only *M. guatemalensis* Kohlm. & E. Kohlm. showing phylogenetic affiliations to *Manglicolaceae*, while *M. samuelsii* Huhndorf, was placed in the *Hypsostromataceae* based on morphological data (Huhndorf 1994). Sequence data from *M. samuelsii* is necessary to place it within a phylogenetic framework and assess if the genus is polyphyletic within the *Dothideomycetes* (H. Raja).

Marasasiomyces Crous

Based on ITS and LSU sequence phylogeny, Crous et al. (2015a) introduced *Marasasiomyces* as a new genus for tiarosporella-like fungi with long-necked conidiomata covered in brown setae (A.J.L. Phillips).

Marthamycetales P.R. Johnst. & Baral

Introduced in Johnston et al. (2019) to accommodate the phylogenetically isolated family *Marthamycetaceae* within *Leotiomycetes* (D. Haelewaters).

Masonhalea Kärnefelt

Thell et al. (2018) proposed to resurrect the genus (A. Tsurukau).

Massariosphaeria (E. Müll.) Crivelli

This genus was firstly recognized as a section of *Leptosphaeria* (Müller 1950). However, *Massariosphaeria* was introduced by Crivelli (1983). Wang et al. (2007) showed that *Massariosphaeria* is polyphyletic. However, the type species *M. phaeospora* is closely related to the type species of *Cyclothyriellaceae*, *Cyclothyriella rubronotata*. Therefore, *Massariosphaeria* is placed in *Cyclothyriellaceae* (Jaklitsch et al. 2016a, Wijayawardene et al. 2018a) (S. Hongsanan).

Mathurisporites Kalgutkar & Janson. (fossil)

Kalgutkar & Jansonius (2000) opined that *Pluricellaesporites ellipticus* Y.K. Mathur & K. Mathur is a misfit in *Pluricellaesporites* Hammen and therefore they proposed *Mathurisporites* to accommodate it (R.K. Saxena).

Megalaria Hafellner

Kistenich et al. (2018) regarded that *Catillochroma* Kalb and *Lopezaria* Kalb & Hafellner as synonyms of this genus (E. Timdal).

Melaspileellaceae D.Q. Dai & K.D. Hyde

Dai et al. (2018) introduced this family in *Asterinales* to accommodate *Melaspileella* (P. Karst.) Vain (N. Wijayawardene).

Metschnikowiaceae T. Kamienski

Family status is expected to change following the phylogenetic relationships of the genera of *Debaryomycetaceae* and *Metschnikowiaceae* (Shen et al. 2016) (W.P. Pfliegler & E. Horváth).

Micraspidales Quijada & Tanney

Previously, the genus *Micraspis* was placed in different families (*Cryptomycetaceae*, *Helotiaceae*, *Phacidiaceae*, *Tympanidaceae*). Because of its isolated phylogenetic position within *Leotiomycetes*, Quijada et al. (2020) established the family *Micraspidaceae* and order *Micraspidales* to accommodate the genus (D. Haelewaters).

Microcaliciaceae Tibell

Kraichak et al. (2018a) accepted the family as in *Pertusariales* (N. Wijayawardene).

Microkamienskia Corazon-Guivin et al.

Corazon-Guivin et al. (2019) introduced *Microkamienskia* with two new combinations. This genus is an arbuscular mycorrhizal fungus and similar to *Kamienskia* in spore but differ in size (Błaszowski et al. 2015) (S. Tibpromma).

Minimelanolocus R.F. Castañeda & Heredia

This genus is currently considered a putative member of *Herpotrichiellaceae*, although no DNA sequence data is available for the type species, *M. navicularis* (H. Madrid).

Mniaeciaceae Baral

Introduced in Johnston et al. (2019), elevating the *Mniaecia* lineage sensu Baral (2016) to family level. *Mniaeciaceae* is sister to *Leotiaceae* within *Leotiales* (D. Haelewaters).

Monoporisorites Hammen (fossil)

Polyporisorites Hammen, *Psiammopomopiospora* Sal.-Cheb. & Locq. and *Reticulatisporonites* Elsik are later taxonomic synonyms of *Monoporisorites* Hamme Dong n (Kalgutkar & Jansonius 2000) (R.K. Saxena).

Mortierella Coem.

There are 247 records of *Mortierella* species in the Species Fungorum, but according to Yadav et al. (2015) nearly 100 of validated species have been described (A. L. C. M. de A. Santiago).

Mossopisorites Kalgutkar & Janson. (fossil)

Kalgutkar & Jansonius (2000) opined that *Triporicellaesporites multicellulus* Ke & Shi is a misfit in *Triporicellaesporites* Ke & Shi and therefore they proposed *Mossopisorites* to accommodate it (R.K. Saxena).

Mucoharknessia Crous et al.

Based on ITS and LSU sequence phylogeny, Crous et al. (2015a) introduced *Mucoharknessia* as a new genus for tiarosporella-like fungi that resembles *Harknessia* (*Harknessiaceae*, *Diaporthales*), but are distinguished by having pycnidia that lack furfuraceous tissue around the ostiole and conidia with a mucoid apical appendage (A.J.L. Phillips).

Mucor Fresen.

The greatest number of mucoralean species described to date belongs to *Mucor* with more than 300 species cited in literature (Jacobs & Botha 2008, Álvarez et al. 2011). Although the exact number of valid taxa is unknown, Gherbawy et al. (2010) stated the number of species may have ranged from 50 to 75 at the time of the study. Based on morphological characteristics, maximum growth temperature and mating experiments, Schipper (1973, 1975, 1976, 1978) monographed the genus and described 39 species, four varieties and 11 forms. Knowledge of the genus was subsequently expanded with a description of 26 new taxa [Mehrotra & Mehrotra (1979), Mirza et al. (1979), Subrahmanyam (1983), Chen & Zheng (1986), Schipper & Samson (1994), Watanabe (1994), Zalar et al. (1997), Pei (2000), Alves et al. (2002), Jacobs & Botha (2008), Hermet et al. (2012), Madden et al. (2012), Voglmayr & Cléménçon (2016), Li et al. (2016), Lima et al. (2017), Wanasinghe et al. (2018), De Souza et al. (2018), de Lima et al. (2018)]. (A. L. C. M. de A. Santiago)

Muellerella Müll. Arg.

Muggia et al. (2015) hypothesized that the genus represents sexual stage of *Lichenodiplis* (A. Suija).

Multicellaesporites Elsik emend. P. Kumar (fossil)

Kumar (1990) emended the generic diagnosis. *Warkallisporonites* Ramanujam & K.P. Rao is a later taxonomic synonym of *Multicellaesporites* Elsik (R. K. Saxena).

Mycobilimbia Rehm

Kistenich et al. (2018) transferred this genus from the *Lecideaceae* to the *Ramalinaceae* (E. Timdal).

Mycocarpon S.A. Hutch. (fossil)

Hutchinson (1955) opined that *Sporocarpon pachydermum* Will. is a misfit in *Sporocarpon* Will. and therefore he proposed *Mycocarpon* to accommodate it (R.K. Saxena).

Mycoceros D. Magyar & Z. Merényi

This genus was recently described to accommodate a species parasitizing *Pinaceae* grain pollens. Based on an ITS+LSU phylogeny, it was clearly placed within *Orbiliomycetes* by Magyar et al. (2018) (I. Kušan & N. Matočec).

Mycomicrothelia Keissl.

All the tropical species have been placed in *Bogoriella* (*Trypetheliaceae*, *Trypetheliales*), but type and other temperate taxa are still in *Mycomicrothelia* (Aptroot & Lücking 2016) (A. Aptroot).

Mycopappus Redhead & G.P. White

Baral (2016) and Ekanayaka et al. (2019) accepted this genus as in *Sclerotiniaceae* (N. Wijayawardene).

Mycosphaerellaceae Lindau

We accept only 111 genera which have been confirmed as well-established genera in *Mycosphaerellaceae* by phylogenetic analyses. Hongsanan et al. (2020) lists doubtful genera in *Mycosphaerellaceae* based on Videira et al. (2017) (N. Wijayawardene & R. Phookamsak).

Myelorrhiza Verdon & Elix

Kistenich et al. (2018) transferred this genus from the *Cladoniaceae* to the *Ramalinaceae* (E. Timdal).

Myochroidea Printzen et al.

Printzen et al. (2008) accommodate *Myochroidea* including four species of the *Lecidea leprosula* group such as *M. leprosula* (Arnold) Printzen, T. Sprib. & Tønsberg, *M. porphyrospoda* (Anzi) Printzen, T. Sprib. & Tønsberg, *M. rufofusca* (Anzi) Printzen, T. Sprib. & Tønsberg and *M. minutula* Printzen, T. Sprib. & Tønsberg based on morphological key characters. Although no phylogenetic analyses have been performed, the authors suggested to include this genus either in *Psoraceae*, *Pilocarpaceae*, or *Ramalinaceae* but to confirm the final placement of *Myochroidea* in the system, molecular analyses are needed (P. Rodriguez-Flakus).

Myrmecocystis Harkn.

This genus was recently resurrected by Alvarado et al. (2018) (P. Alvarado).

Myxotrichaceae Currah

Johnston et al. (2019) found high support for the placement of this family in the pezizelloid clade of *Helotiales*, placed sister to *Amorphothecaceae*. In the ITS tree of Johnston et al. (2019), *Amorphothecaceae* consisting of *Byssosascus*, "*Malbranchea*" *flavorosea*, *Myxotrichum* and *Oidiodendron* was retrieved in a maximum supported branch sister to *Amorphotheca resiniae* (D. Haelewaters).

Neocelosporium Crous

Crous et al. (2018) introduced a new family *Neocelosporiaceae* and new order *Neocelosporiales* to accommodate the genus *Neocelosporium*, which represents a distinct lineage in *Dothideomycetes*. However, Hongsanan et al. (in prep.) found that *Neocelosporiales* is placed within the order *Dothideales*. As a result, *Neocelosporiales* is here regarded as a synonym of *Dothideales* and *Neocelosporiaceae* is accommodated in *Dothideales* (N. Wijayawardene & S. Hongsanan).

Neodendryphiella Iturrieta-González et al.

Iturrieta-González et al. (2018) introduced this new genus with three new species in *Dictyosporiaceae*. Currently, the genus comprises three species viz. *N. mali*, *N. michoacanensis* and *N. tarraconensis* (the type species). *Neodendryphiella* differs from *Dendryphiella* in lacking of nodulose conidiophores bearing conidiogenous cells with pores surrounded by a thickened and darkened wall (S. Fryar & S. Somrithipol).

Neoeutypella M. Raza et al.

Neoeutypella was introduced as a monotypic genus in Phookamsak et al. (2019) to accommodate *N. baoshanensis* M. Raza et al. and the strains identified as "*Eutypella caricae* (strains EL51C and GL08362)". Based on phylogenetic analyses, *Neoeutypella* formed a distinct lineage, clustered with *Diatrypella* species but the genus differs from *Diatrypella* in having large entostromata, 8-spored, spindle-shaped asci and allantoid ascospores (Phookamsak et al. 2019) (R. Phookamsak).

Neolauriomycetaceae Crous

Neolauriomycetaceae was introduced within *Helotiales* by Crous et al. (2018) to accommodate three genera: *Exochalara*, *Lareunionomyces*, and *Neolauriomycetes* (D. Haelewaters).

Neomelanconiella Crous

Crous et al. (2018) introduced this genus and showed that it has a distinct lineage in *Diaporthales*. A new family *Neomelanconiellaceae* is introduced (N. Wijayawardene).

Neomelanconiella Crous

Crous et al. (2018) introduced this genus and showed that it has a distinct lineage in *Diaporthales*. Hence introduced the new family *Neomelanconiellaceae* (N. Wijayawardene).

Neoscytalidium Crous & Slippers

Two species of *Neoscytalidium* were frequently reported from opportunistic infections in humans, i.e. *N. dimidiatum* and *N. hyalinum*. The latter species, however, is currently considered a hyaline mutant of *N. dimidiatum* (Huang et al. 2016). *Neoscytalidium* currently includes three species (H. Madrid).

Neoseptorioides Crous et al.

This genus was introduced for species morphologically distinct from *Septorioides* (Crous et al. 2015a) (A.J.L. Phillips).

Neostagonosporella C.L. Yang et al.

Yang et al. (2019) introduced a holomorph genus *Neostagonosporella* to accommodate massarina-like taxon collected from living bamboo culms from China. Multi-gene phylogenetic analyses revealed the genus in *Phaeosphaeriaceae* (R. Phookamsak).

Neptunomyces M. Gonçalves et al.

This monotypic genus was recently introduced by Gonçalves et al. (2019). Based on phylogenetic analysis this genus is closest to *Xenocamarosporium* but conidial morphology is distinct (Gonçalves et al. 2019) (S. Tibpromma).

Noosia Crous et al.

Recent phylogenetic analyses indicated that *Noosia* belongs to Periconiaceae (Tanaka et al. 2015, Thambugala et al. 2017) (D. Wanasinghe).

Nothomitra Maas Geest.

According to Hustad et al. (2013) and Hustad & Miller (2015), this genus is phylogenetically close to *Sarcoleotia* in a basal clade of *Geoglossomycetes* (I. Kušan & N. Matočec).

Oblongocollomyces Tao Yang & Crous

This genus was introduced by Yang et al. (2017) to accommodate *Sphaeropsis variabilis* (A.J.L. Phillips).

Odontoefibula C.C. Chen & Sheng H. Wu

Chen et al. (2018) introduced this monotypic genus in *Phanerochaetaceae* to accommodate the new species *Odontoefibula orientalis* C.C. Chen & Sheng H. Wu (V. Papp).

Odoria V. Papp & Dima

Papp & Dima (2018) introduced this new monotypic genus in *Meruliaceae* to accommodate the threatened old-growth forest polypore, *Aurantiporus alborubescens* (Bourdot & Galzin) H. Jahn (V. Papp).

Ophiobolopsis Phook. et al.

Phookamsak et al. (2017) introduced *Ophiobolopsis* to accommodate ophiobolus-like species in *Phaeosphaeriaceae* based on multi-gene phylogenetic analyses (R. Phookamsak).

Opilionomyces Santam. et al.

Santamaria et al. (2017) introduced this monotypic genus and confirmed its placement in family *Laboulbeniaceae*, subfamily *Laboulbenioideae*, tribe *Laboulbenieae* based on morphological characters (D. Haelewaters).

Ornasporonites Ramanujam & K.P. Rao (fossil)

This monotypic genus differs from *Fusiformisporites* because the latter possesses only a single septum and is longitudinally ribbed and inaperturate (R.K. Saxena).

Oscarbrefeldia Holterm.

Doubtful genus not treated by Kurtzman (2011) (W.P. Pfliegler & E. Horváth).

Ovadendron Sigler & J.W. Carmich.

This fungal genus is listed as a member of *Onygenales* in de Hoog et al. (2015), but its family placement needs to be thoroughly assessed (H. Madrid).

Pachydisca Boud.

Dumont (1975) proposed to exclude the genus from *Sclerotiniaceae* and place it in *Helotiales* based on morphological study of the type species, *P. guernisacii*. Jaklitsch et al. (2016a) treated this genus as a synonym of *Discinella* Boud. However, Species Fungorum (2020) lists 32 accepted species. In this outline, *Pachydisca* is regarded as *Helotiales* genera *incertae sedis* (D. Haelewaters).

***Pachyphlodes* Zobel**

Scabropezia Dissing & Pfister has been regarded as a synonym of *Plicariella* or *Pachyphlodes* Zobel in Healy et al. (2018) (P. Alvarado).

***Palaeoamphisphaerella* Ramanujam & Srisailam (fossil)**

Imprimospora Norris is considered as a later synonym of *Palaeoamphisphaerella* (R.K. Saxena).

***Palaeomyces* Mesch. (fossil)**

Phycomycetes Ellis, *Palaeomyces* Renault ex Kidston & Lang, *Rhizophagites* E.J. Butler ex Rosend., *Propyrium* Elias, *Aplanosporites* R.K. Kar, *Glomites* T.N. Taylor, W. Remy, Hass & Kerp are later taxonomic synonyms of *Palaeomyces* (R.K. Saxena).

***Palaeopericonia* Ibañez & Zamuner (fossil)**

The material is made up of only asexual structures represented by conidia produced on single conidiophores. The closely related genera are *Periconia* Tode, *Torula* Pers., *Stachybotrys* Corda, *Humicola* Traaen, *Thermomyces* Tsikl. and *Chlamydomyces* Bainier (Ibañez & Zamuner 1996) (R.K. Saxena).

***Palaeophoma* Singhai (fossil)**

One-celled hyaline, bent or curved or lunate conidia, and a spherical and brown pycnidium have been shared by the living genus *Selenophoma* Maire (Barnet 1960). But the fossil fungus also possesses spherical conidia which are not present in *Selenophoma*. Moreover, *Palaeophoma* has non-ostiolate pycnidium whereas *Selenophoma* possesses a definite ostiole (R.K. Saxena).

***Palaeosclerotium* G.W. Rothwell (fossil)**

Dennis (1976) opined that *Palaeosclerotium* represents an intermediate evolutionary stage between Ascomycetes and Basidiomycetes. Pirozynski & Weresub (1979) stated that *Palaeosclerotium* is neither an ascomycete nor a basidiomycete, but an early dikaryotic fungus and a representative of a group that links *Basidiomycota* with extinct, probably symbiotic, lichen-like nematophytes (R.K. Saxena).

***Paleoslimacomycetes* Kalgutkar & Sigler (fossil)**

Conidia of this monotypic genus show some morphological similarity with those of extant *Slimacomycetes monospora* (W.B. Kendr.) Minter, which was originally described by Kendrick (1958) in *Helicoma* Corda (R.K. Saxena).

***Pappia* Zmitr.**

Papp & Dima (2018) showed that *Aurantiporus fissilis* (Berk. & M.A. Curtis) H. Jahn ex Ryvardeen forms a distinct phylogenetic lineage in the family *Meruliaceae*. Hence, Zmitrovich (2018) introduced the new monotypic genus *Pappia* in *Meruliaceae* to accommodate *Aurantiporus fissilis* (V. Papp).

***Papulosporonites* Schmied. & A.J. Schwab (fossil)**

In *Polyadosporites* Hammen, the individual cells are less tightly appressed into a spherical mass than those in *Papulosporonites* (R.K. Saxena).

Paracladophialophora Crous

This genus currently includes two species, *P. carceris* and *P. cyperacearum*. They form a distinct clade in *Chaetothyriales* for which the family *Paracladophialophoraceae* was recently proposed (H. Madrid).

Parafenestella Jaklitsch & Voglmayr

Jaklitsch et al. (2018) proposed this new genus in the *Cucurbitariaceae* based on morphological and molecular characters. (S. Fryar)

Parallopsora Kistenich et al.

Kistenich et al. (2018) introduced this genus in *Ramalinaceae* (E. Timdal).

Paraophiobolus Phook. et al.

Phookamsak et al. (2017) introduced *Paraophiobolus* to accommodate ophiobolus-like species in *Phaeosphaeriaceae* based on multi-gene phylogenetic analyses (R. Phookamsak).

Pararoussoella Wanas. et al.

Wanasinghe et al. (2018) introduced a monotypic genus to accommodate roussoella-like species in *Thyridariaceae*. However, Phookamsak et al. (2019) accommodated the genus in *Roussoellaceae* based on multi-gene analyses and this concurred with Jiang et al. (2019a) and Karunarathna et al. (2019). (R. Phookamsak)

Paratrimmatostroma Jayasiri et al.

Phookamsak et al. (2019) introduced the new genus *Paratrimmatostroma* based on multi-gene phylogenetic analyses coupled with morphological characteristic. *Paratrimmatostroma* is sister to *Pseudomonodictys* in *Parabambusicolaceae* based on phylogenetic analyses of a combined SSU, ITS, LSU and TEF1- α sequence dataset (Phookamsak et al. 2019). *Paratrimmatostroma* can be distinguished from *Pseudomonodictys* in forming sporodochia on host substrate and having branched, straight or flexuous conidia, with variable conidial shape such as helicoid, cylindrical, sigmoid, or reniform (Phookamsak et al. 2019) (R. Phookamsak).

Parazalerion Madrid et al.

Phookamsak et al. (2019) introduced a monotypic conidial genus to accommodate zalerion-like taxon and is typified by *P. indica* Madrid, Gené, Cano & Guarro. The genus was isolated from soil in India and is characterized by having irregularly coiled, dematiaceous, multiseptate conidia which often form knots of cells. Phylogenetic analysis revealed that the genus formed a sister lineage with *Spirosphaera minuta* in *Microthyriales* (R. Phookamsak & H. Madrid).

Parmulariales D.Q. Dai & K.D. Hyde

Dai et al. (2018) introduced this order to accommodate *Parmulariaceae* (N. Wijayawardene).

Patinella Sacc.

Patinella hyalophaea, the type species of the genus, was retrieved near *Holwaya mucida* and its anamorph *Crinula caliciiiformis* in Johnston et al.'s (2019) ITS tree, as *Leotiomycetes* genera *incertae sedis*. In their 15-gene tree, the *Holwaya*–*Crinula* clade was placed sister to *Thelebolales* (*Pseudeurotiaceae*, *Thelebolaceae*) with high support (D. Haelewaters).

Patinella Sacc.

The type species of *Patinella* was nested near the order *Thelebolales* (Hyde et al. 2017) by two phylogenies (based on ITS and LSU) together with *Ramgea* Brumm. and *Holwaya* Sacc. as a weakly supported sister clade to the family *Thelebolaceae*. More phylogenetic information is

needed to ascertain the true position of these three genera. It is best to place this genus into *Phacidiales incertae sedis* at the moment (I. Kušan & N. Matočec).

Peltigeraceae Dumort.

Kraichak et al. (2018a) regarded that *Lobariaceae* Chevall. and *Nephromataceae* Wetm. ex J.C. David & D. Hawksw. are synonyms of *Peltigeraceae* (N. Wijayawardene).

Perennicordyceps Matočec & I. Kušan

The genus *Perennicordyceps* was erected by Matočec et al. (2014) to segregate a monophyletic clade of four species aside from *Polycephalomyces* based on both molecular and non-molecular evidence. According to Crous et al. (2017), this genus is phylogenetically placed within *Ophiocordycipitaceae* as a sister clade to *Polycephalomyces* (I. Kušan & N. Matočec).

Pertusaria DC.

Several species were combined into other genera (Wei et al. 2017), but as no recent taxonomic revision of the genus is available, the exact number of species is obscure (M. Kukwa).

Petrophila de Hoog & Quaedvl.

This monotypic genus, typified by *P. incerta*, was placed in the family *Extremaceae* in a phylogenetic study by Isola et al. (2016) (H. Madrid).

Phacidiales Bessey

The order *Phacidiales* includes two families, *Helicogoniaceae* and *Phacidiaceae* (Johnston et al. 2019). Two lineages that were previously recognized in *Phacidiales* (sensu Baral 2016), *Mniaeciaceae* (referred to as *Mniaecia* lineage in Baral (2016)) and *Tympanidaceae*, are now recognized within *Leotiales* (D. Haelewaters).

Phaeopoacea Thambug. et al.

Thambugala et al. (2017) introduced *Phaeopoacea* to accommodate phaeosphaeria-like taxa in *Phaeosphaeriaceae* and is typified by *Phaeopoacea festucae*. Thambugala et al. (2017) also transferred *Phaeosphaeria phragmiticola* Leuchtm. to *Phaeopoacea* as *P. phragmiticola* (Leuchtm.) Thambugala & K.D. Hyde based on molecular data. The sexual and asexual morph connection of this genus is well-resolved (R. Phookamsak).

Phialina Höhn.

Baral (2016) and Ekanayaka et al. (2019) accepted this genus in *Pezizellaceae* (N. Wijayawardene).

Phialocephala W.B. Kendr.

Phialocephala is currently placed in *Mollisiaceae* based on the phylogenetic reconstruction of a 15-gene dataset. It should be noted that consensus remains unclear about the systematic position of several mollisioid genera, including *Mollisia* and *Phialocephala* (Tanney & Seifert 2020) (D. Haelewaters).

Phialophora Medlar

This genus historically included a heterogeneous assemblage of phialidic dematiaceous hyphomycetes usually with poorly developed conidiophores, producing phialides with conspicuous collarettes. It comprised members of several families, orders and classes of ascomycetes (Gams 2000). The current concept of the genus, however, only includes phialidic members of *Herpotrichiellaceae* with or without a yeast phase in culture (Li et al. 2017) (H. Madrid).

Phragmonaevia Rehm

Kirk et al. (2008) regarded this name as doubtful, but Baral (2016) listed it among *Helotiales* genera *incertae sedis*. No sequences are currently available for any member of this genus (N. Wijayawardene).

Phragmothyrites W.N. Edwards (fossil)

Microthallites Dilcher is a later taxonomic synonym of *Phragmothyrites* (R.K. Saxena).

Phyllopsora Müll. Arg.

Kistenich et al. (2018) regarded that *Crocynia* (Ach.) A. Massal. as a synonym of this genus (E. Timdal).

Piricauda Bubák

Da Silva et al. (2016) showed that *Piricauda paraguayensis* could be accommodated in *Mycosphaerellaceae*. However, it should be pointed out that *Piricauda paraguayensis* is not the type species, thus, we tentatively keep this genus in *Mycosphaerellaceae* (N. Wijayawardene, S. Hongsanan & R. Phookamsak).

Picoa Vittad.

The genus *Phaeangium* Pat. Has been regarded as a synonym of *Picoa*, as discussed in Zitouni-Haouar et al. (2015) (P. Alvarado).

Pilatotrampa Zmitr.

Zmitrovich (2018) introduced this new monotypic genus in *Polyporaceae* to accommodate *Trametes ljubarskyi* Pilát. (V. Papp).

Placocrea Syd.

Boonmee et al. (2017) treated this genus as a member in *Teratosphaeriaceae* (S. Boonmee).

Plagiosphaera Petr.

Voglmayr in Song et al. (2019) demonstrated that the taxon *P. immersa* Petr. belongs to the family *Magnaporthaceae* (*Magnaporthales*) based on a multi-locus phylogenetic study of ITS-LSU-rpb1-tef1 DNA sequence analyses. The other members of the genus are listed as *Sordariomycetes incertae sedis* (Huhndorf et al. 2004, Index Fungorum 2019) (D. Haelewaters).

Pleuromyces Dima, P.-A. Moreau & V. Papp

Crous et al. (2018) introduced this monotypic genus to accommodate the new species *P. hungaricus* V. Papp, Dima & P.-A. Moreau, and accepted it as a genus in *Tubariaceae* based on phylogenetic analyses (V. Papp).

Plicariella (Sacc.) Rehm

See under *Pachyphlodes* Zobel (P. Alvarado).

Pluricellaesporites Hammen (fossil)

Piriurella Cookson & Eisenack is a later taxonomic synonym of *Pluricellaesporites* Hammen (R.K. Saxena).

Polycellaesporonites Anil Chandra et al. (fossil)

Capsular, muriform fungal spores with a hilum, and distally with an elongated, knob-like or beaked, extension as that in the modern *Alternaria* (R.K. Saxena).

Polycephalomyces Kobayasi

After segregation of the genus *Perennicordyceps* (Matočec et al. 2014) and the description of several new species in the genus, *Polycephalomyces* currently includes 18 species (Xiao et al. 2018) (D. Haelewaters).

***Prathoda* Subram.**

Simmons (2007) resurrected *Prathoda* which is distinct from *Alternaria* (Pleosporaceae). In MycoBank and Species Fungorum, *Prathoda* is mentioned as a synonym of *Alternaria*, but its molecular phylogeny has not been recovered and closest relationship with *Alternaria* has not been settled. Therefore we left *Prathoda* as a separate genus (P.B. Gannibal).

***Proliferophorum* Wang et al.**

Phookamsak et al. (2019) introduced a monotypic genus *Proliferophorum* to accommodate hyphomycetous species, *P. thailandicum* G.N. Wang et al. in Diaporthomycetidae based on phylogenetic analysis. The genus is characterized by having mononematous, caespitose conidiophores, polyblastic, terminal, sympodial, pale brown or subhyaline, with minute, truncate conidiogenous cells, sometimes percurrently proliferating 1–2 times at broken ends of conidiogenous cells and fusiform to cylindrical, pigmented, septate conidia. The genus was collected from decaying submerged wood in Thailand (R. Phookamsak).

***Protofenestella* Jaklitsch & Voglmayr**

Jaklitsch et al. (2018) proposed this new genus in the Cucurbitariaceae based on morphological and molecular characters (S. Fryar).

***Protothelenellaceae* Vezda et al.**

Kraichak et al. (2018a) regarded that *Thrombiaceae* Poelt & Vezda ex J.C. David & D. Hawksw. as a synonym of *Protothelenellaceae*. Further, the family has been transferred to *Baeomycetales* from *Ostropales* (N. Wijayawardene).

***Pseudaegerita* J.L. Crane & Schokn.**

This aero-aquatic hyphomycete genus was shown to be a member of *Hyaloscyphaceae* based on morphology of the associated sexual state (Abdullah et al. 2005) and DNA sequence data (Johnston et al. 2019, Vu et al. 2019) (H. Madrid).

***Pseudoanungitea* Crous**

Crous et al. (2018) introduced this new genus in *Venturiaceae* (S. Fryar).

***Pseudoastrophaeriellopsis* Devadatha et al.**

Phookamsak et al. (2019) introduced *Pseudoastrophaeriellopsis* as a monotypic genus in *Pseudoastrophaeriellaceae* to accommodate trematosphaeria-like taxon. The genus is typified by *Pseudoastrophaeriellopsis kaveriana* Devadatha et al. collected from decaying wood of *Avicennia marina* (Forssk.) Vierh. and *Suaeda monoica* Forssk. ex J.F.Gmel. in India. Based on multi-gene phylogenetic analyses, *Pseudoastrophaeriellopsis* formed a distinct lineage basal to *Pseudoastrophaeriella* (R. Phookamsak).

***Pseudobambusicola* Hern.-Restr. & Crous**

This new genus was placed in *Sulcatisporaceae* using multi-gene phylogenetics and morphological characters by Rucpic et al. (2018). It is closely related to *Neobambusicola* but differs in having cylindrical-necked conidiomata surrounded by dark brown, smooth to slightly verruculose hyphae (Rucpic et al. 2018) (S. Fryar & S. Somrithipol).

***Pseudofusicoccum* Mohali**

Yang et al. (2017) considered that this genus warrants a separate family and thus introduced *Pseudofusicoccumaceae* to accommodate it. Phillips et al. (2019) took into account phylogeny

(ITS, LSU), morphology and evolutionary divergence times and concluded that *Pseudofusicoccum* resides within *Phyllostictaceae*. Hence, Phillips et al. (2019) synonymised *Pseudofusicoccumaceae* under *Phyllostictaceae* (A.J.L. Phillips).

***Pseudographis* Nyl.**

Based on the phylogenetic analysis of a three-gene dataset (ITS, LSU, mtSSU), Karakehian et al. (2019) placed *Pseudographis* in *Rhytismataceae*, not *Triblidiaceae*. Because of the inclusion of *Pseudographis* in the family, the authors expanded the morphological description of *Rhytismataceae* to include “ascospore cell walls that produce a strong blue/purple reaction in iodine-based reagents” (D. Haelewaters).

***Pseudogymnoascus* Raillo**

In Johnston et al.’s (2019) 15-gene tree, *Pseudogymnoascus* was strongly supported as sister genus to *Leuconeurospora* within *Pseudeurotiaceae*, *Thelebolales*. In a genomic-scale tree based on 3156 single-copy genes, *Pseudogymnoascus destructans* was sister to *Thelebolus microsporus*, confirming its position in the order *Thelebolales* (Johnston et al. 2019) (D. Haelewaters).

***Pseudolanzia* Baral & G. Marson**

Introduced to accommodate a species that bears morphological similarities to *Lanzia* but is phylogenetically distinct. It is placed on a long branch within *Rutstroemiaceae* based on an ITS+LSU phylogeny (Baral 2019) (D. Haelewaters).

***Pseudomelanconidaceae* C.M. Tian & X.L. Fan**

The asexual morph of the family *Pseudomelanconidaceae* is somewhat similar to members of *Melanconiellaceae*, and *Juglanconidaceae*. However, phylogenetic inferences resolved this family as an individual group with well-supported group from other families of *Diaporthales* (Fan et al. 2018a) (S.S.N. Maharachchikumbura & S. Fryar).

***Pseudomelanconis* C.M. Tian & X.L. Fan**

Pseudomelanconis caryae is the type species of new genus *Pseudomelanconis*, and only occurs on *Carya cathayensis* in China (Fan et al. 2018a) (S.S.N. Maharachchikumbura).

***Pseudoneoconiothyrium* Wanas. et al.**

Wanasinghe et al. (2018) introduced a monotypic genus to accommodate neoconiothyrium-like species in *Thyridariaceae*. However, Phookamsak et al. (2019) accommodated the genus in *Roussoellaceae* based on multi-gene analyses and this concurred with Jiang et al. (2019a) and Karunarathna et al. (2019) (R. Phookamsak).

***Pseudoophiobolus* Phook. et al.**

Phookamsak et al. (2017) introduced *Pseudoophiobolus* to accommodate ophiobolus-like species in *Phaeosphaeriaceae* based on multi-gene phylogenetic analyses including *P. achilleae*, *P. erythrosporus*, *P. galii*, *P. italicus*, *P. mathieui*, *P. rosae*, *P. subhyalinisporus* and *P. urticicola* (R. Phookamsak).

***Pseudopaucispora* A. Hashim.**

Hashimoto et al. (2018) introduced this monotypic genus in *Lophiostomataceae* based on molecular and morphological characters (S. Fryar).

***Ramalinaceae* C. Agardh**

The taxonomy of family *Ramalinaceae* was recently revised by Kistenich et al. (2018). According to phylogenetic analysis genera *Adelolecia*, *Catinaria*, *Compsocladium*, *Crustospathula*, *Frutidella*, *Japewia*, *Schadonia*, *Tasmidella* do not belong this family (A. Suija).

Ramasricellites Kalgutkar & Janson. (fossil)

Kalgutkar & Jansonius (2000) opined that *Multicellaesporites differentialis* Ramanujam & Srisailam is a misfit in *Multicellaesporites* and therefore they proposed *Ramasricellites* to accommodate it. The sharp differentiation between the dark, broad central cells and the narrower, elongate hyaline terminal cells, as well as the lack of constriction at the median septum, differentiate this form from species in *Multicellites* (R.K. Saxena).

Ramomarthamyces P.R. Johnst.

Marthamyces was found to be polyphyletic and therefore Johnston & Park (2019) described *Ramomarthamyces* within *Marthamycetaceae* (*Marthamycetales*) for species separated from *Marthamyces sensu stricto*. The four species in *Ramomarthamyces* have distinctly branched rather than propoloid paraphyses (D. Haelewaters).

Ramophialophora M. Caldusch et al.

This genus is polyphyletic within *Sordariales* (Zhang et al. 2017), but its type species, *R. vesiculosa* is clearly phylogenetically placed in *Lasiosphaeriaceae* (Madrid et al. 2010) (H. Madrid)

Ranadivia Zmitr.

Zmitrovich (2018) introduced this new genus in *Fomitopsidaceae* to accommodate *Daedalea allantoidea* M.L. Han, B.K. Cui & Y.C. Dai, *D. africana* I. Johans. & Ryvardeen, *D. stereoides* Fr., and *Polyporus modestus* Kunze ex Fr. Based on a multi-gene phylogeny, Han et al. (2016) accepted these species in the genus *Daedalea* Pers. (V. Papp).

Ratnagiriathyrites R.K. Saxena & N.K. Misra (fossil)

This monotypic genus is characterized by its non-radiating, hexagonal porate cells (R.K. Saxena).

Remersonia Samson & Seifert

Wang et al. (2018) showed that the genus belongs in the *Chaetomiaceae* (K. Bensch).

Requienellaceae Boise

This family was introduced by Boise (1986) in the class *Dothideomycetes* (as *Loculoascomycetes*) and she kept the family in *Melanommatales* (sensu Barr 1983) or *Pyrenulales* (sensu Eriksson 1984). However, *Requienellaceae* was not treated as a distinguished family by Hawksworth & Eriksson (1986), who maintained it under *Pyrenulaceae*. Barr (1990) and Aptroot (1991) accepted *Requienellaceae* as a family of *Melanommatales* and again Kirk et al. (2008) as a family of the *Pyrenulales*. Based on the sequence data, Jaklitsch et al. (2016b) reinstated *Requienellaceae* as a family of *Xylariales* (S.S.N. Maharachchikumbura).

Resiniporus Zmitr.

Zmitrovich (2018) introduced this new genus in *Irpicaceae* to accommodate *Ceriporiopsis resinascens* (Romell) Domański and *C. pseudogilvescens* (Pilát) Niemelä & Kinnunen (V. Papp).

Resinogalea Rikkinen & A.R. Schmidt

Rikkinen et al. (2016) proposed *Resinogalea* for *Resinogalea humboldtensis* collected from resin of *Araucaria humboldtensis* in New Caledonia (S. Somrithipol).

Retihelicosporonites Ramanujam & K.P. Rao (fossil)

Helical spores (conidia) are found in various hyphomycetes, viz. *Helicoma* Corda, *Helicomina* L.S. Olive, *Helicoon* Morgan, *Helicodendron* Peyronel, *Xenosporella* Höhn, *Hiospira* R.T. Moore, etc. (Barnett 1956, Ellis 1971, Ainsworth et al. 1973) (R.K. Saxena).

Retroconis de Hoog & Bat. Vegte

This genus belongs in *Chaetomiaceae*, *Sordariales* according to Crous et al. (2007) (H. Madrid).

Rhamphoria Niessl

Ramphoria is the type genus of the newly erected family *Rhamphoriaceae* (Réblová & Štěpánek (2018) (K. Bensch).

Rhamphoriaceae Réblová

Rhamphoriaceae is a novel family introduced by Réblová & Štěpánek (2018) to represent genera *Rhamphoria*, *Rhamphoriopsis*, *Linkosia* and *Xylolentia* (S.S.N. Maharachchikumbura).

Rhamphoriopsis Réblová & Gardiennet

Genus in the *Rhamphoriaceae* with *Rhamphoriopsis muriformis* as the type species (Réblová & Štěpánek 2018) (S.S.N. Maharachchikumbura).

Rhexoacrodictys W.A. Baker & Morgan-Jones

Xia et al. (2017) treated this genus as a member in *Savoryellales*, *Savoryellaceae*. (J. Ma)

Rhodoveronaea Arzanlou, W. Gams & Crous

Réblová & Štěpánek (2108) referred this genus to the newly erected family *Rhamphoriaceae* (K. Bensch).

Rhizoglomus Sieverd. et al.

The genus *Rhizophagus* was not accepted in the Fungal Kingdom, as *Rhizophagus populinus* is not an arbuscular mycorrhizal fungi but a plant root pathogen originally attributed to the *Peronosporales* (Sieverding et al. 2014) which at time is attributed to the kingdom *Chromista* (Cavalier-Smith 2018). *Glomus intraradices* became the type species of the new genus *Rhizoglomus* with several new species described using *Rhizoglomus* as generic name (Sudová et al. 2015, Błaszczowski et al. 2018a, b, 2019a. b, Turrini et al. 2018).

Rimularia Nyl.

Four species were included in the phylogeny (Resl. et al. 2015), but 25 species still need molecular data for the correct genus placement (M. Kukwa).

Roesleria Thüm. & Pass.

Baral (2016) maintained the family *Roesleriaceae* within his “Lineage B” (*Helotiaceae* sensu lato) to accommodate the genus *Roesleria* with its peculiar morphological characteristics. However, Johnston et al. (2019) found high support for the placement of this genus deep within the family *Helotiaceae* (D. Haelewaters).

Roselymyces Fiuza et al.

The monotypic genus *Roselymyces* was erected in the *Xylariales* based on morphological characters and a molecular phylogeny based on ITS and LSU data by Fiuza et al. (2018) with *Roselymyces brasiliensis* as the type species. The genus was not yet associated to one of the families of *Xylariales*, but shows morphological affinities to *Cylindrium*, *Polyscytulum*, *Pseudoidriella* and *Tristratiperidium* (M. Stadler).

Rostania Trevis.

According to Košuthová et al. (2019) the genus is not monophyletic and 2 species were transferred to *Leptogium* and *Scytinum*. At present 3 species are known to belong to the genus in its strict sense, but the species delimitation within *Rostania* needs further studies (M. Kukwa).

Rutstroemiaceae Holst-Jensen et al.

The *Rutstroemiaceae* + *Sclerotiniaceae* clade was retrieved with high statistical support in the sclerotinioid clade of *Helotiales* in the 15-gene tree of Johnston et al. (2019). If *Sclerotiniaceae* is retained, *Rutstroemiaceae* as currently recognized is not monophyletic and would need to be split in four families. More multigene and genomic-scale work is needed to resolve this sclerotinioid clade. Ekanayaka et al. (2019) proposed that this family belongs to an informal clade named “*Sclerotiniales*”. However, this placement was without support (D. Haelewaters & N. Wijayawardene).

Saccharomyces O.E. Erikss. & Winka.

In the case of *Saccharomyces* yeasts, the status of several families and the status and familial placement of several genera has not been unequivocally cleared (Daniel et al. 2014, Hittinger et al. 2015, Shen et al. 2016, 2018, Kurtzman & Boekhout 2017) since the publication of the 5th edition of *The Yeasts: A Taxonomic Study* (Kurtzman 2011). Based on accumulating phylogenomic data, the status of some families are expected to change substantially (e.g. Shen et al. 2018). Thus, a comprehensive list of currently accepted sexual genera and non-synonymized asexual genera (that are expected to be retained following the Melbourne code, notably *Candida* Berkhout) are listed among the notes with additional notes on expected changes and protected names, following Kurtzman & Boekhout (2017) (W.P. Pfliegler & E. Horváth).

Saccisporonites Kalgutkar & Janson. (fossil)

Kalgutkar & Jansonius (2000) opined that *Lacrimasporonites stoughiae* Elsik is a misfit in *Lacrimasporonites* Elsik and therefore they proposed *Saccisporonites* to accommodate it (R.K. Saxena).

Sakireeta Subram. & K. Ramakr.

Based on ITS and LSU sequence phylogeny, Crous et al. (2015a) transferred *Sakireeta* to *Botryosphaeriaceae* (A.J.L. Phillips).

Saprochaete Coker & Shanor ex D.T.S. Wagner & Dawes

Expected transfer of species to *Magnusiomyces* Zender (Kurtzman & Boekhout 2017) (W.P. Pfliegler and E. Horváth).

Sarcoleotia S. Ito & S. Imai

Phylogeny in Hustad et al. (2011) demonstrates that *Sarcoleotia* is sister species to *Nothomitra*, both in a separate clade than the rest of *Geoglossomycetes* (V.P. Hustad).

Sarcopeziza Loizides et al.

This genus was recently introduced by Agnello et al. (2018) (P. Alvarado).

Sardiniella Linaldeddu et al.

This genus was introduced by Linaldeddu et al. (2016) to accommodate a diplodia-like species from diseased *Celtis africana* trees in Sardinia. Morphologically similar to *Diplodia* and *Dothiorella*, but phylogenetically distinct (A.J.L. Phillips).

Saxophila Selbmann & de Hoog

This is a monotypic genus, typified by *S. tyrrhenica*, a dematiaceous microcolonial fungus obtained from marble and limestone in Europe. Its placement in *Extremaceae* is supported by multilocus DNA sequence data (Isola et al. 2016) (H. Madrid).

***Schadonia* Körb.**

Kistenich et al. (2018) transferred this genus from *Ramalinaceae* to *Pilocarpaceae* (E. Timdal).

***Sclerencoelia* Pärtel & Baral**

This genus was introduced by Pärtel et al. (2017) to accommodate two species of *Encoelia* (*E. fascicularis* and *E. pruinosa*) that belonged to *Sclerotiniaceae*, whereas the type species *E. furfuraceae* was placed in *Cenangiaceae*. A third species of *Sclerencoelia* was also described by Pärtel et al. (2017) mostly based molecular data (D. Haelewaters).

***Sclerococcum* Fr.**

Réblová et al. (2016) transferred it to *Sclerococcaceae* and this was supported by Yu et al. (2018). However, *Sclerococcum* has been transferred to *Dactylosporaceae* Bellem. & Hafellner [= *Sclerococcaceae* Réblová, Unter. & W. Gams] by Diederich et al. (2018) (H. Zhang & J. Etayo).

***Scolecolachnum* Guatimosim et al.**

Scolecolachnum was introduced in *Hyaloscyphaceae* (Guatimosim et al. 2016). Based on both ITS and LSU phylogenetic analyses, it is retrieved as sister to *Hyphodiscus* in *Hyaloscyphaceae* Han Clade 4 (sensu Han et al. 2014, Johnston et al. 2019) (D. Haelewaters).

***Scutula* Tul.**

Kistenich et al. (2018) transferred this genus from *Pilocarpaceae* to *Ramalinaceae* (E. Timdal).

***Seltsamia* Jaklitsch & Voglmayr**

Jaklitsch et al. (2018) proposed this new genus in *Cucurbitariaceae* based on morphological and molecular characters (S. Fryar).

***Septomelanconiella* Samarak. & K.D. Hyde**

Phookamsak et al. (2019) introduced a monotypic genus *Septomelanconiella* to accommodate a single species *S. thailandica* Samarak. & K.D. Hyde. *Septomelanconiella* can be distinguished from *Melanconiella* Sacc. in having finely verrucose brown mature conidia. Phylogenetic analysis revealed that the genus formed a distinct lineage with other genera in *Melanconiellaceae* (R. Phookamsak).

***Septoriella* Oudem.**

Crous et al. (2015c) treated *Wojnowicia* as a synonym of *Septoriella* based on a neotypic study of *Wojnowicia hirta* Sacc. (R. Phookamsak).

***Septorioides* Quaedvl. et al.**

This genus was introduced for species morphologically similar to *Septoria* but distinguishable on account of conidiomata that open by an irregular split, and paraphyses intermingled with the conidiogenous cells. Furthermore, they constitute a phylogenetic lineage in *Botryosphaeriaceae* and thus separate from *Septoria* and allied genera (Quaedvlieg et al. 2013). Wyka & Broders (2016) introduced the family *Septorioideaceae* in *Botryosphaeriales* to accommodate *Septorioides* species. Phillips et al. (2019) took into account phylogeny (ITS, LSU), morphology and evolutionary divergence times and concluded that *Septorioides* resides within

Saccharataceae. For this reason, Phillips et al. (2019) regarded *Septorioideaceae* as a synonym of *Saccharataceae* (A.J.L. Phillips).

Sepultariella Van Vooren et al.

This genus was erected to accommodate two species previously ascribed to *Leucoscypha*. It represents a separate phylogenetic lineage within *Pyrenomataceae* (Van Vooren et al. 2017) (I. Kušan & N. Matočec).

Sheathospora X.L. Fan

Fan et al. (2018b) proposed this new genus based on unique pycnidial conidiomata and conidia with distinct hyaline sheath in *Melanconiellaceae*. *Sheathospora cornuta* is the type to accommodate *Melanconiella cornuta* and currently so far known from *Cornus controversa* and *Juglans regia* in China (X.L. Fan).

Snippocia Ertz et al.

Ertz et al. (2018) introduced this genus and placed it in *Arthoniaceae* based on phylogenetic analyses (N. Wijayawardene).

Solanella Vaňha

Ekanayaka et al. (2018) proposed that this genus should be transferred to *Pezizomycotina incertae sedis* (I. Kušan & N. Matočec).

Solicorynespora R.F. Castañeda & W.B. Kendr.

Hernández-Restrepo et al. (2014) showed that *Solicorynespora insolita* has a high affinity with members of *Dothideomycetes*, and more specifically with *Astrosphaeriella livistoncola* (J. Ma)

Spadicoides S. Hughes

Réblová et al. (2018) accommodated this genus in *Xenospadicoidaceae* based on phylogenetic analyses (S. Fryar).

Spegazzinia Sacc.

This genus was shown to belong in *Didymosphaeriaceae* by Tanaka et al. (2015) (P. Alvarado).

Sphaerosporium Schwein.

According to a multilocus phylogenetic study in Song et al. (2019), the generic type, *S. lignatile* Schwein., belongs to *Pyronemataceae* (*Pezizomycetes*, *Pezizales*), whereas *S. equinum* (Desm.) J.L. Crane & Schokn. was placed among *Onygenales* based on LSU sequence data (Rokas et al. 2012) (D. Haelewaters).

Sphaerosporium Schwein.

According to a multilocus phylogenetic study by Haelewaters et al. in Song et al. (2019), the generic type, *S. lignatile* Schwein., belongs to *Pyronemataceae* (*Pezizomycetes*, *Pezizales*), whereas *S. equinum* (Desm.) J.L. Crane & Schokn. was placed among *Onygenales* based on LSU sequence data (Rokas et al. 2012) (D. Haelewaters).

Spinosporonites R.K. Saxena & S. Khare (fossil)

This monotypic genus includes circular to subcircular, inaperturate, multicellular spores, each cell giving rise to a robustly built spine. They readily resemble the setose pycnidia found in some Coelomycetes (R.K. Saxena).

Spiromastigaceae Hirooka et al.

The family was first invalidly published in Rizzo et al (2014) (Arts 38.11 and 42.1) and later validated in Hirooka et al. (2015) (K. Bensch).

Spirotremesporites Dueñas (fossil)

This genus includes ellipsoidal to elongate, aseptate, psilate fungal spores having aperture in the form of a single furrow at an angle to the axis of the spore, straight or curved to S-shaped or sigmoidal in outline, or spiral around the spore axis. *Varisulcosporites* Rouse & Mustard is a junior taxonomic synonym of *Spirotremesporites* (R.K. Saxena).

Sporacestra A. Massal.

Kistenich et al. (2018) resurrected this genus in *Ramalinaceae* (E. Timdal).

Sporastatiales Lumbsch & Leavitt

Kraichak et al. (2018a) raised *Sporastatiaceae* to ordinal level as *Sporastatiales* (N. Wijayawardene).

Sporocadaceae Corda

Liu et al. (2019) provided a revision of the *Sporocadaceae* based on multi-locus phylogenetic analyses, using LSU, ITS, *tef-1 α* , *tub2* and *rpb2* loci, in combination with morphological data. A total of 30 well-supported monophyletic clades were recognized, representing 23 known and seven new genera. Typifications for the type species (*Diploceras*, *Discosia*, *Monochaetia*, *Sporocadus* and *Truncatella*) and emendations of various genera and species were also provided (M. Stadler).

Sporocarpon Will. (fossil)

Dubiocarpon S.A. Hutch. and *Oidospora* Will. are later taxonomic synonyms of *Sporocarpon* Will. (R.K. Saxena).

Sporormiella Ellis & Everh.

The ostiolate *Sporormiella* has been recognized as a probable synonym of the earlier non-ostiolate *Preussia* for several decades and, based on morphology and phylogeny, Zhang et al. (2012) and Hyde et al. (2013) adopted *Preussia*. However, the type species *S. nigropurpurea* has not been sequenced, and *Sporormiella* is widely used in the literature of coprophilous fungi (e.g. Doveri 2004, Bell 2005) and palaeoecology (Raper & Bush 2009, Raczka et al. 2016) and contains many more species. If the genera are eventually proved to be congeneric molecularly, we consider that *Sporormiella* should be proposed for conservation over *Preussia* so both names are currently retained here (D.L. Hawksworth & N.N. Wijayawardene).

Staphlosporonites Sheffy & Dilcher (fossil)

Transeptaesporites V.S. Ediger is a later taxonomic synonym of *Staphlosporonites* (R.K. Saxena).

Steinera Zahlbr.

The genus, previously placed in *Koerberiaceae*, has been recently moved into *Arctomiaceae* (Ertz et al. 2017a). A new genus, *Henssenia*, was established for *Steinera* species remaining in *Koerberiaceae* (Ertz et al. 2017a) (M. Kukwa).

Stemphylium Wallr.

The major part of the family *Pleosporaceae* is represented by species of *Pleospora*, a genus that is considered paraphyletic (Kodsueb et al. 2006, Inderbitzin et al. 2009). The type species of *Pleospora*, *P. herbarum*, was synonymized with *Stemphylium herbarum*. At this time, however,

several hundreds of *Pleospora* epithets still have not been assigned to *Stemphylium* or other genera and are not included in this outline (P.B. Gannibal).

Stereophlebia Zmitr.

Zmitrovich (2018) segregated this new monotypic genus from *Lilaceophlebia* (Parmasto) Spirin & Zmitr. to accommodate *Phlebia tuberculata* (Berk. & M.A. Curtis) Tura, Zmitr., Wasser & Spirinski (V. Papp).

Stictographaceae D.Q. Dai & K.D. Hyde

Dai et al. (2018) introduced this family in *Asterinales* to accommodate *Stictographa* Mudd, *Karschia* Körb., *Labrocarpon* Etayo & Pérez-Ortega and *Melaspileopsis* (Müll. Arg.) Ertz & Diederich (N. Wijayawardene).

Stigmatodiscus Voglmayr & Jaklitsch

Voglmayr & Pintos (2018) synonymised *Asterodiscus* Voglmayr et al. with *Stigmatodiscus* (P. Alvarado).

Striadiporites C.P. Varma & Rawat (fossil)

This genus includes unicellular, diporate fungal spores with striated spore wall. *Stridiporosporites* Ke & Shi is a junior taxonomic synonym of *Striadiporites* (R.K. Saxena).

Symbiotaphrina Kühlw. & Jurzitza ex W. Gams & Arx

Baral et al. (2017) validated the order *Symbiotaphrinales* and introduced the new family *Symbiotaphrinaceae* (K. Bensch).

Symmetrospora Q.M. Wang et al.

Symmetrospora was recently introduced for species previously placed in the asexual genera *Sporobolomyces* and *Rhodotorula* in the “*gracilis/marina* clade” of *Cystobasidiomycetes* (Wang et al. 2015b). Haelewaters et al. (2020) recently proposed three new species and a new combination, making 10 recognized species (D. Haelewaters).

Synnemaspora X.L. Fan & J.D.P. Bezerra

Synnemaspora was introduced by Fan et al. (2018a) to accommodate fungi with synnematos conidiomata. This genus is typified by *Synnemaspora toxicodendri* (S.S.N. Maharachchikumbura).

Synnemasporaceae X.L. Fan & J.D.P. Bezerra

Fan et al. (2018a) proposed this new family to accommodate one new genus, *Synnemaspora* (Type species: *Synnemaspora toxicodendri*). The new genus and species have been collected from *Toxicodendron sylvestre* in China, and *S. aculeans* was transferred from *Cryptodiaporthe aculeans* (basionym: *Sphaeria aculeans*) (S. Fryar & S. Somrithipol).

Szczepkamyces Zmitr.

Zmitrovich (2018) introduced this new monotypic genus in *Polyporaceae* to accommodate *Dichomitus campestris* (Quél.) Domański & Orlicz (V. Papp).

Taeniolella S. Hughes

Heuchert et al. (2018) showed that the genus is polyphyletic with type species belonging *Kirschsteiniiotheliaceae* (*Dothideomycetes*) while saprobic species cluster within *Sordariomycetes* in different families. Lichenicolous species form a monophyletic clade within *Asterotexiales*, *Dothideomycetes* but many species are still not sequenced (A. Suija).

Taitaia Suija et al.

Suija et al. (2018) introduced this lichenicolous genus and confirmed its placement in *Gomphillaceae*, *Graphidales* (N. Wijayawardene).

Tamsiniella S.W. Wong et al.

Phookamsak et al. (2019) treated *Tamsiniella* in *Phyllachoraceae* based on phylogenetic analysis (R. Phookamsak).

Tapesia (Pers.) Fuckel

Tapesia is considered a synonym of *Mollisia* (Hawksworth & David 1989) but many species are still classified under *Tapesia* (Species Fungorum 2020, Tanney & Seifert 2020). As a result, *Tapesia* is included in this outline (D. Haelewaters).

Tasmidella Kantvilas et al.

Kistenich et al. (2018) transferred this genus from *Ramalinaceae* to the *Lecanorales incertae sedis* (E. Timdal).

Thalloidima A. Massal.

Kistenich et al. (2018) resurrected this genus in the *Ramalinaceae* (E. Timdal).

Thecotheus Boud.

Placed in *Ascobolaceae*, *Pezizales*. This genus was treated by Kušan et al. (2015) who listed 23 known species, including the newly described *T. platyapiculatus* (I. Kušan & N. Matočec).

Tenuitholiascaceae S.H. Jiang et al.

Jiang et al. (2020) introduced this family based on the new genus *Tenuitholiascus*, which resides in *Strigulales* (N. Wijayawardene).

Thysanorea Arzanlou et al.

According to phylogenetic studies by Arzanlou et al. (2007) and Dong et al. (2018), this genus is a member of *Herpotrichiellaceae*. Dong et al. (2018) introduced the second species *Thysanorea aquatica* W. Dong, H. Zhang & K.D. Hyde. However, this species has been reported as a synonym with the type species *Thysanorea papuana* (Aptroot) Arzanlou, W. Gams & Crous (Wang et al. 2018) (H. Madrid & H. Zhang).

Toninia A. Massal.

Kistenich et al. (2018) placed *Arthrosporium* A. Massal. as a synonym of *Toninia* (E. Timdal)

Torrentispora K.D. Hyde et al.

Réblová et al. (2018) transferred *Torrentispora* from the *Annulatascaceae* to *Xenospadicoidaceae* based on multi-gene phylogenetic analyses (S. Fryar).

Tremellochaete Raitv.

Tremellochaete was reinstated in *Auriculariaceae* by Malysheva & Spirin (2017) based on morphological characteristics and phylogenetic analyses. Phookamsak et al. (2019) updated a species number in this genus. Based on morphological characteristics and phylogenetic analysis, three species are accommodated in this genus (Malysheva & Spirin 2017, Index Fungorum 2019, Phookamsak et al. 2019) (R. Phookamsak).

Triadelphia Shearer & J.L. Crane

Recent studies suggested that *Triadelphia* is polyphyletic, but no DNA sequence data is available for many of its members. The type species, *T. heterospora*, belongs in *Microascales* (Crous et al. 2015b) (H. Madrid).

***Triblidiaceae* Rehm**

Triblidiaceae is considered a monophyletic family within *Rhytismatales*, including two genera, *Huangshania* and *Triblidium*. The previous order *Triblidiales* is synonymized under *Rhytismatales* (Karakehian et al. 2019) (D. Haelewaters).

***Tribolites* W.H. Bradley (fossil)**

The fossil conidia resemble conidia of extant genera *Tetrachaetum* Ingold and *Lemonniera* D. Wild. *Trihyphaecites* Peppers is a junior taxonomic synonym of *Tribolites* (R.K. Saxena).

***Trichomonascaceae* Kurtzman & Robnett**

Family status expected to change upon resolving *Blastobotrys/Trichomonascus* (W.P. Pfliegler and E. Horváth).

***Trichomonascus* H.S. Jackson emend. Kurtzman & Robnett**

Expected transfer of species to *Blastobotrys* Klopotek to comply with the Melbourne Code (Kurtzman & Boekhout 2017) (W.P. Pfliegler & E. Horváth).

***Trichothyrites* Rosend. (fossil)**

Notothyrites Cookson and *Sphaerialites* Venkatach. & R.K. Kar are later taxonomic synonyms of *Trichothyrites* (Kalgutkar & Jansonius 2000) (R.K. Saxena).

***Trihyphites* Kalgutkar & Janson. (fossil)**

Trihyphaecites fractus Z.C. Song & Liu Cao, in Song et al. (1989) belongs to *Trihyphites*. (R.K. Saxena).

***Triporicellaesporites* Ke & Shi (fossil)**

The spores of two species of *Triporicellaesporites*, viz. *T. elongatus* P. Ke & Z.Y. Shi and *T. simplex* (Elsik & Janson.) Kalgutkar & Janson., are very similar to spores of the extant *Ceratosporella bicornis* (Morgan) Höhnel. (R.K. Saxena).

***Trullella* Zmitr.**

Zmitrovich (2018) treated that the name *Trulla* Miettinen & Ryvar den is illegitimate (non *Trulla* T.M. Harris), thus the new genus *Trullella* was proposed to accommodate *Trulla dentipora* (Ryvar den & Iturr.) Miettinen & Ryvar den and five other *Trulla* species (V. Papp).

***Tubakiaceae* U. Braun et al.**

Braun et al. (2018) introduced *Tubakiaceae* (in *Diaporthales*) to accommodate *Tubakia* B. Sutton. and six other genera (viz. *Apiognomonioides* U. Braun, J.Z. Groenew. & Crous, *Involutscutellula* U. Braun & C. Nakash., *Paratubakia* U. Braun & C. Nakash., *Racheliella* Crous & U. Braun, *Saprothyrium* U. Braun, Crous & J.Z. Groenew., *Sphaerosporithyrium* U. Braun, Crous, O. Moreno-Rico & Marm.) (N. Wijayawardene).

***Tylothallia* P. James & H. Kiliias**

Kistenich et al. (2018) transferred this genus from *Lecanoraceae* to *Ramalinaceae* (E. Timdal).

***Umbilicaria* Hoffm.**

Davydov et al. (2017) revised the *Umbilicariaceae sensu stricto* and accepted eight subgenera in the genus *Umbilicaria*: viz. *Actinogyra* (type: *U. muehlenbergii*), subg. *Agyrophora* (type: *A. atropuina*), subg. *Floccularia* subg. nov. (type: *U. deusta*), subg. *Gyrophora* (type: *U. vellea*), subg. *Iwatakia* subg. nov. (type: *U. esculenta*), subg. *Lasallia* (type: *L. pustulata*), subg. *Umbilicaria* (type: *U. hyperborea*), and subg. *Umbilicariopsis* subg. nov. (type: *Umbilicaria polyrhiza*) (G. Rambold).

Umthunziomyces Crous & M.J. Wingf.

Umthunziomyces was introduced for a septoria-like species that resides in *Planistromellaceae* (Crous et al. 2016) (A.J.L. Phillips).

Uncinulites Pampal. (fossil)

Graamspora Sal.-Cheb. & Locq. is a later taxonomic synonym of *Uncinulites* (R.K. Saxena).

Unguicularia Hohn.

Previously considered as a member of *Hyaloscyphaceae* (Baral 2016), but currently placed in *Helotiales* genera *incertae sedis* based on the ITS placement by Johnston et al. (2019). Additional sequence data are needed to resolve the placement of this genus (D. Haelewaters).

Varicellaria Nyl.

In Kraichak et al. (2018b), the monotypic family *Varicellariaceae* was validated (K. Bensch).

Varicosporellopsis Lechat & J. Fourn.

Lechat & Fournier (2016) described *Varicosporellopsis* and placed it in *Nectriaceae* (I. Kušan & N. Matočec).

Varmasporites Kalgutkar & Janson. (fossil)

Kalgutkar & Jansonius (2000) opined that *Fusiformisporites tonakkalensis* Y.N.R. Varma & R.S. Patil is a misfit in *Fusiformisporites* Rouse and therefore they proposed *Varmasporites* to accommodate it (R.K. Saxena).

Velebitea I. Kušan et al.

Velebitea was introduced in Phookamsak et al. (2019) to accommodate a single species, *Velebitea chryso-texta* I. Kušan, Matočec & Jadan in *Lachnaceae* based on molecular data. The genus was collected from decorticated branches and stump base of *Fagus sylvatica* L. (Fagaceae) in Croatia and is characterized by having apothecial ascomata, elongated cylindrical-deltoid asci, protruding above paraphyses at maturity, with in Lugol's solution apical apparatus moderately euamyloid, of *Calycina*-type and hyaline, elongated fusoid ascospores (R. Phookamsak).

Vermiconidia Egidì & Onofri

A multilocus phylogenetic study by Isola et al. (2016) placed all members of this genus in *Extremaceae* (H. Madrid).

Vitreoporus Zmitr.

Zmitrovich (2018) introduced this new genus to accommodate *Gloeoporus dichrous* (Fr.) Bres., *G. africanus* P.E. Jung & Y.W. Lim, *G. citrinoalbus* Yuan Yuan & Jia J. Chen, and *G. orientalis* P.E. Jung & Y.W. Lim. However, phylogenetic analyses by Jung et al. (2018) revealed that these species belong to a monophyletic clade in *Gloeoporus sensu stricto* (V. Papp).

Vittaliana Devadatha et al.

Devadatha et al. (2019) introduced this genus and showed that it is a member of *Phaeosphaeriaceae*. Its ascospores are similar to *Acericola* and *Vagicola* (S. Tibpromma).

Wheelerophlyctis P.M Letcher et al.

Letcher et al. (2018) introduced this genus, which comprises two species. Phylogenetic analyses confirmed its placement in *Asterophlyctaceae* (P. Letcher).

Xanthonectria Lechat et al.

Lechat et al. (2016b) described the monotypic genus *Xanthonectria* to accommodate *Nectria pseudopeziza* within *Bionectriaceae* (I. Kušan & N. Matočec).

Xenodactylaria Crous

Crous et al. (2018) introduced this genus and showed that it has a distinct lineage in *Myrmecridiales*. As a result, the family *Myrmecridiaceae* was introduced (N. Wijayawardene).

Xenospadicoidaceae Hern.-Restr et al.

Réblová et al. (2018) accepted *Calyptosphaeria*, *Lentomitella*, *Spadicoides* and *Torrentispora* as members of the *Xenospadicoidaceae*, *Xenospadicoidales*. Furthermore, Réblová et al. (2018) reduced *Xenospadicoides* and *Pseudodiplococcium* under *Spadicoides* and synonymised *Lentomitellaceae* with *Xenospadicoidaceae* based on a multi-gene phylogeny (J. Ma & S. Fryar).

Xyladictyochaetaceae Crous & Hern.-Restr

Crous et al. (2018) introduced this family to accommodate the genus *Xyladictyochaeta* within the Xylariales (S. Fryar & K. Bensch).

Xylolentia Réblová

Xylolentia is a newly introduced genus in the family *Rhamphoriaceae*, with the type species *Xylolentia brunneola* (Réblová & Štěpánek 2018) (S.S.N. Maharachchikumbura).

Xylomyces Goos et al.

Nine species are currently reported within *Xylomyces*, but *Xylomyces chlamydosporus* Goos, R.D. Brooks & Lamore is the only species phylogenetically related to the *Jahnulales* (H. Raja).

Zopfochytrium M.J. Powell et al.

Powell et al. (2018) introduced this genus and confirmed its placement in *Chytridiaceae* (P. Letcher).

Zymochalara Guatimosim et al.

Zymochalara was introduced in *Helotiales* genera *incertae sedis* (Guatimosim et al. 2016) but in the ITS tree of Johnston et al. (2019) it was retrieved within *Pezizellaceae* (D. Haelewaters).

Acknowledgements

Nalin N. Wijayawardene thanks Mushroom Research Foundation and National Science Foundation of China (No. NSFC 31950410558) for financially supporting this project. Kevin D. Hyde acknowledges the Foreign Experts Bureau of Yunnan Province, Foreign Talents Program (2018; grant no. YNZ2018002), Thailand Research grants entitled Biodiversity, phylogeny and role of fungal endophytes on above parts of *Rhizophora apiculata* and *Nypa fruticans* (grant no: RSA5980068), the future of specialist fungi in a changing climate: baseline data for generalist and specialist fungi associated with ants, *Rhododendron* species and *Dracaena* species (grant no: DBG6080013), Impact of climate change on fungal diversity and biogeography in the Greater

Mekong Subregion (grant no: RDG6130001). H.T. Lumbsch thanks support by the Grainger Bioinformatics Center. E. Malosso is grateful to CAPES for financial support (grant no. 88881.062172/2014-01). B.T. Goto, G.A. Silva and K. Jobim, L.C. Maia acknowledges CNPq (Brazilian Scientific Council, grants no. 465.420/2014-1, 307.129/2015-2 and 408011/2016-5) and CAPES for support. The study was partially supported by the National Science Centre, Poland, under Grants No. 2015/17/D/NZ8/00778 and 2017/25/B/NZ8/00473 to Julia Pawłowska. The research of Martin Kukwa received support from the National Science Centre (NCN) in Poland (project no 2015/17/B/NZ8/02441). Alan J.L. Phillips acknowledges the support from UID/MULTI/04046/2019 Research Unit grant from FCT, Portugal to BioISI. H. Zhang is financially supported by the National Natural Science Foundation of China (Project ID: NSF 31500017). S. Boonmee would like to thank the Thailand Research Fund (Project No. TRG6180001). Dong-Qin Dai and Li-Zhou Tang would like to thank the National Natural Science Foundation of China (No. NSFC 31760013, NSFC 31260087, NSFC 31460561), the Scientific Research Foundation of Yunnan Provincial Department of Education (2017ZZX186) and the Thousand Talents Plan, Youth Project of Yunnan Provinces for support. R. Phookamsak, M. Doilom, D. N. Wanasinghe, S.C. Karunarathna and J.C. Xu express sincere appreciations to Key Research Program of Frontier Sciences of the Chinese Academy of Sciences (grant no. QYZDY-SSW-SMC014) for research financial support. R. Phookamsak thanks the Yunnan Provincial Department of Human Resources and Social Security (grant no. Y836181261), Chiang Mai University and National Science Foundation of China (NSFC) project code 31850410489 for research financial support. S.C. Kaunarathna thanks CAS President's International Fellowship Initiative (PIFI) for funding his postdoctoral research (No. 2018PC0006) and the National Science Foundation of China (NSFC) for funding this work under the project code 31851110759. S. Tibpromma would like to thank the International Postdoctoral Exchange Fellowship Program (number Y9180822S1), CAS President's International Fellowship Initiative (PIFI) (number 2020PC0009), China Postdoctoral Science Foundation and the Yunnan Human Resources, and Social Security Department Foundation for funding her postdoctoral research. Yuri S. Tokarev, Elena S. Nassonova and Irma V. Issi are indebted to Yuliya Y. Sokolova (Institute of Cytology RAS, St. Petersburg, Russia) and Anastasia V. Simakova (Tomsk State University, Tomsk, Russia) for kind permission of reproduction of electron microscopy images of *Metchnikovella incurvata* and *Crepidulospora beklemishevi*, respectively. Yuri S. Tokarev and Irma V. Issi thank Russian Foundation of Basic Research, grant number 17-04-00871 (taxonomy of Rozellomycota). Elena S. Nassonova thank Russian Foundation of Basic Research, grant number 18-04-01359 (early evolution of Microsporidia, phylogeny of Metchnikovellida). Adam Flakus and Pamela Rodriguez-Flakus are greatly indebted to all staff of the Herbario Nacional de Bolivia, Instituto de Ecología, Universidad Mayor de San Andrés, La Paz and the SERNAP (<http://sernap.gob.bo>), for their generous cooperation providing permits, assistance and facilities support for scientific studies. The research of AF and PRF were financially supported by the National Science Centre (NCN) in Poland (DEC-2013/11/D/NZ8/03274). Adam Flakus and Pamela Rodriguez-Flakus received additional support under statutory funds from the W. Szafer Institute of Botany, Polish Academy of Sciences, Krakow, Poland. The authors would like to thank Yunnan Innovation Platform for Development and Utilization of Symbiotic Fungi Resources for finance support. Li-Fang Zhang would like to thank grant-in-aid from Science and Technology Department of Yunnan Province (2018FD080) for finance support. Chun-Ying Deng thanks the Biodiversity Survey and Assessment Project of the Ministry of Ecology and Environment, China (2019HJ2096001006). Yingqian Kang would like to thank Guizhou Scientific Plan Project [(2019) 2873]; Excellent Youth Talent Training Project of Guizhou Province [(2017) 5639]; Guiyang Science and Technology Project [(2017) No. 5-19]; Talent Base Project of Guizhou Province, China [FCJD2018-22]; Research Fund of Education Bureau of Guizhou Province, China [(2018) 481]. D. N. Wanasinghe would like to thank the CAS President's International Fellowship Initiative (PIFI) for funding his postdoctoral research (number 2019PC0008), the National Science Foundation of China and the Chinese Academy of Sciences for financial support under the

following grants: 41761144055, 41771063 and Y4ZK111B01. Yuri K. Novozhilov and Oleg N. Shchepin acknowledge support from the Russian Foundation of Basic Research, project 18-04-01232 A. Ivana Kušan, Neven Matočec, Armin Mešić and Zdenko Tkalčec are grateful to Croatian Science Foundation for their financial support under the project grant HRZZ-IP-2018-01-1736 (ForFungiDNA). K. Tanaka would like to thank the Japan Society for the Promotion of Science (JSPS 19K06802)

References

- Abdel-Wahab MA, El-Samawaty AE, El Gorban AM, Yassin MA et al. 2018 – *Khaleijomyces marinus* gen. et sp. nov. (*Juncigenaceae*, *Torpedosporales*) a new lignicolous marine fungus from Saudi Arabia. *Phytotaxa* 340, 277–285.
- Abdullah SK, Gené J, Guarro J. 2005 – A synopsis of the aero–aquatic genus *Pseudaegerita* and description of two new species. *Mycological Research* 109, 590–594.
- Accioly T, Sousa JO, Moreau P-A, Lécure C et al. 2019 – Hidden fungal diversity from the Neotropics: *Geastrum hirsutum*, *G. schweinitzii* (*Basidiomycota*, *Geastrales*) and their allies. *Plos One* 14, e0211388.
- Adl SM, Bass D, Lane CE, Lukeš J et al. 2019 – Revisions to the classification nomenclature and diversity of Eukaryotes. *Journal of Eukaryotic Microbiology* 66, 4–119.
- Agnello C, Alvarado P, Loizides M. 2018 – *Sarcopeziza* (*Pezizaceae*, *Ascomycota*), a new monotypic genus for Inzenga’s old taxon *Peziza sicula*. *Ascomycete.org* 10, 177–186.
- Ainsworth GC, Sparrow FK, Sussman AS. (Eds.) 1973 – The fungi, an advanced treatise. I–IVB; Academic Press, New York, 3416 p.
- Alvarado P, Healy RA, Moreno G, Cabero J et al. 2018 – Phylogenetic studies in *Genabea*, *Myrmecocystis*, and related genera. *Mycologia* 110, 401–418.
- Álvarez E, Cano J, Stchigel AM, Sutton DA et al. 2011 – Two new species of *Mucor* from clinical samples. *Medical Mycology* 49, 62–72.
- Alves MH, Trufem SFB, Milanez AI. 2002 – Táxons de *Mucor* Fresen. (*Zygomycota*) em fezes de herbívoros, Recife, PE, Brasil. *Revista Brasileira de Biologia* 25, 147–160.
- Aptroot A, Lücking R. 2016 – A revisionary synopsis of the *Trypetheliaceae* (*Ascomycota*: *Trypetheliales*). *Lichenologist* 48, 763–982.
- Aptroot A, Maphangwa KW, Zedda L, Tekere M et al. 2019 – The phylogenetic position of *Culbersonia* is in the *Caliciaceae* (lichenized ascomycetes). *Lichenologist* 51, 187–191.
- Aptroot A, Sparrius LB, Alvarado P. 2018 – *Aquacidia*, a new genus to accommodate a group of skiophilous temperate *Bacidia* species that belong in the *Pilocarpaceae* (lichenized ascomycetes). *Gorteria* 40, 11–14.
- Aptroot A. 1991 – Monograph of the *Pyrenulaceae* (excluding *Anthracotheceum* and *Pyrenula*) and the *Requienellaceae*. J. Cramer.
- Aptroot A. 1995 – A monograph of *Didymosphaeria*. *Studies in Mycology* 37, 1–16.
- Ariyawansa HA, Phookamsak R, Tibpromma S, Kang JC et al. 2014 – A molecular and morphological reassessment of *Diademaceae*. *The Scientific World Journal*. Article ID 675348, <http://dx.doi.org/10.1155/2014/675348>
- Arzanlou M, Groenewald JZ, Gams W, Braun U et al. 2007 – Phylogenetic and morphotaxonomic revision of *Ramichloridium* and allied genera. *Studies in Mycology* 58, 57–93.
- Bader JA, Shotts EB Jr, Steffens WL, Lom J. 1998 – Occurrence of *Loma* cf. *salmonae* in brook, brown and rainbow trout from Buford trout hatchery, Georgia, USA. *DisAquat Organ* 34, 211–216.
- Balbani G. 1882 – Sur les microsporidies ou psorospermies des articules. *Comptes Rendus de l’Académie des Sciences* 95, 1168–1171.
- Baral HO, Polhorský A. 2019 – *Chrysodisca peziculoides* gen. et sp. nov. from xeric coniferous bark across Europe. *Mycologia Montenegrina* 20, 79–98.

- Baral HO, Weber E, Marson G, Quijada L. 2017 – A new connection between wood saprobism and beetle endosymbiosis: the rarely reported saprobic discomycete *Tromeropsis* is congeneric with the symbiotic yeast *Symbiotaphrina* (*Symbiotaphrinales*, *Xylonomycetes*) and two asexual morphs misplaced in *Hyphozyma*. *Mycological Progress* 17, 215–254.
- Baral HO. 2016 – Inoperculate discomycetes. In: Jaklitsch W, Baral HO, Lücking R, Lumbsch HT, Frey W (eds) *Syllabus of plant families: A. Engler's syllabus der Pflanzenfamilien part 1/2*. Borntraeger, Stuttgart, 157–205.
- Baral HO. 2019 – *Pseudolanzia piceetorum* gen. et sp. nov. (*Rutstroemiaceae*, *Helotiales*) from fallen *Picea abies* needles in Mecklenburg-Vorpommern (Germany). *Mycologia Montenegrina* 20, 151–166.
- Barbosa FR, Gusmão LFP, Castañeda-Ruiz RF. 2017 – *Craspedodidymella matogrossensis* gen. & sp. nov. from the Brazilian Amazon rainforest. *Mycotaxon* 132, 643–647.
- Barnett HL. 1956 – *Illustrated genera of imperfect fungi*. Burgess Publishing Company, Minneapolis, 218 p.
- Barnett HL. 1960 – *Illustrated genera of imperfect fungi*. Burgess Publishing Company, Minneapolis, 225 p.
- Barr ME. 1983 – The ascomycete connection. *Mycologia* 75, 1–13.
- Barr ME. 1990 – *Melanommatales (Loculoascomycetes)*. North American Flora, Series 2, part 13. New York Botanical Garden, New York.
- Bass D, Czech L, Williams BAP, Berney C et al. 2018 – Clarifying the relationships between *Microsporidia* and *Cryptomycota*. *Journal of Eukaryotic Microbiology* 65, 773–782.
- Beakes GW, Thines M 2017 – *Hyphochytriomycota* and *Oomycota*. In: Archibald J, Simpson A, Slamovits C (eds) *Handbook of the Protists, Second Edition*. Springer International Publishing, Cham, 435–505.
- Becnel JJ, Andreadis TG. 1999 – Microsporidia in insects. In: Wittner M (ed) *The microsporidia and microsporidiosis*. ASM Press, Washington DC, 447–501.
- Becnel JJ, Takvorian PM, Cali A. 2014 – Checklist of available generic names for *Microsporidia* with type species and type hosts. In: Weiss LM, Becnel JJ (eds) *Microsporidia: Pathogens of Opportunity*. Wiley–Blackwell, pp 671–686.
- Begerow D, McTaggart A, Agerer R, Frey W. 2018 – *Syllabus of Plant Families-A. Engler's Syllabus der Pflanzenfamilien Part 1/3*.
- Bell A. 2005 – *An illustrated guide to the coprophilous ascomycetes of Australia*. CBS Biodiversity Series 3, 172 pp. Utrecht: Centraalbureau voor Schimmelcultures.
- Bennett RM, Thines M 2019 – Revisiting *Salisapiliaceae*. *Fungal Systematics and Evolution*, 3, 353–366.
- Benny GL, Smith ME, Kirk PM, Tretter ED et al. 2016 – Challenges and future perspectives in the systematics of *Kickxellomycotina*, *Mortierellomycotina*, *Mucoromycotina*, and *Zoopagomycotina*. In: Li D.–W (ed) *Biology of Microfungi, Fungal Biology*. Switzerland, Springer International Publishing, pp 65–126.
- Bessey EA. 1950 – *Morphology and taxonomy of fungi*. Blakiston Company, Philadelphia, 791 p.
- Beznoussenko GV, Dolgikh VV, Morzhina EV, Semenov PB et al. 2007 – Analogs of the Golgi complex in microsporidia: structure and vesicular mechanisms of function. *Journal of Cell Science* 120, 1288–1298.
- Bigliardi E, Sacchi L. 2001 – Cell biology and invasion of the microsporidia. *Microbes & Infection* 3, 373–379.
- Blackwell M, Haelewaters D, Pfister DH. 2020 – *Laboulbeniomycetes*: Evolution, natural history, and Thaxter's final word. *Mycologia* in press. doi:10.1080/00275514.2020.1718442.
- Błaszowski J, Chwat G, Góralaska A, Ryszka P et al. 2015 – Two new genera, *Dominikia* and *Kamienskia*, and *D. disticha* sp. nov. in *Glomeromycota*. *Nova Hedwigia* 100, 225–238.
- Błaszowski J, Kozłowska A, Niezgodą P, Goto BT et al 2018a – A new genus, *Oehlia* with *Oehlia diaphana* comb. nov. and an emended description of *Rhizoglosum vesiculiferum* comb. nov. in the *Glomeromycotina*. *Nova Hedwigia* 107, 501–518.

- Błaszowski J, Niezgoda P, Goto BT, Kozłowska A. 2018b – *Halonatospora* gen. nov. with *H. pansihalos* comb. nov. and *Glomus bareae* sp. nov. (*Glomeromycota*; *Glomeraceae*). *Botany* 96, 737–748.
- Błaszowski J, Niezgoda P, Paiva JN, Silva KJG et al. 2019a – *Sieverdingia* gen. nov., *S. tortuosa* comb. nov., and *Diversispora peloponnesiaca* sp. nov. in the *Diversisporaceae* (*Glomeromycota*). *Mycological Progress* 18, 1363–1382.
- Błaszowski J, Niezgoda P, Piatek M, Marguno F et al. 2019b – *Rhizoglomus dalpae*, *R. maiiae*, and *R. silesianum* new species. *Mycologia* 1, 1–15.
- Bohne W, Böttcher K, Gross U. 2011 – The parasitophorous vacuole of Encephalitozoon cuniculi: biogenesis and characteristics of the host cell–pathogen interface. *International Journal of Medical Microbiology* 301, 395–399.
- Boise J. 1986 – *Requienellaceae*, a new family of *Loculoascomycetes*. *Mycologia* 78, 37–41.
- Bon M. 1986 – Novitates. Validations et taxons nouveaux. *Documents Mycologiques* 17, 51–56.
- Boonmee S, Phookamsak R, Hongsanan S, Doilom M et al. 2017 – Mycosphere notes 51 – 101. Revision of genera in *Perisporiopsidaceae* and *Pseudoperisporiaceae* and other *Ascomycota* genera incertae sedis. *Mycosphere* 8, 1695–1801.
- Braun U, Nakashima C, Crous PW, Groenewald JZ et al. 2018 – Phylogeny and taxonomy of the genus *Tubakia* s. lat. *Fungal Systematics & Evolution* 1, 41–99.
- Brefeld O. 1869 – *Dictyostelium mucoroides*. Ein neuer Organismus aus der Verwandtschaft der Myxomyceten. *Abhandl Senckenb Naturforsch Ges*, 85–107.
- Brown M, Silberman M. 2013 – The non-dictyostelid sorocarpic amoebae. Pages 219–242 in *Dictyostelids: Evolution, Genomics and Cell Biology*. Romeralo M, Baldauf S, Escalante R (Eds). Springer-Verlag, Berlin-Heidelberg.
- Brown MW, Spiegel FW, Silberman JD. 2009 – Phylogeny of the “Forgotten” cellular slime mold *Fonticula alba* reveals a key evolutionary branch within Opisthokonta. *Molecular Biology & Evolution* 26, 2699–2709.
- Buaya AT, Thines M 2020 – *Diatomophthoraceae*—a new family of olpidiopsis-like diatom parasitoids largely unrelated to *Ectrogella*. *Fungal Systematics & Evolution* 5, 113–118.
- Buaya AT, Ploch S, Hanic L, Nam B, Nigrelli L, Kraberg A, Thines M 2017 – Phylogeny of *Miracula helgolandica* gen. et sp. nov. and *Olpidiopsis drebesii* sp. nov., two basal oomycete parasitoids of marine diatoms, with notes on the taxonomy of *Ectrogella*-like species. *Mycological Progress* 16, 1041–1050.
- Buaya AT, Ploch S, Inaba S, Thines M 2019 – Holocarpic oomycete parasitoids of red algae are not *Olpidiopsis*. *Fungal Systematics & Evolution* 4, 21–31.
- Buyck B, Duhem B, Das K, Jayawardena RS et al. 2017 – Fungal biodiversity profiles 21–30. *Cryptogamie Mycologie* 38, 101–146.
- Čadež N, Bellora N, Ulloa R, Hittinger CT et al. 2019 – Genomic content of a novel yeast species *Hanseniaspora gamundiae* sp. nov. from fungal stromata (*Cyttaria*) associated with a unique fermented beverage in Andean Patagonia, Argentina. *PLoS One* 14, e0210792.
- Cai L, Jeewon R, Hyde K. 2006 – Molecular systematics of *Zopfiella* and allied genera: evidence from multigene sequence analyses. *Mycological Research* 110, 359–368.
- Cali A, Becnel JJ, Takvorian PM. 2017 – Microsporidia. In: Archibald JM, Simpson AGB, Slamovits CH (eds) *Handbook of the Protists*. Springer. pp 1569–1618.
- Cali A, Takvorian PM. 2014 – Developmental morphology and life cycles of the *Microsporidia*. In: Weiss LM, Becnel JJ (eds) *Microsporidia: pathogens of opportunity*. Wiley-Blackwell Press, Ames, 71–133.
- Cannon PF, Alcorn JL. 1994 – *Omnidemtus affinis* gen. et sp. nov., teleomorph of *Mycocleptodiscus affinis* sp. nov. *Mycotaxon* 51, 483–487
- Carmarán CC, Berretta M, Martínez S, Barrera B et al. 2015 – Species diversity of *Cladorrhinum* in Argentina and description of a new species, *Cladorrhinum australe*. *Mycological Progress* 14, 94.

- Castellano MA, Elliott TF, Truong C, Séné O et al. 2016 – *Kombocles bakaiana* gen. sp. nov. (*Boletaceae*), a new sequestrate fungus from Cameroon. *IMA fungus* 7, 239–245.
- Cavalier-Smith T. 1981 – Eukaryote kingdoms: seven or nine? *Bio Systems*. 14, 461–481.
- Cavalier-Smith T. 1983 – A 6-kingdom classification and a unified phylogeny. *In*: Schenk HEA and Schwemmler WS (eds) *Endocytobiology, W. S. Vol II*. Walter de Gruyter & Co, Berlin, pp. 1027–1034.
- Cavalier-Smith T. 2018 – Kingdom *Chromista* and its eight phyla: a new synthesis emphasising periplastid protein targeting, cytoskeletal and periplastid evolution, and ancient divergences. *Protoplasma* 255, 297–357.
- Cavender JC, Raper KB. 1965a – The *Acrasieae* in nature. I. Isolation. *American Journal of Botany* 52, 294–296.
- Cavender JC, Raper KB. 1965b – The *Acrasieae* in nature. II. Forest soil as a primary habitat. *American Journal of Botany* 52, 297–302.
- Chen CC, Wu SH, Chen CY. 2018 – *Hydnophanerochaete* and *Odontoefibula*, two new genera of phanerochaetoid fungi (*Polyporales*, *Basidiomycota*) from East Asia. *MycKeys* 39, 75–96.
- Chen GQ, Zheng RY 1986 – A new species of *Mucor* with giant spores. *Acta Mycologica Sinica*, Supplement I 1, 56–60.
- Choi Y-J, Thines M 2015 – Host jumps and radiation, not co-divergence drives diversification of obligate pathogens. A case study in downy mildews and *Asteraceae*. *PloS ONE* 10, e0133655.
- Choudhary MM, Metcalfe MG, Arrambide K, Bern C et al. 2011 – *Tubulinosema* sp. microsporidian myositis in immunosuppressed patient. *Emerging Infectious Diseases* 17, 1727–1730.
- Clarke RT 1965 – Fungal spores from Vermejo Formation coal beds (Upper Cretaceous) of central Colorado. *Mountain Geologist* 2, 85–93.
- Cookson IC 1947 – Fossil fungi from Tertiary deposits in the southern hemisphere. Part I. *Proceedings of the Linnean Society of New South Wales* 72, 207–214.
- Corazon-Guivin MA, Cerna-Mendoza A, Guerrero-Abad JC, Vallejos-Tapullima A et al. 2019 *Microkamienskia* gen. nov. and *Microkamienskia peruviana*, a new arbuscular mycorrhizal fungus from Western Amazonia. *Nova Hedwigia* 109, 355–368
- Corazon-Guivin MA, Mendoza AC, Guerrero-Abad JC, Vallejos-Tapullima A et al. 2019a – *Funneliglomus*, gen. nov., and *Funneliglomus sanmartinensis*, a new arbuscular mycorrhizal fungus from the Amazonia region in Peru. *Sydowia* 71 E-Book/S 17–24.
- Corazon-Guivin MA, Mendoza AC, Guerrero-Abad JC, Vallejos-Tapullima A et al. 2019b – *Nanoglomus plukenetiae*, a new fungus from Peru, and a key to small-spored *Glomeraceae* species, including three new genera in the “Dominikia complex/clades”. *Mycological Progress* 18, 1395–1409.
- Corsaro D, Michel R, Walochnik J, Venditti D et al. 2016 – Molecular identification of *Nucleophaga terricolae* sp. nov. (*Rozellomycota*), and new insights on the origin of the Microsporidia. *Parasitology Research* 115, 3003–3011.
- Corsaro D, Walochnik J, Venditti D, Hauröder B et al. 2020 – Solving an old enigma: *Morellospora saccamoebae* gen. nov., sp. nov. (*Rozellomycota*), a Sphaerita-like parasite of free-living amoebae. *Parasitology Research* 119, 925–934.
- Corsaro D, Walochnik J, Venditti D, Müller KD et al 2014a – Rediscovery of *Nucleophaga amoebae*, a novel member of the *Rozellomycota*. *Parasitology Research* 113, 4491–4498.
- Corsaro D, Walochnik J, Venditti D, Steinmann J et al. 2014b – Microsporidia-like parasites of amoebae belong to the early fungal lineage *Rozellomycota*. *Parasitology Research* 113, 1909–1918.
- Corsaro D, Wylezich C, Venditti D, Michel R et al. 2019 – Filling gaps in the microsporidian tree: rDNA phylogeny of *Chytridiopsis typographi* (Microsporidia: Chytridiopsida). *Parasitology Research* 118, 169–180.
- Crivelli PG. 1983 – Über die heterogene Ascomycetengattung *Pleospora* Rabh. 1–213.

- Crivelli PG. 1983 – Ueber die heterogene Ascomycetengattung Pleospora Rabh. Vorschlag für eine Aufteilung, Zürich. Diss. ETH Nr. 7318. pp 1–215.
- Crous PW, Braun U, Schubert K, Groenewald JZ. 2007 – Delimiting *Cladosporium* from morphologically similar genera. *Studies in Mycology* 58, 33–56.
- Crous PW, Carris LM, Giraldo A, Groenewald JZ, Hawksworth DL et al. 2015c – The Genera of Fungi – fixing the application of the type species of generic names – G 2: *Allantophomopsis*, *Latorua*, *Macrodiplodiopsis*, *Macrohilum*, *Milospium*, *Protostegia*, *Pyricularia*, *Robillarda*, *Rotula*, *Septoriella*, *Torula*, and *Wojnowicia*. *IMA fungus* 1, 163–198.
- Crous PW, Groenewald JZ 2016 – They seldom occur alone. *Fungal Biology* 120, 1392–1415.
- Crous PW, Müller MM, Sánchez RM, Giordano L et al. 2015a – Resolving *Tiarospora* spp. allied to *Botryosphaeriaceae* and *Phacidiaceae*. *Phytotaxa*. 202, 73–93.
- Crous PW, Wingfield MJ, Burgess TI, Carnegie AJ et al. 2017 – Fungal Planet description sheets: 625–715. *Persoonia* 39, 270–467.
- Crous PW, Wingfield MJ, Burgess TI, Hardy GEST et al. 2016 – Fungal Planet description sheets: 469–557. *Persoonia* 37, 218–403.
- Crous PW, Wingfield MJ, Burgess TI, Hardy GESTJ, Gené J, Guarro J et al. 2018 – Fungal Planet description sheets: 716–784. *Persoonia* 40, 240–393.
- Crous PW, Wingfield MJ, Guarro J, Hernández-Restrepo M et al. 2015b – Fungal Planet description sheets: 320–370. *Persoonia* 34, 167–266.
- Cui BK, Li HJ, Dai YC. 2011b – Wood-rotting fungi in eastern China 6. Two new species of *Antrodia* (*Basidiomycota*) from Mt. Huangshan, Anhui Province. *Mycotaxon* 116, 13–20.
- Cuomo CA, Desjardins CA, Bakowski MA, Goldberg J et al. 2012 – Microsporidian genome analysis reveals evolutionary strategies for obligate intracellular growth. *Genome Research* 22, 2478–2488.
- da Silva M, Pinho DB, Pereira OL, Fernandes FM, Barreto RW. 2016 – Naming potentially endangered parasites: foliicolous mycobiota of *Dimorphandra wilsonii*, a highly threatened Brazilian tree species. *PloS one* 11, e0147895.
- Dai DQ, Tang LZ, Liu C, Wang HB, Hyde KD. 2018 – Studies on *Parmulariaceae* I. A phylogeny based on available sequence data; introducing *Parmulariales* ord. nov., and *Hemigraphaceae*, *Melaspileellaceae* and *Stictographaceae* fam. nov. *Phytotaxa* 369, 63–79.
- Daniel HM, Lachance MA, Kurtzman CP. 2014 – On the reclassification of species assigned to *Candida* and other anamorphic ascomycetous yeast genera based on phylogenetic circumscription. *Antonie Leeuwenhoek* 106, 67–84.
- Daranagama DA, Hyde KD, Sir EB, Thambugala KM et al. 2018 – Towards a natural classification and backbone tree for *Graphostromataceae*, *Hypoxylaceae*, *Lopadostomataceae* and *Xylariaceae*. *Fungal Diversity* 88, 1–65.
- Daru BH, Bowman EA, Pfister DH, Arnold AE. 2018 – A novel proof of concept for capturing the diversity of endophytic fungi preserved in herbarium specimens. *Philosophical Transactions of the Royal Society of London Series B – Biological Sciences* 374, 20170395.
- Datlof EM, Amend AS, Earl K, Hayward J et al. 2017 – Uncovering unseen fungal diversity from plant DNA banks. *PeerJ* 5, e3730.
- Davydov EA, Peršoh D, Rambold G. 2017 – *Umbilicariaceae* (lichenized *Ascomycota*)–Trait evolution and a new generic concept. *Taxon* 66, 1282–1303.
- Dayarathne MC, Maharachchikumbura SSN, Jones EBG, Dong W et al. 2019 – Phylogenetic revision of *Savoryellaceae* and evidence for its ranking as a subclass. *Frontiers in Microbiology* 10, 840.
- de Bary A. 1887 – Comparative morphology and biology of the fungi mycetoza and bacteria Clarendon Press, Oxford.
- de Hoog GS, Guarro J, Gené J, Figueras MJ. 2015 – Atlas of clinical fungi, 3rd web edition. Utrecht, CBS–Fungal Biodiversity Centre.
- De Kesel A, Haelewaters D. 2019 – *Laboulbeniales* (*Fungi*, *Ascomycota*) of cholevine beetles (Coleoptera, Leiodidae) in Belgium and the Netherlands. *Sterbeekia* 35, 60–66.

- De Lima CLF, Lima DX, De Souza CAF, De Oliveira RJV et al. 2018 – Description of *Mucor pernambucoensis* (*Mucorales*, *Mucoromycota*), a new species isolated from the Brazilian Upland Rainforest. *Phytotaxa* 350, 274–282.
- De Long Q, Liu LL, Zhang X, Wen TC et al. 2019 – Contributions to species of *Xylariales* in China-1. *Durotheca* species. *Mycological Progress* 18, 495–510.
- De Souza CAF, Voig K, Gurgel LS, Cordeiro TRL et al 2018 – A new species of *Mucor* (*Mucoromycotina*, *Mucorales*) isolated from an enclave of Upland Atlantic Forest in the semi-arid region of Brazil. *Phytotaxa* 351, 53–62.
- Delbac F, Polonais V. 2008 – The microsporidian polar tube and its role in invasion. *Subcellular Biochemistry* 47, 208–220.
- Delgado G, Miller AN, Piepenbring M. 2018 – South Florida microfungi: *Castanedospora*, a new genus to accommodate *Sporidesmium pachyanthicola* (*Capnodiales*, *Ascomycota*). *Cryptogamie, Mycologie* 39, 109–128.
- Desirò A, Rimington WR, Jacob A, Vande Pol N et al. 2017 – Multigene phylogeny of Endogonales, an early diverging lineage of fungi associated with plants. *IMA fungus* 8, 245–257.
- Desjardin D, Binder M, Roekring S, Flegel T. 2009 – *Spongiforma*, a new genus of gastroid boletes from Thailand. *Fungal Diversity* 37, 1–8.
- Devadatha B, Mehta N, Wanasinghe DN, Baghela A et al. 2019 – *Vittaliana mangrovei* Devadatha, Nikita, A. Baghela & VV Sarma, gen. nov, sp. nov. (*Phaeosphaeriaceae*), from mangroves near Pondicherry (India), based on morphology and multigene phylogeny. *Cryptogamie Mycologie* 40, 117–132
- Dick MW 2001 – Straminipilous Fungi: Systematics of the *Peronosporomycetes* Including Accounts of the Marine Straminipilous Protists, the *Plasmodiophorids* and Similar Organisms. Dordrecht / Boston / London: Kluwer Academic Publishers.
- Didier ES, Stovall ME, Green LC, Brindley PJ et al. 2004 – Epidemiology of microsporidiosis: sources and modes of transmission. *Veterinary Parasitology* 126, 145–166.
- Diederich P, Lawrey JD, Ertz D. 2018 – The 2018 classification and checklist of lichenicolous fungi, with 2000 non-lichenized, obligately lichenicolous taxa. *Bryologist* 121, 340–425.
- Dilcher DL. 1965 – Epiphyllous fungi from Eocene deposits in western Tennessee, U.S.A. *Palaeontographica Abt B* 116, 1–54.
- Dong W, Hyde KD, Bhat DJ, Zhang H. 2018 – Introducing *Aculeata aquatica*, gen. et sp. nov., *Minimelanolocus thailandensis* sp. nov. and *Thysanorea aquatica* sp. nov. (*Herpotrichiellaceae*, *Chaetothyriales*) from freshwater in northern Thailand. *Mycological Progress* 17, 617–629.
- Dougoud R. 2012 – *Aeruginoscyphus*, un nouveau genre pour *Peziza sericea* (*Helotiales*, *Hyaloscyphaceae*). *Ascomycete.org* 4, 1–4.
- Doveri F. 2005 – *Fungi Fimicoli Italici*. 1104 pp. Trento: Associazione Micologica Bresadola.
- Dukik K, Muñoz JF, Jiang Y, Feng P et al. 2017 – Novel taxa of thermally dimorphic systemic pathogens in the *Ajellomycetaceae* (*Onygenales*). *Mycoses* 60, 296–309.
- Dumont KP. 1975 – *Sclerotiniaceae* VIII. The generic name *Pachydisca*, *Mycologia* 67, 161–167.
- Dunn AM, Smith JE. 2001 – Microsporidian life cycles and diversity: the relationship between virulence and transmission. *Microbes and Infection* 3, 381–388.
- Edwards WN. 1922 – An Eocene microthyriaceous fungus from Mull, Scotland. *Transactions of the British Mycological Society* 8, 66–72.
- Ekanayaka AH, Hyde KD, Gentekaki E, McKenzie EHC et al. 2019 – Preliminary classification of *Leotiomyces*. *Mycosphere* 10, 310–489.
- Ekanayaka AH, Hyde KD, Jones EBG, Zhao QI. 2018 – Taxonomy and phylogeny of operculate discomycetes: *Pezizomyces*. *Fungal Diversity* 90, 161–243.
- Ellis MB. 1971 – Dematiaceous *Hyphomycetes*. Commonwealth Mycological Institute, Kew, England, 608 p.

- Elsik WC. 1968 – Palynology of a paleocene Rockdale lignite, Milam County, Texas. I. Morphology and taxonomy. *Pollen Spores* 10, 263–314.
- Elsik WC. 1978 – Classification and geologic history of the microthyriaceous fungi. *Proceedings of the Fourth International Palynological Conference, Lucknow 1976–77* volume 1, 331–342.
- Elsik WC. 1990 – *Hypoxyloites* and *Spirotremesporites*, form genera for Eocene to Pleistocene fungal spores bearing a single furrow. *Palaeontographica Abt. B* 216, 137–169.
- Eriksson O. 1984 – Outline of the *Ascomycetes* 1983 – *Systema Ascomycetum* 3, 1–72.
- Ertz D, Poulsen RS, Charrier M, Söchting U. 2017a – Taxonomy and phylogeny of the genus *Steinera* (*Arctomiales*, *Arctomiaceae*) in the subantarctic islands of Crozet and Kerguelen. *Phytotaxa* 324, 201–238.
- Ertz D, Sanderson N, Łubek A, Kukwa M. 2018 – Two new species of *Arthoniaceae* from old-growth European forests, *Arthonia thoriana* and *Inoderma solediatum*, and a new genus for *Schismatomma niveum*. *Lichenologist* 50, 161–72.
- Ertz D, Söchting U, Gadea A, Charrier M et al. 2017b – *Ducatina umbilicata* gen. et sp. nov., a remarkable *Trapeliaceae* from the subantarctic islands in the Indian Ocean. *Lichenologist* 49, 127–40.
- Ethridge Glass DL, Brown DD, Elsik WC. 1986 – Fungal spores from the Upper Eocene Manning Formation, Jackson Group, east and south-central Texas, U.S.A. *Pollen Spores* 28, 403–420.
- Fan XD, Bezerra JDP, Tian CM, Crous PW. 2018a – Families and genera of diaporthalean fungi associated with canker and dieback of tree hosts. *Persoonia* 40, 119–134.
- Fan XD, Du Z, Bezerra JDP, Tian CM. 2018b – Taxonomic circumscription of melanconis-like fungi causing canker disease in China. *Myckeys* 42, 89–124.
- Fiore-Donno AM, Clissmann F, Meyer M, Schnittler M et al. 2013 – Two-gene phylogeny of bright-spored *Myxomycetes* (slime moulds superorder *Lucisporidia*). *PLoS One* 8, e62586.
- Fiore-Donno AM, Kamono A, Meyer M, Schnittler M et al. 2012 – 18S rDNA phylogeny of *Lamproderma* and allied genera (*Stemonitales Myxomycetes Amoebozoa*). *PLoS One* 7, e35359.
- Fiuza PO, Silva CR, Borges Santos TA, Raja H et al. 2018 – *Roselymyces*, a new asexual genus of the *Xylariales* (*Ascomycota*) from Brazil. *Sydowia* 70, 59–65.
- Fokin SI, Giuseppe GD, Erra F, Dini F. 2008 – *Euplotespora binucleata* n. gen., n. sp. (Protozoa: Microsporidia), a parasite infecting the hypotrichous ciliate *Euplotes woodruffi*, with observations on microsporidian infections in *Ciliophora*. *Journal of Eukaryotic Microbiology* 55, 214–228.
- Franzen C, Nasonova ES, Scholmerich J, Issi IV. 2006 – Transfer of the members of the genus *Brachiola* (*Microsporidia*) to the genus *Anncaliia* based on ultrastructural and molecular data. *Journal of Eukaryotic Microbiology* 53, 26–35.
- Franzen C. 2004 – Microsporidia: how can they invade other cells? *Trends in Parasitology* 20, 275–279.
- Frisch A, Thor G, Moon KH, Ohmura Y. 2018 – *Galbinothrix*, a new monotypic genus of *Chrysotrichaceae* (*Arthoniomycetes*) lacking pulvinic acid derivatives. *Plant & Fungal Systematics* 63, 31–37.
- Fryar SC, Haelewaters D, Catcheside DEA. 2019 – *Annabella australiensis* gen. & sp. nov. (*Helotiales*, *Cordieritidaceae*) from South Australian mangroves. *Mycological Progress* 18, 973–981.
- Fryday AM, Printzen C, Ekman S. 2014 – *Bryobilimbia*, a new generic name for *Lecidea hypnorum* and closely related species. *Lichenologist* 46, 25–37.
- Galindo LJ, Torruella G, Moreira D, Timpano H et al. 2018 – Evolutionary genomics of *Metchnikovella incurvata* (*Metchnikovellidae*): An Early Branching Microsporidium. *Genome Biology & Evolution* 10, 2736–2748.

- Gams W. 2000 – *Phialophora* and some similar morphologically little-differentiated anamorphs of divergent ascomycetes. *Studies in Mycology* 45, 187–199.
- Gannibal PhB, Lawrence DP. 2018 – Distribution of *Alternaria* species among sections. 6. Species formerly assigned to genus *Ulocladium*. *Mycotaxon* 133, 293–299.
- Gannibal PhB. 2018 – Distribution of *Alternaria* species among sections. 4. Species formerly assigned to genus *Nimbya*. *Mycotaxon* 133, 37–43.
- Gerdemann JW, Trappe JM. 1974 – The *Endogonaceae* of the Pacific Northwest. *Micologia Memoir* 5, 1–76
- Ghani IA, Dieng H, Abu Hassan ZA, Ramli N et al. 2013 – Pathogenicity of a microsporidium isolate from the Diamondback moth against Noctuid moths: characterization and implications for microbiological pest management. *PLoS One* 8, e81642.
- Gherbawy Y, Kesselboth C, Elhariry H, Hoffmann K. 2010 – Molecular barcoding of microscopic fungi with emphasis on the mucoralean genera *Mucor* and *Rhizopus*. In: Gherbawy Y, Voight K (eds) *Molecular identification of fungi*. Springer–Verlag, Berlin Heidelberg, pp 225–265.
- Gill EE, Fast NM. 2006 – Assessing the microsporidia–fungi relationship: Combined phylogenetic analysis of eight genes. *Gene* 375, 103–109.
- Gilman JC. 1959 – *A manual of soil fungi*. Constable and Company Ltd, London.
- Goldmann L, Weir A. 2018 – Molecular phylogeny of the *Laboulbeniomyces* (*Ascomycota*). *Fungal Biology* 122, 87–100.
- Gonçalves MF, Vicente TF, Esteves AC, Alves A. 2019 – *Neptunomyces aureus* gen. et sp. nov. (*Didymosphaeriaceae*, *Pleosporales*) isolated from algae in Ria de Aveiro, Portugal. *MycKeys* 60, 31.
- Gordillo A, Decock C. 2018 – Myrothecium–like (*Ascomycota*, *Hypocreales*) species from tropical areas: *Digitiseta* gen. nov. and additions to *Inaequalispora* and *Parvothecium*. *Mycological Progress* 17, 179–190.
- Goto BT, Silva GA, Assis DMA, Silva DK et al. 2012 – *Intraornatosporaceae* (*Gigasporales*), a new family with two new genera and two new species. *Mycotaxon* 119, 117–132.
- Gräfenhan T, Schroers H–J, Nirenberg HI, Seifert KA. 2011 – An overview of the taxonomy, phylogeny, and typification of nectriaceous fungi in *Cosmospora*, *Acremonium*, *Fusarium*, *Stilbella*, and *Volutella*. *Studies in Mycology* 68, 79–113.
- Grube M, Matzer M, Hafellner J. 1995 – A preliminary account of the lichenicolous *Arthonia* species with reddish, K+ reactive pigments. *Lichenologist* 27, 25–42.
- Grünig CR, Duo A, Sieber TN, Holdenrieder O. 2008 – Assignment of species rank to six reproductively isolated cryptic species of the *Phialocephala fortinii* s.l.–*Acephala applanata* species complex. *Mycologia* 100, 47–67.
- Guatimosim E, Schwartsburd PB, Crous PW, Barreto RW. 2016 – Novel fungi from an ancient niche: lachnoid and chalara-like fungi on ferns. *Mycological Progress* 15, 1239–1267.
- Gulden G, Stensrud Ø, Shalchian-Tabrizi K, Kausserud H. 2005 – *Galerina* Earle: A polyphyletic genus in the consortium of dark-spored agarics. *Mycologia* 97, 823–837.
- Guswenrivo I, Tseng SP, Yang CCS, Yoshimura T. 2018 – Development of multiplex nested PCR for simultaneous detection of ectoparasitic fungi *Laboulbeniopsis termitarius* and *Antennopsis gallica* on *Reticulitermes speratus* (*Blattodea: Rhinotermitidae*). *Journal of Economic Entomology* 111, 1330–1336.
- Haag KL, James TY, Pombert JF, Larsson R et al. 2014 – Evolution of a morphological novelty occurred before genome compaction in a lineage of extreme parasites. *Proceedings of the National Academy of Sciences* 111, 15480–15485.
- Haelewaters D, De Kesel A, Gorczak M, Bao K et al. 2019a – *Laboulbeniales* (*Ascomycota*) of the Boston Harbor Islands II: species parasitizing *Carabidae*, and the *Laboulbenia flagellata* species complex. *Northeastern Naturalist* 25 (Special Issue 9), 110–149.
- Haelewaters D, De Kesel A, Pfister DH. 2018a – Integrative taxonomy reveals hidden species within a common fungal parasite of ladybirds. *Scientific Reports* 8, 15966.

- Haelewaters D, Page RA, Pfister DH. 2018b – *Laboulbeniales* hyperparasites (*Fungi*, *Ascomycota*) of bat flies: Independent origins and host associations. *Ecology and Evolution* 8, 8396–8418.
- Haelewaters D, Pfliegler WP, Gorczak M, Pfister DH. 2019b – Birth of an order: comprehensive molecular phylogenetic study reveals that *Herpomyces* (*Fungi*, *Laboulbeniomycetes*) is not part of *Laboulbeniales*. *Molecular Phylogenetics & Evolution* 133, 286–301.
- Haelewaters D, Rossi W. 2017 – *Laboulbeniales* parasitic on American small carrion beetles: new species of *Corethromyces*, *Diphymyces*, and *Rodaucea*. *Mycologia* 109, 655–666.
- Haelewaters D, Toome-Heller M, Albu S, Aime MC. 2020 – Red yeasts from leaf surfaces and other habitats: three new species and a new combination of *Symmetrospora* (*Pucciniomycotina*, *Cystobasidiomycetes*). *Fungal Systematics and Evolution* 5, 187–196.
- Haelewaters D, Zhao SY, Clusella-Trullas S, Cottrell TE et al. 2017 – Parasites of *Harmonia axyridis*: current research and perspectives. *Biological Control* 62, 355–371.
- Haelewaters D, Zhao SY, De Kesel A, Royer IR et al. 2015 – *Laboulbeniales* (*Ascomycota*) of the Boston Harbor Islands I: species parasitizing *Coccinellidae* and *Staphylinidae*. *Northeastern Naturalist* 22, 459–477.
- Hagiwara H. 1989 – The taxonomic study of Japanese dictyostelid cellular slime molds. National Science Museum, Tokyo.
- Han JG, Hosoya T, Sung GH, Shin HD. 2014 – Phylogenetic reassessment of *Hyaloscyphaceae sensu lato* (*Helotiales*, *Leotiomycetes*) based on multigene analyses. *Fungal Biology* 118, 150–167.
- Han ML, Chen YY, Shen LL, Song J et al. 2016 – Taxonomy and phylogeny of the brown-rot fungi: *Fomitopsis* and its related genera. *Fungal Diversity* 80, 343–373.
- Hansen K, Perry BA, Dranginis AW, Pfister DH. 2013 – A phylogeny of the highly diverse cup-fungus family *Pyronemataceae* (*Pezizomycetes*, *Ascomycota*) clarifies relationships and evolution of selected life history traits. *Molecular Phylogenetics & Evolution* 67, 311–335.
- Hao YJ, Qin J, Yang ZL. 2014 – *Cibaomyces*, a new genus of *Physalacriaceae* from East Asia. *Phytotaxa* 162, 198–210.
- Hashimoto A, Hirayama K, Takahashi H, Matsumura M et al. 2018 – Resolving the *Lophiostoma bipolare* complex: Generic delimitations within *Lophiostomataceae*. *Studies in Mycology* 90, 161–189.
- Hawksworth DL & Lücking R. 2017 – Fungal diversity revisited: 2.2 to 3.8 million species. *Microbiology Spectrum* 5, doi: 10.1128/microbiolspec.FUNK-0052-2016.
- Hawksworth DL, Cole MS. 2002 – *Intralichen*, a new genus for lichenicolous ‘*Bispora*’ and ‘*Trimmatostroma*’ species. *Fungal Diversity* 11, 87–97.
- Hawksworth DL, Eriksson OE. 1986 – The names of accepted orders of ascomycetes. *Systema Ascomycetum* 5, 175–184.
- Hawksworth DL, Kirk PM, Sutton BC, Pegler DN, eds. 1983 – *Ainsworth & Bisby's Dictionary of the Fungi*. 7th ed. Commonwealth Mycol Institute, Kew.
- He M Q, Zhao RL, Hyde KD, Begerow D et al. 2019 – Notes, outline and divergence times of Basidiomycota. *Fungal Diversity* 1–263.
- Healy R, Bonito G, Trappe JM. 2009 – *Calongea*, a new genus of truffles in the *Pezizaceae* (*Pezizales*). *Anales del Jardín Botánico de Madrid. Consejo Superior de Investigaciones Científicas* 66, 25–32.
- Helaly SE, Thongbai B, Stadler M. 2018 – Diversity of biologically active secondary metabolites from endophytic and saprotrophic fungi of the ascomycete order *Xylariales*. *Natural Product Reports* 35, 992–1014.
- Henkel TW, Aime MC, Chin MM L, Miller SL et al. 2012 – Ectomycorrhizal fungal sporocarp diversity and discovery of new taxa in Dicymbe monodominant forests of the Guiana Shield. *Biodiversity & Conservation* 21, 2195–2220.
- Henkel TW, Obase K, Husbands D, Uehling JK et al. 2016 – New Boletaceae taxa from Guyana: *Binderoboletus segoi* gen. and sp. nov., *Guyanaporus albipodus* gen. and sp. nov.,

- Singerocomus rubriflavus* gen. and sp. nov., and a new combination for *Xerocomus inundabilis*. *Mycologia* 108, 157–173.
- Hermet A, Méheust D, Monunier J, Barbier G et al. 2012 – Molecular systematics in the genus *Mucor* with special regards to species encountered in cheese. *Fungal Biology* 116, 692–705.
- Hernández-Restrepo M, Castañeda-Ruiz RF, Gené J, Silvera-Simón C et al. 2014 – Two new species of *Solicorynespora* from Spain. *Mycological Progress* 13, 157–164.
- Heuchert B, Braun U, Diederich P, Ertz D. 2018 – Taxonomic monograph of the genus *Taeniolella* s. lat. (*Ascomycota*). *Fungal Systematics & Evolution* 2, 69–261.
- Hibbett D, Abarenkov K, Kõljalg U, Öpik M et al. 2016 – Sequence-based classification and identification of Fungi. *Mycologia* 108, 1049–1068.
- Hibbett DS, Binder M, Bischoff JF, Blackwell M et al. 2007 – A higher-level phylogenetic classification of the Fungi. *Mycological Research* 111, 509–547.
- Hinney B, Sak B, Joachim A, Kváč M. 2016 – More than a rabbit's tale – *Encephalitozoon* spp. in wild mammals and birds. *International Journal for Parasitology: Parasites & Wildlife* 5, 76–87.
- Hirooka Y, Tanney JB, Nguyen HDT, Seifert KA. 2015 – Xerotolerant fungi in house dust: Taxonomy of *Spiromastix*, *Pseudospiremastix* and *Sigleria* gen. nov. in *Spiromastigaceae* (*Onygenales*, *Eurotiomycetes*). *Mycologia* 108, 135–156.
- Hittinger CT, Rokas A, Bai FY, Boekhout T et al. 2015 – Genomics and the making of yeast biodiversity. *Current Opinion in Genetics & Development* 35, 100–109.
- Hjortstam K, Ryvarden L. 2010 – *Phaerodontia* and *Phaneroites* two corticioid taxa (*Basidiomycotina*) proposed from tropical areas. *Syn Fung* 27, 26–33.
- Hoek C van den DG, Mann HM, Jahns. 1995 – *Algae: An Introduction to Phycology*. Cambridge: Cambridge University Press. pp. 104, 124, 134, 166.
- Hofstetter V, Redhead SA, Kauff F, Moncalvo JM et al. 2014 – Taxonomic revision and examination of ecological transitions of the *Lyophyllaceae* (*Basidiomycota*, *Agaricales*) based on a multigene phylogeny. *Cryptogamie Mycologie* 35, 399–425.
- Hongsanan S, Maharachchikumbura SS, Hyde KD, Samarakoon MC et al. 2017 – An updated phylogeny of *Sordariomycetes* based on phylogenetic and molecular clock evidence. *Fungal Diversity* 84, 25–41.
- Huang SK, Tangthirasunun N, Phillips AJL, Dai DQ et al. 2016 – Morphology and phylogeny of *Neoscytalidium orchidacearum* sp. nov. (*Botryosphaeriaceae*). *Mycobiology* 44, 79–84.
- Huhndorf SM, Miller AN, Fernández FA. 2004 – Molecular systematics of the *Sordariales*: the order and the family *Lasiosphaeriaceae* redefined. *Mycologia* 96, 368–387.
- Huhndorf SM. 1994 – Neotropical *Ascomycetes* 5. *Hypsostromataceae*, a new family of *Loculoascomycetes* and *Manglicola samuelsii*, a new species from Guyana. *Mycologia* 86, 266–269.
- Humber RA. 2012 – *Entomophthoromycota*: a new phylum and reclassification for entomophthoroid fungi. *Mycotaxon* 120, 477–492.
- Humber RA. 2016 – *Entomophthoromycota*: a new overview of some of the oldest terrestrial fungi. In: Li DW (ed) *Biology of microfungi*. Springer, Cham, pp 127–145.
- Hussein JM, Tihwa DD, Tibell S. 2018 – Phylogenetic position and taxonomy of *Kusaghiporia usambarensis* gen. et sp. nov. (*Polyporales*). *Mycology* 9, 136–144.
- Hustad VP, Miller AN, Dentinger BTM, Cannon PF. 2013 – Generic circumscriptions in *Geoglossomycetes*. *Persoonia* 31, 101–111.
- Hustad VP, Miller AN, Moingeon JM, Priou JP. 2011 – Inclusion of *Nothomitra* in *Geoglossomycetes*. *Mycosphere* 2, 646–654.
- Hustad VP, Miller AN. 2015 – *Maasoglossum*, a basal genus in *Geoglossomycetes*. *Mycoscience* 56, 572–579.
- Hutchinson SA. 1955 – A review of the genus *Sporocarpion* Williamson. *Annals of Botany* 19, 425–435.

- Hyde KD, Chaiwan N, Norphanphoun C, Boonmee S et al. 2018a – Mycosphere notes 169–224. *Mycosphere* 9, 271–430.
- Hyde KD, Jones EBG, Liu JK, Ariyawansa H et al. 2013 – Families of *Dothideomycetes*. *Fungal Diversity* 63, 1–313.
- Hyde KD, Norphanphoun C, Bazzicalupo A, Karunarathna A et al. 2017 – Fungal diversity notes 603–708: Taxonomic and phylogenetic notes on genera and species. *Fungal Diversity* 87, 1–235.
- Hyde KD, Norphanphoun C, Chen J, Dissanayake AJ et al. 2018b – Thailand’s amazing diversity: up to 96% of fungi in northern Thailand may be novel. *Fungal Diversity* 93, 215–239.
- Hyde KD, Norphanphoun C, Maharachchikumbura SSN, Bhat DJ et al. 2020 – Refined families of Sordariomycetes. *Mycosphere* 11, 305–1059.
- Ibañez CG & Zamuner AB. 1996 – *Hyphomycetes* (*Deuteromycetes*) in cones of *Araucaria mirabilis* (Spegazzini) Windhausen, Middle Jurassic of Patagonia, Argentina; *Mycotaxon* 59, 137–143.
- Inderbitzin P, Mehta YR, Berbee ML. 2009 – *Pleospora* species with *Stemphylium* anamorphs: a four locus phylogeny resolves new lineages yet does not distinguish among species in the *Pleospora herbarum* clade. *Mycologia* 101, 329–339.
- Index Fungorum (2019) <http://www.indexfungorum.org/Names/Names.asp>
- Ironside JE, Wilkinson TJ, Rock J. 2008 – Distribution and host range of the microsporidian *Pleistophora mulleri*. *Journal of Eukaryotic Microbiology* 55, 355–362.
- Isola D, Zucconi L, Onofri S, Caneva G et al. 2016 – Extremotolerant rock-inhabiting black fungi from Italian monumental sites. *Fungal Diversity* 76, 75–96.
- Issi IV 1980 – Modern situation in systematics of *Microsporidia*. *Proceedings of Zoological Institute* 94, 75–84 (In Russian)
- Issi IV, Tokarev YS, Seliverstova EV, Voronin VN. 2012a – Taxonomy of *Neopereziachironomi* and *Neoperezia semenoviae* comb. nov. (*Microsporidia*, *Aquasporidia*): lessons from ultrastructure and ribosomal DNA sequence data. *European Journal of Protistology* 48, 17–29.
- Issi IV, Tokarev YS, Seliverstova EV, Voronin VN. 2012b – The parasite-host interface between *Crispospora chironomi* (*Microsporidia*, *Terresporidia*) and *Chironomus plumosus* (*Diptera*, *Chironomidae*) enterocytes. *Euroasian Entomological Journal* 11, 395–400.
- Issi IV, Tokarev YS, Voronin VN, Seliverstova EV et al. 2010 – Ultrastructure and molecular phylogeny of *Mrazekia macrocyclopi* sp. n. (*Microsporidia*, *Mrazekiidae*), a microsporidian parasite of *Macrocyclops albidus* (Jur.) (Crustacea, Copepoda). *Acta Protozoologica* 49, 75–84.
- Issi IV. 1986 – Microsporidia as a phylum of parasitic protozoa. In: Beyer TV and Issi IV (eds.), *Protozoology* 10. Leningrad: Nauka, pp 1–136.
- Iturrieta-González I, Gené J, Guarro J, Castañeda-Ruiz RF, García D. 2018 – *Neodendryphiella*, a novel genus of the *Dictyosporiaceae* (*Pleosporales*). *MycKeys* 37, 19–38.
- Jacobs K, Botha A. 2008 – *Mucor renisporus* sp. nov., a new *coprophilous* species from Southern Africa. *Fungal Diversity* 29, 27–35.
- Jain KP, Gupta RC. 1970 – Some fungal remains from the Tertiaries of Kerala Coast. *The Palaeobotanist* 18, 177–182.
- Jaklitsch WM, Baral HO, Lücking R, Lumbsch HT. 2016a – Ascomycota. In: Frey W (ed) *Syllabus of Plant Families – Adolf Engler’s Syllabus der Pflanzenfamilien*, 13th ed. Borntraeger, Stuttgart
- Jaklitsch WM, Checa J, Blanco MN, Olariaga I et al. 2018 – A preliminary account of the *Cucurbitariaceae*. *Studies in Mycology* 90, 71–118.
- Jaklitsch WM, Gardiennet A, Voglmayr H. 2016b – Resolution of morphology-based taxonomic delusions: *Acrocordiella*, *Basiseptospora*, *Blogiascospora*, *Clypeosphaeria*, *Hymenoplella*, *Lepteutypa*, *Pseudapiospora*, *Requienella*, *Seiridium* and *Strickeria*. *Persoonia* 37, 82–105.

- Jaklitsch WM, Voglmayr H. 2019 – European species of *Dendrostoma* (*Diaporthales*). *MycKeys* 59, 1–26.
- James TY, Kauff F, Schoch CL, Matheny P et al. 2006 – Reconstructing the early evolution of Fungi using a six–gene phylogeny. *Nature* 443, 818–822.
- James TY, Pelin A, Bonen L, Ahrendt S et al. 2013 – Shared signatures of parasitism and phylogenomics unite Cryptomycota and microsporidia. *Current Biology* 23, 1548–1553.
- Jansonius J, Hills LV. 1976 – Genera file of fossil spores. Special Publication, Department of Geology, University of Calgary.
- Jiang HB, Hyde KD, Jayawardena RS, Doilom M et al. 2019a – Taxonomic and phylogenetic characterizations reveal two new species and two new records of *Roussoella* (*Roussoellaceae*, *Pleosporales*) from Yunnan, China. *Mycol Prog* 18, 577–591.
- Jiang N, Fan XL, Crous PW, Tian CM. 2019b – Species of *Dendrostoma* (*Erythrogloeaceae*, *Diaporthales*) associated with chestnut and oak canker diseases in China. *MycKeys* 48, 67–96.
- Jiang N, Yang Q, Liang YM, Tian CM. 2019c – Taxonomy of two synnematal fungal species from *Rhus chinensis*, with *Flavignomonium* gen. nov. described. *MycKeys* 60, 17–29.
- Jiang SH, Hawksworth DL, Lücking R, Wei JC 2020 – A new genus and species of foliicolous lichen in a new family of *Strigulales* (*Ascomycota*: *Dothideomycetes*) reveals remarkable class-level homoplasy. *IMA fungus* 11, 1–13.
- Jobim K, Błaszowski J, Niezgodna P, Kowsloska A et al. 2019 – New sporocarpic taxa in the phylum *Glomeromycota*: *Sclerocarpum amazonicum* gen. et sp. nov. in the family *Glomeraceae* (*Glomerales*) and *Diversispora sporocarpia* sp. nov. in *Diversisporaceae* (*Diversisporales*). *Mycological Progress* 18, 369–384.
- Johnston PR, Park D. 2019 – New species of *Marthamyces* and *Ramomarthamyces* gen. nov. from New Zealand and the Cook Islands. *Mycotaxon* 134, 489–516.
- Johnston PR, Quijada L, Smith CA, Baral HO, Hosoya T et al. 2019 – A multigene phylogeny toward a new phylogenetic classification for the *Leotiomycetes*. *IMA Fungus* 10, 1.
- Jones EBG, Sakayaroj J, Suetrong S, Somrithipol S et al. 2009 – Classification of marine *Ascomycota*, anamorphic taxa and *Basidiomycota*. *Fungal Diversity* 35, 1–187.
- Jones MDM, Forn L, Gadelha C, Egan MJ et al. 2011 – Discovery of novel intermediate forms redefines the fungal tree of life. *Nature* 474, 200–203.
- Joseph S, Sinha GP, Ramachandran VS. 2018 – Taxonomic revision of the lichen genus *Opegrapha* sensu lato (*Roccellaceae*) in India. *Indian Journal of Forestry Additional Series* 6, 1–172.
- Jung PE, Lee H, Wu SH, Hattori T et al. 2018 – Revision of the taxonomic status of the genus *Gloeoporus* (*Polyporales*, *Basidiomycota*) reveals two new species. *Mycological Progress* 17, 855–863.
- Justo A, Miettinen O, Floudas D, Ortiz-Santana B et al. 2017 – A revised family–level classification of the *Polyporales* (*Basidiomycota*). *Fungal Biology* 121, 798–824.
- Kalgutkar RM, Jansonius J. 2000 – Synopsis of fungal spores, mycelia and fructifications. *AASP Contribution Series* 39, 1–423.
- Kalgutkar RM, Nambudiri EMV, Tidwell WD. 1993 – *Diplodites sweetii* sp. nov. from the Late Cretaceous (Maastrichtian) Deccan Intertrappean beds of India. *Review of Palaeobotany and Palynology* 77, 107–118.
- Kalgutkar RM. 1997 – Fossil fungi from the lower Tertiary Iceberg Bay Formation, Eureka Sound Group, Axel Heiberg Island, Northwest Territories, Canada. *Review of Palaeobotany and Palynology* 97, 197–226.
- Kang S, Tice AK, Spiegel FW, Silberman JD et al. 2017 – Between a pod and a hard test: The deep evolution of Amoebae. *Molecular Biology and Evolution* 34, 2258–2270.
- Karakehian JM, Quijada L, Friebe G, Tanney JB et al. 2019 – Placement of *Tribliidiaceae* in *Rhytismatales* and comments on unique ascospore morphologies in *Leotiomycetes* (*Fungi*, *Ascomycota*). *MycKeys* 54, 99–133.

- Karpov SA, Mamkaeva MA, Aleoshin VV, Nassonova E et al. 2014 – Morphology, phylogeny, and ecology of the aphelids (*Aphelidea*, *Opisthokonta*) and proposal for the new superphylum *Opisthospordia*. *Frontiers in Microbiology* 5, 112.
- Karunarathna A, Phookamsak R, Jayawardena RS, Cheewangkoon R et al. 2019 – *Neorousoella alishanense* sp. nov. on *Pennisetum purpureum* (*Poaceae*) with an asexual/sexual morph connection. *Phytotaxa* 406, 218–236.
- Keane R, Berlemann J. 2016 – The predatory life cycle of *Myxococcus xanthus*. *Microbiol* 162, 1–11.
- Keeling PJ, Fast NM, Corradi N. 2014 – Microsporidian genome structure and function. In: Weiss LM, Becnel JJ (eds) *Microsporidia: pathogens of opportunity*. Wiley–Blackwell Press, Ames, pp 221–229
- Keeling PJ, Luker MA, Palmer JD. 2000 – Evidence from beta-tubulin phylogeny that microsporidia evolved from within the fungi. *Mol Biol Evol* 17, 23–31.
- Kendrick WB, Carmichael JW. 1973 – *Hyphomycetes*. in Ainsworth GC, Sparrow FK & Sussman AA (eds.) *The Fungi. An Advanced Treatise*, volume 4A, Academic Press, New York: 323–509.
- Kendrick WB. 1958 – *Helicoma monospora* sp. nov. from pine litter. *Transactions of the British Mycological Society* 41, 446–448.
- Kiran M, Sattar A, Zamir K, Haelewaters D et al. 2020 – Additions to the genus *Chroogomphus* (*Boletales*, *Gomphidiaceae*) from Pakistan. *MycKeys* 66, 23–38.
- Kirk PM, Cannon PF, Minter DW, Stalpers JA. 2008 – *Dictionary of the Fungi*. (10th edn). Wallingford, UK.
- Kirk PM, Stalpers JA, Braun U, Crous PW et al. 2013 – A without prejudice list of generic names of fungi for protection under the International Code of Nomenclature for algae, fungi, and plants. *IMA Fungus* 4, 381–443.
- Kiss L, Kovács GM, Bóka K, Bohár G et al. 2018 – Deciphering the biology of *Cryptophyllachora eurasiatica* gen. et sp. nov., an often cryptic pathogen of an allergenic weed, *Ambrosia artemisiifolia*. *Scientific Reports* 8, 10806.
- Kistenich S, Timdal E, Bendiksby M, Ekman S. 2018 – Molecular systematics and character evolution in the lichen family *Ramalinaceae* (*Ascomycota: Lecanorales*). *Taxon* 67, 871–904.
- Kodsueb R, Dhanasekaran V, Aptroot A, Lumyong S et al. 2006 – The family *Pleosporaceae*: intergeneric relationships and phylogenetic perspectives based on sequence analyses of partial 28S rDNA. *Mycologia* 98, 571–583.
- Kohout P, Sudová R, Janoušková M, Čtvrtlíková M et al. 2014 – Comparison of commonly used primer sets for evaluating arbuscular mycorrhizal fungal communities: Is there a universal solution? *Soil Biology & Biochemistry* 68, 482–493.
- Košuthová A, Westberg M, Otálora MAG, Wedin M. 2019 – *Rostania* revised: testing generic delimitations in *Collemataceae* (*Peltigerales*, *Lecanoromycetes*). *MycKeys* 47, 17–33.
- Kraichak E, Huang JP, Nelsen M, Leavitt SD et al. 2018a – A revised classification of orders and families in the two major subclasses of *Lecanoromycetes* (*Ascomycota*) based on a temporal approach. *Botanical Journal of the Linnean Society* 188, 233–249.
- Kraichak E, Huang JP, Nelsen M, Leavitt SD et al. 2018b – Nomenclatural novelties. *Index Fungorum* 375, 1–1.
- Kumar LM, Smith ME, Nouhra ER, Orihara T et al. 2017 – A molecular and morphological re-examination of the generic limits of truffles in the *tarzetta–geopyxis* lineage – *Densocarpa*, *Hydnocystis*, and *Paurocotylis*. *Fungal Biology* 121, 264–284.
- Kumar P. 1990 – Fungal remains from the Miocene Quilon beds of Kerala State, South India. *Review of Palaeobotany and Palynology* 63, 13–28.
- Kurtzman CP, Boekhout T. 2017 – Yeasts as distinct life forms of fungi. In: Buzzini P, Lachance MA, Yurkov A (eds) *Yeasts in natural ecosystems: Ecology*. Springer International, Cham, pp 1–37.

- Kurtzman CP. 2011 – Discussion of teleomorphic and anamorphic ascomycetous yeasts and yeast-like Taxa. In: Kurtzman CP, Fell JW, Boekhout T (eds) *The yeasts – A taxonomic study*, 5th edn. Elsevier Science, Burlington, pp 293–307.
- Kušan I, Matočec N, Jadan M, Tkalčec Z et al. 2018 – An overview of the genus *Coprotus* (*Pezizales*, *Ascomycota*) with notes on the type species and description of *C. epithecioides* sp. nov. *Myckeys* 29, 15–47.
- Kušan I, Matočec N, Mešić A, Tkalčec Z. 2015 – A new species of *Thecotheus* from Croatia with a key to the known species with apiculate spores. *Sydowia* 67, 51–63.
- Labbe A. 1899 – Microsporidiida. In: Bütschli O, Ed *Das Tierreich* Vol 5 Sporozoa, Berlin, Germany: Friedländer und Sohn, pp. 104–112.
- Lakhanpal RN, Maheshwari HK, Awasthi N. 1976 – A Catalogue of Indian Fossil Plants. Birbal Sahni Institute of Palaeobotany, Lucknow, India. pp. 1–318.
- Lambert C, Wendt L, Hladki AI, Stadler M et al. 2019 – *Hypomontagnella* (*Hypoxylaceae*): a new genus segregated from *Hypoxylon* by a polyphasic taxonomic approach. *Mycological Progress* 18, 187–201.
- Lang PL, Willems FM, Scheepens JF, Burbano HA et al. 2019 – Using herbaria to study global environmental change. *New Phytologist* 221, 110–122.
- Larsson JIR 2014 – The primitive microsporidia. In: Weiss LM and Becnel JJ (eds.), *Microsporidia* pathogens of opportunity. John Wiley & Sons, Inc., Ames, Iowa, pp 605–634.
- Lechat C, Fournier J, Moreau PA. 2016b – *Xanthonectria*, a new genus for the nectrioid fungus *Nectria pseudopeziza*. *Ascomycete.org* 8, 172–178.
- Lechat C, Fournier J, Priou JP. 2018a – *Chrysonectria*, a new genus in the *Nectriaceae* with the new species *C. finisterrensis* from France. *Ascomycete.org* 10, 121–125.
- Lechat C, Fournier J, Vega M, Priou J-P 2018b – *Geonectria*, a new genus in the *Bionectriaceae* from France. *Ascomycete.org* 10, 81–85.
- Lechat C, Fournier J. 2016 – *Varicosporellopsis*, a new aquatic genus from southern France. *Ascomycete.org* 8, 96–100.
- Lechat C, Fournier J. 2016a – *Lasionectriella*, a new genus in the *Bionectriaceae*, with two new species from France and Spain. *Ascomycete.org* 8, 59–65.
- Leedale GF 1974 – How many are the kingdoms of organisms? *Taxon* 23, 261–270.
- Lee SC, Heitman J, Ironside JE. 2014 – Sex and the Microsporidia In: Weiss LM, Becnel JJ (eds) *Microsporidia: pathogens of opportunity*. Wiley-Blackwell Press, Ames, 231–243.
- Leontyev DV, Schnittler M, Stephenson S, Novozhilov YK et al. 2019 – Towards a phylogenetic classification of Myxomycetes. *Phytotaxa* 399, 209–238.
- Leontyev DV, Schnittler M, Stephenson SL. 2014 – Pseudocapillitium or true capillitium? A study of capillitial structures in *Alwisia bombardia* (*Myxomycetes*). *Nova Hegwigia* 99, 441–451.
- Leontyev DV, Schnittler M. 2017 – The phylogeny of myxomycetes. Pages 83–105 in: Stephenson SL, Rojas C (Eds.) *Myxomycetes*. Biology, Systematics, Biogeography and Ecology. Elsevier Academic Press.
- Letcher PM, Powell MJ, Davis WJ. 2018 – Morphology, zoospore ultrastructure, and molecular position of taxa in the *Asterophlyctis* lineage (*Chytridiales*, *Chytridiomycota*). *Fungal Biology* 122, 1109–1123.
- Letcher PM, Powell MJ. 2018 – A taxonomic summary and revision of *Rozella* (*Cryptomycota*). *IMA fungus* 9, 383–399.
- Li GJ, Hyde KD, Zhao RL, Hongsanan S et al. 2016 – Fungal diversity notes 253–366: taxonomic and phylogenetic contributions to fungal taxa. *Fungal Diversity* 77, 1–237.
- Li Y, Xiao J, de Hoog GS, Wang X et al. 2017 – Biodiversity and human pathogenicity of *Phialophora verrucosa* and relatives in *Chaetothyriales*. *Persoonia* 38, 1–19.
- Li YM, Shivas RG, Cai L. 2017 – Cryptic diversity in *Tranzscheliella* spp. (*Ustilaginales*) is driven by host switches. *Scientific Reports* 7, 43549.

- Lima DX, Souza-Motta CM, Wagner L, Voigt K et al. 2017 – *Circinella simplex* — a misapplied name of *Mucor circinatus* sp. nov. *Phytotaxa* 329, 269–276.
- Lin CC, Aronson JM 1970 – Chitin and cellulose in the cell walls of the oomycete, *Apodachlya* sp. *Archiv für Mikrobiologie*, 72, 111–114.
- Linaldeddu BT, Alves A, Phillips AJL. 2016 – *Sardiniella urbana* gen. et sp. nov., a new member of the *Botryosphaeriaceae* isolated from declining *Celtis australis* trees in Sardinian streetscapes. *Mycosphere* 7, 893–905.
- Lindemann U, Vega M, Alvarado P. 2015 – Revision der Gattung *Kotlabaea*: *K. deformis*, *K. delectans* und *K. Benkertii*. *Zeitschrift für Mykologie* 81, 373–402.
- Lister A 1894 – A monograph of the Mycetozoa. British Museum London.
- Liu F, Bonthond G, Groenewald JZ, Cai L et al. 2019 – *Sporocadaceae*, a family of coelomycetous fungi with appendage-bearing conidia. *Studies in Mycology* 92, 287–415.
- Liu JK, Hyde KD, Jeewon R, Phillips AJL et al. 2017 – Ranking higher taxa using divergence times: a case study in *Dothideomycetes*. *Fungal Diversity* 84, 75–99.
- Liu NG, Hyde KD, Bhat DJ, Jumpathong J, Liu JK. 2019 – Morphological and phylogenetic studies of *Pleopunctum* gen. nov. (*Phaeoseptaceae*, *Pleosporales*) from China. *Mycosphere* 10, 757–775.
- Liu NG, Lin CG, Liu JK, Samarakoon MC et al. 2018a – *Lentimurisoraceae*, a new Pleosporalean family with divergence times estimates. *Cryptogamie, Mycologie* 39, 259–283.
- Liu SL, Nakasone KK, Wu SH, He SH, Dai YC. 2018b – Taxonomy and phylogeny of *Lopharia* s.s., *Dendrodontia*, *Dentocorticium* and *Fuscocerrena* (*Basidiomycota*, *Polyporales*). *MycosKeys* 32, 25–48.
- Liu XZ, Wang Q M, Göker M et al. 2015 – Towards an integrated phylogenetic classification of the Tremellomycetes. *Studies in Mycology* 81, 85–147.
- Lücking R, Dal-Forn, M, Sikaroodi M, Gillevet PM et al. 2014 – A single macrolichen constitutes hundreds of unrecognized species. *Proceedings of the National Academy of Sciences of the USA* 111, 11091–11096.
- Lücking R, Hodkinson BP, Leavitt SD. 2017 – The 2016 classification of lichenized fungi in the *Ascomycota* and *Basidiomycota*—Approaching one thousand genera. *Bryologist* 119, 361–417.
- Lücking R, Kalb K. 2018 – Formal instatement of *Allographa* (*Graphidaceae*): How to deal with a hyperdiverse genus complex with cryptic differentiation and paucity of molecular data. – *Herzogia* 31, 535–561.
- Lücking R, Moncada B, Hawksworth DL. 2019 – Gone with the wind: sequencing its type species supports inclusion of *Cryptolechia* in *Gyalecta* (*Ostropales*: *Gyalectaceae*). *Lichenologist* 51, 287–299.
- Lücking R, Tehler A, Bungartz F, Rivas Plata E et al. 2013 – Journey from the West: did tropical *Graphidaceae* (lichenized *Ascomycota*: *Ostropales*) evolve from a saxicolous ancestor along the American Pacific coast?. *American Journal of Botany* 100, 844–56.
- Lumbsch HT, Huhndorf SM 2010 – Outline of *Ascomycota* – 2009. *Myconet* 14, 1–64.
- Ma X, Zhao CL. 2019 – *Crepatura ellipsospora* gen. et sp. nov. in *Phanerochaetaceae* (*Polyporales*, *Basidiomycota*) bearing a tuberculate hymenial surface. *Mycological Progress* 18, 785–793
- Ma YR, Xia JW, Gao JM, Li Z et al. 2016 – *Dictyoceratosporella* gen. nov. with the description of two new species collected from Hainan, China. *Sydowia* 68, 57–61.
- Madden AA, Stchigel AM, Guarro J, Sutton D et al. 2012 – *Mucor nidicola* sp. nov., a novel fungal species isolated from an invasive paper wasp nest. *International Journal of Systematic & Evolutionary Microbiology* 62, 1710–1714.
- Madrid H, Cano J, Gené J, Guarro J. 2011 – Two new species of *Cladorrhinum*. *Mycologia* 103, 795–805.

- Madrid H, Gené J, Cano J, Stchigel A et al. 2010 – *Ramophialophora humicola* and *Fibulochlamys chilensis*, two new microfungi from soil. *Mycologia* 102, 605–612.
- Madrid H, Hernández-Restrepo M, Gené J, Cano J et al. 2016 – New and interesting chaetothryalean fungi from Spain. *Mycological Progress* 15, 1179–1201.
- Magyar D, Merényi Z, Udvardy O, Kajtor-Apatini D et al. 2018 – *Mycoceros antennatissimus* gen. et sp. nov.: a mitosporic fungus capturing pollen grains. *Mycological Progress* 17, 33–43.
- Malysh JM, Ignatieva AN, Artokhin KS, Frolov AN et al. 2018b – Natural infection of the beet webworm *Loxostege sticticalis* L. (Lepidoptera: Crambidae) with three Microsporidia and host switching in *Nosema ceranae*. *Parasitology Research* 117, 3039–3044.
- Malysh JM, Kononchuk AG, Frolov AN 2019 – Detection of microsporidia infecting beet webworm *Loxostege sticticalis* (Pyraloidea: Crambidae) in European part of Russia in 2006–2008. *Plant Protection News [Vestnik zashchity rasteniy]* 2, 45–51.
- Malysh JM, Vorontsova YL, Glupov VV, Tsarev AA, Tokarev YS. 2018a – *Vairimorpha ephestiae* is a synonym of *Vairimorpha necatrix* (Opisthosporidia: Microsporidia) based on multilocus sequence analysis. *European Journal of Protistology* 66, 63–67.
- Malysheva V, Spirin V. 2017 – Taxonomy and phylogeny of the *Auriculariales* (Agaricomycetes, Basidiomycota) with stereoid basidiocarps. *Fungal Biology* 121, 689–715.
- Mapook A, Hyde KD, McKenzie EHC, Gareth Jones EBG et al. 2020 – Taxonomic and phylogenetic contributions to fungi associated with the invasive weed *Chromolaena odorata* (Siam weed). *Fungal Diversity* <https://doi.org/10.1007/s13225-020-00444-8>
- Marano AV, Jesus AL, de Souza JI, Jeronimo GH, Gonçalves DR, Boro MC, Rocha SCO, Pires-Zottarelli CLA 2016 – Ecological roles of saprotrophic *Peronosporales* (Oomycetes, *Straminipila*) in natural environments. *Fungal Ecology* 19, 77–88.
- Marchetta A, Gerrits van den Ende B, Al-Hatmi AMS, Hagen F et al. 2018 – Global molecular diversity of the halotolerant fungus *Hortaea werneckii*. *Life* 8, 31.
- Marinho F, Silva GA, Ferreira ACA, Veras JSN et al. 2014 – *Bulbospora minima*, new genus and new species in the *Glomeromycetes* from semi-arid Northeast Brazil. *Sydowia* 66, 313–323.
- Marmolejo J, Siahaan SAS, Takamatsu S, Braun U. 2018 – Three new records of powdery mildews found in Mexico with one genus and one new species proposed. *Mycoscience* 59, 1–7.
- Martin GW, Alexopoulos CJ. 1969 – *The Myxomycetes*. Iowa Univ Press, Iowa City.
- Massee G. 1892 – *A monograph of the Myxogasteres*. Methuen Co, London.
- Matočec N, Kušan I, Ozimec R. 2014 – The genus *Polycephalomyces* (*Hypocreales*) in the frame of monitoring Veternica cave (Croatia) with the new segregate genus *Perennicordyceps*. *Ascomycete.org* 6, 125–133.
- Mehrabi M, Asgari B, Hemmati R. 2018 – *Knufia perfecta*, a new black yeast from Iran, and a key to *Knufia* species. *Nova Hedwigia* 106, 519–534.
- Mehrotra BS, Mehrotra BM. 1979 [1978] – Another azygosporic species of *Mucor* from India. *Sydowia* 31, 94–96.
- Meissner EG, Bennett JE, Qvarnstrom Y, da Silva A et al. 2012 – Disseminated microsporidiosis in an immunosuppressed patient. *Emerging Infectious Diseases* 18, 1155–1158.
- Mikhailov KV, Simdyanov TG, Aleoshin VV. 2016 – Genomic survey of a hyperparasitic microsporidian *Amphiamblys* sp. (*Metchnikovellidae*). *Genome Biology and Evolution* 9, 454–467.
- Minnis AM, Kennedy AH, Grenier DB, Palm ME, Rossman AY. 2012 – Phylogeny and taxonomic revision of the *Planistromellaceae* including its coelomycetous anamorphs: contributions towards a monograph of the genus *Kellermania*. *Persoonia* 29, 11–28.
- Minnis AM, Lindner DL 2013 – Phylogenetic evaluation of *Geomyces* and allies reveals no close relatives of *Pseudogymnoascus destructans*, comb. nov., in bat hibernacula of eastern North America. *Fungal Biology* 117, 638–649.

- Mirza JH, Khan SM, Begum S, Shagufta S. 1979 – *Mucorales* of Pakistan. University of Agriculture, Faisalabad, Pakistan.
- Mishra B, Choi Y-J, Thines M 2018 – Phylogenomics of *Bartheletia paradoxa* reveals its basal position in *Agaricomycotina* and that the early evolutionary history of basidiomycetes was rapid and probably not strictly bifurcating. *Mycological Progress* 17, 333–341.
- Moncalvo JM, Vilgalys R, Redhead SA, Johnson JE et al. 2002 – One hundred and seventeen clades of euagarics. *Molecular Phylogenetics and Evolution* 23, 357–400.
- Morton JB, Benny GL. 1990 – Revised classification of arbuscular mycorrhizal fungi (*Zygomycetes*). A new order, *Glomales*, two new suborders, *Glomineae* and *Gigasporineae*, and two new families, *Acaulosporaceae* and *Gigasporaceae*, with an emendation of *Glomaceae*. *Mycotaxon* 37, 471–491.
- Morton JB, Msiska Z. 2010 – Phylogenies from genetic and morphological characters do not support a revision of *Gigasporaceae* (*Glomeromycota*) into four families and five genera. *Mycorrhiza* 20, 483–496.
- Motato-Vásquez V, Grassi E, Gugliotta AM, Robledo GL. 2018 – Evolutionary relationships of *Bresadolia* (*Basidiomycota*, *Polyporales*) based on molecular and morphological evidence. *Mycological Progress* 17, 1031–1048.
- Moussa TA, Gerrits van den Ende BH, Al Zahrani HS, Kadasa NM et al. 2017 – The genus *Anthopsis* and its phylogenetic position in *Chaetothyriales*. *Mycoses* 60, 254–259.
- Muggia L, Kopun T, Ertz D. 2015 – Phylogenetic placement of the lichenicolous, anamorphic genus *Lichenodiplis* and its connection to *Muellerella*-like teleomorphs. *Fungal Biology* 119, 1115–1128.
- Müller E. 1950 – Die schweizerischen Arten der Gattung *Leptosphaeria* und ihrer Verwandten. *Sydowia* 4, 185–319
- Nägeli C. 1857 – Über die neue Krankheit der Seidenraupe und verwandte Organismen. *Bot Zeitung* 15, 760–761.
- Nascimento MM, Selbmann L, Sharifynia S, Al-Hatmi AM et al. 2016 – *Arthrocladium*, an unexpected human opportunist in *Trichomeriaceae* (*Chaetothyriales*). *Fungal Biology* 120, 207–218.
- Nasr S, Soudi MR, Fazeli SAS, Nguyen HD et al. 2014 – Expanding evolutionary diversity in the *Ustilaginomycotina*: *Fereyduniaceae* fam. nov. and *Fereydounia* gen. nov., the first urocystidalean yeast lineage. *Mycological Progress* 13, 1012.
- Nylund S, Nylund A, Watanabe K, Arnesen CE et al. 2010 – *Paranucleospora theridion* n. gen., n. sp. (Microsporidia, *Enterocytozoonidae*) with a Life Cycle in the Salmon Louse (*Lepeophtheirus salmonis*, Copepoda) and Atlantic Salmon (*Salmo salar*). *Journal of Eukaryotic Microbiology* 57, 95–114.
- Oehl F, da Silva DKA, Maia LC, de Sousa NMF, da Silva GA et al. 2011d – *Orbispora* gen. nov., ancestral in the *Scutellosporaceae* (*Glomeromycetes*). *Mycotaxon* 116, 161–169.
- Oehl F, da Silva GA, Goto BT, Sieverding E. 2011e – New recombinations in *Glomeromycota*. *Mycotaxon* 117, 429–434.
- Oehl F, da Silva GA, Sánchez-Castro I, Goto BT et al. 2011f – Revision of *Glomeromycetes* with entrophosporoid and glomoid spore formation with three new genera. *Mycotaxon* 117, 297 – 316.
- Oehl F, de Souza FA, Sieverding E. 2008 – Revision of *Scutellospora* and description of five new genera and three new families in the arbuscular mycorrhiza-forming *Glomeromycetes*. *Mycotaxon* 106, 311–360.
- Oehl F, Sánchez-Castro I, Palenzuela J, da Silva GA. 2015 – *Palaeospora spainii*, a new arbuscular mycorrhizal fungus from Swiss agricultural soils. *Nova Hedwig* 101, 89–102.
- Oehl F, Sieverding E, Palenzuela J, Ineichen K et al. 2011c – Advances in *Glomeromycota* taxonomy and classification. *IMA fungus* 2, 191–199.
- Oehl F, Silva GA, Goto BT, Maia LC et al. 2011b – *Glomeromycota*: two new classes and a new order. *Mycotaxon* 116, 75–120.

- Oehl F, Silva GA, Goto BT, Sieverding E. 2011a – *Glomeromycetes*: three new genera and glomoid species reorganized. *Mycotaxon* 116, 75–120.
- Olive LS, Stoianovitch C. 1975 – *The Mycetozoans*. Academic Press, New York.
- Orihara T, Smith ME. 2017 – Unique phylogenetic position of the African truffle-like fungus, *Octaviania ivoryana* (*Boletaceae*, *Boletales*), and the proposal of a new genus, *Afrocastellanoa*. *Mycologia* 109, 323–332.
- Ovcharenko M, Wróblewski P, Kvach Y, Drobinia O. 2017 – Study of *Loma acerinae* (Microsporidia) detected from three Ponto-Caspian gobies (*Gobiidae*) in Ukraine. *Parasitology Research* 116, 1453–1462.
- Papp V, Dima B. 2018 – New systematic position of *Aurantiporus alborubescens* (*Meruliaceae*, *Basidiomycota*), a threatened old-growth forest polypore. *Mycological Progress* 17, 319–332.
- Pärtel K, Baral HO, Tamm H, Põldmaa K. 2017 – Evidence for the polyphyly of *Encoelia* and *Encoelioideae* with reconsideration of respective families in *Leotiomycetes*. *Fungal Diversity* 82, 183–219.
- Pei KQ. 2000 – A new variety of *Mucor variosporus* and the validation of *M. luteus* Linnemann and *M. variosporus* Schipper. *Mycosystema* 19, 10–12.
- Pérez-Ortega S, Suija A, de los Rios A. 2011 – The connection between *Abrothallus* and its anamorph state *Vouauxiomyces* established by Denaturing Gradient Gel Electrophoresis (DGGE). *Lichenologist* 43, 277–279.
- Perry BA, Hansen K, Pfister DH. 2007 – A phylogenetic overview of the family *Pyronemataceae* (*Ascomycota*, *Pezizales*). *Mycological Research* 111, 549–571.
- Petersen HE 1905 – Contributions a la connaissance des *Phycomycetes marins* (*Chytridineae* Fischer). *Oversigt over det Kongelige Danske videnskabernes selskabs forhandling* 5, 439–188.
- Petersen RH, Hughes KW. 2010 – The *Xerula/ Oudemansiella* complex (*Agaricales*). *Nova Hedwigia* 137, 1–165.
- Peyretailade E, Boucher D, Parisot N, Gasc C et al. 2015 – Exploiting the architecture and the features of the microsporidian genomes to investigate diversity and impact of these parasites on ecosystems. *Heredity* 114, 441–449.
- Phillips AJL, Hyde KD, Alves A, Liu JK. 2018 – Families in *Botryosphaeriales*: a phylogenetic, morphological and evolutionary perspective. *Fungal Diversity* 94, 1–22.
- Phookamsak R, Boonmee S, Norphanphoun C, Wanasinghe DN et al. 2016 – *Schizothyriaceae*. *Mycosphere* 7, 154–189.
- Phookamsak R, Hyde KD, Jeewon R, Bhat DJ et al. 2019 – Fungal Diversity notes 929–1035: taxonomic and phylogenetic contributions on genera and species of fungal taxa. *Fungal Diversity* 95, 1–273.
- Phookamsak R, Liu JK, McKenzie EH, Manamgoda DS et al. 2014 – Revision of *Phaeosphaeriaceae*. *Fungal Diversity* 68, 159–238.
- Phookamsak R, Wanasinghe DN, Hongsanan S, Phukhamsakda C et al. 2017 – Towards a natural classification of *Ophiobolus* and ophiobolus-like taxa; introducing three novel genera *Ophiobolopsis*, *Paraophiobolus* and *Pseudoophiobolus* in *Phaeosphaeriaceae* (*Pleosporales*). *Fungal Diversity* 87, 299–339.
- Pino-Bodas R, Zhurbenko MP, Stenroos S. 2017 – Phylogenetic placement within *Lecanoromycetes* of lichenicolous fungi associated with *Cladonia* and some other genera. – *Persoonia* 39, 91–117.
- Pirozynski KA, Weresub LK. 1979 – The classification and nomenclature of fossil fungi. in Kendrick, B. (ed.), *The whole fungus, the sexual–asexual synthesis*. *Proceedings of the 2nd International Mycological Conference*, University of Calgary, Kananaskis, Alberta (published by National Museum of Natural Sciences, National Museums of Canada and the Kananaskis Foundation) volume 2, 653–688.

- Pirozynski KA. 1978 – Fungal spores through the ages – a mycologist’s view. Proceedings of the Fourth International Palynological Conference, Lucknow 1976–77, volume 1, 327–330.
- Poulain M, Meyer M, Bozonnet J. 2011 – Les Myxomycètes. FédMycol Bot Dauphiné–Savoie, Delémont.
- Powell MJ, Letcher PM, Longcore JE, Blackwell WH. 2018 – *Zopfochytrium* is a new genus in the *Chytridiales* with distinct zoospore ultrastructure. Fungal Biology 122, 1041–1049.
- Prasher IB, Sharma R, Singh G 2016 – *Gelatinoamylaria* gen. nov. (*Dermateaceae*, *Helotiales*) from Bhutan. Kavaka 46, 35–36.
- Prieto M, Schultz M, Olariaga I, Wedin M. 2018 – *Lichinodium* is a new lichenized lineage in the *Leotiomyces*. Fungal Diversity 94, 23–39.
- Pringle A, Baker DM, Platt JL, Wares JP et al. 2005 – Cryptic speciation in the cosmopolitan and clonal human pathogenic fungus *Aspergillus fumigatus*. Evolution 59, 1886–1899.
- Printzen C, Spribille T, Tønsberg T. 2008 – *Myochroidea*, a new genus of corticolous, crustose lichens to accommodate the *Lecidea leprosula* group. Lichenologist 40, 195–207.
- Purrini K, Weiser J. 1985 – Ultrastructural study of the microsporidian *Chytridiopsis typographi* (*Chytridiopsida*: *Microspora*) infecting the bark beetle, *Ips typographus* (*Scolytidae*: *Coleoptera*), with new data on spore dimorphism. Journal of Invertebrate Pathology 45, 66–74.
- Puytorac P de, Grain J, Mignot JP. 1987 – Précis de protistologie. Lubrecht & Cramer Ltd, 1987, 581 p.
- Quaedvlieg W, Verkley GJM, Shin HD, Barreto RW et al. 2013 – Sizing up *Septoria*. Studies in Mycology 75, 307–390.
- Quandt CA, Beaudet D, Corsaro D, Walochnik J et al. 2017 – The genome of an intranuclear parasite, *Paramicrosporidium saccamoebae*, reveals alternative adaptations to obligate intracellular parasitism. Elife 24; 6, e29594.
- Quijada L, Johnston PR, Cooper JA & Pfister D. 2018a – Overview of *Phacidiales*, including *Aotearoamyces* gen. nov. on *Nothofagus*. IMA fungus 9, 371–38.
- Quijada L, Matočec N, Kušan I, Baral HO et al. 2018b – Insights into *Claussenomyces* Kirschst.: Past, Present and Future. 11th International mycological congress. Mycological discoveries for a better world. Abstract Book 273, San Juan, Puerto Rico
- Quijada L, Tanney JB, Popov E, Johnston PR et al. 2020 – Cones, needles and wood: *Micraspis* (*Micraspidaceae*, *Micraspidales* fam. et ord. nov.) speciation segregates by host plant tissues. Fungal Systematics and Evolution 5, 99–112.
- Raczka MF, Bush MB, Folcik AM, McMichael CH. 2016 – *Sporormiella* as a tool for detecting the presence of large herbivores in the Neotropics. Biota Neotropica 16(1).
- Rao AR. 1959 – Fungal remains from some Tertiary deposits of India. Palaeobotanist 7, 43–46.
- Raper D, Bush M. 2009 – A test of *Sporormiella* representation as a predictor of megaherbivore presence and abundance. Quaternary Research 71, 490–496.
- Raper KB, Smith NR. 1939 – The growth of *Dictyostelium discoideum* on pathogenic bacteria. Journal of Microbiology 38, 431–445.
- Raper KB. 1984 – The Dictyostelids. Princeton University Press, United States.
- Réblová M, Hubka V, Thureborn O, Lundberg J et al. 2016 – From the tunnels into de treetops: new lineages of black yeasts from biofilm in the Stockholm Metro system and their relatives among ant – associated fungi in the *Chaetothyriales*. PloS One 11, e0163396.
- Réblová M, Miller AN, Réblová K, Štěpánek V 2018 – Phylogenetic classification and generic delineation of *Calyptosphaeria* gen. nov., *Lentomitella*, *Spadicoides* and *Torrentispora* (*Sordariomycetes*). Studies in Mycology 89, 1–62.
- Réblová M, Štěpánek V. 2018 – Introducing the *Rhamphoriaceae* fam. nov. (*Sordariomycetes*), two new genera and new life histories for taxa with Phaeoisaria–and Idriella–like anamorphs. Mycologia 110, 750–770.

- Réblová M, Untereiner WA, Réblová K. 2013 – Novel evolutionary lineages revealed in the *Chaetothyriales* (Fungi) based on multigene phylogenetic analyses and comparison of ITS secondary structure. *PLoS ONE* 8, e63547, 1–28.
- Réblová M, Untereiner WA, Štěpánek V, Gams W. 2016 – Disentangling *Phialophora* section *Catenulatae*: disposition of taxa with pigmented conidiophores and recognition of a new subclass, *Sclerococcomycetidae* (*Eurotiomycetes*). *Mycological Progress* 16, 27–46.
- Resl P, Schneider K, Westberg M, Printzen C et al. 2015 – Diagnostics for a troubled backbone: testing topological hypotheses of trapelioid lichenized fungi in a large-scale phylogeny of *Ostropomycetidae* (*Lecanoromycetes*). *Fungal Diversity* 73, 239–258.
- Ride WDL, Cogger HG, Dupuis C, Kraus O et al. 1999 – International code of zoological nomenclature. Fourth Edition. The Natural History Museum, London.
- Riess K, Schön ME, Lutz M, Butin H et al. 2016 – On the evolutionary history of *Uleiella chilensis*, a smut fungus parasite of *Araucaria araucana* in South America: *Uleiellales* ord. nov. in *Ustilaginomycetes*. *PLoS one* 11, e0147107.
- Rikkinen J, Beimforde C, Seyfullah LJ, Perrichot V et al. 2016 – *Resinogalea humboldtensis* gen. et sp. nov., a new resinicolous fungus from New Caledonia, placed in *Bruceomycetaceae* fam. nova (*Ascomycota*). *Annales Botanici Fennici* 53, 205–215.
- Rizzo L, Sutton DA, Wiederhold NP, Thompson EH et al. 2014 – Isolation and characterisation of the fungus *Spiromastix asexualis* sp. nov. from discospondylitis in a German Shepherd dog, and review of *Spiromastix* with the proposal of the new order *Spiromastixales* (*Ascomycota*). *Mycoses* 57, 419–428.
- Rollins AW, Landolt JC, Stephenson SL. 2010 – Dictyostelid cellular slime molds associated with grasslands of the central and western United States. *Mycologia* 102, 996–1003.
- Romeralo M, Baldauf S, Escalante R 2013 – Dictyostelids Evolution, Genomics and Cell Biology. Springer, Berlin Heidelberg.
- Romeralo M, Cavender JC, Landolt JC, Stephenson SL, Baldauf SL. 2011 – An expanded phylogeny of social amoebas (*Dictyostelia*) shows increasing diversity and new morphological patterns. *BMC Evolutionary Biology* 11, 84.
- Romeralo M, Escalante R, Baldauf SL. 2012 – Evolution and diversity of dictyostelid social Amoebae. *Protist* 63, 327–343.
- Ronikier A, Halamski AT. 2018 – Is *Myxomycetes* (Amoebozoa) a truly ambiregnal group? A major issue in protist nomenclature. *Protist* 169, 484–493.
- Ropars J, Cruaud C, Lacoste S, Dupont J. 2012 – A taxonomic and ecological overview of cheese fungi. *International Journal of Food Microbiology* 155, 199–210.
- Rosendahl CO 1943 – Some fossil fungi from Minnesota. *Bulletin of the Torrey Botanical Club* 70, 126–138.
- Rosling A, Cox F, Cruz-Martinez K, Ihrmark K et al. 2011 – *Archaeorhizomycetes*: unearthing an ancient class of ubiquitous soil fungi. *Science* 333, 876–879.
- Rossman AY, Cavan AW, Braun U, Castlebury LA et al. 2016 – Overlooked competing asexual and sexually typified generic names of *Ascomycota* with recommendations for their use or protection. *IMA fungus* 7, 289–308.
- Rossman AY, Crous PW, Hyde KD, Hawksworth DL et al. 2015 – Recommended names for pleomorphic genera in *Dothideomycetes*. *IMA fungus* 6, 507–523.
- Rupčić Z, Chepkirui C, Hernández-Restrepo M, Crous PW et al. 2018 – New nematicidal and antimicrobial secondary metabolites from a new species in the new genus, *Pseudobambusicola thailandica*. *MycosKeys* 33, 1–23.
- Salgado-Salazar C, Beirn LA, Ismaiel A, Boehm MJ et al. 2018 – *Clarireedia*: A new fungal genus comprising four pathogenic species responsible for dollar spot disease of turfgrass. *Fungal Biology* 122, 761–773.
- Samarakoon MC, Thongbai B, Hyde KD, Brönstrup M et al. 2020 – Elucidation of the life cycle of the endophytic genus *Muscodor* and its transfer into the genus *Induratia* in *Induratiaceae*

- fam. nov., based on a polyphasic taxonomic approach. Fungal Diversity DOI: 10.1007/s13225-020-00443-9.
- Sanders D, Borys KD, Kisa F, Rakowski SA et al. 2017 – Multiple dictyostelid species destroy biofilms of *Klebsiellaoxytoca* and other gram negative species. Protist 168, 311–325.
- Santamaria S, Enghoff H, Gruber J, Reboleira ASPS 2017 – First *Laboulbeniales* from harvestmen: the new genus *Opilionomyces*. Phytotaxa 305, 285–292.
- Santamaria S, Enghoff H, Reboleira ASPS. 2016 – Hidden biodiversity revealed by collections-based research – *Laboulbeniales* in millipedes: genus *Rickia*. Phytotaxa 243, 101–127.
- Saxena RK, Sarkar S. 1986 – Morphological study of *Frasnacritetrus taugourdeau* emend. from the tertiary sediments of Himachal Pradesh, India. Review of Palaeobotany & Palynology 46, 209–225.
- Saxena RK, Tripathi SKM. 2011 – Indian Fossil Fungi. Palaeobotanist 60, 1–208.
- Saxena RK. 1991 – A catalogue of fossil plants from India – Part 5B. Tertiary fungi. Special Publication, Birbal Sahni Institute of Palaeobotany, Lucknow. pp. 1–19.
- Saxena RK. 2006 – A Catalogue of Tertiary Fungi from India (1989–2005). Special Publication, Birbal Sahni Institute of Palaeobotany, Lucknow. pp. 1–37.
- Scambler R, Niskanen T, Assyov B, Ainsworth AM et al. 2018 – Diversity of *Chroogomphus* (*Gomphidiaceae*, *Boletales*) in Europe, and typification of *C. rutilus*. IMA fungus 9, 271–290.
- Schaap P, Winckler T, Nelson M, Alvarez-Curto E et al. 2006 – Molecular phylogeny and evolution of morphology in the social amoebas. Science 14(5799), 661–3.
- Schenck NC, Pérez Y. 1990 – Manual for identification of VA mycorrhizal fungi. Synergistic Publications, Gainesville.
- Schipper MAA, Samson RA. 1994 – Miscellaneous notes on *Mucoraceae*. Mycotaxon 50, 475–491.
- Schipper MAA. 1973 – A study on variability in *Mucor hiemalis* and related species. Studies in Mycology 4, 1–40.
- Schipper MAA. 1975 – *Mucor mucedo*, *Mucor flavus* and related species. Studies in Mycology 10, 1–33.
- Schipper MAA. 1976 – On *Mucor circinelloides*, *Mucor racemosus* and related species. Studies in Mycology 12, 1–40.
- Schipper MAA. 1978 – On certain species of *Mucor* with a key to all accepted species. Studies in Mycology 17, 1–69.
- Schnepf E, Deichgräber G, Drebes G 1977 – Development and ultrastructure of the marine, parasitic oomycete, *Lagenisma coscinodisci* (*Lagenidiales*): sexual reproduction. Canadian Journal of Botany, 56, 1315–1325.
- Schoch CL, Sung GH, López-Giráldez F, Townsend JP et al. 2009 – The *Ascomycota* Tree of Life: A phylum-wide phylogeny clarifies the origin and evolution of fundamental reproductive and ecological traits. Systematic Biology 58, 224–239
- Schuld M, Madel G, Schmuck R. 1999 – Impact of *Vairimorpha* sp. (Microsporidia: Burenellidae) on *Trichogramma chilonis* (Hymenoptera, Trichogrammatidae), a hymenopteran parasitoid of the cabbage moth, *Plutella xylostella* (Lepidoptera, Yponomeutidae). Journal of Invertebrate Pathology 74, 120–126.
- Schüßler A, Schwarzott D, Walker C. 2001 – A new fungal phylum, the *Glomeromycota*: phylogeny and evolution. Mycological Research 105, 1413–1421
- Seifert K, Morgan-Jones G, Gams W, Kendrick B 2011 – The genera of hyphomycetes. CBS Biodiversity Series 9, 1–997.
- Senderskiy IV, Timofeev SA, Seliverstova EV, Pavlova OA et al. 2014 – Secretion of *Antonospora* (*Paranosema*) *locustae* proteins into infected cells suggests an active role of Microsporidia in the control of host programs and metabolic processes. PLoS ONE 9, e93585.

- Sert HB, Sumbul H, Sterflinger K. 2007 – Microcolonial fungi from antique marbles in Perge/Side/Termessos (Antalya/Turkey). *Antonie van Leeuwenhoek* 91, 217–227.
- Shadwick LL, Spiegel FW, Shadwick JD, Brown MW et al. 2009 – Eumycetozoa = Amoebozoa? SSU rDNA phylogeny of protosteloid slime molds and its significance for the amoebozoan supergroup. *PLoS One* 4, e6754.
- Sharma R, Kulkarni G, Sonawane MS. 2017 – *Alanomyces*, a new genus of *Aplosporellaceae* based on four loci phylogeny. *Phytotaxa* 297, 168–175.
- Sharma R, Xia X, Cano LM, Evangelisti E, Kemen E et al (2015) Genome analyses of the sunflower pathogen *Plasmopara halstedii* provide insights into effector evolution in downy mildews and *Phytophthora*. *BMC Genomics* 16, 741.
- Shchepin O, Schnittler M, Dagamac N, Leontyev D et al. 2019 – Unexplored diversity of microscopic myxomycetes: evidence from environmental DNA. *Plant Ecology & Evolution*, 152, 499–506.
- Sheikh S, Thulin M, Cavender JC, Escalante R et al. 2018 – A new classification of the *Dictyostelids*. *Protist* 169, 1–28.
- Shen XX, Opulente DA, Kominek J, Zhou X et al. 2018 – Tempo and mode of genome evolution in the budding yeast subphylum. *Cell* 75, 1533-1545.e20
- Shen XX, Zhou X, Kominek J, Kurtzman CP et al. 2016 – Reconstructing the backbone of the *Saccharomycotina* yeast phylogeny using genome-scale data. *G3 (Bethesda)* 6, 3927–3939.
- Shi WP, Zheng X, Jia WT, Li AM et al. 2018 – Horizontal transmission of *Paranosema locustae* (Microsporidia) in grass hopper populations via predatory natural enemies. *Pest Management Science* 74, 2589–2593.
- Shoemaker RA, Babcock CE. 1992 – Applanodictyosporous *Pleosporales*: *Clathrospora*, *Comoclathris*, *Graphyllum*, *Macrospora*, and *Platysporoides*. *Canadian Journal of Botany* 70, 1617–1658.
- Sieverding E, Silva GA, Berndt R, Oehl F. 2014 – *Rhizoglosum*, a new genus in the *Glomeraceae*. *Mycotaxon* 129, 373–386.
- Silva GA, Maia LC, Oehl F. 2012 – Phylogenetic systematics of the *Gigasporales*. *Mycotaxon* 122, 207–220.
- Silva RM, Oliveira RJ, Bezerra JD, Bezerra JL et al. 2019 – *Bifusisporella sorghi* gen. et sp. nov. (*Magnaporthaceae*) to accommodate an endophytic fungus from Brazil. *Mycological Progress* 18, 847–854.
- Simakova AV, Pankova TF, Tokarev YS, Issi IV. 2005 – New genus of microsporidia *Senoma* gen. n. with type species *Senoma globulifera* comb. n. (syn. *Issia globulifera* Issi, Pankova, 1983 from malaria mosquito *Anopheles messae* Fall. *Protistology* 4, 134–145.
- Simmons EG. 2007 – *Alternaria*: an identification manual. CBS Biodiversity Series 6. 775 pp.
- Singh BN. 1947 – Studies on soil *Acrasieae*. 1. Distribution of species of *Dictyostelium* in soils of Great Britain and the effects of bacteria on their development. *Journal of General Microbiology* 1.
- Singh G, Dal Grande F, Divakar PK, Otte J et al. 2015 – Coalescent-based species delimitation approach uncovers high cryptic diversity in the cosmopolitan lichen-forming fungal genus *Protoparmelia* (*Lecanorales*, *Ascomycota*). *Plos One* 10, e0124625.
- Slippers B, Boissin E, Phillips AJL, Groenewald JZ et al. 2013 – Phylogenetic lineages in the *Botryosphaeriales*: A systematic and evolutionary framework. *Studies in Mycology* 76, 31–49.
- Smith ME, Amses KR, Elliott TF, Obase K et al. 2015 – New sequestrate fungi from Guyana: *Jimtrappea guyanensis* gen. sp. nov., *Castellanea pakaraimophila* gen. sp. nov., and *Costatisporus cyanescens* gen. sp. nov. (*Boletaceae*, *Boletales*). *IMA fungus* 6, 297–317.
- Sokolova Y, Pelin A, Hawke J, Corradi N. 2015 – Morphology and phylogeny of *Agmasomapenaei* (Microsporidia) from the type host, *Litopenaeus setiferus*, and the type locality, Louisiana, USA. *International Journal for Parasitology* 45, 1–16.

- Sokolova YK, Issi IV, Voronin VN. 2018 – Annotated list of species of the Microsporidia described in the Former Soviet Union and Russia in 20th century 1967–2000. *Protistology* 12, 12–37.
- Sokolova YY, Bowers LC, Alvarez X, Didier ES. 2019 – *Encephalitozoon cuniculi* and *Vittaforma corneae* (Phylum Microsporidia) inhibit staurosporine-induced apoptosis in human THP-1 macrophages *in vitro*. *Parasitology* 146, 569–579.
- Sokolova YY, Paskerova GG, Rotari YM, Nassonova ES et al. 2013 – Fine structure of *Metchnikovella incurvata* Caullery & Mesnil 1914 (Microsporidia), a hyperparasite of gregarines *Polyrhabdina* sp. from the polychaete *Pygospioelegans*. *Parasitology* 140, 855–867.
- Song J, Liang JF, Mehrabi-Koushki M, Krisai-Greilhuber I, Ali B et al. 2019 – Fungal Systematics and Evolution 5. *Sydowia* 71, 141–245.
- Song Z, Li G, Cao L, Luo H et al. 1989 – Early Tertiary spore–pollen assemblages from the Dongpu region. Edited by Research Institute of Exploration and Development, Zhongyuan Petroleum Exploration Bureau, Nanjing Institute of Geology and Palaeontology, Academia Sinica, 192 p.
- Spatafora JW, Chang Y, Benny GL, Lazarus K et al. 2016 – A phylum-level phylogenetic classification of zygomycete fungi based on genome-scale data. *Mycologia* 108, 1028–1046.
- Species Fungorum 2019 <http://www.speciesfungorum.org/Names/SynSpecies.asp>
- Stefani FOP, Jones RH, May TW. 2014 – Concordance of seven gene genealogies compared to phenotypic data reveals multiple cryptic species in Australian dermocyboid *Cortinarius* (*Agaricales*). *Molecular Phylogenetics & Evolution* 71, 249–260.
- Stentiford GD, Feist SW, Stone DM, Bateman KS et al. 2013 – Microsporidia: diverse, dynamic, and emergent pathogens in aquatic systems. *Trends in Parasitology* 29, 567–578.
- Stentiford GD, Ramilo A, Abollo E, Kerr R et al. 2017 – *Hypersporaaquatica* n. gn., n. sp. (*microsporidia*), hyperparasitic in *Marteiliacochillia* (*Paramyxida*), is closely related to crustacean-infecting microsporidian taxa. *Parasitology* 144, 186–199.
- Stentiford GD, Ross S, Minardi D, Feist SW et al. 2018 – Evidence for trophic transfer of *Inodosporus octospora* and *Ovipleistophora arlo* n. sp. (*microsporidia*) between crustacean and fish hosts. *Parasitology* 145, 1105–1117.
- Stephenson SL, Landolt JC. 1992 – Vertebrates as vectors of cellular slime moulds in temperate forests. *Mycological Research* 96, 670–672.
- Stephenson SL, Landolt JC. 1998 – Dictyostelid cellular slime molds in canopy soils of tropical forests. *Biotropica* 30, 657–661.
- Stephenson SL, Landolt JC. 2011 – Dictyostelids from aerial “canopy soil” microhabitats. *Fungal Ecology* 4, 191–195.
- Stephenson SL, Rajguru SN. 2010 – Dictyostelid cellular slime moulds in agricultural soils. *Mycosphere* 1, 333–336.
- Subrahmanyam A. 1983 – Studies on thermomycology. *Mucor thermo-hyalospora* sp. nov. *Bibliotheca Mycologica* 91, 421–423.
- Subramanian CV. 1971 – *Hyphomycetes*, an account of Indian species, except *Cercosporae*. Indian Council of Agricultural Research, New Delhi, 930 p.
- Sudová R, Sýkorová Z, Rydlová J, Čtvrtlíková M, Oehl F. 2015 – *Rhizoglosum melanum*, a new arbuscular mycorrhizal fungal species associated with submerged plants in freshwater lake Avsjøen in Norway. *Mycological Progress* 14, 9
- Suija A, de los Ríos A, Pérez-Ortega S. 2015 – A molecular reappraisal of *Abrothallus* species growing on lichens of the order *Peltigerales*. *Phytotaxa*, 195, 201–226.
- Suija A, Kaasalainen U, Kirika PM, Rikkinen J. 2018 – *Taitaia*, a novel lichenicolous fungus in tropical montane forests in Kenya (East Africa). *Lichenologist* 50, 173–184.
- Suija A, van den Boom PPG, Zimmermann E, Zhurbenko MP et al. 2017 – Lichenicolous species of *Hainesia* belong to *Phacidiales* (*Leotiomyces*) and are included in an extended concept of *Epithamnolia*. *Mycologia* 109, 882–889.

- Sumbali G. (ed. Johri BM) 2005 – The fungi. ISBN 978–1–84265–153–7
- Suthers HB. 1985 – Ground-feeding migratory songbirds as cellular slime mold distribution vectors. *Oecologia* 65, 526–530.
- Tanaka K, Hirayama K, Yonezawa H, Sato G et al. 2015 – Revision of the *Massarineae* (*Pleosporales*, *Dothideomycetes*). *Studies in Mycology* 82, 75–136.
- Tanney JB, Douglas B, Seifert KA. 2016 – Sexual and asexual states of some endophytic *Phialocephala* species of *Picea*. *Mycologia* 108, 255–280.
- Tanney JB, Seifert KA. 2020 – *Mollisiaceae*: An overlooked lineage of diverse endophytes, *Studies in Mycology*, <https://doi.org/10.1016/j.simyco.2020.02.005>.
- Taugourdeau P. 1968 – Sur un curieux microfossile incertae sedis du Frasnien du Boulonnais, *Frasnacritetrus* nov. gen. (*Acritarche*). *Cahiers de Micropaléontologie*, série 1, no. 10 (Archives originales du Centre de Documentation du C.N.R.S. no. 452, 1–4).
- Tavares II. 1985 – *Laboulbeniales* (*Fungi*, *Ascomycetes*). *Mycologia Memoir* 9, 1–627.
- Tedersoo L, Sánchez-Ramírez S, Koljalg U et al. 2018 – High-level classification of the Fungi and a tool for evolutionary ecological analyses. *Fungal Diversity* 90, 135–159.
- Teterevnikova-Babaian DN, Taslakhchian MG. 1973 – New data on fossil fungal spores in Armenia. *Mycology and Phytology* 4, 159–164.
- Thambugala KM, Wanasinghe DN, Phillips AJ, Camporesi E et al. 2017 – Mycosphere notes 1-50: grass (*Poaceae*) inhabiting *Dothideomycetes*. *Mycosphere* 8, 697–796.
- Thines M, Nam B, Nigrelli L, Beakes G, Kraberg A. 2015 – The diatom parasite *Lagenisma coscinodisci* (*Lagenismatales*, *Oomycota*) is an early diverging lineage of the Saprolegniomycetes. *Mycological Progress* 14, 75.
- Thines M, Crous PW, Aime MC, Aoki T et al. 2018 – Ten reasons why a sequence-based nomenclature is not useful for fungi anytime soon. *IMA fungus* 9, 177–183.
- Thines M. 2019 – An evolutionary framework for host shifts-jumping ships for survival. *New Phytologist* 224, 605–617.
- Tice AK, Shadwick LL, Fiore-Donno AM, Geisen S et al. 2016 – Expansion of the molecular and morphological diversity of *Acanthamoebidae* (Centramoebida, Amoebozoa) and identification of a novel life cycle type within the group. *Biology Direct* 11, 69–90.
- Tokarev YS, Voronin VN, Seliverstova EV, Dolgikh VV et al. 2010 – Ultrastructure and molecular phylogeny of *Anisofilariata chironomi* sp. n. g. n. (*Microsporidia*: *Terresporidia*), a microsporidian parasite of *Chironomus plumosus* L. (*Diptera*: *Chironomidae*). *Parasitology Research* 106, 39–46.
- Tokarev YS, Voronin VN, Seliverstova EV, Grushetskaya TA et al. 2012 – Ultrastructure and molecular phylogenetics of *Helmichialacustris*, a microsporidium with an uncoiled isofilar polar filament. *Parasitology Research* 110, 1201–1208.
- Tonka T, Weiser JJr, Weiser J. 2010 – Budding: a new stage in the development of *Chytridiopsis typographi* (*Zygomycetes*: *Microsporidia*). *Journal of Invertebrate Pathology* 104, 17–22.
- Torruella G, Grau-Bové X, Moreira D, Karpov SA et al. 2018 – Global transcriptome analysis of the aphelid *Paraphelidium tribonemae* supports the phagotrophic origin of fungi. *Communications Biology* 1, 231.
- Trakunyingcharoen T, Lombard L, Groenewald JZ, Cheewangkoon R et al. 2014 – Mycoparasitic species of *Sphaerellopsis*, and allied lichenicolous and other genera. *IMA fungus* 5, 391–414.
- Truong C, Mujic AB, Healy R, Kuhar F et al. 2017 – How to know the fungi: combining field inventories and DNA-barcoding to document fungal diversity. *New Phytologist* 214, 913–919.
- Tsaousis AD, Kunji ER, Goldberg AV et al. 2008 – A novel route for ATP acquisition by the remnant mitochondria of *Encephalitozoon cuniculi*. *Nature* 453(7194), 553–556.
- Tsuneda A, Davey ML, Tsuneda I, Hudgins A et al. 2011a – *Endophoma*, a new didymellaceous endoconidial genus from bat – cave soil. *Mycologia* 103, 1146–1155.

- Tsuneda A, Hambleton S, Currah RS. 2011b – The anamorph genus *Knufia* and its phylogenetically allied species in *Coniosporium*, *Sarcinomyces* and *Phaeococcomyces*. *Botany* 89, 523–536.
- Turland NJ, Wiersema JH, Barrie FR et al. 2018 – International Code of Nomenclature for algae fungi and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017. *Regnum Vegetabile*, 159 Koeltz Botanical Books Glashütten.
- Turrini A, Saran M, Giovannetti M, Oehl F. 2018 – *Rhizoglosum venetianum*, a new arbuscular mycorrhizal fungal species from a heavy metal contaminated site, downtown Venice in Italy. *Mycological Progress* 17, 1213–1224.
- Van der Hammen T. 1954 – El desarrollo de la flora Colombiana en los periodos geológicos. I. Maestrichtiano hasta Terciario más inferior. *Boletín Geológico* 2, 49–106.
- Van Vooren N, Lindemann, Healy R. 2017 – Emendation of the genus *Tricharina* (*Pezizales*) based on phylogenetic, morphological and ecological data. *Ascomycete.org* 9, 101–123.
- Vavra J, Larsson JIR. 2014 – Structure of Microsporidia. In: Weiss LM, Becnel JJ (eds) *Microsporidia: Pathogens of Opportunity*. Wiley-Blackwell, pp 1–70
- Vavra J, Lukes J. 2013 – Microsporidia and ‘the art of living together’. *Advances in Parasitology* 82, 253–319.
- Vellinga EC, Sysouphanthong P, Hyde KD. 2011 – The family *Agaricaceae*: phylogenies and two new white-spored genera. *Mycologia* 103, 494–509.
- Venkatachala BS, Kar RK 1969 – Palynology of the Tertiary sediments in Kutch—2. Epiphyllous fungal remains from the borehole no. 14. *Palaeobotanist* 17, 179–183.
- Vivier E 1975 – The microsporidia of the protozoa. *Protistologica* 9, 345–361.
- Vizzini A, Contu M, Ercole E. 2011 – *Musumecia* gen. nov. in the Tricholomatoid clade (*Basidiomycota*, *Agaricales*) related to *Pseudoclitocybe*. *Nordic Journal of Botany* 29, 734–740.
- Vlk W 1939 – Über die Geißelstruktur der Saprolegniaceenschwärmer. *Archiv für Protistenkunde* 92, 157–160.
- Voglmayr H, Aguirre-Hudson MB, Wagner HG, Tello S et al. 2019 – Lichens or endophytes? The enigmatic genus *Leptosillia* in the *Leptosilliaceae* fam. nov. (*Xylariales*), and *Furfurella* gen. nov. (*Delonicicolaceae*). *Persoonia* 42, 228–260.
- Voglmayr H, Cléménçon H. 2016 – Identification and taxonomic position of two mucoralean endoparasites of *Hysterangium* (*Basidiomycota*) based on molecular and morphological data. *Mycological Progress* 15, 1–17.
- Voglmayr H, Friebe G, Gardiennet A, Jaklitsch WM. 2018 – *Barrmaelia* and *Entosordaria* in *Barrmaeliaceae* (fam. nov., *Xylariales*) and critical notes on Anthostomella-like genera based on multigene phylogenies. *Mycological Progress* 17, 155–177.
- Voglmayr H, Pintos A. 2018 – Three new species of *Stigmatodiscus* from Mallorca (Spain). *Mycological Progress* 17, 1189–1201.
- Vossbrinck CR, Debrunner-Vossbrinck BA, Weiss LM. 2014 – Molecular phylogeny of the Microsporidia. In: Weiss LM, Becnel JJ (eds) *Microsporidia: Pathogens of Opportunity*. Wiley-Blackwell, pp 203–220.
- Vossbrinck CR, Debrunner-Vossbrinck BA. 2005 – Molecular phylogeny of the Microsporidia: ecological, ultrastructural and taxonomic considerations. *Folia Parasitologica* 52, 131–142.
- Vu D, Groenewald M, de Vries M, Gehrman T et al. 2019 – Large-scale generation and analysis of filamentous fungal DNA barcodes boosts coverage for kingdom Fungi and reveals thresholds for fungal species and higher taxon delimitation. *Studies in Mycology* 92, 135–154.
- Wanasinghe DN, Phukhamsakda C, Hyde KD, Jeewon R et al. 2018 – Fungal diversity notes 709–839: taxonomic and phylogenetic contributions to fungal taxa with an emphasis on fungi on Rosaceae. *Fungal Diversity* 89, 1–236.

- Wang HK, Aptroot A, Crous PW, Hyde KD et al. 2007 – The polyphyletic nature of *Pleosporales*: an example from *Massariosphaeria* based on rDNA and RBP2 gene phylogenies. *Mycological Research* 111, 1268–1276.
- Wang QM, Groenewald M, Takashima M, Theelen B et al. 2015a – Phylogeny of yeasts and related filamentous fungi within *Pucciniomycotina* determined from multigene sequence analyses. *Studies in Mycology* 81, 27–53.
- Wang QM, Theelen B, Groenewald M, Bai FY et al. 2014a – *Moniliellomycetes* and *Malasseziomycetes*, two new classes in *Ustilaginomycotina*. *Persoonia* 33, 41–47.
- Wang QM, Yurkov AM, Göker M, Lumbsch HT et al. 2015b – Phylogenetic classification of yeasts and related taxa within *Pucciniomycotina*. *Studies in Mycology* 81, 149–189.
- Wang XW, Yang FY, Meijer M, Kraak B et al. 2018 – Redefining *Humicola sensu stricto* and related genera in the *Chaetomiaceae*. *Studies in Mycology* 93, 65–153.
- Watanabe T. 1994 – Two new species of homothallic *Mucor* in Japan. *Mycologia* 86, 691–695.
- Wei X, Schmitt I, Hodkinson BP, Flakus A et al. 2017 – Circumscription of the genus *Lepra*, a recently resurrected genus to accommodate the “*Variolaria*” – group of *Pertusaria sensu lato* (*Pertusariales*, *Ascomycota*). *PLoS ONE* 12, e0180284.
- Weir A, Blackwell M. 2001 – Molecular data support the *Laboulbeniales* as a separate class of *Ascomycota*, *Laboulbeniomycetes*. *Mycological Research* 105, 715–722.
- Weir A, Hammond PM. 1997 – *Laboulbeniales* on beetles: host utilization patterns and species richness of the parasites. *Biodiversity & Conservation* 6, 701–719.
- Wendt L, Sir EB, Kuhnert E, Heitkämper S et al. 2018 – Resurrection and emendation of the *Hypoxylaceae*, recognised from a multi-gene phylogeny of the *Xylariales*. *Mycological Progress* 17, 115–154.
- Westphalen MC, Rajchenberg M, Tomšovský M, Gugliotta AM. 2018 – A re-evaluation of Neotropical *Junghuhnia* s. lat. (*Polyporales*, *Basidiomycota*) based on morphological and multigene analyses. *Persoonia* 41, 130–141.
- Wijayawardene DNN, McKenzie EHC, Hyde KD. 2012 – Towards incorporating anamorphic fungi in a natural classification checklist and notes for 2011. *Mycosphere* 3, 157–228.
- Wijayawardene NN, Hyde KD, Lumbsch HT, Liu JK et al. 2018a – Outline of *Ascomycota*: 2017 Fungal Diversity 88, 167–263.
- Wijayawardene NN, Hyde KD, Rajeshkumar KC, Hawksworth DL et al. 2017a – Notes for genera: *Ascomycota*. *Fungal Diversity* 86, 1–594.
- Wijayawardene NN, Hyde KD, Tibpromma S, Wanasinghe DN et al. 2017b – Towards incorporating asexual fungi in a natural classification: checklist and notes 2012–2016. *Mycosphere* 8, 1457–1554.
- Wijayawardene NN, Hyde KD, Wanasinghe DN, Papizadeh M et al. 2016 – Taxonomy and phylogeny of dematiaceous coelomycetes. *Fungal Diversity* 77, 1–316.
- Wijayawardene NN, Pawłowska J, Letcher PM, Kirk PM et al. 2018b – Notes for genera: basal clades of Fungi (including *Aphelidiomycota*, *Basidiobolomycota*, *Blastocladiomycota*, *Calcarisporiellomycota*, *Caulochytriomycota*, *Chytridiomycota*, *Entomophthoromycota*, *Glomeromycota*, *Kickxellomycota*, *Monoblepharomycota*, *Mortierellomycota*, *Mucoromycota*, *Neocallimastigomycota*, *Olpidiomycota*, *Rozellomycota* and *Zoopagomycota*). *Fungal Diversity* 92, 43–129.
- Williams BA, Hirt RP, Lucocq JM, Embley TM. 2002 – A mitochondrial remnant in the microsporidian *Trachipleistophor hominis*. *Nature* 418(6900), 865–869.
- Wittstein K, Cordsmeier A, Lambert C, Wendt L et al. 2020 – Identification of *Rosellinia* species as producers of cyclodepsipeptide PF1022 A and resurrection of the genus *Dematophora* as inferred from polythetic taxonomy. *Studies in Mycology* 96, 1–16.
- Woudenberg JHC, Seidl MF, Groenewald JZ, De Vries M et al. 2015 – *Alternaria* section *Alternaria*: Species, *formae speciales* or pathotypes? *Studies in Mycology* 82, 1–21.
- Woudenberg JHC, Truter M, Groenewald JZ, Crous PW. 2014 – Large-spored *Alternaria* pathogens in section *Porri* disentangled. *Studies in Mycology* 79, 1–47.

- Wu G, Zhao K, Li YC, Zeng NK et al. 2016 – Four new genera of the fungal family *Boletaceae*. *Fungal Diversity* 81, 1–24
- Wu ZQ, Xu TM, Shen S, Liu XF et al. 2018 – *Elaphroporia ailaoshanensis* gen. et sp. nov. in *Polyporales (Basidiomycota)*. *MycKeys* 29, 81–95.
- Wyka SA, Broders KD. 2016 – The new family *Septorioideaceae*, within the *Botryosphaeriales* and *Septorioides strobi* as a new species associated with needle defoliation of *Pinus strobus* in the United States. *Fungal Biology* 120, 1030–1040.
- Xia JW, Ma YR, Li Z, Zhang XG. 2017 – Acrodictys-like wood decay fungi from southern China, with two new families *Acrodictyaceae* and *Junewangiaceae*. *Scientific Reports* 7 (no. 7888), 1–21.
- Xiao Y, Wen T, Hongsanan S, Jeewon R et al. 2018 – Multigene phylogenetics of *Polycephalomyces (Ophiocordycipitaceae, Hypocreales)*, with two new species from Thailand. *Scientific Reports* 8, 18087.
- Xu Y, Weiss LM. 2005 – The microsporidian polar tube: a highly specialised invasion organelle. *International Journal for Parasitology* 35, 941–953.
- Yadav DR, Kim SW, Adhikari M, Um YH et al. 2015 – Three new records of *Mortierella* species isolated from crop field soil in Korea. *Mycobiology* 43, 203–209.
- Yang CL, Xu XL, Wanasinghe DN, Jeewon R et al. 2019 – *Neostagonosporella sichuanensis* gen. et sp. nov. (*Phaeosphaeriaceae, Pleosporales*) on *Phyllostachys heteroclada (Poaceae)* from Sichuan Province, China. *MycKeys* 46, 119–150.
- Yang H, Hyde KD, Karunarathna SC, Deng C et al. 2018a – New species of *Camptophora* and *Cyphellophora* from China, and first report of sexual morphs for these genera. *Phytotaxa* 343, 149–159.
- Yang J, Liu JK, Hyde KD, Jones EG et al. 2019 – *Aquimonospora tratensis* gen. et sp. nov. (*Diaporthomycetidae, Sordariomycetes*), a new lineage from a freshwater habitat in Thailand. *Phytotaxa* 397, 146–158.
- Yang Q, Fan XL, Du Z, Tian CM. 2018b – *Diaporthosporellaceae*, a novel family of *Diaporthales (Sordariomycetes, Ascomycota)*. *Mycoscience* 59, 229–235.
- Yang T, Groenewald JZ, Cheewangkoon R, Jami F et al. 2017 – Families, genera, and species of *Botryosphaeriales*. *Fungal Biology* 121, 322–346.
- Yoshida K, Schuenemann VJ, Cano LM, Pais M et al. 2013 – The rise and fall of the *Phytophthora infestans* lineage that triggered the Irish potato famine. *eLife* 2, e00731.
- Yu X, Hoyle RL, Guo F, Ratliff CM et al. 2019 – A Vavraia-like microsporidium as the cause of deadly infection in threatened and endangered *Eurycea* salamanders in the United States. *Parasites & Vectors* 12, 108.
- Yu XD, Dong W, Bhat DJ, Boonmee S et al. 2018 – *Cylindroconidiis aquaticus* gen. et sp. nov., a new lineage of aquatic hyphomycetes in *Sclerococcaceae (Eurotiomycetes)*. *Phytotaxa* 372, 79–87.
- Yuan HS, Qin WM. 2018 – Multiple genes phylogeny and morphological characters reveal *Dextrinoporus aquaticus* gen. et sp. nov. (*Polyporales, Basidiomycota*) from southern China. *Mycological Progress* 17, 773–780.
- Zalar P, Hennebert GL, Gunde-Cimerman N, Cimerman A. 1997 – *Mucor troglophilus*, a new species from cave crickets. *Mycotaxon* 65, 507–516.
- Zamora JC, Svensson M, Kirschner R, Olariaga I et al. 2018 – Considerations and consequences of allowing DNA sequence data as types of fungal taxa. *IMA fungus* 9, 167–175.
- Zhang ZF, Liu F, Zhou X, Liu XZ et al. 2017 – Culturable mycobiota from Karst caves in China, with descriptions of 20 new species. *Persoonia* 39, 1–31.
- Zhao RL, Li GJ, Sanchez-Ramirez S, Stata M et al. 2017c – A six-gene phylogenetic overview of Basidiomycota and allied phyla with estimated divergence times of higher taxa and a phyloproteomics perspective. *Fungal Diversity* 84, 43–74.

- Zhao YJ, Hosaka K, Hosoya T. 2016 – Taxonomic re-evaluation of the genus *Lambertella* (*Rutstroemiaceae*, *Helotiales*) and allied stroma-forming fungi. *Mycological Progress* 15, 1215–1228.
- Zhu HY, Pan M, Bonthond G, Tian CM, Fan XL. 2019 – Diaporthalean fungi associated with canker and dieback of trees from Mount Dongling in Beijing, China. *Myckeys* 59, 67–94.
- Zitouni-Haouar FEH, Alvarado P, Sbissi I, Boudabous A et al. 2015 – Contrasted genetic diversity, relevance of climate and host plants, and comments on the taxonomic problems of the genus *Picoa* (*Pyronemataceae*, *Pezizales*). *PLoS ONE* 10, e0138513.
- Zmitrovich IV. 2018 – *Conspectus systematis Polyporacearum v. 1.0*. *Folia Cryptogamica Petropolitana* 6, 3–145.