



Fungal Planet description sheets: 1182–1283

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Key words

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Abstract Novel species of fungi described in this study include those from various countries as follows: **Algeria**, *Phaeoacremonium adelophialidum* from *Vitis vinifera*. **Antarctica**, *Comoclathris antarctica* from soil. **Australia**, *Coniochaeta salicifolia* as endophyte from healthy leaves of *Geijera salicifolia*, *Eremothecium peggii* in fruit of *Citrus australis*, *Microdochium raticaudae* from stem of *Sporobolus natalensis*, *Neocelosporium corymbiae* on stems of *Corymbia variegata*, *Phytophthora kelmanii* from rhizosphere soil of *Ptilotus pyramidatus*, *Pseudosydowia backhousiae* on living leaves of *Backhousia citriodora*, *Pseudosydowia indooroopillyensis*, *Pseudosydowia louiseottisiae* and *Pseudosydowia queenslandica* on living leaves of *Eucalyptus* sp. **Brazil**, *Absidia montepascoalis* from soil. **Chile**, *Ilyonectria zarorii* from soil under *Maytenus boaria*. **Costa Rica**, *Colletotrichum filicis* from an unidentified fern. **Croatia**, *Mollisia endogranulata* on deteriorated hardwood. **Czech Republic**, *Arcopilus navicularis* from tea bag with fruit tea, *Neosetophoma buxi* as endophyte from *Buxus sempervirens*, *Xerocrhysium bohemicum* on surface of biscuits with chocolate glaze and filled with jam. **France**, *Entoloma cyaneobasale* on basic to calcareous soil, *Fusarium aconidiiale* from *Triticum aestivum*, *Fusarium juglandicola* from buds of *Juglans regia*. **Germany**, *Tetraploa endophytica* as endophyte from *Microthlaspi perfoliatum* roots. **India**, *Castanediella ambae* on leaves of *Mangifera indica*, *Lactifluus kanadii* on soil under *Castanopsis* sp., *Penicillium uttarakhandense* from soil. **Italy**, *Penicillium ferrariaense* from compost. **Namibia**, *Bezeromyces gobabebensis* on leaves of unidentified succulent, *Cladosporium stipagrostidicola* on leaves of *Stipagrostis* sp., *Cymostachys euphorbiae* on leaves of *Euphorbia* sp., *Deniquelata hypolithi* from hypolith under a rock, *Hysterobrevium walvisbayicola* on leaves of unidentified tree, *Knufia hypolithi* and *Knufia walvisbayicola* from hypolith under a rock, *Lapidomyces stipagrostidicola* on leaves of *Stipagrostis* sp., *Nothophaeotheca mirabilis* (incl. *Nothophaeotheca* gen. nov.) on persistent inflorescence remains of *Blepharis obmitrata*, *Paramyroticum salvadorae* on twigs of *Salvadora persica*, *Preussia procaviicola* on dung of *Procavia* sp., *Sordaria equicola* on zebra dung, *Volutella salvadorae* on stems of *Salvadora persica*. **Netherlands**, *Entoloma ammophilum* on sandy soil, *Entoloma pseudocruentatum* on nutrient poor (acid) soil, *Entoloma pudens* on plant debris, amongst grasses. **New Zealand**, *Amorocoelophoma neoregeliae* from leaf spots of *Neoregelia* sp., *Aquilomyces metrosideri* and *Septoriella callistemonis* from stem discolouration and leaf spots of *Metrosideros* sp., *Cadophora neoregeliae* from leaf spots of *Neoregelia* sp., *Flexuomycetes asteliae* (incl. *Flexuomycetes* gen. nov.) and *Mollisia asteliae* from leaf spots of *Astelia chathamica*, *Ophioceras freycinetiae* from leaf spots of *Freycinetia*

Abstract (cont.)

banksii, *Phaeosphaeria caricis-sectae* from leaf spots of *Carex secta*. **Norway**, *Cuphophyllum flavipesoides* on soil in semi-natural grassland, *Entoloma coracis* on soil in calcareous *Pinus* and *Tilia* forests, *Entoloma cyaneolilacinum* on soil semi-natural grasslands, *Inocybe norvegica* on gravelly soil. **Pakistan**, *Butyriboletus parachinarensis* on soil in association with *Quercus baloot*. **Poland**, *Hyalodendriella bialowiezensis* on debris beneath fallen bark of Norway spruce *Picea abies*. **Russia**, *Bolbitius sibiricus* on a moss covered rotting trunk of *Populus tremula*, *Crepidotus wasseri* on debris of *Populus tremula*, *Entoloma isborskianum* on soil on calcareous grasslands, *Entoloma subcoracis* on soil in subalpine grasslands, *Hydropus lecythiocystis* on rotted wood of *Betula pendula*, *Merulius faginea* on fallen dead branches of *Fagus orientalis*, *Metschnikowia taurica* from fruits of *Ziziphus jujube*, *Suillus praetermissus* on soil, *Teunia lichenophila* as endophyte from *Cladonia rangiferina*. **Slovakia**, *Hygrocybe fulgens* on mowed grassland, *Pleuroflammula pannonica* from corticated branches of *Quercus* sp. **South Africa**, *Acrodontium burrowsianum* on leaves of unidentified Poaceae, *Castanediella senegaliae* on dead pods of *Senegalia ataxacantha*, *Cladophialophora behniae* on leaves of *Behnia* sp., *Colletotrichum cliviigenum* on leaves of *Clivia* sp., *Diatrype dalbergiae* on bark of *Dalbergia armata*, *Falcocladium heteropyxidicola* on leaves of *Heteropyxis canescens*, *Lapidomyces aloidendricola* as epiphyte on brown stem of *Aloidendron dichotomum*, *Lasionectria sansevieriae* and *Phaeosphaeriopsis sansevieriae* on leaves of *Sansevieria hyacinthoides*, *Lylea dalbergiae* on *Diatrype dalbergiae* on bark of *Dalbergia armata*, *Neochaetothyrida syzygii* (incl. *Neochaetothyrida* gen. nov.) on leaves of *Syzygium chordatum*, *Nothophaeomoniella ekebergiae* (incl. *Nothophaeomoniella* gen. nov.) on leaves of *Ekebergia pterophylla*, *Paracymostachys euphorbiae* (incl. *Paracymostachys* gen. nov.) on leaf litter of *Euphorbia ingens*, *Paramycosphaerella pterocarpi* on leaves of *Pterocarpus angolensis*, *Paramycosphaerella syzygii* on leaf litter of *Syzygium chordatum*, *Parateichospora phoenicicola* (incl. *Parateichospora* gen. nov.) on leaves of *Phoenix reclinata*, *Seiridium syzygii* on twigs of *Syzygium chordatum*, *Setopoma syzygii* on leaves of *Syzygium* sp., *Stamerella xylocopis* from larval feed of an Afrotropical bee *Xylocopa caffra*, *Teratosphaeria combreti* on leaf litter of *Combretum kraussii*, *Teratosphaericola leucadendri* on leaves of *Leucadendron* sp., *Toxicocladosporium pterocarpi* on pods of *Pterocarpus angolensis*. **Spain**, *Cortinarius bonachei* with *Quercus ilex* in calcareous soils, *Cortinarius brunneovolvatus* under *Quercus ilex* subsp. *ballota* in calcareous soil, *Extremopsis radicicola* (incl. *Extremopsis* gen. nov.) from root-associated soil in a wet heathland, *Russula quintanensis* on acidic soils, *Tubaria vulcanica* on volcanic lapilli material, *Tuber zambonelliae* in calcareous soil. **Sweden**, *Elaphomyces borealis* on soil under *Pinus sylvestris* and *Betula pubescens*. **Tanzania**, *Curvularia tanzanica* on inflorescence of *Cyperus aromaticus*. **Thailand**, *Simplicillium niveum* on *Ophiocordyceps camponoti-leonardi* on underside of unidentified dicotyledonous leaf. **USA**, *Calonectria californiensis* on leaves of *Umbellularia californica*, *Exophiala spartinae* from surface sterilised roots of *Spartina alterniflora*, *Neophaeococcomyces oklahomaensis* from outside wall of alcohol distillery. **Vietnam**, *Fistulinella aurantioflava* on soil. Morphological and culture characteristics are supported by DNA barcodes.

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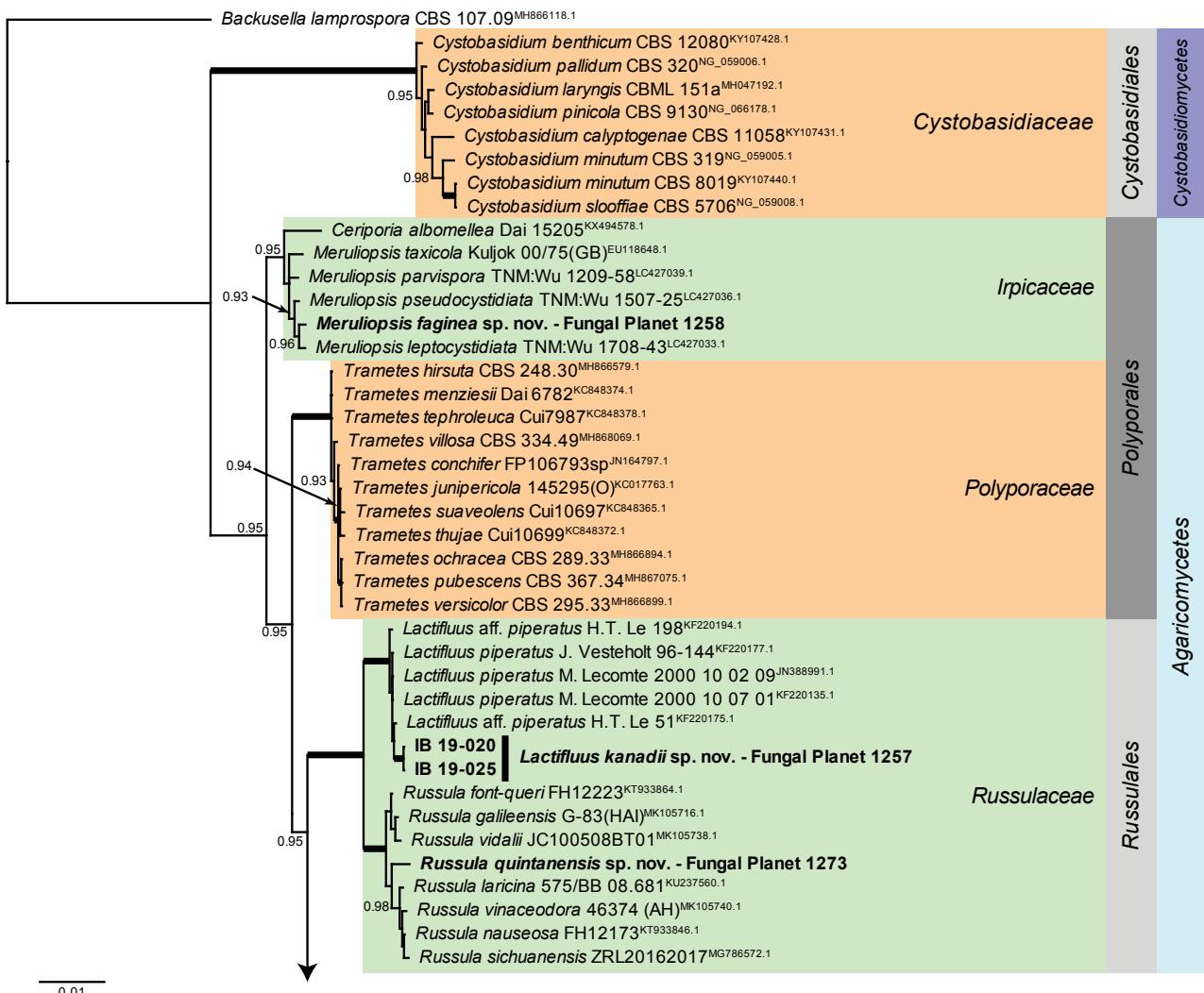
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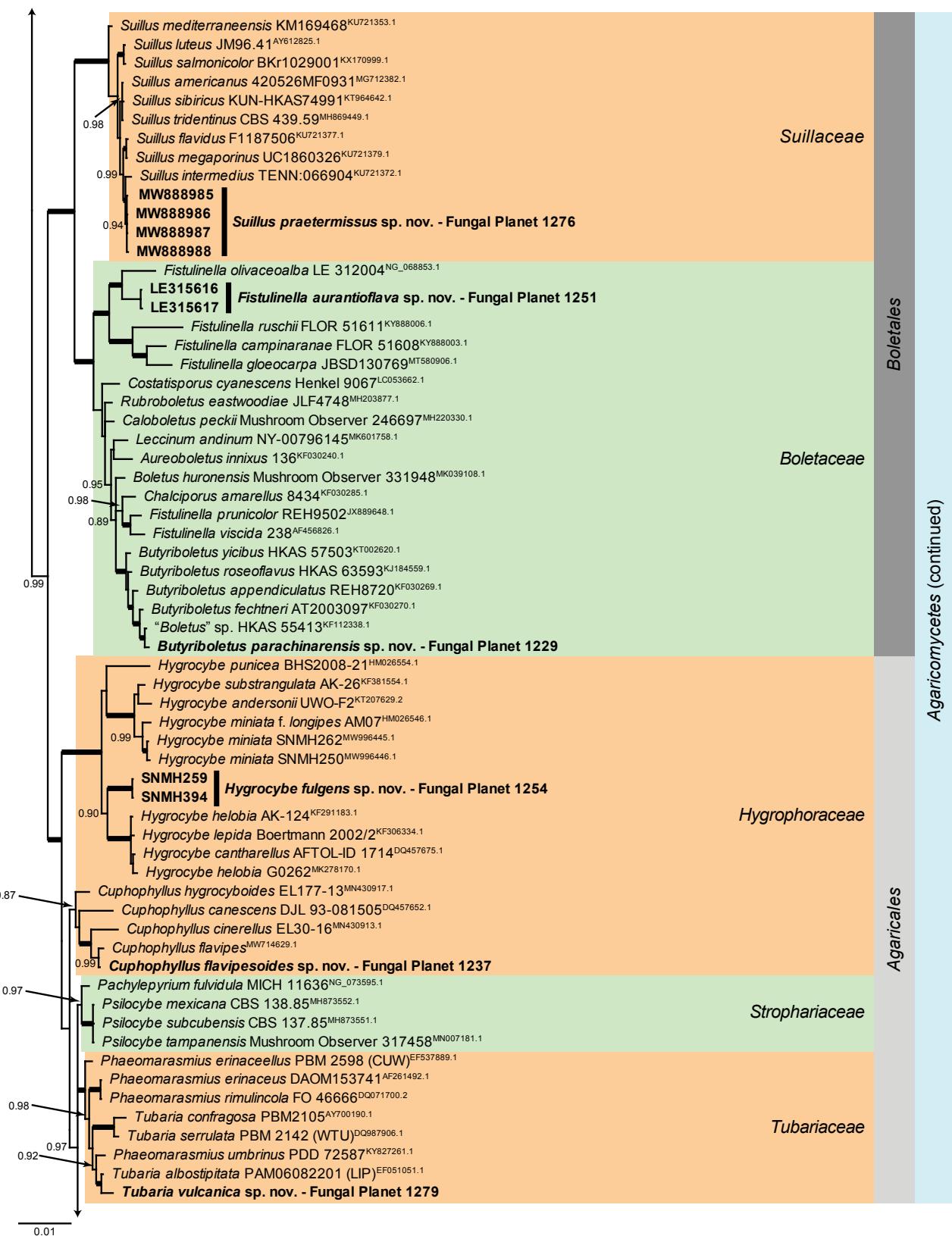
Acknowledgements Leslie W.S. de Freitas and colleagues express their gratitude to Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for scholarships provided to Leslie Freitas and for the research grant provided to André Luiz Santiago; their contribution was financed by the projects 'Diversity of *Mucoromycotina* in the different ecosystems of the Atlantic Rainforest of Pernambuco' (FACEPE–First Projects Program PPP/FACEPE/CNPq–APQ–0842-2.12/14) and 'Biology of conservation of fungi s.l. in areas of Atlantic Forest of Northeast Brazil' (CNPq/ICMBio 421241/2017-9). H.B. Lee was supported by the Graduate Program for the Undiscovered Taxa of Korea (NIBR202130202). The study of O.V. Morozova, E.F. Malysheva, V.F. Malysheva, I.V. Zmitrovich, and L.B. Kalinina was carried out within the framework of a research project of the Komarov Botanical Institute RAS (AAAA-A19-119020890079-6) using equipment of its Core Facility Centre 'Cell and Molecular Technologies in Plant Science'. The work of O. V. Morozova, L.B. Kalinina, T. Yu. Svetasheva, and E.A. Zvyagina was financially supported by Russian Foundation for Basic Research project no. 20-04-00349. E.A. Zvyagina and T.Yu. Svetasheva are grateful to A.V. Alexandrova, A.E. Kovalenko, A.S. Baykalova for the loan of specimens, T.Y. James, E.F. Malysheva and V.F. Malysheva for sequencing. J.D. Reyes acknowledges B. Dima for comparing the holotype sequence of *Cortinarius bonachei* with the sequences in his database. A. Mateos and J.D. Reyes acknowledge L. Quijada for reviewing the phylogeny and S. de la Peña-Lastra and P. Alvarado for their support and help. Vladimir I. Kapitonov and colleagues are grateful to Brigitta Kiss for help with their molecular studies. This study was conducted under research projects of the Tobolsk Complex Scientific Station of the Ural Branch of the Russian Academy of Sciences (N AAAA-A19-119011190112-5). E. Larsson acknowledges the Swedish Taxonomy Initiative, SLU Artdatabanken, Uppsala (dha.2019.4.3-13). The study of D.B. Raudabaugh and colleagues was supported by the Schmidt Science Fellows, in partnership with the Rhodes Trust. Gregorio Delgado is grateful to Michael Manning and Kamash Pillai (Eurofins EMLab P&K) for provision of laboratory facilities. Jose G. Maciá-Vicente acknowledges support from the German Research Foundation under grant MA7171/1-1, and from the Landes-Offensive zur Entwicklung Wissenschaftlich-ökonomischer Exzellenz (LOEWE) of the state of Hesse within the framework of the Cluster for Integrative Fungal Research (IPF). Thanks are also due to the authorities of the Cabañeros National Park and Los Alcornocales Natural Park for granting the collection permit and for support during field work. The study of Alina V. Alexandrova was carried out as part of the Scientific Project of the State Order of the Government of Russian Federation to Lomonosov Moscow State University No. 121032300081-7. Michał Gorczak was financially supported by the Ministry of Science and Higher Education through the Faculty of Biology, University of Warsaw intramural grant DSM 0117600-13. M. Gorczak acknowledges M. Klemens for sharing a photo of the Białowieża Forest logging site and M. Senderowicz for help with preparing the illustration. Ivona Kautmanová and D. Szabóvá were funded by the Operational Program of Research and Development and co-financed with the European Fund for Regional Development (EFRD). ITMS 26230120004: 'Building of research and development infrastructure for investigation of genetic biodiversity of organisms and joining IBOL initiative'. Ishika Bera, Aniket Ghosh, Jorinde Nuytinck and Annemieke Verbeken are grateful to the Director, Botanical Survey of India (Kolkata), Head of the Department of Botany & Microbiology & USIC Dept. HNB Garhwal University, Srinagar, Garhwal for providing research facilities. Ishika Bera and Aniket Ghosh acknowledge the staff of the forest department of Arunachal Pradesh for facilitating the macrofungal surveys to the restricted areas. Sergey Volobuev was supported by the Russian Science Foundation (RSF project N 19-77-00085). Aleksey V. Kachalkin and colleagues were supported by the Russian Science Foundation (grant No. 19-74-10002). The study of Anna M. Glushakova was carried out as part of the Scientific Project of the State Order of the Government of Russian Federation to Lomonosov Moscow

State University No. 121040800174-6. Tracey V. Steinrucken and colleagues were supported by AgriFutures Australia (Rural Industries Research and Development Corporation), through funding from the Australian Government Department of Agriculture, Water and the Environment, as part of its Rural Research and Development for Profit program (PRJ-010527). Neven Matičec and colleagues thank the Croatian Science Foundation for their financial support under the project grant HRZZ-IP-2018-01-1736 (ForFungiDNA). Ana Pošta thanks the Croatian Science Foundation for their support under the grant HRZZ-2018-09-7081. The research of Milan Špetík and co-authors was supported by Internal Grant of Mendel University in Brno No. IGA-ZF/2021-SI1003. K.C. Rajeshkumar thanks SERB, the Department of Science and Technology, Government of India for providing financial support under the project CRG/2020/000668 and the Director, Agharkar Research Institute for providing research facilities. Nikhil Ashtekar thanks CSIR-HRDG, INDIA, for financial support under the SRF fellowship (09/670(0090)/2020-EMRI), and acknowledges the support of the DIC Microscopy Facility, established by Dr Karthick Balasubramanian, B&P (Plants) Group, ARI, Pune. The research of Alla Eddine Mahamedi and co-authors was supported by project No. CZ.02.1.01/0.0/0.0/16_017/0002334, Czech Republic. Tereza Tejková is thanked for providing useful literature. A. Polhorský and colleagues were supported by the Operational Program of Research and Development and co-financed with the European fund for Regional Development (EFRD), ITMS 26230120004: Building of research and development infrastructure for investigation of genetic biodiversity of organisms and joining IBOL initiative. Yu Pei Tan and colleagues thank R. Chen for her technical support. Ernest Lacey thanks the Cooperative Research Centres Projects scheme (CRCP-FIVE000119) for its support. Suchada Mongkolsamrit and colleagues were financially supported by the Platform Technology Management Section, National Center for Genetic Engineering and Biotechnology (BIOTEC), Project Grant No. P19-50231. Dilnora Gouliamova and colleagues were supported by a grant from the Bulgarian Science Fund (KP-06-H31/19). The research of Timofey A. Pankratov was supported by the Russian Foundation for Basic Research (grant No. 19-04-00297a). Gabriel Moreno and colleagues wish to express their gratitude to L. Monje and A. Pueblas of the Department of Drawing and Scientific Photography at the University of Alcalá for their help in the digital preparation of the photographs, and to J. Rejos, curator of the AH herbarium, for his assistance with the specimens examined in the present study. Vit Hubka was supported by the Charles University Research Centre program No. 204069. Alena Kubáčová was supported by The National Programme on Conservation and Utilization of Microbial Genetic Resources Important for Agriculture (Ministry of Agriculture of the Czech Republic). The Kits van Waveren Foundation (Rijksherbariumfonds Dr E. Kits van Waveren, Leiden, Netherlands) contributed substantially to the costs of sequencing and travelling expenses for M. Noordeloos. The work of B. Dima was supported by the ÚNKP-20-4 New National Excellence Program of the Ministry for Innovation and Technology from the source of the National Research, Development and Innovation Fund, and by the ELTE Thematic Excellence Programme 2020 supported by the National Research, Development and Innovation Office of Hungary (TKP2020-IKA-05). The Norwegian *Entoloma* studies received funding from the Norwegian Biodiversity Information Centre (NBIC), and the material was partly sequenced through NorBOL. Gunnhild Marthinsen and Katriina Bendiksen (Natural History Museum, University of Oslo, Norway) are acknowledged for performing the main parts of the *Entoloma* barcoding work. Asunción Morte is grateful to AEI/FEDER, UE (CGL2016-78946-R) and Fundación Séneca - Agencia de Ciencia y Tecnología de la Región de Murcia (20866/PI/18) for financial support. Vladimír Ostrý was supported by the Ministry of Health, Czech Republic - conceptual development of research organization (National Institute of Public Health – NIPH, IN 75010330). Konstanze Bensch (Westerdijk Fungal Biodiversity Institute, Utrecht) is thanked for correcting the spelling of various Latin epithets.

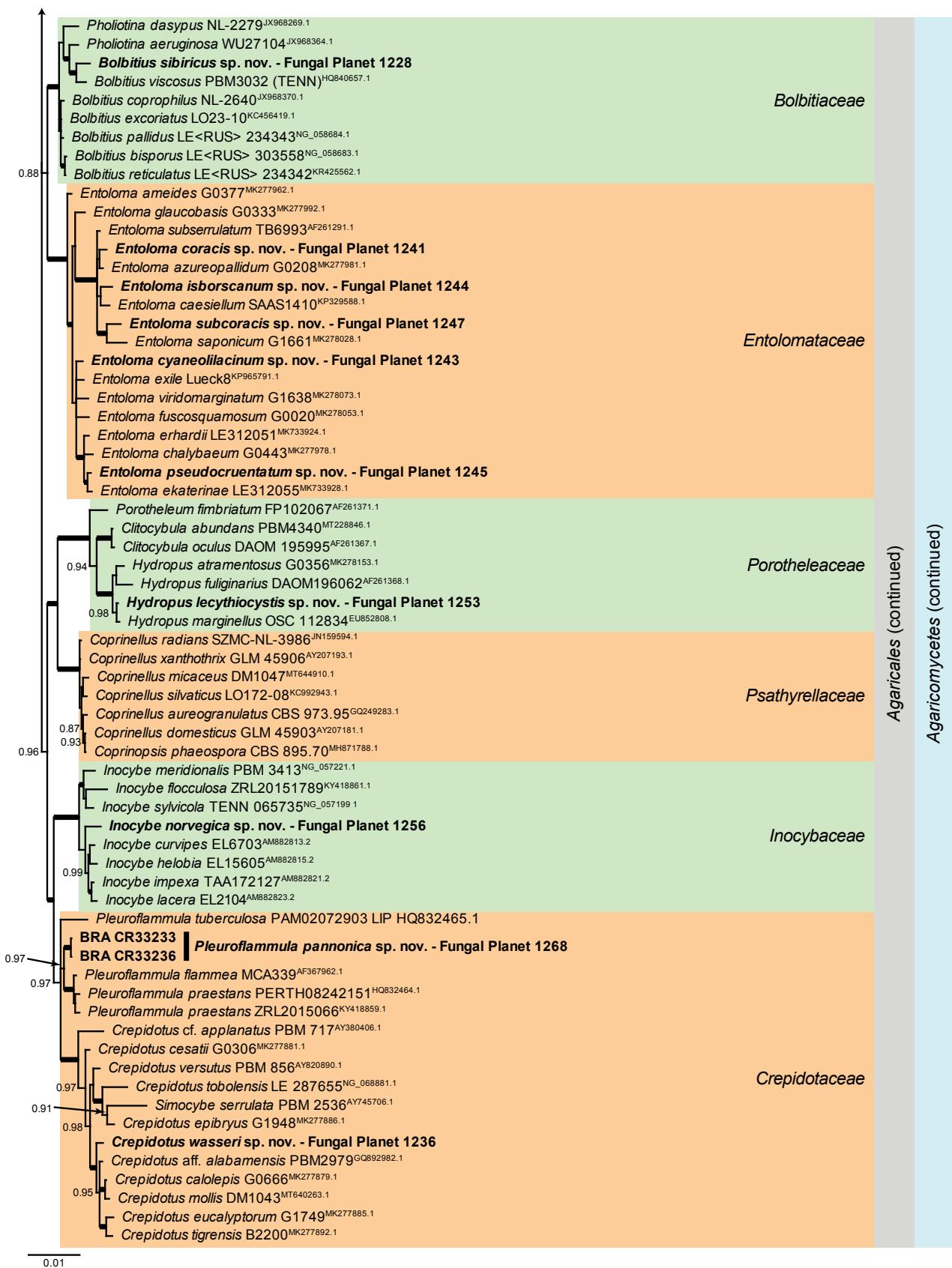


Overview Agaricomycetes phylogeny – part 1

Consensus phylogram (50 % majority rule) of 279752 trees resulting from a Bayesian analysis of the LSU sequence alignment (170 sequences including outgroup; 948 aligned positions; 553 unique site patterns; 1865000 generations with trees sampled every 10 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families, orders and classes are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Backusella lamprospora* (GenBank MH866118.1) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



Overview Agaricomycetes phylogeny (cont.) – part 2

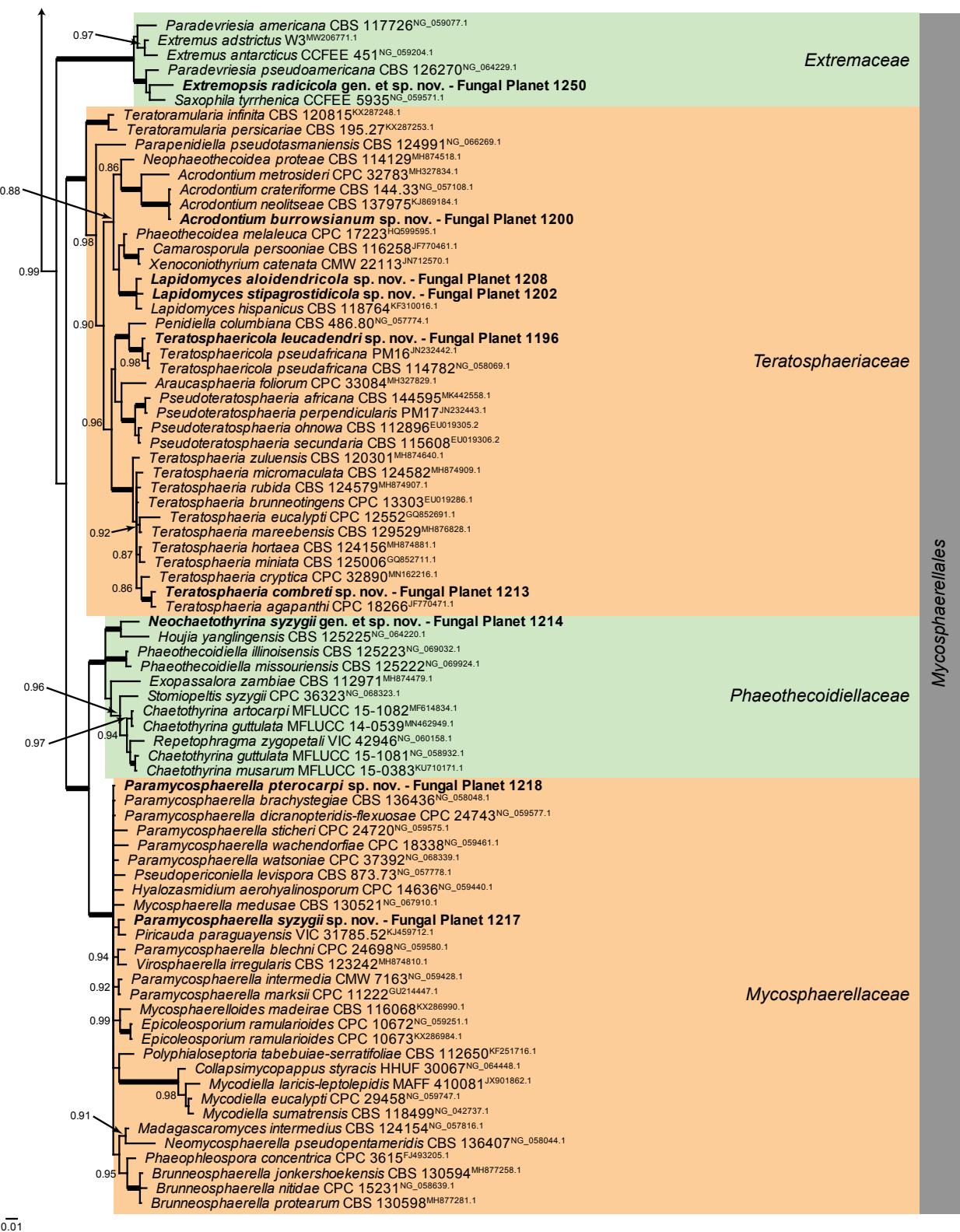


Overview Agaricomycetes phylogeny (cont.) – part 3



Overview Dothideomycetes (Other orders) phylogeny – part 1

Consensus phylogram (50 % majority rule) of 56 102 trees resulting from a Bayesian analysis of the LSU sequence alignment (179 sequences including out-group; 832 aligned positions; 378 unique site patterns; 3 740 000 generations with trees sampled every 100 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.0. The scale bar represents the expected changes per site. Families and orders are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Diaporthe perjuncta* (GenBank NG_059064.1) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The most basal branched was halved in length to facilitate layout. The alignment and tree were deposited in TreeBASE (Submission ID 28129).

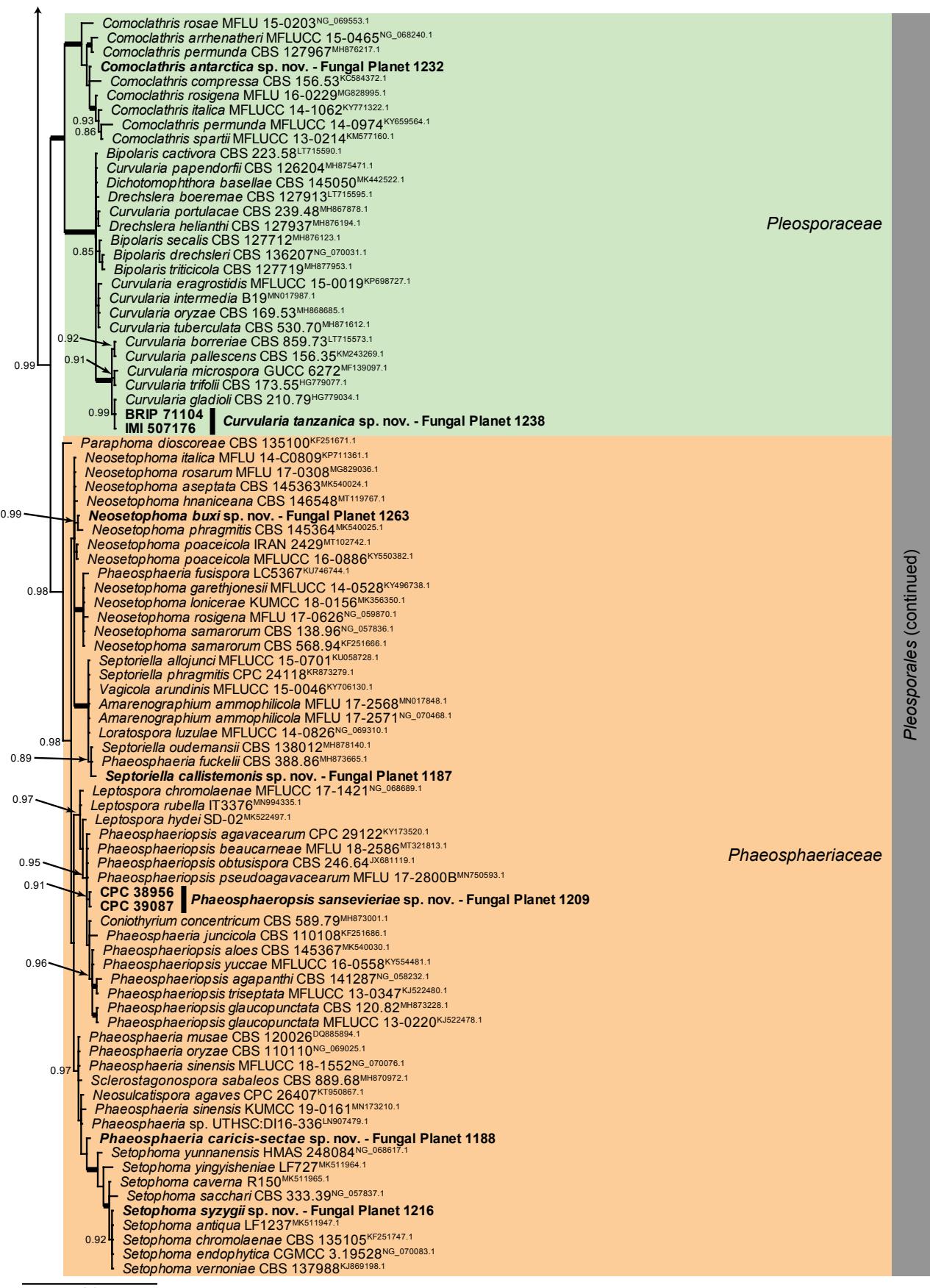


Overview Dothideomycetes (Other orders) phylogeny – part 2

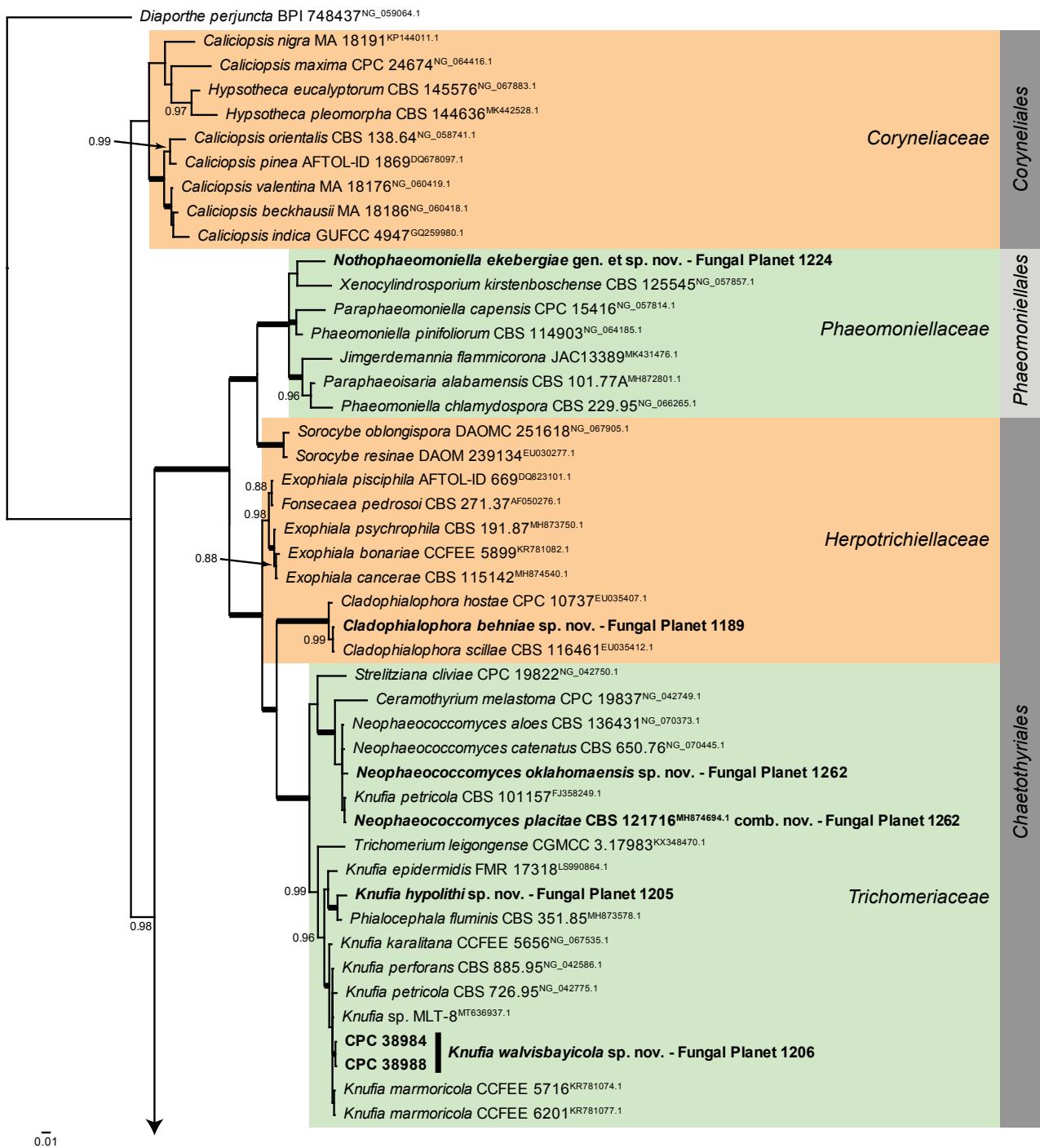


Overview Dothideomycetes (Pleosporales) phylogeny – part 1

Consensus phylogram (50 % majority rule) of 91,128 trees resulting from a Bayesian analysis of the LSU sequence alignment (170 sequences including out-group; 799 aligned positions; 295 unique site patterns; 6 075 000 generations with trees sampled every 100 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families and orders are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Diaporthe perjuncta* (GenBank NG_059064.1) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).

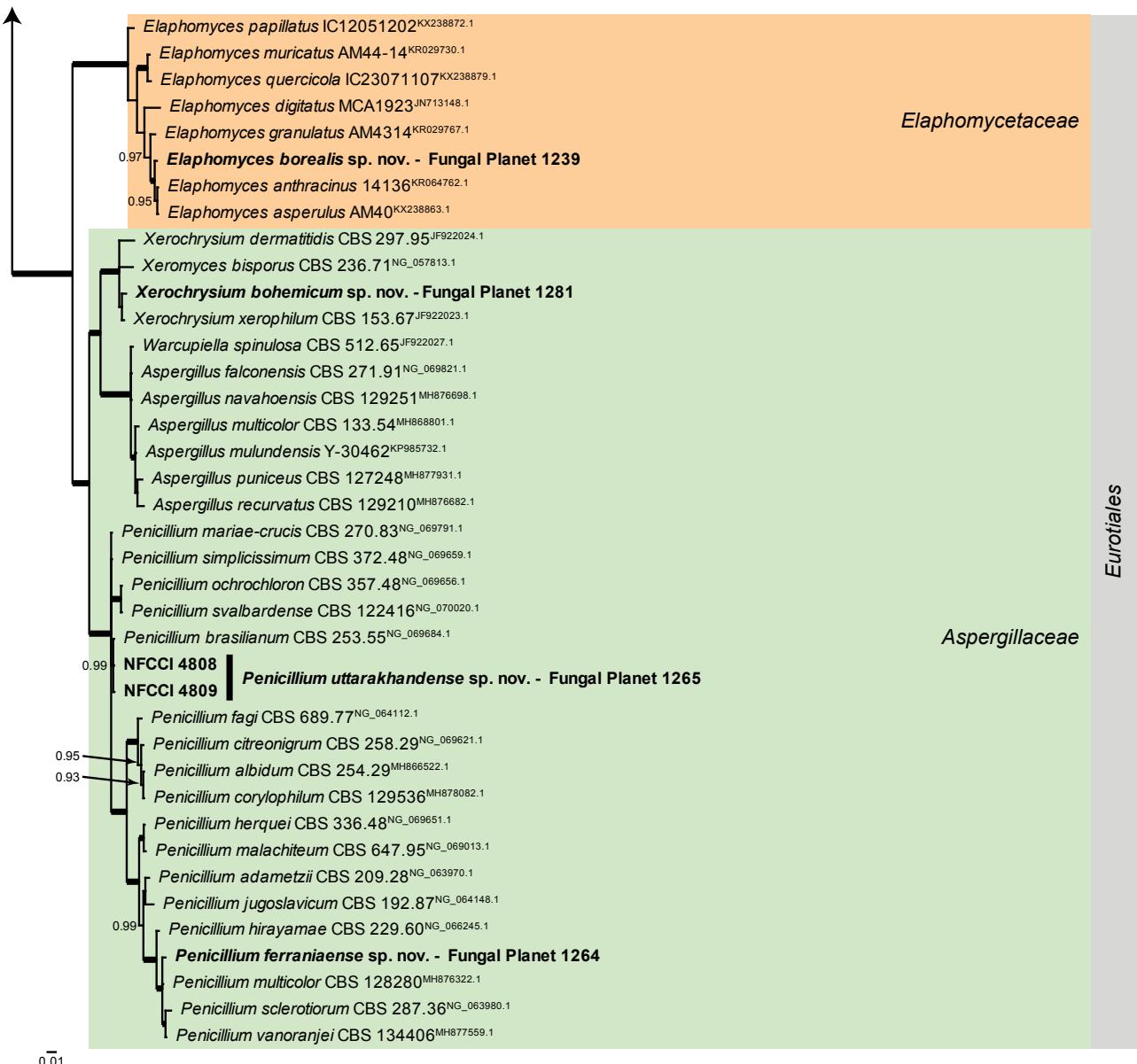


Overview Dothideomycetes (*Pleosporales*) phylogeny – part 2

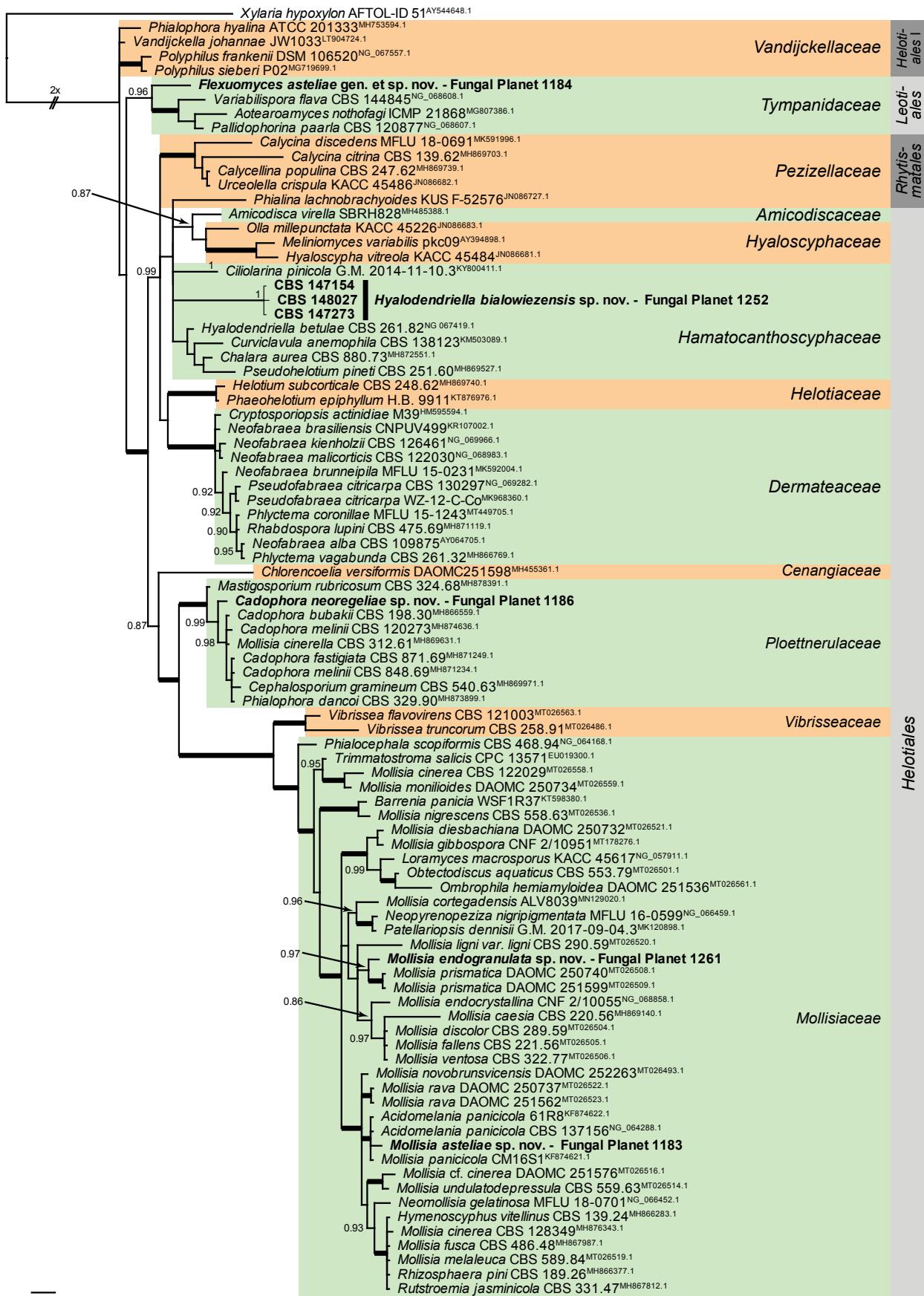


Overview Eurotiomycetes phylogeny – part 1

Consensus phylogram (50 % majority rule) of 146 252 trees resulting from a Bayesian analysis of the LSU sequence alignment (85 sequences including out-group; 847 aligned positions; 357 unique site patterns; 1 010 000 generations with trees sampled every 10 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families and orders are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Diaporthe perjuncta* (GenBank NG_059064.1) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in **bold** face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



Overview Eurotiomycetes phylogeny – part 2



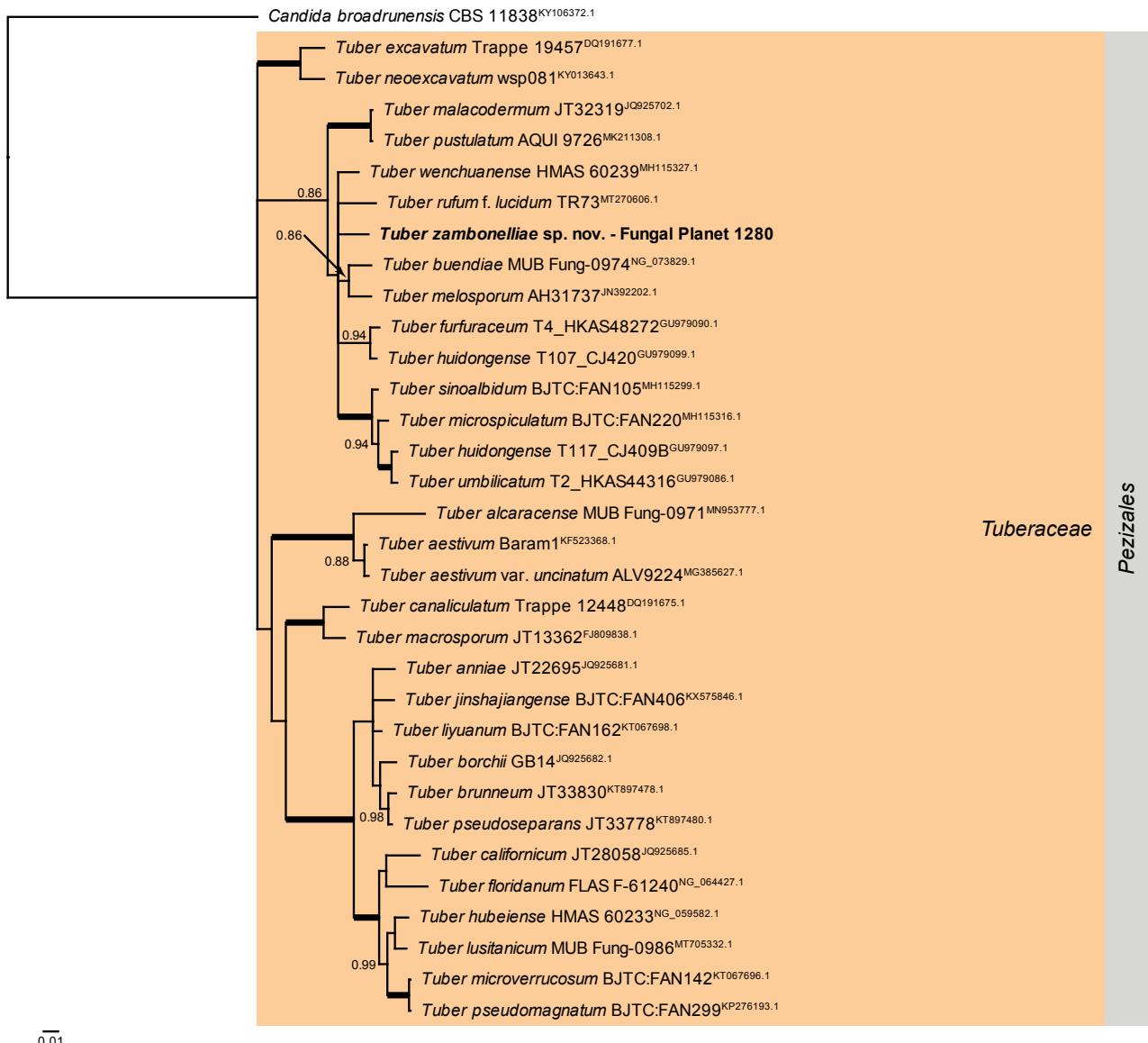
Overview Leotiomycetes phylogeny

Consensus phylogram (50 % majority rule) of 408 002 trees resulting from a Bayesian analysis of the LSU sequence alignment (90 sequences including out-group; 826 aligned positions; 283 unique site patterns; 2 720 000 generations with trees sampled every 10 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families and orders are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Xylaria hypoxylon* (GenBank AY544648.1) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The most basal branched was halved in length to facilitate layout. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



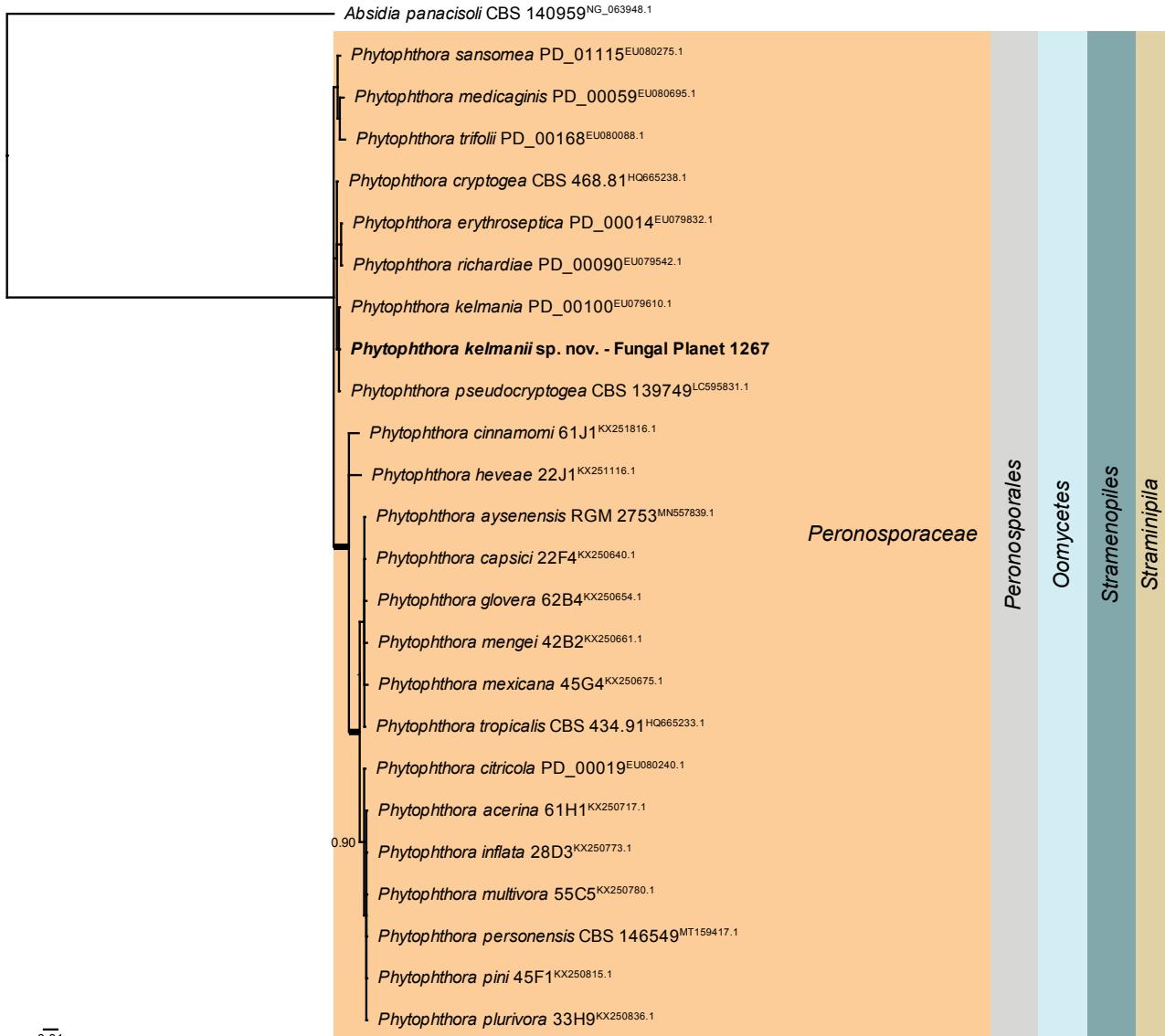
Overview Mucoromycetes phylogeny

Consensus phylogram (50 % majority rule) of 141 002 trees resulting from a Bayesian analysis of the LSU sequence alignment (22 sequences including outgroup; 660 aligned positions; 319 unique site patterns; 47 000 generations with trees sampled every five generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. The higher taxonomic classification is indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Chytridium lagenaria* (GenBank FJ804156.1) and the taxonomic novelty described in this study for which LSU sequence data were available is indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



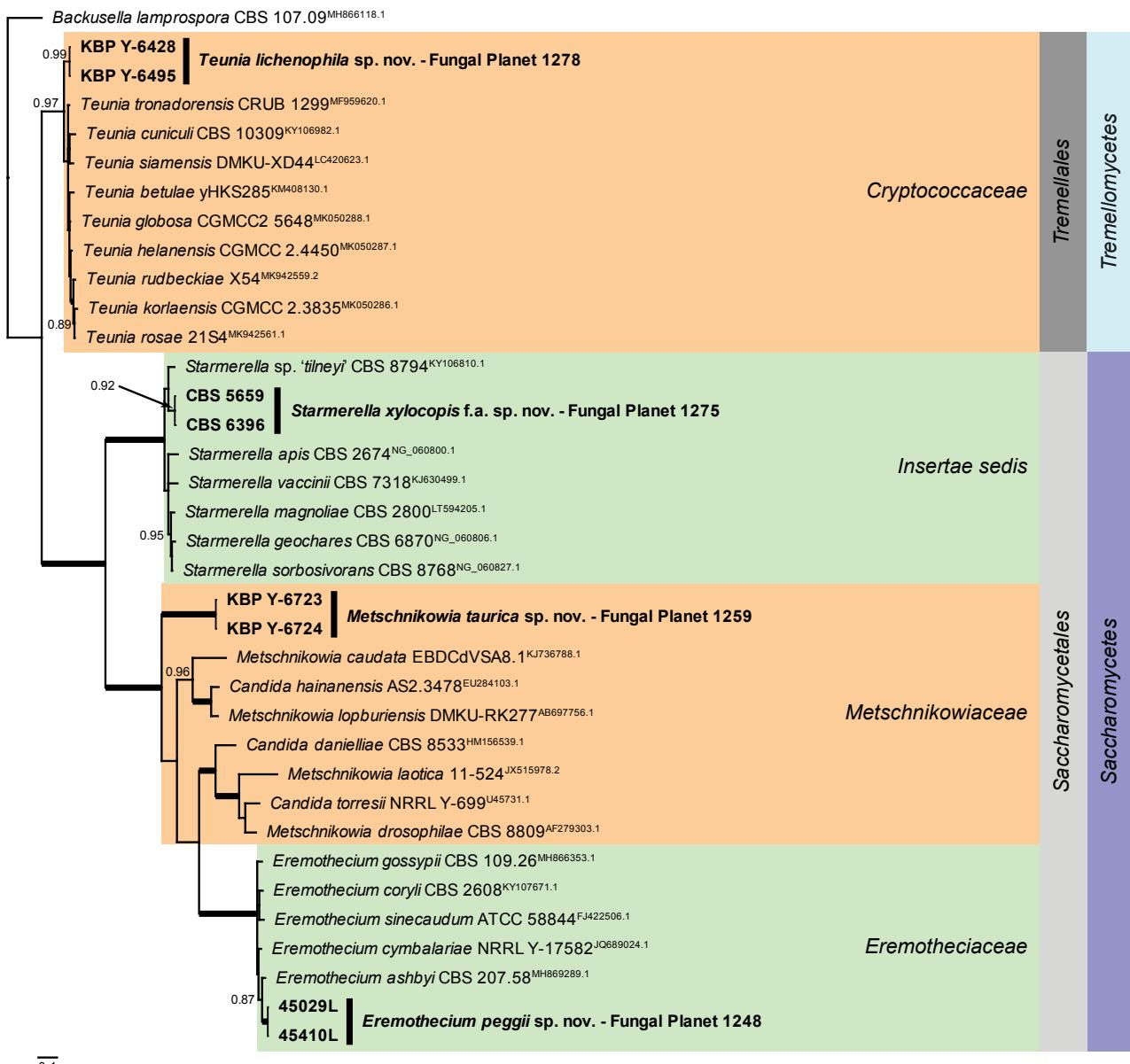
Overview Pezizomycetes phylogeny

Consensus phylogram (50 % majority rule) of 87 002 trees resulting from a Bayesian analysis of the LSU sequence alignment (33 sequences including outgroup; 792 aligned positions; 203 unique site patterns; 290 000 generations with trees sampled every five generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. The family and order are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Candida broadrunensis* (GenBank KY106372.1) and the taxonomic novelty described in this study for which LSU sequence data were available is indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



Overview *Phytophthora* phylogeny

Consensus phylogram (50 % majority rule) of 64 502 trees resulting from a Bayesian analysis of the LSU sequence alignment (25 sequences including outgroup; 1 110 aligned positions; 68 unique site patterns; 215 000 generations with trees sampled every five generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. The higher taxonomic classification is indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Absidia panacisoli* (GenBank NG_063948.1) and the taxonomic novelty described in this study for which LSU sequence data were available is indicated in **bold** face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



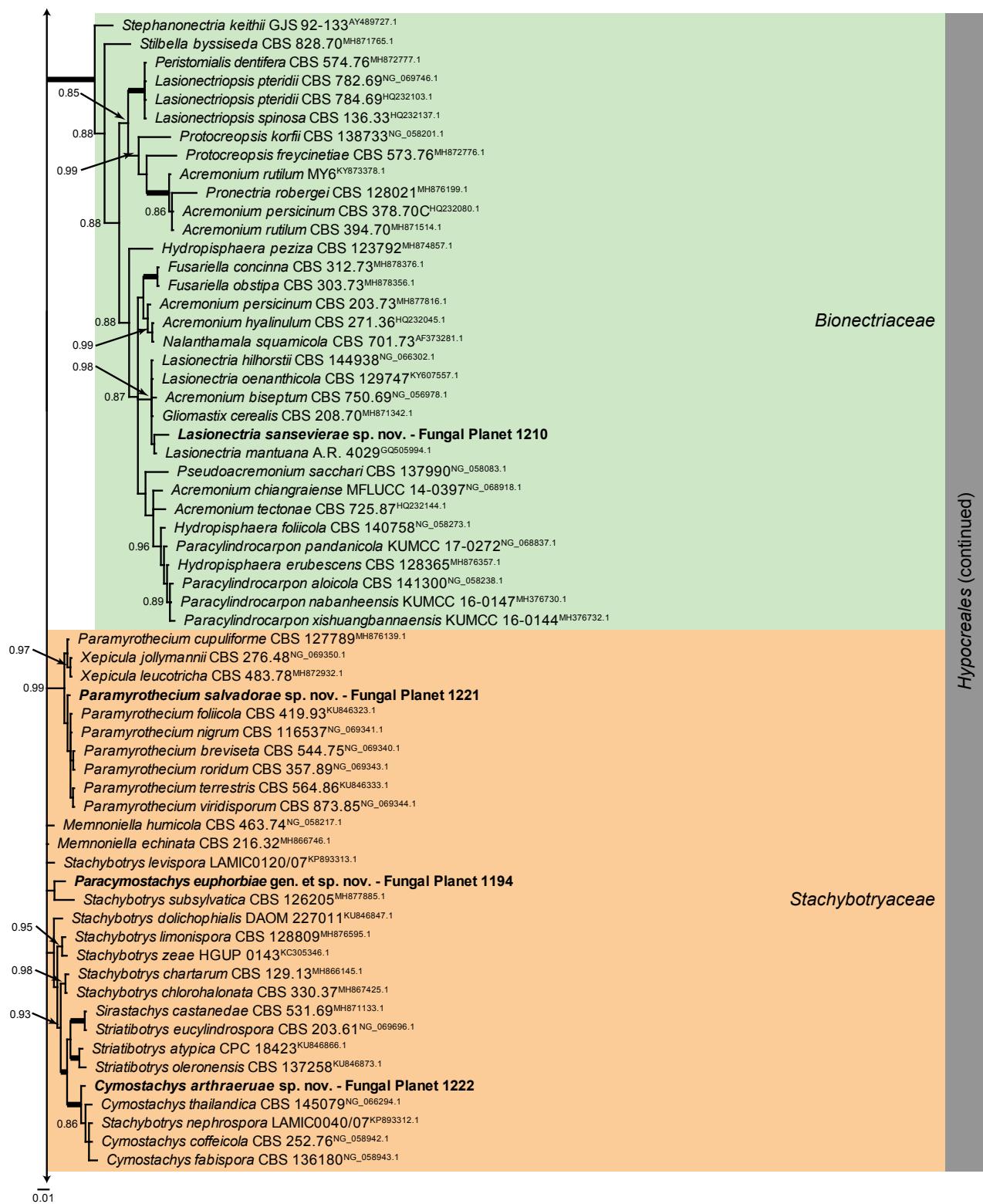
Overview *Saccharomycetes* and *Tremellomycetes* phylogeny

Consensus phylogram (50 % majority rule) of 136 502 trees resulting from a Bayesian analysis of the LSU sequence alignment (36 sequences including out-group; 667 aligned positions; 432 unique site patterns; 910 000 generations with trees sampled every 10 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. The families, orders and classes are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Backusella lamprospora* (GenBank MH866118.1) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).

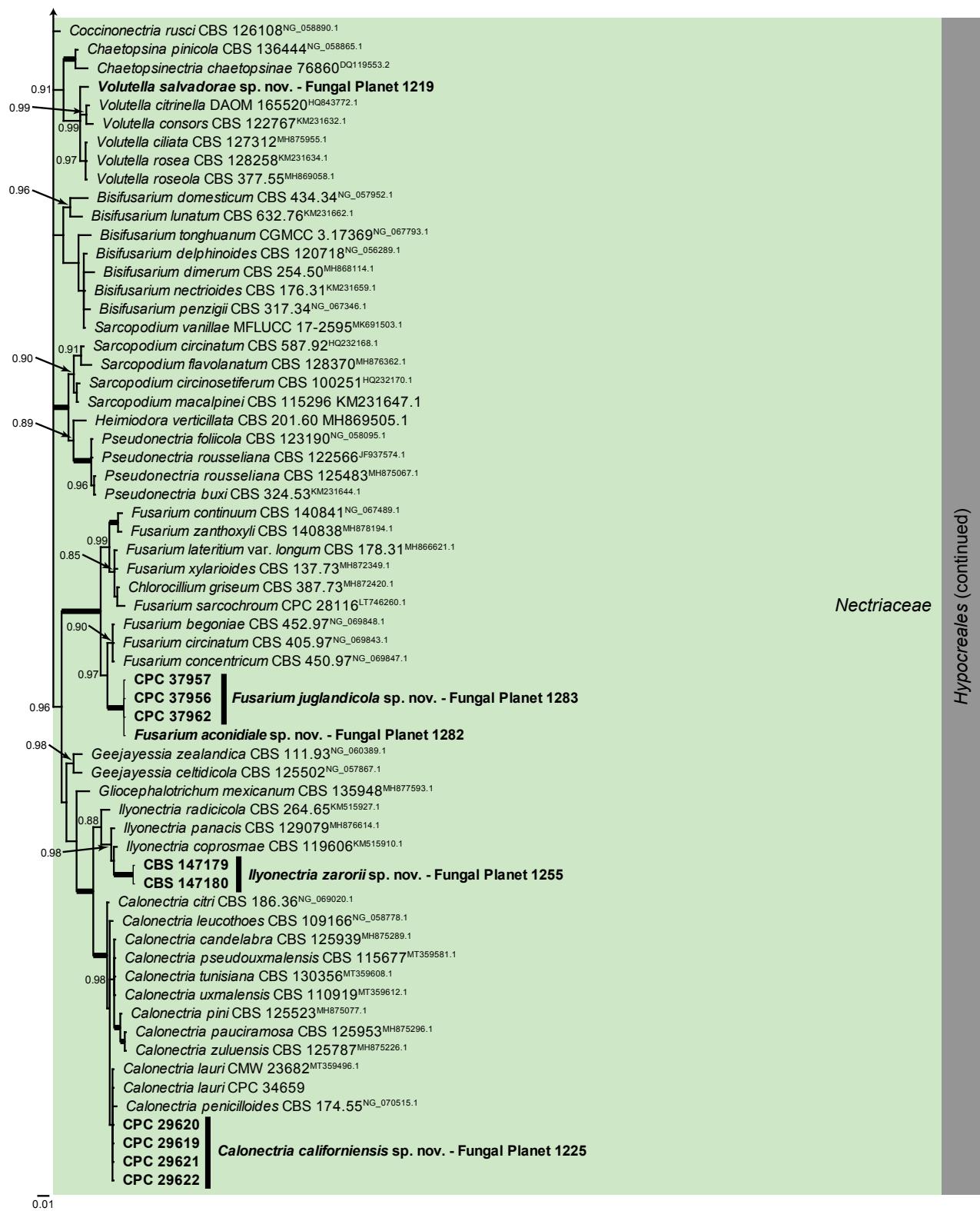


Overview Sordariomycetes (Falcidioliales, Glomerellales and Hypocreales) phylogeny – part 1

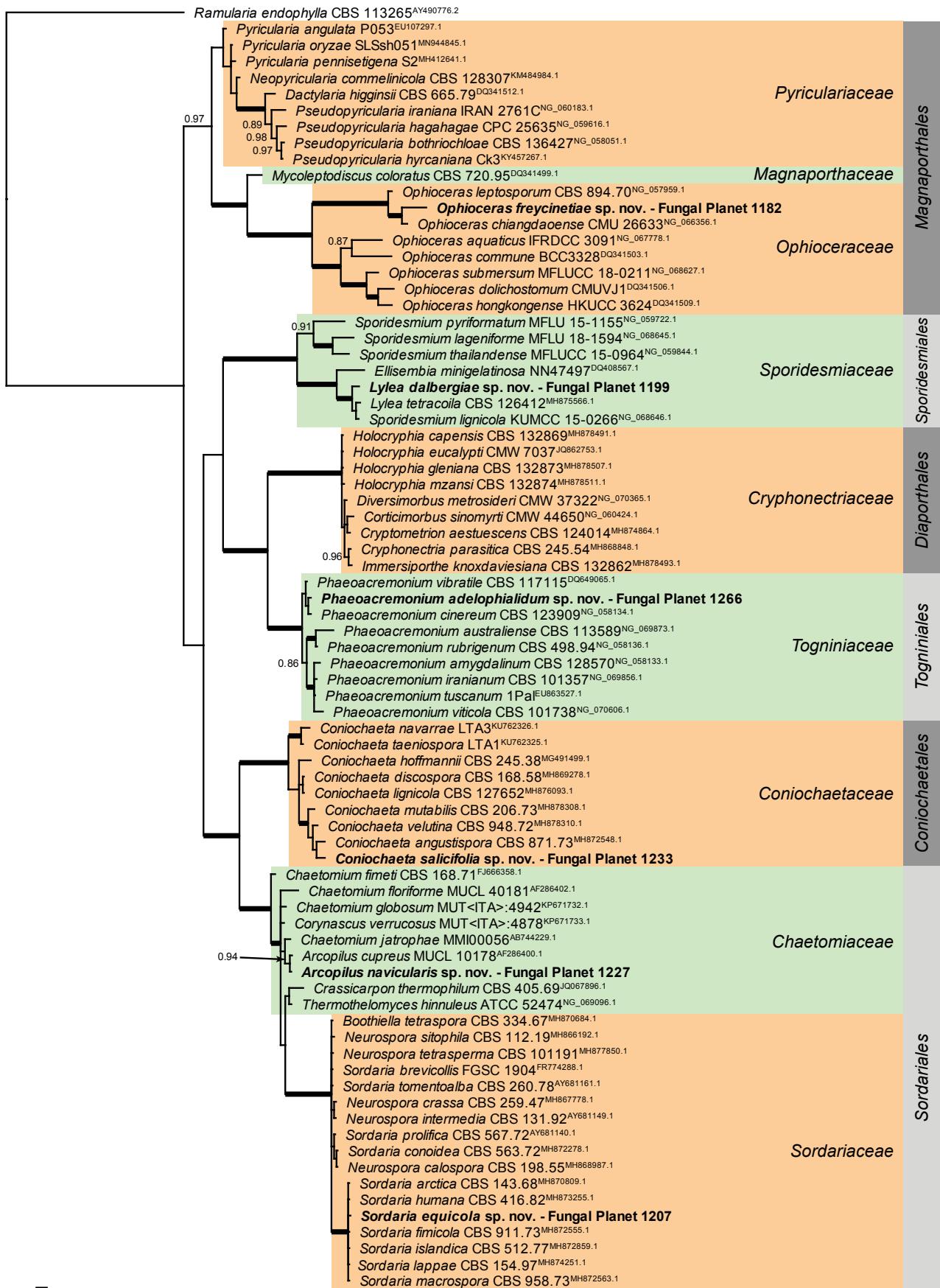
Consensus phylogram (50 % majority rule) of 846978 trees resulting from a Bayesian analysis of the LSU sequence alignment (194 sequences including outgroup; 816 aligned positions; 310 unique site patterns; 56465000 generations with trees sampled every 100 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families and orders are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Ramularia endophylla* (GenBank AY490776.2) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



Overview Sordariomycetes (Falcocladiales, Glomerellales and Hypocreales) phylogeny (cont.) – part 2

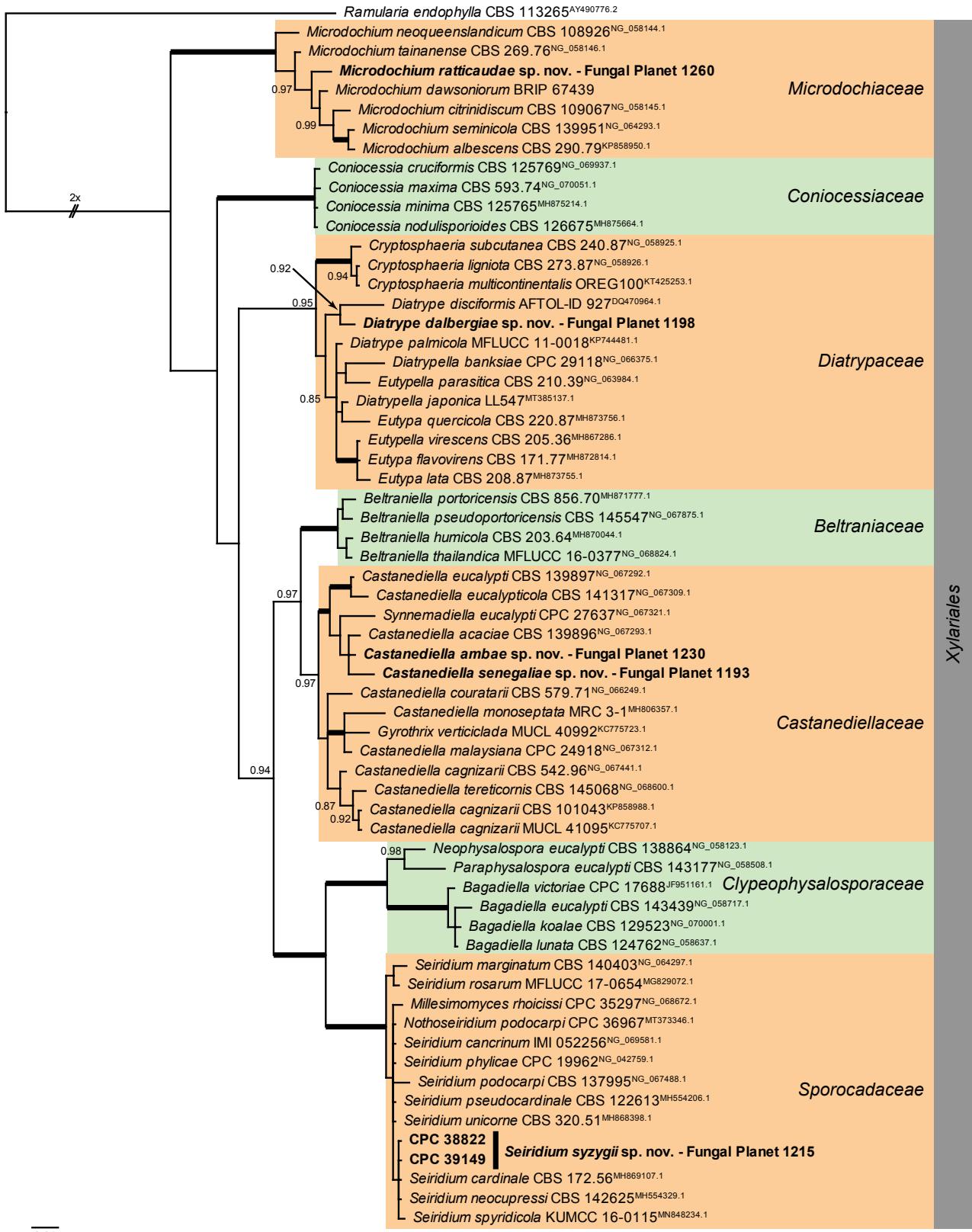


Overview Sordariomycetes (Falcocladiales, Glomerellales and Hypocreales) phylogeny (cont.) – part 3



Overview Sordariomycetes (Other orders) phylogeny

Consensus phylogram (50 % majority rule) of 229,502 trees resulting from a Bayesian analysis of the LSU sequence alignment (79 sequences including out-group; 813 aligned positions; 293 unique site patterns; 1,530,000 generations with trees sampled every 10 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families and orders are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Ramularia endophylla* (GenBank AY490776.2) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



Overview Sordariomycetes (Xylariales) phylogeny

Consensus phylogram (50 % majority rule) of 118502 trees resulting from a Bayesian analysis of the LSU sequence alignment (63 sequences including out-group; 800 aligned positions; 192 unique site patterns; 790 000 generations with trees sampled every 10 generations) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. Families and the order are indicated with coloured blocks to the right of the tree. Culture collection/voucher, GenBank accession (in superscript) and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Ramularia endophylla* (GenBank AY490776.2) and the taxonomic novelties described in this study for which LSU sequence data were available are indicated in bold face. The most basal branched was halved in length to facilitate layout. The alignment and tree were deposited in TreeBASE (Submission ID 28129).



Fungal Planet 1238 – 13 July 2021

***Curvularia tanzanica* Y.P. Tan, Dhileepan, Ntandu, Kurose & R.G. Shivas, sp. nov.**

Etymology. Name refers to Tanzania, the country from which it was collected.

Classification — *Pleosporaceae*, *Pleosporales*, *Dothideomycetes*.

Hyphae pale brown, smooth or verruculose, branched and septate, up to 3–6 µm wide. **Conidiophores** erect, straight to flexuous, geniculate towards apex, brown, smooth, septate, 50–110 × 3–4 µm, lateral or terminal, unbranched or sparingly branched. **Conidiogenous cells** intercalary and terminal, brown, smooth to minutely verruculose, polytritic with darkened scars. **Conidia** cylindrical to narrowly ellipsoidal, straight, rounded at the apex, 21–32 × 8–12 µm, 3(–4)-distoseptate, brown to dark brown, end cells paler than others, third cell from base sometimes larger and darker than others; **hila** conspicuous, protuberant, thickened, darkened, 2–3 µm wide.

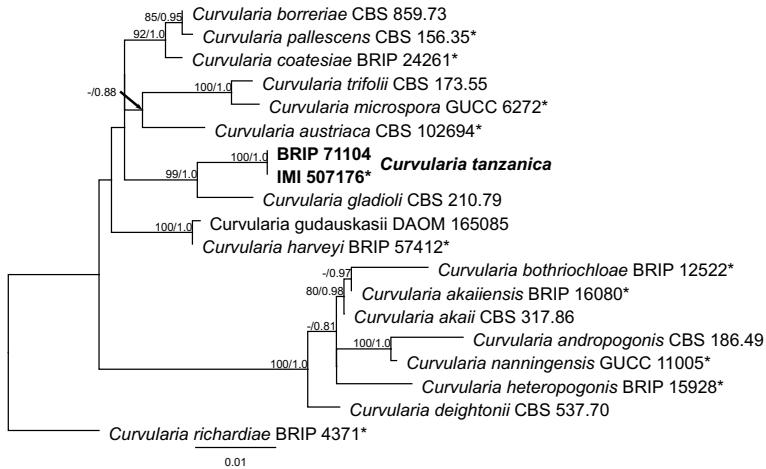
Culture characteristics — Colonies on potato dextrose agar approx. 4 cm diam after 7 d at 25 °C, surface with little aerial mycelium, dark brown to black.

Typus. TANZANIA, Korogwe, Msambiasi, S05°07'57" E038°23'10", on inflorescence of *Cyperus aromaticus* (Cyperaceae), 22 Dec. 2019, J.E. Ntandu, K. Dhileepan, M.D.E. Shivas & R.G. Shivas (holotype BRIP 71771, culture ex-type IMI 507176, ITS, LSU and *gapdh* sequences GenBank MW396857, MW396841 and MW388669, MycoBank MB 838305).

Additional material examined. TANZANIA, Korogwe, Msambiasi, S05°07'57" E038°23'10", from inflorescence of *Cyperus aromaticus* (Cyperaceae), 22 Dec. 2019, J.E. Ntandu, K. Dhileepan, M.D.E. Shivas & R.G. Shivas, BRIP 71104, ITS, LSU and *gapdh* sequences GenBank MW396856, MW396840 and MW388668.

Notes — *Curvularia tanzanica* is only known from collections on *Cyperus aromaticus* (syn: *Kyllinga polypylla*) (Cyperaceae) in Tanzania. *Curvularia tanzanica* was discovered while searching for plant pathogens on *C. aromaticus* in its native range in equatorial Africa. The aim of the surveys was to find plant pathogens that may have potential for the biological control of *C. aromaticus* in northern Queensland, Australia, where the sedge has become an invasive weed in pastures and sugar cane crops. *Curvularia tanzanica* colonised the floral parts of *C. aromaticus* that superficially resembled the darkened crustose inflorescences of *Sporobolus* spp. (Poaceae) covered (and sometimes destroyed) by certain species of *Curvularia* spp. (Luttrell 1976, Alcorn 1982, Tan et al. 2018).

The multilocus phylogenetic analysis of the ITS and *gapdh* loci placed *C. tanzanica* sister to *C. gladioli* strain CBS 210.79. Based on a blastn search, *C. tanzanica* differs from *C. gladioli* in ITS (GenBank LT631345; Identities 558/565 (99 %), no gaps) and *gapdh* (GenBank LT715802; Identities 531/540 (98 %), no gaps). Morphologically, *C. tanzanica* has straight conidia, which differentiates it from *C. gladioli* (illustrated in Parmelee (1956) as *C. trifolii* f. sp. *gladioli*) with curved conidia (the third cell from the base is swollen and convex on one side).



Phylogenetic tree of selected *Curvularia* species based on a maximum likelihood analysis of a combined multilocus alignment (ITS and *gapdh*). Analyses were performed on the Geneious v. 11.1.2 platform (Biomatters Ltd.) using RAxML v. 8.2.11 (Stamatakis 2014) and MrBayes v. 3.2.6 (Ronquist & Huelsenbeck 2003), both based on the GTR substitution model with gamma-distribution rate variation. Branch lengths are proportional to distance. RAxML bootstrap (bs) values greater than 70 % and Bayesian posterior probabilities (pp) greater than 0.8 are given at the nodes (bs/pp). *Curvularia richardiae* was used as outgroup. Novel taxon is indicated in bold. Ex-type strains are marked with an asterisk (*).

Colour illustrations. Kunjithapatham Dhileepan in sedgeland, eastern Tanzania. Inflorescence of *Cyperus aromaticus* colonised by *Curvularia tanzanica*; conidiophores; conidia. Scale bars = 1 mm (inflorescence), 10 µm (others).

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