Persoonia 47, 2021: 178 – 374
www.ingentaconnect.com/content/nhn/pimj
RESEARCH ARTICLE
ISSN (Online) 1878-9080
https://doi.org/10.3767/persoonia.2021.47.06

Fungal Planet description sheets: 1284 – 1382

P.W. Crous[1,2], E.R. Osieck[3], Ž. Jurjević[4], J. Boers[5], A.L. van Iperen[1], M. Starink-Willemse[1], B. Dima[6], S. Balashov[4], T.S. Bulgakov[7], P.R. Johnston[8], O.V. Morozova[9], U. Pinruan[10], S. Sommai[10], P. Alvarado[11], C.A. Decock[12], T. Lebel[13], S. McMullan-Fisher[14], G. Moreno[15], R.G. Shivas[16], L. Zhao[1], J. Abdollahzadeh[17], M. Abrinbana[18], D.V. Ageev[19], G. Akhmetova[6], A.V. Alexandrova[20], A. Altés[15], A.G.G. Amaral[21], C. Angelini[22,23], V. Antonín[23], F. Arenas[24], P. Asselman[25], F. Badali[18], A. Baghela[26,27], A. Bañares[28], R.W. Barreto[29], I.G. Baseia[30], J.-M. Bellanger[31], A. Berraf-Tebbal[32], A.Yu. Biketova[33,34], N.V. Bukharova[35], T.I. Burgess[36], J. Cabero[37], M.P.S. Câmara[21], J.F. Cano-Lira[38], P. Ceryngier[39], R. Chávez[40], D.A. Cowan[41], A.F. de Lima[21], R.L. Oliveira[42], S. Denman[43], Q.N. Dang[44], F. Dovana[45], I.G. Duarte[21], A. Eichmeier[32], A. Erhard[4], F. Esteve-Raventós[15], A. Fellin[46], G. Ferisin[47], R.J. Ferreira[48], A. Ferrer[49], P. Finy[50], E. Gaya[51], A.D.W. Geering[52], C. Gil-Durán[40], K. Glässnerová[53], A.M. Glushakova[20,54], D. Gramaje[55], F.E. Guard[56], A.L. Guarnizo[24], D. Haelewaters[25,57], R.E. Halling[58], R. Hill[51], Y. Hirooka[59], V. Hubka[53,60], V.A. Iliushin[9], D.D. Ivanova[61], N.E. Ivanushkina[62], P. Jangsantear[63], A. Justo[64], A.V. Kachalkin[20,62], S. Kato[59], P. Khamsuntorn[65], I.Y. Kirtsideli[9], D.G. Knapp[6], G.A. Kochkina[62], O. Koukol[66], G.M. Kovács[6], J. Kruse[67], T.K.A. Kumar[68], I. Kušan[69], T. Læssøe[70], E. Larsson[71], R. Lebeuf[72], G. Levicán[40], M. Loizides[73], P. Marinho[74], J.J. Luangsa-ard[10], E.G. Lukina[75], V. Magaña-Dueñas[38], G. Maggs-Kölling[76], E.F. Malysheva[9], V.F. Malysheva[9], B. Martín[77], M.P. Martín[78], N. Matočec[69], A.R. McTaggart[79], M. Mehrabi-Koushki[80,81], A. Mešić[69], A.N. Miller[82], P. Mironova[25], P.-A. Moreau[83], A. Morte[24], K. Müller[84], L.G. Nagy[33], S. Nanu[68], A. Navarro-Ródenas[24], W. Nel[2], T.H. Nguyen[44], T.F. Nóbrega[29], M.E. Noordeloos[85], I. Olariaga[86], B.E. Overton[87], S.M. Ozerskaya[62], P. Palani[88], F. Pancorbo[89], V. Papp[90], J. Pawłowska[91], T.Q. Pham[44], C. Phosri[92], E.S. Popov[9], A. Portugal[93,94], A. Pošta[69], K. Reschke[95], M. Reul[96], G.M. Ricci[87], A. Rodríguez[24], J. Romanowski[39], N. Ruchikachorn[97], I. Saar[98], A. Safi[80], B. Sakolrak[63], F. Salzmann[99], M. Sandoval-Denis[1], E. Sangwichein[100], L. Sanhueza[49], T. Sato[101], A. Sastoque[38], B. Senn-Irlet[102], A. Shibata[59], K. Siepe[103], S. Somrithipol[10], M. Spetik[32], P. Sridhar[88], A.M. Stchigel[38], K. Stuskova[32], N. Suwannasai[104], Y.P. Tan[105], R. Thangavel[106], I. Tiago[93], S. Tiwari[26,27], Z. Tkalčec[69], M.A. Tomashevskaya[62], C. Tonegawa[59], H.X. Tran[44], N.T. Tran[52], J. Trovão[93], V.E. Trubitsyn[62], J. Van Wyk[107], W.A.S. Vieira[21], J. Vila[108], C.M. Visagie[2], A. Vizzini[109], S.V. Volobuev[9], D.T. Vu[110], N. Wangsawat[111], T. Yaguchi[60], E. Ercole[112], B.W. Ferreira[29], A.P. de Souza[113], B.S. Vieira[113], J.Z. Groenewald[1]

Key words

ITS nrDNA barcodes
LSU
new taxa
systematics

Abstract Novel species of fungi described in this study include those from various countries as follows: **Antartica**, *Cladosporium austrolitorale* from coastal sea sand. **Australia**, *Austroboletus yourkae* on soil, *Crepidotus innuopurpureus* on dead wood, *Curvularia stenotaphri* from roots and leaves of *Stenotaphrum secundatum* and *Thecaphora stajsicii* from capsules of *Oxalis radicosa*. **Belgium**, *Paraxerochrysium coryli* (incl. *Paraxerochrysium* gen. nov.) from *Corylus avellana*. **Brazil**, *Calvatia nordestina* on soil, *Didymella tabebuiicola* from leaf spots on *Tabebuia aurea, Fusarium subflagellisporum* from hypertrophied floral and vegetative branches of *Mangifera indica* and *Microdochium maculosum* from living leaves of *Digitaria insularis*. **Canada**, *Cuphophyllus bondii* from a grassland. **Croatia**, *Mollisia inferiseptata* from a rotten *Laurus nobilis* trunk. **Cyprus**, *Amanita exilis* on calcareous soil. **Czech Republic**, *Cytospora hippophaicola* from wood of symptomatic *Vaccinium corymbosum*. **Denmark**, *Lasiosphaeria deviata* on pieces of wood and herbaceous debris. **Dominican Republic**, *Calocybella goethei* among grass on a lawn. **France (Corsica)**, *Inocybe corsica* on wet ground. **France (French Guiana)**, *Trechispora patawaensis* on decayed branch of unknown angiosperm tree and *Trechispora subregularis* on decayed log of unknown angiosperm tree. **Germany**, *Paramicrothecium sambuci* (incl. *Paramicrothecium* gen. nov.) on dead stems of *Sambucus nigra*. **India**, *Aureobasidium microtermitis* from the gut of a *Microtermes* sp. termite, *Laccaria diospyricola* on soil and *Phylloporia tamilnadensis* on branches of *Catunaregam spinosa*. **Iran**, *Pythium serotinoosporum* from soil under *Prunus dulcis*. **Italy**, *Pluteus brunneovenosus* on twigs of broadleaved trees on the ground. **Japan**, *Heterophoma rehmanniae* on leaves of *Rehmannia glutinosa* f. *hueichingensis*. **Kazakhstan**, *Murispora kazachstanica* from healthy roots of *Triticum aestivum*. **Namibia**, *Caespitomonium euphorbiae* (incl. *Caespitomonium* gen. nov.) from

Abstract (cont.)

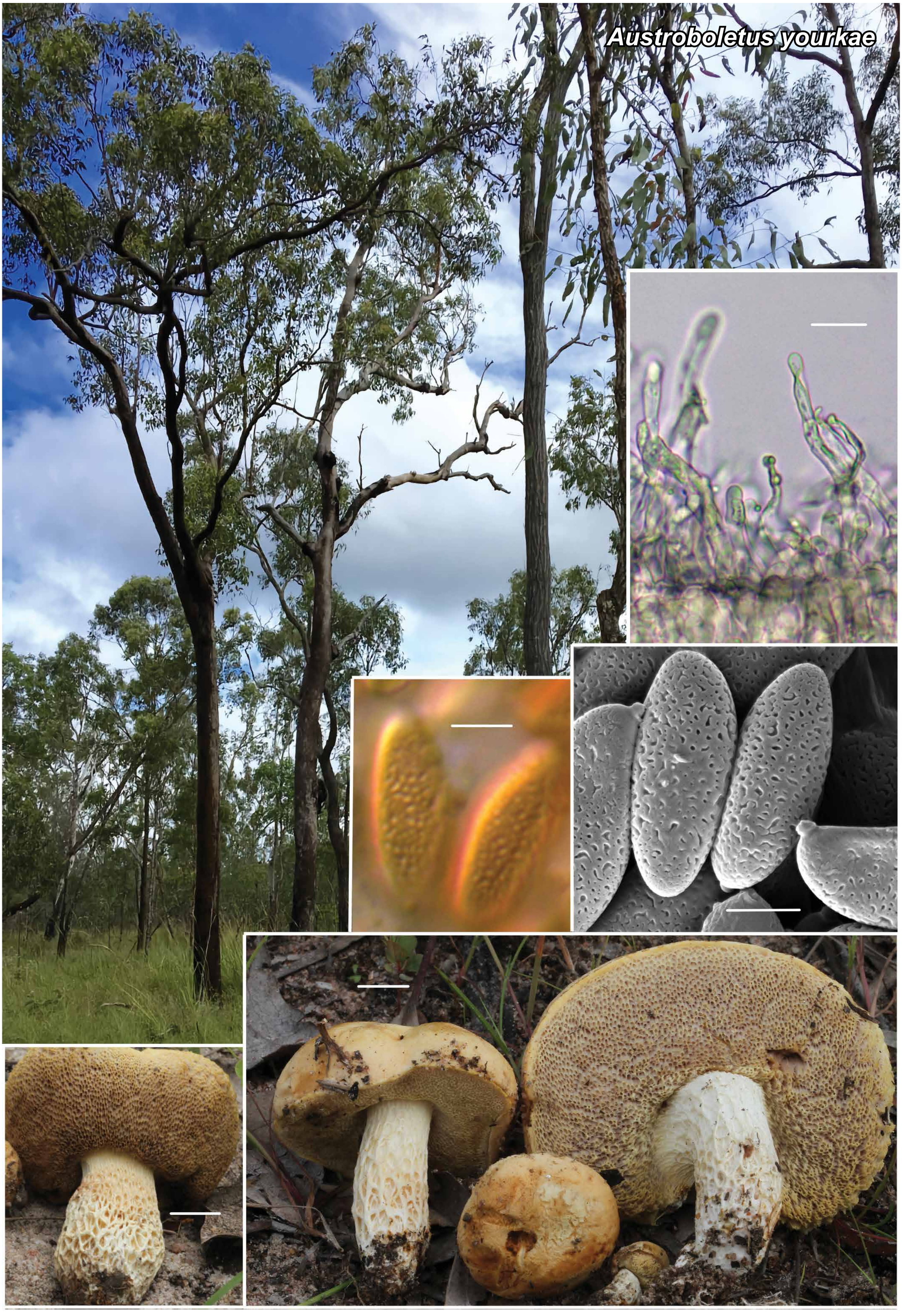
stems of an *Euphorbia* sp. **Netherlands**, *Alfaria junci, Myrmecridium junci, Myrmecridium juncicola, Myrmecridium juncigenum, Ophioceras junci, Paradinemasporium junci* (incl. *Paradinemasporium* gen. nov.), *Phialoseptomonium junci, Sporidesmiella juncicola, Xenopyricularia junci* and *Zaanenomyces quadripartis* (incl. *Zaanenomyces* gen. nov.), from dead culms of *Juncus effusus, Cylindromonium everniae* and *Rhodoveronaea everniae* from *Evernia prunastri, Cyphellophora sambuci* and *Myrmecridium sambuci* from *Sambucus nigra, Kiflimonium junci, Sarocladium junci, Zaanenomyces moderatricis-academiae* and *Zaanenomyces versatilis* from dead culms of *Juncus inflexus, Microcera physciae* from *Physcia tenella, Myrmecridium dactylidis* from dead culms of *Dactylis glomerata, Neochalara spiraeae* and *Sporidesmium spiraeae* from leaves of *Spiraea japonica, Neofabraea salicina* from *Salix* sp., *Paradissoconium narthecii* (incl. *Paradissoconium* gen. nov.) from dead leaves of *Narthecium ossifragum, Polyscytalum vaccinii* from *Vaccinium myrtillus, Pseudosoloacrosporiella cryptomeriae* (incl. *Pseudosoloacrosporiella* gen. nov.) from leaves of *Cryptomeria japonica, Ramularia pararhabdospora* from *Plantago lanceolata, Sporidesmiella pini* from needles of *Pinus sylvestris* and *Xenoacrodontium juglandis* (incl. *Xenoacrodontium* gen. nov. and *Xenoacrodontiaceae* fam. nov.) from *Juglans regia*. **New Zealand**, *Cryptometrion metrosideri* from twigs of *Metrosideros* sp., *Coccomyces pycnophyllocladi* from dead leaves of *Phyllocladus alpinus, Hypoderma aliforme* from fallen leaves *Fuscopora solandri* and *Hypoderma subiculatum* from dead leaves *Phormium tenax.* **Norway**, *Neodevriesia kalakoutskii* from permafrost and *Variabilispora viridis* from driftwood of *Picea abies.* **Portugal**, *Entomortierella hereditatis* from a biofilm covering a deteriorated limestone wall. **Russia**, *Colpoma junipericola* from needles of *Juniperus sabina, Entoloma cinnamomeum* on soil in grasslands, *Entoloma verae* on soil in grasslands, *Hyphodermella pallidostraminea* on a dry dead branch of *Actinidia* sp., *Lepiota sayanensis* on litter in a mixed forest, *Papiliotrema horticola* from *Malus communis*, *Paramacroventuria ribis* (incl. *Paramacroventuria* gen. nov.) from leaves of *Ribes aureum* and *Paramyrothecium lathyri* from leaves of *Lathyrus tuberosus.* **South Africa**, *Harzia combreti* from leaf litter of *Combretum collinum* ssp. *sulvense, Penicillium xyleborini* from *Xyleborinus saxesenii*, *Phaeoisaria dalbergiae* from bark of *Dalbergia armata, Protocreopsis euphorbiae* from leaf litter of *Euphorbia ingens* and *Roigiella syzygii* from twigs of *Syzygium chordatum*. **Spain**, *Genea zamorana* on sandy soil, *Gymnopus nigrescens* on *Scleropodium touretii, Hesperomyces parexochomi* on *Parexochomus quadriplagiatus, Paraphoma variabilis* from dung, *Phaeococcomyces kinklidomatophilus* from a blackened metal railing of an industrial warehouse and *Tuber suaveolens* in soil under *Quercus faginea.* **Svalbard and Jan Mayen**, *Inocybe nivea* associated with *Salix polaris.* **Thailand**, *Biscogniauxia whalleyi* on corticated wood. **UK**, *Parasitella quercicola* from *Quercus robur.* **USA**, *Aspergillus arizonicus* from indoor air in a hospital, *Caeliomyces tampanus* (incl. *Caeliomyces* gen. nov.) from office dust, *Cippumomyces mortalis* (incl. *Cippumomyces* gen. nov.) from a tombstone, *Cylindrium desperesense* from air in a store, *Tetracoccosporium pseudoaerium* from air sample in house, *Toxicocladosporium glendoranum* from air in a brick room, *Toxicocladosporium losalamitosense* from air in a classroom, *Valsonectria portsmouthensis* from air in men’s locker room and *Varicosporellopsis americana* from sludge in a water reservoir. **Vietnam**, *Entoloma kovalenkoi* on rotten wood, *Fusarium chuoi* inside seed of *Musa itinerans*, *Micropsalliota albofelina* on soil in tropical evergreen mixed forests and *Phytophthora docyniae* from soil and roots of *Docynia indica.* Morphological and culture characteristics are supported by DNA barcodes.

Citation: Crous PW, Osieck ER, Jurjević Ž, et al. 2021. Fungal Planet description sheets: 1284–1382. Persoonia 47: 178–374.
https://doi.org/10.3767/persoonia.2021.47.06.
Effectively published online: 24 December 2021 [Received: 1 October 2021; Accepted: 4 November 2021].

[1] Westerdijk Fungal Biodiversity Institute, P.O. Box 85167, 3508 AD Utrecht, The Netherlands.
[2] Department of Biochemistry, Genetics and Microbiology, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, Pretoria, South Africa.
[3] Jkvr. C.M. van Asch van Wijcklaan 19, 3972 ST Driebergen-Rijsenburg, Netherlands.
[4] EMSL Analytical, Inc., 200 Route 130 North, Cinnaminson, NJ 08077 USA.
[5] Conventstraat 13A, 6701 GA Wageningen, Netherlands.
[6] Department of Plant Anatomy, Institute of Biology, Eötvös Loránd University, Pázmány Péter sétány 1/C, H-1117, Budapest, Hungary.
[7] Department of Plant Protection, Federal Research Centre the Subtropical Scientific Centre of the Russian Academy of Sciences, Yana Fabritsiusa street 2/28, 354002 Sochi, Krasnodar region, Russia.
[8] Manaaki Whenua – Landcare Research, P. Bag 92170, Auckland 1142, New Zealand.
[9] Komarov Botanical Institute of the Russian Academy of Sciences, 197376, 2 Prof. Popov Str., Saint Petersburg, Russia.
[10] Plant Microbe Interaction Research Team (APMT), BIOTEC, National Science and Technology Development Agency, Pathum Thani, Thailand, 113 Thailand Science Park, Phahonyothin Rd., Khlong Nueng, Khlong Luang, Pathum Thani Thailand.
[11] ALVALAB, C/ Dr. Fernando Bongera, Severo Ochoa bldg. S1.04, 33006 Oviedo, Spain.
[12] Mycothèque de l’Université catholique de Louvain (MUCL, BCCMTM), Earth and Life Institute – ELIM – Mycology, Université catholique de Louvain, Croix du Sud 2 bte L7.05.06, B-1348 Louvain-la-Neuve, Belgium.
[13] State Herbarium of South Australia, Adelaide, South Australia 5000 Australia.
[14] Royal Botanic Gardens, Victoria, Melbourne, Victoria, Australia.
[15] Universidad de Alcalá, Facultad de Ciencias, Departamento de Ciencias de la Vida (Botánica), 28805 Alcalá de Henares, Madrid, Spain.
[16] Centre for Crop Health, University of Southern Queensland, Toowoomba 4350, Queensland, Australia.
[17] Department of Plant Protection, Agriculture Faculty, University of Kurdistan, P.O. Box 416, Sanandaj, Iran.
[18] Department of Plant Protection, Faculty of Agriculture, Urmia University, P.O. Box 165, Urmia, Iran.
[19] LLC ‘Signatec’, 630090, Inzhenernaya Str. 22, Novosibirsk, Russia.
[20] Lomonosov Moscow State University (MSU), 119234, 1, 12 Leninskie Gory Str., Moscow, Russia.
[21] Departamento de Agronomia, Universidade Federal Rural de Pernambuco, Recife, Pernambuco, Brazil.
[22] Herbario Jardín Botánico Nacional Dr. Rafael Ma. Moscoso, Santo Domingo, Dominican Republic and Via Cappuccini, 78/8 – 33170 Pordenone, Italy.
[23] Department of Botany, Moravian Museum, Zelný trh 6, 659 37 Brno, Czech Republic.
[24] Departamento de Biología Vegetal (Botánica), Facultad de Biología, Universidad de Murcia, 30100 Murcia, Spain.
[25] Research Group Mycology, Department of Biology, Ghent University, K.L. Ledeganckstraat 35, 9000 Gent, Belgium.
[26] National Fungal Culture Collection of India (NFCCI).
[27] Biodiversity and Palaeobiology Group, MACS-Agharkar Research Institute, G.G. Agarkar Road, Pune 411004, Maharashtra, India.
[28] Departamento de Botánica, Ecología y Fisiología Vegetal, Universidad de La Laguna. Apdo. 456, E-38200 La Laguna, Tenerife, Islas Canarias, Spain.
[29] Departamento de Fitopatologia, Universidade Federal de Viçosa, Viçosa, 36570-900, MG, Brazil.
[30] Departamento Botânica e Zoologia, Centro de Biociências, Universidade Federal do Rio Grande do Norte, Campus Universitário, 59072–970 Natal, RN, Brazil.
[31] CEFE, CNRS, Université de Montpellier, Université Paul-Valéry Montpellier 3, EPHE, IRD, INSERM, 1919 route de Mende, F-34293 Montpellier Cedex 5, France.

[32] Mendeleum – Institute of Genetics, Faculty of Horticulture, Mendel University in Brno, Valticka 334, Lednice, 69144, Czech Republic.
[33] Institute of Biochemistry, Biological Research Centre of the Eötvös Lóránd Research Network, Temesvári blvd. 62, H-6726 Szeged, Hungary.
[34] Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3DS, UK.
[35] Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far Eastern Branch of the Russian Academy of Sciences, Pr-t 100-let Vladivostoka 159, 690022 Vladivostok, Russia.
[36] Phytophthora Science and Management, Harry Butler Institute, Murdoch University, 90 South Street, Murdoch, WA 6150, Australia.
[37] C/ El Sol 6, 49800 Toro, Zamora, Spain.
[38] Mycology Unit, Medical School, Universitat Rovira i Virgili (URV), Sant Llorenç 21, 43201 Reus, Tarragona, Spain.
[39] Institute of Biological Sciences, Cardinal Stefan Wyszyński University, Wóycickiego 1/3, 01-938 Warsaw, Poland.
[40] Facultad de Química y Biología, Universidad de Santiago de Chile (USACH), Alameda 3363, Estación Central, 9170022, Santiago, Chile.
[41] Centre for Microbial Ecology and Genomics, Department of Biochemistry, Genetics and Microbiology, University of Pretoria, Private Bag X20, Hatfield 0028, Pretoria, South Africa.
[42] Programa de Pós-Graduação em Sistemática e Evolução, Centro de Biociências, Universidade Federal do Rio Grande do Norte, Av. Senador Salgado Filho, 3000, 59072-970 Natal, RN, Brazil.
[43] Forest Research, Alice Holt Lodge, Farnham, Surrey, UK.
[44] Forest Protection Research Centre, Vietnamese Academy of Forest Sciences, 46 Duc Thang Ward, Bac Tu Liem District, Hanoi City, Vietnam.
[45] Via Quargnento, 17, 15029, Solero (AL), Italy.
[46] Via G. Canestrini 10/B, I-38028, Novella (TN), Italy.
[47] Associazione Micologica Bassa Friulana, 33052 Cervignano del Friuli, Italy.
[48] Programa de Pós-Graduação em Biologia de Fungos, Departamento de Micologia, Universidade Federal de Pernambuco, 50670-420 Recife, PE, Brazil.
[49] Facultad de Estudios Interdisciplinarios, Núcleo de Química y Bioquímica, Universidad Mayor, Santiago, Chile.
[50] Zsombolyai u. 56, 8000 Székesfehérvár, Hungary.
[51] Comparative Fungal Biology, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3DS, UK.
[52] Centre for Horticultural Science, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, Dutton Park 4102, Queensland, Australia.
[53] Department of Botany, Faculty of Science, Charles University, Benátská 2, 128 01 Prague 2, Czech Republic.
[54] Mechnikov Research Institute for Vaccines and Sera, 105064, Moscow, Maly Kazenny by-street, 5A, Russia.
[55] Instituto de Ciencias de la Vid y del Vino (ICVV), Consejo Superior de Investigaciones Científicas (CSIC) – Universidad de La Rioja – Gobierno de La Rioja, Ctra. LO-20, Salida 13, 26007, Logroño, Spain.
[56] Maleny, Queensland, Australia.
[57] Faculty of Science, University of South Bohemia, Branišovská 31, 370 05 České Budějovice, Czech Republic.
[58] Inst. Systematic Botany, New York Botanical Garden, 2900 Southern Blvd, Bronx, NY, USA 10458-5126.
[59] Department of Clinical Plant Science, Hosei University, 3-7-2 Kajino-cho, Koganei, Tokyo, Japan.
[60] Medical Mycology Research Center, Chiba University, 1-8-1 Inohana, Chuo-ku, Chiba, 260-8673, Japan.
[61] The Herzen State Pedagogical University of Russia, 191186, 48 Moyka Embankment, Saint Petersburg, Russia.
[62] All-Russian Collection of Microorganisms, G.K. Skryabin Institute of Biochemistry and Physiology of Microorganisms, Pushchino Center for Biological Research of the Russian Academy of Sciences, 142290, Pushchino, pr. Nauki, 5, Russia.
[63] Forest and Plant Conservation Research Office, Department of National Parks, Wildlife and Plant Conservation, Chatuchak District, Bangkok, Thailand.
[64] Department of Natural History, New Brunswick Museum, 277 Douglas Ave. Saint John, NB – E2K 1E5 Canada.
[65] Microbe Interaction and Ecology Laboratory (BMIE), National Center for Genetic Engineering and Biotechnology (BIOTEC), 113 Thailand Science Park, Phahonyothin Rd., Khlong Nueng, Khlong Luang, Pathum Thani Thailand.
[66] Department of Botany, Charles University, Faculty of Science, Benátská 2, 128 01 Prague 2, Czech Republic.
[67] Pfalzmuseum für Naturkunde – POLLICHIA-Museum, Hermann-Schäfer-Str. 17, 67098 Bad Dürkheim, Germany.
[68] Department of Botany, The Zamorin's Guruvayurappan College, Kozhikode, Kerala, India.
[69] Laboratory for Biological Diversity, Ruđer Bošković Institute, Bijenička cesta 54, HR-10000 Zagreb, Croatia.
[70] Globe Inst./Department of Biology, University of Copenhagen, Universitetsparken 15, 2100 Copenhagen Ø, Denmark, Denmark.
[71] Biological and Environmental Sciences, University of Gothenburg, and Gothenburg Global Biodiversity Centre, Box 461, SE40530 Göteborg, Sweden.
[72] 775, rang du Rapide Nord, Saint-Casimir, Quebec, G0A 3L0, Canada.
[73] P.O. Box 58499, 3734 Limassol, Cyprus.
[74] Departamento de Biologia Celular e Genética, Universidade Federal do Rio Grande do Norte, Natal, Rio Grande do Norte, Brazil.
[75] Saint Petersburg State University, 199034, 7-9 Universitetskaya emb., St. Petersburg, Russia.
[76] Gobabeb-Namib Research Institute, Walvis Bay, Namibia.
[77] Servicio Territorial de Agricultura, Ganadería y Desarrollo Rural de Zamora, C/ Prado Tuerto 17, 49019 Zamora, Spain.
[78] Real Jardín Botánico RJB-CSIC, Plaza de Murillo 2, 28014 Madrid, Spain.
[79] Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, Brisbane 4001, Australia.
[80] Department of Plant Protection, Faculty of Agriculture, Shahid Chamran University of Ahvaz, Ahvaz, Khuzestan Province, Iran.
[81] Biotechnology and Bioscience Research Center, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
[82] University of Illinois Urbana-Champaign, Illinois Natural History Survey, 1816 South Oak Street, Champaign, Illinois, 61820, USA.
[83] Université de Lille, Faculté de pharmacie de Lille, EA 4483, F-59000 Lille, France.
[84] Falkstraße 103, D-47058 Duisburg, Germany.
[85] Naturalis Biodiversity Center, section Botany, P.O. Box 9517, 2300 RA Leiden, The Netherlands.
[86] Rey Juan Carlos University, Dep. Biology and Geology, Physics and Inorganic Chemistry, C/ Tulipán s/n, 28933 Móstoles, Madrid, Spain.
[87] 205 East Campus Science Center, Lock Haven University, Department of Biology, Lock Haven, PA 17745, USA.
[88] Centre for Advanced Studies in Botany, University of Madras, Guindy Campus, Chennai 600 025, India.
[89] Sociedad Micológica de Madrid, Real Jardín Botánico, C/ Claudio Moyano 1, 28014 Madrid, Spain.
[90] Department of Botany, Hungarian University of Agriculture and Life Sciences, Ménesi út 44. H-1118 Budapest, Hungary.
[91] Institute of Evolutionary Biology, Faculty of Biology, Biological and Chemical Research Centre, University of Warsaw, ul. Zwirki i Wigury 101, 02-089 Warsaw, Poland.
[92] Biology programme, Faculty of Science, Nakhon Phanom University, Nakhon Phanom, 48000, Thailand.
[93] Centre for Functional Ecology, Department of Life Sciences, University of Coimbra, 3004-531 Coimbra, Portugal.
[94] Fitolab - Laboratory for Phytopathology, Instituto Pedro Nunes, 3030-199 Coimbra, Portugal.
[95] Mycology Research Group, Faculty of Biological Sciences, Goethe University Frankfurt am Main, Max-von-Laue Straße 13, 60439 Frankfurt am Main, Germany.
[96] Ostenstraße 19, D-95615 Marktredwitz, Germany.
[97] The Institute for the Promotion of Teaching Science and Technology, Bangkok, 10110, Thailand.
[98] Institute of Ecology and Earth Sciences, University of Tartu, Ravila Street 14A, 50411 Tartu, Estonia.
[99] Kloosterweg 5, 6301WK, Valkenburg a/d Geul, The Netherlands.
[100] Department of Biology, Faculty of Science, Ramkhamhaeng University, Bangkok, 10240, Thailand.
[101] Department of Agro-Food Science, Niigata Agro-Food University, 2416 Hiranedai, Tainai, Niigata Prefecture, Japan.
[102] Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Birmensdorf, Switzerland.
[103] Geeste 133, D-46342 Velen, Germany.
[104] Department of Microbiology, Faculty of Science, Srinakharinwirot University, Bangkok, 10110 Thailand.
[105] Plant Pathology Herbarium, Department of Agriculture and Fisheries, Dutton Park 4102, Queensland, Australia.
[106] Plant Health and Environment Laboratory, Ministry for Primary Industries, P.O. Box 2095, Auckland 1140, New Zealand.
[107] Department of Plant Soil and Microbial Sciences, 1066 Bogue Street, Michigan State University, East Lansing, MI, 48824 USA.
[108] Passatge del Torn, 4, 17800 Olot, Spain.
[109] Department of Life Sciences and Systems Biology, University of Torino, Viale P.A. Mattioli 25, I-10125 Torino, Italy.
[110] Research Planning and International Cooperation Department, Plant Resources Center, An Khanh, Hoai Duc, Hanoi 152900, Vietnam.
[111] Department of Biology, Faculty of Science, Srinakharinwirot University, Bangkok, 10110 Thailand.
[112] Via Murazzano 11, I-10141, Torino (TO), Italy.
[113] Laboratório de Microbiologia e Fitopatologia, Universidade Federal de Uberlândia, Monte Carmelo, 38500-000, MG, Brazil.

Acknowledgements P.R. Johnston thanks J. Sullivan (Lincoln University) for the habitat image of Kowai Bush, Duckchul Park (Manaaki Whenua – Landcare Research) for the DNA sequencing, and the New Zealand Department of Conservation for permission to collect the specimens; this research was supported through the Manaaki Whenua – Landcare Research Biota Portfolio with funding from the Science and Innovation Group of the New Zealand Ministry of Business, Innovation and Employment. V. Hubka was supported by the Czech Ministry of Health (grant number NU21-05-00681), and is grateful for the support from the Japan Society for the Promotion of Science – grant-in-aid for JSPS research fellow (grant no. 20F20772). K. Glässnerová was supported by the Charles University Grant Agency (grant No. GAUK 140520). J. Trovão and colleagues were financed by FEDER-Fundo Europeu de Desenvolvimento Regional funds through the COMPETE 2020 – Operational Programme for Competitiveness and Internationalisation (POCI), and by Portuguese funds through FCT – Fundação para a Ciência e a Tecnologia in the framework of the project POCI-01-0145-FEDER-PTDC/EPH-PAT/3345/2014. This work was carried out at the R&D Unit Centre for Functional Ecology – Science for People and the Planet (CFE), with reference UIDB/04004/2020, financed by FCT/MCTES through national funds (PIDDAC). J. Trovão was also supported by POCH – Programa Operacional Capital Humano (co-funding by the European Social Fund and national funding by MCTES), through a 'FCT – Fundação para a Ciência e Tecnologia' PhD research grant (SFRH/BD/132523/2017). D. Haelewaters acknowledges support from the Research Foundation – Flanders (Junior Postdoctoral Fellowship 1206620N). M. Loizides and colleagues are grateful to Y. Cherniavsky for contributing collections AB A12-058-1 and AB A12-058-2, and Á. Kovács and B. Kiss for their help with molecular studies of these specimens. C. Zmuda is thanked for assisting with the collection of ladybird specimens infected with *Hesperomyces parexochomi*. A.V. Kachalkin and colleagues were supported by the Russian Science Foundation (grant No. 19-74-10002). The study of A.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. S. Nanu acknowledges the Kerala State Council for Science, Technology and Environment (KSCSTE) for granting a research fellowship and is grateful to the Chief Conservator of Forests and Wildlife for giving permission to collect fungal samples. A. Bañares and colleagues thank 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 J. Rejos, curator of the AH herbarium for his assistance with the specimens examined in the present study. The research of V. Antonín received institutional support for long-term conceptual development of research institutions provided by the Ministry of Culture (Moravian Museum, ref. MK000094862). The studies of E.F. Malysheva, V.F. Malysheva, O.V. Morozova, and S.V. Volobuev were carried out within the framework of a research project of the Komarov Botanical Institute RAS, St Petersburg, Russia (AAAA-A18-118022090078-2) using equipment of its Core Facility Centre 'Cell and Molecular Technologies in Plant Science'.The study of A.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. 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.E. Noordeloos. The work of B. Dima was partly 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. The work of L. Nagy was supported by the 'Momentum' program of the Hungarian Academy of Sciences (contract No. LP2019-13/2019 to L.G.N.). G.A. Kochkina and colleagues acknowledge N. Demidov for the background photograph, and N. Suzina for the SEM photomicrograph. The research of C.M. Visagie and W. Nel was supported by the National Research Foundation grant no 118924 and SFH170610239162. C. Gil-Durán acknowledges Agencia Nacional de Investigación y Desarrollo, Ministerio de Ciencia, Tecnología, Conocimiento e Innovación, Gobierno de Chile, for grant ANID – Fondecyt de Postdoctorado 2021 – N° 3210135. R. Chávez and G. Levicán thank DICYT-USACH and acknowledges the grants INACH RG_03-14 and INACH RT_31-16 from the Chilean Antarctic Institute, respectively. S. Tiwari and A. Baghela would like to acknowledge R. Avchar and K. Balasubramanian from the Agharkar Research Institute, Pune, Maharashtra for helping with the termite collection. S. Tiwari is also thankful to the University Grants Commission, Delhi (India) for a junior research fellowship (827/(CSIR-UGC NET DEC.2017)). R. Lebeuf and I. Saar thank D. and H. Spencer for collecting and photographing the holotype of *C. bondii*, and R. Smith for photographing the habitat. A. Voitk is thanked for helping with the colour plate and review of the manuscript, and the Foray Newfoundland and Labrador for providing the paratype material. I. Saar was supported by the Estonian Research Council (grant PRG1170) and the European Regional Development Fund (Centre of Excellence EcolChange). M.P.S. Câmara acknowledges the 'Conselho Nacional de Desenvolvimento Científico e Tecnológico – CNPq' for the research productivity fellowship, and financial support (Universal number 408724/2018-8). W.A.S. Vieira acknowledges the 'Coordenação de Aperfeiçoamento Pessoal de Ensino Superior – CAPES' and the 'Programa Nacional de Pós-Doutorado/CAPES – PNPD/CAPES' for the postdoctoral fellowship. A.G.G. Amaral acknowledges CNPq, and A.F. Lima and I.G. Duarte acknowledge CAPES for the doctorate fellowships. F. Esteve-Raventós and colleagues were financially supported by FEDER/Ministerio de Ciencia, Innovación y Universidades – Agencia Estatal de Investigación (Spain)/ Project CGL2017-86540-P. The authors would like to thank L. Hugot and N. Suberbielle (Conservatoire Botanique National de Corse, Office de l'Environnement de la Corse, Corti) for their help. The research of E. Larsson is supported by The Swedish Taxonomy Initiative, SLU Artdatabanken, Uppsala. Financial support was provided to R.J. Ferreira by the National Council for Scientific and Technological Development (CNPq), and to I.G. Baseia, P.S.M. Lúcio and M.P. Martín by the National Council for Scientific and Technological Development (CNPq) under CNPq-Universal 2016 (409960/2016-0) and CNPq-visiting researcher (407474/2013-7). J. Cabero and colleagues wish to acknowledge A. Rodríguez for his help to describe *Genea zamorana*, as well as H. Hernández for sharing information about the vegetation of the type locality. S. McMullan-Fisher and colleagues acknowledge K. Syme (assistance with illustrations), J. Kellermann (translations), M. Barrett (collection, images and sequences), T. Lohmeyer (collection and images) and N. Karunajeewa (for prompt accessioning). This research was supported through funding from Australian Biological Resources Study grant (TTC217-06) to the Royal Botanic Gardens Victoria. The research of M. Spetik and co-authors was supported by project No. CZ.02.1.01/0.0/0.0/16_017/0002334. N. Wangsawat and colleagues were partially supported by NRCT and the Royal Golden Jubilee Ph.D. programme, grant number PHD/0218/2559. They are thankful to M. Kamsook for the photograph of the Phu Khiao Wildlife Sanctuary and P. Thamvithayakorn for phylogenetic illustrations. The study by N.T. Tran and colleagues was funded by Hort Innovation (Grant TU19000). They also thank the turf growers who supported their surveys and specimen collection. N. Matočec, I. Kušan, A. Pošta, Z. Tkalčec and A. Mešić thank the Croatian Science Foundation for their financial support under the project grant HRZZ-IP-2018-01-1736 (ForFungiDNA). A. Pošta thanks the Croatian Science Foundation for their support under the grant HRZZ-2018-09-7081. A. Morte is grateful to Fundación Séneca – Agencia de Ciencia y Tecnología de la Región de Murcia (20866/PI/18) for financial support. The research of G. Akhmetova, G.M. Kovács, B. Dima and D.G. Knapp was supported by the National Research, Development and Innovation Office, Hungary (NKFIH KH-130401 and K-139026), the ELTE Thematic Excellence Program 2020 supported by the National Research, Development and Innovation Office (TKP2020-IKA-05) and the Stipendium Hungaricum Programme. The support of the János Bolyai Research Scholarship of the Hungarian Academy of Sciences and the Bolyai+ New National Excellence Program of the Ministry for Innovation and Technology to D.G. Knapp is highly appreciated. F.E. Guard and colleagues are grateful to the traditional owners, the Jirrbal and Warungu people, as well as L. and P. Hales, Reserve Managers, of the Yourka Bush Heritage Reserve. Their generosity, guidance, and the opportunity to explore the Bush Heritage Reserve on the Einasleigh Uplands in far north Queensland is greatly appreciated. The National Science Foundation (USA) provided funds (DBI#1828479) to the New York Botanical Garden for a scanning electron microscope used for imaging the spores. V. Papp was supported by the ÚNKP-21-5 New National Excellence Program of the Ministry for Innovation and Technology from the National Research, Development and Innovation Fund of Hungary. A.N. Miller thanks the WM Keck Center at the University of Illinois Urbana – Champaign for sequencing *Lasiosphaeria deviata*. J. Pawłowska acknowledges support form National Science Centre, Poland (grant Opus 13 no 2017/25/B/NZ8/00473). The research of T.S. Bulgakov was carried out as part of the State Research Task of the Subtropical Scientific Centre of the Russian Academy of Sciences (Theme No. 0492-2021-0007). K. Bensch (Westerdijk Fungal Biodiversity Institute, Utrecht) is thanked for correcting the spelling of various Latin epithets.


Austroboletus yourkae

Fungal Planet 1336 – 24 December 2021

Austroboletus yourkae F.E. Guard, McMull.-Fish., Van Wyk, T. Lebel, & Halling, *sp. nov.*

Etymology. Named for the Yourka Bush Reserve, on which this species occurs.

Classification — *Boletaceae*, *Boletales*, *Agaricomycetes*.

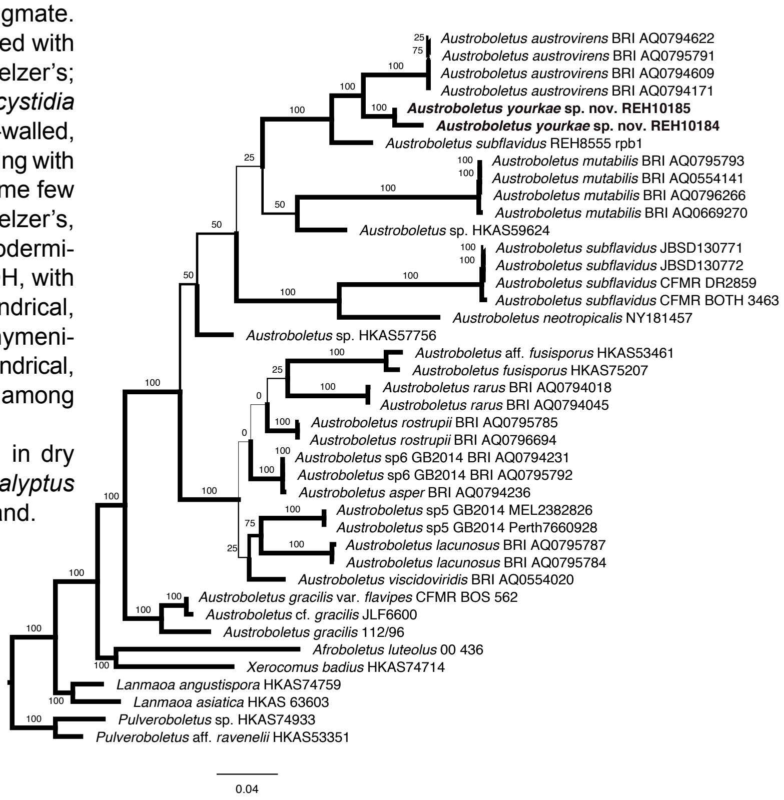
Pileus 2.5–5 cm broad, convex to plano-convex to plane, dry, to very slightly tacky at first, but not viscid or glutinous, tomentose, sometimes densely so, to matted tomentose, amber yellow (4B6,5,4; Kornerup & Wanscher 1983), even at margin (veil remnants apparently lacking) but with a white, barely visible sterile projection in one medium sized basidiome. *Flesh* white, unchanging. *Odour* fishy with a metallic tang, sometimes mild. *Taste* mild. *Tubes* adnexed, pale pink when young, vinaceous pink with age, bruising slightly brownish. *Stipe* 2.5–5 cm long, 0.6–1.5 cm broad, straight or curved, subclavate to equal and tapered at base, dry, coarsely alveolate-reticulate, white, developing orange stains at base in situ, slowly developing some pale brown stains at base with handling, with interior white, unchanging, pale yellow in base of mature basidiome, with white mycelium at base. *Basidiospores* 11.9–16.8 × 4.9–7 µm, (av. = 13.72 × 5.93, Q = 2.314, spores n = 30, specimens n = 2) subfusoid to ellipsoid, inequilateral in profile, hyaline in KOH, lightly dextrinoid in Melzer's, with distinct, uniform perforate-foveate ornamentation, occasionally barely ruminate. *Basidia* 30–40 × 10–12 µm, clavate, hyaline, four-sterigmate. *Tube trama* boletoid and divergent, becoming gelatinized with age, with hyphae 3–12 µm diam, hyaline in KOH and Melzer's; oleiferous elements occasionally present. *Hymenial cystidia* rare, present as cheilocystidia when young, hyaline, thin-walled, 30–45 × 7–10 µm, short subfusiform to fusiform, collapsing with age. *Pileus trama* interwoven, hyaline in KOH, with some few elements containing red brown colloidal content in Melzer's, smooth, thin-walled, 4–11 µm broad. *Pileipellis* a trichodermium of erect to suberect, tangled hyphae, hyaline in KOH, with colloidal red-brown content in Melzer's; elements cylindrical, smooth and thin-walled, 4–7 µm broad. *Stipitipellis* a hymeniform layer lining the reticulum, with long, filamentous, cylindrical, septate, smooth, thin-walled *caulocystidia* interspersed among basidiole-like elements. *Clamp connections* absent.

Habit, Habitat & Distribution — Gregarious on soil in dry sclerophyll woodland with *Corymbia intermedia*, *Eucalyptus resinifera*. So far, only known from northeast Queensland.

Typus. Australia, Queensland, Einasleigh Uplands, Yourka Bush Heritage Reserve, Junction Sandy Yard Creek Road & Valley Road, S17.98 E145.44, 600 m a.s.l., 18 Mar. 2019, *R.E. Halling*, Halling 10184 (holotype BRI AQ1024215, isotype NY02072697, LSU, *rpb1*, *rpb2* sequences GenBank MZ358814, MZ647699 and MZ647702, MycoBank MB 839206).

Additional material examined. Australia, Queensland, Einasleigh Uplands, Yourka Bush Heritage Reserve, near Junction Themeda Track and Central Fire Track (3 Ways), S17.9421 E145.408, 622 m a.s.l., 19 Mar. 2019, *R.E. Halling,* Halling 10185 (NY02072669), LSU, *rpb1*, *rpb2* sequences GenBank MZ358815, MZ647700 and MZ647701.

Notes — In Australia, there are at least 17 species of *Austroboletus*, some of which are still undescribed (Halling et al., unpubl. data). The species that has the closest match to *A. yourkae*, in terms of morphology (spore ornamentation) and BLAST searches in GenBank for nrLSU and *rpb1*, *rpb2* gene sequences is *A. austrovirens* (Fechner et al. 2017). A RAxML analysis was conducted via Geneious v. 9.3.1 from concatenated LSU and *rpb1* data (https://www.geneious.com). *Austroboletus austrovirens* occurs in wetter sclerophyll habitats in northern Queensland but is easily distinguished by the green pigments on the pileus surface and stipe reticulum as well as the apricot orange pigments on the stipe surface between the reticulum ridges (Fechner et al. 2017, f. 1a).



Phylogram distinguishing *Austroboletus yourkae*. Phylogram from RAxML analysis generated via Geneious v. 9.3.1 of concatenated *rpb1* and LSU sequences for a selection of *Austroboletus* species, including some other bolete genera, with *Pulveroboletus* as outgroup. Thickened lines indicate ML support 0.90 and all bootstrap values are noted at branches. Scale bar shows substitutions per site. Novel sequences generated in this study are in **bold** text.

Colour illustrations. Sclerophyll forest of *Corymbia intermedia*, *Eucalyptus resinifera* (photo credit F. Guard). Solitary basidioma (Halling 10184, type); four basidiomata (Halling 10185); spores with DIC light microscope and with SEM; stipitipellis. Scale bars = 1 cm (basidiome habits), 20 µm (stipitipellis), 5 µm (spores).

Frances E. Guard, Maleny, Queensland, Australia; e-mail: franguard@icloud.com
Judson Van Wyk, Department of Plant Soil and Microbial Sciences, 1066 Bogue Street, Michigan State University, East Lansing, MI, 48824 USA; e-mail: vanwykju@msu.edu
Teresa Lebel, State Herbarium of South Australia, Adelaide, South Australia 5000 Australia; e-mail: teresa.lebel@sa.gov.au
Sapphire McMullan-Fisher, Royal Botanic Gardens, Victoria, Melbourne, Victoria, Australia; e-mail: ffunecol@gmail.com
Roy E. Halling, Inst. Systematic Botany, New York Botanical Garden, 2900 Southern Blvd, Bronx, NY, USA 10458-5126; e-mail: rhalling@nybg.org

REFERENCES

Abad ZG, Burgess TI, Bienapfl JC, et al. 2019. IDphy: Molecular and morphological identification of Phytophthora based on the types. USDA APHIS PPQ S&T Beltsville Lab, USDA APHIS PPQ S&T ITP, Centre for Phytophthora Science and Management, and World Phytophthora Collection.

Abdollahzadeh J, Groenewald JZ, Coetzee MPA, et al. 2020. Evolution of lifestyles in Capnodiales. Studies in Mycology 95: 381–414.

Alvarado P, Cabero J, Moreno G, et al. 2014. Species diversity of Genea (Ascomycota, Pezizales) in Europe. Ascomycete.org 6: 41–51.

Alvarado P, Cabero J, Moreno G, et al. 2016. Phylogenetic overview of the genus Genea (Pezizales, Ascomycota) with an emphasis on European taxa. Mycologia 108: 441–456.

Alvarado P, Pérez J-B, Van Vooren N, et al. 2020. Genea coronata (Pyronemataceae, Pezizales), a cryptic new species in a highly polymorphic genus. Sydowia 72: 231–242.

Anonymous. 1969. Flora of British Fungi – Colour Identification Chart. Her Majesty's Stationery Office, Edinburgh.

Antonín V, Noordeloos M. 2010. A monograph of marasmioid and collybioid fungi in Europe. IHW Verlag.

Arzanlou A, Groenewald JZ, Gams W, et al. 2007. Phylogenetic and morphotaxonomic revision of Ramichloridium and allied genera. Studies in Mycology 58: 57–93.

Aveskamp MM, Verkley GJM, De Gruyter J, et al. 2009. DNA phylogeny reveals polyphyly of Phoma section Peyronellaea and multiple taxonomic novelties. Mycologia 101: 363–382.

Bandini D, Oertel B, Ploch S, et al. 2019. Revision of some central European species of Inocybe (Fr.: Fr.) Fr. subgenus Inocybe, with description of five new species. Mycological Progress 18: 247–294.

Bandini D, Sesli E, Oertel B, et al. 2020. Inocybe antoniniana, a new species of Inocybe section Marginatae with nodulose spores. Sydowia 72: 95–106.

Bao DF, Wanasinghe DN, Luo ZL, et al. 2019. Murispora aquatica sp. nov. and Murispora fagicola, a new record from freshwater habitat in China. Phytotaxa 416: 1–13.

Baral H-O. 1987. Lugol's solution / IKI versus Melzer's reagent: hemiamyloidity, a universal feature of the ascus wall. Mycotaxon 29: 399–450.

Bates ST, Roberson RW, Desjardin DE. 2009. Arizona gasteroid fungi I: Lycoperdaceae (Agaricales, Basidiomycota). Fungal Diversity 37: 153–207.

Bensch K, Groenewald JZ, Braun U, et al. 2015. Common but different: The expanding realm of Cladosporium. Studies in Mycology 82: 23–74.

Bensch K, Groenewald JZ, Meijer M, et al. 2018. Cladosporium species in indoor environments. Studies in Mycology 89: 177–301.

Berkeley, MJ. 1845. Decades of Fungi: Australian Fungi. The London Journal of Botany 4: 42–73.

Bertault R. 1965. Amanites du Maroc. Bulletin trimestriel de la Société mycologique de France 81: 345–371.

Bezerra JDP, Sandoval-Denis M, Paiva LM, et al. 2017. New endophytic Toxicocladosporium species from cacti in Brazil, and description of Neocladosporium gen. nov. IMA Fungus 8: 77–97.

Bien S, Kraus C, Damm U. 2020. Novel collophorina-like genera and species from Prunus trees and vineyards in Germany. Persoonia 45: 46–67.

Boerema GH, De Gruyer J, Noordeloos ME, et al. 2004. Phoma identification manual. Differentiation of specific and intra-specific and intra-specific taxa in culture. CABI Publishing, Wallingford, UK.

Bose T, Wingfield MJ, Roux J, et al. 2021. Phytophthora species associated with roots of native and non-native trees in natural and managed forests Microbial Ecology 81: 122–133.

Braun U. 1998. A monograph of Cercosporella, Ramularia and allied genera (phytopathogenic hyphomycetes), Vol. 2, IHW-Verlag, Eching, Munich, Germany.

Buisman CJ. 1927. Root rots caused by Phycomycetes. Mededelingen uit het Phytopathologisch laboratorium Willie Commelin Scholten 11: 1–65.

Bukharova NV, Zmitrovich IV. 2014. Aphyllophoroid fungi of the Bastak Reserve. Mikologiya i fitopatologiya 48: 343–354.

Castañeda-Ruiz RF. 1984. Nuevos taxones de Deuteromycotina: Arnoldiella robusta gen. et sp. nov.; Roigiella lignicola gen. et sp. nov.; Sporidesmium pseudolmediae sp. nov. y Thozetella havanensis sp. nov. Revista del Jardín Botánico Nacional Universidad de la Habana 5: 57–87.

Castañeda-Ruiz RF, Gams W, Saikawa M. 1997. Three new conidial fungi (hyphomycetes) from Cuba. Nova Hedwigia 64: 473–483.

Chen C, Verkley GJM, Sun G, et al. 2016. Redefining common endophytes and plant pathogens in Neofabraea, Pezicula, and related genera. Fungal Biology 120: 1291–1322.

Chen Q, Hou LW, Duan WJ, et al. 2017. Didymellaceae revisited. Studies in Mycology 87: 105–159.

Chen Q, Jiang JR, Zhang GZ, et al. 2015. Resolving the Phoma enigma. Studies in Mycology 82: 137–217.

Chernomor O, von Haeseler A, Minh BQ. 2016. Terrace aware data structure for phylogenomic inference from supermatrices. Systematic Biology 65: 997–1008.

Contu M. 1985a '1984'. Novitates (2). Documents Mycologiques 14: 26.

Contu M. 1985b. Amanita mairei Foley sensu Foley. A. mairei sensu Bertault: Nome nuovo per la specie di Bertault: Amanita bertaultii sp. nov. Funghie Ambiente 1: 11–13.

Contu M. 2000. Chiave per la determinazione delle specie europee del genere Amanita sez. Vaginatae. Bollettino del gruppo micologico G. Bresadola 43: 233–240.

Contu M, Pacioni G. 1998. Amanita cistetorum and Psathyrella liciosae, two new Mediterranean species. Mycotaxon 69: 437–446.

Corriol G. 2003. Pluteus diverticulatus sp. nov., une espece nouvelle de la sous-section Mixtini. Bulletin Trimestriel de la Societe Mycologique de France 119: 231–244.

Corriol G, Moreau PA, Bellanger JM. 2017. Calocybe hymenoderma sp. nov., Calocybella juncicola comb. nov. et les contours taxinomiques de la section Rugosomyces. Errotari 14: 35–46.

Crandall BS. 1947. A new Phytophthora causing root and collar rot of cinchona in Peru. Mycologia 39: 218–223.

Crous PW, Braun U, McDonald BA, et al. 2020a. Redefining genera of cereal pathogens: Oculimacula, Rhynchosporium and Spermospora. Fungal Systematics and Evolution 7: 67–98.

Crous PW, Braun U, Wingfield MJ, et al. 2009. Phylogeny and taxonomy of obscure genera of microfungi. Persoonia 22: 139–161.

Crous PW, Carnegie AJ, Wingfield MJ, et al. 2019a. Fungal Planet description sheets: 868–950. Persoonia 42: 291–473.

Crous PW, Cowan DA, Maggs-Kölling G, et al. 2021a. Fungal Planet description sheets: 1182–1283. Persoonia 46: 313–528.

Crous PW, Groenewald JZ, Mansilla JP, et al. 2004. Phylogenetic reassessment of Mycosphaerella spp. and their anamorphs occurring on Eucalyptus. Studies in Mycology 50: 195–214.

Crous PW, Lombard L, Sandoval-Denis M, et al. 2021b. Fusarium: more than a node or a foot-shaped basal cell. Studies in Mycology 98: 100116.

Crous PW, Luangsa-ard JJ, Wingfield MJ, et al. 2018a. Fungal Planet description sheets: 785–867. Persoonia 41: 238–417.

Crous PW, Schumacher RK, Akulov A, et al. 2019b. New and Interesting Fungi. 2. Fungal Systematics and Evolution 3: 57–134.

Crous PW, Schumacher RK, Wingfield MJ, et al. 2018b. New and interesting fungi. 1. Fungal Systematics and Evolution 1: 169–215.

Crous PW, Shivas RG, Quaedvlieg W, et al. 2014a. Fungal Planet description sheets: 214–280. Persoonia 32: 184–306.

Crous PW, Summerell BA, Shivas RG, et al. 2011. Fungal Planet description sheets: 92–106. Persoonia 27: 130–162.

Crous PW, Verkley GJM, Christensen M, et al. 2012. How important are conidial appendages? Persoonia 28:126–137.

Crous PW, Wingfield MJ, Burgess TI, et al. 2017. Fungal Planet description sheets: 625–715. Persoonia 39: 270–467.

Crous PW, Wingfield MJ, Cheewangkoon R, et al. 2019c. Foliar pathogens of eucalypts. Studies in Mycology 94: 125–298.

Crous PW, Wingfield MJ, Chooi Y-H, et al. 2020b. Fungal Planet description sheets: 1042–1111. Persoonia 44: 301–459.

Crous PW, Wingfield MJ, le Roux JJ, et al. 2015. Fungal Planet description sheets: 371–399. Persoonia 35: 264–327.

Crous PW, Wingfield MJ, Lombard L, et al. 2019d. Fungal Planet description sheets: 951–1041. Persoonia 43: 223–425.

Crous PW, Wingfield MJ, Richardson DM, et al. 2016. Fungal Planet description sheets: 400–468. Persoonia 36: 316–458.

Crous PW, Wingfield MJ, Schumacher RK, et al. 2014b. Fungal Planet description sheets 281–319. Persoonia 33: 212–289.

Crous PW, Wingfield MJ, Schumacher RK, et al. 2020c. New and interesting fungi 3. Fungal Systematics and Evolution 6: 157–231.

Darriba D, Taboada GL, Doallo R, et al. 2012. jModelTest 2: more models, new heuristics and parallel computing. Nature Methods 9: 772.

De Gruyter J, Noordeloos ME. 1992. Contributions towards a monograph of Phoma (Coelomycetes) – I. 1. Section Phoma: Taxa with very small conidia in vitro. Persoonia 15: 71–92.

De Gruyter J, Noordeloos ME, Boerema GH. 1993. Contributions towards a monograph of Phoma (Coelomycetes) – I. 2. Section Phoma: Additional taxa with very small conidia and taxa with conidia up to 7 μm long. Persoonia 15: 369–400.

De Hoog GS. 1977. Rhinocladiella and allied genera. Studies in Mycology 15: 1–140.

De Hoog GS, Mayser P, Haase G, et al. 2000. A new species, Phialophora europaea, causing superficial infections in humans. Mycoses 43: 409–416.

Denk T, Grimm GW. 2010. The oaks of western Eurasia: Traditional classifications and evidence from two nuclear markers. Taxon 59: 351–366.
Diederich P, Braun U. 2009. First lichenicolous record of Acremonium hypholomatis (anamorphic Ascomycota). Bulletin de la Société des naturalistes luxembourgeois 110: 97–99.
Domsch KH, Gams W, Anderson TH. 1993. Compendium of soil fungi. Reprinted by IHW-Verlag with supplement.
Domsch KH, Gams W, Anderson T-H. 2007. Compendium of soil fungi. 2nd ed. IHW-Verlag, Eching, Germany.
Dong W, Hyde KD, Jeewon R, et al. 2021. Towards a natural classification of annulatascaceae-like taxa II: introducing five new genera and eighteen new species from freshwater. Mycosphere 12: 1–88.
Drummond AJ, Suchard MA, Xie D, et al. 2012. Bayesian phylogenetics with BEAUti and the BEAST 1.7. Molecoluar Biology and Evolution 29: 1969–1973.
Duan JX, Wu WP, Liu XZ. 2007. Dinemasporium (coelomycetes). Fungal Diversity 26: 205–218.
Edler D, Klein J, Antonelli A, et al. 2020. raxmlGUI 2.0: a graphical interface and toolkit for phylogenetic analyses using RAxML. Methods in Ecology and Evolution 12: 373–377.
Egidi E, De Hoog GS, Isola D, et al. 2014. Phylogeny and taxonomy of meristematic rock-inhabiting black fungi in the Dothideomycetes based on multi-locus phylogenies. Fungal Diversity 65: 127–165.
Ekanayaka AH, Hyde KD, Gentekaki E, et al. 2019. Preliminary classification of Leotiomycetes. Mycosphere 10: 310–489.
Esteve-Raventós F, Moreno G, Bizio E, et al. 2015. Inocybe flavobrunnescens, a new species in section Marginatae. Mycological Progress 14: 14.
Farr DF, Rossman AY. Fungal Databases, U.S. National Fungus Collections, ARS, USDA. Retrieved October 14, 2021, from https://nt.ars-grin.gov/fungaldatabases/.
Fassatiová O. 1986. Moulds and filamentous fungi in technical microbiology. Elsevier, Amsterdam.
Fechner N, Bonito G, Bougher NL, et al. 2017. New species of Austroboletus (Boletaceae) in Australia. Mycological Progress 16: 769–775.
Feng P, Lu Q, Najafzadeh MJ, et al. 2014. Cyphellophora and its relatives in Phialophora biodiversity and possible role in human infection. Fungal Diversity 65: 17–45.
Fries E. 1821. Systema mycologicum 1. Ex officina Berlingiana, Lund, Sweden.
Gams W. 1971. Cephalosporium-artige Schimmelpilze (Hyphomycetes), Fischer, Stuttgart, Germany.
Gams W. 1975. Cephalosporium-like Hyphomycetes: Some tropical species. Transactions of the British Mycological Society 64: 389–404.
Gams W. 1976. Some new or noteworthy species of Mortierella. Persoonia 9: 111–140.
Giraldo A, Gené J, Sutton DA, et al. 2015. Phylogeny of Sarocladium (Hypocreales). Persoonia 34: 10–24.
Gonçalves MFM, Santos L, Silva BMV, et al. 2019. Biodiversity of Penicillium species from marine environments in Portugal and description of Penicillium lusitanum sp. nov., a novel species isolated from sea water. International Journal of Systematic and Evolutionary Microbiology 69: 3014–3021.
Gouy M, Guindon S, Gascuel O. 2010. SeaView version 4: A multiplatform graphical user interface for sequence alignment and phylogenetic tree building. Molecular Biology and Evolution 27: 221–224.
Gräfenhan T, Schroers H-J, Nirenberg HI, et al. 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.
Gryzenhout M, Tarigan M, Clegg PA, et al. 2010. Cryptometrion aestuescens gen. sp. nov. (Cryphonectriaceae) pathogenic to Eucalyptus in Indonesia. Australasian Plant Pathology 39: 161–169.
Guindon S, Lethiec F, Duroux P et al. 2010. PHYML Online – a web server for fast maximum likelihood-based phylogenetic inference. Nucleic Acids Research 33: W557–W559.
Guzmán-Dávalos L, Pradeep CK, Vrinda KB, et al. 2017. A new stipitate species of Crepidotus from India and Thailand, with notes on other tropical species. Mycologia 109: 804–814.
Haelewaters D, De Kesel A. 2020. Checklist of thallus-forming Laboulbeniomycetes from Belgium and the Netherlands, including Hesperomyces halyziae and Laboulbenia quarantenae spp. nov. MycoKeys 71: 23–86.
Haelewaters D, De Kesel A, Pfister DH. 2018. Integrative taxonomy reveals hidden species within a common fungal parasite of ladybirds. Scientific Reports 8: 15966.
Hall TA. 1999. BioEdit: A user-friendly biological sequence alignment editor and analysis program for Windows 95/98/NT. Nucleic Acids Symposium Series 41: 95–98.
Halling RE. 1996. Notes on Collybia V. Gymnopus section Levipedes in tropical South America, with comments on Collybia. Brittonia 48: 487–494.
Hanss J-M, Moreau P-A. 2020. Une Révision des Amanites «vaginées» (Amanita sect. Vaginatae) en Europe, 1re partie: quelques Amanites argentées. Bulletin de la Société mycologique de France 133: 67–141.
Hashimoto A, Sato G, Matsuda T, et al. 2015. Taxonomic revision of Pseudolachnea and Pseudolachnella and establishment of Neopseudolachnella and Pseudodinemasporium gen. nov. Mycologia 107: 383–408.
Hawksworth DL. 1972. A large-spored species of Acremonium sect. Nectrioidea. Transactions of the British Mycological Society 58: 510–512.
Hawksworth DL. 1979. The lichenicolous hyphomycetes. Bulletin of the British Museum for Natural History 6: 183–300.
He M-Q, Hyde KD, Ratchadawan C, et al. 2020. Two new species of Micropsalliota (Agaricaceae/Agaricales) from Thailand. Phytotaxa 453: 140–141.
Heinemann P, Leelavathy KM. 1991. The genus Micropsalliota (Agaricaceae) in Kerala State, India. Mycological Research 95: 343–344.
Heinemann P, Little Flower S. 1983. Micropsalliota de Kerala (Inde). Bulletin du Jardin Botanique National de Belgique 53: 75–84.
Hernández-Restrepo M, Groenewald JZ, Crous PW, et al. 2016a. Taxonomic and phylogenetic re-evaluation of Microdochium, Monographella and Idriella. Persoonia 36: 57–82.
Hernández-Restrepo M, Groenewald JZ, Elliott ML, et al. 2016b. Take-all or nothing. Studies in Mycology 83: 19–48.
Hipp AL, Manos PS, Hahn M, et al. 2020. Genomic landscape of the global oak phylogeny. New Phytologist 226: 1198–1212.
Hjortstam K, Ryvarden L. 2007. Checklist of corticioid fungi (Basidiomycotina) from the tropics, subtropics and the southern hemisphere. Synopsis Fungorum 22: 27–146.
Hoang DT, Chernomor O, von Haeseler A, et al. 2018. UFBoot2: Improving the ultrafast bootstrap approximation. Molecular Biology and Evolution 35: 518–522.
Holubová-Jechová V. 1974. A revision of the genus Olpitrichum Atk. Folia Geobotanica et Phytotaxonomica 9: 425–432.
Hongo T. 1971. Notulae mycologicae. Mem Shiga University 21: 62–68.
Horak E. 1976. On cuboid spored species of Entoloma. Sydowia 28: 171–236.
Horak E. 1977. Additions to 'On cuboid spored species of Entoloma'. Sydowia 29: 289–299.
Horak E. 1978 '1977'. Crepidotus episphaeria and related species from the Southern Hemisphere. Berichte der Schweizerischen Botanischen Gesellschaft 87: 227–235.
Horak E. 2018 Agaricales (Basidiomycota) of New Zealand 2. Brown spored genera p.p. Crepidotus, Flammulaster, Inocybe, Phaeocollybia, Phaeomarasmius, Pleuroflammula, Pyrrhoglossum, Simocybe, Tubaria and Tympanella. Fungi of New Zealand Nga Hekaheka o Aotearoa Volume 6. Westerdijk Biodiversity Series 16: 1–205. Westerdijk Fungal Biodiversity Institute, Utrecht, the Netherlands.
Hou C-L, Lin Y-R, Piepenbring M. 2005. Species of Rhytismataceae on needles of Juniperus spp. from China. Canadian Journal of Botany 83: 37–46.
Hou LW, Groenewald JZ, Pfenning LH, et al. 2020a. The phoma-like dilemma. Studies in Mycology 96: 309–396.
Hou LW, Hernandez-Restrepo M, Groenewald JZ, et al. 2020b. Citizen science project reveals high diversity in Didymellaceae (Pleosporales, Dothideomycetes). MycoKeys 65: 49–99.
Houbraken J, Kocsube S, Visagie CM, et al. 2020. Classification of Aspergillus, Penicillium, Talaromyces and related genera (Eurotiales): an overview of families, genera, subgenera, sections, series and species. Studies in Mycology 95: 5–169.
Huang S, Xia J, Zhang X, et al. 2020. Two new species of Microdochium from Indocalamus longiauritus in south-western China. MycoKeys 72: 93–108.
Hubka V, Dudová Z, Kubátová A, et al. 2017. Taxonomic novelties in Aspergillus section Fumigati: A. tasmanicus sp. nov., induction of sexual state in A. turcosus and overview of related species. Plant Systematics and Evolution 303: 787–806.
Hubka V, Peterson SW, Frisvad JC, et al. 2013. Aspergillus waksmanii sp. nov. and Aspergillus marvanovae sp. nov., two closely related species in section Fumigati. International Journal of Systematic and Evolutionary Microbiology 63: 783–789.
Huelsenbeck JP, Ronquist F. 2001. MrBayes: Bayesian inference of phylogenetic trees. Bioinformatics 17: 754–755.
Huson DH, Kloepper TH 2005. Computing recombination networks from binary sequences. Bioinformatics, 21: ii159–ii165.
Hyde KD, Dong Y, Phookamsak R, et al. 2020. Fungal diversity notes 1151–1276: taxonomic and phylogenetic contributions on genera and species of fungal taxa. Fungal Diversity 100: 5–277.
Hyde KD, Norphanphoun C, Abreu VP, et al. 2017. Fungal diversity notes 603–708: taxonomic and phylogenetic notes on genera and species. Fungal Diversity 87: 1–235.
Hyde KD, Tennakoon DS, Jeewon R. et al. 2019. Fungal diversity notes 1036–1150: taxonomic and phylogenetic contributions on genera and species of fungal taxa. Fungal Diversity 96: 1–242.

Hymphries Z, Seifert KA, Hirooka Y, et al. 2017. A new family and genus in Dothideales for Aureobasidium-like species isolated from house dust. IMA Fungus 8: 299–315.
Irwin JAG. 1991. Phytophthora macrochlamydospora, a new species from Australia. Mycologia 83: 517–519.
Jiang H-B, Hyde KD, Yang E-F, et al. 2021. Morphological and phylogenetic appraisal of Ophioceras (Ophioceraceae, Magnaporthales). PLoS ONE 16: e0253853.
Jiang N, Fan X, Tian C, et al. 2020. Reevaluating Cryphonectriaceae and allied families in Diaporthales. Mycologia 112: 267–292.
Johnston PR. 1986. Rhytismataceae in New Zealand 1. Some foliicolous species of Coccomyces de Notaris and Propolis (Fries) Corda. New Zealand Journal of Botany 24: 89–124.
Johnston PR. 1994. Ascospore sheaths of some Coccomyces, Hypoderma, and Lophodermium species (Rhytismataceae). Mycotaxon 52: 221–239.
Johnston PR, Gamundi IJ. 2000. Torrendiella (Ascomycota, Helotiales) on Nothofagus. New Zealand Journal of Botany 38: 493–513.
Ju Y-M, Rogers JD. 2001. New and interesting Biscogniauxia taxa, with a key to the world species. Mycological Research 9: 1123–1133.
Kalyaanamoorthy S, Minh BQ, Wong TFK, et al. 2017. ModelFinder: fast model selection for accurate phylogenetic estimates. Nature Methods 14: 587–589.
Karstedt F, Baroni TJ, Largent DL, et al. 2019. Phylogenetic and morphological analyses of species of the Entolomataceae (Agaricales, Basidiomycota) with cuboid basidiospores. Phytotaxa 391: 001–027.
Katoh K, Rozewicki J, Yamada KD. 2019. MAFFT online service: multiple sequence alignment, interactive sequence choice and visualization. Briefings in Bioinformatics 20: 1160–1166.
Katoh K, Standley DM. 2013. MAFFT multiple sequence alignment software version 7: improvements in performance and usability. Molecular Biology and Evolution 30: 772–780.
Khalabuda TV. 1973. Fungi of the genus Mortierella Coemans. Institut mikrobiologii (Akademiia nauk SSSR).
Kirk PM. 1982. New or interesting microfungi VI. Sporidesmiella gen. nov. (hyphomycetes). Transactions of the British Mycological Society 79: 479–489.
Klaubauf S, Tharreau D, Fournier E, et al. 2014. Resolving the polyphyletic nature of Pyricularia (Pyriculariaceae). Studies in Mycology 79: 85–120.
Knapp DG, Kovács GM, Zajta E, et al. 2015. Dark septate endophytic pleosporalean genera from semiarid areas. Persoonia 35: 87–100.
Kobayashi T, Courtecuisse R. 2000. Two new species of Inocybe, section Marginatae (Agaricales, Cortinariaceae) from Japan. Mycoscience 41: 161–166.
Kornerup A, Wanscher JH. 1967. Methuen Handbook of Colour. Methuen & Co Ltd, London, England.
Kornerup A, Wanscher JH. 1978. Methuen Handbook of Colour, 3rd edn. Eyre Methuen, Ltd., London.
Kornerup A, Wanscher JH. 1983. Methuen Handbook of Colour, 3rd edn. Eyre Methuen, Ltd., London.
Kozlov AM, Darriba D, Flouri T, et al. 2019. RAxML-NG: a fast, scalable, and user-friendly tool for maximum likelihood phylogenetic inference. Bioinfomatics 35: 4453–4455.
Kruys A, Huhndorf SM, Miller AN. 2015. Coprophilous contributions to the phylogeny of Lasiosphaeriaceae and allied taxa within Sordariales (Ascomycota, Fungi). Fungal Diversity 70: 101–113.
Kühner R. 1955. Compléments a la “Flore Analytique” VI) Inocybe goniosporés et Inocybe acystidiés. Espèces nouvelles ou critiques. Bulletin de la Société Mycologique de France 71: 279–311.
Kumar S, Stecher G, Li M, et al. 2018. MEGA X: Molecular Evolutionary Genetics Analysis across computing platforms. Molecular Biology and Evolution 35: 1547–1549.
Kumar S, Stecher G, Tamura K. 2016. MEGA7: Molecular Evolutionary Genetics Analysis Version 7 for Bigger Datasets. Molecular Biology and Evolution 33: 1870–1874.
Kušan I, Matočec N, Antonić O, et al. 2014. Biogeographical variability and re-description of an imperfectly known species Hamatocanthoscypha rotundispora (Helotiales, Hyaloscyphaceae). Phytotaxa 170: 1–12.
Kuyper TW. 1986. A revision of the genus Inocybe in Europe. I. Subgenus Inosperma and the smooth-spored species of subgenus Inocybe. Persoonia Supplement 3: 1–247.
Lanfear R, Frandsen PB, Wright AM, et al. 2017. PartitionFinder 2: new methods for selecting partitioned models of evolution for molecular and morphological phylogenetic analyses. Molecular Biology and Evolution 34: 772–773.
Laraba I, McCormick SP, Vaughan MM, et al. 2021. Phylogenetic diversity, trichothecene potential, and pathogenicity within Fusarium sambucinum species complex. Plos One 16: e0245037.
Larsson KH. 1994. Poroid species in Trechispora and use of calcium oxalate crystals for species identification. Mycological Research 98: 1153–1172.
Latha KD, Raj KA, Manimohan P. 2019. Laccaria violaceotincta: a new species from tropical India based on morphology and molecular phylogeny. Phytotaxa 392: 140–146.
Latha KPD, Raj KNA, Thushara C, et al. 2016. Three new species of Calocybella from India based on morphology and molecular phylogeny. Phytotaxa 255: 133–143.
Le Gal M, Mangenot MF. 1961. Contribution à l’étude des Mollisioïdées. IV. (3e série). Revue de Mycologie 26: 263–331.
Lechat C, Fournier J. 2016. Varicosporellopsis, a new aquatic genus from South of France. Ascomycete.org 8: 96–100.
Leonardi M, Furtado ANM, Comandini O, et al. 2020. Halimium as an ectomycorrhizal symbiont: new records and an appreciation of known fungal diversity. Mycological Progress 19: 1495–1509.
Leslie JF, Summerell BA. 2006. The Fusarium laboratory manual. Blackwell Publishing, Ames.
Lévesque CA, De Cock AWAM. 2004. Molecular phylogeny and taxonomy of the genus Pythium. Mycological Research 108: 1363–1383.
Li HY, Sun GY, Zhai XR, et al. 2012. Dissoconiaceae associated with sooty blotch and flyspeck on fruits in China and the United States. Persoonia 28: 113–125.
Li J-X, He M-Q, Zhao R-L. 2021. Three new species of Micropsalliota (Agaricaceae, Agaricales) from China. Phytotaxa 491: 174.
Liberta AE. 1973. The genus Trechispora (Basidiomycetes, Corticiaceae). Canadian Journal of Botany 51: 1871–1892.
Lima CS, Pfenning LH, Costa SS, et al. 2009. A new Fusarium lineage within the Gibberella fujikuroi species complex is the main causal agent of mango malformation disease in Brazil. Plant Pathology 58: 33–42.
Liu LL, Yang J, Liu NG, et al. 2019. Sporidesmium guizhouense sp. nov. (Sordariomycetes incertae sedis), a new species from a freshwater habitat in Guizhou Province, China. Phytotaxa 422: 144–156.
Liu ZY, Plautz HL, Lumyong S, et al. 2016. Fungal diversity notes 603–708: taxonomic and phylogenetic notes on genera and species. Fungal Diversity 87: 1–235.
Loizides M, Bellanger J-M, Yiangou Y, et al. 2018. Preliminary phylogenetic investigations into the genus Amanita (Agaricales) in Cyprus, with a review of previous records and poisoning incidents. Documents Mycologiques XXXVII: 201–218.
Lombard L, Houbraken J, Decock C, et al. 2016. Generic hyper-diversity in Stachybotriaceae. Persoonia 36: 156–246.
Lombard L, Van der Merwe NA, Groenewald JZ, et al. 2015. Generic concepts in Nectriaceae. Studies in Mycology 80: 189–245.
Lowe JL. 1966. Polyporaceae of North America. The genus Poria. New York State University College of Forestry Technical Publication 90.
Lu YZ, Liu JK, Hyde KD, et al. 2018. A taxonomic reassessment of Tubeufiales based on multi-locus phylogeny and morphology. Fungal Diversity 92: 131–344.
Ludwig E. 2007. Pilzkompendium (Eching), 2. Berlin. Ed. Fungicon.
Lundquist N. 1972. Nordic Sordariaceae s. lat. Symbolae Botanicae Upsalienses 20: 1–374.
Luo ZL, Hyde KD, Bhat DJ, et al. 2018. Morphological and molecular taxonomy of novel species Pleurotheciaceae from freshwater habitats in Yunnan, China. Mycological Progress 17: 511–530.
Luo ZL, Hyde KD, Liu JK, et al. 2019. Freshwater Sordariomycetes. Fungal Diversity 99: 451–660.
Madrid H, da Cunha KC, Gené J, et al. 2014. Novel Curvularia species from clinical specimens. Persoonia 33: 48–60.
Manoj KA, Vrinda KB, Pradeep CK. 2018. New and noteworthy crepidotoid agarics from India. Cryptogamie, Mycologie 39: 287–298.
Maryani N, Sandoval-Denis M, Lombard L, et al. 2019. New endemic Fusarium species hitch-hiking with pathogenic Fusarium strains causing Panama disease in small-holder banana plots in Indonesia. Persoonia 43: 48–69.
Marin-Felix Y, Guarro J, Cano-Lira JF, et al. 2018. Melanospora (Sordariomycetes, Ascomycota) and its relatives. MycoKeys 44: 81–122.
Mata JL, Hughes KW, Petersen RH. 2006. An investigation of /omphalotaceae (Fungi: Euagarics) with emphasis on the genus Gymnopus. Sydowia 58: 191–289.
Matheny BP, Swenie RA. 2018. The Inocybe geophylla group in North America: a revision of the lilac species surrounding I. lilacina. Mycologia 110: 618–634.
McKenzie EHC, Pinnoi A, Wong MKM, et al. 2002. Two new hyaline Chalara species, and a key to species described since 1975. Fungal Diversity 11: 129–139.
Meiras-Ottoni A, Larsson K-H, Gibertoni TB. 2021. Additions to Trechispora and the status of Scytinopogon (Trechisporales, Basidiomycota). Mycological Progress 20: 203–222.

Menolli Jr N, Asai T, Capelari M. 2010. Records and new species of Pluteus from Brazil based on morphological and molecular data. Mycology 1: 130–153.
Miller AN, Huhndorf SM. 2004a. A natural classification of Lasiosphaeria based on nuclear LSU rDNA sequences. Mycological Research 108: 26–34.
Miller AN, Huhndorf SM. 2004b. Using phylogenetic species recognition to delimit species boundaries within Lasiosphaeria. Mycologia 96: 1106–1127.
Miller MA, Pfeiffer W, Schwartz T. 2010. Creating the CIPRES Science Gateway for inference of large phylogenetic trees. In: Proceedings of the Gateway Computing Environments Workshop (GCE), 14 Nov. 2010, New Orleans, LA: 1–8.
Minh BQ, H.A. Schmidt, Chernomor O, et al. 2020. IQ-TREE 2: New models and efficient methods for phylogenetic inference in the genomic era. Molecular Biology and Evolution 37: 1530–1534.
Minter DW. 1996. Colpoma juniperi. IMI descriptions of Fungi and bacteria No 1294. Mycopathologia 136: 159–161.
Misra PC, Srivastava P. 1976. A new species of Tetracoccosporium. Mycotaxon 4: 276–278.
Morgan AP. 1890. North American Fungi. The Gasteromycetes. III. The Journal of the Cincinnati Society of Natural History 12: 163–172.
Morozova OV, Alexandrova AV, Popov ES, et al. 2016. New data on the agaricoid basidiomycetes of the Tver Region. Novosti Sistematiki Nizshikh Rastenii. 50: 174–186. [In Russian.]
Morozova OV, Popov ES, Kovalenko AE. 2012. Studies on mycobiota of Vietnam. I. Genus Entoloma: new records and new species. Mikologiya i fitopatologiya 46: 184–200.
Munsell Color 1994. Soil Color Charts (revised edition). Macbeth Division of Kollmorgen Instruments Corporation. New Windsor. New York. USA.
Muroi T, Udagawa S, Otani Y. 1987. Some coprophilous ascomycetes from Peru. In: H Inoue (ed), Studies on Cryptogams in Southern Peru. Tokai University Press, Tokyo: 151–168.
Nag-Raj TR, Kendrick WB. 1975. Monograph of Chalara and allied genera. Wilfrid Laurier University Press, Waterloo, Ontario, Canada.
Nagy LG, Petkovits T, Kovács GM, et al. 2011. Where is the unseen fungal diversity hidden? A study of Mortierella reveals a large contribution of reference collections to the identification of fungal environmental sequences. New Phytologist 191: 789e794.
Nguyen L-T, Schmidt HA, Von Haeseler A, et al. 2015. IQ-TREE: A fast and effective stochastic algorithm for estimating maximum-likelihood phylogenies. Molecular Biology and Evolution 32: 268–274.
Noordeloos ME. 1992. Entoloma s.l. Fungi Europaei, vol. 5. Giovanna Biella, Saronno, Italy.
Noordeloos ME, Morozova OV. 2010. New and noteworthy Entoloma species from the Primorsky Territory, Russian Far East. Mycotaxon 112: 231–255.
Nováková A, Hubka V, Dudová Z, et al. 2014. New species in Aspergillus section Fumigati from reclamation sites in Wyoming (U.S.A.) and revision of A. viridinutans complex. Fungal Diversity 64: 253–274.
O'Donnell K, Cigelnik E, Nirenberg H. 1998. Molecular systematics and phylogeography of the Gibberella fujikuroi species complex. Mycologia 90: 465–493.
O'Donnell K, Lutzoni FM, Ward TJ, et al. 2001. Evolutionary relationships among mucoralean fungi (Zygomycota): Evidence for family polyphyly on a large scale. Mycologia 93: 286–296.
O'Donnell K, McCormick SP, Busman M, et al. 2018. Marasas et al. 1984 'Toxigenic Fusarium species: identity and mycotoxicology' revisited. Mycologia 110: 1058–1080.
Ou JH, Lin GC, Chen CY. 2020. Sarocladium species associated with rice in Taiwan. Mycological Progress 19: 67–80.
Peterson SW, Manitchotpisit P, Leathers TD. 2013. Aureobasidium thailandense sp. nov. isolated from leaves and wooden surfaces. International Journal of Systematic and Evolutionary Microbiology 63: 790–795.
Pitt JI, Lantz H, Pettersson OV, et al. 2013. Xerochrysium gen. nov. and Bettsia, genera encompassing xerophilic species of Chrysosporium. IMA Fungus 4: 229–241.
Rajchenberg M. 1987. Type studies of Polyporaceae (Aphyllophorales) described by J. Rick. Nordic Journal of Botany 7: 553–568.
Rajeshkumar KC, Braun U, Groenewald JZ, et al. 2021. Phylogenetic placement and reassessment of Asperisporium pongamiae as Pedrocrousiella pongamiae gen. et comb. nov. (Mycosphaerellaceae). Fungal Systematics and Evolution 7: 165–176.
Rayner RW. 1970. A Mycological Colour Chart. Commonwealth Mycological Institute, Kew and British Mycological Society.
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.
Ronquist F, Huelsenbeck JP. 2003. MrBayes 3: Bayesian phylogenetic inference under mixed models. Bioinformatics 19: 1572–1574.
Ronquist F, Teslenko M, Van der Mark P, et al. 2012. MrBayes 3.2: efficient Bayesian phylogenetic inference and model choice across a large model space. Systematic Biology 61: 539–542.
Rossman AY. 2000. Towards monophyletic genera in the holomorphic Hypocreales. Studies in Mycology 45: 27–34.
Rossman AY, Samuels GJ, Rogerson CT, et al. 1999. Genera of Bionectriaceae, Hypocreaceae and Nectriaceae (Hypocreales, Ascomycetes). Studies in Mycology 42: 1–248.
Ryberg M, Nilsson RH, Kristiansson E, et al. 2008. Mining metadata from unidentified ITS sequences in GenBank: a case study in Inocybe (Basidiomycota). BMC Evolutionary Biology 8: 50.
Saccardo PA. 1889. Sylloge fungorum omnium hucusque cognitorum VIII. Saccardo, Padova.
Schipper MAA. 1978. On the genera Rhizomucor and Parasitella. Studies in Mycology 17: 52–71.
Schultes NP, Murtishi B, Li DW. 2017. Phylogenetic relationships of Chlamydomyces, Harzia, Olpitrichum, and their sexual allies, Melanospora and Sphaerodes. Fungal Biology 121 (10): 890–904.
Seifert K, Morgan-Jones G, Gams W, et al. 2011. The Genera of Hyphomycetes. CBS Biodiversity Series no. 9: 1–997. CBS-KNAW Fungal Biodiversity Centre, Utrecht, Netherlands.
Shang QJ, Hyde KD, Camporesi E, et al. 2020. Additions to the genus Cytospora with sexual morph in Cytosporaceae. Mycosphere 11: 189–224.
Shearer CA, Crane JL, Chen W. 1999. Freshwater ascomycetes: Ophioceras species. Mycologia 91: 145–156.
Sherwood MA. 1980. Taxonomic studies in the Phacidiales: The genus Coccomyces (Rhytismataceae). Occasional Papers of the Farlow Herbarium of Cryptogamic Botany 15: 1–120.
Silvestro D, Michalak I. 2012. raxmlGUI: a graphical frontend for RAxML. Organisms Diversity and Evolution 12: 335–337.
Singer R. 1947. Contributions towards a monograph of the genus Crepidotus. Lilloa 13: 59–95.
Spotts RA, Seifert KA, Wallis KM, et al. 2009. Description of Cryptosporiopsis kienholzii and species profiles of Neofabraea in major pome fruit growing districts in the Pacific Northwest USA. Mycological Research 113: 1301–1311.
Stadler T. 2009. On incomplete sampling under birth-death models and connections to the sampling-based coalescent. Journal of Theoretical Biology 261: 58–66.
Stajsic V. 2020a. in VICFLORA: Flora of Victoria, Oxalis https://vicflora.rbg.vic.gov.au/flora/taxon/0ed554c2-95c9-4cb2-b85e-da75e2655077 [accessed 6 April 2021].
Stajsic V. 2020b. Oxalidaceae. In: Kodela PG. (ed), Flora of Australia, Australian Biological Resources Study, Canberra. https://profiles.ala.org.au/opus/foa/profile/Oxalidaceae [accessed: 6 April 2021].
Stamatakis A. 2014. RAxML version 8: A toll for phylogenetic analysis and post-analysis of large phylogenenies. Bioinformatics 30: 1312–1313.
Summerbell RC, Gueidan C, Guarro J, et al. 2018. The Protean Acremonium. A. sclerotigenum/egyptiacum: Revision, Food Contaminant, and Human Disease. Microorganisms 6: 88.
Summerbell RC, Gueidan C, Schroers HJ, et al. 2011. Acremonium phylogenetic overview and revision of Gliomastix, Trichothecium and Sarocladium. Studies in Mycology 68: 139–162.
Swofford DL. 2003. PAUP* 4.0b10. Phylogenetic Analysis Using Parsimony (*and other methods). Version 4. Sinauer Associates, Sunderland, MA, USA.
Tamura K, Stecher G, Peterson D et al. 2013. MEGA6: Molecular Evolutionary Genetics Analysis version 6.0. Molecular Biology and Evolution 30: 2725–2729.
Tanney JB, Seifert KA. 2020. Mollisiaceae: An overlooked lineage of diverse endophytes. Studies in Mycology 95: 293–380.
Trifinopoulos J, Nguyen L-T, von Haeseler A, et al. 2016. W-IQ-TREE: a fast online phylogenetic tool for maximum likelihood analysis. Nucleic Acids Research: 44: W232–W235.
Tulloss RE. 1994. Type studies in Amanita section Vaginatae I: some taxa described in this century (studies 1–23) with notes on description of spores and refractive hyphae in Amanita. Mycotaxon 52: 305–396.
Valenzuela-Lopez N, Cano-Lira JF, Guarro J, et al. 2018. Coelomycetous Dothideomycetes with emphasis on the families Cucurbitariaceae and Didymellaceae. Studies in Mycology 90: 1–69.
Vandepol N, Liber J, Desirò A, et al. 2020. Resolving the Mortierellaceae phylogeny through synthesis of multi-gene phylogenetics and phylogenomics. Fungal Diversity 104: 267–289.
Vánky K. 2011 '2012'. Smut fungi of the world. St. Paul, Minnesota, APS Press.
Vánky K, Lutz M, Bauer R. 2008. About the genus Thecaphora (Glomosporiaceae) and its new synonyms. Mycological Progress 7: 31–39.

Vauras J. 1994. Inocybe diabolica, a new agaric from subarctic regions. Mycologia Helvetica 2: 121–128.

Vauras J, Kokkonen K. 2009. Finnish records of the genus Inocybe. The new species Inocybe saliceticola. Karstenia 48: 57–67.

Vauras J, Larsson E. 2016. Inocybe caprimulgi and I. lacunarum, two new nodulose-spored species from Fennoscandia. Karstenia 55: 1–18.

Vellinga EC. 1988. Glossary. In: Bas C, Kuyper TW, Noordeloos ME, Vellinga EC (eds). Flora Agaricina Neerlandica vol. 1: 54–64. Blakema, Rotterdam, The Netherlands.

Vellinga EC. 1990. Pluteus. In: Bas C, Kuyper TW, Noordeloos ME, Vellinga EC (eds), Flora Agaricina Neerlandica, vol 2: 31–55. Blakema, Rotterdam, The Netherlands.

Vellinga EC. 2001. Lepiota. In: Noordeloos ME, Kuyper ThW, Vellinga EC. (eds), Flora Agaricina Neerlandica 5: 109–151. Balkema publishers.

Vellinga EC. 2010. Lepiota in California: species with a hymeniform pileus covering. Mycologia 102: 664–674.

Viana FMP, Sousa JA, Araújo JDM, et al. 2012. Fungos Associados a Algumas Espécies Florestais Madeireiras no Distrito de Irrigação de Acaraú-Marco, CE. Documentos / Embrapa Agroindústria Tropical.

Videira SIR, Groenewald JZ, Braun U, et al. 2016. All that glitters is not Ramularia. Studies in Mycology 83: 49–163.

Videira SIR, Groenewald JZ, Nakashima C, et al. 2017. Mycosphaerellaceae – Chaos or clarity? Studies in Mycology 87: 257–421.

Vilgalys R, Miller Jr OK. 1983. Biological species in the Collybia dryophila group in North America. Mycologia 75: 707–722.

Visagie CM, Houbraken J. 2020. Updating the taxonomy of Aspergillus in South Africa. Studies in Mycology 95: 253–292.

Vitelli M, Vessella F, Cardoni S, et al. 2017. Phylogeographic structuring of plastome diversity in Mediterranean oaks (Quercus Group Ilex, Fagaceae). Tree Genetics & Genomes 13.3.

Vittadini C. 1831. Monographia Tuberacearum. Typographia Rusconi, Milano, Italy.

Vizzini A, Angelini C, Ercole E. 2017. Is the species diversity in the lyophylloid genera Calocybella and Gerhardtia (Agaricales, Basidiomycota) underestimated? Two new species from the Dominican Republic. Phytotaxa 291: 241–252.

Vizzini A, Consiglio G, Setti L, et al. 2015. Calocybella, a new genus for Rugosomyces pudicus (Agaricales, Lyophyllaceae) and emendation of the genus Gerhardtia. IMA Fungus 6: 1–11.

Vizzini A, Liang JF, Jančovičová S, et al. 2014. Lepiota coloratipes, a new species for Lepiota rufipes ss. Auct. europ. non ss. orig. Mycological Progress 13: 171–179.

Vizzini A, Tatti A, Huijser HA, et al. 2019. Looking for Lepiota psalion Huijser & Vellinga (Agaricales, Agaricaceae). MycoKeys 52: 45–69.

Vizzini A, Zotti M, Traverso M, et al. 2016. Variability, host range, delimitation and neotypification of Amanita simulans (Amanita section Vaginatae): collections associated with Helianthemum grasslands, and epitypification of A. lividopallescens. Phytotaxa 280: 1–22.

Voitk A, Saar I, Lodge DJ, et al. 2020a. From Esteri's to Bond's mushroom — some new and old Cuphophylli in NL. Omphalina 11: 71–80.

Voitk A, Saar I, Lodge DJ, et al. 2020b. New species and reports of Cuphophyllus from northern North America compared with related Eurasian species. Mycologia 112: 438–452.

Vu D, Groenewald M, Szöke S et al. 2016. DNA barcoding analysis of more than 9 000 yeast isolates contributes to quantitative thresholds for yeast species and genera delimitation. Studies in Mycology 85: 91–105.

Wanasinghe DN, Jones EBG, Camporesi E, et al. 2015. The genus Murispora. Cryptogamie Mycologie 36: 419–448.

Wang H, Gu ZR, Zhao CL. 2021. Hyphodermella zixishanensis (Polyporales, Basidiomycota), a new species with reddish hymenial surface. Nordic Journal of Botany 39: e03329.

Wu WP, Zhuang WY. 2005. Sporidesmium, Endophragmiella and related genera from China. Fungal Diversity Research Series 15: 1–351.

Yilmaz N, Sandoval-Denis M, Lombard L, et al. 2021. Redefining species limits in the Fusarium fujikuroi species complex. Persoonia 46: 129–162.

Yuan H-S, Dai Y-C. 2012. Wood-inhabiting fungi in southern China 5. Polypores from Guangxi Autonomous Region. Annales Botanici Fennici 49: 341–351.

Yurkov A, Guerreiro MA, Sharma L et al. 2015. Multigene assessment of the species boundaries and sexual status of the basidiomycetous yeasts Cryptococcus flavescens and C. terrestris (Tremellales). PLoS One 10: e0120400.

Zalar P, Gostinčar C, De Hoog GS, et al. 2008. Redefinition of Aureobasidium pullulans and its varieties. Studies in Mycology 61: 21–38.

Zeller SM, Smith AH. 1964. The genus Calvatia in North America. Lloydia 27: 148–186.

Zhao R-L, Desjardin DE, Soytong K, et al. 2010. A monograph of Micropsalliota in northern Thailand based on morphological and molecular data. Fungal Diversity 45: 33–79.