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RESEARCH ARTICLE

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Key words

ITS DNA barcodes
LSU
novel fungal species
systematics

Abstract Novel species of fungi described in the present study include the following from Malaysia: *Castanediella eucalypti* from *Eucalyptus pellita*, *Codinaea acacia* from *Acacia mangium*, *Emarcea eucalyptigena* from *Eucalyptus brassiana*, *Myrtapenidiella eucalyptorum* from *Eucalyptus pellita*, *Pilidiella eucalyptigena* from *Eucalyptus brassiana* and *Strelitziana malaysiana* from *Acacia mangium*. Furthermore, *Stachybotrys sansevieriicola* is described from *Sansevieria ehrenbergii* (Tanzania), *Phacidium grevilleae* from *Grevillea robusta* (Uganda), *Graphium jumulu* from *Adansonia gregorii* and *Ophiostoma eucalyptigena* from *Eucalyptus marginata* (Australia), *Pleurophoma ossicola* from bone and *Plectosphaerella populi* from *Populus nigra* (Germany), *Colletotrichum neosansevieriae* from *Sansevieria trifasciata*, *Elsinoë othonnae* from *Othonna quinquedentata* and *Zeloasperisporium cliviae* (*Zeloasperisporiaceae* fam. nov.) from *Clivia* sp. (South Africa), *Neodevriesia pakbiae*, *Phaeophleospora hymenocallidis* and *Phaeophleospora hymenocallidicola* on leaves of a fern (Thailand), *Melanconium elaeidicola* from *Elaeis guineensis* (Indonesia), *Hormonema viticola* from *Vitis vinifera* (Canary Islands), *Chlorophyllum pseudoglobossum* from a grassland (India), *Triadelphia disseminata* from an immunocompromised patient (Saudi Arabia), *Colletotrichum abscissum* from *Citrus* (Brazil), *Polyschema sclerotigenum* and *Phialemonium limoniforme* from human patients (USA), *Cadophora vitícola* from *Vitis vinifera* (Spain), *Entoloma flavovelutinum* and *Bolbitius aurantiorugosus* from soil (Vietnam), *Rhizopogon granuloflavus* from soil (Cape Verde Islands), *Tulasnella eremophila* from *Euphorbia officinarum* subsp. *echinus* (Morocco), *Verrucostoma martinicensis* from *Danaea elliptica* (French West Indies), *Metschnikowia colchici* from *Colchicum autumnale* (Bulgaria), *Thelebolus microcarpus* from soil (Argentina) and *Ceratocystis adelpha* from *Theobroma cacao* (Ecuador). *Myrmecridium iridis* (*Myrmecridiales* ord. nov., *Myrmecridiaceae* fam. nov.) is also described from *Iris* sp. (The Netherlands). Novel genera include (*Ascomycetes*): *Budhanggurabania* from *Cynodon dactylon* (Australia), *Soloacrosporiella*, *Xenocamarosporium*, *Neostrelitziana* and *Castanediella* from *Acacia mangium* and *Sabahriopsis* from *Eucalyptus brassiana* (Malaysia), *Readerielliopsis* from basidiomata of *Fuscoporia wahlbergii* (French Guyana), *Neoplatysporoides* from *Aloe ferox* (Tanzania), *Wojnowiciella*, *Chrysofolia* and *Neoeriomycopsis* from *Eucalyptus* (Colombia), *Neophaeomoniella* from *Eucalyptus globulus* (USA), *Pseudophaeomoniella* from *Olea europaea* (Italy), *Paraphaeomoniella* from *Encephalartos altensteinii*, *Aequabiliella*, *Celerioriella* and *Minutiella* from *Prunus* (South Africa). *Tephrocybella* (Basidiomycetes) represents a novel genus from wood (Italy). Morphological and culture characteristics along with ITS DNA barcodes are provided for all taxa.

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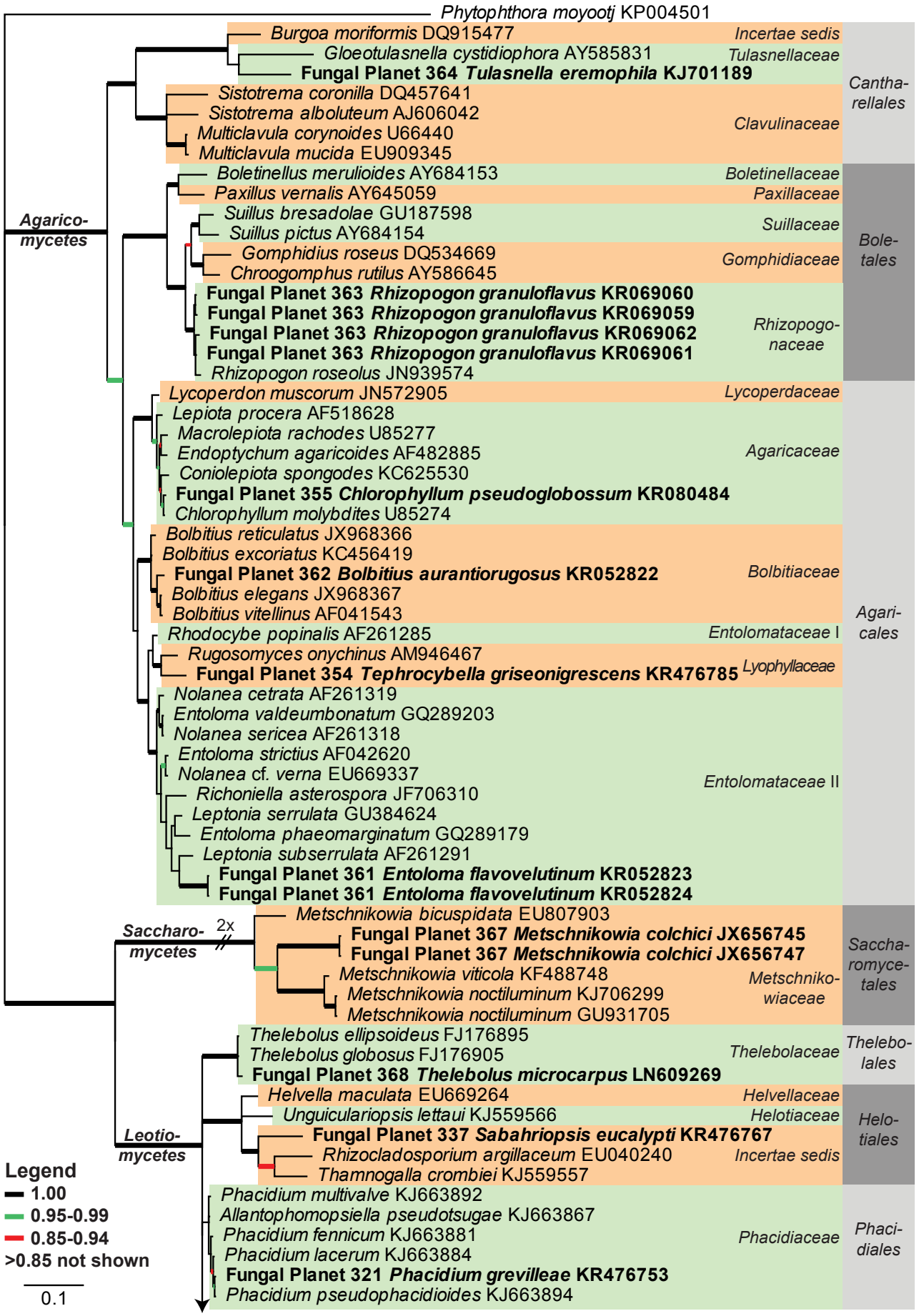
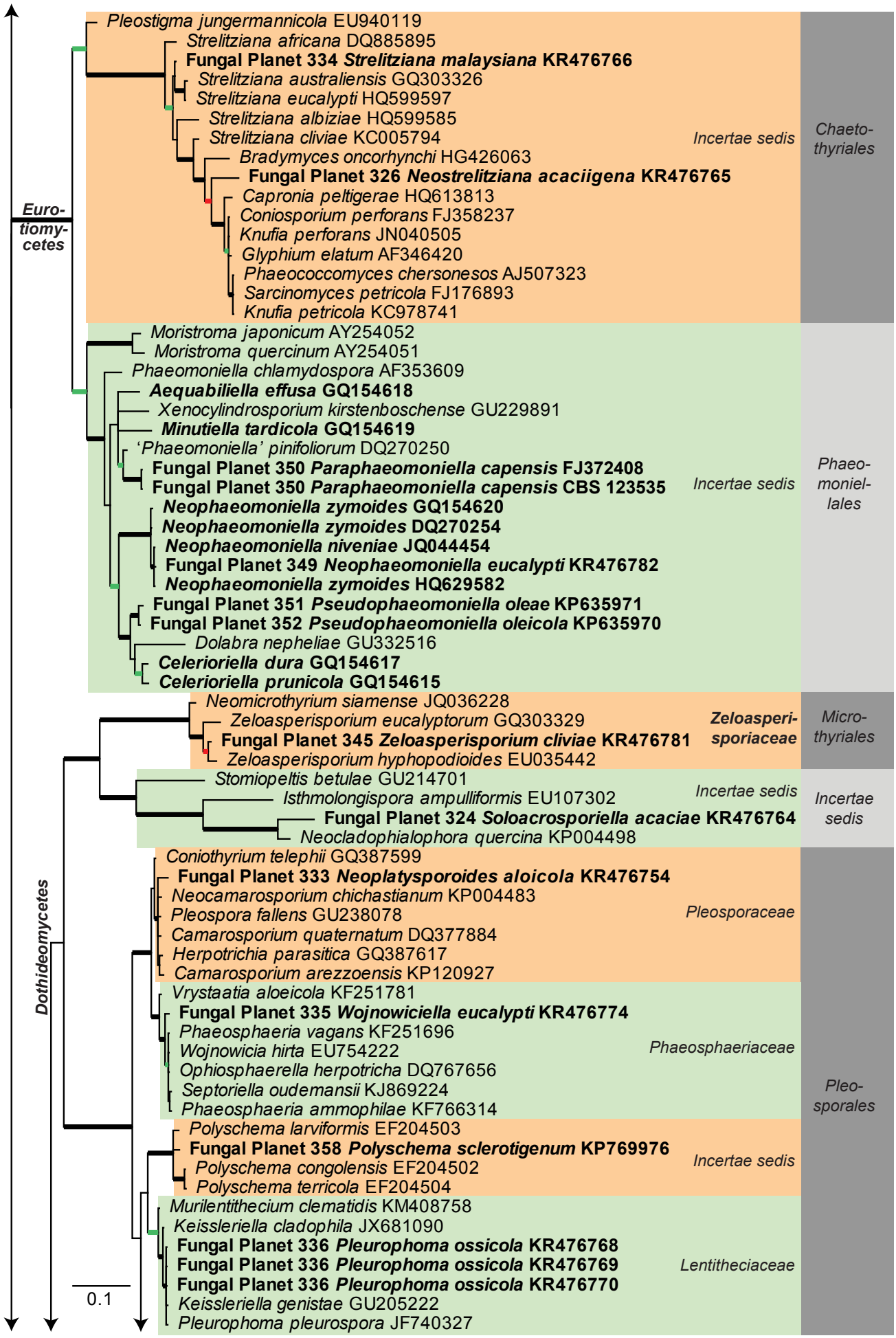
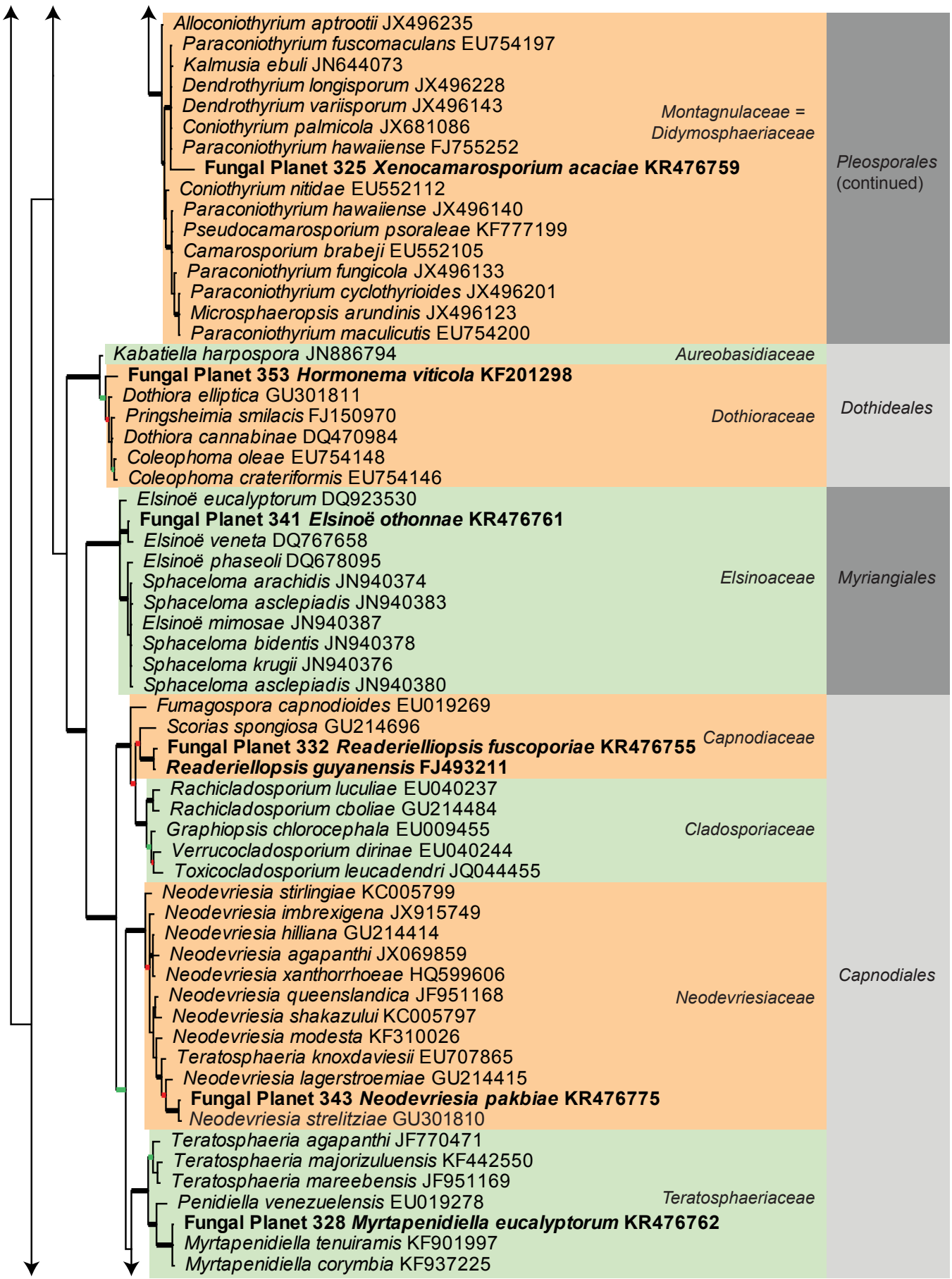


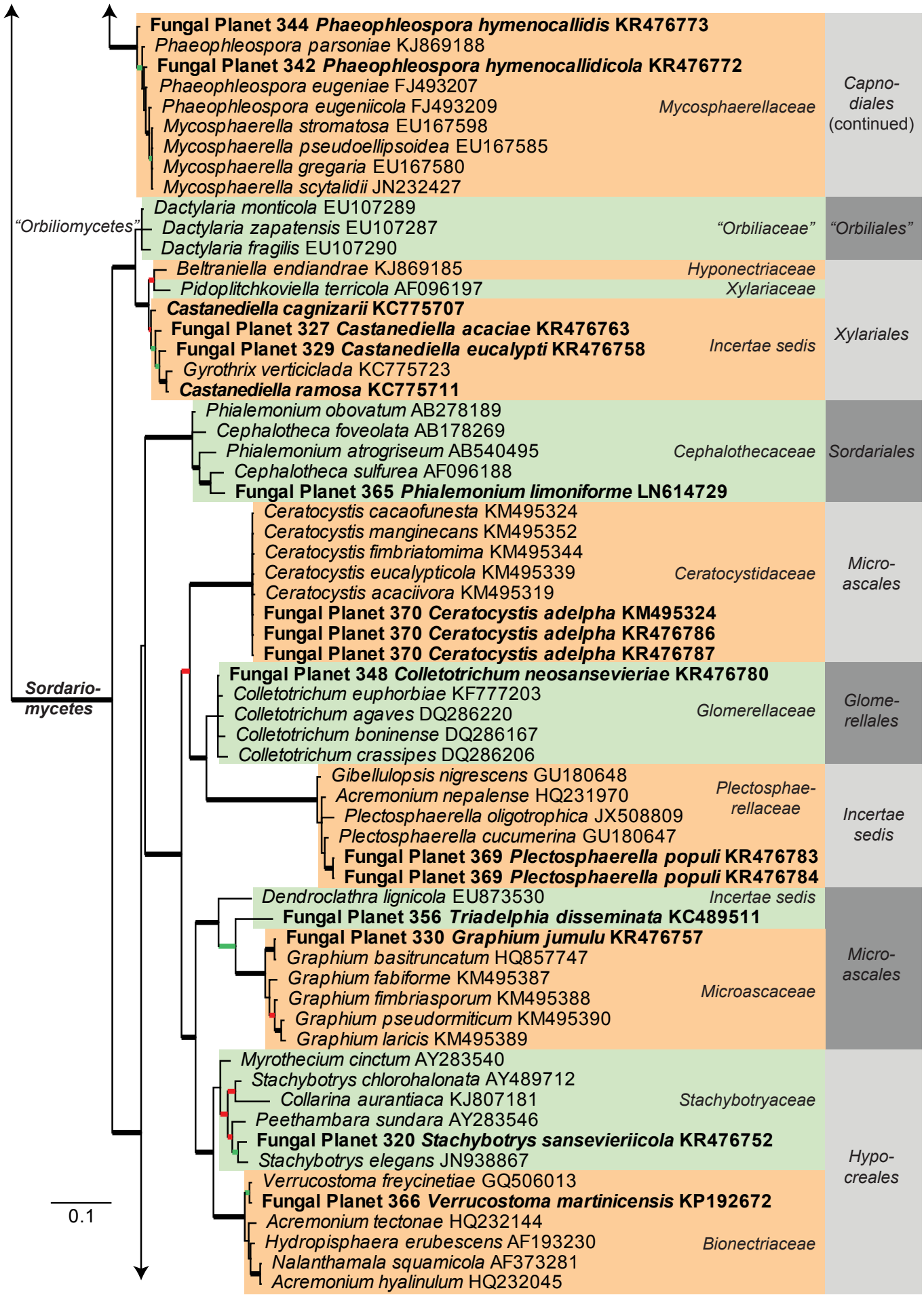
Consensus phylogram [part 1] (50 % majority rule) of 11 020 trees resulting from a Bayesian analysis of the LSU sequence alignment using MrBayes v. 3.2.1 (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are indicated as colour-coded thickened lines and the scale bar represents the expected changes per site. Families and orders are indicated to the right of the tree and classes at the nodes to the left of the tree. Taxonomic novelties for which LSU sequences were available are shown in **bold** face. The alignment and tree were deposited in TreeBASE (Submission ID 17580). The tree was rooted to *Phytophthora moyootj* (GenBank KP004501).



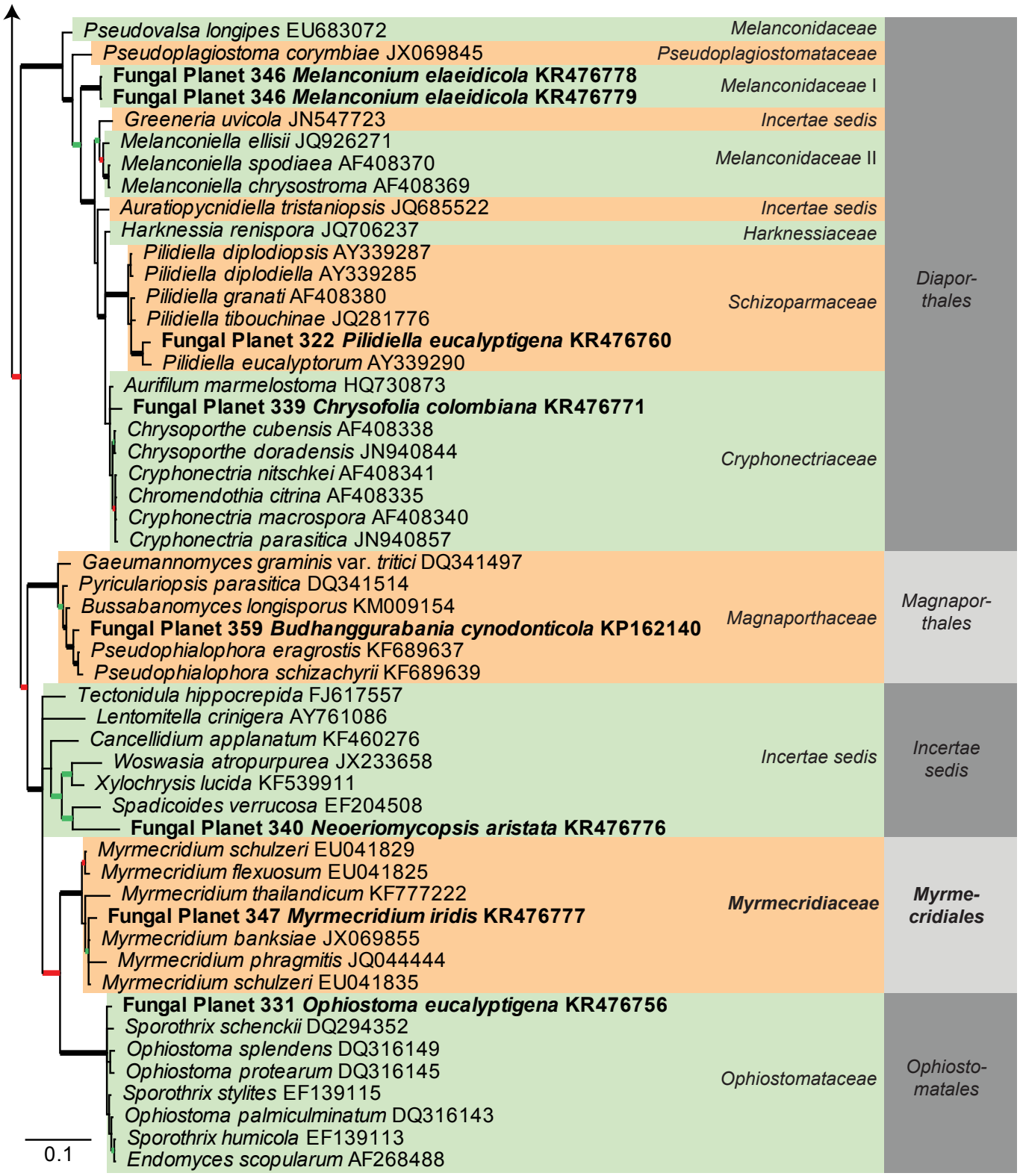
Consensus phylogram [part 2]



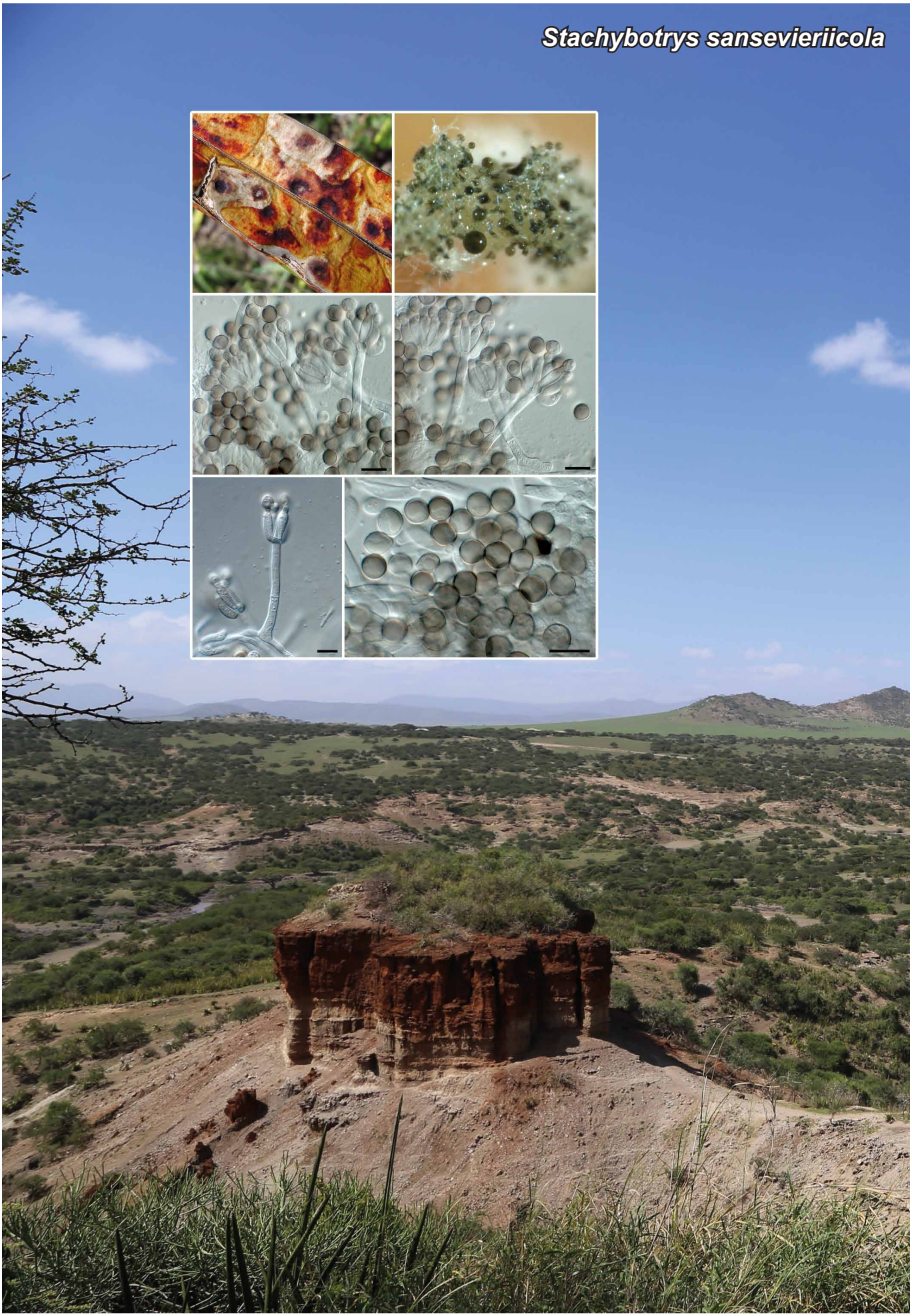
Consensus phylogram [part 3]



Consensus phylogram [part 4]



Consensus phylogram [part 5]


Stachybotrys sansevieriicola

Fungal Planet 320 – 10 June 2015

Stachybotrys sansevieriicola Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Sansevieria*, from which the species was isolated.

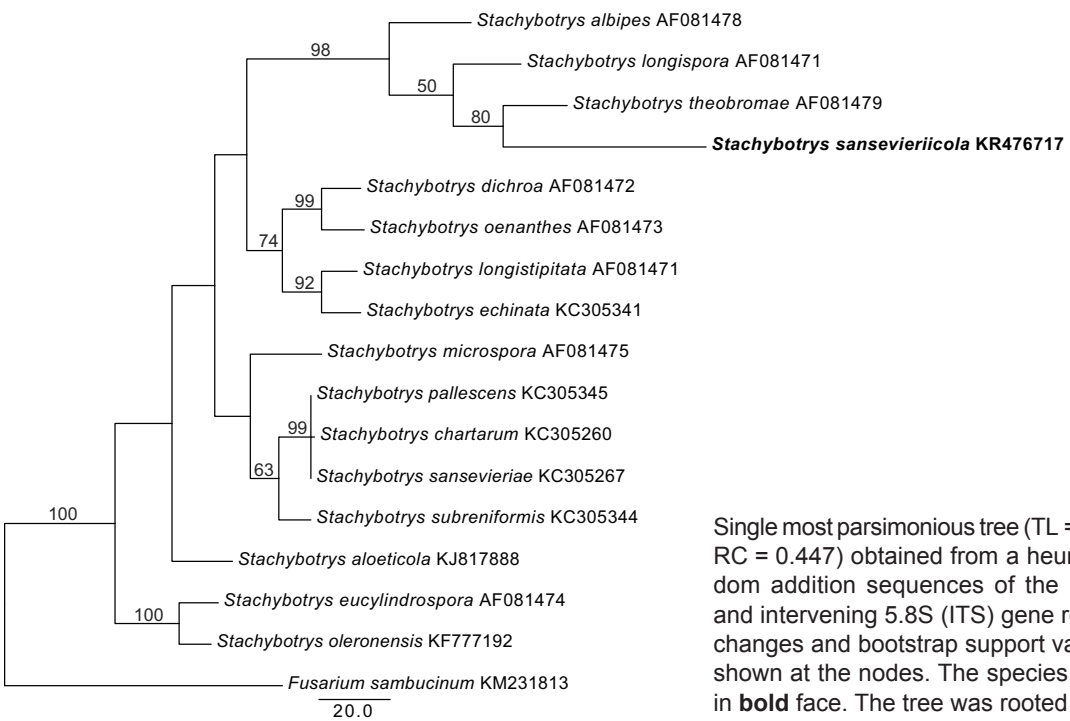
Classification — *Stachybotriaceae*, *Hypocreales*, *Sordariomycetes.*

Conidiophores simple, macronematous, mononematous, single or in groups, mostly unbranched, erect, straight to slightly flexuous, 1–3-septate, smooth, hyaline, 40–70 × 3–5 µm, bearing a whorl of 3–8 phialides. *Phialides* terminal, clavate to broadly reniform or subcylindrical, hyaline, becoming pale brown, 10–15 × 4–5 µm, smooth with conspicuous collarettes. *Conidia* acrogenous, aggregated in slimy masses, aseptate, globose to ellipsoid with truncate hilum, 3 µm diam, smooth, 7–9 × 6–8 µm (av. 8 × 7 µm), containing one or two guttules.

Culture characteristics — Colonies spreading, erumpent, with sparse aerial mycelium on OA and PDA, but with fluffy aerial mycelium on MEA, margin smooth, lobate, and surface folded. On MEA surface dirty white, reverse sienna in centre, orange in outer region. On PDA surface dirty white with luteous pigment, similar in reverse. On OA dirty white.

Typus. Tanzania, Olduvai Gorge, on leaves of *Sansevieria ehrenbergii* (*Asparagaceae*), Feb. 2014, *M.J. Wingfield* (holotype CBS H-22220, culture ex-type CPC 24316 = CBS 138872; ITS sequence GenBank KR476717, LSU sequence GenBank KR476752, TEF sequence GenBank KR476793, TUB sequence GenBank KR476794, MycoBank MB812416); CPC 24317.

Notes — *Stachybotrys sansevieriicola* is closely related to *S. theobromae*, a species easily differentiated by its black, ovate to limoniform conidia (Hansford 1943). However, the conidia of *S. sansevieriicola* are much smaller than those of *S. theobromae* (21–28 × 15–18 µm). Another species, *S. sansevieriae*, has been reported from decayed leaves of *Sansevieria roxburghiana* in India, and is characterised by ellipsoid or boat-shaped, dark brown conidia (Ellis 1976), distinct from *S. sansevieriicola*.



Single most parsimonious tree (TL = 523, CI = 0.704, RI = 0.635, RC = 0.447) obtained from a heuristic search with 1 000 random addition sequences of the internal transcribed spacer and intervening 5.8S (ITS) gene regions. Scale bar shows 20 changes and bootstrap support values (1 000 repetitions) are shown at the nodes. The species described here is indicated in **bold** face. The tree was rooted to *Fusarium sambucinum*.

Colour illustrations. Olduvai Gorge in Tanzania; symptomatic leaf, colony, conidiophores and conidia. Scale bars = 10 µm.

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Phacidium grevilleae

Fungal Planet 321 – 10 June 2015

Phacidium grevilleae Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Grevillea*, from which the species was isolated.

Classification — *Phacidiaceae*, *Phacidiales*, *Leotiomycetes.*

Conidiomata stromatic, pycnidioid, scattered, black, subepidermal, multiloculate, up to 400 µm diam, with papillate ostioles. *Conidiophores* arising from inner layers of cavity, subcylindrical, hyaline, smooth but pale brown at base, extensively branched, 2–7-septate, 15–35 × 3–4 µm, invested in mucus. *Conidiogenous cells* integrated, subcylindrical with prominent periclinal thickening or percurrent proliferation, hyaline, smooth, 5–8 × 2–3 µm. *Conidia* hyaline, smooth, granular, subcylindrical, tapering at both ends, apex subobtuse, base truncate, hilum 1–2 µm diam, bearing a funnel-shaped mucoid appendage, (15–)17–19(–22) × (2.5–)3 µm.

Culture characteristics — Colonies spreading, covering dish after 1 mo at 25 °C, lacking aerial mycelium, with feathery margins. On PDA surface hazel, with patches of honey; isabelline in reverse. On OA mouse grey. On MEA surface vinaceous buff, reverse hazel.

Typus. Uganda, Kabat, on leaves of *Grevillea robusta* (*Proteaceae*), Jan. 2014, *M.J. Wingfield* (holotype CBS H-22221, culture ex-type CPC 24326 = CBS 139892; ITS sequence GenBank KR476718, LSU sequence GenBank KR476753, MycoBank MB812417); CPC 24327.

Notes — *Phacidium grevilleae* is closely related to a sequence deposited as *Ceuthospora pinastri* (= *Phacidium lacerum*) (GenBank FR717225), although its conidia are longer and somewhat narrower than those of *P. lacerum* (10–18 × 2.5–4 µm) (Crous et al. 2014a), which is a species commonly isolated from needles of *Pinus sylvestris* in Europe. It is also related to *Phacidium pseudophacidioides* (conidia 11–13 × 2–2.5 µm), although it has much larger conidia than the latter species (Crous et al. 2014a).

Colour illustrations. *Grevillea robusta* trees in the background, growing in Uganda; colony, conidiophores and conidia. Scale bar = 10 µm.

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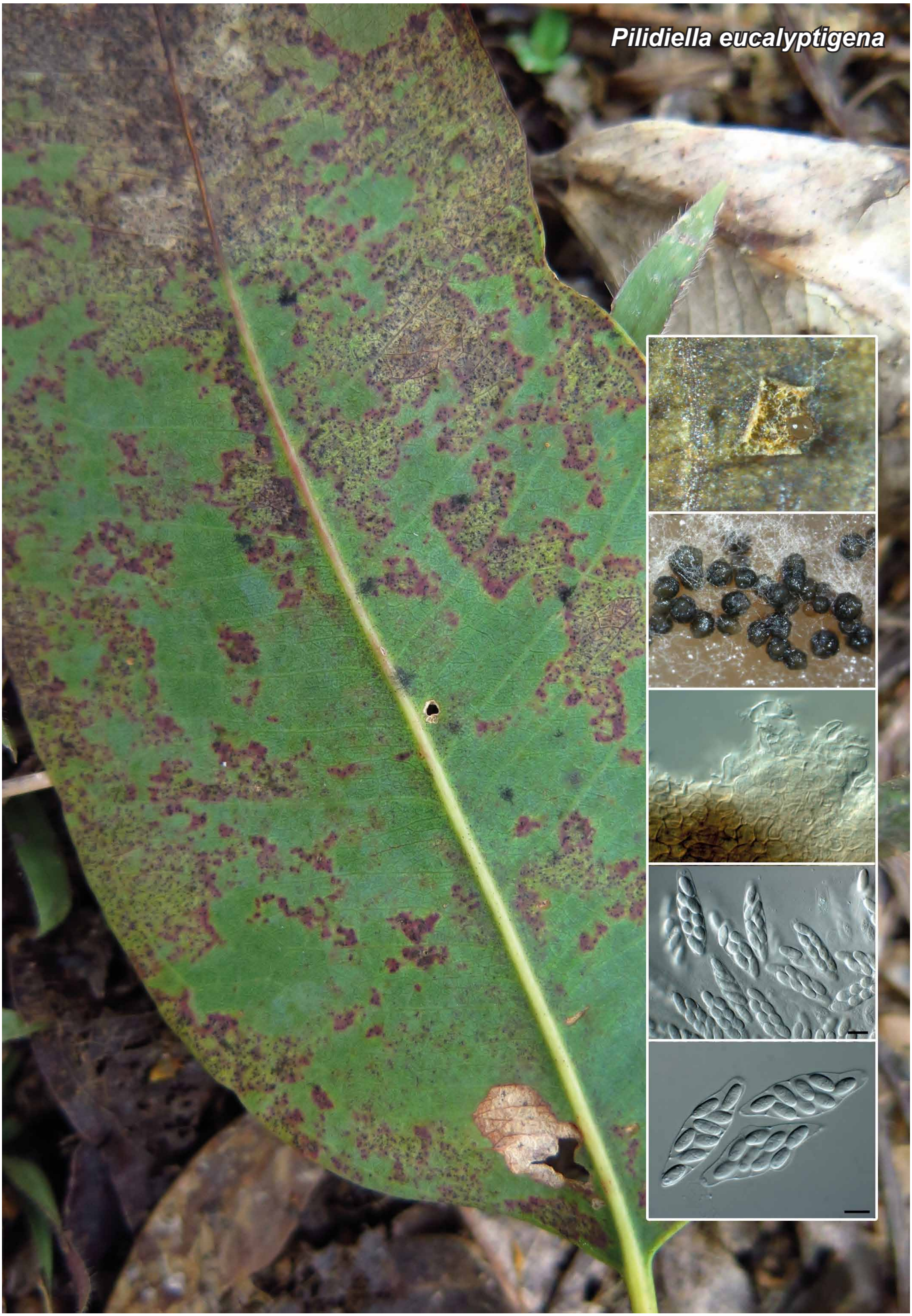
Pilidiella eucalyptigena

Fungal Planet 322 – 10 June 2015

Pilidiella eucalyptigena Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which the species was isolated.

Classification — *Schizoparmeaceae*, *Diaporthales*, *Sordariomycetes.*

Ascomata perithecial, foliicolous, associated with brown leaf spots. On OA initially pale brown and solitary, becoming aggregated in clusters of up to 15, erumpent to superficial, subglobose, up to 250 µm diam, prominently papillate, dark brown; wall up to 50 µm diam, consisting of three regions, namely a conspicuously scaly to warty outer layer, prominent at the apical part of perithecium, 20–30 µm diam, an intermediate layer of medium brown *textura angularis*, and an inner layer of thin-walled, flattened hyaline cells; ostiolum central, circular, up to 40 µm diam; ostiolar channel lined with septate, hyaline, thin-walled periphysoids. *Asci* clavate, 8-spored, bi-seriate, 40–55 × 10–14 µm, with inconspicuous apical apparatus. *Ascospores* ellipsoidal, hyaline, thin-walled, granular, with terminal mucoid caps or lateral appendages up to 5 µm diam, or ascospore entirely encased in sheath; sheath disappearing with age, and ascospores becoming pale brown and surface appearing roughened (possibly remnants of sheath), (10–)12–13(–14) × (4–)5–6 µm.

Culture characteristics — Colonies spreading, covering dish with moderate aerial mycelium, and lobed, smooth margins. On MEA surface rosy buff, reverse cinnamon. On PDA surface and reverse salmon. On OA surface rosy buff.

Typus. Malaysia, Sabah, on leaves of *Eucalyptus brassiana* (*Myrtaceae*), May 2014, *M.J. Wingfield* (holotype CBS H-22222, culture ex-type CPC 24793 = CBS 139893; ITS sequence GenBank KR476725, LSU sequence GenBank KR476760, MycoBank MB812418); CPC 24794.

Notes — Ascospores of *P. eucalyptigena* are similar in size to those of *P. destruens*, but ascomata are different in that they are aggregated in clusters, and are conspicuously scaly and warty. Furthermore, ascospores have conspicuous sheaths (even in lactic acid), and are much more prominent than in *P. destruens* (mounted in water, Samuels et al. 1993), or in lactophenol or lactic acid (Van Niekerk et al. 2004). It appears, therefore, that *P. destruens* probably resides in a species complex, with *P. eucalyptigena* representing one of these cryptic lineages.

Colour illustrations. *Eucalyptus* leaf with primarily Teratosphaeria leaf blotch; ascomata in leaf and in culture; ascomatal wall, asci with ascospores. Scale bars = 10 µm.

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Codinaea acaciae

Fungal Planet 323 – 10 June 2015

Codinaea acaciae Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Acacia*, from which the species was isolated.

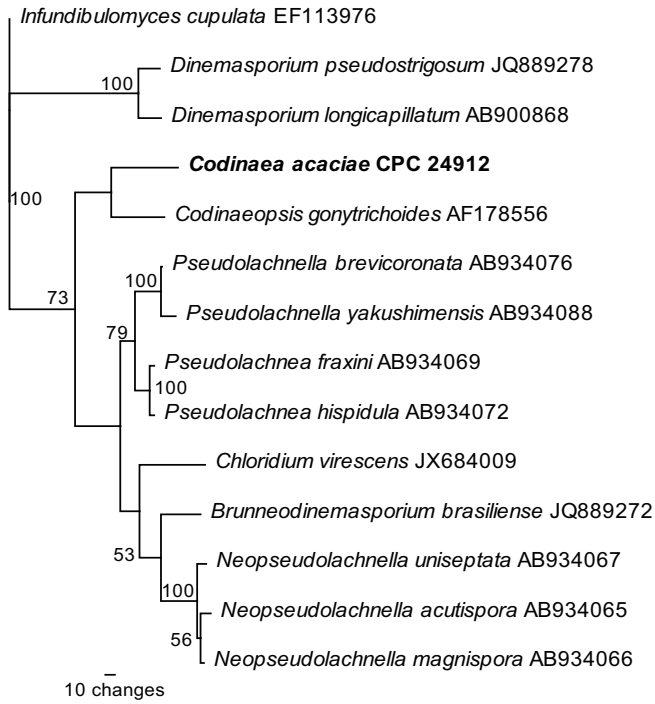
Classification — *Chaetosphaeriaceae*, *Chaetosphaeriales*, *Sordariomycetes*.

Conidiophores erect, brown, flexuous, smooth, unbranched, arising from superficial mycelium, mononematous, macronematous, cylindrical, 1–3-septate, 30–55 × 3–4 µm. *Setae* absent. *Conidiogenous cells* terminal, pale to medium brown, mono- to commonly polyphialidic, with 1–2 lateral apertures, 15–30 × 3–3.5 µm; collarette funnel-shaped, 5–6 µm diam, 2–4 µm deep, pale brown. *Conidia* aseptate, (15–)16–19(–23) × (3–)3.5(–4) µm, solitary, aggregating in a globose mucoid mass, hyaline, smooth, granular, fusoid, slightly curved or straight, widest in middle, tapering towards acute apices that give rise to setulae at each end, (4–)10–13(–16) µm.

Culture characteristics — Colonies spreading, with sparse aerial mycelium and folded surface, with smooth, lobed margins, reaching 40 mm diam after 1 mo at 25 °C. On MEA surface and reverse olivaceous grey. On PDA surface and reverse greenish grey. On OA surface olivaceous grey.

Typus. Malaysia, Sarawak, from leaf spots on *Acacia mangium* (*Leguminosae*), May 2014, *M.J. Wingfield* (holotype CBS H-22236, culture ex-type CPC 24912 = CBS 139907; ITS sequence GenBank KR476732, MycoBank MB812419); CPC 24913.

Notes — The genus *Codinaea* (setulate conidia) was separated from *Dictyochaeta* (asetulate conidia) by Réblová & Winka (2000). Using the keys provided by Kuthubutheen & Nawawi (1991) and Whitton et al. (2000), *Codinaea acaciae* appears to be distinct from presently known taxa.



First of five equally most parsimonious trees obtained from the ITS alignment based on a heuristic analysis with 100 random taxon additions and tree-bisection-reconnection algorithm using PAUP v. 4.0b10 (Swofford 2003; TL = 538, CI = 0.690, RI = 0.613, RC = 0.422). GenBank accession numbers are indicated behind the species names. Bootstrap support values > 50 % from 1 000 replicates are shown at the node and the scale bar indicates the number of changes. The tree was rooted to *Infundibulomyces cupulata* (GenBank EF113976) and the novel species described in this study is indicated in **bold** face. The alignment and tree were deposited in TreeBASE (Submission ID 17580).

Colour illustrations. *Acacia mangium* tree; conidiophores and conidia. Scale bars = 10 µm.

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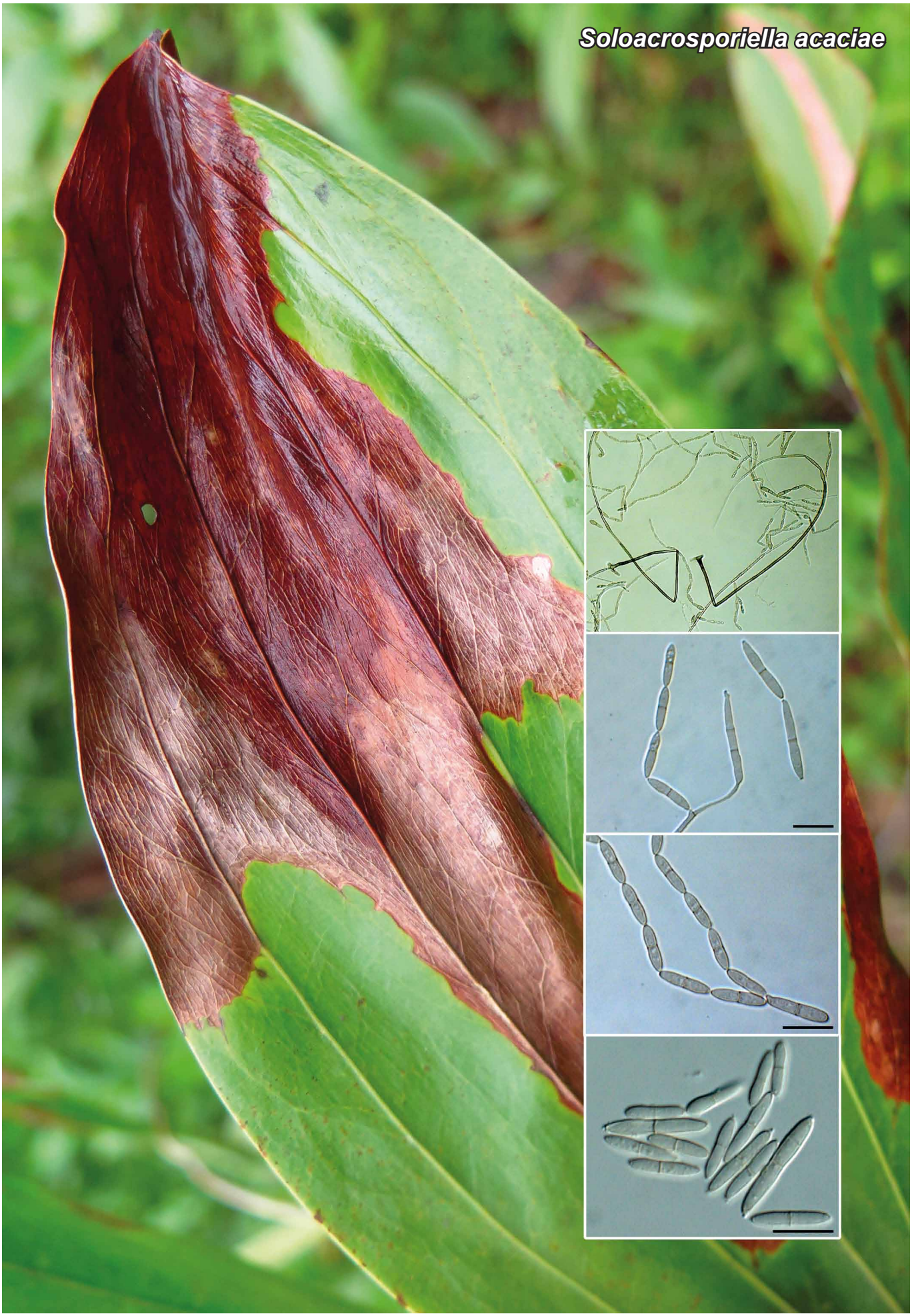
Soloacrosporiella acaciae

Fungal Planet 324 – 10 June 2015

Soloacrosporiella Crous & M.J. Wingf., *gen. nov.*

Etymology. Name reflects its morphological similarity to the genus *Soloacrospora.*

Classification — *Incertae sedis*, *Dothideomycetes.*

Mycelium consisting of hyaline, smooth, septate, branched hyphae. *Setae* erect, solitary, flexuous, distributed throughout the colony, foot cell swollen or T-cell lacking rhizoids, stipe brown, smooth, multiseptate, apex obtusely rounded. *Conidiophores* erect, solitary, arising from superficial hyphae, subcylindrical, pale brown, smooth, straight to flexuous. *Conidiogenous cells* integrated, terminal or intercalary, proliferating sympodially, subcylindrical, pale brown, smooth; loci slightly thickened and darkened. *Conidia* in branched chains, pale brown, smooth, guttulate, fusoid-ellipsoid to subcylindrical. *Ramoconidia* fusoid-ellipsoid, septate, base obtusely rounded, apex with 1–3 sympodial loci that are slightly thickened and darkened. *Conidia* in chains of up to 20, acropetal in development, fusoid-ellipsoid, 1-septate, frequently slightly constricted at septum, loci thickened and darkened.

Type species. *Soloacrosporiella acaciae.*
MycoBank MB812420.

Soloacrosporiella acaciae Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Acacia*, from which the species was isolated.

Mycelium consisting of hyaline, smooth, septate, branched, 1.5 µm diam hyphae. *Setae* erect, solitary, flexuous, distributed throughout the colony, foot cell swollen or T-cell lacking rhizoids, stipe brown, smooth, uniformly 2–2.5 µm diam, up to 300 µm long, multiseptate, apex obtusely rounded. *Conidiophores* erect, solitary, arising from superficial hyphae, subcylindrical, pale brown, smooth, straight to flexuous, 15–80 × 2–3 µm. *Conidiogenous cells* integrated, terminal or intercalary, proliferating sympodially, subcylindrical, pale brown, smooth, 5–20 × 1.5–2 µm; loci slightly thickened and darkened, 0.5–1 µm diam. *Conidia* in branched chains, pale brown, smooth, guttulate, fusoid-ellipsoid to subcylindrical. *Ramoconidia* fusoid-ellipsoid, 1(–3)-septate, base obtusely rounded, apex with 1–3 sympodial loci that are slightly thickened and darkened, 0.5–1 µm diam, 17–25 × 2.5–4 µm. *Conidia* in chains of up to 20, acropetal in development, fusoid-ellipsoid, 1-septate, frequently slightly constricted at septum, loci thickened and darkened, 0.5–1 µm diam, (5–)10–13(–15) × (2–)2.5–3 µm.

Culture characteristics — Colonies spreading, reaching 40 mm diam after 1 mo at 25 °C, lacking aerial mycelium with smooth margin. On PDA surface honey, reverse isabelline in centre, honey in outer region. On OA centre honey, outer region rosy vinaceous due to diffuse pigment. On MEA surface greyish rose, reverse salmon to ochreous.

Typus. Malaysia, Sabah, on seed pods of *Acacia mangium* (*Leguminosae*), May 2014, *M.J. Wingfield* (holotype CBS H-22223, culture ex-type CPC 24871 = CBS 139894; ITS sequence GenBank KR476729, LSU sequence GenBank KR476764, MycoBank MB812421); CPC 24872.

Notes — *Soloacrosporiella* is morphologically similar to *Soloacrospora*, but differs in that it has a much more complex arrangement of conidia, occurring in branched chains with ramoconidia and terminal conidia. Furthermore, conidiogenous loci and conidial hila are slightly thickened and darkened, features which are absent in *Soloacrospora* (Castañeda Ruiz et al. 1997). Phylogenetically it is allied to the genus *Neocladophialophora* (Crous et al. 2014c), but is morphologically distinct in that its colonies produce numerous brown setae, produces well-defined conidiophores and ramoconidia, which are absent in *Neocladophialophora*.

Colour illustrations. Symptomatic leaf of *Acacia mangium*; setae, conidiophores and conidial chains. Scale bars = 10 µm.

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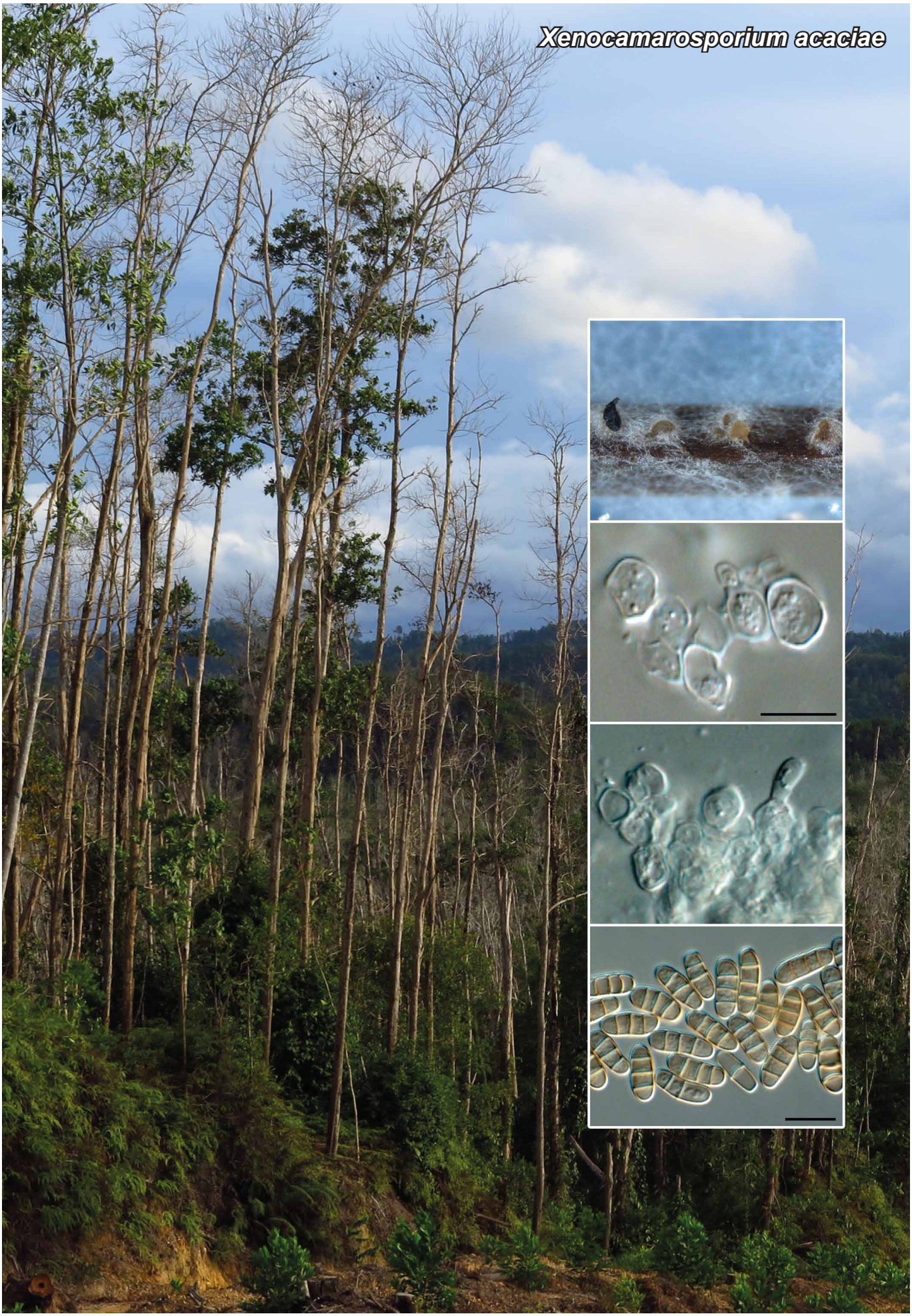
Xenocamarosporium acaciae

Fungal Planet 325 – 10 June 2015

Xenocamarosporium Crous & M.J. Wingf., *gen. nov.*

Etymology. Name reflects the fact that although morphologically similar, it is distinct from the genus *Camarosporium.*

Classification — *Montagnulaceae*, *Pleosporales*, *Dothideomycetes.*

Conidiomata separate, pycnidial, brown, globose; wall consisting of 2–3 layers of brown cells of *textura angularis*. *Conidiogenous cells* lining the inner conidiomatal cavity, ampulliform, hyaline, smooth, phialidic with periclinal thickening, rarely with percurrent proliferation at apex. *Conidia* ellipsoidal to subcylindrical, with obtuse apex and obtusely rounded to truncate base, initially hyaline, smooth, becoming golden-brown and verruculose, septate, thick-walled.

Type species. *Xenocamarosporium acaciae.*
MycoBank MB812422.

Xenocamarosporium acaciae Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Acacia*, from which the species was isolated.

Conidiomata separate, pycnidial, brown, globose, up to 300 µm diam; wall consisting of 2–3 layers of brown cells of *textura angularis*. *Conidiogenous cells* lining the inner conidiomatal cavity, ampulliform, hyaline, smooth, 7–12 × 5–7 µm, phialidic with periclinal thickening, rarely with percurrent proliferation at apex. *Conidia* ellipsoidal to subcylindrical, with obtuse apex and obtusely rounded to truncate base, 3 µm diam, initially hyaline, smooth, becoming golden-brown and verruculose, (1–)3-septate, thick-walled, (11–)12–14(–15) × (3.5–)4(–5) µm.

Culture characteristics — Colonies spreading, with moderate aerial mycelium and smooth, lobed margins, reaching 50 mm diam after 1 mo at 25 °C. On MEA surface dirty white, reverse cinnamon. On PDA surface dirty white, reverse isabelline with honey outer region. On OA surface buff.

Typus. Malaysia, Sabah, on leaf spots of *Acacia mangium* (*Leguminosae*), May 2014, *M.J. Wingfield* (holotype CBS H-22224, culture ex-type CPC 24755 = CBS 139895; ITS sequence GenBank KR476724, LSU sequence GenBank KR476759, MycoBank MB812423); CPC 24756.

Notes — The *Camarosporium* complex (based on *C. quaternatum*) has recently been shown to be polyphyletic, leading to the introduction of *Neocamarosporium* (Crous et al. 2014a, b), *Paracamarosporium* and *Pseudocamarosporium* (Wijayawardene et al. 2014). These genera are morphologically similar, with minor differences in conidial septation, conidiogenesis, presence/absence of paraphyses and microconidia. *Xenocamarosporium* adds another genus to this complex, being distinct from *Paracamarosporium* in lacking paraphyses, and from *Pseudocamarosporium* in its not having muriformly septate conidia. However, by having phialides with periclinal thickening or percurrent proliferation, it would be difficult to distinguish *Xenocamarosporium* from *Camarosporium* s.str. and *Neocamarosporium*. Furthermore, as shown in the two known species of *Neocamarosporium*, the presence or absence of paraphyses is not a feature at the generic level.

The separation of *Paracamarosporium* and *Pseudocamarosporium* from taxa with a typical *Paraconiothyrium* morphology (conidia (0–)1-septate, conidiogenous cells with periclinal thickening or percurrent proliferation; Verkley et al. 2014) is not supported in our analysis.

Colour illustrations. *Acacia mangium* trees in Malaysia; conidiomata sporulating on pine-needle agar; conidiogenous cells and conidia. Scale bars = 10 µm.

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Neostrelitziana acaciigena
& Castanediella acaciae

Fungal Planet 326 & 327 – 10 June 2015

Neostrelitziana Crous & M.J. Wingf., *gen. nov.*

Etymology. Name reflects its similarity to the genus *Strelitziana.*

Classification — *Incertae sedis*, *Chaetothyriales*, *Eurotiomycetes*.

Mycelium, consisting of smooth, pale brown, septate, branched, hyphae. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* occurring as solitary loci on hyphae, subcylindrical, pale brown, smooth, curved. *Conidia* solitary, subcylindrical to slightly clavate or with slight taper in basal third of collarette, pale brown, smooth, granular, straight to curved, septate; base with long, curved, to S-curved collarette, cylindrical, pale brown.

Type species. *Neostrelitziana acaciigena.*
MycoBank MB812428.

Neostrelitziana acaciigena Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Acacia*, from which the species was isolated.

Mycelium, consisting of smooth, pale brown, septate, branched, 2–3 µm diam hyphae. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* solitary, subcylindrical, pale brown, smooth, curved, 5–10 × 2–3 µm. *Conidia* solitary, subcylindrical to slightly clavate or with slight taper in basal third of collarette, pale brown, smooth, granular, straight to curved, 1–8-septate, (17–)55–75(–80) × (3–)4 µm; base with long, curved, to S-curved collarette, cylindrical, pale brown, 5–20 × 2–3 µm.

Culture characteristics — See MycoBank.

Typus. Malaysia, Sabah, on leaf spots of *Acacia mangium* (*Leguminosae*), May 2014, *M.J. Wingfield* (holotype CBS H-22232, culture ex-type CPC 24873 = CBS 139903; ITS sequence GenBank KR476730, LSU sequence GenBank KR476765, MycoBank MB812429).

Notes — Although *Neostrelitziana* resembles *Strelitziana* (*Chaetothyriales*) in morphology (Crous et al. 2013b), they are phylogenetically distinct. Furthermore, the basal appendage, is S-curved and prominent in *Neostrelitziana*, while it is short and straight in *Strelitziana.*

Castanediella Hern.-Restr., Crous & M.J. Wingf., *gen. nov*.

Etymology. Named for Rafael Castañeda, a distinguished Cuban mycologist who described several *Idriella* species.

Classification — *Incertae sedis*, *Xylariales*, *Sordariomycetes.*

Mycelium immersed and superficial, hyphae branched, septate, hyaline and brown, smooth-wall. *Conidiomata* if present sporodochium-like. *Conidiophores* branched, pale brown to brown at the base and subhyaline at the apex. *Conidiogenous cells* lageniform to cylindrical, sympodial, small denticles or scars, terminal and lateral, subhyaline. *Conidia* falcate, cylindrical or fusiform, 0–1-sepate, hyaline, smooth-walled. *Chlamydospores* not observed. *Sexual morph* unknown.

Type species. *Castanediella acaciae*.
MycoBank MB811878.

Castanediella acaciae Crous, Hern.-Restr. & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Acacia*, from which the species was isolated.

Mycelium hyaline to brown with mucoid coating, consisting of branched, septate, 2–5 µm diam hyphae. *Colonies* solitary, erumpent, starting as a penicillate tuft of conidiophores with central attachment point, expanding lateral and apical, becoming densely branched, but with central attachment almost stipitate, 25–200 µm diam, up to 100 µm high, central base from central hyphae 5 µm diam to tuft of central hyphae up to 20 µm diam; conidiomata appearing sporodochial from above, umbrella-like from side. *Conidiophores* subcylindrical, densely branched, multi-septate, medium brown, smooth, 40–80 × 2–3 µm. *Conidiogenous cells* solitary, terminal and intercalary, ampulliform, pale brown, smooth, apex truncate, polyblastic with minute scars at apex, 10–15 × 2–3 µm. *Conidia* solitary, hyaline, smooth, falcate with subobtuse ends, biguttulate, (8–)10–11(–12) × 1.5(–2) µm.

Culture characteristics — See MycoBank.

Typus. Malaysia, Sabah, on leaf spots of *Acacia mangium* (*Leguminosae*), May 2014, *M.J. Wingfield* (holotype CBS H-22225, culture ex-type CPC 24869 = CBS 139896; ITS sequence GenBank KR476728, LSU sequence GenBank KR476763, MycoBank MB812430); CPC 24870.

Notes — Morphologically, *Castanediella* resembles *Microdochium*. It differs by having brown, branched conidiophores. *Castanediella* is allied to the *Xylariales*, but still clusters distant from *Microdochiaceae* where *Microdochium phragmites* and *Idriella lunata* the type species of *Microdochium* and *Idriella* respectively, reside (Hernández-Restrepo et al. in prep.).

Castanediella cagnizarii (R.F. Castañeda & W.B. Kendr.) Crous, Hern.-Restr. & M.J. Wingf., *comb. nov.* — MycoBank MB811879

Basionym. *Idriella cagnizarii* R.F. Castañeda & W.B. Kendr., Univ. Waterloo Biol. Ser. 35: 63. 1991.

Castanediella ramosa (Matsush.) Crous, Hern.-Restr. & M.J. Wingf., *comb. nov.* — MycoBank MB812431

Basionym. *Idriella ramosa* Matsush., Bull. Natl. Sci. Mus. 14: 466. 1971.

Colour illustrations. *Acacia mangium* trees in Malaysia; *Neostrelitziana acaciigena* (left column): conidiogenous cells and conidia; *Castanediella acacia* (right column): sporodochia on SNA, conidiophores and conidia. Scale bars = 10 µm.

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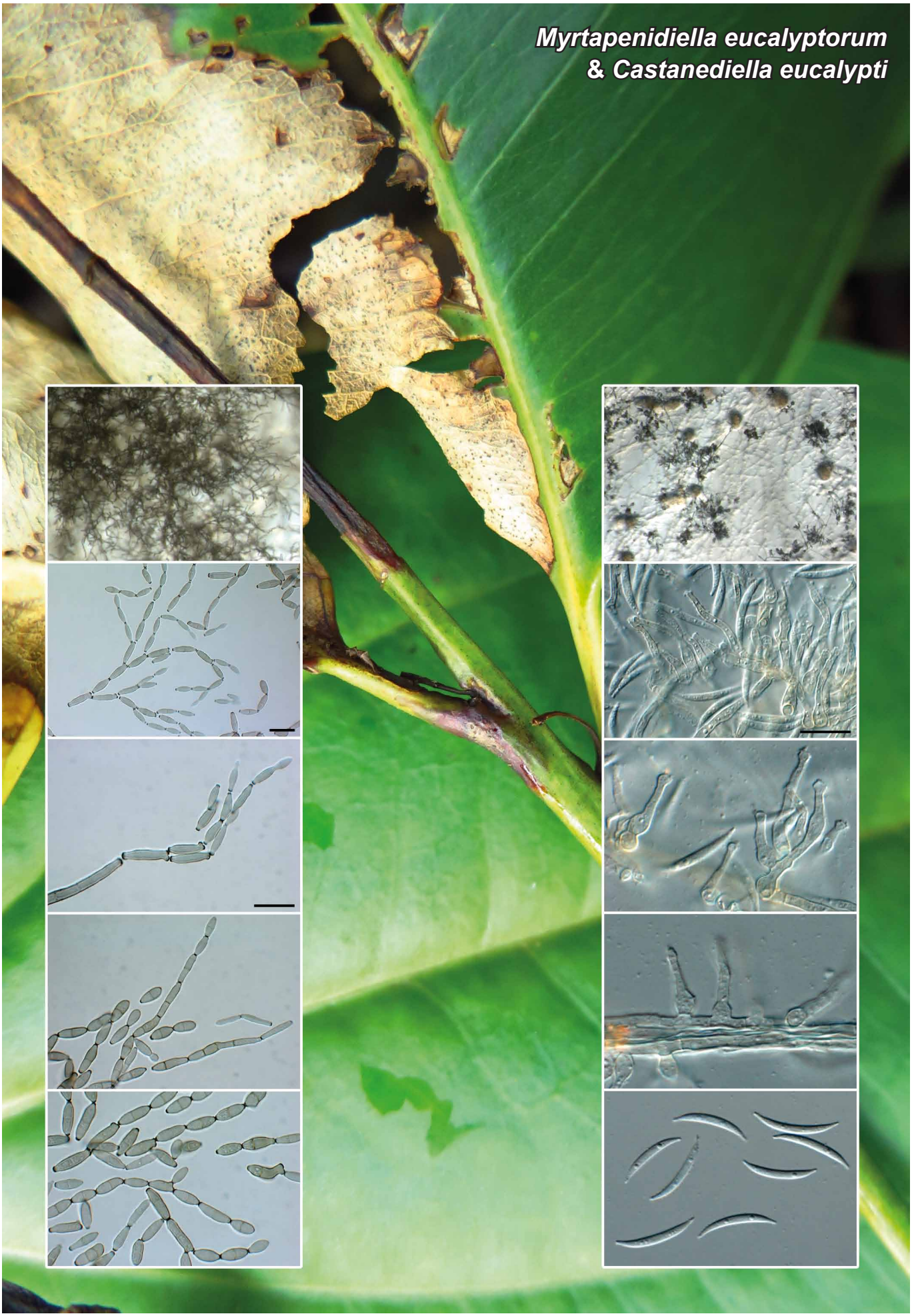
Myrtapenidiella eucalyptorum
& Castanediella eucalypti

Fungal Planet 328 & 329 – 10 June 2015

Myrtapenidiella eucalyptorum Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which the species was isolated.

Classification — *Teratosphaeriaceae*, *Capnodiales*, *Dothideomycetes.*

Mycelium consisting of branched, septate, pale brown, smooth, 2–3 µm diam hyphae. *Conidiophores* solitary, erect, rarely branched below, straight to geniculous-sinuous, 40–70 × 3–5 µm, 2–6-septate, brown, roughened, thick-walled. *Conidiogenous cells* terminal and intercalary, subcylindrical, thick-walled, straight, brown, roughened, 15–30 × 3–5 µm, with 1–2 flat-tipped apical loci, 2–3 µm diam, thickened and darkened. *Ramoconidia* brown, thick-walled, roughened, subcylindrical to ellipsoid-fusoid, 0–1-septate, 16–20 × 3–4(–5) µm, with 1–2 hila, thickened, darkened, 2–3 µm. *Conidia* occurring in branched chains (–10), acropetal, brown, thick-walled, roughened, medianly 1-septate, (10–)12–14(–16) × (3–)3.5–4 µm; hila thickened, darkened, 1.5–2 µm diam.

Culture characteristics — Colonies erumpent with sparse aerial mycelium and even, lobed margins, reaching 25 mm diam after 1 mo at 25 °C. On MEA, PDA and OA surface and reverse iron grey.

Typus. Malaysia, Sarawak, on leaf spots of *Eucalyptus pellita* (*Myrtaceae*), May 2014, *M.J. Wingfield* (holotype CBS H-22240, culture ex-type CPC 24864 = CBS 139920; ITS sequence GenBank KR476727, LSU sequence GenBank KR476762, MycoBank MB812432); CPC 24863.

Notes — The genus *Myrtapenidiella* (*Teratosphaeriaceae*) was introduced by Quaedvlieg et al. (2014) to accommodate penidiella-like genera occurring on *Myrtaceae*. Two species are presently known, namely *M. corymbia* (ramoconidia 0–2-septate, (7–)10–12(–14) × 2.5–3 µm, intercalary conidia 0–1-septate, 7–9(–12.5) × 2.5–3(–3.5) µm, terminal conidia 4.5–6.5 × 2–3 µm; Cheewangkoon et al. 2009) and *M. eucalypti* (ramoconidia (0–)1(–3)-septate, (25–)35–40(–48) × (3.5–)4–5(–6.5) µm, intercalary conidia 0–1(–2)-septate, (10–)12–15(–18) × (3.5–)4–5(–5.5) µm, terminal conidia 0–1-septate, (9–)12–15(–19) × (4–)5–6(–7) µm; Cheewangkoon et al. 2008). *Myrtapenidiella eucalyptorum* is distinct from both species by having ramoconidia intermediary in length between that of *M. corymbia* and *M. eucalypti*.

Castanediella eucalypti Crous, Hern.-Restr. & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which the species was isolated.

Classification — *Incertae sedis*, *Xylariales*, *Sordariomycetes.*

Mycelium consisting of hyaline to pale brown, branched, septate, 2–5 µm diam hyphae, frequently constricted at septa. *Conidiophores* erect, solitary, branched below or not, 1–2-septate, subcylindrical, medium brown, smooth, 10–30 × 3–4 µm. *Conidiogenous cells* terminal to intercalary, subcylindrical to ampulliform, pale brown, smooth, terminating in a swollen apex 2–3 µm diam with several scars, polyblastic, 8–25 × 2.5–4 µm. *Conidia* solitary, hyaline, smooth, falcate, slightly curved, widest in middle with subobtuse ends, (15–)18–21(–23) × 2–3 µm.

Culture characteristics — Colonies spreading, reaching up to 60 mm diam after 1 mo at 25 °C, with sparse aerial mycelium, and smooth, lobed margins. On OA surface honey with patches of isabelline. On MEA surface isabelline with patches of dirty white, reverse umber. On PDA surface and reverse fuscous black.

Typus. Malaysia, Sabah, on leaf spots of *Eucalyptus pellita* (*Myrtaceae*), May 2014, *M.J. Wingfield* (holotype CBS H-22226, culture ex-type CPC 24746 = CBS 139897; ITS sequence GenBank KR476723, LSU sequence GenBank KR476758, MycoBank MB812433); CPC 24747.

Notes — *Castanediella eucalypti* is morphologically different from *C. acaciae* in that it lacks sporodochia. Furthermore, its conidiophores are not densely branched, and it also has larger conidia than those of *C. acaciae* (8–12 × 1.5–2 µm). These species are also phylogenetically distinct.

Colour illustrations. Symptomatic leaf of *Eucalyptus pellita*; *Myrtapenidiella eucalyptorum* (left column): colony, conidiophores and conidia; *Castanediella eucalypti* (right column): colony on SNA, conidiophores and conidia. Scale bars = 10 µm.

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Graphium jumulu

Fungal Planet 330 – 10 June 2015

Graphium jumulu Barber & Crous, *sp. nov.*

Etymology. The name for the famous boab in King's Park Botanic Gardens, Perth: 'Gija Jumulu'. Gija is the name of the indigenous people where the boab came from, and 'Jumulu' is the Gija name for boab.

Classification — *Microascaceae*, *Microascales*, *Sordariomycetes.*

Mycelium consisting of hyaline, smooth, branched, septate, 2–3 µm diam hyphae, aggregating to form hyphal ropes from which erect conidiophores arise. *Conidiophores* (on aerial hyphae, not those on agar medium, which are longer) aggregated in brown, erect, tuft-like synnemata, solitary or in clusters of up to six, 100–150 µm tall, 5–15 µm diam at base with rhizoids, 20–60 µm diam at apex; stipe olivaceous-brown, apex pale olivaceous, conidiophores branching into up to four conidiogenous cells at apex. *Conidiogenous cells* olivaceous at base, pale olivaceous at apex, roughened at base, with several percurrent proliferations at apex, 20–35 × 1.5–2 µm. *Conidia* aggregating in a slimy mass, aseptate, hyaline, straight to slightly curved, subcylindrical with obtuse apex, somewhat swollen, (3–)4–5(–7) × 2(–2.5) µm; base truncate, 1–1.5 µm diam, with minute marginal frill. Sporothrix-like synanamorph developing on SNA.

Culture characteristics — Colonies spreading, up to 60 mm diam, with sparse aerial mycelium and smooth, even margins. On PDA surface and reverse buff. On MEA surface isabelline, reverse hazel. On OA surface isabelline.

Typus. Australia, Western Australia, Perth, Kings Park, on *Adansonia gregorii* (*Malvaceae*), 1 May 2012, *P.A. Barber* (holotype CBS H-22227, culture ex-type CPC 24639 = CBS 139898; ITS sequence GenBank KR476722, LSU sequence GenBank KR476757, MycoBank MB812434).

Notes — 'Gija Jumulu' is the famous boab tree that was transported 3 200 km from Telegraph Creek to King's Park in Perth, making way for the construction of a road bridge on the Great Northern Highway, in 2008. During transport the tree received some damage to its trunk, and one of the fungi isolated from the rotten bark, was *Graphium jumulu.* The genus *Graphium* is insect-vectored, and commonly associated with tree wounds (De Beer et al. 2014). Three *Graphium* species were recently described from *Adansonia*, namely *G. adansoniae* (from South Africa), and *G. madagascariense* and *G. fabiforme* (from Madagascar) (Cruywagen et al. 2010). Interestingly, the ITS sequence of *G. jumulu* is identical to a partial ITS sequence of a '*Graphium* sp.' isolated from an aneurysm in the abdominal aorta of a dog (GenBank LC007972) and several sequences (e.g. GenBank KF540218–KF540225) associated with the polyphagous shot hole borer on avocado and landscape trees. The latter sequences are labelled as 'sp.' in GenBank but the study title associated with these sequences indicates that the species was identified as '*Graphium euwallaceae sp. nov*.'. Although the sequences were released on 24 November 2013, we were not able to find any evidence that this species was ever validly published.

Colour illustrations. 'Gija Jumulu' in King's Park, Perth; synnematal conidiophores, conidiogenous cells and conidia. Scale bars = 10 µm.

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Ophiostoma eucalyptigena

Fungal Planet 331 – 10 June 2015

Ophiostoma eucalyptigena Barber & Crous, *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which the species was isolated.

Classification — *Ophiostomataceae*, *Ophiostomatales*, *Sordariomycetes.*

Ascomata with globose bases, dark brown, 60–130 µm diam, surface of *textura epidermoidea*, with medium brown 2 µm diam hyphae. *Perithecial necks* brown to black, smooth, 100–500 µm long, 25–40 µm wide at base, 10–13 µm wide at apex. *Ostiolar hyphae* not common, subhyaline, tapering to acutely rounded apices, 20–35 × 2 µm. *Ascospores* hyaline, aseptate, allantoid, round in side view, 3(–3.5) × 2 µm. *Asexual morph* sporothrix-like. *Conidiogenous cells* form directly on superficial hyphae, micronematous, hyaline, 15–30 × 1.5–2 µm, with several flat-tipped denticles, 0.5–2 × 0.5 µm. *Conidia* hyaline, aseptate, guttulate, smooth, ellipsoid to clavate, apex obtuse, tapering to truncate base, 0.5 µm diam, (4–)5–6(–7) × (2–)2.5(–3) µm.

Culture characteristics — Colonies reaching 50 mm diam after 1 mo at 25 °C, spreading with sparse aerial mycelium, and smooth, lobed margins. On PDA surface hazel, reverse vinaceous buff. On MEA surface umber with patches of dirty white, reverse isabelline with patches of dirty white. On OA surface umber, reverse mouse grey.

Typus. Australia, Western Australia, on *Eucalyptus marginata* (*Myrtaceae*), 22 June 2013, *P.A. Barber* (holotype CBS H-22228, culture ex-type CPC 24638 = CBS 139899; ITS sequence GenBank KR476721, LSU sequence GenBank KR476756, MycoBank MB812435).

Notes — Species of *Ophiostoma* are well-known associates of bark beetles and some cause tree diseases (De Beer et al. 2014). Some species known by their *Sporothrix* s.str. morphs contain important human pathogens, and species are commonly associated with plant debris or soil (Zhang et al. 2015). *Ophiostoma eucalyptigena* is phylogenetically closely related to *Ophiostoma bragantinum*, which has larger ascomata (bases 130–220 µm diam, necks 700–1200 µm long, ostiolar necks up to 45 µm long), and smaller conidia, 4–6 × 2–2.5 µm (Pfenning & Oberwinkler 1993).

Colour illustrations. *Eucalyptus marginata* tree with dieback; ascomata, ostiolar hyphae, ascospores; conidiophores and conidia. Scale bars = 10 µm.

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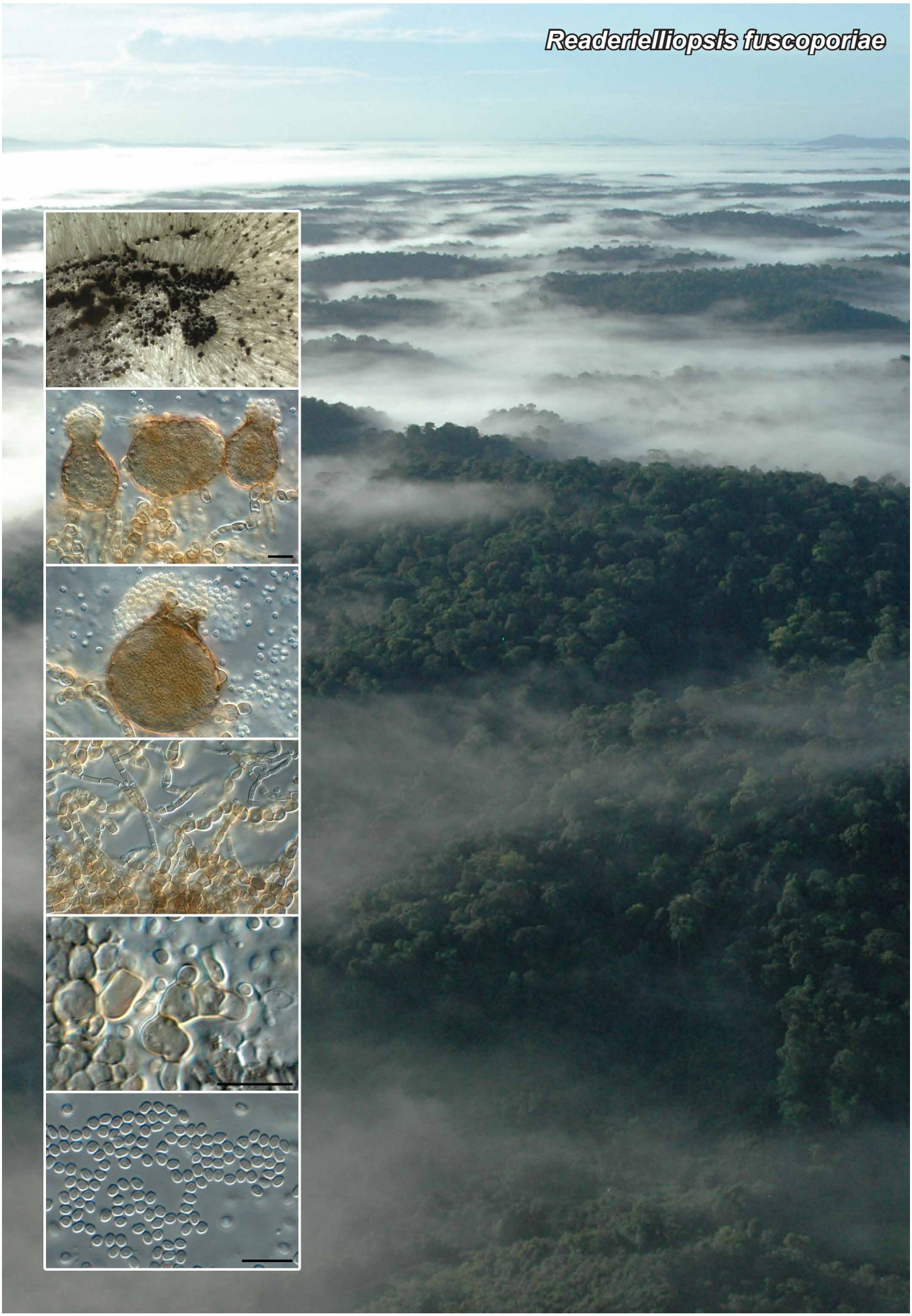
Readerielliopsis fuscoporiae

Fungal Planet 332 – 10 June 2015

Readerielliopsis Crous & Decock, *gen. nov.*

Etymology. Name reflects the genus *Readeriella*, which is morphologically similar.

Classification — *Capnodiaceae*, *Capnodiales*, *Dothideomycetes.*

Mycelium consisting of brown, smooth, branched, septate hyphae; constricted at septa, cells frequently guttulate. *Conidiomata* pycnidial, arising from superficial mycelium; *pycnidia* brown, subglobose to pyriform, aggregated, somewhat papillate, ostiolate, mostly with single, central ostiole, rarely with 1–2 lateral ostioles, unilocular, exuding a brown conidial mass. *Conidiophores* reduced to conidiogenous cells lining the inner cavity. *Conidiogenous cells* pale brown, subglobose, phialidic, apex with visible minute collarette. *Conidia* solitary, brown, smooth, globose to clavate or obdeltoid, with three bluntly rounded ends, mostly straight, but somewhat curved conidia also observed.

Type species. *Readerielliopsis fuscoporiae.*
MycoBank MB812436.

Readerielliopsis fuscoporiae Crous & Decock, *sp. nov.*

Etymology. Name reflects the genus *Fuscoporia*, from which the ex-type strain was isolated.

Mycelium consisting of brown, smooth, branched, septate, 3–5 µm diam hyphae; constricted at septa, cells frequently containing 1–3 large guttules. *Conidiomata* pycnidial, arising from superficial mycelium; *pycnidia* brown, subglobose to pyriform, aggregated, somewhat papillate, ostiolate, mostly with single, central ostiole, rarely with 1–2 lateral ostioles, 30–60 × 35–60 µm, unilocular, exuding a brown conidial mass. *Conidiophores* reduced to conidiogenous cells lining the inner cavity. *Conidiogenous cells* pale brown, subglobose, 3–4 × 2.5–3 µm, phialidic, apex with visible minute collarette. *Conidia* solitary, brown, smooth, globose to clavate, tapering slightly to inconspicuous basal scar, at times triangular, with three bluntly rounded ends, mostly straight, but somewhat curved conidia also observed, 2.5(–3) × 2(–2.5) µm.

Culture characteristics — Colonies covering dish after 1 mo at 25 °C, surface smooth with even margin, lacking aerial mycelium. On PDA, MEA and OA surface and reverse black.

Typus. French Guiana, Municipality of Roura, Montagne de Kaw, Sentier des Coq-de-roche, isolated from basidiomata of *Fuscoporia wahlbergii* (*Hymenochaetaceae*) specimen No. FG-14-847, 10 Apr. 2014, *C. Decock* (holotype CBS H-22229, culture ex-type CPC 24637 = CBS 139900 = MUCL FG 14-847; ITS sequence GenBank KR476720, LSU sequence GenBank KR476755, MycoBank MB812437).

Readerielliopsis guyanensis (Decock) Crous & Decock, *comb. nov.*

Basionym. *Readeriella guyanensis* Decock, Cryptog. Mycol. 26: 145. 2005.
MycoBank MB812438.

Notes — The genus *Readeriella* is based on *R. mirabilis*, which is coelomycetous with characteristic deltoid conidial projections (Crous et al. 2007a). *Readeriella* has *Cibiessia* and *Nothostrassia* synanamorphs, and teratosphaeria-like sexual morphs (Crous et al. 2009a, b). *Readeriella fuscoporiae* is phylogenetically closely related to *R. guyanensis*, which was also collected from French Guyana, where it occurred on leaf litter, having conidia that are 2.7–3.5 µm long and 2.5–3.3 µm diam at apex (Decock 2005), thus being somewhat larger than those of *R. fuscoporiae*.

Readeriella guyanensis was shown in earlier studies to not be related to *Readeriella* s.str. (Crous et al. 2009a, b). Hence the new genus *Readeriellopsis* is introduced to accommodate these two species. Morphologically, *Readeriellopsis* has phialidic conidiogenesis, and aggregated, somewhat papillate conidiomata, in contrast to *Readeriella*, which has phialides with percurrent proliferation, and separate, non-papillate conidiomata.

Colour illustrations. Aerial view of forest in French Guyana; colony on SNA, conidiomata, mycelium, conidiogenous cells and conidia. Scale bars = 10 µm.

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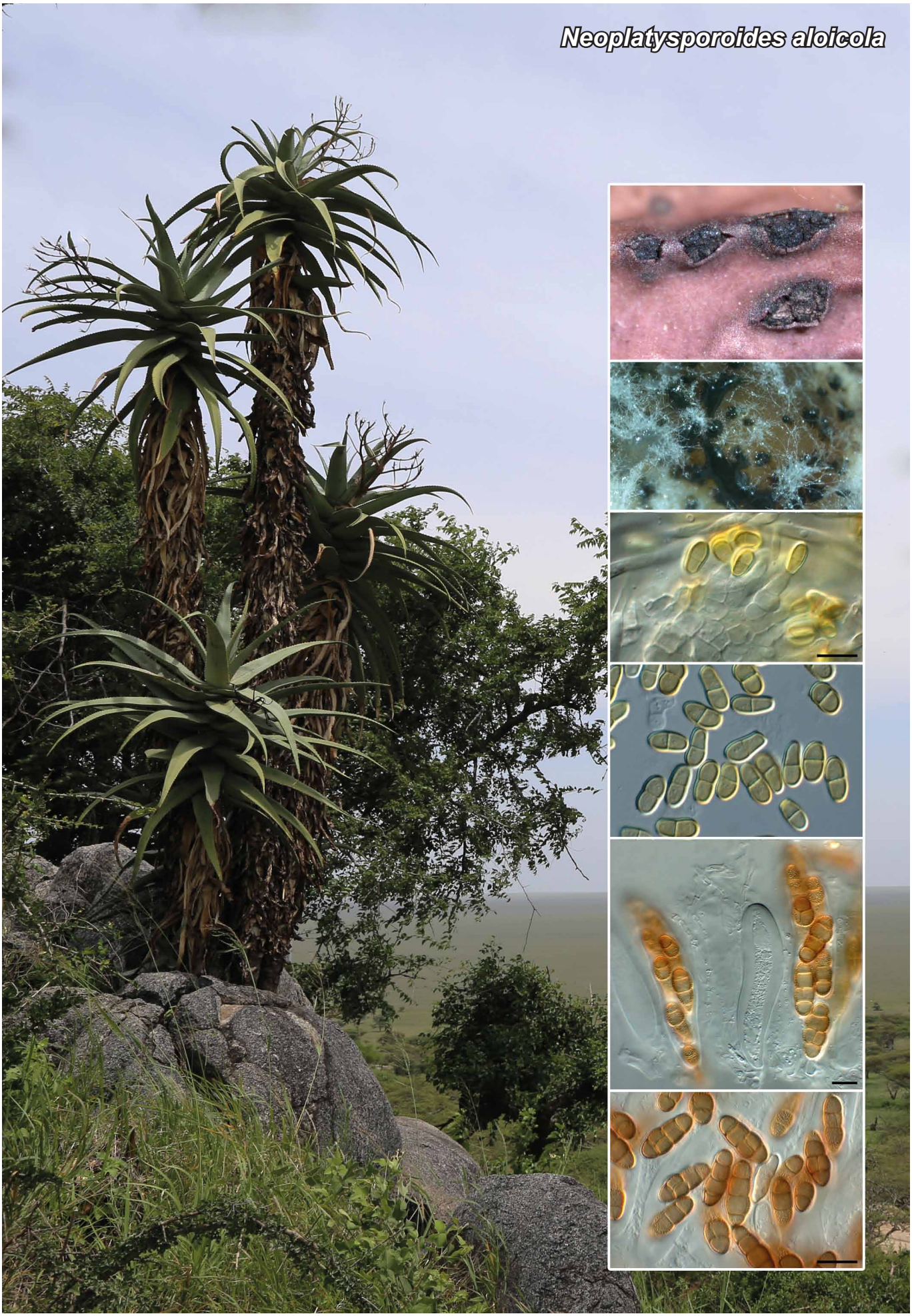
Neoplatysporoides aloicola

Fungal Planet 333 – 10 June 2015

Neoplatysporoides Crous & M.J. Wingf., *gen. nov.*

Etymology. Name reflects its morphological similarity to the genus *Platysporoides.*

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

Ascomata immersed in a brown stroma, becoming erumpent, breaking through the host surface, aggregated in clusters, with a central, non-papillate ostiole; wall of 6–10 layers of brown *textura angularis*. *Pseudoparaphyses* hyphal-like, intermingled among asci, hyaline, smooth, septate, anastomosing. *Asci* fasciculate, stipitate, hyaline, smooth, subcylindrical, bitunicate with ocular chamber, containing 8 ascospores. *Ascospores* fusoid-ellipsoid, brown, verruculose with obtuse ends, developing 3 transverse and 1–2 vertical septa, encased in a mucoid sheath. *Conidiomata* unilocular, separate, globose, immersed, brown, opening via central ostiole, exuding a brown conidial mass; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline, smooth, ampulliform to doliiform, with prominent periclinal thickening at apex, or with tightly aggregated percurrent proliferations at apex. *Conidia* solitary, golden brown, subcylindrical to ellipsoid, straight to curved, 0–1-septate, constricted at median septum, apex obtuse, base truncate, with marginal frill, and longitudinal striations.

Type species. Neoplatysporoides aloicola.
MycoBank MB812439.

Neoplatysporoides aloicola Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the genus *Aloe*, from which the species was isolated.

Ascomata up to 600 µm diam (with white cavities, as in e.g. *Botryosphaeria*), immersed in a brown stroma, becoming erumpent, breaking through the host surface, aggregated in clusters, with a central, non-papillate ostiole; wall of 6–10 layers of brown *textura angularis*. *Pseudoparaphyses* hyphal-like, intermingled among asci, hyaline, smooth, septate, anastomosing, 2–3 µm diam, extending above asci. *Asci* fasciculate, stipitate, hyaline, smooth, subcylindrical, bitunicate with ocular chamber, 2–3 µm diam, 80–120 × 13–18 µm, containing 8 bi- to tri-seriate ascospores. *Ascospores* fusoid-ellipsoid, brown, verruculose with obtuse ends, initially medianly 1-septate (constricted at septum), developing 3 transverse and 1–2 vertical septa, encased in a mucoid sheath up to 5 µm thick; mature ascospores widest in the middle of the second cell from the apex, and prominently constricted at septa, (17–)20–23(–25) × (6–)8–9(–10) µm. *Conidiomata* unilocular, separate, globose, immersed, brown, up to 200 µm diam, opening via central ostiole, exuding a brown conidial mass; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline, smooth, ampulliform to doliiform, 5–10 × 4–6 µm, with prominent periclinal thickening at apex, or with tightly aggregated percurrent proliferations at apex. *Conidia* solitary, golden brown, subcylindrical to ellipsoid, straight to curved, 0–1-septate, constricted at median septum, apex obtuse, base truncate, 3–4 µm diam, with marginal frill, and longitudinal striations along the entire length of the conidium, (8–)9–10(–12) × (4–)5(–6) µm.

Culture characteristics — Colonies erumpent, spreading, with moderate aerial mycelium, and feathery margins, covering dish in 1 mo at 25 °C. On PDA surface and reverse buff. On MEA surface dirty white, reverse cinnamon. On OA surface dirty white with patches of hazel.

Typus. Tanzania, on leaves of *Aloe* sp. (*Xanthorrhoeaceae*), Feb. 2014, *M.J. Wingfield* (holotype CBS H-22230, culture ex-type CPC 24435 = CBS 139901; ITS sequence GenBank KR476719, LSU sequence GenBank KR476754, MycoBank MB812440); CPC 24436.

Notes — *Neoplatysporoides* shares some features with *Platysporoides* (muriformly septate ascospores enclosed in mucoid sheaths; Shoemaker & Babcock 1992), but is distinct in having a characteristic pseudostroma into which thick-walled pseudothecia are immersed, and the prominent coelomycetous asexual morph, which occurs with the ascomata on the same host substrate. Furthermore, *Neoplatysporoides* was also associated with tip dieback of *Aloe ferox*, suggesting it may not be a saprobe as in the case of *Platysporoides*, which occurs on leaf litter. Another genus that is similar to *Neoplatysporoides* is *Austropleospora* (Morin et al. 2010), although it lacks a pseudostroma, has papillate ascomata, and smooth ascospores.

Colour illustrations. *Aloe ferox* in Tanzania; conidiomata on leaf and in culture; conidiogenous cells and conidia; asci and ascospores. Scale bars = 10 µm.

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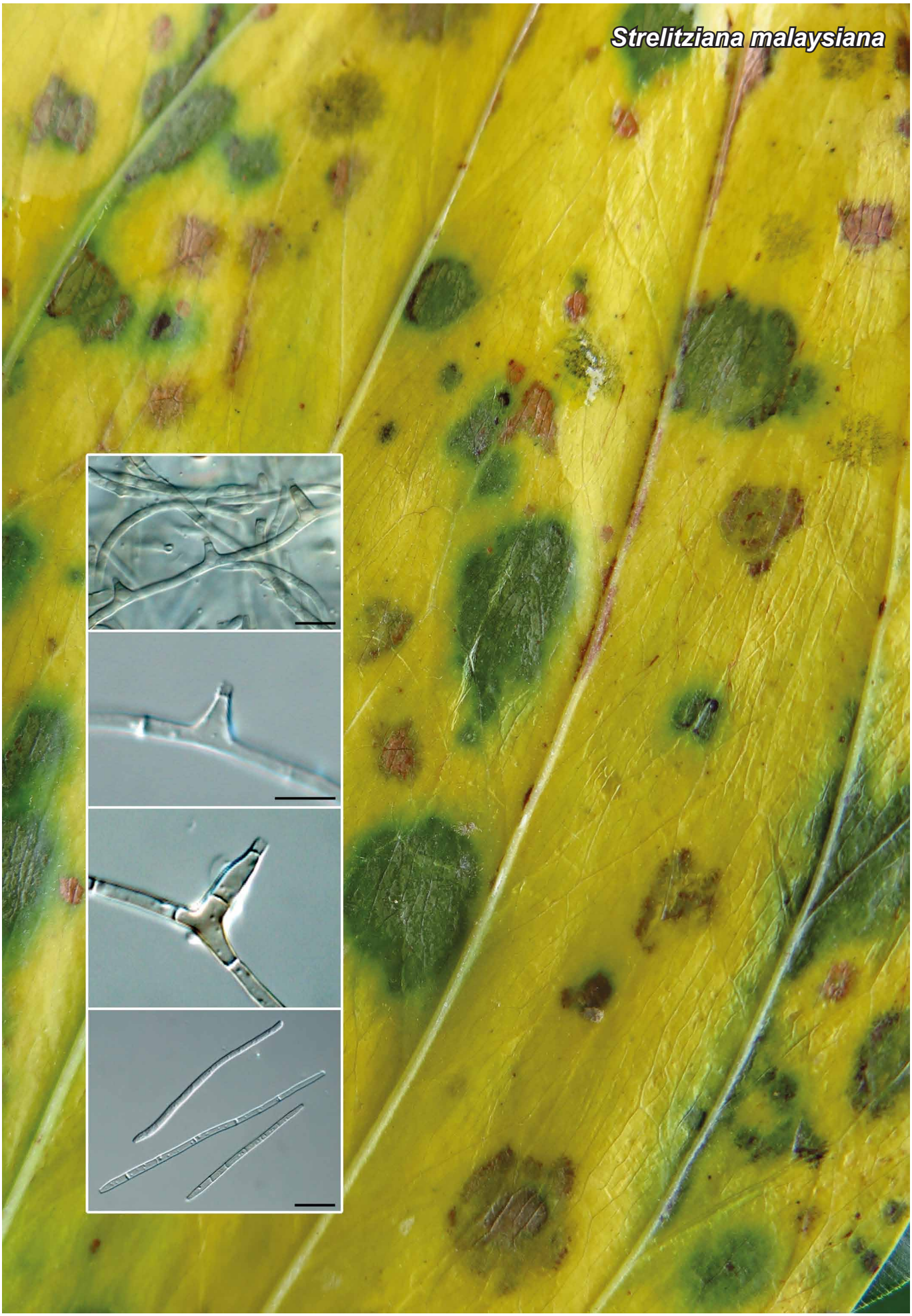
Strelitziana malaysiana

Fungal Planet 334 – 10 June 2015

Strelitziana malaysiana Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the name of the country, Malaysia, from which the species was collected.

Classification — *Incertae sedis*, *Chaetothyriales*, *Eurotiomycetes.*

Description of colonies sporulating on OA. *Mycelium* consisting of pale brown, septate, branched, smooth, 2–3 µm diam hyphae. *Conidiophores* reduced to conidiogenous cells, or with one supporting cell. *Conidiogenous cells* integrated, intercalary on hyphae, phialidic with small collarette (flaring or not), 1–2 µm high, 2 µm wide. *Conidia* pale brown, smooth, obclavate, apex subobtuse, base obconically truncate, 5–11-septate, (45–)75–90(–160) × (2–)2.5(–3) µm, apex frequently with mucoid cap, and conidia forming lateral branches in older cultures (onset of microcyclic conidiation); base with or without marginal frill.

Culture characteristics — Colonies spreading, with moderate aerial mycelium, and smooth, lobed margins, reaching 40 mm diam after 1 mo at 25 °C. On PDA surface olivaceous grey, reverse iron grey. On OA surface iron grey. On MEA surface olivaceous grey, reverse iron grey.

Typus. Malaysia, Sabah, from leaf spots on *Acacia mangium* (*Leguminosae*), May 2014, *M.J. Wingfield* (holotype CBS H-22231, culture ex-type CPC 24874 = CBS 139902; ITS sequence GenBank KR476731, LSU sequence GenBank KR476766, MycoBank MB812442).

Notes — The genus *Strelitziana* (*Chaetothyriales*) was established for hyphomycetes that have pale brown scolecosporous conidia, forming on superficial mycelium and conidiophores via a separating cell, leaving a marginal frill that is clearly visible on the conidial hilum (Crous et al. 2013a). The genus presently includes six species, i.e. *S. africana*, *S. australiensis*, *S. cliviae*, *S. eucalypti* and *S. mali* (Arzanlou & Crous 2006, Cheewangkoon et al. 2009, Zhang et al. 2009, Crous et al. 2010a, b, 2012a). *Strelitziana malaysiana* can be distinguished from these taxa based on its distinct conidial morphology.

Colour illustrations. Symptomatic leaf of *Acacia mangium*; conidiogenous cells and conidia. Scale bars = 10 µm.

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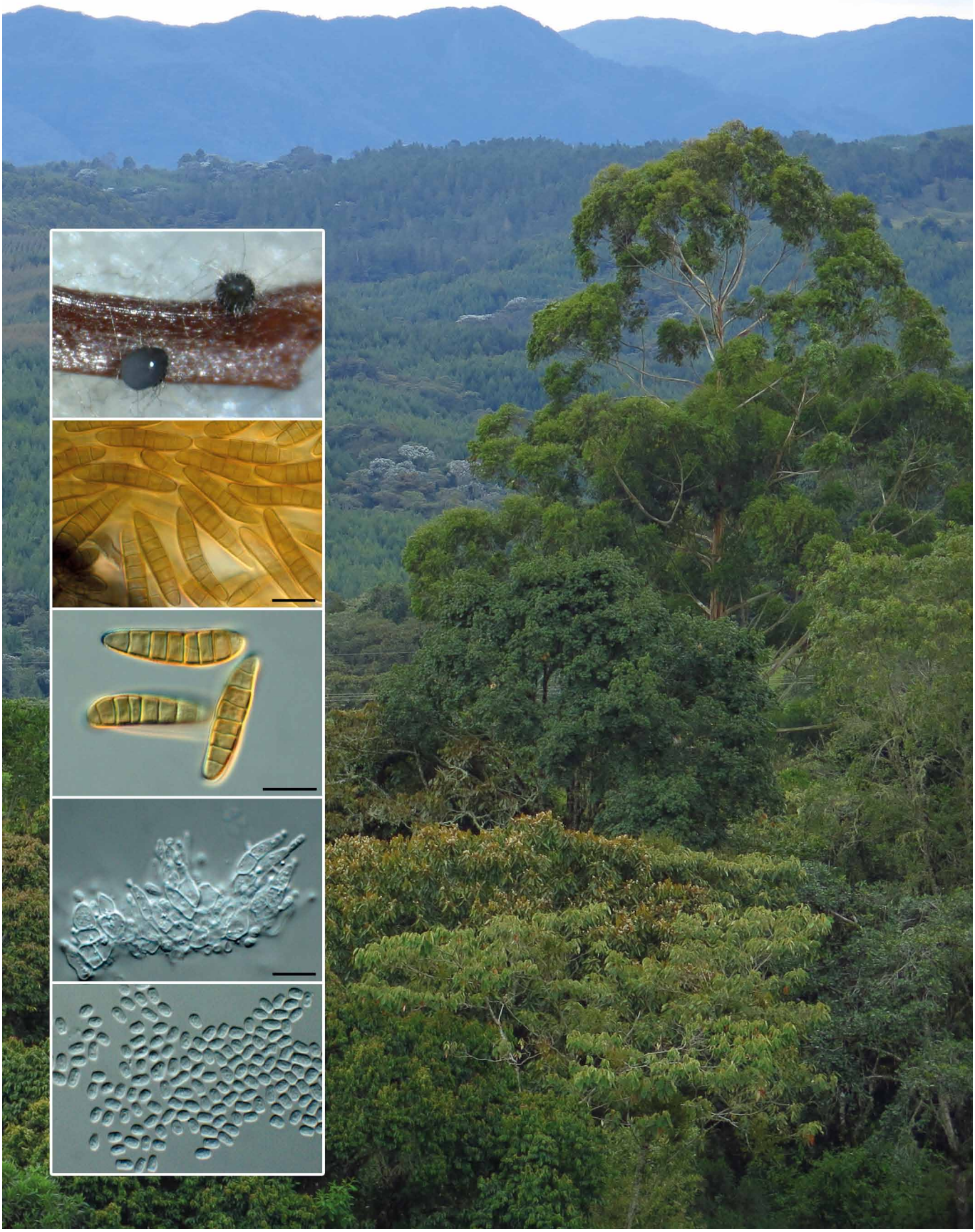
Wojnowiciella eucalypti



Fungal Planet 335 – 10 June 2015

Wojnowiciella Crous, Hern.-Restr. & M.J. Wingf., *gen. nov.*

Etymology. Name reflects its morphological similarity to the genus *Wojnowicia*.

Classification — *Phaeosphaeriaceae*, *Pleosporales*, *Dothideomycetes*.

Conidiomata pycnidial, globose, brown, separate, non-papillate, but with central ostiole; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline to pale brown, smooth, ampulliform to subcylindrical, appearing phialidic. *Microconidia* occurring in same conidioma as macroconidia. *Microconidiophores* intermingled with macroconidiogenous cells, branched at the base, septate, subcylindrical, hyaline, smooth. *Microconidiogenous cells* terminal and intercalary, hyaline, smooth, ampulliform to subcylindrical, phialidic with periclinal thickening. *Microconidia* solitary, hyaline, guttulate, smooth, subcylindrical to ellipsoid, apex obtuse to subobtuse, base truncate. *Macroconidia* subcylindrical, straight to slightly curved, apex subobtuse, base truncate, septate, at times with 1–2 oblique septa, thick-walled, verruculose, guttulate, golden brown.

Type species. *Wojnowiciella eucalypti*.
MycoBank MB812443.

Wojnowiciella eucalypti Crous, Hern.-Restr. & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which this species was isolated.

Conidiomata pycnidial, globose, brown, superficial on PNA, up to 400 µm diam, separate, non-papillate, but with central ostiole; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline to pale brown, smooth, ampulliform to subcylindrical, appearing phialidic. *Microconidia* occurring in same conidioma as macroconidia. *Microconidiophores* intermingled with macroconidiogenous cells, branched at the base, 0–3-septate, subcylindrical, hyaline, smooth, 5–20 × 3–5 µm. *Microconidiogenous cells* terminal and intercalary, hyaline, smooth, ampulliform to subcylindrical, phialidic with periclinal thickening, 5–10 × 2.5–3.5 µm. *Microconidia* solitary, hyaline, guttulate, smooth, subcylindrical to ellipsoid, apex obtuse to subobtuse, base truncate, 2.5–4 × 2.5–3 µm. *Macroconidia* subcylindrical, straight to slightly curved, apex subobtuse, base truncate, widest in the middle, (1–)5–7-septate, at times with 1–2 oblique septa, thick-walled, verruculose, guttulate, golden brown, (10–)28–30(–33) × (4–)6–7 µm.

Culture characteristics — Colonies spreading, reaching 60 mm diam after 1 mo at 25 °C, lacking aerial mycelium, with smooth, lobed margins. On PDA surface and reverse brown vinaceous. On MEA surface isabelline, reverse chestnut. On OA surface isabelline, reverse brown vinaceous.

Typus. Colombia, Restrepo, on leaves of *Eucalyptus grandis* (*Myrtaceae*), 18 July 2014, *M.J. Wingfield* (holotype CBS H-22233, culture ex-type CPC 25024 = CBS 139904; ITS sequence GenBank KR476741, LSU sequence GenBank KR476774, MycoBank MB812444); CPC 25025.

Notes — *Wojnowicia* was erected by Saccardo (1892) with *W. hirta* as type species. Species in this genus are characterised by setose pycnidia, with ampulliform, enteroblastic, phialidic conidiogenous cells and septate, pale brown conidia. *Wojnowiciella* represents a genus distinct from *Wojnowicia*, characterised by non-papillate conidiomata lacking setae and having dark brown conidia. Furthermore, *Wojnowiciella eucalypti* has microconidiophores intermingled with macroconidiogenous cells, that produce hyaline microconidia.

Wojnowiciella viburni (Wijayaw., Yong Wang bis & K.D. Hyde) Crous, Hern.-Restr. & M.J. Wingf., *comb. nov.*

Basionym. *Wojnowicia viburni* Wijayaw., Yong Wang bis & K.D. Hyde, Sydowia 65: 132. 2013.
MycoBank MB812445.

Notes — This species has been associated with leaf spots of *Viburnum utile* in China (Wijayawardene et al. 2013). *Wojnowiciella viburni* clusters close to *W. eucalypti*, and is best assigned to *Wojnowiciella*, since it has non-papillate conidiomata, lacks setae, and has dark brown conidia.

Colour illustrations. *Eucalyptus* trees in Colombia; conidiomata on PNA; macroconidia, microconidiogenous cells and microconidia. Scale bars = 10 µm.

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Pleurophoma ossicola

Fungal Planet 336 – 10 June 2015

Pleurophoma ossicola Crous, Krawczynski & H.-G. Wagner, *sp. nov.*

Etymology. Name reflects the fact that it was isolated from bone.

Classification — *Lentitheciaceae*, *Pleosporales*, *Dothideomycetes*.

Conidiomata separate or in small clusters, immersed to erumpent, globose, brown, up to 250 µm diam, with 1–2 ostioles that are dark brown, with or without short stubby thick-walled, brown setae with blunt ends; wall of 2–3 layers of brown *textura angularis*. *Conidiophores* subcylindrical, hyaline, smooth, branched, 1–5-septate, 20–45 × 2–3 µm. *Conidiogenous cells* hyaline, smooth, subcylindrical, terminal and intercalary, 5–10 × 2–3 µm; proliferating percurrently at apex. *Conidia* solitary, hyaline, smooth, thin-walled, guttulate, ellipsoid, (3–)4(–5) × (1.5–)2 µm. *Ascomata* brown to slightly blackish, solitary, globose, erumpent, 70–90 µm diam, with central ostiole, 5–10 µm diam, wall of 2–3 layers of *textura angularis*. *Paraphyses* intermingled among asci, hyaline, smooth, septate, constricted at septa, extending above asci, up to 50 µm long and 3–5 µm diam. *Asci* fasciculate, stipitate, hyaline, ellipsoid, bitunicate containing 8 multiseriate ascospores, 30–40 × 13–15 µm and with ocular chamber, 2–3 µm diam. *Ascospores* hyaline, smooth, guttulate, obovoid, medianly 1-septate, constricted at septum, widest in the middle of apical cell, (10–)11(–12) × (4–)4.5 µm.

Culture characteristics — Colonies erumpent, spreading with moderate aerial mycelium and smooth, even margins, reaching 40 mm diam after 1 mo at 25 °C. On PDA surface and reverse honey. On MEA surface dirty white, reverse cinnamon. On OA surface buff.

Typus. Germany, Brandenburg, former military training area Lieberose north of Cottbus, N51°55'22.85" E14°18'43.95", 75 m above sea level, at least 20 years old bone of presumed cattle (the Russian army once had its field-kitchen close to this location), on sandy soil close to the edge of a pine plantation (*Pinus sylvestris*), dominated by *Calamagrostis epigejos*, 16 July 2014, *H.-G. Wagner & R. Krawczynski* (holotype CBS H-22234, culture ex-type CPC 24979 = CBS 139905; ITS sequence GenBank KR476736, LSU sequence GenBank KR476769, MycoBank MB812446); CPC 24978, 24985 (ITS sequences GenBank KR476735 & KR476737, LSU sequences GenBank KR476768 & KR476770, respectively).

Notes — The genus *Pleurophoma*, which is based on *P. pleurospora* (De Gruyter et al. 2009), presently still lacks any known sexual link (De Gruyter et al. 2010). In a later study however, the application of the generic name was fixed via the designation of a lectotype (CBS 130329) (De Gruyter et al. 2013). *Pleurophoma ossicola* clusters close to *P. pleurospora*, and is best allocated to this genus. This is also the first report of a *Didymella*-like sexual morph for *Pleurophoma*. The possible link between *Pleurophoma* and *Keissleriella* deserves further investigation.

Colour illustrations. *Pinus sylvestris* trees in Brandenburg; bone on forest floor, with close-up showing ascomata intermixed with algae; ascoma, asci and ascospores; sporulating conidiomata, conidiogenous cells and conidia. Scale bars = 10 µm.

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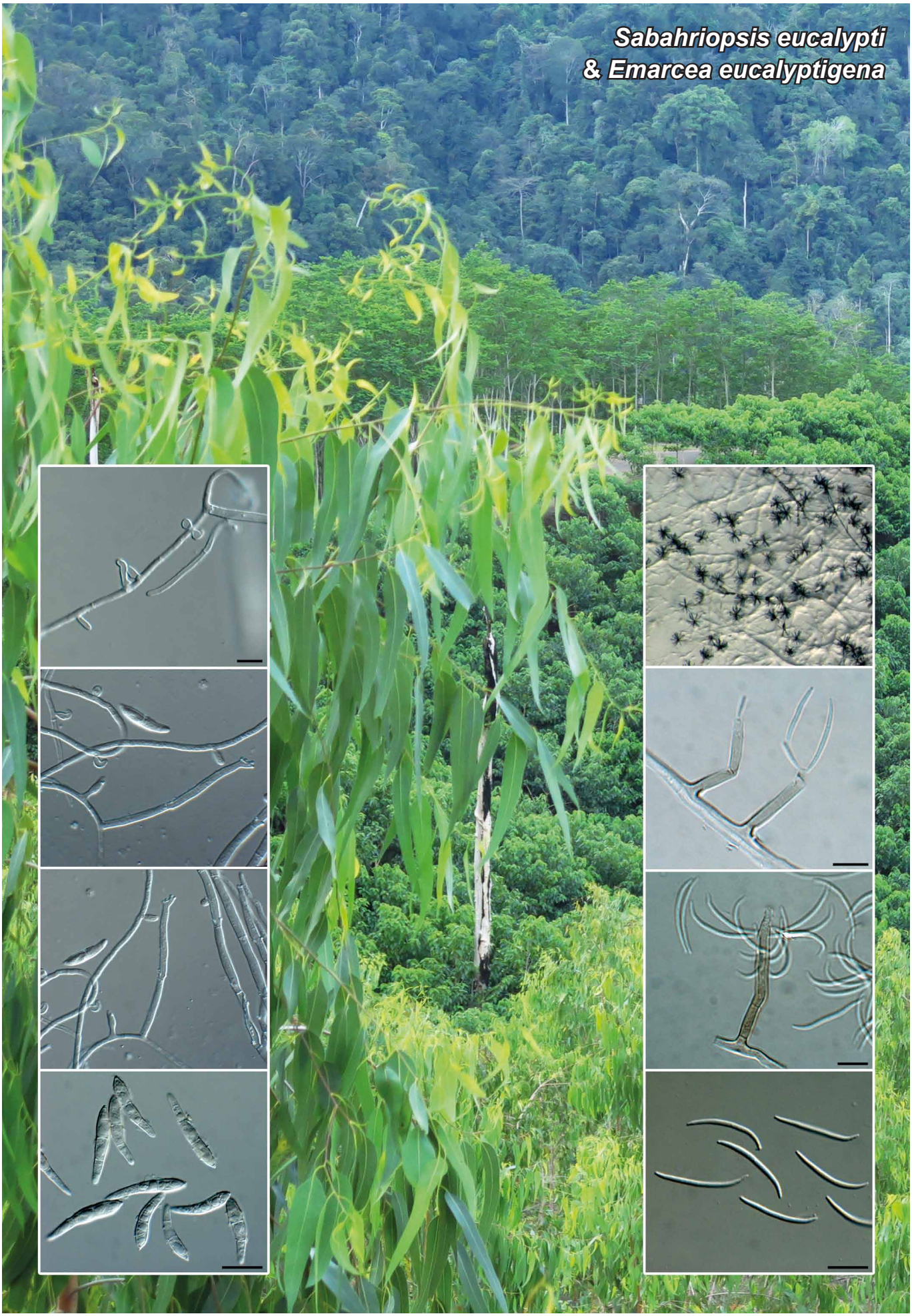
Sabahriopsis eucalypti
& Emarcea eucalyptigena

Fungal Planet 337 & 338 – 10 June 2015

Sabahriopsis Crous & M.J. Wingf., *gen. nov.*

Etymology. Name reflects Sabah, Malaysia, where the fungus was collected.

Classification — *Incertae sedis*, *Helotiales*, *Leotiomycetes*.

Mycelium consisting of hyaline, smooth, branched, septate hyphae that contain hyphopodia-like structures. *Conidiophores* solitary, erect, subcylindrical, hyaline to pale olivaceous, straight to flexuous, septate. *Conidiogenous cells* integrated, subcylindrical, terminal and intercalary, hyaline to pale olivaceous, containing several erumpent, refractive denticles, apical and basal on conidiogenous cells; rim somewhat darkened. *Conidia* solitary, pale brown, granular to guttulate, obovoid, straight to somewhat curved, apex subobtuse, base obconically truncate, septate, median cell encased in flared mucoid appendage; hilum with cylindrical marginal frill.

Type species. *Sabahriopsis eucalypti*.
MycoBank MB812447.

Sabahriopsis eucalypti Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which the species was isolated.

On OA. *Mycelium* consisting of hyaline, smooth, branched, septate, 2–2.5 µm diam hyphae that contain hyphopodia-like structures. *Conidiophores* solitary, erect, subcylindrical, hyaline to pale olivaceous, straight to flexuous, 1–4-septate, 50–130 × 2–3 µm. *Conidiogenous cells* integrated, subcylindrical, terminal and intercalary, hyaline to pale olivaceous, 25–30 × 2–3 µm, containing several erumpent, refractive denticles, apical and basal on conidiogenous cell, 1 µm diam, 1 µm tall, rim somewhat darkened. *Conidia* solitary, pale brown, granular to guttulate, obovoid, straight to somewhat curved, apex subobtuse, base obconically truncate, (1–)2-septate, median cell encased in flared mucoid appendage up to 3 µm diam, apical cell appearing smooth, but median and basal cell finely verruculose, hilum with cylindrical marginal frill, 1 µm diam, 0.5–1 µm long, widest in middle of basal cell, (12–)22–26(–32) × (3.5–)4–5(–6) µm.

Culture characteristics — Colonies spreading, with sparse aerial mycelium, and feathery margins, reaching 8 mm diam after 1 mo at 25 °C. On MEA surface dirty white, reverse honey. On PDA surface and reverse dirty white. On OA surface honey.

Typus. Malaysia, Sabah, on leaf spots of *Eucalyptus brassiana* (*Myrtaceae*), May 2014, *M.J. Wingfield* (holotype CBS H-22235, culture ex-type CPC 24957 = CBS 139906; ITS sequence GenBank KR476734, LSU sequence GenBank KR476767, MycoBank MB812448); CPC 24958.

Notes — *Sabahriopsis* is reminiscent of *Chaetendophragmiopsis* occurring on *Eucalyptus citriodora* in Brazil (Sutton & Hodges 1978), but differs from that genus in not having pigmented conidiophores arising from a stroma, and conidia lacking apical appendages. *Chaetendophragmiopsis* (based on *C. pulchra*) was regarded as synonym of *Endophragmiella* by Kirk (1982), and subsequently excluded from the Genera of Hyphomycetes (Seifert et al. 2011). The type species of the latter two genera are morphologically distinct, and it is very likely that once recollected, the genus *Chaetendophragmiopsis* will need to be reinstated.

Morphologically *Sabahriopsis* is also reminiscent of some genera in the *Pyricularia* complex (Klaubauf et al. 2014), but they are phylogenetically distinct. Similarly, the genus is also comparable to some genera in the *Ramichloridium* complex (Arzanlou et al. 2007), given the mucoid appendages, but it is phylogenetically distinct. *Sabahriopsis* is also reminiscent of *Trichoconis*, but the latter genus has conidia with apical appendages, and terminal conidiogenous cells (Seifert et al. 2011).

Emarcea eucalyptigena Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host genus *Eucalyptus*, from which this species was isolated.

Classification — *Xylariaceae*, *Xylariales*, *Sordariomycetes*.

Mycelium consisting of smooth, hyaline, septate, branched, 1.5–2 µm diam hyphae. *Conidiophores* solitary, erect, 1–3-septate, subcylindrical, straight to flexuous, unbranched, smooth to finely roughened, brown at base, pale brown at apex, 20–45 × 2–3 µm. *Conidiogenous cells* integrated, terminal, pale brown, finely verruculose, 10–35 × 2–2.5 µm, forming a rachis with numerous small, pimple-like denticles, 0.5 µm diam. *Conidia* hyaline, smooth, falcate, granular, apex subobtuse, base truncate, 0.5 µm diam, (16–)18–20(–23) × 1.5(–2) µm.

Culture characteristics — Colonies spreading with moderate aerial mycelium and smooth, even margins, reaching 70 mm diam after 1 mo at 25 °C. On MEA surface dirty white, reverse buff. On PDA surface and reverse dirty white. On OA surface dirty white.

Typus. Malaysia, Sarawak, on leaf spots of *Eucalyptus brassiana* (*Myrtaceae*), May 2014, *M.J. Wingfield* (holotype CBS H-22237, culture ex-type CPC 24914 = CBS 139908; ITS sequence GenBank KR476733, MycoBank MB812449); CPC 24915.

Notes — *Emarcea eucalyptigena* is known only by its asexual morph. Phylogenetically it is closely related to the genus *Emarcea*, which is based on the sexual morph *E. castanopsidicola* (Duong et al. 2004). However, as the latter description lacks any reference to an asexual morph, this relationship is based purely on DNA-based phylogenetic relatedness. Morphologically, conidia of *E. eucalyptigena* resemble those of *Anthostomella eucalyptorum* (Crous et al. 2006), although these taxa are not that closely related (for phylogenetic tree, see MycoBank).

Colour illustrations. *Eucalyptus* trees in Malaysia; *Sabahriopsis eucalypti* (left column): conidiophores and conidia; *Emarcea eucalyptigena* (right column): colony on SNA, conidiophores and conidia. Scale bars = 10 µm.

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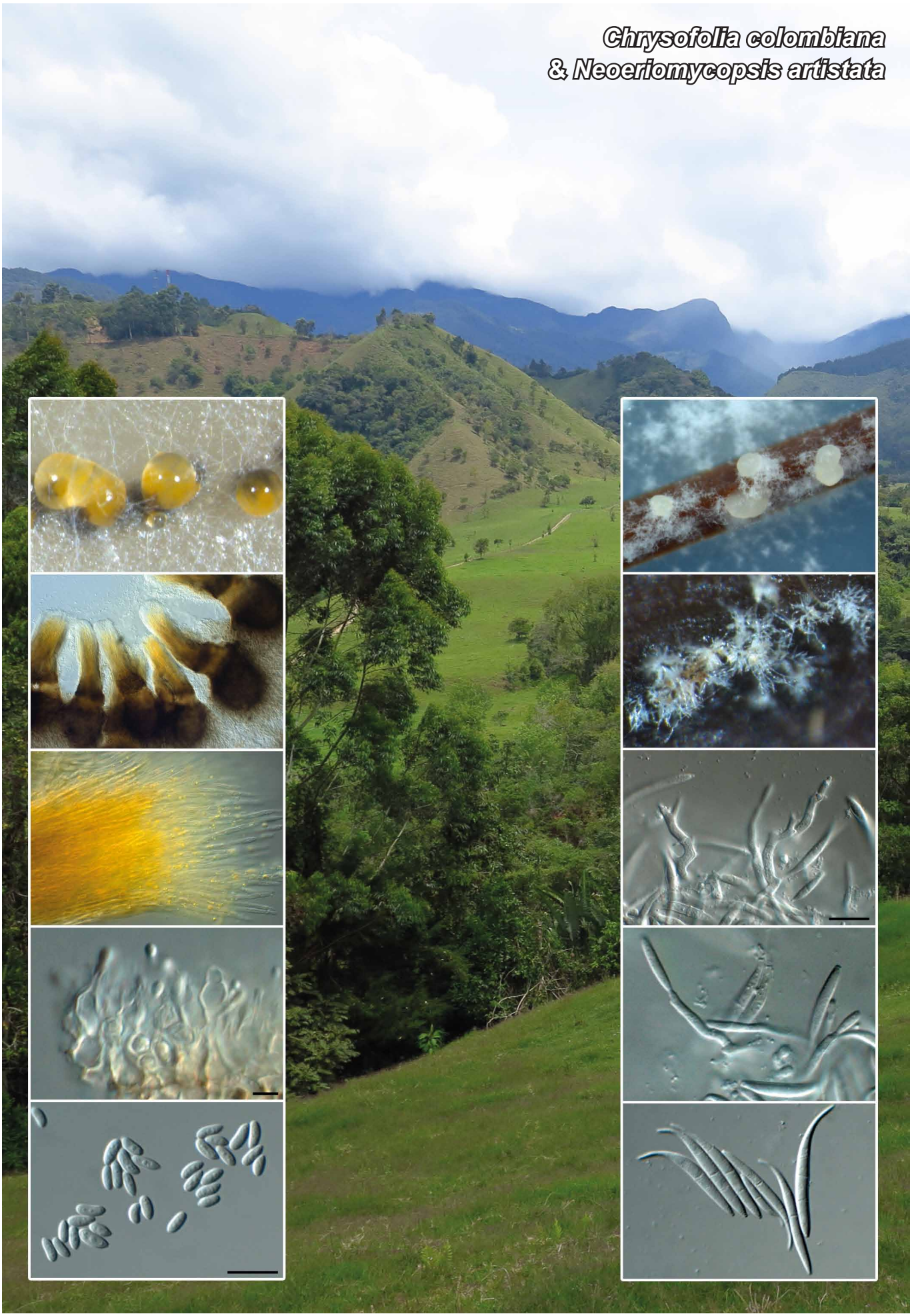
Chrysofolia colombiana
& Neoeriomycopsis artistata

Fungal Planet 339 & 340 – 10 June 2015

Chrysofolia Crous & M.J. Wingf., *gen. nov*.

Etymology. Chryso (Greek) = orange, and folia (Latin) = foliar.

Classification — *Cryphonectriaceae*, *Diaporthales*, *Sordariomycetes*.

Conidiomata pycnidial, separate to aggregated, exuding a yellow slimy conidial mass; pycnidia globose, base immersed, green-brown in lactic acid, but bright yellow in Shears; wall of 3–6 layers of brown *textura angularis*; neck long, with a pale yellow zone just above the agar surface, which then turns yellow-brown while the apical part is pale yellow to almost subhyaline, terminating in an obtusely rounded apex with central ostiole surrounded by loose hyphal elements. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity of base, hyaline, smooth, ampulliform, tapering abruptly towards neck, with several apical percurrent proliferations. *Paraphyses* interspersed among conidiogenous cells, hyaline, smooth, cylindrical, septate. *Conidia* solitary, hyaline, smooth, guttulate, ellipsoid, straight to allantoid, apex obtuse, base with flattened hilum.

Type species. *Chrysofolia colombiana*.
MycoBank MB812450.

Chrysofolia colombiana Crous, Rodas & M.J. Wingf., *sp. nov*.

Etymology. Name reflects the country, Colombia, from which the species was collected.

Conidiomata pycnidial, separate to aggregated, exuding a yellow slimy conidial mass; pycnidia globose, base immersed, green-brown in lactic acid, but bright yellow in Shears, wall of 3–6 layers of brown *textura angularis*; neck long, with a pale yellow zone just above the agar surface, which then turns yellow-brown while the apical part is pale yellow to almost subhyaline; neck 100–300 µm long, 50–110 µm diam where attached to the globose base, terminating in an obtusely rounded apex, 20–40 µm diam, with central ostiole surrounded by loose hyphal elements, 1.5–2 µm diam. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity of base, hyaline, smooth, ampulliform, 5–8 × 2–3 µm, tapering abruptly towards neck, with several apical percurrent proliferations. *Paraphyses* interspersed among conidiogenous cells, hyaline, smooth, cylindrical, 1–2-septate, up to 55 µm long. *Conidia* solitary, hyaline, smooth, guttulate, ellipsoid, straight to allantoid, apex obtuse, base with flattened hilum, 0.5 µm diam, (4–)6–7.5(–10) × (2–)2.5(–3) µm.

Culture characteristics — See MycoBank.

Typus. Colombia, Suiza, on leaf spots of *Eucalyptus urophylla* × *grandis* (*Myrtaceae*), July 2014, *M.J. Wingfield* (holotype CBS H-22238, culture extype CPC 24986 = CBS 139909; ITS sequence GenBank KR476738, LSU sequence GenBank KR476771, MycoBank MB812451); CPC 24987.

Notes — *Cryphonectriaceae* have erumpent conidiomata with bright yellow-brown furfuraceous margins (Rossman et al. 2007, Vermeulen et al. 2011). These fungi are commonly associated with serious canker diseases (Chen et al. 2013, Crane & Burgess 2013) and leaf spots of woody hosts, e.g. *Aurantiosacculus*, *Foliocryphia*, *Chrysocrypta* and *Mastigosporella* (Cheewangkoon et al. 2009, Crous et al. 2012b, c, 2013b).

Neoeriomycopsis Crous & M.J. Wingf., *gen. nov*.

Etymology. Named reflects its morphological similarity to the genus *Eriomycopsis*.

Classification — *Incertae sedis*, *Sordariomycetes*.

Mycelium consisting of hyaline, smooth, branched hyphae. *Conidiophores* developing from hyaline stromata aggregated but loose in vivo, forming sporodochia in vitro, subcylindrical, erect, flexuous, branched below, septate. *Conidiogenous cells* terminal or intercalary, subcylindrical, smooth, hyaline, polyblastic, containing one to several denticle-like loci, not thickened nor darkened. *Conidia* hyaline, 1–3-septate, thin-walled, smooth, fusiform, slightly curved with prominent taper towards apex, unbranched; conidia undergoing microcyclic conidiation in culture; hila unthickened, truncate.

Type species. *Neoeriomycopsis aristata*.
MycoBank MB812452.

Neoeriomycopsis aristata (B. Sutton & Hodges) Crous & M.J. Wingf., *comb. nov*.

Basionym. *Eriomycopsis aristata* B. Sutton & Hodges, Nova Hedwigia 29: 600. 1978.
MycoBank MB812453.

Colonies on host floccose, white. *Mycelium* consisting of hyaline, smooth, branched, 1.5–2 µm diam hyphae. *Conidiophores* developing from hyaline stromata aggregated but loose (in culture commonly forming sporodochia, up to 300 µm diam, with slimy conidial masses developing with age), subcylindrical, erect, flexuous, branched below, septate, up to 100 µm tall, 1.5–3 µm diam. *Conidiogenous cells* terminal or intercalary, subcylindrical, smooth, hyaline, 5–15 × 2–3 µm, polyblastic, containing one to several denticle-like loci, 1–3 × 1 µm, not thickened nor darkened. *Conidia* (10–)17–26(–32) × (2.5–)3(–3.5) µm (excluding appendage), hyaline, 1–3-septate, thin-walled, smooth, fusiform, slightly curved with prominent taper towards apex, unbranched, (3–)5–7(–12) µm long; conidia undergoing microcyclic conidiation in culture; hila unthickened, truncate, 1 µm diam.

Culture characteristics — See MycoBank.

Specimens examined. Brazil, São Paulo, Maranhão, on *Eucalyptus* leaf litter, 24 June 1975, *C.S. Hodges*, holotype IMI 196481. – Colombia, Restrepo, on leaves of *Eucalyptus urophylla* × *grandis* (*Myrtaceae*), 18 July 2014, *M.J. Wingfield* (epitype designated here CBS H-22243, MBT201329, culture exepitype CPC 25050 = CBS 139913; ITS sequence GenBank KR476743, LSU sequence GenBank KR476776); CPC 25051.

Notes — The genus *Eriomycopsis* is mycophylic, based on *E. bonplandi*, but presently includes a heterogeneous assemblage of species (Deighton & Pirozynski 1972). Sutton & Hodges (1978) placed *E. aristata* in *Eriomycopsis*, although noting that it was ecologically and morphologically different. The present collection of *E. aristata* formed sporodochia in culture, and loose conidiophores on host tissue. Another characteristic feature of this species is the bluish pigment that it produces in culture.

Colour illustrations. *Eucalyptus* trees in Colombia; *Chrysofolia colombiana* (left column): conidiomata on OA; conidiomatal apex, conidiogenous cells and conidia; *Neoeriomycopsis aristata* (right column): sporodochia on PNA, loose conidiophores on host leaf tissue; conidiophores and conidia. Scale bars = 10 µm.

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Elsinoë othonnae

Fungal Planet 341 – 10 June 2015

Elsinoë othonnae Crous & A.R. Wood, *sp. nov.*

Etymology. Name reflects the host genus *Othonna*, from which the species was isolated.

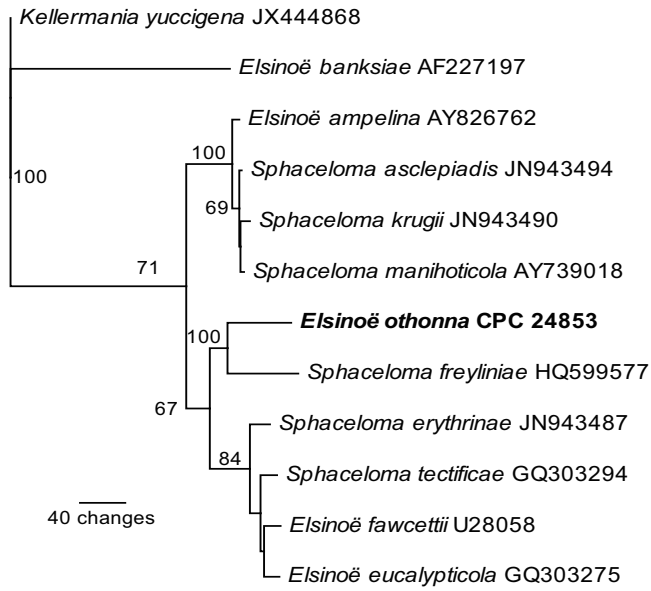
Classification — *Elsinoaceae*, *Myriangiales*, *Dothideomycetes.*

Caulicolous. *Lesions* circular to subcircular, pale grey-brown with dark red-brown border, 1–10 mm diam. *Conidiomata* sporodochial to acervular on stems, medium brown, wall composed of medium brown *textura angularis*. On SNA and PDA sporodochial, erumpent, hyaline, up to 400 µm diam. *Conidiophores* hyaline, smooth, subcylindrical to doliiform, 0–1-septate, branched below, 15–30 × 4–6 µm. *Conidiogenous cells* enteroblastic, polyphialidic, hyaline, smooth, subcylindrical to doliiform, 7–17 × 3–4 µm; loci indistinct, 0.5 µm diam. *Conidia* (on SNA) hyaline, guttulate, smooth, aseptate, ellipsoidal to subcylindrical, apex obtuse, base bluntly rounded to truncate, (5–)6–7 × (2.5–)3(–4) µm in vitro.

Culture characteristics — Colonies erumpent, spreading, surface folded, margins smooth, lobed, with sparse aerial mycelium, reaching 15 mm diam after 1 mo at 25 °C. On PDA surface and reverse blood. On OA surface apricot. On MEA surface vinaceous, reverse brick.

Typus. South Africa, Western Cape province, Brackenfell, Bracken Nature Reserve, on stems of *Othonna quinquedentata* (*Asteraceae*), 10 May 2014, *A.R. Wood* (holotype CBS H-22239, culture ex-type CPC 24853 = CBS 139910; ITS sequence GenBank KR476726, LSU sequence GenBank KR476761, MycoBank MB812454); CPC 24954.

Notes — Species of *Elsinoë* are commonly associated with scab diseases of diverse hosts, but are especially severe on legumes (Mchau et al. 1998), as well as cut flowers and citrus (Swart et al. 2001). No species of *Elsinoë* (asexual morph: *Sphaceloma*) are known from *Othonna* in South Africa (Crous et al. 2000), and *Elsinoë othonnae* appears to represent a new stem pathogen of this host.



First of two equally most parsimonious trees obtained from the ITS alignment based on a heuristic analysis with 100 random taxon additions and tree-bisection-reconnection algorithm using PAUP v. 4.0b10 (Swofford 2003; TL = 438, CI = 0.826, RI = 0.702, RC = 0.580). GenBank accession numbers are indicated behind the species names. Bootstrap support values > 50 % from 1 000 replicates are shown at the node and the scale bar indicates the number of changes. The tree was rooted to *Kellermania yuccigena* (GenBank JX444868) and the novel species described in this study is indicated in **bold** face. The alignment and tree were deposited in TreeBASE (Submission ID 17580).

Colour illustrations. *Othonna quinquedentata* growing in Bracken Nature Reserve; close-up of stem lesions; colonies on SNA; conidiogenous cells and conidia. Scale bars = 10 µm.

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Phaeophleospora hymenocallidicola

Fungal Planet 342 – 10 June 2015

Phaeophleospora hymenocallidicola Crous, *sp. nov.*

Etymology. Name reflects the host genus *Hymenocallis*, from which the species was isolated.

Classification — *Mycosphaerellaceae*, *Capnodiales*, *Dothideomycetes.*

Conidiomata erumpent, eustomatic, globose, up to 300 µm diam, exuding a white globose conidial mass; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* tightly aggregated, lining the inner cavity, ampulliform, pale brown to subhyaline, smooth, with long neck and numerous clearly visible percurrent proliferations along the length of the neck, 6–14 × 3–4 µm. *Conidia* hyaline, smooth, solitary, ellipsoid, straight or slightly curved, apex obtuse, base truncate, biguttulate or not, aseptate, (3–)4(–6) × (1.5–)2(–3) µm.

Culture characteristics — Colonies spreading, erumpent with moderate aerial mycelium, and smooth, lobed margin, reaching 30 mm diam after 1 mo at 25 °C. On MEA surface olivaceous grey with pale olivaceous grey in outer region, reverse iron grey with diffuse cinnamon pigment. On PDA surface pale olivaceous grey, reverse olivaceous grey with diffuse cinnamon pigment. On OA surface with whitish aerial mycelium but prominently red due to diffuse pigment.

Typus. Thailand, Pakbia Island, on leaves of a fern, 14 Aug. 2014, *P.W. Crous* (holotype CBS H-22242, culture ex-type CPC 25014 = CBS 139912; ITS sequence GenBank KR476739, LSU sequence GenBank KR476772, MycoBank MB812457); CPC 25015.

Notes — *Phaeophleospora hymenocallidicola* (conidia 3–6 × 1.5–3 µm) is related to *P. hymenocallidis* (conidia 6–12 × 1.5–2 µm), although morphologically distinct from that species, having aseptate, ellipsoid, smaller conidia. Both species are atypical members of the genus *Phaeophleospora.*

Colour illustrations. Fern growing on tree in Pakbia Island; symptomatic leaf; colony sporulating on PDA; conidiogenous cells and conidia. Scale bars = 10 µm.

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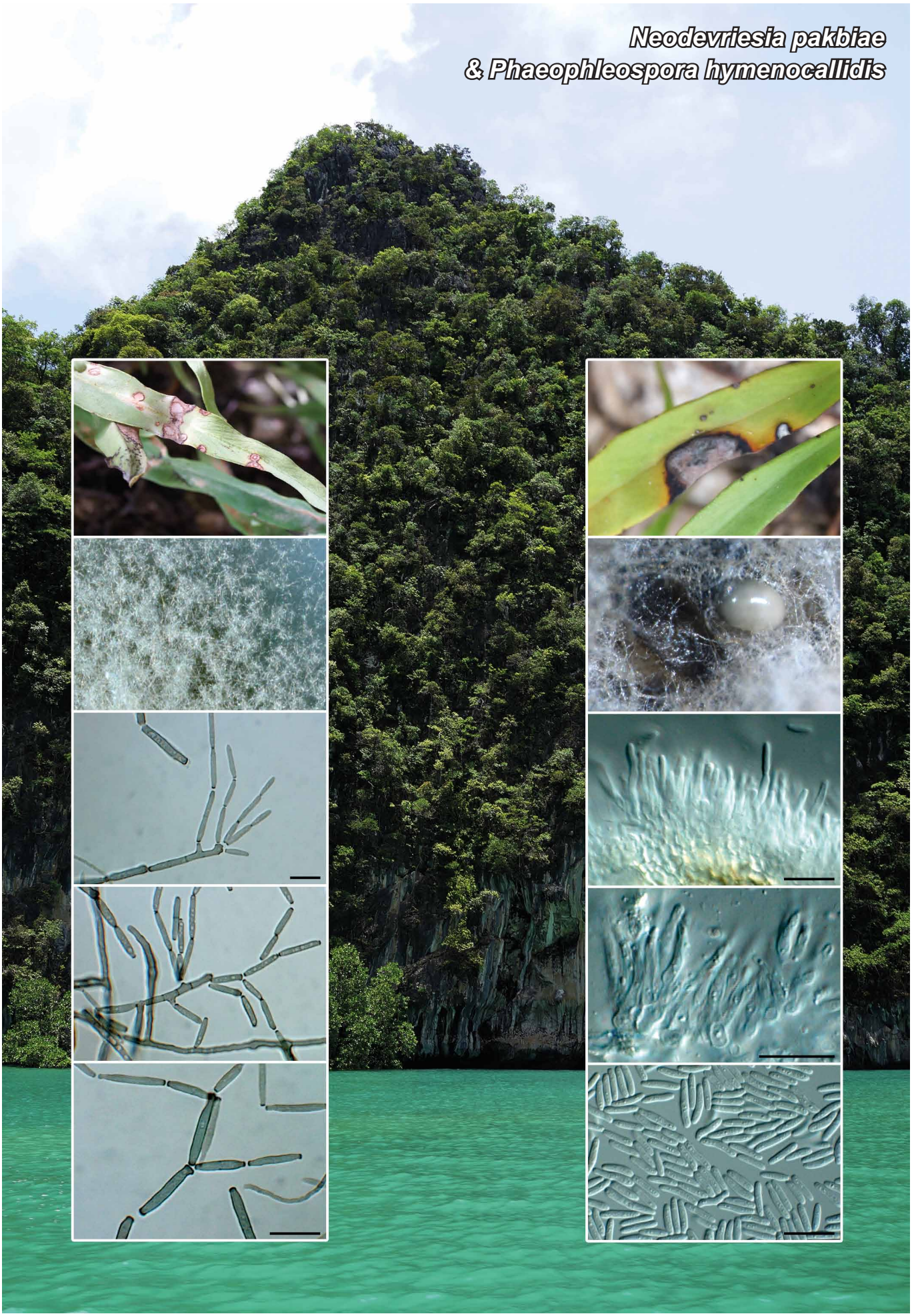
Neodevriesia pakbiae
& Phaeophleospora hymenocallidis

Fungal Planet 343 & 344 – 10 June 2015

Neodevriesia pakbiae Crous, *sp. nov.*

Etymology. Name reflects the island Pakbia, where this species was collected.

Classification — *Neodevriesiaceae*, *Capnodiales*, *Dothideomycetes.*

Mycelium consisting of smooth, brown, septate, branched, 1.5–2.5 µm diam hyphae. *Conidiophores* solitary, erect, subcylindrical, geniculate-sinuous, medium brown, smooth, branched or not, 1–4-septate, 7–60 × 2.5–3 µm. *Conidiogenous cells* terminal or intercalary, subcylindrical, brown, smooth, 10–25 × 2.5–3 µm, polyblastic, scars somewhat thickened and darkened, 1–2 µm diam. *Ramoconidia* subcylindrical, brown, smooth, guttulate, 0–2-septate, 17–33 × 2.5–3 µm, frequently developing lateral branches; scars somewhat darkened and thickened, 2–2.5 µm diam. *Conidia* in branched chains (–12), brown, subcylindrical, smooth, guttulate, 0(–1)-septate, (8–)10–13(–15) × (1.5–)2 µm; hila truncate, somewhat thickened and darkened, 0.5–1 µm diam.

Culture characteristics — Colonies spreading, with sparse aerial mycelium and smooth, lobed margins, reaching 25 mm diam after 1 mo at 25 °C. On PDA surface and reverse iron grey. On OA surface olivaceous grey. On MEA surface olivaceous grey, reverse iron grey.

Typus. Thailand, Pakbia Island, on leaves of unidentified fern, 14 Aug. 2014, *P.W. Crous* (holotype CBS H-22244, culture ex-type CPC 25044 = CBS 139914; ITS sequence GenBank KR476742, LSU sequence GenBank KR476775, MycoBank MB812456); CPC 25045.

Notes — *Neodevriesia pakbiae* is phylogenetically closely related to *D. ficus*, *D. lagerstroemiae* and *D. strelitziae*. Quaedvlieg et al. (2014) placed these species in *Neodevriesiaceae* as an unresolved generic complex of devriesia-like taxa with teratosphaeria-like sexual morphs. Members of *Neodevriesiaceae* are foliicolous, saprobic or plant pathogenic, and were previously referred to as '*Teratosphaeriaceae* 2' by Ruibal et al. (2009).

Phaeophleospora hymenocallidis Crous, *sp. nov.*

Etymology. Name reflects the host genus *Hymenocallis*, from which the species was isolated.

Classification — *Mycosphaerellaceae*, *Capnodiales*, *Dothideomycetes.*

Conidiomata erumpent, eustomatic, multilocular with central ostiole, globose, up to 300 µm diam, exuding a white globose conidial mass; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* lining the inner cavity, subcylindrical to ampulliform, hyaline, smooth, 0–3-septate, branched below or not, 5–15 × 3–4 µm. *Conidiogenous cells* integrated, terminal and intercalary, subcylindrical to ampulliform, hyaline, smooth, 5–8 × 2–3 µm; proliferating inconspicuously percurrently or sympodially at apex, 1 µm diam. *Paraphyses* intermingled among conidiophores, subcylindrical, hyaline, smooth, 1–3-septate, up to 30 µm tall, and 2 µm diam. *Conidia* solitary, hyaline, smooth, guttulate, 0(–1)-septate, subcylindrical, straight to slightly curved, apex obtuse, base truncate, 1 µm diam, (6–)8–10(–12) × (1.5–)2 µm.

Culture characteristics — Colonies spreading, erumpent, with moderate to fluffy aerial mycelium, and smooth, lobed margins, reaching up to 40 mm diam after 1 mo at 25 °C. On MEA surface olivaceous grey, reverse iron grey. On PDA surface and reverse iron grey. On OA surface olivaceous grey.

Typus. Thailand, Pakbia Island, on leaves of a fern, 14 Aug. 2014, *P.W. Crous* (holotype CBS H-22241, culture ex-type CPC 25018 = CBS 139911; ITS sequence GenBank KR476740, LSU sequence GenBank KR476773, MycoBank MB812455); CPC 25019.

Notes — The genus *Phaeophleospora*, based on *P. eugeniae*, is a member of the *Mycosphaerellaceae* forming pycnidia that give rise to brown, multiseptate, scolecosporous conidia via brown, percurrently proliferating conidiogenous cells lining the conidiomata (Crous et al. 1997, 2007a). Although morphologically similar, species of *Kirramyces* and *Colletogloeopsis* (Crous & Wingfield 1996), are linked to *Teratosphaeria* (*Teratosphaeriaceae*; Crous et al. 2009a, b). Morphologically *P. hymenocallidis* with its hyaline, 0–1-septate conidia is thus a very odd member of the genus. Once additional taxa have been collected, this relationship should become clearer, although for the present this taxon is best accommodated in *Phaeophleospora*.

Colour illustrations. Pakbia Island; *Neodevriesia pakbiae* (left column); symptomatic leaf, colony on SNA, conidiophores and conidia; *Phaeophleospora hymenocallidis* (right column): symptomatic leaf; colony sporulating on OA; conidiogenous cells and conidia. Scale bars = 10 µm.

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Zeloasperisporium cliviae

Fungal Planet 345 – 10 June 2015

Zeloasperisporiaceae Crous, *fam. nov.*

Classification — *Zeloasperisporiaceae*, *Incertae sedis*, *Dothideomycetes.*

Ascomata thyriothecial, circular, solitary and scattered, superficial, brown to dark brown; outer wall composed of ellipsoid to angular cells, arranged in parallel radiating lines from the centre to the outer rim. *Pseudoparaphyses* not observed. Asci 8-spored, bitunicate, fissitunicate, globose to ovoid or clavate, apedicellate, with apical ocular chamber. *Ascospores* 2–3-seriate, obovoid to clavate, 2-celled, widest in upper cell, hyaline, smooth-walled. *Mycelium* internal to superficial, septate, pale brown, smooth or finely verruculose, thin-walled. *Macroconidiophores* arising as lateral hyphal branches, erect, straight, subcylindrical or conical, tapering towards the apex, medium-brown, minutely verruculose; conidial proliferation sympodial, with one to several subdenticulate to flat conidiogenous loci, mostly crowded at the apex, protuberant; conidial scars thickened-refractive. *Macroconidia* solitary, straight to curved, fusiform, tapered towards the apex, septate, pale to medium brown, verruculose; at times forming a globose, apical mucoid appendage; base truncate with a protruding scar, which is somewhat thickened and darkened-refractive. *Micronematous synanamorph*. *Conidiogenous cells* short-cylindrical, brown, finely verruculose, as lateral pegs on hyphae, with minute apical scars. *Microconidia* obovoid, aseptate, brown, finely verruculose.

Type genus. *Zeloasperisporium* R.F. Castañeda.
MycoBank MB812487.

Genera included in family — *Neomicrothyrium*, *Zeloasperisporium.*

Zeloasperisporium cliviae Crous, *sp. nov.*

Etymology. Name reflects the host *Clivia*, from which this species was isolated.

Mycelium internal to superficial, consisting of sparingly branched, septate, pale brown, smooth or finely verruculose, thin-walled, 2.5–4 µm wide hyphae. *Macroconidiophores* reduced to conidiogenous cells, arising as lateral hyphal branches, erect, straight, subcylindrical or conical, not geniculate, unbranched, 20–35 × 4–5 µm, tapering towards the apex, medium-brown, minutely verruculose, slightly thick-walled, somewhat constricted at the apex below the conidiogenous loci; conidial proliferation sympodial, with one to several subdenticulate to flat conidiogenous loci, mostly crowded at the apex, protuberant; conidial scars thickened-refractive, appearing as thickened circles when viewed from directly above, 0.5–1 µm wide. *Macroconidia* solitary, straight to curved, fusiform, tapered towards the apex, 1(–3)-septate, distinctly constricted at the median septum, pale to medium brown, verruculose, somewhat thick-walled, (14–)20–24(–26) × (3.5–)4.5–5 µm; apex subhyaline, thinner and smoother than the rest of the conidial body, at times forming a globose, apical mucoid appendage; base truncate or slightly rounded, tapering toward a protruding scar, which is somewhat thickened and darkened-refractive, 1 µm diam; microcyclic conidiation observed in culture. Micronematous synanamorph. *Conidiogenous cells* short-cylindrical, brown, finely verruculose, as lateral pegs on hyphae, 2–8 × 1.5–2 µm, with minute apical scars. *Microconidia* obovoid, aseptate, brown, finely verruculose, 5–7 × 3 µm, with truncate hilum, 0.5 µm diam.

Colour illustrations. *Clivia* flowering at Kwalata Game Ranch; colony on PDA; hypha with lateral branches; conidiophores and conidia. Scale bars = 10 µm.

Culture characteristics — Colonies spreading, erumpent, with sparse aerial mycelium and smooth, lobed margins, reaching 25 mm diam after 1 mo at 25 °C. On PDA, OA and MEA surface olivaceous grey, reverse iron grey.

Typus. South Africa, Gauteng, Kwalata Game Ranch, on leaves of *Clivia* sp. (*Amaryllidaceae*), 25 Sept. 2014, *P.W. Crous* (holotype CBS H-22245, culture ex-type CPC 25145 = CBS 139915; ITS sequence GenBank KR476748, LSU sequence GenBank KR476781, MycoBank MB812458).

Notes — The *Zeloasperisporiaceae* represent a distinct clade in the *Mycrothyriales* for which the *Zeloasperisporiaceae* is herewith introduced. *Zeloasperisporium cliviae* is phylogenetically related to *Z. hyphopodioides* and *Z. eucalyptorum* (Castañeda Ruiz et al. 1996, Crous et al. 2007b, Cheewangkoon et al. 2008), although these species differ based on their DNA sequence data as well as their conidium morphology.

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Melanconium elaeidicola

Fungal Planet 346 – 10 June 2015

Melanconium elaeidicola Crous & M.J. Wingf., *sp. nov.*

Etymology. Name reflects the host *Elaeius*, from which this species was isolated.

Classification — *Melanconidaceae*, *Diaporthales*, *Sordariomycetes.*

Phytopathogenic, associated with irregular brown leaf spots that can be up to 2 cm diam. *Conidiomata* up to 200 µm diam, separate, immersed, black, becoming erumpent and acervular once open (opening via irregular rupture on PNA, but pycnidial on OA), exuding a black conidial mass, also sporulating on aerial hyphae on OA; wall of 3–6 layers of brown *textura angularis*, becoming hyaline towards inner region. *Conidiophores* hyaline, smooth, filiform, formed from inner layer of conidiomatal cavity, branched at the base, 20–60 × 4–6 µm. *Conidiogenous cells* terminal, integrated, hyaline, smooth, discrete, proliferating percurrently at apex, at times with flared collarette, 20–40 × 4–6 µm. *Conidia* aseptate, brown, smooth, guttulate, globose to ellipsoid, thick-walled, base truncate, 2 µm diam; conidia frequently with longitudinal germ slit and/or with longitudinal striations, (12–)13–14(–15) × (9–)11–12(–13) µm.

Culture characteristics — Colonies spreading, covering dish after 1 mo at 25 °C, with sparse aerial mycelium. On MEA iron grey due to profuse sporulation. On OA cinnamon. On PDA surface vinaceous buff, reverse rosy buff.

Typus. Indonesia, Northern Sumatra, Tebing Tinggi District, Negeri Lama, on leaves of *Elaeis guineensis* (*Arecaceae*), 10 Aug. 2014, *M.J. Wingfield* (holotype CBS H-22246, culture ex-type CPC 25094 = CBS 139916; ITS sequence GenBank KR476745, LSU sequence GenBank KR476778, ACT sequence GenBank KR476788, TUB sequence GenBank KR476795, MycoBank MB812459); CPC 25095 (ITS sequence GenBank KR476746, LSU sequence GenBank KR476779, ACT sequence GenBank KR476789, TUB sequence GenBank KR476796).

Notes — The genus *Melanconium* (based on *M. atrum*) is heterogeneous, with several species linked to *Melanconis* and *Melanconiella*, and thus preference was given to using the names of the sexual morphs (Voglmayr et al. 2012). However, the species occurring on *Elaeis guineensis* in Indonesia is far removed from *Melanconiella* (based on *M. spodiaea*), and *Melanconis* (based on *M. stilbostroma*) (Voglmayr et al. 2012), and clearly represents a distinct genus. Because the phylogenetic position of *Melanconium atrum* remains unknown, and the fact that *Melanconium* has several generic synonyms (Sutton 1980), we decided to describe this taxon in *Melanconium* in the interim, awaiting future type studies and additional collections.

The common species causing anthracnose of oil palm (*Elaeis guineensis*) is '*Melanconium*' *elaeidis* (Boari 2008). This taxon was originally described from the Congo on oil palm, with conidia subspherical to pyriform, 24–36 × 13–18 µm (Beeli 1923). Deighton (in Cejp & Deighton 1969) regarded it as a synonym of *Megalodochium palmicola* described from *Raphia hookeri* and *Cocos nucifera* in Sierra Leone, having conidia which are subspherical, ellipsoid, oblong to broadly obclavate or pyriform, 18–40 × 11–20 × 8–16 µm, with a longitudinal germ slit. Cejp & Deighton (1969) introduced the combination *Megalodochium elaeidis* for this pathogen. *Melanconium elaeidicola* is distinct from *Megalodochium* by having acervular to pycnidial conidiomata (not sporodochia), hyaline conidiophores that are only branched at the base, and smooth, globose to ellipsoid conidia.

Colour illustrations. Symptomatic *Elaeis guineensis* in Indonesia; close-up of leaf symptoms; sporulation on PNA and OA; conidiophores and conidia. Scale bars = 10 µm.

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Myrmecridium iridis

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Myrmecridiales Crous, *ord. nov.*

Mycelium compact, with fertile bundles of hyphae. *Conidiophores* arising vertically and clearly distinct from creeping hyphae, unbranched, straight or flexuose, brown, thick-walled. *Conidiogenous cells* terminally integrated, polyblastic, cylindrical, pale brown, with a rachis of scattered pimple-shaped, apically pointed, conidium-bearing denticles. *Conidia* solitary, subhyaline to pale brown, smooth or finely verrucose, with a wing-like gelatinous sheath, obovoid to fusoid, aseptate or septate, tapering towards a narrowly truncate base; conidial secession schizolytic. *Sexual morphs* unknown.

Type family. *Myrmecridiaceae* Crous.
MycoBank MB812460.

Myrmecridiaceae Crous, *fam. nov.*

Colonies moderately fast-growing, flat, with mainly submerged mycelium, becoming powdery to velvety. *Mycelium* rather compact, mainly submerged, in the centre velvety with fertile bundles of hyphae. *Conidiophores* arising vertically and clearly distinct from creeping hyphae, unbranched, straight or flexuose, brown, thick-walled. *Conidiogenous cells* terminally integrated, polyblastic, cylindrical, straight or flexuose, pale brown, sometimes secondarily septate, fertile part subhyaline, as wide as the basal part, with scattered pimple-shaped, apically pointed, conidium-bearing denticles. *Conidia* solitary, subhyaline to pale brown, smooth or finely verrucose, rather thin-walled, with a wing-like gelatinous sheath, obovoid to fusoid, aseptate or septate, tapering towards a narrowly truncate base with a slightly prominent, unpigmented hilum; conidial secession schizolytic.

Type genus. *Myrmecridium* Arzanlou, W. Gams & Crous.
MycoBank MB812461.

Myrmecridium iridis Crous, *sp. nov*.

Etymology. Name reflects the host *Iris*, from which this species was isolated.

Classification — *Myrmecridiaceae*, *Myrmecridiales*, *Sordariomycetes*.

On SNA mycelium consisting of hyaline, thin-walled, smooth, 1.5–2 µm diam hyphae. *Conidiophores* erect, unbranched, straight, medium brown, thick-walled, 30–60 µm tall, 3–5 µm wide, 1–2-septate. *Conidiogenous cells* terminal, integrated, cylindrical, 20–40 × 3–5 µm, medium brown, smooth, fertile region forming a rachis with pimple-like denticles at the swollen apex, 0.5–1 µm long and 0.5 µm wide, unpigmented, slightly thickened scars. *Conidia* solitary, pale brown, thin-walled, finely verruculose, with a wing-like gelatinous sheath up to 0.5 µm thick, 0–1(–3)-septate, fusoid, (14–)16–18(–20) × (2.5–)3 µm; apex obtuse, tapering from middle to a truncate hilum, 0.5 µm diam, somewhat darkened.

Culture characteristics — Colonies erumpent, spreading, with even, lobed margins and sparse to moderate aerial mycelium, reaching 40 mm diam after 1 mo at 25 °C. On PDA surface sienna and reverse apricot to salmon. On OA surface ochreous. On MEA surface dirty white, reverse ochreous.

Typus. Netherlands, Bunnik, on leaves of *Iris* sp. (*Iridaceae*), 10 Sept. 2014, *P.W. Crous* (holotype CBS H-22247, culture ex-type CPC 25084 = CBS 139917; ITS sequence GenBank KR476744, LSU sequence GenBank KR476777, MycoBank MB812462); CPC 25085.

Colour illustrations. *Iris* sp. growing in Bunnik; symptomatic leaf; conidiophores and conidia (note sheath). Scale bars = 10 µm.

Notes — Arzanlou et al. (2007) established the genus *Myrmecridium* (*Incertae sedis*, *Sordariomycetes*) to accommodate ramichloridium-like taxa with hyaline mycelium, and pale to unpigmented, pimple-like denticles. Subsequent to the introduction of the genus, several additional species have been described, revealing *Myrmecridium* as a distinct and undefined clade in the *Sordariomycetes*, for which the *Myrmecridiaceae* and *Myrmecridiales* are introduced here.

Phylogenetically, *Myrmecridium iridis* (conidia 0–1(–3)-septate, 14–20 × 2.5–3 µm) is closely related to *M. banksiae* (conidia aseptate, 9–14 × 2.5–3.5 µm), which is easily distinguishable morphologically based on its smaller, aseptate conidia. *Myrmecridium iridis* is the first species of the genus known to have septate conidia (Crous et al. 2011, 2012c, Jie et al. 2013).

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Colletotrichum neosansevieriae

Fungal Planet 348 – 10 June 2015

Colletotrichum neosansevieriae Crous & N.A. van der Merwe, *sp. nov.*

Etymology. Name reflects its morphological similarity to *Colletotrichum sansevieriae.*

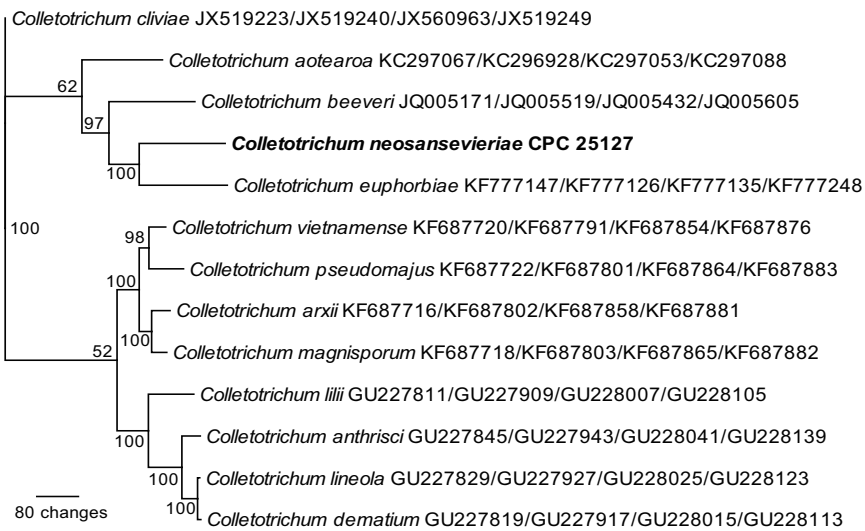
Classification — *Glomerellaceae*, *Incertae sedis*, *Sordariomycetes.*

Leaf spots large, up to 6 cm diam, subcircular, pale brown, coalescing with age, with amphigenous sporulation. On SNA. *Mycelium* consisting of branched, septate, hyaline, smooth-walled, 2–4 µm diam hyphae. *Conidiomata* up to 250 µm diam, globose to flask-shaped, opening by irregular rupture; walls of brown *textura angularis*; exuding a slimy orange conidial mass. *Setae* medium brown, verruculose, 3–7-septate, 120–200 µm long, 7–10 µm diam at base, tip acutely rounded. *Conidiophores* hyaline, smooth, 1–5-septate, branched, 30–100 × 3–5 µm. *Conidiogenous cells* hyaline, smooth, cylindrical with periclinal thickening or percurrent proliferation at apex, 15–60 × 3–5 µm, apex 2 µm diam, with minute collarette. *Conidia* hyaline, smooth, guttulate, aseptate, subcylindrical, straight to slightly curved, apex obtuse, base with prominent truncate hilum, (16–)18–22(–25) × (4–)5–6 µm. *Appressoria* not observed after 3 wk.

Culture characteristics — Colonies covering dish after 1 mo at 25 °C, with moderate to woolly aerial mycelium. On MEA surface grey olivaceous, reverse dark brick. On OA surface smoke grey. On PDA surface grey olivaceous, reverse vinaceous, with zones of grey olivaceous.

Typus. South Africa, Gauteng, Kwalata Game Ranch, on leaves of *Sansevieria trifasciata* (*Asparagaceae*), 25 Sept. 2014, *P.W. Crous & N.A. van der Merwe* (holotype CBS H-22248, culture ex-type CPC 25127 = CBS 139918; ITS sequence GenBank KR476747, LSU sequence GenBank KR476780, ATC sequence GenBank KR476790, GAPDH sequence GenBank KR476791, HIS sequence GenBank KR476792, TUB sequence GenBank KR476797, MycoBank MB812463); CPC 25128.

Notes — A Colletotrichum leaf spot disease of *Sansevieria* has previously been documented from South Africa as *C. gloeosporioides* (*Glomerella cingulata*) (Crous et al. 2000). However, as recently shown, common 'morphological' species of *Colletotrichum*, such as *C. acutatum*, *C. boninense*, *C. caudatum*, *C. destructivum*, *C. gigasporum* and *C. gloeosporioides* are in fact species complexes (Cannon et al. 2012, Damm et al. 2012a, b, 2014, Weir et al. 2012, Crouch 2014, Liu et al. 2014). Other than *C. gloeosporioides*, the common species associated with anthracnose on *Sanservieria trifasciata* is *C. sansevieriae* (Nakamura et al. 2006). The latter species, as well as *C. gloeosporioides*, are phylogenetically clearly distinct from the South African pathogen, which we describe here as a new species, *C. neosansevieriae.*



Single most parsimonious tree obtained from a heuristic analysis with 100 random taxon additions and tree-bisection-reconnection algorithm using PAUP v. 4.0b10 (Swofford 2003; TL = 1 234, CI = 0.713, RI = 0.648, RC = 0.462). The alignment consisted of four partial loci, namely ITS, actin, histone H3 and beta-tubulin (GenBank accession numbers separated by slash in the tree). Bootstrap support values > 50 % from 1 000 replicates are shown at the node and the scale bar indicates the number of changes. The tree was rooted to *Colletotrichum cliviae* CBS 125375 and the novel species described in this study is indicated in **bold** face. The alignment and tree were deposited in TreeBASE (Submission ID 17580).

Colour illustrations. Symptomatic leaf of *Sansevieria trifasciata* at Kwalata Game Ranch; colony on SNA; setae, conidiogenous cells and conidia. Scale bars = 10 µm.

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Neophaeomoniella eucalypti
& Paraphaeomoniella capensis

Fungal Planet 349 & 350 – 10 June 2015

Neophaeomoniella Rooney-Latham & Crous, *gen. nov.*

Etymology. Name reflects its morphological similarity to the coelomycetous synanamorph of *Phaeomoniella*.

Classification — *Incertae sedis*, *Phaeomoniellales*, *Eurotiomycetes.*

Conidiomata pycnidial, globose, aggregated in a cluster, olivaceous brown to green-brown, with central ostiole; wall of 2–3 layers of green-brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline to green-brown, smooth, ampulliform, with periclinal thickening. *Conidia* solitary, hyaline, smooth, ellipsoid, straight, apex obtuse, base with minute scar; yeast synanamorph forming on agar.

Type species. *Neophaeomoniella eucalypti.*
MycoBank MB812464.

Neophaeomoniella eucalypti Rooney-Latham & Crous, *sp. nov.*

Etymology. Name reflects the host *Eucalyptus*, from which this species was isolated.

Conidiomata pycnidial, globose, aggregated in a cluster, olivaceous brown to green-brown, 60–150 µm diam, with central ostiole, 15 µm diam; wall of 2–3 layers of green-brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline to green-brown, smooth, ampulliform, 5–7 × 2.5–3 µm; apex 0.5–1 µm diam, with periclinal thickening. *Conidia* (on SNA) solitary, hyaline, smooth, ellipsoid, straight, apex obtuse, base with minute scar, 0.5 µm diam, 3–4 × (1.5–)2 µm; yeast synasexual morph forming on agar, with conidia forming directly from hyphal cells.

Culture characteristics — See MycoBank.

Typus. USA, California, San Luis Obispo County, Nipomo, on stems of *Eucalyptus globulus* (*Myrtaceae*), 26 Aug. 2014, coll. *K. Corella*, isol. *S. Rooney-Latham* (holotype CBS H-22249, culture ex-type CPC 25161 = CBS 139919; ITS sequence GenBank KR476749, LSU sequence GenBank KR476782, MycoBank MB812465).

Notes — The genus *Phaeomoniella* (*Phaeomoniellales*, see Chen et al. 2015), based on *P. chlamydospora*, was established to accommodate the causal organism of Petri disease of grapevine (Crous & Gams 2000). This fungus is commonly isolated from *Vitis* wood with brown wood streaking symptoms (Halleen et al. 2007). It is a hyphomycetous ascomycete, with a coelomycetous synasexual morph. Since its description, several other taxa have been added to the genus because they had a similar morphology, and were also phylogenetically related. Damm et al. (2010) described several species of *Phaeomoniella* associated with brown wood streaking of *Prunus*, but that had a hyphomycetous synanamorph differing in morphology to that of *P. chlamydospora*, while Lee et al. (2006) described species that only had a yeast morph, and other species again only had the coelomycetous morph (Crous et al. 2008, Crous & Groenewald 2011). Subsequently the genus has become rather cumbersome and widely circumscribed, and some taxa associated with brown wood streaking symptoms of other hosts can now be separated into distinct genera. *Neophaeomoniella* is one such genus that although related to *Phaeomoniella*, lacks the characteristic hyphomycetous morph.

Neophaeomoniella niveniae (Crous) Crous, *comb. nov.* — MycoBank MB812466

Basionym. *Phaeomoniella niveniae* Crous, Persoonia 27: 155. 2011.

Neophaeomoniella zymoides (Huang B. Lee, J.Y. Park, Summerb. & H.S. Jung) Crous, *comb. nov.* — MycoBank MB812467

Basionym. *Phaeomoniella zymoides* Huang B. Lee, J.Y. Park, Summerb. & H.S. Jung, Mycologia 98: 601. 2006.

Paraphaeomoniella Crous, *gen. nov.*

Etymology. Name reflects a morphological similarity to the coelomycetous synanamorph of *Phaeomoniella*.

Classification — *Incertae sedis*, *Phaeomoniellales*, *Eurotiomycetes.*

Mycelium consisting of septate, branched, hyaline to pale brown, thick-walled hyphae, developing hyaline, thin-walled, swollen, globose structures. *Conidiomata* pycnidial to acervular, opening by irregular rupture, erumpent, brown; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* hyaline, smooth, highly variable in morphology, occurring in branched structures, septate, or solitary, ampulliform, reduced to phialides. *Conidiogenous cells* with apical opening revealing minute periclinal thickening. *Conidia* hyaline, smooth, narrowly ellipsoid, straight.

Type species. *Paraphaeomoniella capensis.*
MycoBank MB812468.

Paraphaeomoniella capensis Crous & A.R. Wood, *sp. nov*.

≡ *Phaeomoniella capensis* Crous & A.R. Wood, Persoonia 21: 137. 2008. nom. inval., Art. 40.6.

Description & Illustration — See Crous et al. (2008).

Specimen examined. South Africa, Western Cape Province, Kirstenbosch Botanical Garden, on living leaves of *Encephalartos altensteinii* (*Zamiaceae*), 22 May 2008, *A.R. Wood* (holotype CBS H-20159, culture ex-type CPC 15416 = CBS 123535; ITS sequence J372391, LSU sequence GenBank FJ372408, MycoBank MB812469); CPC 15417–15418.

Colour illustrations. *Eucalyptus* trees growing in California; *Neophaeomoniella eucalypti*: conidiomata on OA; conidiogenous cells and conidia. Scale bars = 10 µm.

Notes — '*Phaeomoniella*' *capensis* was invalidly described (Crous et al. 2008), because the holotype specimen was not indicated as such (Art. 40.6, Melbourne ICN), and it is thus validated here and placed in a new genus. *Paraphaeomoniella* lacks the hyphomycetous synasexual morph found in *Phaeomoniella* s.str., and is distinguished from *Neophaeomoniella* and *Pseudophaeomoniella* by having pycnidial to acervular conidiomata, and conidiophores that are frequently irregularly branched.

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Pseudophaeomoniella oleae

Fungal Planet 351 – 10 June 2015

Pseudophaeomoniella Nigro, Antelmi & Crous, *gen. nov.*

Etymology. Name reflects its morphological similarity to the coelomycetous synanamorph of *Phaeomoniella*.

Classification — *Incertae sedis*, *Phaeomoniellales*, *Eurotiomycetes.*

Conidiomata pycnidial, dark brown to black, semi-immersed, separate; wall of 2–3 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells lining the inner cavity, or 1-septate, subcylindrical, hyaline, smooth. *Conidiogenous cells* subcylindrical to ampulliform, terminal or intercalary, hyaline to green brown, smooth; apex with minute periclinal thickening. *Conidia* solitary, hyaline, smooth, subcylindrical with obtuse ends. A yeast-like synasexual morph develops in culture.

Type species. *Pseudophaeomoniella oleae.*
MycoBank MB812470.

Pseudophaeomoniella oleae Nigro, Antelmi & Crous, *sp. nov.*

Etymology. Name reflects the host *Olea*, from which this species was isolated.

On OA. *Conidiomata* pycnidial, dark brown to black, semi-immersed, separate, 90–400 µm diam; wall of 2–3 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells lining the inner cavity. *Conidiogenous cells* hyaline to green brown, smooth, ampulliform, 4–6 × 3–4 µm; apex 1 µm diam with minute periclinal thickening. *Conidia* solitary, hyaline, smooth, subcylindrical with obtuse ends, (2–)2.5(–3) × 1–1.5 µm.

Culture characteristics — Colonies spreading with sparse aerial mycelium, and feathery margins, reaching 50 mm diam after 1 mo at 25 °C. On MEA surface and reverse olivaceous grey. On PDA surface grey olivaceous, reverse grey olivaceous with buff to smoke grey zones. On OA centre olivaceous grey, outer zones buff and grey olivaceous.

Typus. Italy, Province of Lecce, Alezio, isolated from black-discoloured xylem of wilting *Olea europaea* (*Oleaceae*) branch of plant infected by *Xylella fastidiosa* 'CoDiRO strain', Oct. 2013, *F. Nigro* (holotype CBS H-22250, culture ex-type FV84 = CBS 139191; ITS sequence GenBank KP635972, LSU sequence GenBank KP635971, ACT sequence GenBank KP635974, TEF sequence GenBank KP635968, MycoBank MB812471).

Notes — Several phaeomoniella-like species described from Prunus wood (Damm et al. 2010), represent distinct genera in this complex, and are described below:

Minutiella Crous, *gen. nov.*

Etymology. Name reflects the minute conidiomata in this genus.

Mycelium consisting of hyaline, septate hyphae, lacking chlamydospores. *Sporulation* abundant, conidia formed on hyphae and in pycnidia. *Conidiophores on hyphae* reduced to conidiogenous cells. *Conidiogenous cells* enteroblastic, reduced to mere openings formed directly on hyphal cells, rarely to short necks, discrete phialides very rare; collarettes mostly inconspicuous. *Conidia* aseptate, hyaline, cylindrical to obovate, smooth. *Microcyclic conidiation* rarely observed. *Conidiomata* pycnidial, solitary, subglobose, superficial, pale to dark brown, globose to subglobose, unilocular, opening by irregular rupture, wall 1–2 cell layers thick, composed of pale brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* enteroblastic, hyaline or brown, ampulliform to angular. *Conidia* hyaline, aseptate, cylindrical, sometimes slightly curved, smooth.

Type species. *Minutiella tardicola.*
MycoBank MB812473.

Minutiella tardicola (Damm & Crous) Crous, *comb. nov*. — MycoBank MB812474

Basionym. *Phaeomoniella tardicola* Damm & Crous, Persoonia 24: 77. 2010.

Description & Illustration — See Damm et al. (2010).

Aequabiliella Crous, *gen. nov.*

Etymology. Name refers to the uniformly distributed pigment produced in culture.

Mycelium consisting of hyaline, smooth-walled hyphae, lacking chlamydospores. *Sporulation* abundant; conidia formed on hyphae and in pycnidia. *Conidiophores on hyphae* mainly reduced to conidiogenous cells, subcylindrical to navicular. *Conidiogenous cells* enteroblastic, discrete phialides rare, mostly reduced to very short adelophialides or more often with collarettes formed directly on hyphal cells, distinct phialides navicular or elongate-ampulliform and attenuated at the base; collarettes and periclinal thickening conspicuous. *Conidia* aggregated in masses around the hyphae, hyaline, 1-celled, cylindrical to obovate, sometimes slightly curved, both ends obtuse, smooth-walled, containing small droplets. *Conidiomata* pycnidial, solitary, subglobose, superficial, unilocular, opening by irregular rupture, wall composed of brown *textura angularis. Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* enteroblastic, hyaline, broadly ellipsoidal, somewhat angular, collarette very short or inconspicuous. *Conidia* hyaline, aseptate, cylindrical, sometimes slightly curved, both ends obtuse, smooth-walled, containing small droplets.

Type species. *Aequabiliella effusa.*
MycoBank MB812475.

Aequabiliella effusa (Damm & Crous) Crous, *comb. nov*. — MycoBank MB812476

Basionym. *Phaeomoniella effusa* Damm & Crous, Persoonia 24: 75. 2010.

Description & Illustration — See Damm et al. (2010).

Colour illustrations. Symptomatic olive tree in Italy; wood discolouration, conidiomata on OA, conidiogenous cells and conidia. Scale bars = 10 µm.

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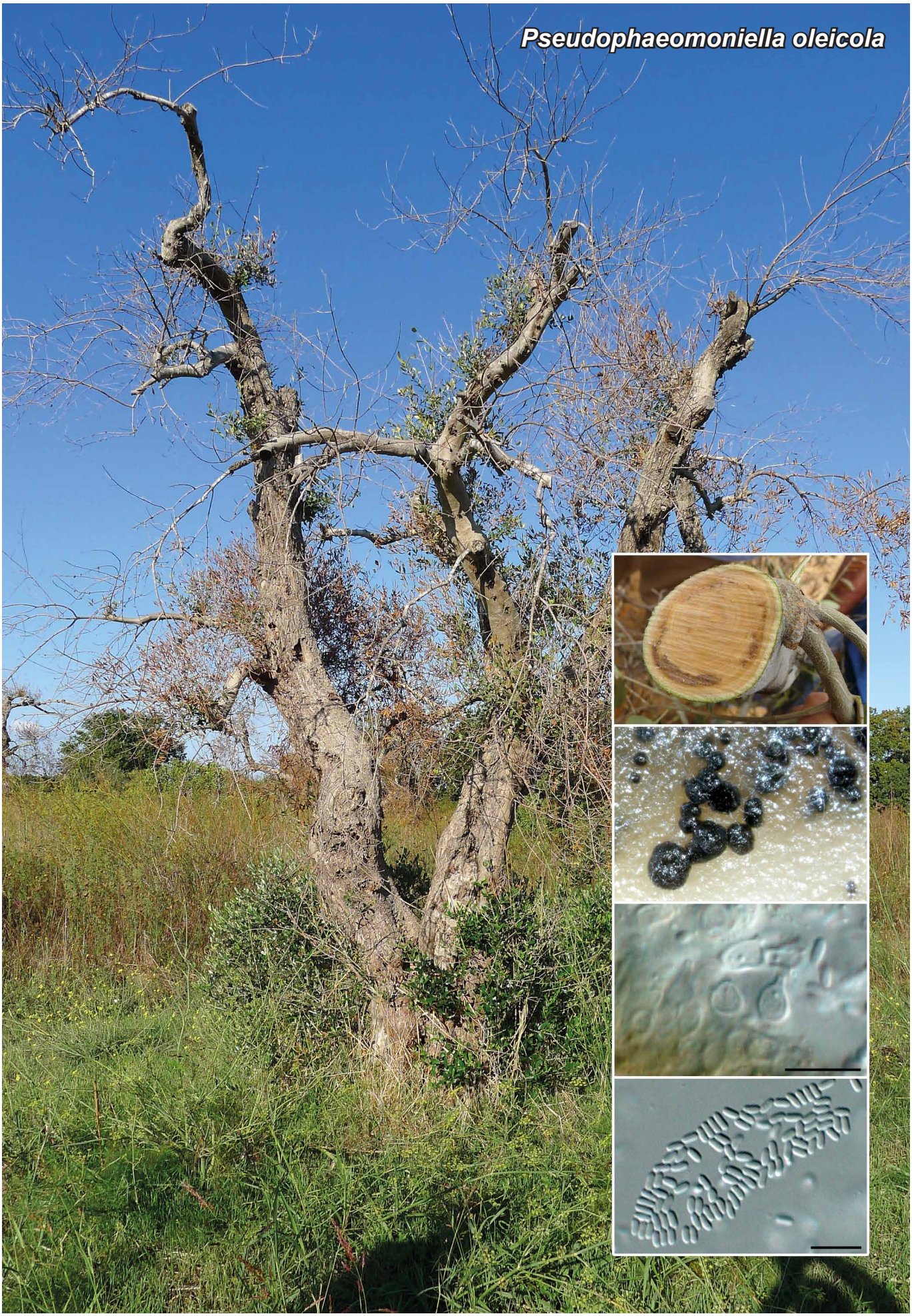
Pseudophaeomoniella oleicola

Fungal Planet 352 – 10 June 2015

Pseudophaeomoniella oleicola Nigro, Antelmi & Crous, *sp. nov.*

Etymology. Name reflects the host *Olea*, from which this species was isolated.

On OA. *Conidiomata* pycnidial, dark brown to black, semi-immersed, separate, 90–400 µm diam; wall of 2–3 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells lining the inner cavity, or 1-septate, subcylindrical, hyaline, smooth, 6–12 × 2–3 µm. *Conidiogenous cells* subcylindrical to ampulliform, terminal or intercalary, hyaline to green brown, smooth, 4–6 × 2–3 µm; apex 1 µm diam with minute periclinal thickening. *Conidia* solitary, hyaline, smooth, subcylindrical with obtuse ends, (2.5–)3(–3.5) × 1–1.5 µm. A yeast-like synasexual morph develops in culture on SNA.

Culture characteristics — Colonies spreading, with sparse aerial mycelium and feathery margins, reaching 60 mm diam after 1 mo at 25 °C. On MEA surface olivaceous grey, centre buff, outer region olivaceous grey to buff. On OA surface olivaceous grey to buff. On PDA surface buff with zones of isabelline, also in reverse.

Typus. Italy, Province of Lecce, Trepuzzi, isolated from black-discoloured xylem of wilting *Olea europaea* (*Oleaceae*) branch of plant infected by *Xylella fastidiosa* 'CoDiRO strain', May 2014, *F. Nigro* (holotype CBS H-22251, culture ex-type M24 = CBS 139192; ITS sequence GenBank KP411807, LSU sequence GenBank KP635970, ACT sequence GenBank KP411805, TEF sequence GenBank KP411802, MycoBank MB812472).

Notes — The genus *Pseudophaeomoniella* is morphologically similar to *Neophaeomoniella*, and the two genera are best separated based on their DNA phylogeny. The two species of *Pseudophaeomoniella* described here are associated with brown wood streaking of various olive varieties, with both young as well as centenarian trees affected. Preliminary inoculation tests confirmed the pathogenicity of both species to olive plants, where they induced extensive wood discoloration. This suggests that they play a role in Olive Quick Decline Syndrome. The interaction with *Neophaeomoniella* and infections by *Xylella fastidiosa* 'CoDiRO strain' need to be further investigated. In addition to the species occurring on olive trees, several phaeomoniella-like species described from *Prunus* wood (Damm et al. 2010) should also be placed elsewhere, as they do not reside to *Phaeomoniella* s.str. (see Chen et al. 2015).

Celerioriella Crous, *gen. nov.*

Etymology. Name reflects a rapid growth rate in culture.

Mycelium consisting of hyaline, smooth-walled hyphae, lacking chlamydospores. Conidia formed on hyphal cells and in pycnidia. *Conidiophores on hyphae* often reduced to conidiogenous cells; if not, then 2–3-celled, unbranched. *Conidiogenous cells* enteroblastic, rarely occurring as discrete phialides, mostly reduced to adelophialides or more often with collarettes formed directly on hyphal cells; collarettes distinct, cylindrical. *Conidia* aggregated in masses around the hyphae, hyaline, aseptate, sometimes septate when very large, cylindrical, with one end obtuse and the other end attenuated; smooth-walled, sometimes biguttulate with tiny droplets. *Conidiomata* pycnidial, solitary, subglobose, superficial, unilocular, opening by irregular rupture, with wall composed of brown *textura angularis*. *Conidiophores* hyaline, branched and septate. *Conidiogenous cells* enteroblastic, hyaline, consisting of discrete phialides that are ampulliform to conical, with cylindrical collarettes. *Conidia* hyaline, 1-celled, cylindrical, sometimes slightly curved, with both ends obtuse, smooth-walled, sometimes biguttulate with tiny droplets.

Type species. *Celerioriella dura*.
MycoBank MB812477.

Celerioriella dura (Damm & Crous) Crous, *comb. nov*. — MycoBank MB812478

Basionym. *Phaeomoniella dura* Damm & Crous, Persoonia 24: 73. 2010.

Description & Illustration — See Damm et al. (2010).

Celerioriella prunicola (Damm & Crous) Crous, *comb. nov*. — MycoBank MB812479

Basionym. *Phaeomoniella prunicola* Damm & Crous, Persoonia 24: 75. 2010.

Description & Illustration — See Damm et al. (2010).

Notes — The novel genera *Aequabiliella*, *Celerioriella*, *Minutiella*, *Neophaeomoniella*, *Paraphaeomoniella* and *Pseudophaeomoniella* in the *Phaeomoniellales* described here lack the typical hyphomycetous synasexual morph found in *Phaeomoniella* s.str. (if present, mostly reduced to loci on hyphae), and have pycnidial to acervular conidiomata. They are, however, best distinguished based on their DNA-based phylogeny.

Colour illustrations. Symptomatic olive tree in Italy; infected sapwood showing discoloration; conidiomata on OA, conidiogenous cells and conidia. Scale bars = 10 µm.

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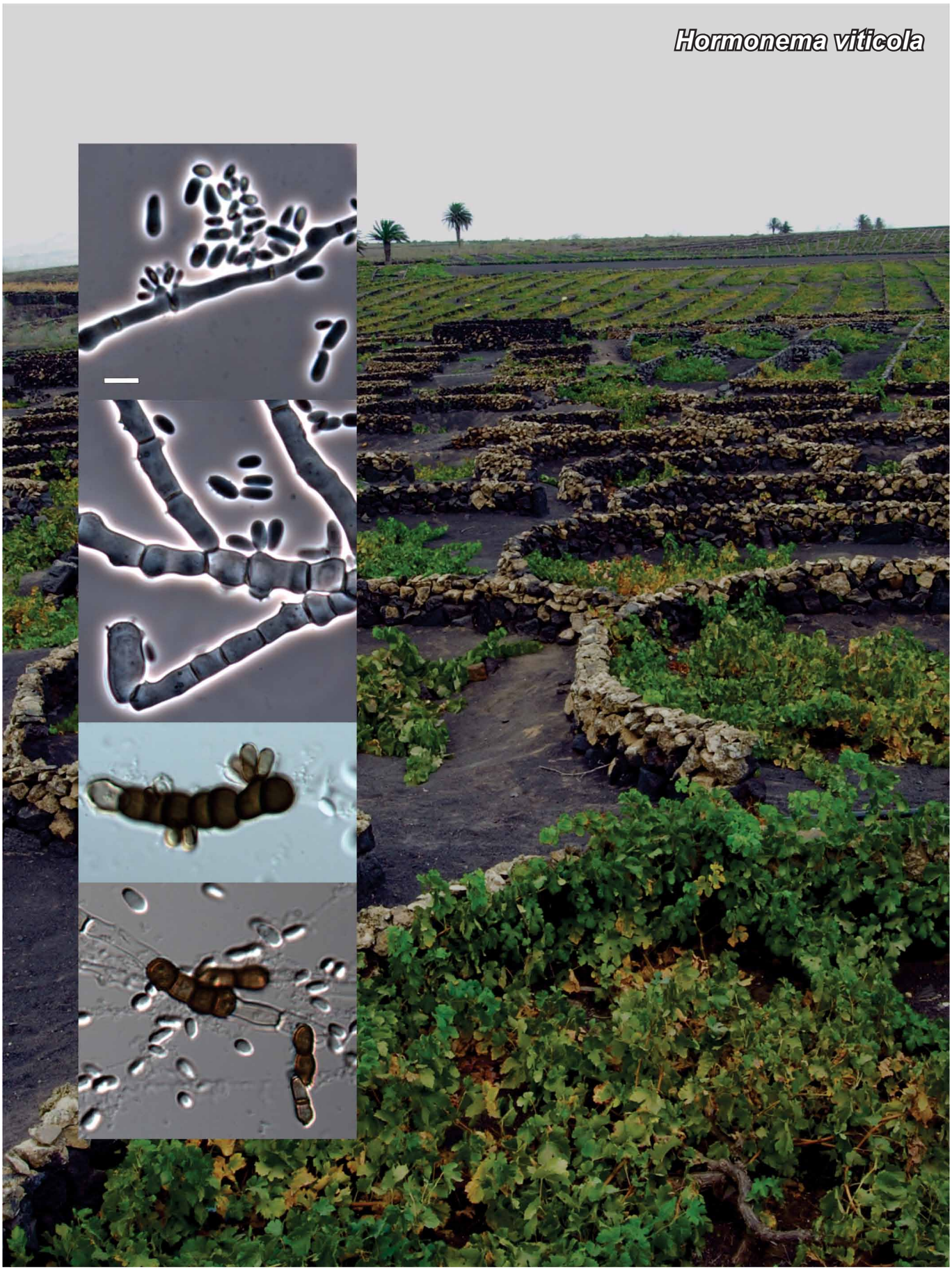

Hormonema viticola

Fungal Planet 353 – 10 June 2015

Hormonema viticola F. Laich & Stchigel, *sp. nov.*

Etymology. Named after the host (*Vitis vinifera*; vine), from which the fungus was isolated.

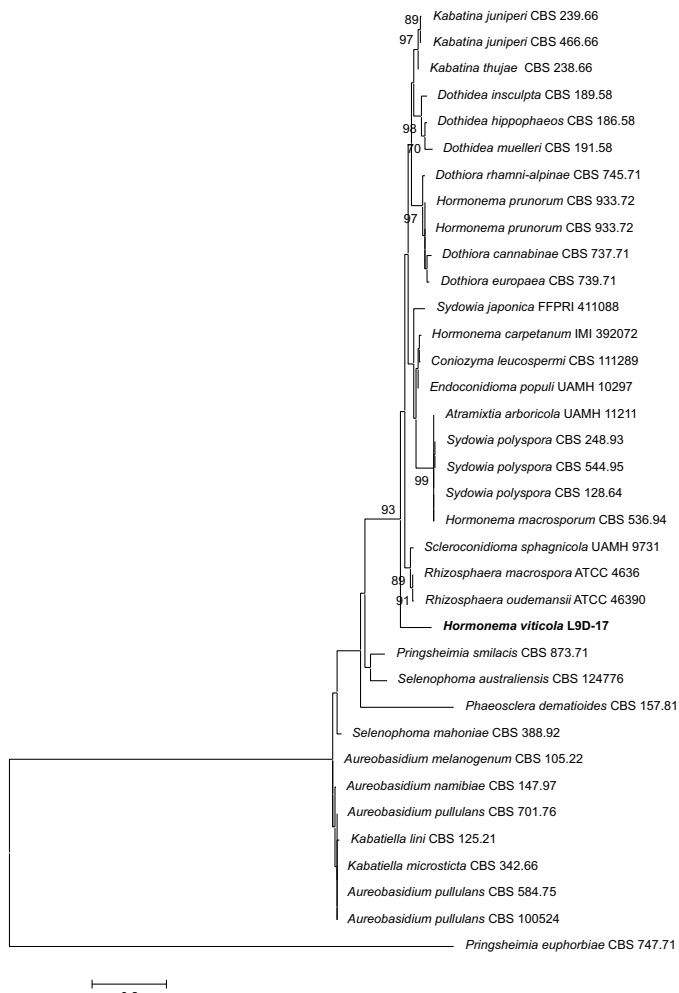
Classification — *Dothioraceae*, *Dothideales*, *Dothideomycetes.*

Mycelium composed of hyaline, branched, strongly septate hyphae, smooth- and thin-walled, swollen at septa, 3.5–6 µm diam, becoming monilliform and dark brown with age due to the production of solitary to catenate chlamydospores of up to 20 µm diam, with some segments remaining hyaline or nearly so. *Conidiogenous cells* integrated on hyphae, intercalary or terminal, inconspicuously to conspicuously denticulate. *Conidia* holoblastic, at first synchronously produced in small groups on lateral protrusions of the hyphae on short (1 µm long) conic-truncate denticles, and later percurrently produced along the hyphae and on side branches from larger denticles (1.0–1.5 µm long). Conidia hyaline at first, mostly aseptate, sometimes septate at the middle and slightly constricted at septa, smooth- and thin-walled, variable in shape but mostly ellipsoidal, clavate at both ends when septate, 5–17 × 4–10 µm, becoming dark brown and thick-walled with the age, smooth-walled to granulose due to deposition of a dark pigment on the cell surface, 12–20 × 4–12 µm. *Microcyclic conidia* produced by budding of both hyaline and pigmented conidia, produced singly or in chains of up to 4, at one or both ends but sometimes laterally, being smaller than the primary ones. *Endoconidia* also present in hyaline segments of hyphae, ellipsoidal, hyaline, 4–6 × 3–4 µm.

Culture characteristics — Colonies on 2 % MEA and on PDA attaining 21–25 mm diam in 7 d at 25 °C, flattened to slightly cerebriform and slimy due to the production of abundant conidia and of exopolysaccharides, light yellow (M. 4A4) or olive brown (M. 4E8 to 4F5) (Kornerup & Wanscher 1978), with white margins; reverse concolorous with the surface. Colonies on PCA attaining 21–24 mm diam in 7 d at 25 °C, flat, margins fimbriate, with olive (M. 3F4) radiations on a whitish background; reverse of the same colour as the surface. The fungus grows slowly at 10 °C and at 30 °C, and does not grow at 5 °C and at 35 °C. Maximum tolerant salt concentration, 10 % NaCl.

Typus. Spain, Canary Islands, Lanzarote, La Geria (28.9764; -13.6917), from fruit (grapes) of *Vitis vinifera* cv. Malvasia, Aug. 2009, coll. *F. Laich*, isol. *S.S. González-González* & *F. Laich* (holotype CBS H-22115, cultures ex-type FMR 13040 = L9D-17; ITS sequence GenBank KP641179, LSU sequence KF201298, MycoBank MB811828).

Notes — The genus *Hormonema* was erected in 1927 to introduce the new species *Hormonema dematioides* and *Hormonema pallida* (nom. inval.). Since then, another five species have been accepted in the genus: *H. carpetanum*, *H. macrosporum*, *H. merioides*, *H. prunorum* and *H. schizolunatum*. Differences in the conidiogenesis, in the physiology and the ITS1 and ITS2 sequences lead to separate *Hormonema* spp. from *Aureobasidium* spp., a morphologically closely related 'black yeast' (De Hoog et al. 1999, Yurlova et al. 1999). ITS-based phylogeny also placed *H. dematioides* in synonymy with *Sydowia polyspora* (Yurlova et al. 1999, Hambleton et al. 2003). The ITS-based phylogenetic tree confirms that the isolate L9D-17 represents a new species for the genus *Hormonema*. *Hormonema viticola* can easily be distinguished from the other species of the genus and from the asexual morphs of *Dothiora* spp., *Pringsheimia* spp. and *Guignardia miribelii* because it produces larger hyaline conidia (De Hoog & Hermanides-Nijhof 1977, Voronin 1986, Middlehoven & De Hoog 1997, Yurlova et al. 1999, Bills et al. 2004). *Aureobasidium pullulans* var. *melanogenum* (De Hoog & Hermanides-Nijhof 1977, Zalar et al. 2008) is morphologically the closest species, but *H. viticola* produces endoconidia (not seen in *A. pullulans* var. *melanogenum*) and secondary conidia in short chains (single conidia produced at one or both ends in *A. pullulans* var. *melanogenum*).



Maximum likelihood tree (MEGA v.6) was obtained from the ITS sequences of our isolate and other sequences retrieved from the GenBank nucleotide database (TreeBASE Submission ID. 17323). In the tree, branch lengths are proportional to distance. Bootstrap support values ≥ 70 % are indicated on the nodes. The new species proposed in this study is indicated in **bold** face.

Colour illustrations. La Geria, Lanzarote, Canary Islands, Spain. Young conidiogenous structures and conidia, old conidiogenous structures showing dark-coloured thallic and blastic conidia. Scale bar = 5 µm.

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Tephrocybella griseonigrescens

Fungal Planet 354 – 10 June 2015

Tephrocybella Picillo, Vizzini & Contu, *gen. nov.*

Etymology. *Tephrocybella* = a small *Tephrocybe*, with reference to the habit and colours shared with some species of that genus.

Classification — *Lyophyllaceae*, *Agaricales*, *Agaricomycetes*.

Species with a collybioid habit, without bright colours; *lamellae* adnate, attached, blackening when bruised. *Basidia* with inner siderophilous/cyanophilous granules. *Spores* hyaline, smooth, cyanophilous, inamyloid; *marginal cells* scattered, rare, hyaline, thin-walled; *pileipellis* as a cutis, pigment mainly vacuolar. *Hyphae* with clamp-connections. Terricolous. It is phylogenetically close to *Calocybe*.

Type species. *Tephrocybella griseonigrescens*.
MycoBank MB812272.

Tephrocybella griseonigrescens Picillo, Vizzini & Contu, *sp. nov.*

Etymology. From Latin: *griseus* and *nigrescens*, referring to the grey colour of the pileus and to the blackening of the lamellae on bruising, respectively.

Pileus 1.5–4.3 cm, subcampanulate to parabolic to convex, never fully applanate, occasionally with a shallow depression on disc, non-hygrophanous, margin entire, smooth, not translucent-striate, long inrolled; surface with a finely matted overlay of a pale greyish colour, tending to become areolate with age so revealing the brownish grey, bistre-brown, even liver brown colour of the underlying pellis. *Lamellae* adnate to shortly decurrent with a tooth, medium crowded, narrow, slightly falcate, with lamellulae of variable length, whitish to pale beige in young specimens, then of a deeper beige, tending to develop brownish spots with age, starting from the end attached to the stipe, strongly blackening on bruising, separable from the pileus context all together, edge smooth, concolorous. *Stipe* 2.3–4.7 × 0.3–0.8 cm, central, sometimes eccentric, cylindrical, slightly enlarged at base, often flattened lengthwise, fistulose, surface white pruinose at the apex, fibrillose elsewhere, strigose at base due to the presence of distinct white, wholly hairs; in mature specimens tending to discolour brown throughout starting from the base. *Context* brittle, chalky, fibrous in the stipe, whitish beige in the central part, concolorous with the external surface in the cortex, soon brownish in stipe base. *Odour* faint, aromatic-fruity, at times vaguely reminiscent of *Inocybe bongardii* or faintly mealy, *taste* mild. *Spore-print* white. *Spores* (*n* = 32) (3.2–)3.5–4.5(–5) × (1.5–)2–2.5(–3.0) µm; Q = 1.64–1.86; Q_m = 1.75; narrowly ellipsoid with suprahilar depression in side-view, narrowly ellipsoid in front-view, apiculus hardly prominent, mono- or multiguttulate, walls smooth, slightly thickened, strongly cyanophilic, inamyloid and non-dextrinoid. *Basidia* 15–23 × 4–5.5 µm, 2- or 4-spored, narrowly clavate, with siderophilous granulations, clamped at base; sterigmata up to 4 µm long. *Subhymenium* pseudoparenchymatic. *Hymenophoral trama* regular, consisting of short, subparallel, cylindrical hyphae, often constricted at septa, smooth, moderately thick-walled, slightly dextrinoid, 2.5–12.5 µm wide. *Cheilocystidia* present but rare and far between, in some specimens almost absent, subcylindraceous to lageniform, 31–41 × 3.5–6 µm, upper portion up to 17 µm long, walls thin and smooth. *Pleurocystidia* none. *Pileipellis*. Suprapellis a xerocutis of cylindrical, slightly interwoven, short-celled hyphae, 1.5–7.5 µm wide, with slightly thickened walls (0.5–0.6 µm), slightly dextrinoid, with some rising terminal element. Subpellis almost undifferentiated, with hyphae up to 15 µm wide. Pigment exclusively vacuolar. *Caulipellis* constituted by a cutis of parallel, cylindrical, smooth, short-celled hyphae, 1.5–6.5 µm wide, walls slightly thickened, slightly dextrinoid, with some rising terminal elements. *Caulocystidia* none. *Clamp connections* present everywhere, but not numerous. *Thromboplerous hyphae* none.

Habit, Habitat & Distribution — See MycoBank.

Typus. Italy, Latium, Rome, wood of Castel Fusano, N41°72'379" E12°32'175", under *Phillyrea angustifolia*, in a mixed wood with *Pinus pinea* and *Quercus ilex*, with *Laurus nobilis*, *Cistus incanus*, *Erica arborea* and *Ruscus aculeatus* also present, on sandy soil, 21 Nov. 2014, *B. Picillo* (holotype TO HG 21112014, ITS sequence GenBank KR105775, *rpb2* sequence GenBank KR105776, LSU sequence GenBank KR476785, MycoBank MB812273).

Additional specimens examined. Italy, Latium, Rome, wood of Castel Fusano, N41°72'379" E12°32'175", under *Phillyrea angustifolia*, in a mixed wood with *Pinus pinea* and *Quercus ilex*, with *Laurus nobilis*, *Cistus incanus*, *Erica arborea* and *Ruscus aculeatus* also present, on sandy soil, 28 Nov. 2014, *B. Picillo* (BP 14/419); ibid., 3 Dec. 2014, *B. Picillo* (BP14/430); ibid., 14 Dec. 2014, *B. Picillo* (BP14/454).

Notes — BP refers to the personal herbarium of B. Picillo. Phylogenetic hypotheses were constructed with Bayesian inference (BI) and Maximum likelihood (ML) criteria (MrBayes 3.2.2 and RAxML 7.3.2). As both Bayesian and Maximum likelihood analyses produced the same topology, only the Bayesian tree with both Bayesian posterior probabilities and Maximum likelihood bootstrap values are shown. Based on the combined ITS-*rpb2* analysis *Tephrocybella griseonigrescens* clusters with *Lyophyllum* cf. *maas-geesterani* sister to a clade consisting of *Lyophyllum maas-geesterani* and *Calocybe* (type *C. gambosa*). *Tephrocybella griseonigrescens*, characterised by greyish collybioid basidiomes, context turning black on handling, vacuolar pigmentation and presence of sublageniform cheilocystidia, superficially resembles some species of the genus *Tephrocybe* (type *T. rancida*) but sharply differs in having intracellular and not intraparietal and/or incrusting pigment in the hyphae of the pileipellis (Consiglio & Contu 2002, Kalamees 2004) and in ITS and *rpb2* sequences. *Lyophyllum maas-geesterani*, with blackening basidiomes, is phylogenetically close to *Tephrocybella griseonigrescens*, but differs in having yellowish lamellae, more elongate, ellipsoid-elongate to subcylindrical basidiospores, irregularly fusiform, smaller cheilocystidia and incrusting pigment in the pileipellis (Clémençon & Winteroff 1992). For phylogenetic tree (sequences selected following Bellanger et al. 2015), see MycoBank.

Colour illustrations. Castel Fusano, Rome, mixed wood with *Pinus pinea* and *Quercus ilex*, with *Phyllirea angustifolia*, *Laurus nobilis*, *Cistus incanus*, *Erica arborea* and *Ruscus aculeatus*, where the holotype was collected (B. Picillo); basidiomata, areolate pileus surface, stipe base with wholly hairs, spores and cheilocystidium (all from holotype). Scale bars = 1 cm (basidiomata), 10 µm (microscopic elements). All photos by B. Picillo.

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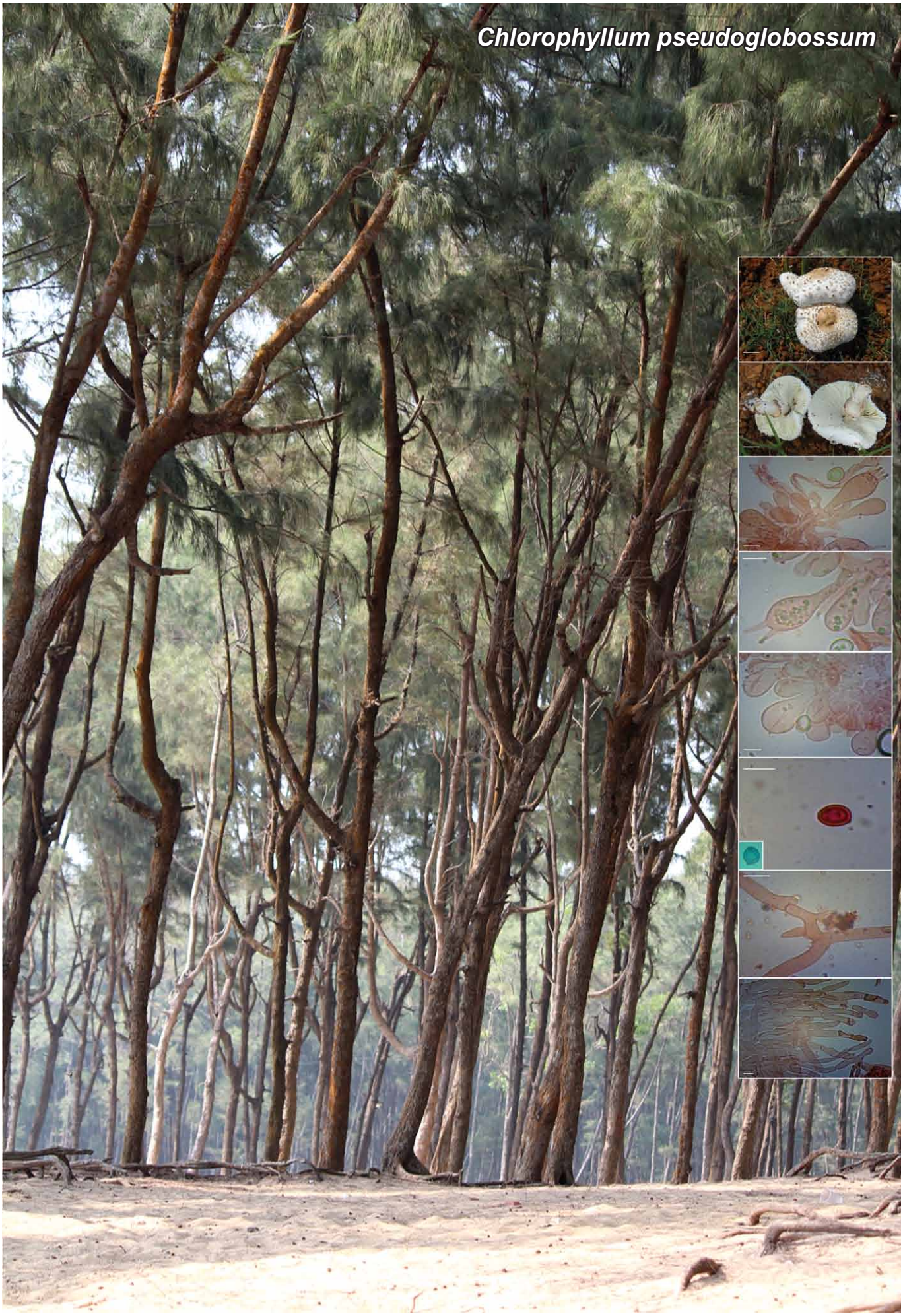

Chlorophyllum pseudoglobossum

Fungal Planet 355 – 10 June 2015

Chlorophyllum pseudoglobossum J. Sarkar, A.K. Dutta & K. Acharya, *sp. nov.*

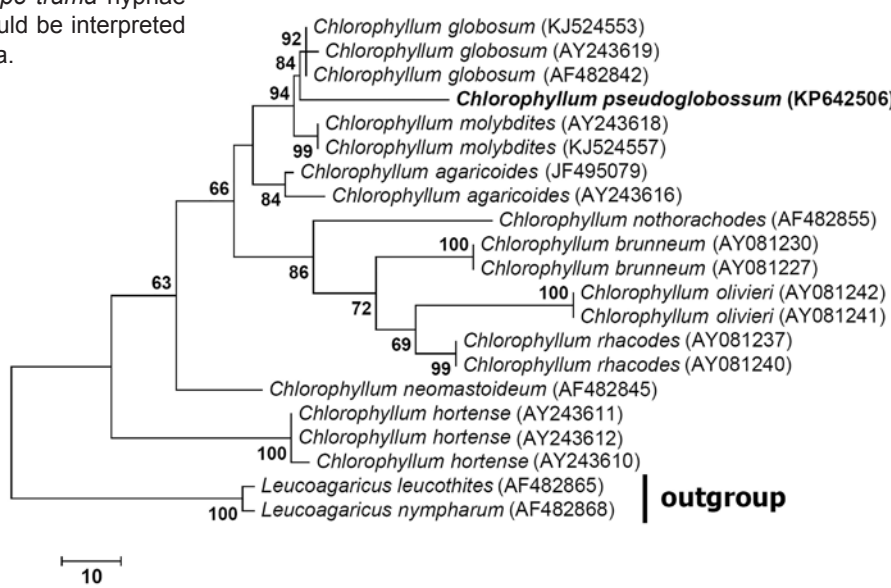
Etymology. 'pseudo' meaning 'false' and the epithet 'globossum', as this species closely resembles *C. globossum* (Mossebo) Vellinga.

Classification — *Agaricaceae*, *Agaricales*, *Agaricomycetes*.

Fruit body agaricoid, small to medium-sized. *Pileus* 45–62 mm diam, convex, with a distinct umbo at the disc; surface white to whitish, covered with concentrically arranged patches of cinnamon to sienna coloured squamules, continuous on disc, elsewhere disrupted; margin non-striate to finely short striate. *Lamellae* free, crowded, white to cream with slight greenish tint; lamellulae 1–2-tiered, concolorous. *Stipe* 35–45 × 5–6 mm, central, subcylindrical, broader towards base (up to 10 mm), slightly curved downward, hollow, surface whitish, changing colour to light sienna when bruised. *Annulus* well developed, persistent, ascending, double crowned; upper surface whitish; lower surface brownish. *Odour* and *taste* mild. *Spore-print* white. *Basidiospores* 10–10.7(–11) × (7–)8–8.5(–9.5) µm [X_m = 10.66 ± 0.39 × 8.2 ± 0.94, Q = 1.1–1.4, Q_m = 1.3 ± 0.11], subglobose to ellipsoid, smooth, hyaline, thick-walled (up to 1 µm thick), with a distinct germ pore, dextrinoid, metachromatic in cresyl blue. *Basidia* (36–)38–40(–43) × 11–12.5(–14) µm, clavate, 2-spored, often 4-spored; sterigmata excessively long (11.5–18 µm) when 2-spored, comparatively shorter (6–7(–8) µm) when 4-spored; oil granules present when viewed with KOH; clamps on basal septa absent. *Pleurocystidia* absent. *Lamellae edge* sterile with well-developed cheilocystidia. *Cheilocystidia* 32–38(–39) × 17–18 µm, broadly clavate, hyaline; wall 0.7–1 µm thick. *Pileipellis* a hymeniderm made up of narrowly clavate to subclavate, colourless, thin-walled terminal elements, (32–)35–39(–48) × 5.5–6.5(–7.5) µm diam. *Stipitipellis* composed of filamentous, 3.5–6 µm broad, hyaline, thin-walled hyphae. *Stipe trama* composed of filamentous, 7–11 µm broad, hyaline, wall up to 0.7 µm thick. *Stipitipellis* and *stipe trama* hyphae with many anastomosing structures that could be interpreted as clamps when they are present near septa.

Typus. India, West Bengal, Midnapur district, Nandigram-I block, among a few scattered grasses in roadside filled with clay, 29 July 2010, *C.K. Maiti* (holotype CUH AM155, ITS sequence GenBank KP642506, LSU sequence GenBank KR080484, MycoBank MB811336).

Notes — Presence of several macro- and micro-morphological characters such as a white pileus with patches of cinnamon to sienna coloured squamules; white to cream with slightly greenish tint lamellae; subcylindrical, white stipe changing to light sienna on bruising; white spore-print; a double crowned annulus, coloured white on the upper and brownish towards lower; subglobose to ellipsoid basidiospores with a distinct germ pore; and presence of broadly clavate cheilocystidia point the present species to the globosum/molybdites group. *Chlorophyllum globosum* differs from the presently described species in having a larger pileus, smaller basidiospores (8–11 × 5–6(–7) µm), and relatively smaller basidia (15–22 × 7–8 µm) that are mainly 4-spored (Mossebo et al. 2000, Vellinga 2002). *Chlorophyllum molybdites*, described for the first time from the tropical swimming-paradise of Germany (Massee 1898) and predominantly found in India, differs from the newly described taxon in having smaller (8.5–)9–10(–10.5) × 6.5–8 µm, broadly amygdaliform basidiospores; presence of only 4-spored basidia with smaller sterigmata (3–4.5 µm long); brownish vacuolar pigment within cheilocystidia; and a palisade type pileipellis made up of terminal elements ranged 8–16 µm with brown to dark brown vacuolar pigment (Ge & Yang 2006). *Chlorophyllum pseudoglobossum* resembles *C. sphaerosporum*, originally described from China (Ge & Yang 2006), but differs by its white to creamy white stipe which becomes light sienna when bruised or damaged, ellipsoid basidiospores having a distinct germ-pore, mostly 2-spored and often 4-spored basidia, and excessively large sterigmata in case of 2-spored basidia.



Colour illustrations. India, West Bengal, vegetation cover of Midnapur district near the vicinity of Bay of Bengal; basidiocarps, lamellae side, tetrasterigmatic basidia, bisterigmatic basidia, cheilocystidia, basidiospores, anastomosing structures of the stipitipellis hyphae, pileipellis elements (all from holotype). Scale bars = 10 mm (basidiocarps), 10 µm (microscopic structures).

Evolutionary analyses of *Chlorophyllum* species was conducted with MEGA v. 6 (Tamura et al. 2013) using Maximum Parsimony. *Leucoagaricus leucothites* and *L. nympharum* were selected as outgroup following Vellinga (2003). Bootstrap support values ≥ 50 % are given at the nodes. The phylogenetic position of *C. pseudoglobossum* is indicated in **bold** face.

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Triadelphia disseminata

Fungal Planet 356 – 10 June 2015

Triadelphia disseminata Madrid & J. Edathodu, *sp. nov*.

Etymology. The name refers to the origin of the fungus, isolated from a disseminated infection in an immunocompromised human patient.

Classification — *Microascales*, *Sordariomycetes.*

Vegetative hyphae septate, branched, straight to flexuous, pale olivaceous, smooth- and thin-walled, 1–3.5 µm wide, forming strands and coils, with anastomoses. *Conidia* of three kinds produced in culture: i) (sub)cylindrical with obtuse ends, pale to dark brown, smooth- and rather thick-walled, with 1 septum situated above the middle (rarely aseptate), often slightly constricted at the septum, 5–11 × 2.5–4 µm, with an inconspicuous basal pore; conidiogenous cells subcylindrical to flask-shaped, subhyaline to pale brown, smooth-walled, 2.5–7.5 × 2–3.5 µm, initially isolated or in small clusters, later densely aggregated into 38.5–72 µm wide sporodochia; ii) allantoid to reniform, hyaline to pale brown, smooth- and thin-walled, aseptate, with obtuse ends, 5.5–11.5 × 2–3.5 µm; conidiogenous cells solitary to aggregated, flask-shaped, hyaline to pale brown, smooth and thin-walled, 4–7.5 × 2.5–3.5 µm; iii) obclavate to acicular, straight to slightly curved, hyaline to pale olivaceous brown, smooth- and thin-walled, 3–4-septate, 43–227 × 3–4 µm, with a truncate base and a cylindrical body that gradually tapers into a long and narrow beak with an obtuse end, about 1 µm wide near the apex; conidiogenous cells solitary, subcylindrical, hyaline, smooth-walled, length indeterminate, 2.5–3 µm wide.

Cultural characteristics — Colonies after 14 d at 24 °C attaining 20 mm on CMA and MEA and 21 mm on OA and SNA. Colonies on CMA, OA and SNA brown to black, powdery, flat, with scarce grey to dark brown mycelial tufts at the centre; colonies on MEA pale grey and funiculose at the centre, dark brown and glabrous at the periphery. Optimum growth temperature 36 °C, minimum between 12 and 18 °C, maximum above 40 °C.

Typus. Saudi Arabia, Riyadh Province, Riyadh, from a disseminated infection in an immunocompromised patient, Feb. 2012, coll. & isol. *S. AlThawadi* (holotype CBS H-21837, cultures ex-type CBS 138592 = UTHSCSA R-4903; ITS sequence GenBank KC489510, LSU sequence GenBank KC489511, MycoBank MB811257).

Notes — The genus *Triadelphia* was erected by Shearer & Crane (1971). The name refers to the Triadelphia natural reservoir in Maryland, USA, where the type species, *T. heterospora* was isolated from wood blocks submerged in the Patuxent River (Shearer & Crane 1971). This genus currently includes 16 species, and is characterised by the ability to produce numerous (up to five) synasexual morphs on natural substrates and in culture (Constantinescu & Samson 1982, Tzean & Chen 1989, Révay 1992). These stages differ in the morphology and pigmentation of the conidia and conidiogenous cells, and were studied in detail for several species by Constantinescu & Samson (1982). A few atypical species, such as *T. uniseptata* and *T. centroseptata* apparently produce only one kind of asexual morph (Kirk 1983, Venkateshwarlu et al. 1996).

Colour illustrations. View of King Faisal Hospital and Research Centre, where *T. disseminata* was isolated; Colony on OA after 14 d at 24 °C and conidiophores and conidia of synasexual stages i), ii) and iii), respectively, from top to bottom. Scale bars = 5 µm.

In nature, *Triadelphia* spp. occur as saprophytes on plant material and in soil (Maggi et al. 1978, Constantinescu & Samson 1982), but one species, i.e. *T. pulvinata*, has been reported from infections in humans in Saudi Arabia. These clinical case reports include mild, eczematoid, scaly lesions on the skin of the eyelids of an apparently immunocompetent patient (Al-Hedaithy 2001), and a fatal disseminated infection in a woman with leukaemia (Edathodu et al. 2013). The isolate obtained in the latter case was tentatively identified as *T. pulvinata* based on morphology and 97 % identity to the ITS sequence of the ex-type isolate. However, this relatively low percentage identity later raised doubts about the identification and a more detailed examination of the isolate was carried out. It revealed morphological differences, which indicated that the clinical isolate is indeed a different species, named herein *T. disseminata*. *Triadelphia pulvinata* produces shorter obclavate to acicular conidia with more septa (40–160 µm long, 5–7-septate), slightly shorter allantoid to reniform conidia (6–9.5 µm long) and smaller conidiogenous cells (3–5 × 2–2.5 µm) in the sporodochium-like fruiting bodies (Constantinescu & Samson 1982).

Triadelphia pulvinata was originally described by Maggi et al. (1978) from the rhizosphere of *Loudetia simplex* in the Ivory Coast. The protologue described only one asexual morph (Maggi et al. 1978), but three were reported later by Constantinescu & Samson (1982) and Tzean & Chen (1989). No sexual morph has been linked to this species, but another *Triadelphia* species, *T. uniseptata*, was reported as the asexual morph of *Ascolacicola aquatica*, a member of *Sordariales* (Ranghoo & Hyde 1998, Ranghoo et al. 1999). BLAST homology searches with the LSU sequences of the ex-type isolates of *T. heterospora* (generic type), *T. pulvinata* and *T. disseminata* did not confirm an affinity of the genus with the *Sordariales* and the closest matches were members of *Hypocreomycetidae* in the orders *Microascales* (such as *Dendroclathra lignicola* EU873530 and *Graphium fabiforme* KM495387) and *Hypocreales* (such as *Hypomyces subiculosus* AJ459309 and *Elaphocordyceps inegoensis* AB027368) with 91–94 % identity. These results suggest that *Triadelphia* is polyphyletic and in need of a phylogenetic revision. Under unitary nomenclature, *T. uniseptata* might need to be considered a synonym of *Ascolacicola aquatica*.

It was not possible to obtain the *T. pulvinata* isolate reported by Al-Hedaithy (2001) from a case of eyelid infection, so the fungus cannot by characterised molecularly. With the brief description published by that author, which lacks conidial sizes, it is difficult to determine if the agent was *T. pulvinata* s.str. However, the obclavate to acicular conidia were described with 5–6 septa, which is in the range of that species. Al-Hedaithy & Leathers (1987) reported the isolation of *T. pulvinata* from soil contaminated with bat guano in Saudi Arabia and its pathogenicity to experimentally infected mice. *Triadelphia* seems to be an uncommon fungal genus, but must be taken into account in the mycological study of cases of phaeohyphomycosis. Potential pathogenicity factors are the ability to produce melanin and to grow (observed in at least one species, *T. disseminata*) above 37 °C.

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Colletotrichum abscissum

Fungal Planet 357 – 10 June 2015

Colletotrichum abscissum Pinho & O.L. Pereira, *sp. nov.*

Etymology. Named after the main symptom of the disease, abscission of the fruits.

Classification — *Glomerellaceae*, *Glomerellales*, *Sordariomycetes*.

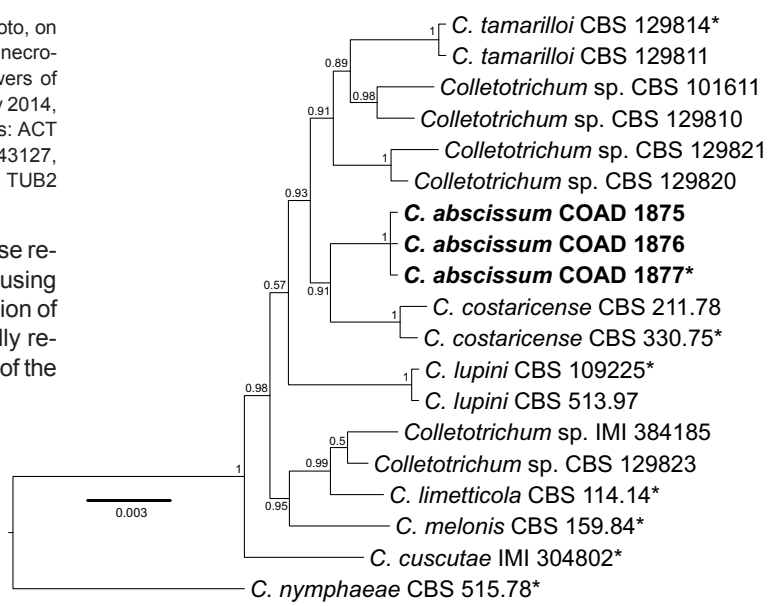
Sexual morph not observed. Asexual morph on PDA. *Vegetative hyphae* 2–5.5 µm diam, hyaline to pale, smooth-walled, septate, simple or branched. *Chlamydospores*, *conidiomata* and *setae* not observed. *Conidiophores* formed directly on hyphae, up to 25 µm long, hyaline to pale brown, smooth-walled, septate, simple or branched. *Conidiogenous cells* hyaline, smooth-walled, cylindrical to ampulliform, often integrated, 6–20 × 2–4 µm, opening 1–1.5 µm diam, collarette 1–1.5 µm long. *Conidia* hyaline, smooth-walled, aseptate, straight, cylindrical, base rounded, apex acute, sometimes narrowed at the centre, 7.5–12.5 × 2.5–3.5 µm. *Appressoria* single or in dense clusters, pale to dark brown, smooth-walled, subglobose to ellipsoidal, with entire, undulate or sometimes lobate margin, 5.5–12.5 × 5–7 µm.

Cultural characteristics — Colonies on PDA reaching 30 mm diam after 1 wk at 25 °C in the dark; flat with entire margin, aerial mycelium initially white, becoming grey to black at the centre, with sparse sporulation.

Typus. Brazil, São Paulo, Brotas, on flowers of *Citrus sinensis* var. 'Valencia' (sweet orange) with petal necrosis, 12 July 2014, *A.L. Silveira* (holotype VIC 42850, culture ex-type COAD 1877; ACT sequence GenBank KP843141, CHS-1 sequence GenBank KP843132, GAPDH sequence GenBank KP843129, HIS3 sequence GenBank KP843138, ITS sequence GenBank KP843126, TUB2 sequence GenBank KP843135, LSU sequence GenBank KR821136, MycoBank MB811732).

Additional specimens examined. Brazil, São Paulo, Gavião Peixoto, on flowers of sweet orange variety Valencia (*Citrus sinensis*) with petal necrosis, 12 July 2014, *A.L. Silveira* (COAD 1876); Itapetininga, on flowers of *Citrus sinensis* var. 'Natal' (sweet orange) with petal necrosis, 12 July 2014, *A.L. Silveira* (COAD 1875). Sequence GenBank accession numbers: ACT KP843139, KP843140; CHS-1 KP843130, KP843131; GAPDH KP843127, KP843128; HIS3 KP843136, KP843137; ITS KP843124, KP843125; TUB2 KP843133, KP843134.

Notes — Postbloom fruit drop (PFD) is a severe disease restricted to flowers of sweet oranges, lemons and limes, causing reddish brown and necrotic lesions on the petals, abscission of fruitlets and retention of calyces. This disease was initially reported in Belize and now is distributed in the humid tropics of the Americas, with severe outbreaks occurring in the citrus crops in Belize, Brazil, Costa Rica, Caribbean islands, Mexico and the USA. Although *Colletotrichum acutatum* s.lat. and *C. gloeosporioides* s.lat. cause PFD, the first species is more important, because it is responsible for approximately 80 % of the cases in Brazil (Lima et al. 2011). Several cryptic species have been proposed within the *C. acutatum* complex based on the analysis of DNA sequence data (Damm et al. 2012a). However, the accurate identification of the causal agent of the PFD has not been performed by molecular data. The strains obtained from symptomatic plants were distinguished from other *Colletotrichum* species based on a multilocus phylogenetic tree of six genes (alignment and tree were deposited into TreeBASE under accession number 17159). *Colletotrichum abscissum* is phylogenetically close but clearly distinct from *C. costaricense*. In addition, the new species differs from *C. costaricense* by its shorter and narrower conidia. Molecular comparisons show that the sequences obtained in this study have 100 % identity with the ITS (GenBank EU168901) and GAPDH (GenBank EU168905) sequences from isolate ALB-IND-25, previously identified as *C. acutatum* (Peres et al. 2008). Among the 16 species of *Colletotrichum* reported on *Citrus* spp., only *C. citri*, *C. godetiae*, *C. johnstonii* and *C. limetticola* belong to the *C. acutatum* species complex (Damm et al. 2012a, Huang et al. 2013). All these taxa are morphologically and phylogenetically distinct from *C. abscissum*.



Multilocus phylogenetic tree inferred from Bayesian analysis based on the combined TUB2, ITS, GAPDH, CHS-1, HIS3 and ACT sequences. The analysis was performed twice with 10 million generations in MrBayes v. 3.1.1. The Bayesian posterior probability values are indicated at the nodes. The tree was rooted to *C. nymphaeae*. Ex-type strain is marked with an asterisk (*) and specimens representing the new species are highlighted in **bold** face.

Colour illustrations. Flower of sweet orange; petal necrosis; stigma necrosis leading to abscission of fruitlets and retention of calyces; conidia; appressoria. Scale bars = 10 µm.

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Polyschema sclerotigenum

Fungal Planet 358 – 10 June 2015

Polyschema sclerotigenum Wiederhold, Deanna A. Sutton, Sandoval-Denis & Guarro, *sp. nov.*

Etymology. Referring to the production of sclerotium-like structures.

Classification — *Incertae sedis*, *Pleosporales*, *Dothideomycetes.*

Mycelium consisting of brown, septate, thick-walled hyphae, at first smooth, becoming verrucose, 2–4.5 µm wide. *Conidiophores* more or less differentiated, single, erect or flexuous, usually unbranched, subcylindrical, up to 45 µm long, 2.5–3 µm wide, brown, smooth-walled or verruculose. *Conidiogenous cells* borne terminally on conidiophores, single or in short chains of up to three cells, monotretic, rarely polytretic, discrete, spherical to subspherical, 5–7.5 × 5–7 µm, pale brown, verruculose to tuberculate. *Conidia* single, cylindrical or sigmoid, rounded at both ends, 5–16-septate, mostly constricted at septa, brown to dark brown, verrucose to tuberculate, 36–65(–75) × 7–8 µm. *Sclerotium*-like structures often present, borne on the aerial mycelium by proliferation of terminal or intercalary hyphal cells that become globose to subglobose, 7–11 × 6–9 µm, thick-walled, verrucose and dark-brown, forming dense clusters of cells, 32–90(–125) × 23–85 µm.

Culture characteristics — Colonies on OA at 25 °C attaining 15–20 mm diam in 14 d, light brown to yellow-brown (5D5-F6) (Kornerup & Wanscher 1978), flat, velvety. On PCA at 25 °C attaining 14–16 mm diam in 14 d, green to dark green (29F2-F6), flat, velvety. On PDA at 25 °C attaining 21–25 mm diam in 14 d, green to dull-green (30E2-E4), slightly folded and raised centre, velvety. On MEA at 25 °C attaining 10–12 mm diam in 14 d, white to yellow-white (4A2) with dark brown (6F6) margin, velvety, flat. Optimum temperature for growth 25–30 °C, minimum 20 °C, maximum 40 °C.

Typus. USA, Texas, Houston, left foot of a human patient, Mar. 2014, *D.A. Sutton* (holotype CBS H-22122, cultures ex-type CBS 139502 = FMR 13628 = UTHSC DI14-305; ITS sequence GenBank KP769975, LSU sequence GenBank KP769976, MycoBank MB811408).

Colour illustrations. View of Houston skyline from Buffalo Bayou, Houston, Texas (image credit: Wilmer Gaviria); colony on PCA after 14 d at 25 °C, conidiophores and sclerotium-like structures, conidiogenous cells bearing conidia, arrow shows a conidiogenous pore; sclerotium-like structure. Scale bars = 10 µm.

Notes — The genus *Polyschema*, with *P. terricola* as the type species, was erected by Upadhyay (1966) and characterised by mono- or polytretic, globose to clavate conidiogenous cells, producing septate, smooth-walled, verrucose or tuberculate, pigmented, solitary conidia (Castañeda et al. 2000). Currently the genus comprises a total of 20 species. *Polyschema sclerotigenum* morphologically resembles *P. chambalense* and *P. larviforme*. However, the conidia of *P. chambalense* are shorter (13.5–49 × 6–11 µm) and less septate (2–9 septa) and with an echinulate to verrucose surface, while those of *P. larviforme* are wider (12–20 µm) and less septate (4–12 septa). A distinctive feature of *P. sclerotigenum* is the production of abundant sclerotium-like structures, which have never been reported before for *Polyschema*.

Polyschema species are usually isolated from soil and decaying wood material. To our knowledge this is the first report of a *Polyschema* sp. isolated from a human clinical specimen. Although the pathogenic role of the isolate is unknown, *P. sclerotigenum* is a thermotolerant fungus able to grow and sporulate up to 40 °C, which is an important virulence factor of fungal opportunistic pathogens.

According to a sequence comparison with available data (SSU, LSU and ITS), the type species of *Polyschema* clusters with *P. congolense* and *P. larviforme* within the *Pleosporales* (*Pezizomycotina*), being *incertae sedis* at family level but closely related with members of the *Lophiostomataceae* and *Lentitheciaceae*. Based on a megablast search of NCBIs GenBank nucleotide database, the closest hits using the LSU sequence are *Polyschema larviforme* CBS 463.88 (GenBank EF204503, Identities = 839/858 (98 %), Gaps = 8/858 (0 %)), *Polyschema congolense* CBS 542.73 (GenBank EF204502, Identities = 824/850 (97 %), Gaps = 13/850 (1 %)), *Corynespora olivacea* CBS 484.77 (GenBank JQ044448, Identities = 854/897 (95 %), Gaps = 7/897 (0 %)) and *Polyschema terricola* CBS 301.65 (GenBank EF204504, Identities = 831/863 (96 %), Gaps = 15/863 (1 %)). The closest hits using the ITS sequences had the highest similarity to an unidentified ascomycota fungus (GenBank HQ607792, Identities = 549/596 (92 %), Gaps = 21/596 (3 %). Based on a ITS pairwise sequence alignment in the CBS-KNAW database, the closest sequences had the highest similarity to *Polyschema congolense* CBS 542.73 (Identities = 510/559 (91 %), Gaps = 13/559 (2 %)) and *Polyschema terricola* CBS 301.65 (Identities = 420/470 (89 %), Gaps = 19/470 (4 %)).

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Budhanggurabania cynodonticola

Fungal Planet 359 – 10 June 2015

Budhanggurabania P. Wong, Khemmuk & R.G. Shivas, *gen. nov.*

Etymology. Name derived from the combination of *budhang* and *guraban*, meaning black and fungus, respectively, in the traditional language of Wiradjuri people of Australia, on whose country the fungus was first discovered.

Classification — *Magnaporthaceae*, *Magnaporthales*, *Sordariomycetes.*

Mycelium hyaline, becoming dark grey to black with age; hyphae septate, branched, smooth. *Conidiophores* hyaline, single or branched. *Conidiogenous cells* hyaline, phialidic, straight to slightly curved, narrowed at the base. *Conidia* hyaline, aggregated in slimy heads, cylindrical or slightly curved, apex rounded, base acute, aseptate, hyaline, smooth. *Ascomata* on infected stolons, rhizomes and roots, ostiolate perithecia, ampulliform, includes a short apical neck, periphysate, dark brown to black, superficial, solitary. *Asci* obovoid to saccate, 8-spored, ascus wall deliquescent at maturity within the ascomata releasing the ascospores that extrude from the ostiole. *Ascospores* multi-seriate, ellipsoidal with rounded ends, 3 dark brown septa, slightly constricted at each of the septa; central cells brown, with 4–6 oblique striations in lateral view; apical cells subhyaline to pale brown, smooth.

Type species. Budhanggurabania cynodonticola.
MycoBank MB811696.

Budhanggurabania cynodonticola P. Wong, Khemmuk & R.G. Shivas, *sp. nov.*

Etymology. Named after the host genus, *Cynodon*, from which it was isolated.

Mycelium hyaline becoming dark grey to black with age; hyphae septate, branched, smooth, 1–3 µm wide. *Conidiophores* hyaline, single or branched. *Conidiogenous cells* hyaline, phialidic, straight to slightly curved, 5–29 × 1.5–3 µm, narrowed at the base. *Conidia* hyaline, aggregated in slimy heads, cylindrical or slightly curved, 5.5–9(–12) × 1.5–2 µm, apex rounded, base acute, aseptate, hyaline, smooth. *Ascomata* occasionally formed on agar, present on infected stolons, rhizomes and roots, ostiolate perithecia, ampulliform, 300–400 µm high × 200–350 µm diam, includes a short apical neck 75–100 µm high × 70–80 µm wide, periphysate, dark brown to black, superficial, solitary. *Asci* obovoid to saccate, 50–75 × 25–35 µm, 8-spored, ascus wall deliquescent at maturity within the ascomata releasing the ascospores that extrude from the ostiole. *Ascospores* multi-seriate, ellipsoidal with rounded ends, 25–38 × 10–15 µm, with 3 dark brown septa, slightly constricted at each of the septa, middle septum 3.5–4.5 µm wide, apical and basal septa 1–2.5 µm wide; central cells brown, with 4–6 oblique striations in lateral view; apical cells 3–6 µm long, subhyaline to pale brown, smooth.

Culture characteristics — On quarter-strength potato dextrose agar (QPDA), colonies reaching 3.5–4 cm diam after 1 wk at 25 °C in the dark, mostly adpressed with sparse to moderately abundant grey aerial mycelium, becoming darker with age; reverse dark grey to black, paler at the margin. On PDA, colonies grow more slowly, reaching 3 cm diam after 1 wk.

Colour illustrations. The patch disease on a fairway at Deniliquin Golf Club, Deniliquin, New South Wales; conidiophore and conidia from ex-holotype culture; ascomata, asci with 8 ascospores and ascospores from infected roots of *Cynodon dactylon*. Scale bars (from left to right) = 10 µm, 100 µm, 10 µm, 10 µm.

Typus. Australia, New South Wales, Deniliquin, Deniliquin Golf Club, from rotted roots of *Cynodon dactylon*, 1 Mar. 2012, *P.T.W. Wong PW13015* (holotype BRIP 59305, includes ex-type culture; ITS sequence GenBank KP162134, LSU sequence GenBank KP162140, SSU sequence GenBank KP162130, TEF1 sequence GenBank KP162138, *mcm7* sequence GenBank KP162131, RPB1 sequence GenBank KP162143, MycoBank MB811697).

Additional material examined. Australia, loc. id., from rotted roots of *C. dactylon*, 1 Mar. 2012, *P.T.W. Wong PW13016*, *PW13017* (BRIP 59306, BRIP 59307); Northern Territory, Darwin, Darwin Bowling Club, from rotted roots and stolons of *C. dactylon*, Feb. 2013, *P.T.W. Wong PW13051* (BRIP 61692); Queensland, Townsville, Townsville Golf Club, from rotted roots and stolons of *C. dactylon*, Oct. 2014, *P.T.W. Wong PW14042* (BRIP 61818).

Notes — Phylogenetic analysis places *Budhanggurabania* in the *Magnaporthaceae* close to other genera with similar phialidic conidial states, including *Buergenerula*, *Gaeumannomyces*, *Magnaporthiopsis* and *Pseudophialophora* (Klaubauf et al. 2014, Luo et al. 2014). (For phylogenetic tree, see MycoBank.) *Budhanggurabania* differs from these genera by producing distinctive 3-septate ascospores, with the larger central cells dark brown and striate; and the smaller end cells pale brown and smooth.

Budhanggurabania cynodonticola was isolated from diseased roots and stolons of *Cynodon dactylon* from bowling greens and golf course fairways and greens with a serious patch disease in New South Wales, Queensland and the Northern Territory. Pathogenicity tests in the glasshouse have shown that *B. cynodonticola* is highly pathogenic to *C. dactylon*, causing extensive root and stolon rotting. Ascomata of *B. cynodonticola* are occasionally formed in culture and often occur on diseased roots, stolons and rhizomes of *C. dactylon* when incubated in humid chambers at 20–30 °C in diffuse daylight for several weeks. Ascospores from these ascomata germinate at 25 °C on QPDA + 100 mg of novobiocin/L of medium, to form colonies that produce the asexual state within a few days. The conidia also germinate readily on QPDA or PDA.

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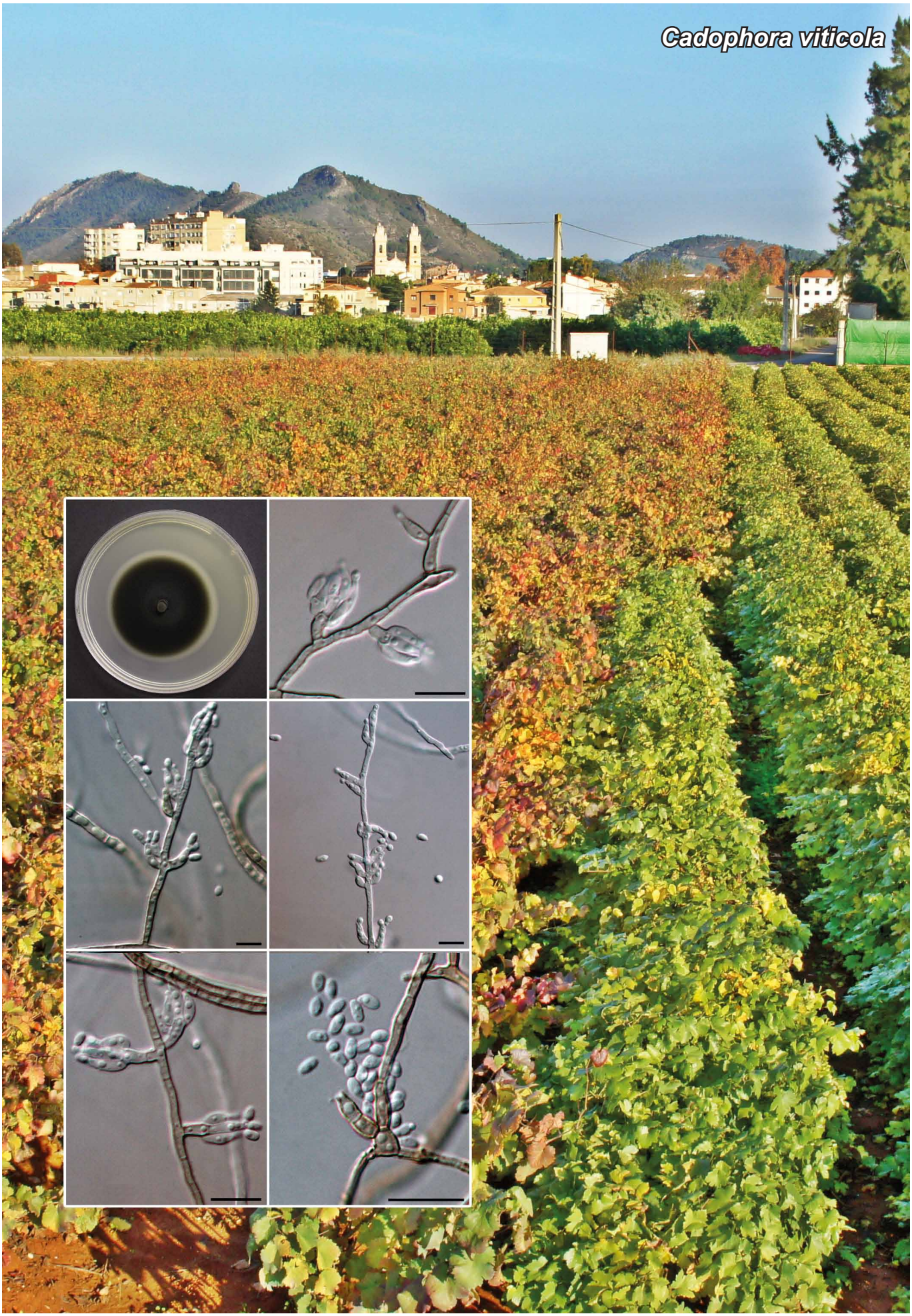

Cadophora viticola

Fungal Planet 360 – 10 June 2015

Cadophora viticola D. Gramaje, L. Mostert & Armengol, *sp. nov.*

Etymology. Named after the host genus (*Vitis vinifera*), from which it was isolated.

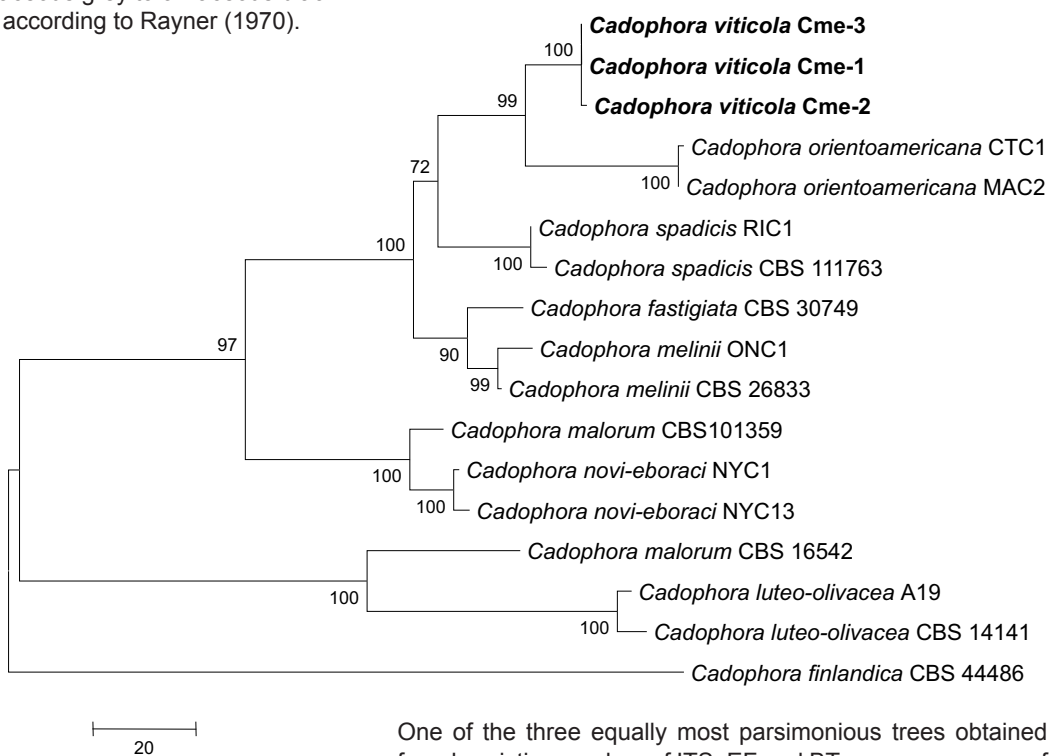
Classification — *Incertae sedis*, *Helotiales*, *Leotiomycetes*.

Aerial mycelium on MEA consisting of branched, septate hyphae occurring singly or in bundles of up to 13; hyphae tuberculate with warts up to 2.5 µm diam, verruculose to smooth, medium brown and 3–3.5 µm diam. *Conidiophores* mostly short, usually branched, arising from aerial or submerged hyphae, erect to flexuous, up to 4-septate, pale brown, (11–)11.5–50.5(–65) (av. = 24.5) µm long and 2–3 (av. = 2.5) µm wide. *Phialides* terminal or lateral, mostly monophialidic, smooth to verruculose, hyaline, with 1.5–3.5 µm long, 2–3 µm wide, subcylindrical or navicular collarettes, (4–)5–13.5(–15) × 1.5–3(–4) (av. = 8 × 2.5) µm. *Conidia* hyaline, with up to 2 guttules, mostly ovoid, (3–)4–5.5 × 1.5–2.5 (av. = 4.5 × 2) µm, L/W = 2.1.

Culture characteristics — Colonies reached a radius of 12–14.5 mm after 8 d at 25 °C. The minimum temperature for growth was 5–10 °C, the optimum 20–25 °C and the maximum 30 °C. Colonies on MEA were flat, felty, with an even edge; after 16 d, olivaceous black to grey olivaceous from the top, olivaceous black from below. Colonies on PDA were flat, felty, with an even edge; after 16 d, white to olivaceous buff from the top and in reverse. Colonies on OA were raised with striating furrows, woolly when close to the centre, with an even edge; after 16 d, they were pale olivaceous grey to olivaceous black on the surface. Colours rated according to Rayner (1970).

Typus. Spain, Olivenza, Badajoz, isolated from black streaks in shoots of *Vitis vinifera* cv. 'Syrah' showing Petri disease symptoms, 2007, *D. Gramaje* (holotype CBS H-22114, cultures ex-type Cme-2 = CBS 139517; ITS sequence GenBank HQ661096, beta-tubulin (BT) gene sequence GenBank HQ661066, translation elongation factor 1-alpha (EF) gene sequence GenBank HQ661081, MycoBank MB811634).

Notes — The genus *Cadophora* is characterised by having pale to hyaline phialidic collarettes with the vegetative hyphae more or less pigmented. The known *Cadophora* species and their relatives occur in many habitats such as decaying wood (Nilsson 1973, Blanchette et al. 2004), soil (Kerry 1990, Hujslová et al. 2010, Agustí-Brisach et al. 2013) or plants (Halleen et al. 2003, Di Marco et al. 2004, Gramaje et al. 2011). A recent study identified three new *Cadophora* species associated with wood decay of grapevine in North America (Travadon et al. 2015). *Cadophora viticola* was previously identified as *C. melinii* based on ITS phylogenies, albeit with low statistical support (Gramaje et al. 2011).



One of the three equally most parsimonious trees obtained from heuristic searches of ITS, EF and BT gene sequences of *Cadophora* species generated in MEGA v. 6.0 using the TBR algorithm. Bootstrap support (1 000 replicates) above 70 % are shown at the nodes. The species described here is printed in **bold** face. The alignment and tree are available in TreeBASE (Submission ID 17072).

Colour illustrations. *Vitis vinifera* grafted plants growing in a nursery field; 16-d-old colony on MEA; conidiophores and phialides; conidia. Scale bars = 10 µm.

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Entoloma flavovelutinum

Fungal Planet 361 – 10 June 2015

Entoloma flavovelutinum O.V. Morozova, E.S. Popov, A.V. Alexandrova & Xiao Lan He, *sp. nov*.

Etymology. The epithet refers to yellowish and velvety pileus surface – from Latin '*flavus*' (yellow) and '*velutinus*' (velvety).

Classification — *Entolomataceae*, *Agaricales*, *Agaricomycetes*.

Basidiomata medium-sized, tricholomatoid. *Pileus* 20–85 mm diam, initially hemispherical to convex, becoming applanate with or without central depression; with involute then straight margin; not hygrophanous, not translucently striate; yellowish white to pale yellow (4A2–3), with white margin, slightly discoloured to orange-yellow when bruised; at first uniformly velvety, then subtomentose to minutely squamulose or glabrescent with age. *Lamellae* rather crowded, with lamellulae of several lengths; adnate, broadly adnate with a small tooth to subdecurrent; whitish when young, then pale orange (5B3; Kornerup & Wanscher 1978); with concolorous or paler entire edge. *Stipe* 40–75 × 4–12 mm, cylindrical, entirely fibrillose, sometimes with longitudinal groove; solid; whitish, discoloured to orange-yellow when bruised. Context whitish, becoming orange-yellow near the base. Smell strong, aromatic, taste unpleasant. *Basidiospores* 8.5–11 × 5.5–7 µm, Q = 1.4–1.7, Q_{av} = 1.5 (n = 30), heterodiametrical, with 6–8 rather blunt to moderately pronounced angles in side view. *Basidia* 4-spored, 27–40.5 × 9–10.5 µm, clavate. Lamellae edge sterile, made up of a strand of cylindrical or slightly swollen towards the apex terminal elements of hyphae of the hymenophoral trama, colourless, 18–59 × 4–6 µm. *Pileipellis* a well-differentiated trichoderm of narrow erect cylindrical to subcapitate hyphae, 4–8 µm diam, forming a loose palisade. *Stipitipellis* a loose layer of entangled cylindrical hyphae 4–7 µm diam. *Clamp connections* absent.

Habit, Habitat & Distribution — In small groups on naked soil in bamboo thickets, lowland and montane tropical and subtropical semi-deciduous and evergreen broadleaf forests, usually along roads. Known from Vietnam and southern China.

Typus. Vietnam, Binh Phuoc Province, Bu Gia Map District, Bu Gia Map National Park, N12°11'38" E107°12'25", alt. 550 m, on soil along the roadside in bamboo thickets, 30 May 2011, *E. Popov* (holotype LE 302075: ITS sequence GenBank KP676036, LSU sequence GenBank KR052823, MycoBank MB811395).

Additional specimens examined. China, Guangdong Province, Shenzhen, Yangtaishan Forestry Park, N22°53' E113°18', 21 Sept. 2006, *C.Y. Deng* & *T.H. Li* (GDGM 24473, as *E. flavidum* (He et al. 2012), ITS sequence GenBank JQ281481); Guangdong Province, Zhuhai, Niutoudao, N22°00' E113°48', 29 July 2013, *T.H. Li*, *H. Huang* & *Y.W. Xia* (GDGM 57154, ITS sequence GenBank KJ845723). – Vietnam, Binh Phuoc Province, Bu Gia Map District, Bu Gia Map National Park, N12°12'15" E107°12'13", alt. 370 m, 26 May 2011, *O. Morozova* (LE 302076); ibid., N12°11'37" E107°12'46", alt. 550 m, on naked soil in bamboo thickets, 14 May 2014, *O. Morozova* (LE 302077, ITS sequence GenBank KP676038); ibid., N12°12'19" E107°12'16", alt. 500 m, on naked soil in tropical lowland semi-deciduous forest, 14 May 2014, *V. Trunov* (LE 302078, ITS sequence GenBank KP676037, LSU sequence GenBank KR052824); Lam Dong Province, Cat Tien District, Cat Tien Biosphere Reserve (Cat Loc Sector), 1.3 km NE of Phuoc Son ranger station, N11°37'51" E107°18'26", alt. 214 m, on naked soil along a path in bamboo thickets, 19 June 2011, *E. Popov* (LE 302079); Dak Lak Province, Krong Bong District, Chu Yang Sin National Park, 7 km NW of Chu Yang Sin Mt, N12°25'31" E108°21'22", alt. 913 m, on soil along the roadside in tropical montane evergreen broadleaf forest, 29 May 2014, *A. Alexandrova* (LE 302080, ITS sequence GenBank KP676039).

Notes — There are a number of *Entoloma* species characterised by the tricholomatoid yellowish white basidiomata which might be confused with *Entoloma flavovelutinum*. The most distinctive feature of our species is velvety pileus with the well-defined trichoderm. Basidiospores with rather blunt angles and absence of clamps are characteristic also. *Entoloma flavidum* (Horak 1980) differs mainly in structure of the pileipellis, which is a cutis with incrusted hyphae, fertile lamellae edge (at least in the holotype), and the presence of clamp connections. *Entoloma perflavidum* (Manimohan et al. 2006) is characterised by lack of clamp connections and presence of the cheilocystidia, but the pileipellis is a cutis. *Entoloma crassum* (Pradeep et al. 2012) can be recognized by the glabrous pileus (pileipellis is a cutis), fertile lamellae edge and presence of clamp connections in all hyphae. There are differences in the shape and size of spores between considered species. According to the preliminary analysis of the molecular data (ITS) (results not shown), the new species is nested within the inocephalus/cyanula clade.

Colour illustrations. Binh Phuoc Province, Bu Gia Map District, Bu Gia Map National Park, type locality; spores, cheilocystidia, pileipellis, basidiocarps (all from holotype). Scale bars = 1 cm (basidiocarps), 10 µm (elements of hymenium), 50 µm (pileipellis).

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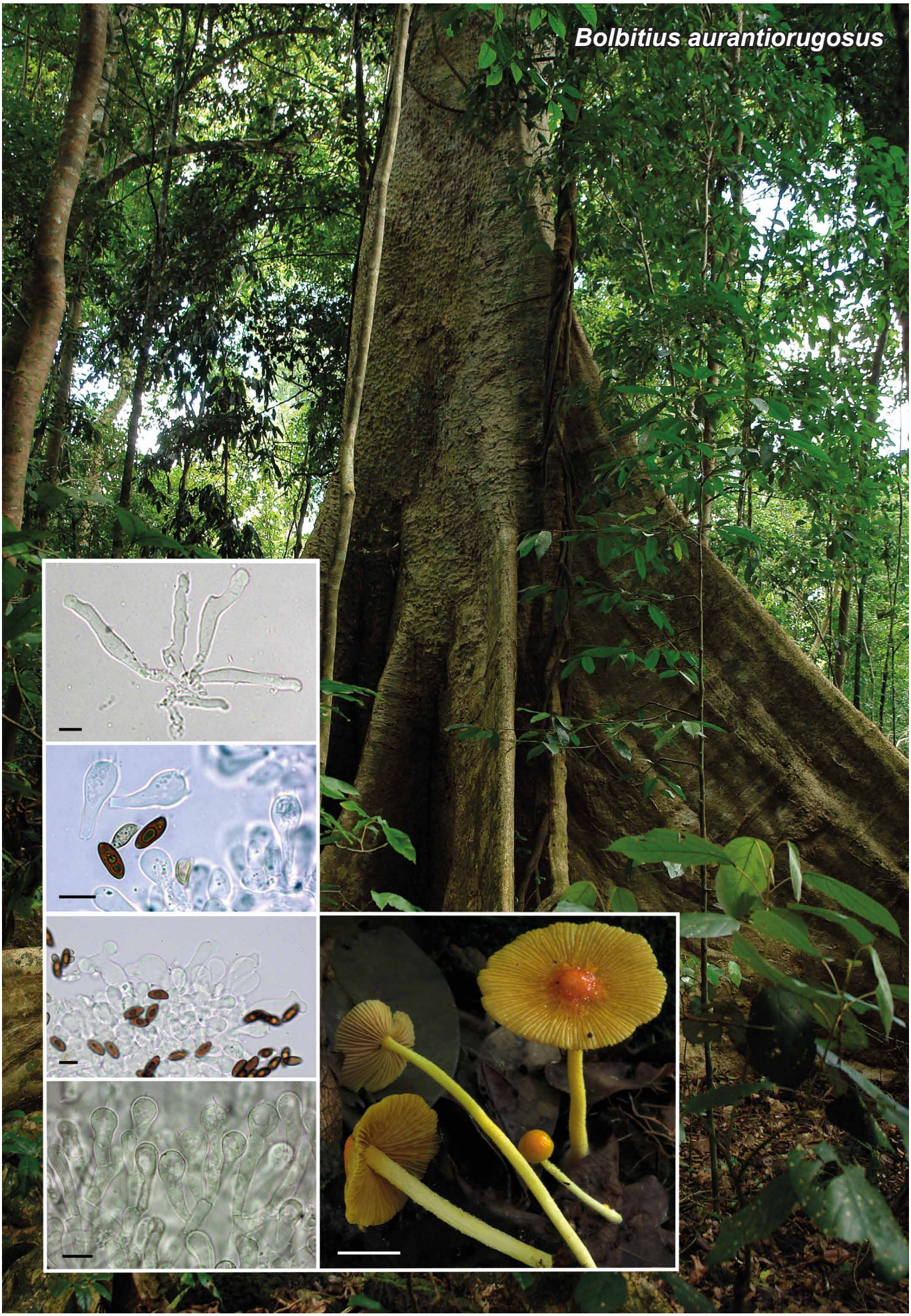

Bolbitius aurantiorugosus

Fungal Planet 362 – 10 June 2015

Bolbitius aurantiorugosus E.F. Malysheva, O.V. Morozova & Kovalenko, *sp. nov*.

Etymology. The epithet refers to the colour and character of pileus surface – from Latin '*aurantius*' (orange) and '*rugosus*' (wrinkled).

Classification — *Bolbitiaceae*, *Agaricales*, *Agaricomycetes*.

Pileus 10–25 mm, oviform when young, then broadly campanulate becoming applanate with low obtuse umbo, with uneven, slightly undulating margin; slightly hygrophanous, translucently striate up to centre; when young deep yellow or orange yellow (4A7–A8), mature vivid yellow (3A8), deep yellow or orange yellow (4A7–A8), with darker reddish orange (7B8–C8), orange red (8B8) or tomato red (8C8) centre (colour terms according to Kornerup & Wanscher 1978); radially sulcate-striate, pitted or pitted-wrinkled at centre, less venous towards margin, shiny, slightly glutinous. *Lamellae* rather distant, narrowly adnate to almost free, greyish yellow when young, then brownish yellow (5B7–5B8) or clay-brown (5D5), with concolorous fimbriate edges; not deliquescent. *Stipe* 20–45 × 1.5–3.5 mm, cylindrical, white-pruinose at apex, elsewhere longitudinally fibrillose, pastel yellow (2A4) to light yellow (2A5), with white basal mycelium, when fresh entirely covered by transparent drops. Context thin, yellowish. Taste and smell not distinctive. *Basidiospores* 12.5–14(–14.5) × 5.5–6.5 µm, Q = (1.92–)2.05–2.41(–2.44), Q_{av} = 2.23 (n = 30), elongate-fusoid, slightly boletoid to amygdaliform in side-view, thick-walled, 1–1.5 µm diam, central or slightly oblique germ pore, rusty brown in KOH. *Basidia* 4-spored, 21–27 × 9.5–11 µm, broadly clavate. *Cheilocystidia* numerous, 25–55 × 6–17(–25) µm, irregularly shaped, mostly inflated lageniform to utriform, often with bifurcated apex or with apical projections, hyaline, thin-walled; intermixed with some vesiculose or broadly clavate cells. *Pileipellis* hymeniform, made up of spheropedunculate (with long pedicels), clavate or pyriform elements, 27–50 × 6–15 µm, thin- or slightly thick-walled, colourless, with vacuolated context. *Caulocystidia* abundant, 25–70 × 5.5–12 µm, in fascicles, irregularly shaped, cylindrical, narrowly clavate, often curved and subcapitate, thin-walled, hyaline. *Clamp connections* not observed.

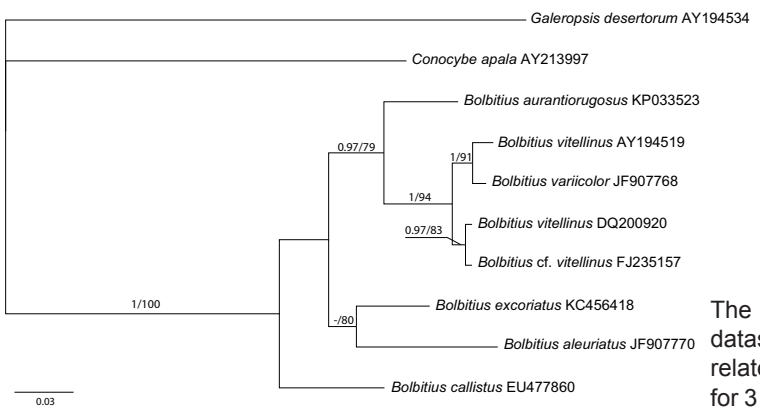
Habit, Habitat & Distribution — In small groups on soil and litter under *Tetrameles nudiflora*, in lowland tropical rainforest, dominated by *Dipterocarpus* spp., *Shorea* spp., *Hopea odorata*, *Sindora siamensis*, *Lagerstroemia* spp. Known only from the type locality in Vietnam.

Typus. Vietnam, Dong Nai province, Tan Phu district, Cat Tien National Park, Nam Cat Tien sector, path to Bau Sau lake, N11°27'02.9" E107°21'51.6", h = 175 m, on soil and litter under *Tetrameles nudiflora*, 11 June 2010, *A. Kovalenko* (holotype LE 303466, ITS sequence GenBank KP033523, LSU sequence GenBank KR052822, MycoBank MB810685).

Notes — *Bolbitius aurantiorugosus* is a remarkable and beautiful fungus due to unusual bright colour of its basidiocarps. In addition to noticeable yellowish red colouration of the pileus, it is also characterised by conspicuous microscopic features: large boletoid basidiospores and irregularly shaped cheilocystidia.

Among other species of *Bolbitius* with reddish or yellow basidiocarps it is most close to *B. titubans*, *B. callistus* and *B. malesianus*.

Bolbitius titubans, having a widespread distribution, differs from *B. aurantiorugosus* not only in the bright yellow pileus totally lacking reddish tints, but also in spore form, cheilocystidia shape and size, as well as the ecological preferences. According to the molecular data (ITS sequences) *B. aurantiorugosus* is related to *B. titubans* more than to the other species, but with the percentage of sequence divergence (6–8 %) significant to consider both of these taxa as separate species. *Bolbitius callistus*, originally described from North America, has more robust basidiocarps, larger pileus with distinct bluish and olivaceous tinges, differently shaped and significantly smaller basidiospores (8–9(–10) × 5–6 µm, according to Watling 1987). *Bolbitius malesianus*, described from Malaysia (Watling 1994), can be separated from *B. aurantiorugosus* primarily by a purplish or lilac-purplish pileus, white-coloured stipe and identically shaped but smaller basidiospores (8.7–9.6(–11) × 3.9–4.8(–5.2) µm).



The phylogram inferred from the Bayesian analysis of nrITS dataset sequences of *Bolbitius aurantiorugosus* and closely related species. Analysis was performed under a GTR model, for 3 million generations, using MrBayes v. 3.1 software. Maximum likelihood analyses were run in the PhyML v. 3.0. Branch support values were obtained by 1 000 bootstrap replicates. Numbers at branches indicate Bayesian posterior probabilities > 0.95 and Maximum likelihood bootstrap values > 50 %. The bar indicates the number of expected substitutions per position.

Colour illustrations. Vietnam, Cat Tien National Park, Nam Cat Tien sector, *Tetrameles nudiflora* under which the holotype was collected; caulocystidia, basidia and spores, cheilocystidia, pileipellis, basidiocarps (all from holotype). Scale bars = 1 cm (basidiocarps), 10 µm (microscopic structures).

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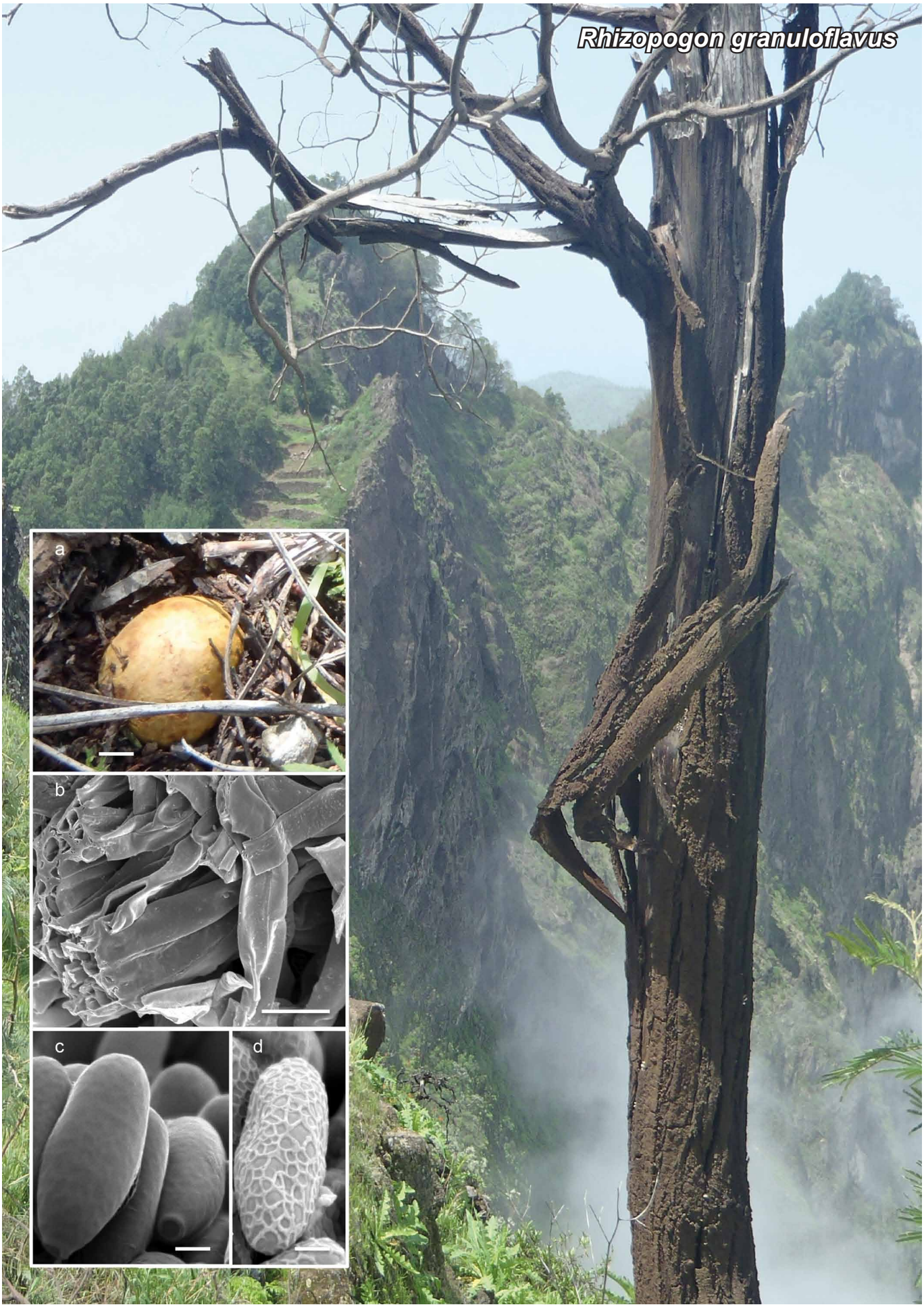

Rhizopogon granuloflavus
a
b
c
d

Fungal Planet 363 – 10 June 2015

Rhizopogon granuloflavus M.P. Martín, M. Dueñas & Telleria, *sp. nov.*

Etymology. From Latin *granulum* and *flavus*, referring to the numerous yellowish deposits on the surface of the peridium hyphae.

Classification — *Rhizopogonaceae*, *Boletales*, *Agaricomycetes.*

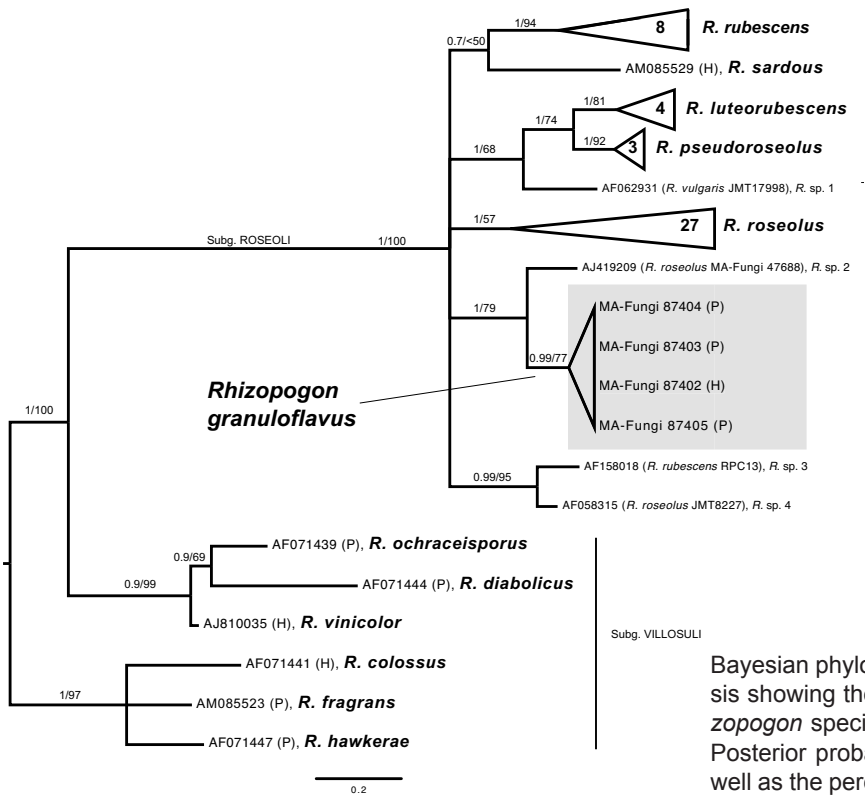
Macroscopic characteristics — *Basidiomes* globose to subglobose, 0.9–1.4 × 1.0–1.9 cm. *Peridium* surface smooth, yellow (colour 250, Séguy 1936). Rubbing the peridium causes no change of colour. *Gleba* soft and gelatinous when fresh, becoming firm, but easy to section on drying, orange (colour 208), with small and labyrinthiform locules. Smell indistinct. *Peridium* and *gleba* with KOH or $FeSO_4$ no change of colour.

Microscopic characteristics — *Peridium* up to 150 µm high, simple, *roseolus*-type, formed by hyphae running parallel to the surface; hyphae hyaline, thin-walled, septate and unbranched, 7–8 µm diam, with numerous yellowish deposits adhering to the exterior of the surface. Close to the gleba, on the surface of the hyphae there are abundant masses of orange-red pigments, up to 25 µm diam. *Subhymenium* up to 20 µm high. *Brachybasidioles* clavate, thin-walled, 15–18 × 5–6 µm. *Spores* cylindro-ellipsoid to slightly naviculate, without small scar, 6.5–7 × 2.5–3.0 µm. In general, spores are uni- or biguttulate; however, many spores are collapsed and appear without refrigent content. Although spores under OM are smooth, under SEM spores without perisporium appear reticulated.

Typus. Cape Verde, Santo Antão, Porto Novo, Aguas das Caldeiras, alt. 434 m, N17°06'45" W25°04'08", on soil close to *Pinus canariensis*, 29 Nov. 2010, *M.T. Telleria* (holotype MA-Fungi 87402; ITS sequence GenBank KP325105, LSU sequence GenBank KR069062, MycoBank MB811056).

Additional materials examined. Cape Verde, Santo Antão, Porto Novo, Aguas das Caldeiras, alt. 434 m, N17°06'45" W25°04'08", on soil close to *Pinus canariensis*, 29 Nov. 2010, *M.P. Martín* MPM3264 (MA-Fungi 87403; ITS sequence GenBank KP325104, LSU sequence GenBank KR069061); ibid., *I. Salcedo* (MA-Fungi 87404; ITS sequence GenBank KP325103, LSU sequence GenBank KR069059); ibid., *M. Dueñas* 13426MD (MA-Fungi 87405; ITS sequence GenBank KP325106, LSU sequence GenBank KR069060).

Notes — Although the peridium and gleba show negative reactions with KOH, phylogenetic analyses (parsimony and Bayesian), based on four specimens of *R. granuloflavus*, and previously published data (Martín & García 2009), clearly grouped the new sequences with species of subg. *Roseoli*. Specimens from Cape Verde cluster together as a group of their own. The four specimens have a simple peridium with hyphae covered by numerous yellowish deposits, not observed in the other species of subg. *Roseoli*. In general, *R. granuloflavus* is close to *R. pseudoroseolus*, a species from North America; however, in *R. pseudoroseolus* the incrusting pigments in the peridium surface change to a dark vinaceous colour with KOH and the spores are bigger (7.5–9.5 × 3–4 µm).



Bayesian phylogram (MrBayes v. 3.1) of ITS sequence analysis showing the clade of *Rhizopogon* subg. *Roseoli*. Six *Rhizopogon* species of subg. *Villosuli* are included as outgroup. Posterior probabilities obtained in the Bayesian analysis, as well as the percentage of bootstrap values from the maximum parsimony analysis are indicated on the branches. Numbers in the triangles indicate the number of sequences from each species. For four published sequences, the name at the EMBL / GenBank is provided between parentheses, since they belong to misidentifications, and could belong to undescribed species. The *R. granuloflavus* clade is marked with a grey square (H: Holotype; P: Paratypes).

Colour illustrations. Cape Verde, Santo Antão, close to the locality where the specimens were collected (M.P. Martín); a. basidiome (MA-Fungi 87403); b. peridium (MA-Fungi 87402, holotype), detail to shown the deposits adhering the hyphae surface; c. spores with perisporium (MA-Fungi 87405); d. spores without perisporium (MA-Fungi 87405). Scale bars: a = 10 mm; b = 10 µm; c, d = 1 µm.

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Tulasnella eremophila

Fungal Planet 364 – 10 June 2015

Tulasnella eremophila M. Dueñas, Telleria & M.P. Martín, *sp. nov.*

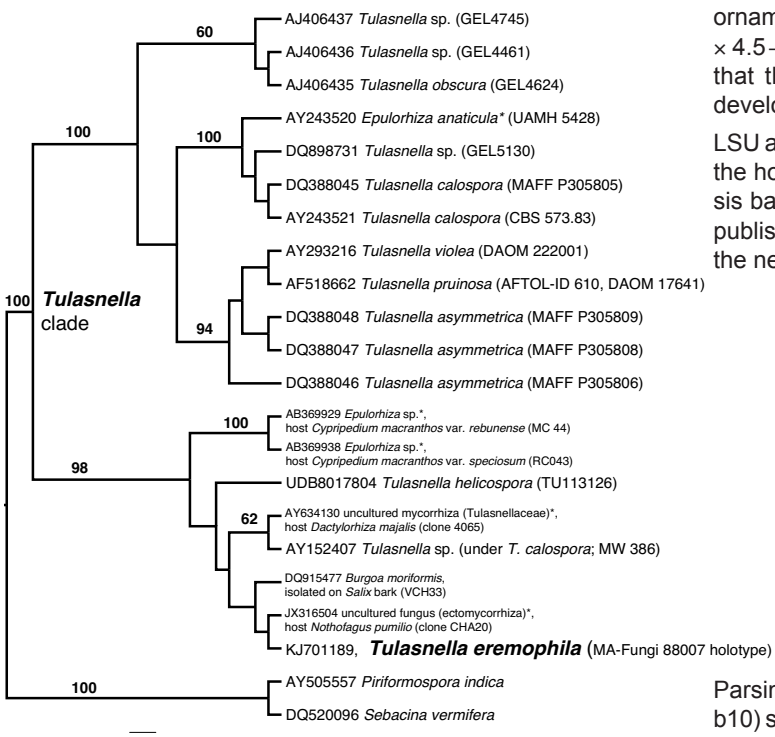
Etymology. Named after Greek eremia = desert and –philus = loving, referring to their habitat.

Classification — *Tulasnellaceae*, *Cantharellales*, *Agaricomycetes*.

Basidioma resupinate, effused, adnate, thin, crustaceous; hymenophore smooth, pale grey, cream to yellowish, occasionally grey pink; margin not differentiated. *Hyphal system* monomitic; hyphae without clamps; subicular hyphae hyaline to yellowish in older specimens, straight, little branched, thickening walls, 5–7 µm; subhymenial hyphae hyaline, ramified, thin-walled, 4–5 µm. *Basidia* subglobose to subclaviform, 12–15 × 9–10 µm, with four sterigmata subglobose at the beginning, later becoming fusiform, 15–23 × 5–7 µm. *Spores* fusiform, biapiculated, (10–)11–15(–17) × 5–7 µm, thin-walled and appearing smooth under the light microscope but with a tenuous and irregular ornamentation under SEM, guttulated, and producing secondary spores. Asexual morph type *Epulorhiza* formed by monilioid hyphae of chains of globose compartments, 10 µm diam (for line drawing, see MycoBank). All specimens have been deposited in MA-Fungi.

Habitat — On *Euphorbia* spp., in semidesert zones of Morocco and Canary Islands.

Typus. Morocco, Souss-Massa-Drâa, road R 105, from Aït Baha to Tafraoute, Km 63, N30°03'28.6" W09°05'06.6", on *Euphorbia officinarum* subsp. *echinus* (*Euphorbiaceae*), alt. 760 m, 17 Apr. 2010, *J. Cardoso*, *M. Dueñas*, *I. Melo*, *M.P. Martín*, *I. Salcedo* & *M.T. Telleria*, 13062MD (holotype MA-Fungi 88007; ITS sequence GenBank KJ701188, LSU sequence GenBank KJ701189, MycoBank MB810992).



Colour illustrations. Formation of *Euphorbia officinarum* (Anglou Plage) Morocco, typical habitat where the fungus grows (photo: M.T. Telleria); hymenium with spores by light-microscope and spores by SEM, basidioma. Scale bars = 10 mm (basidiome), 10 µm (microscopic structures).

Additional specimens examined. Morocco, Souss-Massa-Drâa, road R 105, from Aït Baha to Tafraoute, km 63, N30°03'28.6" W09°05'06.6", on *Euphorbia officinarum* subsp. *echinus*, alt. 760 m, 17 Apr. 2010, 13057MD, 13058MD, 13059MD, 13060MD, 13061MD, on *Euphorbia* sp., 18451Tell; Souss-Massa-Drâa, from Tiznit to Bou Izakarn, N29°24'13.8" W09°43'35.8", alt. 930 m, on *Euphorbia* sp., 19 Apr. 2010, 18691Tell; Souss-Massa-Drâa, road Tiznit to Anglou Plage, N29°45'29.3" W09°46'42.2", on *Euphorbia officinarum* subsp. *echinus*, alt. 158 m, 20 Apr. 2010, 13104MD, 13106MD, on *Euphorbia* sp., 18698Tell; Souss-Massa-Drâa, road R 104, from Tiznit to Mirleft, N29°37'21.7" W09°53'05.3", on *Euphorbia officinarum*, alt. 278 m, 21 Apr. 2010, 13109MD, 13110MD, on *Euphorbia regis-jubae*, 13113MD; Souss-Massa-Drâa, road N 1, from Agadir to Essaouira, next to Tamri, N30°37'36.9" W09°50'57.4", on *Euphorbia officinarum*, alt. 23 m, 21 Apr. 2010, 18762Tell. – Spain, Canary Islands, Lanzarote, Haría, Arrieta, N29°08'0.58" W13°27'34.32", *on Euphorbia balsamifera*, alt. 27 m, 2 Dec. 2007, 12232MD; 17655Tell.

Notes — The genus *Tulasnella* (1888) was proposed as member of the cantharelloid clade of the *Homobasidiomycetes* by Hibbet & Thorn (2001) and subsequent molecular studies confirmed this placement (Bidartondo et al. 2003, Kottke et al. 2003, Weiß et al. 2004, Binder et al. 2005). This genus includes 50 species characterised by the swollen sterigmata separated by a septum from the basidium, and spores that form secondary spores by repetition. Many species of *Tulasnella* produce an asexual morph of monilioid cells belonging to the genus *Epulorhiza*, segregated from *Rhizoctonia* by Moore (1987). *Tulasnella eremophila* is easily distinguished from other species of the genus by the shape of its spores, which are biapiculated 'in the form of croissant'. It is related to *Tulasnella pallida* in the fusiform spores tapered at both ends, 8–12(–14) × 7–8 µm in the type. *Tulasnella echinospora* (Roberts 2004) and *Tulasnella* sp. (Trichies 2006) have been described with ornamented spores, 9–12 × 5–6.5 µm and (10–)11–20(–21) × 4.5–6 µm, respectively, in both cases it has been suggested that the ornamentation, visible under the light-microscope, develops after discharge from the sterigmata.

LSU and ITS sequences were obtained from DNA isolated from the holotype of *T. eremophila*. Parsimony phylogenetic analysis based on the LSU sequence and homologous sequences published in GenBank and UNITE databases, clearly grouped the new species in the *Tulasnella* clade.

Parsimony phylogram of LSU sequence analysis (PAUP v. 4.0 b10) showing the position of *Tulasnella eremophila* in the *Tulasnella* clade, close to *Burgoa moriformis* (DQ915477), mitosporic fungi included in the order *Cantharellales* (Lawrey et al. 2007). The bootstrap support values are indicated on the branches. The isolates or vouchers are indicated between brackets. Sequences obtained from mycorrhizae are indicated with *.

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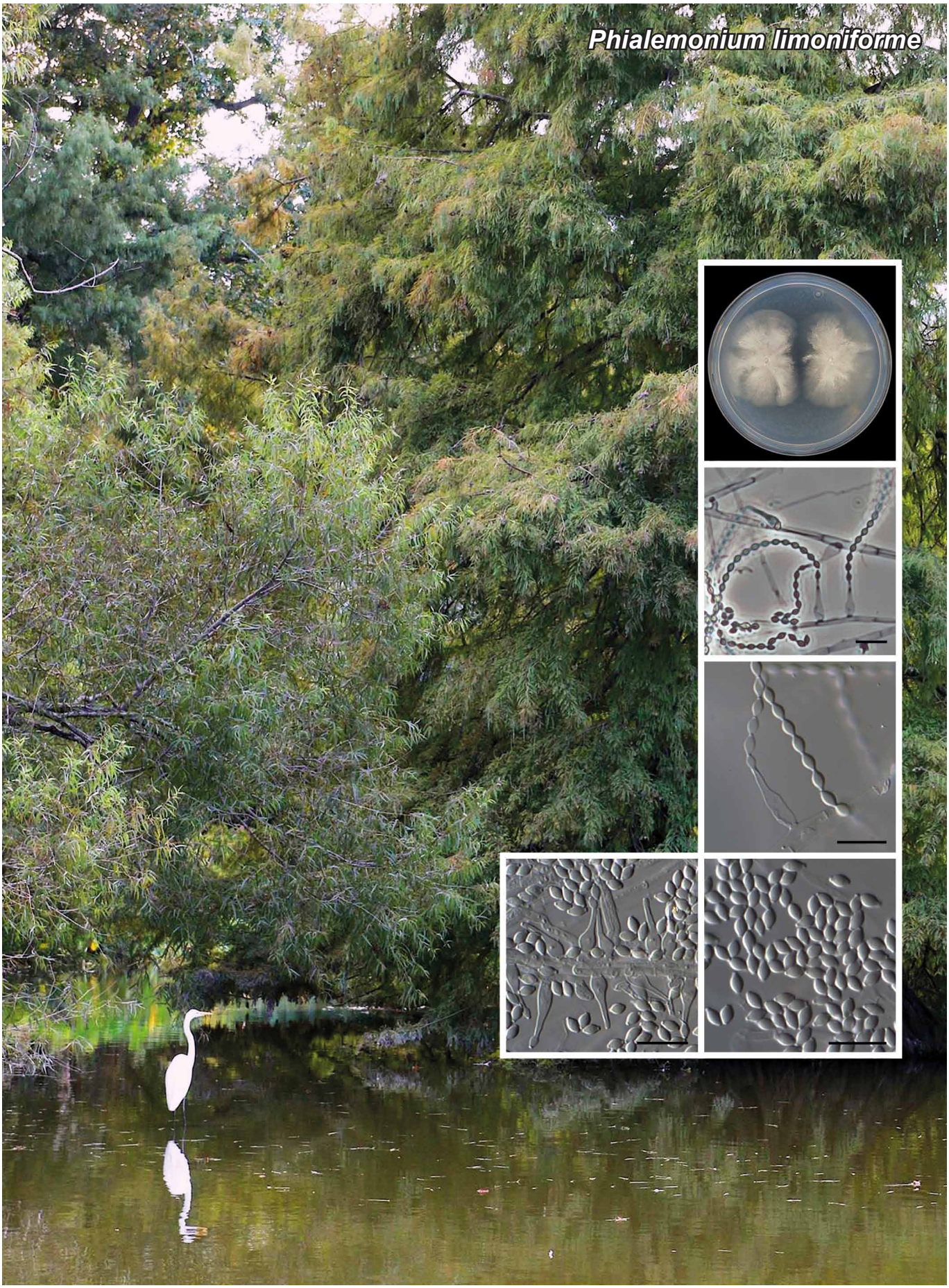

Phialemonium limoniforme

Fungal Planet 365 – 10 June 2015

Phialemonium limoniforme Giraldo & Deanna A. Sutton, *sp. nov*.

Etymology. Referring to conidial shape, resembling a lemon.

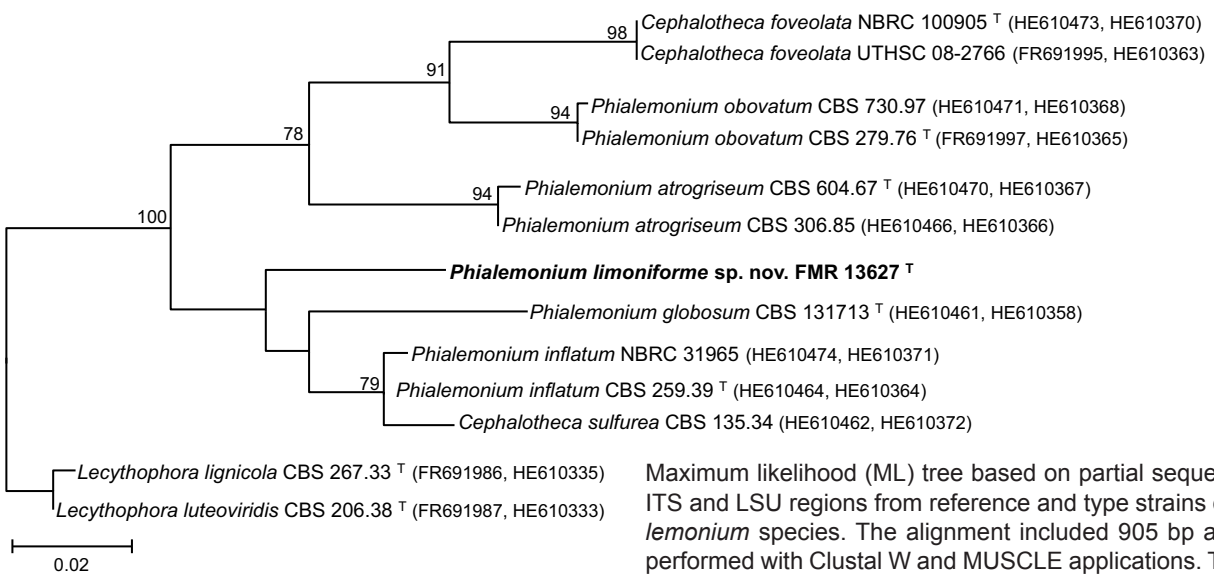
Classification — *Cephalothecaceae*, *Sordariales*, *Sordariomycetes*.

Mycelium consisting of septate, hyaline, smooth- and thin-walled hyphae, 1.5–2 µm diam. *Conidiophores* absent or poorly differentiated, consisting of single phialides, arising orthotropically from vegetative hyphae. *Phialides* lateral and terminal, sometimes with a sympodial proliferation, ampulliform or flask-shaped, 10–15 µm long, 2.5–3 µm wide at the swollen basal part, tapering toward the apex in a narrow long neck, with a distinct periclinal thickening at the conidiogenous locus and occasionally with an inconspicuous cylindrical collarette, hyaline, thick- and smooth-walled. *Conidia* unicellular, limoniform, 3–4 × 2–2.5 µm, with conspicuous connectives at both ends, hyaline, smooth- and thick-walled, arranged in long chains. *Adelophialides*, *chlamydospores* and *sexual morph* not observed.

Culture characteristics — Colonies on OA reaching 35–36 mm diam after 14 d at 25 °C, yellowish white (4A2) (Kornerup & Wanscher 1978), flat, floccose. On PCA attaining 48–50 mm diam after 14 d at 25 °C, yellowish white (2A2), flat, dusty with uncoloured exudate drops. On PDA reaching 46–48 mm diam after 14 d at 25 °C, white (1A1), radially folded, woolly. Optimum growth temperature 25–30 °C, restricted at 37 °C, no growth at 40 °C

Typus. USA, Louisiana, Baton Rouge, isolated from human head, Feb. 2014, *D.A. Sutton* (holotype CBS H-22020, cultures ex-type CBS 139049 = FMR 13627 = UTHSCSA DI14-259; ITS sequence GenBank LN614728, LSU sequence GenBank LN614729, MycoBank MB810995).

Notes — The genus *Phialemonium* (*Cephalothecaceae*, *Sordariales*) was established by Gams & McGinnis (1983) and was recently reviewed by Perdomo et al. (2013). Currently *Phialemonium* contains six species apart from *P. limoniforme*, which are commonly isolated from environmental sources, and with less frequency from human samples (Rivero et al. 2009, Perdomo et al. 2011, Guarro 2012). Although clearly phylogenetically distant from the other species of the genus, *P. limoniforme* (TreeBASE ID 16814) morphologically resembles *P. globosum*, *P. inflatum* and the asexual morph of *Cephalotheca sulfurea*, by the production of conidial chains with connectives, and phialides that are more or less inflated at the base (Perdomo et al. 2013). However, in contrast with the former species, *P. globosum* has globose to subglobose conidia, cylindrical phialides with a slightly swollen base and adelophialides; *P. inflatum* produces smooth or finely roughened conidia (4–5 × 2–3 µm), larger phialides (up to 19 µm long) and no growth at 35 °C; and finally, the asexual morph of *C. sulfurea* has ovoid conidia.



Maximum likelihood (ML) tree based on partial sequences of ITS and LSU regions from reference and type strains of *Phialemonium* species. The alignment included 905 bp and was performed with Clustal W and MUSCLE applications. Tamura-Nei with Gamma distribution was used as the best nucleotide substitution model in ML analysis. Both the alignment and tree were constructed under MEGA v. 5.05 (Tamura et al. 2011). *Lecythophora lignicola* and *L. luteoviridis* (*Coniochaetaceae*, *Coniochaetales*) were used as outgroup taxa. The new species is highlighted in **bold** face. Bootstrap support values above 70 % are shown at the nodes. TEx-type strain. Accession numbers of D1/D2 and ITS sequences retrieved from GenBank database are in parentheses.

Colour illustrations. USA, Louisiana, Baton Rouge, University Lakes (photo: Amy L. Grooters). Colony on PCA after 14 d at 25 °C, simple conidiophores with conidia arranged in chains, phialides and conidia. Scale bars = 10 µm.

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Verrucostoma martinicensis

Fungal Planet 366 – 10 June 2015

Verrucostoma martinicensis Lechat, J. Fourn. & Courtec, *sp. nov.*

Etymology. The epithet is derived from Martinique (FWI), where this species was collected.

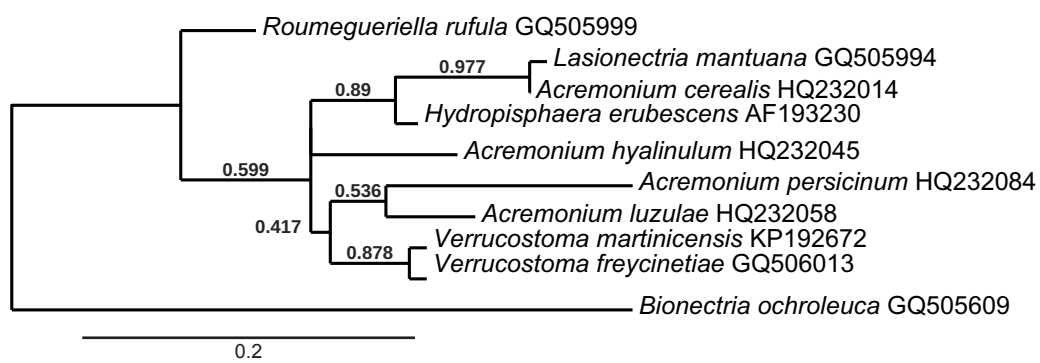
Classification — *Bionectriaceae*, *Hypocreales*, *Sordariomycetes*.

Ascomata perithecial, solitary or clustered in groups of 2–5, superficial with base surrounded by mycelium, seated on a minute pseudoparenchymatous stroma, subglobose, (130–)150–170(–190) µm high × (140–)160–200(–230) µm diam (av. = 160 × 180 µm, n = 15), pale yellow, slightly cupulate when dry, not changing colour in 3 % KOH or lactic acid. *Perithecial* apex conical to truncate with protuberances around upper margin of ascomata. *Perithecial* wall 30–40 µm thick, composed of two regions: outer region 25–30 µm wide, of globose to ellipsoidal cells 10–16 × 9–15 µm, with pale yellow walls 1.5–2 µm thick, proliferating to form protuberances up to 40 µm high; inner region 10–15 µm wide, of subglobose to elongate cells, 6–12 × 4–6 µm, with hyaline walls 1–1.5 µm thick. *Asci* (35–)40–48(–52) × 6–8 µm (av. = 44.5 × 7 µm, n = 20), clavate, apices rounded, without ring, with 8 biseriate ascospores. *Ascospores* (9.5–)10–11.5(–12.5) × 2–2.7 µm (av. = 11 × 2.4 µm, n = 30), fusiform, 1-septate, hyaline with 1 drop in each cell, smooth, completely filling the asci.

Culture characteristics — After 2 wk on 2 % PDA with 5 mg/L streptomycin: colonies 6–8 cm diam, colony fast growing, whitish to greyish, producing acremonium-like asexual morph in centre of colony, composed of monophialidic conidiophores, 35–50 µm long, 2–3 µm diam, arising from smooth hyphae 2.5–3 µm diam; conidiogenous cells terminal, hyaline, thin-walled, smooth, 12–35 µm long, 2–2.5 µm wide, producing narrowly, ellipsoidal to cylindrical conidia (4–)5–7.5(–8) × 1.8–2.5 µm (av. = 6.5 × 2.2 µm, n = 30), hyaline, smooth, non-septate, with a basal abscission scar.

Typus. French West Indies, Martinique, Morne Rouge, Route foretière de Propreté, 11 June 2014, on dead stem of *Danaea elliptica* (*Marattiaceae*), CLLM14055 (holotype deposited at Faculté de Pharmacie de Lille, France (LIP) CLLM14055, culture ex-type CBS 138731; LSU sequence GenBank KP192672, MycoBank MB810933).

Notes — The present new taxon fits well within the genus *Verrucostoma* as recently defined by Hirooka et al. (2012), in having minute pale yellow superficial ascomata with protuberances around the upper margin, occurring on dead plant material, and in being associated with an acremonium-like asexual morph in culture. Its close affinity with *Verrucostoma* is confirmed by DNA sequence data. It differs mainly from *V. freycinetiae* by smaller, smooth-walled ascospores, 10–11.5 × 2–2.7 µm vs spinulose ascospores 12.2–14.5 × 3.4–4.1 µm, as well as different geographical origin.



Maximum likelihood phylogeny of *Verrucostoma* inferred from LSU sequences, rooted on *Bionectria ochroleuca*. Analysis performed online at www.phylogeny.fr (alignments edited with GBlock v. 0.91b), run in PhyML 3.0aLRT using the GRT+I+Γ model. Branch supports assessed by the SH-aLRT statistical test.

Colour illustrations. Martinique, Propreté, where the sample was collected; ascomata on host substratum; vertical section through ascomatal wall; ascospores. Scale bars = 100, 20 and 5 µm.

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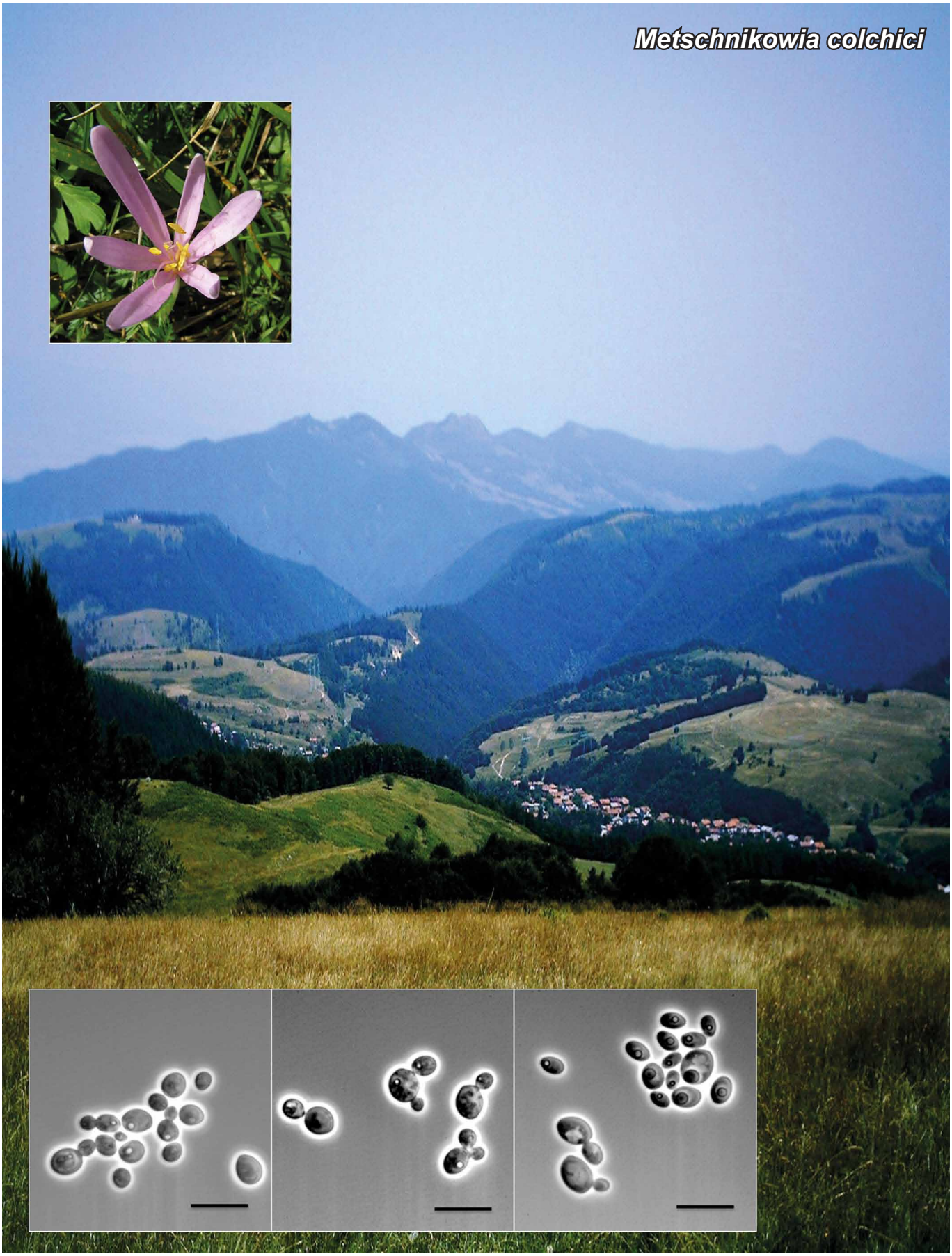

Metschnikowia colchici

Fungal Planet 367 – 10 June 2015

Metschnikowia colchici D.E. Gouliamova, R.A. Dimitrov, M.T. Sm., M. Groenew., M.M. Stoilova-Disheva & Boekhout, *sp. nov.*

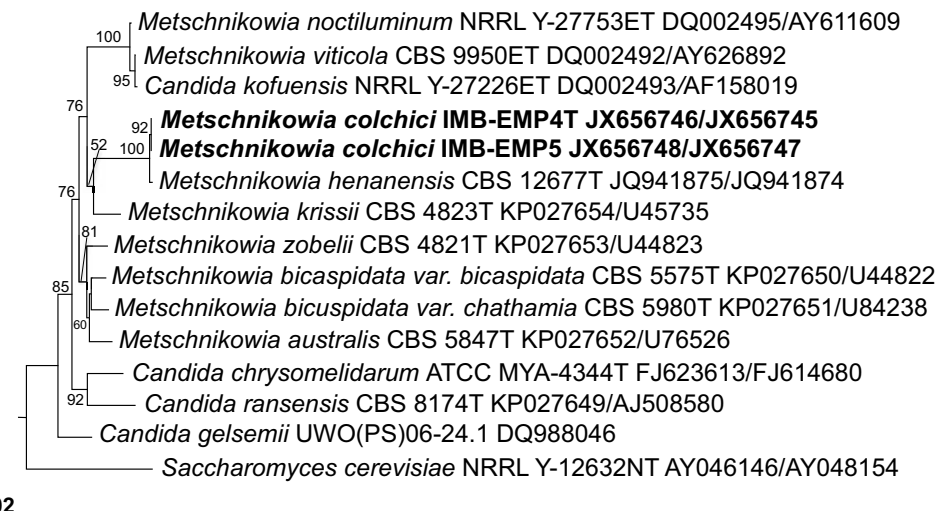
Etymology. The specific epithet '*colchici*' was derived from the name of host *Colchicum autumnale* (*Colchicaceae*, *Liliales*) from which two novel yeast strains were isolated.

Classification — *Metschnikowiaceae*, *Saccharomycetales*, *Saccharomycetes*.

On Glucose Peptone Yeast extract Agar (GPYA), after 7 d at 25 °C, colony is flat, cream, smooth, with an entire margin. After 7 d growth at 25 °C on 5 % glucose broth, cells are globose, ovoid, oblong, 2–5 × 3–6 µm, occurring singly, in pairs or in small clusters, and proliferating by multilateral budding. Dalmau plate culture after 10 d on morphology and PDA at 20–25 °C did not show pseudohyphae or hyphea. Sexual reproduction is absent. Chlamydospores are produced. Fermentation and assimilation of carbon compounds – see MycoBank MB810788.

Typus. Bulgaria, Sofia, Natural Park Vitosha, village Jeleznitsa, E23°22'1.2" N42°31'58.8", from *Colchicum autumnale*, 28 Aug. 2009, *D. Gouliamova* (holotype metabolically inactive strain CBS 12461; ITS sequence GenBank JX656746, D1/D2 sequence GenBank JX656745, MycoBank MB810788); IMB-EMP5 = CBS 12454, ITS, D1/D2 sequences JX656748, JX656747, respectively.

Notes — Studies conducted in different regions of our planet showed that plants frequently form associations with yeasts, the diversity of which we are just beginning to understand (Lachance et al. 2001, Herrera & Pozo 2010). The Bulgarian Natural Parks host 3 850 vascular plant species (Assyov et al. 2006). Little is known about plant-associated yeasts from Bulgarian ecosystems. During a yeast biodiversity survey conducted in 2009–2011 known ascomycetous yeast species belonging to the genera *Candida*, *Pichia*, *Hanseniaspora*, *Meyerozyma* and *Metschnikowia* were isolated from flowering plants in the Natural Park Vitosha, Sofia, Bulgaria. The most frequently isolated species was *Metschnikowia reukaufii*. Phylogenetic analyses using an alignment of concatenated sequences of the D1/D2 domains of the 26S rDNA and ITS1+2 region showed that two conspecific strains, EMB-EMP4 and EMB-EMP5, represent a novel yeast species and are closely related to wood-associated species from China, *M. henanensis* (Hui et al. 2013) (93 % similarity, 28 substitutions, 10 gaps in ITS region; 3 substitutions, 2 gaps in 26S rDNA). Physiological profiles further supported the distinction of a new species distinct from *M. henanensis*. The new species can be distinguished from *M. henanensis* by its ability to assimilate D-glucosamine, soluble starch, succinate, ethanol, nitrate and nitrite; it is unable to ferment galactose; unable to grow at 35 °C; unable to grow in vitamin-free medium and in 0.01 % cycloheximide.



Phylogenetic analysis of the alignment of the ITS1+2 region, and the LSU (D1/D2 domains) rRNA gene using a neighbour-joining analysis (Kimura two-parameter model; MEGA v. 6) for *Metschnikowia colchici* IMB-EMP4^T and related *Metschnikowia* species.

Colour illustrations. Village Jeleznitsa, Natural Park Vitosha, Bulgaria; *Colchicum autumnale*, phase-contrast micrographs of *Metschnikowia colchici* IMB-EMP4^T (photo credit K. Metodiev); budding cells in 5 % glucose broth, D-chlamydospores grown on diluted V8 (2×) agar for 2 wk at 25 °C. Scale bars = 10 µm.

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Thelebolus microcarpus
EL INFIERNILLO
3042 m. SOBRE el NIVEL del MAR
VISITE
AMAICHA DEL VALLE 28
RUINAS DE QUILMES 46
DIRECCIÓN PROVINCIAL
TRABAJA

Fungal Planet 368 – 10 June 2015

Thelebolus microcarpus Stchigel, Y. Marín, Guarro & Cano, *sp. nov.*

Etymology. Due to the small (*μικρο-*; Greek) size of the sexual body (*-καρπος*; Greek).

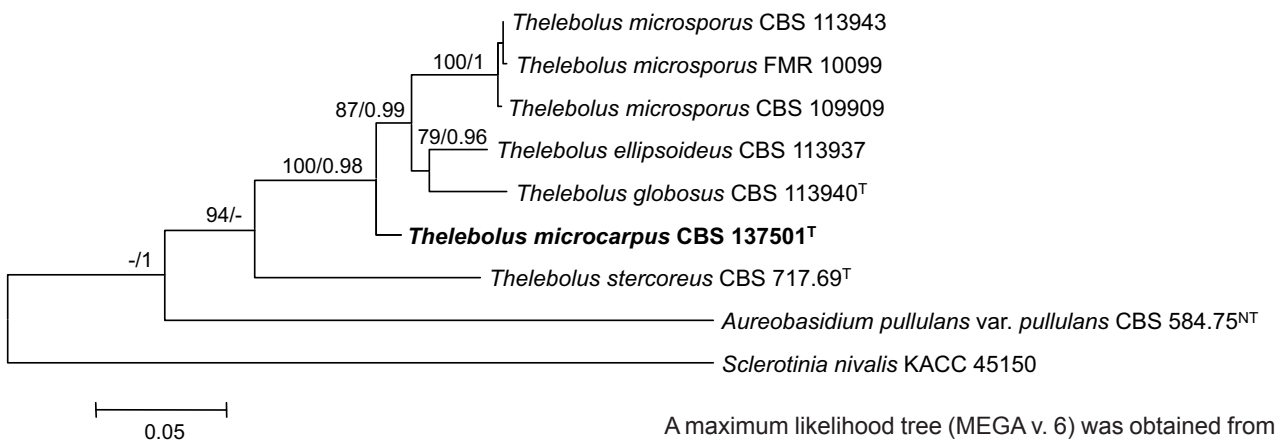
Classification — *Thelebolaceae*, *Thelebolales*, *Leotiomycetes.*

Mycelium composed of hyaline to pale yellow, branched, septate, smooth-walled, irregularly swollen hyphae, 1–7 µm wide. *Ascomata* globose to subglobose, non-ostiolate and not becoming apothecioid with age, 18–70 µm diam, superficial to immersed, scattered to grouped, in clusters up to 5 ascomata, each arising on a single hypha of 2–4 µm diam, colourless to pale amber, glabrous. *Hymenium* absent or inconspicuous. *Peridium* of *textura angularis* up to 5 µm thick, composed of 2–3 layers of hyaline to pale yellow, thick-walled cells of 3–10 µm diam. *Paraphyses* absent. *Asci* 8-spored, 1–5 per ascoma, subglobose to broadly ellipsoidal, thin-walled, evanescent, 12–17 × 10–15 µm. *Ascospores* irregularly disposed inside the ascus, 1-celled, subhyaline to pale yellow, thick- and smooth-walled, ellipsoid, 5–9 × 3–4 µm.

Culture characteristics — Colonies on OA attaining 30–36 mm diam in 14 d at 15 °C, velvety, margins fimbriate to arachnoid, colourless to yellowish white (M. 4A2; Kornerup & Wanscher 1978); reverse yellowish white to pale yellow (4A2 to 4A3). Colonies on PCA attaining 30–31 mm diam in 14 d at 15 °C, velvety, margins fimbriate to arachnoid, white; reverse of the same colour as the surface. The fungus does not grow below 5 °C, nor above 30 °C. Optimal ascomatal production at 15 °C.

Typus. Argentina, Tucumán, Tafí el Valle, Abra del Infiernillo, from soil, 15 May 2000, coll. *A.M. Stchigel*, *J.F. Cano-Lira & J. Guarro*, isol. *A.M. Stchigel* (holotype CBS H-21625, cultures ex-type CBS 137501 = FMR 7544; ITS and LSU sequences GenBank LN609269, *BT2* sequence GenBank LN609270, MycoBank MB810286).

Notes — The genus *Thelebolus* (*Thelebolales*) was introduced in 1790 by Tode to accommodate the new species *T. stercoreus*. Despite more species being included in the genus, De Hoog et al. (2005) carried out a phylogenetic study based on SSU, ITS and β-tubulin (*BT2*) sequences, accepting as valid only *T. microsporus* and *T. stercoreus*, and proposing *T. ellipsoideus* and *T. globosus* as new species. Based on a phylogenetic tree of ITS and *BT2* sequences we have confirmed isolate CBS 137501 as a new species of *Thelebolus*, namely *T. microcarpus*. The most morphologically related species are *T. ellipsoideus* and *T. globosus*, the main differences being the absence of an asexual morph (hyphozyma-like in *T. ellipsoideus* and in *T. globosus*) and the *textura angularis* of the ascomatal peridium of *T. microcarpus* (*textura globulosa* in *T. ellipsoideus* and *T. globosus*). The main difference between *T. microcarpus* and *T. microsporus* is that the latter produces ascomata that open in the meso- or the telo-hymenial phase (often becoming apothecial), while in *T. microcarpus* the ascoma remains closed until its disintegration. *Thelebolus microcarpus* can easily be distinguished from *T. stercoreus* based on its smaller (18–70 µm diam) ascomata (40–220 µm diam in *T. stercoreus*) and the fewer (–8) ascospores per ascus (from 32 to over 2 000 in *T. stercoreus*).



A maximum likelihood tree (MEGA v. 6) was obtained from the ITS and β-tubulin (*BT2*) sequences of our isolate and other sequences retrieved from the GenBank (De Hoog et al. 2005) (TreeBASE Submission ID 16400). In the tree, branch lengths are proportional to distance. Bootstrap support values ≥ 70 % and Bayesian posterior probability scores ≥ 0.95 are indicated on the nodes. A strain derived from the neotype of *Aureobasidium pullulans* var. *pullulans* and a strain of *Sclerotinia nivalis* were used as outgroup. Ex-type and ex-neotype strains of the different species are indicated with ^{T} and ^{NT}, respectively. The new species proposed in this study is indicated in **bold** face.

Colour illustrations. Abra del Infiernillo, Tucumán, Argentina. Ascomata, ascus and ascospores. Scale bars = 5 µm.

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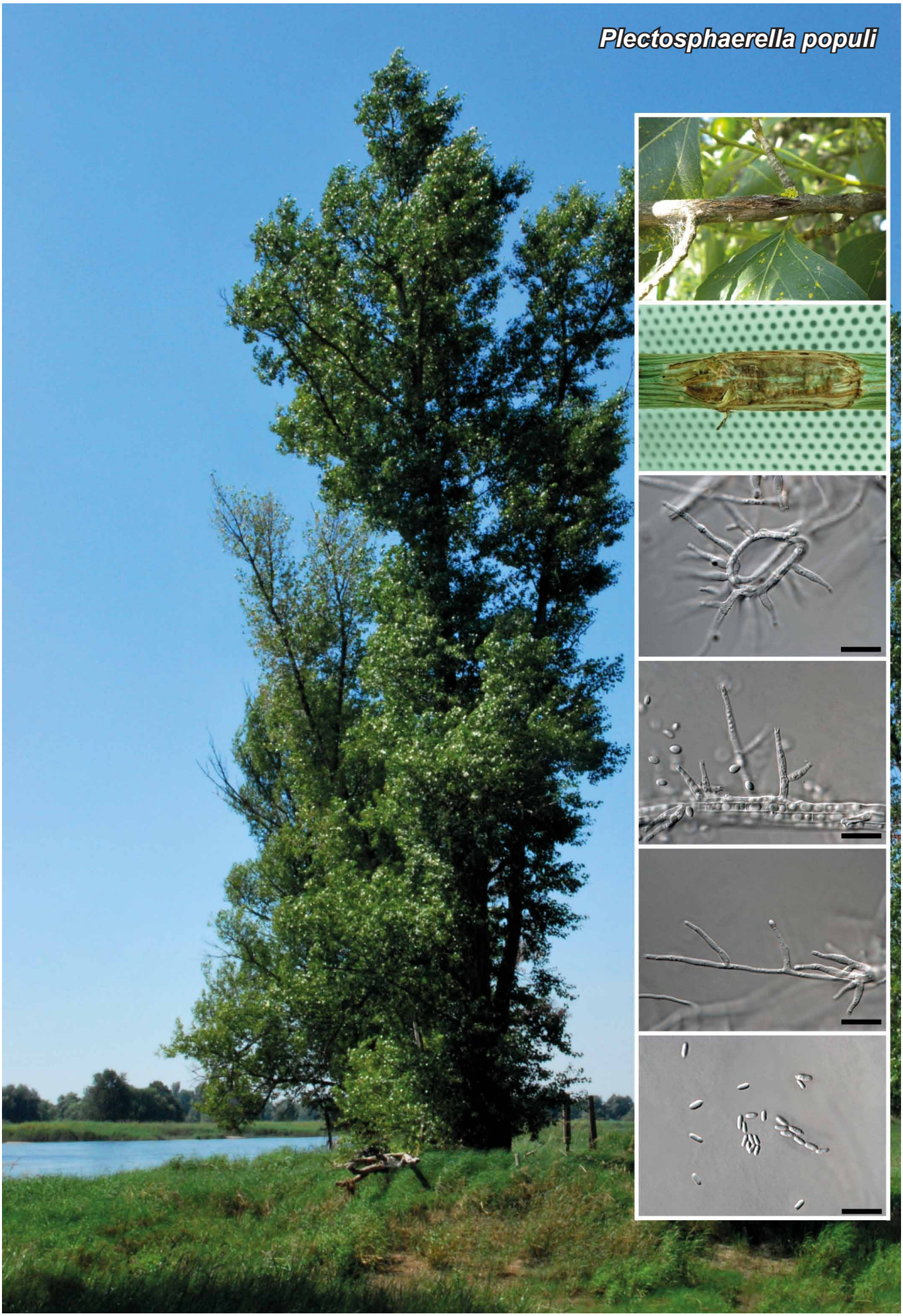

Plectosphaerella populi

Fungal Planet 369 – 10 June 2015

Plectosphaerella populi C. Ullah, A. Hammerbacher, S.B. Unsicker & L. Lombard, *sp. nov.*

Etymology. Name reflects the host genus *Populus*, from which the species was isolated.

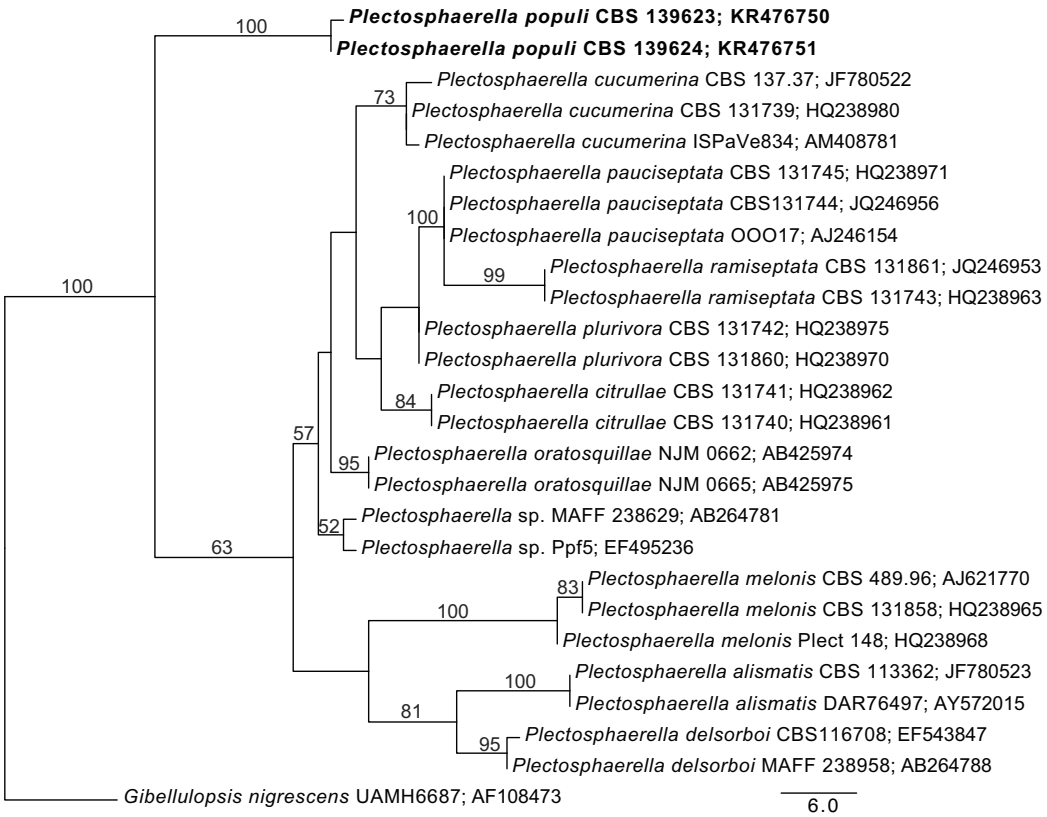
Classification — *Plectosphaerellaceae*, *Incertae sedis*, *Sordariomycetes*.

Conidiophores solitary, unbranched or rarely branched, hyaline, smooth, thin-walled, sometimes radiating out from sterile coils formed by the mycelium. *Conidiogenous cells* phialidic, sometimes polyphialidic, determinate, hyaline, smooth, sometimes with a single basal septum, widest at the base, straight to sinuous, gradually tapering to the apex, 8–40 × 2–3 µm, with periclinal wall thickening and cylindrical collarette. *Conidia* aggregating in slimy heads, ellipsoid, tapering to rounded apex and base, hyaline smooth, aseptate, with a minute apiculus at either end, 3–5(–6) × 2–4(–6) µm (av. 4 × 2 µm).

Culture characteristics — Colonies on 2 % PDA white, pink or buff, mycelium appressed, slimy, aerial mycelium sparse or absent. Aerial mycelium white, fluffy when present, limited to the inoculation point.

Typus. Germany, Brandenburg, Küstrin-Kietz, on branch of *Populus nigra*, Sept. 2013, *C. Ullah* (holotype CBS H-22183, culture ex-type CBS 139623; ITS sequence GenBank KR476750, LSU sequence GenBank KR476783; CBS 139624; ITS sequence GenBank KR476751, LSU sequence GenBank KR476784, MycoBank MB812297).

Notes — *Plectosphaerella populi* can be distinguished from other *Plectosphaerella* spp. (Carlucci et al. 2012) by its smaller aseptate conidia. Phylogenetic inference based on the ITS gene region also shows that this species is distinct from the other *Plectosphaerella* spp. As far as we are aware, no species of *Plectosphaerella* have been described from *Populus nigra*. Pathogenicity tests on symptomless branches of *P. nigra* resulted in the development of similar canker symptoms as was observed in the field with back isolations from induced cankers yielding only the test fungus.



Maximum likelihood tree (–lnL = –1344.942828) inferred from the internal transcribed spacer and intervening 5.8S rRNA gene region, rooted to *Gibellulopsis nigrescens*. Analysis was done using RAxML (Stamatakis et al. 2008) through the CIPRES website (http://www.phylo.org) using the GTR+P–Invar model. Bootstrap support values (replicates determined by the software) are indicated at the nodes. The species described here is indicated in **bold** face.

Colour illustrations. *Populus nigra* tree; canker on side branch, canker induced during pathogenicity tests, hyphal coil with radiating conidiophores, polyphialidic conidiophores, determinate conidiophores, conidia. Scale bars = 10 µm.

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Lorenzo Lombard, CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: l.lombard@cbs.knaw.nl


Ceratocystis adelpha

Fungal Planet 370 – 10 June 2015

Ceratocystis adelpha Fourie, M.J. Wingf. & I. Barnes, *sp. nov.*

Etymology. The name refers to a closely related *Ceratocystis* species also occurring on *Theobroma cacao*, from the Greek word *adelphe*, which means sister.

Classification — *Ceratocystidaceae*, *Microascales*, *Sordariomycetes.*

Ascomatal base dark brown to black, primarily globose but sometimes pear-shaped, (175–)205–250(–280) µm wide and (175–)210–265(–320) µm long. *Ascomatal necks* dark brown (440–)535–680(–760) µm long, (27–)30–38(–43) µm wide at the base of the neck and (17–)19–23(–27) µm wide at the apices. *Ostiolar hyphae* divergent, (79–)90–111(–117) µm long, hyaline and aseptate. *Ascospores* hyaline, aseptate, enveloped in hat-shaped sheaths 6 × 4 µm including sheath and 5 × 3.5 µm without sheath. Ascospores emerging through necks and accumulating in masses at the tips of the ostiolar hyphae, forming cream-coloured ascospore masses. *Mycelium* hyaline to pale brown, septate. *Conidiophores* hyaline, 2–10-septate and (65–)70–170(–280) µm long. *Conidiogenous cells* phialidic with ring-wall building conidiogenesis (Wingfield 1985), flask-shaped, (16–)40–60(–72) µm long, (4–)5–6(–7) µm wide at the base, 5–7(–8) µm wide at the broadest section and (2–)4–5 µm wide at the tips. *Conidia* hyaline, cylindrical (10–)14–35(–62) µm long and (4–)5(–6) µm wide, occasionally in chains, occasionally barrel-shaped. *Chlamydospores* dark brown, thick walled, smooth, pyriform (7–)8–12(–16) µm long and (5–)6–8(–11) µm wide, occurring singly at the tips of hyphae.

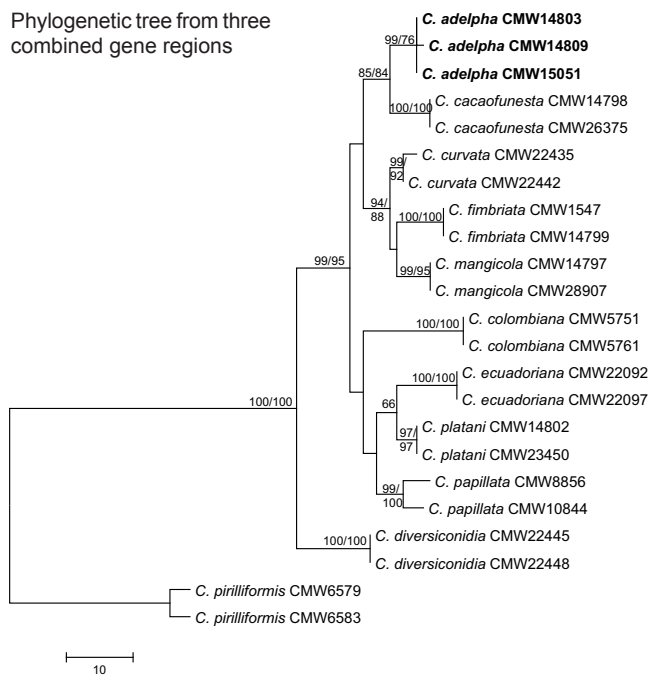
Culture characteristics — Colony colour on surface olive-buff (Rayner 1970). Ascomata abundant, mycelium aerial as well as submerged when grown on 2 % MEA. Growth up to 38 mm in 14 d at 24 °C in the dark. Cultures with irregular margins with sectoring of self-sterile and self-fertile segments on the plates (Wilken et al. 2014). Ascomata forming within the first week after transfer.

Typus. Ecuador, Pichilingue, from *Theobroma cacao*, Aug. 2001, coll. *C. Suarez & C. Belazaca* (holotype PREM 61152, cultures ex-type CBS 115169 = CMW 14809; ITS sequence GenBank DQ520637, βT1 sequence GenBank KJ601509, MS204 sequence GenBank KJ601563, RPBII sequence GenBank KJ601599, LSU sequence GenBank KR476787, MycoBank MB811981).

Additional material examined. Costa Rica, Atlantic side, *T. cacao*, May 1962, dep. *A.J. Hansen* (CBS 152.62 = CMW 15051; ITS sequence GenBank AY157951, βT1 sequence GenBank KJ601510, MS204 sequence GenBank KJ601564, RPBII sequence GenBank KJ601600, LSU sequence GenBank KR476786). – Ecuador, Pichilingue, on *T. cacao*, July 2000, coll. *T.C. Harrington* (CBS 115163 = CMW 14803; ITS sequence GenBank AY157950.1, LSU sequence GenBank KM495324, βT1 sequence GenBank KJ631108, MS204 sequence GenBank KJ601562, RPBII sequence GenBank KJ601598).

Colour illustrations. Diseased *Theobroma cacao* tree in Brazil; cylindrical conidia, conidiophore with phialidic conidiogenous cell as well as single chlamydospores at the tips of mycelium, hat-shaped ascospores, ascomatal neck with divergent ostiolar hyphae with hat-shaped ascospores emerging. Scale bars = 5 µm for top figures and 20 µm for bottom figures.

Notes — The genus *Ceratocystis* includes many important plant pathogenic fungi that infect a diversity of agricultural and tree crops (De Beer et al. 2014). *Ceratocystis adelpha* causes stem cankers and wilt of *Theobroma cacao* trees. It is described as being distinct from other *Ceratocystis* species based on a combination of phylogenetic analyses of the ITS, βT1, MS204 and RPBII gene regions as well as by diagnostic SNP markers (Fourie et al. 2014). The species is sister to *C. cacaofunesta* but can be distinguished from this species based on robust phylogenetic markers. Morphologically, *C. adelpha* also produces slightly longer ascomatal necks than *C. cacaofunesta* (535–680 µm vs 463–551 µm av.). *Ceratocystis cacaofunesta* occurs in Costa Rica, Brazil and Colombia whereas C. *adelpha* has previously been referred to as the Ecuadorian lineage due to the origin of isolates in this lineage. *Ceratocystis adelpha* was also distinguished from isolates of *C. cacaofunesta* based on intersterility tests (Engelbrecht & Harrington 2005) as well as data from microsatellite marker analyses and nuclear and mitochondrial DNA fingerprints (Engelbrecht et al. 2007).



One of the equally most parsimonious trees obtained from maximum parsimony analysis of the combined dataset of βT1, MS204 and RPBII (CI = 0.92, RI = 0.942) gene regions, respectively (for ITS tree, see MycoBank). Analyses were based on a heuristic search method and TBR tree construction, using PAUP* v. 4.0b10. Branch support values were obtained by 1 000 bootstrap replicates. Maximum likelihood analyses were performed using the HKY+G nucleotide substitution model in PhyML v. 3.0. Bootstrap support values are indicated above the branches. The newly described species, *C. adelpha*, is indicated in **bold** face. Trees and alignments were submitted to TreeBASE (submission ID 17339).

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