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Abstract
Novel species of microfungi described in the present study include the following from Australia: Bagadiella victoriae and Bagadiella koalae on Eucalyptus spp., Catenulostroma eucalyptorum on Eucalyptus laevocone, Cercoorpora eremochloae on Eremochloa bimaculata, Devriesia queenslandica on Scaevola taccada, Diaporthe musigena on Musa sp., Diaporthe acaciigena on Acacia retnodae, Leptoxylomyces eucalypticus on Eucalyptus sp., Neofusicoccum grevilleae on Grevillea aurita, Phytophthora fluvialis from water in native bushland, Pseudocercospora cyathicola on Cytherea australis, and Teratosphaeria mareebensis on Eucalyptus sp. Other species include Passalora leptophlebiae on Eucalyptus leptophlebia (Brazil), Exophiala tremulae on Populus tremuloides and Dictyosporium stellatum from submerged wood (Canada), Mycosphaerella valgourgensis on Yucca sp. (France), Sclerostagonospora cycadis on Cycas revoluta (Japan), Rachicladosporium pini on Pinus monophylla (Netherlands), Mycosphaerella wachendorfiae on Wachendorfia thyrsifolia and Diaporthe rhusicola on Rhus pendulina (South Africa). Novel genera of hyphomycetes include Noosia banksiae on Banksia aemula (Australia), Utretchitina cibesia on Phragmites australis (Netherlands), and Funbolia dimorpha on blackened stem bark of an unidentified tree (USA). Morphological and culture characteristics along with ITS DNA barcodes are provided for all taxa.

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Neighbour-joining tree obtained using a distance analysis with a general time reversible (GTR) substitution model on the partial 28S nrRNA gene alignment (780 nucleotides including alignment gaps) as implemented in PAUP v4.0b10 (Swofford 2003). Novel species are indicated in a red font and the orders are indicated on the right-hand side of the figure. The scale bar indicates the number of substitutions per site and the bootstrap support values (based on 1 000 replicates) are shown by colour-coded dots for values >79 % (see legend on figure). The tree was rooted to species of the order Peronosporales.
Cercospora eremochloae
Cercospora eremochloae R.G. Shivas & A.J. Young, sp. nov.

Conidiophora 2–10, fasciculi laxis in stratum pagina, erecta, geniculata-sinuata, paulum attenuata, ramosa vel inramosa, rubella-brunnea pallidiorescentia ad apicem, 100–275 × 4–6 µm, usque ad 20 septata, paries levis. Cellulae conidiogenae terminales, monoblasticae vel polyblasticae, sympodiales, geniculatae, brunneolae; cicatrices conidiales conspicuae, crassatae et refractiae, terminales et laterales. Conidia solitaria vel catenis brevibus septata, levia, extrema rotundata, basis obconice truncata, hila crassata et refractiva.

Cellulae conidiogenae terminales, monoblasticae vel polyblasticae, sympodiales, geniculatae, brunneolae; cicatrices conidiales conspicuae, crassatae et refractiae, terminales et laterales. Conidia solitaria vel catenis brevibus septata, levia, extrema rotundata, basis obconice truncata, hila crassata et refractiva.

**Leaf spots** amphigenous, narrow elliptical, often elongated, up to 7 cm long, 0.5–1.5 mm wide, smaller leaf spots bordered by veins, centres orange to pale brown with darker reddish to purplish brown diffuse margins. *Mycelium* internal. *Stromata* reddish brown, erumpent, usually filling stomatal opening; up to 40 µm diam. *Conidiophores* 2–10, in loose fascicles on the surface of the stromata, erect, geniculate-sinuous, slightly attenuated, branched or unbranched, reddish brown becoming paler towards the apex, 100–275 × 4–6 µm, up to 20-septate, wall smooth. *Conidiogenous cells* terminal, monoblastic or polyblastic, sympodial, geniculate, pale brown; conidial scars conspicuous, thickened and refractive, terminal and lateral. *Conidia* solitary or in short branched and unbranched chains, cylindrical, ellipsoidal, obvoid, obclavate to fusiform, straight, hyaline to subhyaline, 10–35 × 3.0–7.5 µm, (0–)1–4(–6)-septate, smooth, ends rounded, base obconically truncate, hila thickened and refractive.

**Etymology.** Derived from the name host plant genus, *Eremochloa* (Poaceae).

Leaf spots amphigenous, narrow elliptical, often elongated, up to 7 cm long, 0.5–1.5 mm wide, smaller leaf spots bordered by veins, centres orange to pale brown with darker reddish to purplish brown diffuse margins. *Mycelium* internal. *Stromata* reddish brown, erumpent, usually filling stomatal opening; up to 40 µm diam. *Conidiophores* 2–10, in loose fascicles on the surface of the stromata, erect, geniculate-sinuous, slightly attenuated, branched or unbranched, reddish brown becoming paler towards the apex, 100–275 × 4–6 µm, up to 20-septate, wall smooth. *Conidiogenous cells* terminal, monoblastic or polyblastic, sympodial, geniculate, pale brown; conidial scars conspicuous, thickened and refractive, terminal and lateral. *Conidia* solitary or in short branched and unbranched chains, cylindrical, ellipsoidal, obvoid, obclavate to fusiform, straight, hyaline to subhyaline, 10–35 × 3.0–7.5 µm, (0–)1–4(–6)-septate, smooth, ends rounded, base obconically truncate, hila thickened and refractive.

**Notes** — Species of *Cercospora* s.str. have conspicuously thickened and darkened conidial scars and hyaline or subhyaline, solitary (rarely catenate) conidia formed on pigmented (rarely hyaline to subhyaline) conidiophores (Braun 1995, Crous & Braun 2003, Crous et al. 2009b, c). *Cercospora eremochloae* differs from *Cercospora* s.str. in having non-acicular, hyaline to faintly pigmented conidia that are either solitary or in short, branched to unbranched chains. DNA sequence data indicated, however, that *C. eremochloae* clusters with the *Cercospora* complex, which forms a well-defined clade in the *Mycosphaerellaceae* (Crous et al. 2009b, c). When this specimen was examined by B.C. Sutton in 1988, he reported that he would place it in *Phaeoramularia* as the conidia were catenate and that this specimen was unlike any of the graminicolous members of the *'Cercospora'* groups. However *Phaeoramularia* was reduced to synonymy with *Passalora* (Crous & Braun 2003), which currently represents an unresolved and inordinately wide complex of taxa (Crous et al. 2009b, c).

**BLASTn** results of the ITS sequence of *C. eremochloae* indicated similarity to sequences of *Mycosphaerella berbe-nidis* (EU167603; Identities = 481/499 (96 %), Gaps = 6/499 (1 %)), and *Cercospora agavica* (AY647237; Identities = 481/501 (96 %), Gaps = 10/501 (1 %)). The LSU sequence (HM235406) shared 877/885 sequence identities with *C. zebri-nae* (GU214657), indicating it is phylogenetically distinct from *Cercospora* s.str. Genomic DNA of *C. eremochloae* (holotype) is stored in the Australian Biosecurity Bank (http://www.padlib.gov.au/).

Maximum Likelihood Tree obtained using the General Time Reversible Model from an ITS sequence alignment generated with MUSCLE in MEGA4 (Tamura et al. 2007). The bootstrap support values from 1 000 replicates are shown at the nodes. Bar represents number of substitutions per site. The species described here is printed in **bold** face. The tree was rooted to *Pseudocercospora avicenniae* (GenBank GU188047).
Exophiala tremulae
Fungal Planet 70 – 31 May 2011

**Exophialae tremulae** W. Wang, sp. nov.

*Exophialae pisciphila* similis, sed conidiis minoribus, 3–4 × 1–1.5 µm.

**Etymology.** Named after its host species, *Populus tremuloides*.

Hyphae smooth, straight to toruloid, up to 1.5 µm wide. *Conidiophores* monilioid, branched, smooth, up to 30 mm long (Fig. a, b). *Conidiogenous cells* annellidic (Fig. b–e), arising from conidiophores or directly from vegetative hyphae (Fig. a, b), ellipsoidal to ampulliform (Fig. b, d, e), 2.2–6 × 1.5–2 µm, annellides elongated (Fig. d, e), 8 × 1.3 µm. *Conidia* cylindrical, rounded at the apex, truncate at the base, hyaline, smooth, 0–1-septate (Fig. b–d), 3–4 × 1–1.5 µm. Seta-like hyphae and chlamydospires absent. *Telemorph* unknown.

**Culture characteristics.** Colonies on 2 % potato-dextrose agar (PDA) after 22 °C for 14 d were 10–15 mm diam, velvety to floccose, olivaceous to greyish black, aerial hyphae humped, pale brown at the centre, reverse olivaceous to black. Colonies on 2 % malt extract agar (MEA) and cereal agar (25 g PablumTM Mixed Cereal baby food (Mead Johnson & Co., Pittsburgh, PA, USA), 5 g select agar (Invitrogen, Carlsbad, CA, USA), 1 L dH2O) grew faster (15–20 mm diam at 22 °C after 14 d) while growth was slower on Sabouraud’s agar and V-8 juice agar (only 10 mm diam at 22 °C after 14 d). Sporulation occurred on MEA and oatmeal agar after about 1 mo of incubation. Yeast-like growth occurred on PDA after 7 d.

**Known distribution.** Only from the type locality.

**Type.** *Canada*, Alberta, Edmonton, Lamont, alt. c. 664 m, from roots of apparently healthy 5–7-year-old *Populus tremuloides* sapling, 23 June 2004, W. Wang, holotype UAMH 10998, ITS sequence GenBank FJ665274 and LSU sequence GenBank JF951155.

**Notes.** *Exophialae tremulae* tested negatively for phenoloxidase and positively for gelatinase and cellulase. It was unable to break down casamino acids but acidified the media as indicated by the yellow colour formation in the agar. This suggests that *E. tremulae* could act as a saprobe of primary incidence (Munk 1957). The ecological role of *E. tremulae* is presently still unknown. BLASTn results of the ITS sequence showed that *E. tremulae* had a high similarity to *E. pisciphila* (94 % identical) and *E. salmonis* (96 % identical).

Colour illustrations. *Populus tremuloides* stand in Alberta, Canada. a. Toruloid hyphae and conidiophores; b. conidiogenous cells (arrows) and conidia (arrow head); c. annellide (arrow); d. annelations (arrow); e. an elongated annellide (arrow). — Scale bars: a = 20 µm; b = 1.5 µm; c, d = 2 µm; e = 1 µm.

Single most parsimonious tree (TL = 880; CI = 0.651; RI = 0.568; HI = 0.349) obtained from a heuristic search with 1 000 random taxon additions of an ITS sequence alignment with PAUP v4.0b10 (Swofford 2003), showing the relationship between *Exophialae tremulae* sp. nov. and other related *Capronia* spp., *Exophiala* spp., and *Rhinodadiella* spp. The scale bar shows 50 changes, and bootstrap support values over 50 % from 1 000 replicates are shown at the nodes. The species described here is printed in **bold** face. Ex-types were flagged with ‘T’. GenBank, ATCC, CBS, DAOM, dH, UAMH, and UTHSC accession numbers are also indicated. The tree was rooted to *Cadosporium sphaerospermum* and *Rhinocladiella apiculatum*. The alignment and tree is available in MycoBank (Accession MB519208).

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**Funbolia** Crous & Seifert, *gen. nov.*

Spadicoides morphologicae similis, sed conidiis dimorphis, sine septis fuscatis.

Etymology: Named after the Fungal Barcode of Life group that convened at Front Royal, Virginia (USA) in 2007 to initiate the CBOL Fungal Working Group.

Associated with bark of a living tree. Mycelium of pale brown to hyaline, branched hyphae, giving rise to conidiophores. Conidiophores solitary, erect, straight to flexuous, cylindrical, unbranched, or branched below, brown, finely verruculose, multi-euseptate. Conidiogenous cells terminal and lateral, pale to medium brown, finely verruculose, subcylindrical to somewhat swollen, clavate to irregular; loci aggregated in a rachis, at times subdenticulate with minute collarette; scars thickened along the rim, erumpent, but not darkened nor refractive. Conidia dimorphic, medium brown, finely verruculose, ellipsoidal when 1-septate, becoming subcylindrical when multisepate, apex obtusely rounded, tapering from basal septum to an obconically truncate hilum, not thickened, nor darkened (at times appearing to have a marginal frill); transversely euseptate.

Type species. *Funbolia dimorpha.* MycoBank MB560161.

Notes — *Funbolia* resembles genera such as *Spadicoides* (but conidia lack the darkened septa), *Neta* (but lacks setae), *Thysanorea* (but has dimorphic conidia), and *Catenulisubulospora* (which lacks dimorphic conidia and has beaked conidia) (Seifert et al. 2011). Because it could not be accommodated in any of the genera listed here and its DNA sequences did not match any fungi currently deposited in GenBank, we introduce a new genus here to accommodate it.

**Funbolia dimorpha** Crous & Seifert, *sp. nov.*

Conidiophora solitaria, erecta, ramosa vel non ramosa, subtiliter verruculosa, pluri-euseptata. Cellulae conidiogeneae terminalia et lateralia, pallide vel medio-brunneae, subtiliter verruculose, subcylindraceae vel tenier inflatae, clavatae vel irregulariae; locis conidiogenis aggregatæ in rachis, interdum subdenticulatæ. Conidia dimorpha, medio-brunneae, subtiliter verruculosae, subcylindraceae vel leniter inflatae, pluri-euseptata. Cellulae conidiogenae terminales et laterales, pallide vel medium brown, finely verruculose, subcylindrical to somewhat swollen, clavate to irregular, 7–20 × 2.5–5 μm; conidiogenous loci dispersed on conidiogenous cells in young cultures, aggregated in a rachis on conidiogenous cells in older cultures, at times subdenticulate with minute collarette, up to 1 μm tall, and 1 μm diam; scars thickened along the rim, erumpent, but neither darkened nor refractive. Conidia dimorphic, medium brown, finely verruculose, subcylindrical when 1-septate, (6–)8–11(–20) × (4–)5 μm, becoming subcylindrical when multisepate, apex obtusely rounded, tapering from basal septum to an obconically truncate hilum, 1 μm diam, not thickened, nor darkened (at times appearing to have a marginal frill); (2–)3(–7)-euseptate, becoming darkened in older conidia, and also constricted at septa, (15–)20–35(–45) × (4–)5 μm; microcyclic conidiation observed in culture.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies flat, spreading, with sparse to moderate aerial mycelium and even, lobate margins, reaching 8–10 mm diam. On potato-dextrose agar surface isabelline, reverse olivaceous; on oatmeal agar surface isabelline; on malt extract agar margin somewhat feathery, surface umber, reverse chestnut, with diffusible isabelline pigment surrounding colony.

Typeys. USA, Virginia, Front Royal, N 38°53'35" W 78°10'50", on blackened stem bark of unidentified tree, 14 May 2007, P.W. Crous & K.A. Seifert, holotype CBS H-20577, cultures ex-type CPC 14170 = CBS 126491, ITS sequence GenBank JF951136 and LSU sequence GenBank JF951156, MycoBank MB560158.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hit using the ITS sequence is *Didymosphaeria futilis* (GenBank EU552123; Identities = 471/552 (85 %), Gaps = 28/552 (5 %)) followed by species of *Cladonia* with shorter homology, e.g. *Cladonia subtenuis* (GenBank DQ482701; Identities = 242/271 (89 %), Gaps = 8/271 (3 %)). Closest hits using the LSU sequence yielded highest similarity to *Heleiosa barbatula* (GU479787; Identities = 834/891 (94 %), Gaps = 8/891 (1 %)), *Caloplaca sublobulata* (EF489950; Identities = 859/947 (91 %), Gaps = 24/947 (3 %)) and *Caloplaca regalis* (EU161240; Identities = 850/938 (91 %), Gaps = 24/938 (3 %)).
Neofusicoccum grevilleae
**Neofusicoccum grevilleae** Crous & R.G. Shivas, sp. nov.

*Neofusicocci parvi similis, sed conidiis majoribus, (20–)25–28(–32) × (6–)7–8(–10) µm.*

**Etymology.** Named after the host from which it was isolated, *Grevillea aurea*.

**Leaf spots** medium brown, situated along leaf margins, surrounded by a dark red-brown border; spots extending to the mid-rib, up to 7 mm diam, and up to 2 cm long. **Conidiomata** amphigenous, pycnidialoid, stromatic, up to 200 µm diam (on sterilised pine needles); wall consisting of 3–5 layers of brown *textura angularis*. **Conidiophores** lining the inner layer of conidioma, hyaline, smooth, 0–1-septate, 15–30 × 3–5 µm. **Conidigenous cells** phialidic, integrated, doliiform to subcylindrical, 15–25 × 3–4 µm, proliferating 2–3 times percurrently near apex. **Conidia** hyaline, smooth, thin-walled, with granular cytoplasm, fusoid-ellipsoidal, widest in middle or in upper third of conidium, apex subobtuse, base truncate, (20–)25–28(–32) × (6–)7–8(–10) µm (av. 25.7 × 7.5 µm; L : W = 3.4 : 1).

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies flat, spreading, with abundant, grey aerial mycelium, covering the dish after 7 d. On potato-dextrose agar, oatmeal agar and malt extract agar iron-grey; sporulating poorly on water agar supplemented with sterile pine needles; no *Dichomera* synanamorph observed.

**Typos.** Australia, Queensland, Brisbane, on leaves of *Grevillea aures*, 14 July 2009, P.W. Crous & R.G. Shivas, holotype CBS H-20578, cultures ex-type CPC 16999 = CBS 129518, ITS sequence GenBank JF951137 and LSU sequence GenBank JF951157. MycoBank MB560162.

**Notes** — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hit using the ITS sequence is representatives of the *Neofusicoccum ribis* complex, e.g. *Neofusicoccum ribis* (HQ392732; Identities = 548/561 (98 %), Gaps = 2/561 (0 %)) and *Neofusicoccum parvum* (EU080926; Identities = 561/575 (98 %), Gaps = 5/575 (0 %)). A similar search using the LSU sequence confirms this association with closest hits including *Neofusicoccum ribis* (DQ246263; Identities = 903/906 (99 %), Gaps = 0/906 (0 %)) and *Neofusicoccum mangiferae* (DQ377921; Identities = 908/912 (99 %), Gaps = 0/912 (0 %)). *Neofusicoccum grevilleae* is morphologically similar to *N. parvum* (conidia 12–25 × 5–7.5 µm; Crous et al. 2006) and *N. ribis* (conidia 16–24 × 5–7 µm; Slippers et al. 2004), but can be distinguished from it in having slightly larger conidia (20–32 × 6–10 µm).

**Colour illustrations.** Grevillea aurea in Brisbane Botanical Garden; symptomatic leaf; culture sporulating on sterile pine needle; conidigenous cells and conidia. Scale bar = 10 µm.
Diaporthe musigena
Phomopsis longicollae similis, sed conidiis majoribus, (7–)8–10(–12) × (2–)2.5(–3) µm, discernitur.

Etymology: Named after the host from which it was isolated, Musa sp.

Pycnidia associated with necrotic leaf tissue; pycnidia in culture on pine needle agar subglobose, up to 250 µm diam, somewhat erumpent, with elongated black necks, mostly submerged into tissue; yellow conidial droplets exuding from ostioles; walls consisting of 3–6 layers of medium brown textura angularis. Conidiophores hyaline, smooth, 1–3-septate, branched, densely aggregated, cylindrical, straight to sinuous, 15–40 × 1.5–2.5 µm. Conidiogenous cells phialidic, cylindrical, terminal and lateral, with slight taper towards apex, 0.5–1 µm, with visible periclinal thickening; collarette not flared, 2–5 µm long. Paraphyses hyaline, smooth, cylindrical, septate, extending above conidiophores, straight, flexuous, unbranched, or branched below, up to 80 µm long, 2–2.5 µm wide at base. Alpha conidia aseptate, hyaline, smooth, fusiform, tapering towards both ends, straight to slightly curved, acutely rounded, and base subtruncate, (7–)8–10(–12) × (2–)2.5(–3) µm. Gamma conidia aseptate, hyaline, smooth, ellipsoid-fusoid, apex acutely rounded, base subtruncate to acutely rounded, 7–9 × 4–5 µm. Beta conidia developing in older cultures, conidia aseptate, hyaline, smooth, spindle-shaped, apex acutely rounded, base truncate, tapering more prominently in upper third, straight to curved, (14–)19–22(–25) × (1.5–)2 µm.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies on potato-dextrose agar, oatmeal agar and malt extract agar fast growing, with abundant dirty white to cream, fluffy aerial mycelium, and small patches of grey olivaceous due to pycnidial formation.

Typus: AUSTRALIA, Queensland, Brisbane, S 27°28'34.8" E 152°58'40.8" on leaves of Musa sp., 14 July 2009, P.W. Crous & R.G. Shivas, holotype CBS H-20579, cultures ex-type CPC 17026, 17025 = CBS 129519, ITS sequence GenBank JF951138 and LSU sequence GenBank JF951158, MycoBank MB560160.

Notes — Two Phomopsis (teleomorph: Diaporthe) species are known from Musa, but they have smaller conidia than D. musigena, namely Phomopsis musae (alpha conidia 5–9 × 1.5–2.5 µm, beta conidia 17–23 × 1 µm, on stems and fruits, France), and P. musicola (alpha conidia 5–9 × 2–2.5 µm, Honolulu, Hawaii). Diaporthe musae, described from Musa in Argentina (Uecker 1988), has no known Phomopsis state, and thus cannot be compared to the present collection. Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence of D. musigena are Phomopsis longicolla (FJ755236; Identities = 519/525 (99 %), Gaps = 1/525 (0 %)) and Diaporthe phaseolorum (EF488422; Identities = 541/550 (98 %), Gaps = 1/550 (0 %)). The association with Phomopsis/Diaporthe was confirmed by the LSU sequence.

Colour illustrations. Musa sp. in Brisbane Botanical Garden; symptomatic leaf; sporulation on potato-dextrose agar; conidiophores giving rise to alpha and beta conidia. Scale bar = 10 µm.
Pseudocercospora cyathicola
Fungal Planet 74 – 31 May 2011

**Pseudocercospora cyathicola** Crous & R.G. Shivas, *sp. nov.*

*Pseudocercosporae macadamiae* similis, sed conidiis majoribus, (35–)60–80(–90) × (2–)3(–3.5) µm, discernitur.

**Etymology.** Named after the host from which it was isolated, *Cyathea australis*.

Occurring on dead fronds, associated with a *Mycosphaerella*-like teleomorph. *Mycelium* internal, consisting of smooth, pale brown, septate, branched, 2.5–3 µm diam hyphae. *Stromata* amphigenous on fronds, brown, erumpent, up to 60 µm diam and 40 µm high, giving rise to fascicles of conidiophores. *Conidiophores* subcylindrical, pale to medium brown, smooth, straight to geniculate-sinuous, unbranched, 30–70 × 2–3 µm, 1–3-septate. *Conidiogenous cells* terminal, integrated, pale brown, smooth, proliferating percurrently, scars inconspicuous, on truncate ends, 1.5–2 µm wide. *Conidia* solitary, pale brown, smooth, guttulate, subcylindrical but irregular in width, straight to irregularly curved, hilum truncate, 2 µm wide, neither thickened nor darkened, tapering from the middle of the conidium to an acutely rounded apex, 3–9-septate, (35–)60–80(–90) × (2–)3(–3.5) µm.

**Culture characteristics** — (in the dark, 25 °C, after 1 mo): Colonies spreading, somewhat erumpent, with moderate aerial mycelium and smooth, lobate margins, reaching 35–45 mm diam. On malt extract agar surface olivaceous grey, with patches of smoke-grey; reverse iron-grey; on potato-dextrose agar surface pale olivaceous grey, margin olivaceous grey, reverse iron-grey; on oatmeal agar surface pale olivaceous grey, margin olivaceous grey.

**Notes** — DNA sequence data of the ITS region of *P. cyathicola* is 100 % identical to sequences deposited as *P. macadamiae* in GenBank (EU541884; Identities = 473/473 (100 %), Gaps = 0/473 (0 %)). The LSU sequence confirms its association with *Pseudocercospora*. However, *P. cyathicola* is morphologically different from the latter by having unbranched conidiophores, and conidia that are longer than those of *P. macadamiae* (17–)45–69 × 2–2.5 µm (Beilharz et al. 2003).

*Pseudocercospora cyathicola* is distinct from *P. cyatheae* (on *Cyathea* sp., Japan), which has conidiogenous cells with a rim-like thickening at the tip, and cylindrical to obclavate conidia, 30–50 × 3.7–5.5 µm (Nakashima et al. 2006).

Colour illustrations. *Cyathea australis* in Brisbane Botanical Garden; conidiophores giving rise to conidia. Scale bar = 10 µm.
Diaporthe acaciigena
Diaporthe acaciigena Crous, Pascoe & Jacq. Edwards, sp. nov.

Phomopsis amygdali similis, sed conidiis majoribus, (9–)10–11(–12) × (4–)6–6.5(–7) µm, discernitur.

Etymology. Named after the host from which it was isolated, Acacia retinodes.

On potato-dextrose agar. Conidiomata associated with brown leaf spots, pycnidial, brown, superficial to embedded, solitary to aggregated, opening via a central ostiole, exuding a creamy conidial cirrhus; pycnidia up to 200 µm diam; wall 15–30 µm diam, consisting of several layers of brown textura angularis. Conidiophores lining the inner layer of the cavity, subcylindrical, hyaline, smooth, reduced to conidigenous cells, or 1–3-septate, branched, with terminal and lateral conidigenous cells, 10–30 × 2–3 µm. Conidigenous cells phialidic, hyaline, smooth, subcylindrical, with slight taper towards apex, 10–20 × 1.5–2 µm; apex with visible periclinal thickening and minute, flaring collarette, 1 µm long. Alpha conidia hyaline, smooth, granular, aseptate, ellipsoid to subclavate, widest in middle or lower third, apex obtusely rounded, base also obtusely rounded, with visible flat hilum when young, (9–)10–11(–12) × (4–)6–6.5(–7) µm. Beta conidia hyaline, smooth, aseptate, guttulate, allantoid, mostly somewhat curved, apex obtuse, base also obtusely rounded to somewhat flattened, 7–8(–10) × (1.5–)2 µm.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading with sparse aerial mycelium, covering the dish in 2 wk; on potato-dextrose agar, surface dirty white to cream, reverse ochreous; on oatmeal agar surface vinaceous-buff; on malt extract agar surface greyish sepia, reverse fuscous-black.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are Phomopsis amygdali (GU133064; Identities = 575/602 (96 %), Gaps = 12/602 (2 %)) and Diaporthe phaseolorum (AF001018; Identities = 574/611 (94 %), Gaps = 21/611 (3 %)) van Rensburg et al. 2006), from which P. acaciigena is clearly distinct based on its larger conidial dimensions. The association with Phomopsis/Diaporthe was confirmed by the LSU sequence.

Typus. AUSTRALIA. Victoria, Otway Ranges, Anglesea, S 38°23'21.7" E 144°11'12.7" on leaves of Acacia retinodes, 16 Oct. 2009, P.W. Crous, I.G. Pascoe & J. Edwards, holotype CBS H-20581, cultures ex-type CPC 17622 = CBS 129521, ITS sequence GenBank JF951140 and LSU sequence GenBank JF951160, MycoBank MB560164.

Colour illustrations. Mixed stand of Eucalyptus and Acacia in the Grampians; sporulation on sterile pine needle; conidiophores giving rise to alpha and beta conidia. Scale bar = 10 µm.
Bagadiella victoriae
Bagadiella victoriae Crous, I.J. Porter & Jacq. Edwards, sp. nov.

Bagadiellae lunatae similis, sed conidiis majoribus, (15–)17–22(–25) \times (1–)1.5 µm, discernitur.

Etymology. Named after the state of Victoria, Australia, where this fungus was collected.

On potato-dextrose agar. Conidiophores aggregated in brown fascicles on leaves. In culture on potato-dextrose agar, sporulating on conidiophores that occur solitary on hyphae. Mycelium consisting of medium brown, smooth, septate, 2–2.5 µm diam hyphae. Conidiophores subcylindrical, brown, smooth, straight to gently curved, 1–3-septate, 30–50 × 2–3 µm. Conidiogenous cells terminal, integrated, pale to medium brown, smooth, 10–15 × 1.5–2 µm; apex with flared collarette, 1–2 × 2–3 µm. Conidia hyaline, smooth, curved, with bluntly rounded apex and truncate base, (15–)17–22(–25) \times (1–)1.5 µm.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies spreading, flat, with sparse aerial mycelium, and submerged, feathery margin, reaching 40–60 mm diam; on potato-dextrose agar, surface olivaceous grey with patches of pale olivaceous grey and smoke-grey, reverse iron-grey with patches of smoke-grey; on oatmeal agar surface umber in inner region, with patches of chestnut; on malt extract agar surface ochreous to dirty white, reverse umber.

Colour illustrations. Eucalyptus trees at Sunny Ridge Strawberry Farm, Melbourne; conidiogenous cells and conidia. Scale bar = 10 µm.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are Bagadiella sp. CPC 16622 (GQ303270; Identities = 711/713 (99 %), Gaps = 0/713 (0 %)) and Bagadiella lunata (GQ303269; Identities = 702/714 (98 %), Gaps = 5/714 (1 %)) (Cheewangkoon et al. 2009). These associations were also supported by the LSU sequence.
Bagadiella koalae Crous, Pascoe, I.J. Porter & Jacq. Edwards, sp. nov.

Bagadiellae lunatae similis, sed conidiis majoribus, (15–)17–20 × 1.5–2 µm, discernitur.

Etymology. Named after the koala that was observed eating these Eucalyptus globulus leaves.

On potato-dextrose agar. Conidiophores aggregated in brown fascicles on leaves. In culture on potato-dextrose agar, sporulating on conidiophores that occur solitary on hyphae. Mycelium consisting of medium brown, smooth, septate, 2–2.5 µm diam hyphae. Conidiophores subcylindrical, brown, smooth, straight to gently curved, 1–3-septate, 15–30 × 3–4 µm. Conidiogenous cells terminal, integrated, pale to medium brown, smooth, 7–15 × 2–3 µm; apex with flared collarette, 1–2 × 2–3 µm. Conidia hyaline, smooth, curved, with bluntly rounded apex and truncate base, (15–)17–20 × 1.5–2 µm.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies spreading, flat, with sparse aerial mycelium, and submerged, feathery margin, reaching 35–60 mm diam; on potato-dextrose agar, surface grey olivaceous, reverse olivaceous grey; on oatmeal agar surface umber with patches of peach; on malt extract agar surface ochreous, reverse umber.

Typus. AUSTRALIA, Victoria, Otway Ranges, Kennett River, Great Ocean Road, on leaves of Eucalyptus globulus eaten by koala, 18 Oct. 2009, P.W. Crous, I.G. Pascoe, I.J. Porter & J. Edwards, holotype CBS H-20583, cultures ex-type CPC 17682 = CBS 129523, ITS sequence GenBank JF951142 and LSU sequence GenBank JF951162, MycoBank MB560166.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are Bagadiella sp. CPC 16622 (GQ303270; Identities = 706/713 (99 %), Gaps = 4/713 (1 %)) and Bagadiella lunata (GQ303269; Identities = 702/707 (99 %), Gaps = 1/707 (0 %)) (Cheewangkoon et al. 2009). These associations were also supported by the LSU sequence. Bagadiella victoriae is distinct on its ITS sequence (Identities = 705/712 (99 %), Gaps = 4/712 (1 %)) and LSU sequence (Identities = 918/922 (99 %), Gaps = 0/922 (0 %)).

Colour illustrations. Koala at Kennett River, eating leaves of Eucalyptus globulus from which B. koalae was isolated; conidiogenous cells and conidia. Scale bar = 10 µm.
Mycosphaerella wachendorfiae
**Mycosphaerella wachendorfiae** Crous, sp. nov.

Ascis fasciculatis, obovoidibus, bitunicatis, octosporis, 40–60 × 12–20 µm. Ascosporis hyalinis, levibus, fusoidibus-ellipsoideis, (15–)18–20(–22) × (4–)5(–6) µm.

**Etymology.** Named after the host from which it was collected, *Wachendorfia thyrsifolia*.

**Leaf spots** dark brown, amphigenous, starting as specks or irregular spots with diffuse margins, developing into linear lesions that run along the side of the leaf, and cause tip die-back, with distinct brown margins. Ascomata up to 130 µm diam, amphigenous, brown, subepidermal, globose, with central ostiole, up to 30 µm wide. Asci fasciculate, obovoid, bitunicate, incurved, 8-spored, 40–60 × 12–20 µm, with apical chamber, 2 µm diam, and multi-layered endotunica; remnants of hamathecial tissue remaining among asci. Ascospores hyaline, smooth, fusoid-ellipsoidal, guttulate, tapering towards both ends, widest in middle of apical cell, constricted at septum, (15–)18–20(–22) × (4–)5(–6) µm; ascospores germinating from both ends, with germ tubes parallel to the long axis; spores prominently distorting, becoming up to 10 µm wide, but remaining hyaline, smooth. Mycelium consisting of smooth, septate, branched, 2–4 µm diam hyphae, frequently covered in a wide mucoid sheath, up to 5 µm diam. Anamorph only observed on malt extract agar. Conidiophores reduced to conidiogenous cells or a single supporting cell, subcylinindrical, straight or flexuous, 2–20 × 3–5 µm, hyaline, but eventually becoming brown and somewhat warty, with several percurrent proliferations at the apex, solitary, though they appear to become aggregated in sporodochia as well. Conidia solitary, subcylinindrical to fusoid-ellipsoidal, with obtusely rounded apex, and truncate base with marginal frill, guttulate, thick-walled, smooth, hyaline, straight to slightly curved, (12–)13–16(–20) × (3.5–)4(–4.5) µm.

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies slow growing, erumpent, with sparse aerial mycelium, folded surface, and lobed, feathery margin, reaching 6 mm diam; on malt extract agar surface olivaceous grey with patches of dirty white, reverse sienna; on oatmeal agar surface sienna; on potato-dextrose agar surface olivaceous grey with patches of saffron and dirty white, reverse saffron with patches of smoke-grey.

**Typus.** **SOUTH AFRICA,** Western Cape Province, Hermanus, Fernkloof Nature Reserve, S 34°23’38” E 19°16’9.7”, on leaves of *Wachendorfia thyrsifolia,* 2 May 2010, K.L. Crous & P.W. Crous, holotype CBS H-20584, cultures ex-type CPC 18338 = CBS 129579, ITS sequence GenBank JF951143 and LSU sequence GenBank JF951163, MycoBank MB560167.

**Notes** — The anamorph observed in culture is quite unique for *Mycosphaerella,* and appears to represent a hyaline form of the genus *Colletogloeopsis* (Crous & Wingfield 1997), which has since been reduced to synonymy with *Teratosphaeria* (Crous et al. 2007a, b, 2009b, c). The anamorph would be best placed in the genus *Ahmadia* (Sutton 1980), though no sequence data of any other members of *Ahmadia* are presently available for any possible comparisons.

*Mycosphaerella wachendorfiae* represents the first *Mycosphaerella*-like fungus known from this host, other than *Ramu­laria miae* (Crous & Groenewald 2006). Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are *Mycosphaerella rosigena* (GU214632; Identities = 489/529 (92 %), Gaps = 18/529 (3 %)) and *Mycosphaerella madeirae* (DQ302976; Identities = 458/496 (92 %), Gaps = 16/496 (3 %)). A similar search using the LSU sequence yields high similarity to *Pseudocercospora epispere­mogonia* (DQ204758; Identities = 869/879 (99 %), Gaps = 0/879 (0 %)), *Mycosphaerella marksi* (GU214447; Identities = 868/879 (99 %), Gaps = 0/879 (0 %)), *Mycosphaerella intermedia* (DQ246248; Identities = 867/879 (99 %), Gaps = 0/879 (0 %)) and *Mycosphaerella rosigena* (EU167587; Identities = 819/831 (99 %), Gaps = 2/831 (0 %)).
**Passalora leptophlebiae** Crous, Alfenas, R. Alfenas & O.L. Pereira, *sp. nov.*

*Passalorae eucalypti similis, sed conidiis minoribus, (15–)18–22(–27) × 3(–3.5) µm, discernitur.*

**Etymology.** Named after the host from which it was collected, *Eucalyptus leptophlebia*.

**Leaf spots** amphigenous, subcircular to irregular or angular, 1–6 mm diam, confined by leaf veins, medium brown, with raised border and red-purple margin, becoming confluent; sporulation amphigenous. **Conidiophores** arising from stomata situated on brown stromata up to 100 µm diam, giving rise to densely aggregated, brown, finely verruculose conidiophores that are straight to geniculate-sinuous, 20–50 × 3–4.5 µm, 1–3-septate. **Conidiogenous cells** 15–30 × 3–3.5 µm, integrated, terminal, apex obtuse, brown to medium brown, finely verruculose, with many, densely aggregated, terminal and lateral loci; scars dark brown, thickened, refractive, 1 µm diam. **Conidia** solitary, rarely in branched chains, pale brown, smooth, guttulate, subcylindrical to narrowly obclavate, base obconically truncate, apex subobtuse, (15–)18–22(–27) × 3(–3.5) µm, 1–3-septate; hila thickened, darkened, refractive, 1 µm diam.

Culture characteristics — (in the dark, 25 °C, after 1 mo): On malt extract agar colonies erumpent, spreading, with moderate aerial mycelium; surface folded, with even, lobed margins, reaching 15 mm diam; surface smoke-grey in centre, with patches of pale olivaceous grey and olivaceous grey; iron-grey in reverse.

**Notes** — Leaf spots associated with two cercosporoid species. A *Cercospora* sp. (not treated here) is distinguished from *Passalora leptophlebiae* by having less dense fascicles, wider and longer conidiophores, scars up to 2 µm wide, and hyaline conidia. Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are ‘*Passalora eucalypti*’ (AF309617; Identities = 503/507 (99 %), Gaps = 1/507 (0 %)), *Penidiella tasmaniensis* (AF173307; Identities = 503/507 (99 %), Gaps = 1/507 (0 %)), *Passalora saururi* (AF222836; Identities = 484/497 (97 %), Gaps = 5/497 (1 %)) and *Pseudocercospora humuli* (GU214676; Identities = 587/625 (94 %), Gaps = 21/625 (3 %)). The megablast search using the LSU sequence had as closest hits ‘*Passalora eucalypti*’ (GU214458; Identities = 931/933 (99 %), Gaps = 0/933 (0 %)) and *Pseudocercospora* spp. (typically with Identities = 915/934 (98 %), Gaps = 2/934 (0 %)). Morphologically *Passalora leptophlebiae* is most similar to two other species occurring on *Eucalyptus*, namely *P. eucalypti* (conidia 14–40 × (1.5–)2–2.5 µm; Crous 1998), and *Penidiella tasmaniensis* (conidia 4–20 × 2–2.5 µm; Crous et al. 1998, 2009c), but is distinct based on its conidial dimensions (15–)18–22(–27) × 3(–3.5) µm.

**Typus.** *Brazil*, Minas Gerais, Viçosa, University Forestry Nursery, on leaves of *Eucalyptus leptophlebia*, 23 Aug. 2010, P.W. Crous, A.C. Alfenas, R. Alfenas & O.L. Pereira, holotype CBS H-20585, cultures ex-type CPC 18480 = CBS 129524, ITS sequence GenBank JF951144 and LSU sequence GenBank JF951164, MycoBank MB560168.

**Colour illustrations.** *Eucalyptus leptophlebia* seedling at Viçosa University Forestry Nursery; leaf spots; fascicle of conidiophores and conidia. Scale bars = 10 µm.
Rachicladosporium pini Crous & Quaedvlieg, sp. nov.

Rachicladosporium luculiae similis, sed ramoconidiis majoribus, 15–22 × 3–4 µm, discernitur.

Etymology. Named after the host from which it was collected, Pinus monophylla.

On oatmeal agar. Mycelium consisting of smooth, septate, branched, 2–3 µm wide hyphae. Conidiophores erect, brown, smooth, cylindrical, thick-walled, unbranched or branched once, 2- to multiseptate, 25–130 × 3–4 µm. Conidiogenous cells terminal, 5–12 × 3–4 µm, brown, smooth, proliferating sympodially, subcylindrical or clavate, with one to several aggregated, flattened, somewhat thickened and darkened scars, 1–2 µm diam. Primary ramoconidia brown, smooth, thick-walled, subcylindrical, 0–1-septate, 15–22 × 3–4 µm. Secondary ramoconidia fusoid-ellipsoidal, 9–15 × 2.5–3 µm, smooth, brown, with 1–3 terminal scars, 1 µm diam. Intercalary conidia in short, branched chains of up to 4, brown, smooth, fusoid-ellipsoidal, 8–11 × 2–2.5(–3) µm. Terminal conidia medium brown to brown, smooth, fusoid-ellipsoidal, (5–)6–7(–8) × 2–2.5(–3) µm; scars flattened, somewhat thickened and darkened, 0.5–1 µm diam.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent with sparse aerial mycelium, folded surface and lobed margin, reaching 15 mm diam. On oatmeal agar olivaceous grey; on potato-dextrose agar iron-grey with excessive slime production, iron-grey in reverse; on malt extract agar surface olivaceous grey, reverse iron-grey.

Typus. NETHERLANDS, Hilversum, Pinetum Blijdenstein, on needles of Pinus monophylla, 19 June 2009, W. Quaedvlieg, holotype CBS H-20586, cultures ex-type CPC 16770 = CBS 129525, ITS sequence GenBank JF951145 and LSU sequence GenBank JF951165, MycoBank MB560169.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are Rachicladosporium luculiae (EU040237; Identities = 536/557 (96 %), Gaps = 12/557 (2 %)) and Rachicladosporium columbiae (GU214650; Identities = 627/657 (95 %), Gaps = 12/657 (2 %)). These associations were supported by the LSU sequence. Morphologically, R. pini is very similar to R. luculiae and R. columbiae (Crous et al. 2007b, 2009b), but can be distinguished based on its larger ramoconidia.

Colour illustrations. Pinus monophylla tree at the Pinetum Blijdenstein in Hilversum; conidiophores giving rise to chains of conidia. Scale bars = 10 µm.
Diaporthe rhusicola
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**Diaporthe rhusicola** Crous, *sp. nov.*

*Diaporthis neotheicolorae* similis, sed conidiis majoribus, (7–)8–9(–10) × 3(–3.5) µm, discernitur.

*Etymology.* Named after the host from which it was collected, *Rhus pendulina*.

*Leaf spots.* Brown, amphigenous, subcircular, up to 1 cm diam, similar to those associated with *Muribasidiospora indica* on this host (Crous et al. 2003), except that in the latter they tend to be red to red-purple in colour. *Pycnidia* formed readily on potato-dextrose agar (PDA), oatmeal agar (OA) and malt extract agar (MEA); erumpent, flattened, black, multilocular, up to 600 µm diam. *Conidiophores* on PDA lining the inner cavity, hyaline, smooth, 1–3-septate, subcylindrical, unbranched or branched (below or above), 20–40 × 2–3 µm. *Conidiogenous cells* terminal, hyaline, smooth, subcylindrical, 15–25 × 2–3 µm, tapering somewhat towards a truncate apex, 1–1.5 µm, with a flaring collarette, up to 5 µm wide and long. *Paraphyses* intermingled among conidiophores, hyaline, smooth, subcylindrical, branched or not, up to 80 µm long, 2–3 µm wide. *Conidia* (7–)8–9(–10) × 3(–3.5) µm, solitary, hyaline, smooth, guttulate, subcylindrical to fusoid-ellipsoidal, apex obtuse, widest in middle, tapering to a truncate base, 1 µm diam.

*Culture characteristics—* (in the dark, 25 °C, after 2 wk): Colonies spreading, with moderate to fluffy aerial mycelium and feathery margins, covering the dish in 2 wk; on MEA surface dirty white, reverse dirty white with patches of iron-grey; on OA iron-grey in centre, with patches of olivaceous grey and pale olivaceous grey; on PDA olivaceous grey in centre, with dirty white outer region, forming a diffuse yellow pigment in agar.

*Typus.* SOUTH AFRICA, Western Cape Province, Cape Town, Kirstenbosch Botanical Garden, on leaves of *Rhus pendulina* (White Karee), 8 May 2010, P.W. Crous, holotype CBS H-20589, cultures ex-type CPC 18191 = CBS 129528, ITS sequence GenBank JF951146 and LSU sequence GenBank JF951166, MycoBank MB560170.

*Notes—* Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are *Phomopsis* sp. BLE12 (FN868477; Identities = 574/574 (100 %), Gaps = 0/574 (0 %)), *Phomopsis* sp. FE 86 (FJ440699; Identities = 537/537 (100 %), Gaps = 0/537 (0 %)), *Phomopsis* sp. 1 (AY485723; Identities = 514/517 (99 %), Gaps = 1/517 (0 %)) and *Diaporthe neotheicolora* (anamorph: *Phomopsis theicola*) (DQ286286; Identities = 519/523 (99 %), Gaps = 2/523 (0 %)) (Santos & Phillips 2009). As far as we could establish, this is the first association of *Diaporthe* with a leaf spot disease on *Rhus pendulina*.

*Colour illustrations.* Leaf symptoms on *Rhus pendulina* in Kirstenbosch Botanical Garden; conidiophores giving rise to conidia. Scale bars = 10 µm.
Sclerostagonospora cycadis
Sclerostagonospora cycadis Crous & G. Okada, sp. nov.

*Sclerostagonospora* leucadendri similis, sed conidiis minoribus, (6–)7–10(–13) × 3–4(–4.5) µm.

Etymology. Named after the host from which it was collected, Cycas.

On oatmeal agar. *Conidiomata* pycnidial, globose, solitary, brown, 60–300 µm diam, opening mostly by means of a single, central ostiole, up to 30 µm diam, lined with hyaline, 0–1-septate periphyses, 2–2.5 µm wide; wall consisting of 2–3 layers of brown *textura angularis*. *Conidiophores* reduced to annelides. *Conidiogenous cells* ampulliform to subcylindrical, 3–6 × 3–5 µm, hyaline, smooth, becoming brown, with 1–3 apical, percurrent proliferations. *Paraphyses* interspersed among conidiogenous cells, 0–3-septate, simple or branched, hyaline, 10–30 × 2–2.5 µm. *Conidia* ellipsoid to subcylindrical (apex obtuse, base truncate), smooth, medium brown, (0–)1–3-septate, becoming constricted at septa with age, (6–)7–10(–13) × 3–4(–4.5) µm.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies on potato-dextrose agar and oatmeal agar spreading, reaching 40–50 mm diam, with sparse aerial mycelium, smooth, with catenulate margins; surface buff to honey with patches of mouse-grey; reverse honey with patches of mouse-grey.

**Typus.** Japan, Umihotaru Parking Area, Tokyo Bay Aqualine highway, on living leaves of *Cycas revoluta*, 22 Oct. 2005, P.W. Crous & G. Okada, holotype CBS H-20161, culture ex-type CPC 12388 = CBS 123538, ITS sequence GenBank FJ372393 and LSU sequence GenBank FJ372410, MycoBank MB560171.

Notes — The present fungus is placed in *Sclerostagonospora* due to the presence of pycnidia, conidiogenous cells with percurrent proliferations, and pigmented conidia. The anamorph genus *Sclerostagonospora* has been linked to *Leptosphaeria* (Crous & Palm 1999, Crous et al. 2004) and *Montagnula* (Huhndorf 1992), and is paraphyletic. Presently nine species of *Sclerostagonospora* are listed in *Index Fungorum*, none of which occur on *Zamiaceae*, or resemble *S. cycadis* in morphology. BLASTn results of the ITS sequence revealed an identity of 99 % with *Sclerostagonospora* sp. (GenBank accession DQ286767; Identities = 532/538 (99 %), Gaps = 3/538 (1 %)) and *Sclerostagonospora opuntiae* (GenBank accession DQ286768; Identities = 531/538 (99 %), Gaps = 3/538 (1 %)). The LSU sequence has 99 % identity to the latter two GenBank sequences as well as sequences of *Phaeosphaeria* species. *Sclerostagonospora cycadis* is morphologically similar to *Hendersonia togniniana*, which was described from *Cycas revoluta* plants cultivated in a botanical garden in Italy. Conidia of the latter, however, are brown, oblong-ellipsoidal, 3-septate, 10–12 × 6–7 µm, thus being wider than that of the present species (Saccardo 1899).

Colour illustrations. *Cycas revoluta* growing at Sakae-cho, Asaka, Saitama; colony on oatmeal agar; conidiogenous cells and conidia. Scale bar = 10 µm.
Noosia banksiae
**Noosia** Crous, R.G. Shivas & McTaggart, *gen. nov.*

Conidiophors ad cellulas conidiogenas reductis, solitariis, lateralis et vel integratis, inconspicuis, lateralis vel terminalibus; poris minutis, apiculato-latais; 0.5 µm diam; conidii solitarii vel in catenis brevibus efferentibus. Conidii dimorphici; conidii primarii aseptati, primo globosici, subhyalini, levibus, deinde fusidioseb-disepoideis, brunneis, verruculosis, solitariis vel in catenis brevibus; conidii secundarii (phragmoconidii) ex cellulis hypharum disarticulantium formatiis, brunneoscentibus et verruculosis.

*Etymology.* Named after the town Noosa, in Queensland (Australia), where this fungus was collected.

Associated with leaf spots. *Mycelium* consisting of hyaline, smooth, branched, 2–5 µm diam hyphae, becoming brown and verruculose with age, frequently aggregating in hyphal strands of up to 20. *Conidiophores* reduced to conidiogenous cells that are solitary, lateral, or integrated, inconspicuous, lateral and terminal, with small, pimple-like pores of up to 0.5 µm diam, giving rise to conidia that can be solitary or in short chains of up to 5. *Conidia* dimorphic; primary conidia aseptate, initially globose, subhyaline, smooth, becoming fusidio-ellipsoidal, brown, verruculose, solitary or in short, branched chains; apex obtuse, base truncate with minute, unthickened pore; secondary conidia arising as phragmoconidia from disarticulating hyphal cells that become brown and verruculose.

**Type species.** *Noosia banksiae.* MycoBank MB5660172.

**Noosia banksiae** Crous, R.G. Shivas & McTaggart, *sp. nov.*

Conidiophors ad cellulas conidiogenas reductis, solitariis, lateralis et vel integratis, inconspicuis, lateralis vel terminalibus; poris minutis, apiculato-latais; 0.5 µm diam; conidii solitarii vel in catenis brevibus (ad 5) efferentibus. Conidii dimorphici; conidii primarii aseptati, primo globosici, subhyalini, levibus, deinde fusidioseb-disepoideis, brunneis, verruculosis, solitariis vel in catenis brevibus, ramosis, (4–)7–10(–13) × (3.5–)4(–5) µm; conidii secundarii (phragmoconidii) ex cellulis hypharum disarticulantium formatiis, brunneoscentibus et verruculosis, 5–15 × 4–5 µm.

*Etymology.* Named after the host genus from which it was collected, Banksia.

Immersed *mycelium* on potato-dextrose agar consisting of hyaline, smooth, up to 5 µm diam hyphae; aerial *mycelium* consisting of hyphae that are smooth, branched, septate, hyaline, 2–3 µm diam; hyphae become brown and verruculose with age, frequently aggregating in hyphal strands of up to 20. *Conidiophores* reduced to conidiogenous cells that are solitary, lateral, or integrated, inconspicuous, lateral and terminal, with small, pimple-like pores of up to 0.5 µm diam, giving rise to conidia that can be solitary or in short chains of up to 5. *Conidia* dimorphic; primary conidia aseptate, initially globose, subhyaline, smooth, becoming fusidio-ellipsoidal, brown, verruculose, solitary or in short, branched chains, (4–)7–10(–13) × (3.5–)4(–5) µm; apex obtuse, base truncate with minute, unthickened pore; secondary conidia arising as phragmoconidia from disarticulating hyphal cells that become brown, verruculose, 5–15 × 4–5 µm; secondary conidia in short chains when young, but forming directly on conidiogenous cells that can be reduced to loci on hyphae when mature.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent, with sparse to moderate aerial mycelium and lobate margins, reaching 30 mm diam; on malt extract agar smoke-grey, reverse grey olivaceous with dirty white outer margin; on oatmeal agar olivaceous grey in centre, dirty white in outer region; on potato-dextrose agar isabelline on surface and reverse.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are species of *Periconia*, albeit with poor coverage across the sequence length. A similar search using the LSU sequence gives as closest hits *Sporidesmium tengii* (DQ408559; Identities = 847/856 (99 %), Gaps = 1/856 (0 %)), *Massarinia ignaria* (DQ810223; Identities = 825/845 (98 %), Gaps = 2/845 (0 %)), *Byssoschecium cercinans* (AY016357; Identities = 863/896 (96 %), Gaps = 12/895 (1 %)) and *Corynespora smithii* (GU323201; Identities = 856/890 (96 %), Gaps = 5/890 (1 %)). *Noosia* has some resemblance to the genera *Conioscypha* (it forms similar strange phialides in vitro, but never in vivo), *Trichobotrys* (but setae lacking, and supporting cells lacking at maturity), and *Periconiella* s.l., which is also a generic complex (Seifert et al. 2011). Based on the fact that the present fungus is distinct from those presently known, and that the DNA sequence could not be matched with any currently deposited in GenBank, a new genus is herewith introduced to accommodate it.

**Typus.** *Australia,* Queensland, Noosa, S 26°34’14.0” E 153°4’21.6”, on leaves of *Banksia aemula,* 13 July 2009, P.W. Crous, R.G. Shivas & A.R. McTaggart, holotype CBS H-205147, culture ex-type CPC 17282 = CBS 129526, ITS sequence GenBank JF951147 and LSU sequence GenBank JF951167, MycoBank MB5660173.

**Colour illustrations.** Leaf spots on *Banksia aemula* in Noosa National Park; hyphae giving rise to short chains of conidia, or breaking up into phragmospores. Scale bars = 10 µm.
Devriesia queenslandica
**Devriesia queenslandica** Crous, R.G. Shivas & McTaggart, sp. nov.

*Devriesia lagerstroemiae* similis, sed ramoconidiis majoribus, 10–20 × 2–3 µm, discernitur.

**Etymology.** Named after the state of Queensland, Australia, where this fungus was collected.

**Mycelium** consisting of smooth, pale brown, septate, 2–3 µm diam hyphae. **Conidiophores** erect, subcylindrical, pale brown, smooth, straight to somewhat flexuous, unbranched, reduced to conidiogenous cells or up to 3-septate, 5–45 × 3–4 µm. **Conidiogenous cells** terminal, integrated, subcylindrical, smooth, pale brown, proliferating sympodially, 5–15 × 2.5–4 µm; scars flattened, thickened, somewhat darkened, 0.5–1.5 µm diam. **Primary ramoconidia** 0(–1)-septate, guttulate, subcylindrical, smooth, pale brown, 10–20 × 2–3 µm. **Secondary ramoconidia** 0(–1)-septate, guttulate, subcylindrical, smooth, pale brown, 10–20 × 2–3 µm, frequently with lateral branch at apex, up to 10 µm long; hila somewhat thickened and darkened, 1–1.5 µm diam. **Intercalary conidia** subcylindrical to somewhat fusoid-ellipsoidal, pale brown, smooth, guttulate, 9–12 × 2–2.5 µm. **Terminal conidia** subcylindrical to fusoid-ellipsoidal, pale brown, smooth, guttulate, (5–)7–9(–11) × 2–2.5 µm; hila flattened, somewhat thickened and darkened, 0.5–1 µm diam. **Chlamydospores** thick-walled, brown, globose, in intercalary chains, up to 20 µm diam.

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent, with even, lobate margins and moderate aerial mycelium, reaching 10 mm diam after 2 wk; on malt extract agar pale olivaceous grey in centre, olivaceous grey in outer region, iron-grey in reverse; on oatmeal agar olivaceous grey; on potato-dextrose agar olivaceous grey in centre, iron-grey in outer region and underneath.

**Typos.** **Australia.** Queensland, Daintree, S 16°02’19.8” E 145°27’39.1”, on leaves of *Scaevola taccada*, 8 Aug. 2009, P.W. Crous, R.G. Shivas & A.R. McTaggart, holotype CBS H-20588, culture ex-type CPC 17306 = CBS 129527, ITS sequence GenBank JF951148 and LSU sequence GenBank JF951168, MycoBank MB560174.

**Notes.** *Devriesia queenslandica* was isolated from prominent leaf spots on *Scaevola taccada* caused by *Zasmidium scaevolicola* (Shivas et al. 2010), and appears to be a secondary coloniser of these leaf spots, though nothing is known about its potential status as a plant pathogen. Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are cf. *Passalora* sp. CPC 11876 (GU214642; Identities = 579/589 (98 %), Gaps = 5/589 (1 %)), *Devriesia lagerstroemiae* (GU214634; Identities = 543/586 (93 %), Gaps = 22/586 (4 %)) and *Devriesia hilliana* (GU214633; Identities = 550/600 (92 %), Gaps = 27/600 (5 %)). Based on morphology, *D. queenslandica* can be distinguished from *D. lagerstroemiae* and *D. hilliana* by its conidial dimensions (Crous et al. 2009b).

**Colour illustrations.** *Scaevola taccada* at Cape Tribulation, northern Queensland, leaves with spots caused by *Zasmidium scaevolicola*; conidiophores with conidiogenous cells giving rise to chains of conidia. Scale bars = 10 µm.
Teratosphaeria mareebensis
**Teratosphaeria mareebensis** Crous & R.G. Shivas, *sp. nov.*

Teratosphaeriae considenianae similis, sed conidiis minoribus, (5–)7–8(–9) × (2–)2.5–3(–4) µm, discernitur.

**Etymology.** Named after the town of Mareeba, where this fungus was collected.

**Mycelium** consisting of smooth, medium brown, septate, 2–3 µm diam hyphae; hyphal cells becoming shorter (4–7 µm long) in specific areas, becoming fertile and developing conidiogenous cells that form slimy conidial masses. **Conidiophores** reduced to conidiogenous cells that are integrated in hyphae as inconspicuous phialidic loci, 1–2 µm diam, with 1–2 loci per conidiogenous cell; collarette absent. **Conidia** medium brown, smooth, fusoid-ellipsoidal, widest in middle, apex obtuse, base somewhat flattened, (5–)7–8(–9) × (2–)2.5–3(–4) µm, on potato-dextrose agar conidial ends develop a darkened, thickened region, though this is not observed in sporulating colonies on oatmeal agar.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent; surface irregular with moderate aerial mycelium, and even, lobed margin, reaching 15 mm diam after 2 wk; on malt extract agar surface olivaceous grey, outer region iron-grey, and iron-grey in reverse; on oatmeal agar surface olivaceous grey; on potato-dextrose agar surface olivaceous grey, iron-grey in outer region and reverse.

**Typus.** AUSTRALIA, Queensland, Cairns, Mareeba, S 16°58.755' E 145°20.608', on leaves of *Eucalyptus alba*, 10 Aug. 2009, P.W. Crous & R.G. Shivas, holotype CBS H-20590, culture ex-type CPC 17272 = CBS 129529, ITS sequence GenBank JF951149 and LSU sequence GenBank JF951169, MycoBank MB560175.

Notes — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are *Teratosphaeria considenianae* (GQ852791; Identities = 512/524 (98 %), Gaps = 2/524 (0 %)), and *T. miniata* (GQ852803; Identities = 507/520 (98 %), Gaps = 3/520 (1 %)). A similar search using the LSU sequences yielded high identity with *T. hortaea* (FJ790299; Identities = 851/854 (99 %), Gaps = 0/854 (0 %)), *T. complicata* (GQ852714; Identities = 842/845 (99 %), Gaps = 0/845 (0 %)) and *T. brunneotingens* (EU019286; Identities = 907/911 (99 %), Gaps = 0/911 (0 %)). Morphologically *T. mareebensis* can be distinguished from *T. considenianae* by its smaller conidia (Summerell et al. 2006, Crous et al. 2009b, c), and the fact that conidia of the latter do not have darkened, thickened ends as in *T. mareebensis*.

**Colour illustrations.** *Eucalyptus* sp. growing at the DPI research farm near Mareeba; hyphae with conidiogenous cells giving rise to conidia. Scale bars = 10 µm.
**Leptoxyphium kurandae** Crous & R.G. Shivas, *sp. nov.*

*Leptoxyphium* madagascariensis similis, sed conidios majoribus, (4–)6–7(–9) × 2–3 µm, discernitur.

**Etymology.** Named after the town of Kuranda, where this fungus was collected.

*Mycelium* consisting of medium, grey-brown hyphae, 5–9 µm diam, septate, branched, constricted at septa, forming hyphal ropes, thick-walled, finely verruculose, frequently encased in mucoid sheath. *Conidiomata* synnematous, separate or in clusters of 2–3, erect, straight to slightly flexuous; bulbous base brown, 30–50 × 25–35 µm; cylindrical part dark olivaceous-brown, 60–100 × 12–15 µm, hyphal apex 30–50 × 25–40 µm, loose apical hyphae flaring, 20–35 × 2.5–3 µm. *Conidiophores* subcylindrical to subulate, 0–2-septate, 15–25 × 2–3 µm, tightly aggregated in apical part of synnema, among synnematous hyphae that diverge close to apex. *Conidiogenous cells* integrated, terminal, phialidic, 7–10 × 2–2.5 µm, tapering to a truncate apex, with periclinal thickening and visible collarette. *Conidia* broadly ellipsoid with rounded ends, aseptate, eguttulate, hyaline, smooth, (4–)6–7(–9) × 2–3 µm, aggregating in hyaline, slimy masses at apex of synnemata.

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent, with sparse to moderate aerial mycelium and even margins, reaching 30 mm diam after 2 wk; on malt extract agar surface olivaceous grey, outer region umber, and iron-grey in reverse; on oatmeal agar surface iron-grey; on potato-dextrose agar surface olivaceous grey, grey olivaceous in outer region and reverse.

**Notes** — Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are *Leptoxyphium* sp. TMS-2011 (HQ631026; Identities = 574/576 (99 %), Gaps = 0/576 (0 %)), *Leptoxyphium madagascariense* (GQ303277; Identities = 617/628 (98 %), Gaps = 2/628 (0 %)) and *Polychaeton citri* (GU214649; Identities = 656/704 (93 %), Gaps = 23/704 (3 %)). A similar search using the LSU sequence yielded the closest hits to be *Microxyphium citri* (AY004337; Identities = 914/914 (100 %), Gaps = 0/914 (0 %)) and *Leptoxyphium fumago* (GU214430; Identities = 878/882 (99 %), Gaps = 2/882 (0 %)). Morphologically *L. kurandae* can be distinguished from *L. madagascariense*, by its larger conidia (Cheewangkoon et al. 2009).

**Typus.** AUSTRALIA, Queensland, Cairns, Kuranda, S 16°49’24.6”, E 145°38’2.6”, on leaves of *Eucalyptus* sp., 13 Aug. 2009, P.W. Crous & R.G. Shivas, holotype CBS H-20591, culture ex-type CPC 17274 = CBS 129530, ITS sequence GenBank JF951150 and LSU sequence GenBank JF951170, MycoBank MB560176.

Colour illustrations. *Eucalyptus* and other rainforest trees viewed from the cable car at Kuranda; conidiophores sporulating on agar; synnematous conidiophores with hyphal apices and conidia. Scale bars = 10 µm.
Phytophthora fluvialis
**Phytophthora fluvialis** T. Jung & T.I. Burgess, sp. nov.

*Phytophthora* litoralis similis, sed inflationibus hypharum non catenulatis et sine hyphis radiatis, sporangis in medio maioribus (53 × 36.4 µm), chlamydosporis nullis et caeleis optimis (31.5 °C) et maximis (37.5 °C) altioribus. Regiones ‘rDNA ITS’, ‘LSU’, ‘cox1’ et ‘HSP’ cum sequentibus unicus (GenBank JF701436, JF951171, JF701442, JF701439).

Etymology. Named for the riparian ecosystems from which all isolates were recovered.

Sporangia produced abundantly in non-sterile soil extract, non-caducous, nonpapillate, broad-ovoid to elongated ovoid, limoniform or less frequently ellipsoid or obpyriform; 53 ± 7.6 × 36.4 ± 6.1 µm (overall range 37–72 × 21–54 µm), length/breadth ratio 1.5 ± 0.2. Sporangial proliferation external and in chains of internally proliferating sporangia in both a nested and extended way; secondary lateral sporangia regularly formed. Internally proliferating sporangiophores, sometimes branching inside or just outside of the empty sporangium. Diplanetism of zoosporangia and the frequent germination of cysts by releasing secondary zoospores (diplanetism) or by forming microsporangia. These two species can be separated by the absence of catenulate hyphal swellings and chlamydospores in *P. fluvialis*, the higher maximum temperature for growth of *P. litoralis*, and the production of smaller sporangia in *P. litoralis* (av. 43.6 ± 7.7 × 29.4 ± 5.4 µm).

Notes — Phylogenetically, *P. fluvialis* shares a common ancestor with *P. litoralis* and resides in a strongly supported cluster along with *P. thermophila*. In a multigene phylogeny of the ITS, HSP90 and cox1 gene regions, *P. fluvialis* differs from *P. litoralis* by 77 steps (2.65 %), *P. thermophila* by 91 steps (3.13 %) and from the next closest relative, *P. taxon PgChlamydo*, by 116 steps (3.99 %). *Phytophthora fluvialis*, *P. litoralis* and *P. thermophila* have all been isolated from waterways north of Perth in Western Australia (Jung et al. 2011). *Phytophthora fluvialis* has a similar life strategy to *P. litoralis*, being sterile and having abundant and continuous asexual multiplication in watercourses via chains of nested and extended internally proliferating sporangia, external proliferation, the production of secondary lateral sporangia and the frequent germination of cysts by releasing secondary zoospores (diplanetism) or by forming microsporangia. These two species can be separated by the absence of catenulate hyphal swellings and chlamydospores in *P. fluvialis*, the higher maximum temperature for growth of *P. fluvialis* (38 °C) compared with *P. litoralis* (35 °C) and the production of smaller sporangia in *P. litoralis* (av. 43.6 ± 7.7 × 29.4 ± 5.4 µm).

Typos. Western Australia, Moore River, baited from water in native bushland, Dec. 2009, D. Hüberli, holotype MURU 468; cultures ex-type CBS 129424 = MUCB 771, ITS sequence GenBank JF701436, cox1 sequence JF701442, HSP90 sequence JF701439 and LSU sequence GenBank JF951171, Mycobank MB591042.

Additional specimens examined. Western Australia, Moore River, baited from water in native bushland, Dec. 2009, D. Hüberli, MUCB 772; Badgingarra, baited from water in native bushland, 2007, collected by Glevan Consulting, VHS17350.

Colour illustrations. A typical river in Western Australia (T. Jung); ovoid sporangia just before and during release of zoospores; ovoid, secondary lateral sporangium; extended proliferation of nonpapillate sporangium; nested proliferation; ellipsoid hyphal swelling (T. Jung). Scale bar = 25 µm.
Catenulostroma eucalyptorum
**Catenulostroma eucalyptorum** Crous & Carnegie, *sp. nov.*

*Catenulo*stromaticis excentrici simile, sed conidiis minoribus; cellulis primariis 7–9 × 2–4 µm, cellulis secundaris 4–5 × 2–2.5 µm, discernitur.

_Etymology._ Named after the host genus on which it occurs, _Eucalyptus_.

_Leaf spots_ amphigenous (intermingled among those of _Aulographina eucalypti_), subcircular with concentric rings, medium brown to somewhat reddish brown, with a raised margin, 5–10 mm diam. _Mycelium_ internal and external; internal hyphae subcuticular, pale brown, branched, septate, 2–3.5 µm diam, emerging through stomata or cracks, anastomosing to form sporodochia that give rise to conidiophores forming chains of conidia. _Conidiomata_ amphigenous, concentrically arranged, dark brown, dry and powdery, discrete, up to 300 µm diam. _Conidiophores_ micronematous, branched, pale to medium brown, smooth, aggregated, 7–20 × 3–4 µm. _Conidiogenous cells_ holothallic, integrated, terminal, subcylindrical to somewhat doliiform, conidial chains fragmenting into separate conidia, 6–8 × 2–3 µm. _Conidia_ catenulate, smooth, pale brown, 4-celled, upper two primary cells 7–9 × 2–4 µm, with truncate ends where attached, 1.5–2 µm diam, cells separated from each other by a broad, dark brown area; each primary cell giving rise to a smaller basal cell that is globose, thin-walled, pale brown, 4–5 × 2–2.5 µm.

_Culture characteristics — (in the dark, 25 °C, after 2 wk):_ Colonies slow growing, erumpent, with even margins, reaching 3 mm diam after 2 wk; on MEA surface olivaceous grey, and iron-grey in reverse; on OA surface olivaceous grey; on PDA surface grey olivaceous, reverse iron-grey.

_Typus. Australia_, New South Wales, Ebor, S 30°14'21" E 152°31'55", on leaves of _Eucalyptus laevopinea_, 28 July 2009, A.J. Carnegie, holotype CBS H-20592, culture ex-type CPC 17586 = CBS 129578, ITS sequence GenBank JF951151 and LSU sequence GenBank JF951174, MycoBank MB560177.

_Notes — Catenulostroma eucalyptorum_ is most similar to _C. excentricum_ (formerly _Trimmatostroma_, see Crous et al. 2007a), which has larger conidia (primary cells 9–11 × 3–4 µm, secondary cells 2.5–4.5 µm diam; Sutton & Ganapathi 1978). Based on a megablast search of NCBI’s GenBank nucleotide database, the closest hits using the ITS sequence are _Teratosphaeria suberosa_ (GQ852831; Identities = 625/648 (96 %), Gaps = 9/648 (1 %)), _Phaeothecoidea intermedia_ (GQ852754; Identities = 616/639 (96 %), Gaps = 1/639 (0 %)) and _Phaeothecoidea eucalypti_ (EF394857; Identities = 622/646 (96 %), Gaps = 5/646 (1 %)). The megablast search using the LSU sequence had as highest identity sequences of _Phaeothecoidea intermedia_ (GQ852628; Identities = 864/871 (99 %), Gaps = 1/871 (0 %)) and _Phaeothecoidea eucalypti_ (EU019280; Identities = 51/858 (99 %), Gaps = 0/858 (0 %)).

_Flagellar growth._

_Colour illustrations._ Mature _Eucalyptus grandis_ plantation in northern NSW; leaf spot; aggregated conidiophores with conidiogenous cells giving rise to conidia. Scale bars = 10 µm.

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Mycosphaerella valgourgensis
Mycosphaerella valgourgensis Crous, sp. nov.

Mycosphaerellae deightonii similis, sed ascosporos majoribus, (13–)17–19(–22) × (3–)3.5–(4–22) µm, discernitur.

Etymology: Named after the town where it was collected, Valgourge.

Leaf spots ellipsoid to subcircular, amphiogenous, dark brown with a raised border, up to 3 cm long, and 1 cm diam. Ascostroma amphiogenous, up to 500 µm diam, black, erumpent through epidermis, containing several ascostoma up to 180 µm diam, thick-walled, of several layers of textura angularis; ostiole central, periphysate. Ascii fuscate, broadly ellipsoid, straight to incurved, bitunicate, 8-spored, with apical chamber, 40–50 × 8–10 µm. Ascospores hyaline, smooth, fusoid-ellipsoidal, medially 1-septate, guttulate, slightly incurved, widest just formed in culture.

Culture characteristics — Colonies slow growing, erumpent, with folded surface and sparse aerial mycelium; margins even, lobate, reaching 4 mm diam after 2 wk; on malt extract agar surface pale olivaceous, coming pale brown and verruculose, with a basal marginal frill. Interestingly enough, M. valgourgensis (Planistromella sensu Barr, based on its erumpent, aggregated stromatic ascomata, and remnants of hamathelial tissue) clusters close to Dothistroma anamorphs, for which Barr (1996) established the genus Eruptio, based on their aggregated, stromatic, multiloculate ascomata. The latter feature may well end up being the only unifying character to separate taxa in this clade from Mycosphaerella s.str. However, the generic names Eruptio (based on E. acicula with Lecanosticta anamorph), Mycosphaerella (based on M. punctiformis, and having Ramularia anamorphs) and Planistromella (based on P. yuccifolium and having Kellermania anamorphs), are clearly not congeneric with M. valgourgensis. More taxa need to be added to the alignment to clarify the genera in this specific clade of the Mycosphaerellaceae. For the present, however, this species is best described in Mycosphaerella until the generic concepts of this clade are better resolved.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are Mycosphaerella aurantia (EU853471; Identities = 494/494 (100 %), Gaps = 0/494 (0 %)), Mycosphaerella microsora (EU167599; Identities = 645/647 (99 %), Gaps = 0/647 (0 %)) and Mycosphaerella buckinghamiae (EU707856; Identities = 603/605 (99 %), Gaps = 0/605 (0 %)). A similar search using the LSU sequence obtained as closest hits sequences of Passalora bellynckii (GU214454; Identities = 879/880 (99 %), Gaps = 0/880 (0 %)), Passalora sp. CBS 115525 (GU214460; Identities = 878/880 (99 %), Gaps = 0/880 (0 %)) and Mycosphaerella keniensis (DQ246259; Identities = 878/880 (99 %), Gaps = 0/880 (0 %)).

Notes — Several species of Mycosphaerella are listed from Yucca by Aptroot (2006). Mycosphaerella phyllophloides (type could not be located; Aptroot 2006), was seen as a synonym of Mycosphaerella tassiana (now Davidiella) by von Arx (1949). Mycosphaerella yuccae was shown to be a species of Guignardia (Aptroot 2006), while M. yuccina appeared to be a possible species of Dothidea (immature specimen) (Aptroot 2006). Two species relevant for comparison to M. valgourgensis are M. acervata (= Planistromella acervata), which has larger ascospores (24–29 × 3.5–5 µm; Aptroot 2006), and M. deightonii (anamorph Pseudocercospora concentrica), which again has smaller ascospores than M. valgourgensis (14.5–17 × 3.5–4 µm; Sivanesan 1984). Based on several collections made by Annette Ramaley, Barr (1996) concluded that Planistromella acervata represented a species complex (based on differences in ascospore sizes, and certain collections with different ascospores being able to form anamorphs in culture). With the description of M. valgourgensis, we name a species presently intermediate between M. acervata and M. deightonii. Furthermore, the cercosporoid anamorph studied here is also, Pseudocercospora-like, clustering apart from Pseudocercospora s.str. Morphologically it is also rather different from Pseudocercospora, with conidia initially being hyaline, and later becoming pale brown and verruculose, with a basal marginal frill. Lastly, the newly introduced family, Planistromellaceae (Barr 1996) is clearly heterogeneous, and the type species, P. yuccifolium with its 3-septate ascospores and Kellermania anamorph would probably cluster apart from M. valgourgensis, but further collections are required to resolve this. Interestingly enough, M. valgourgensis (Planistromella sensu Barr, based on its erumpent, aggregated stromatic ascomata, and remnants of hamathelial tissue) clusters close to Dothistroma anamorphs, for which Barr (1996) established the genus Eruptio, based on their aggregated, stromatic, multiloculate ascomata. The latter feature may well end up being the only unifying character to separate taxa in this clade from Mycosphaerella s.str. However, the generic names Eruptio (based on E. acicula with Lecanosticta anamorph), Mycosphaerella (based on M. punctiformis, and having Ramularia anamorphs) and Planistromella (based on P. yuccifolium and having Kellermania anamorphs), are clearly not congeneric with M. valgourgensis. More taxa need to be added to the alignment to clarify the genera in this specific clade of the Mycosphaerellaceae.

In the present, however, this species is best described in Mycosphaerella until the generic concepts of this clade are better resolved.

Colour illustrations. Yucca sp. growing at Domaine Le Fraysse, Valgourge; erumpent ascoma; ascii and ascospores; germinating ascospore; conidia. Scale bars = 10 µm.
Utrechiana cibiessia
**Utrechtiana** Crous & Quaedvlieg, *gen. nov.*

Conidiophores atrobrunneus, erectis, basi subglobosa, cellulis conidiogenis subcylindraceis, brunneis formantibus, apicibus clavatis, obtuse rotundatis, cum cicatricibus truncatis, interna, consistens de septatis, smooth, hyaline, branched hyphae. *Conidiopores* solitary, erect, bursting through epidermis, with circular scar where base of conidiophore is attached to immersed hyphal network; conidiophores dark brown, erect, base subglobose, giving rise to a subcylindrical, brown conidiogenous cell that ends in a clavate, bluntly rounded apex, with truncate, flattened scar; sometimes thickened, not darkened, nor refractive. *Conidia* pale brown, ellipsoid, guttulate to granular, finely verruculose, 1-septate slightly above the conidial median, thin-walled, apex bluntly to acutely rounded, base obtusely rounded with a flattened, darkened and thickened hilum that has a central pore.

*Type species.* *Utrechtiana cibiessia.* MycoBank MB560179.

**Utrechtiana cibiessia** Crous & Quaedvlieg, *sp. nov.*

Conidiophores 18–45 × 10–12 µm, atrobrunneus, erectis, basi subglobosa, 10–12 × 10–15 µm, cellulis conidiogenis subcylindraceis, subtile verruculosis, paulum supra medium 1-septatis, cellulis apicalibus (8–)10–12(–15) × (25–)26–28(–30) μm longis, cellulis basalibus (12–)15–17–(19) × (12–)13–15(–18) μm, cellulis apicibals (8–)10–12(–15) × 14–15(–16) μm.

*Etyymology.* Named after the University of Utrecht, on which campus it was collected.

Hyphomycetous, associated with leaf spots. *Mycelem* interna, consisting of septate, smooth, hyaline, branched hyphae. *Conidiopores* solitary, erect, bursting through epidermis, with a water channel on the Uithof, Utrecht campus; solitary conidiophores on leaf spot, giving rise to conidia; germinating conidium. Scale bars = 10 µm.

Conidiophoris atrobrunneus, erectis, basisubglobosus, cellululis conidiogenis subcylindraceis, brunneis, formantibus, apicibus clavatis, obtuse rotundatis, cum cicatricibus truncatis, interdum incrassatis, sed neque fuscatis neque re-crassatis. Conidios pallide brunneis, ellipsoides, guttulatibus et granulatis, delicate verruculosis, paulum supra medium 1-septatis, tenuitunicatis, apice obtuse vel acutae rotundatae, basi obtuse rotundata, cum hilo truncato, fuscatu et incrassato et poro centrali.

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Hyphomycetous, associated with leaf spots. *Mycelium* internum, consisting of septate, smooth, hyaline, branched hyphae. *Conidiopores* solitary, erect, bursting through epidermis, with a water channel on the Uithof, Utrecht campus; solitary conidiophores on leaf spot, giving rise to conidia; germinating conidium. Scale bars = 10 µm.

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Dictyosporium stellatum
Coloniae stellatae, sporidochia 200–500 µm lata. Cellulae conidiogenae 6.5–11 × 4.5–10 µm, globosae, ellipsoidae vel clavatae. Conidia brunnea, complanata, (50–)95–140(–175) µm longa, (27.5–)30–40(–52.5) µm lata, 7.5–15 µm crassa, cellulae 3.5–6.5 µm longae, 4.5–6 µm latae, 6–12 µm crassae, diposita in 5–7 seriis et.

Etymology. From stellata (L.), referring to the star-like appearance of the colonies on the natural substrate.

Colones on the natural substratum conspicuous, black, scattered, up to c. 7 mm diam, irregular in outline, composed of stellate sporodochia c. 200–500 µm wide, comprised of conidia radiating from a central point, often coalescing into irregular masses; often associated with or growing on stromata of a Hypoxylon-like fungus. Mycelium immersed in the substrate, not seen. Conidiophores c. 2–5 µm wide, micronematous, inconspicuous, composed of hyaline, thin-walled, irregularly branched, frequently septate hyphae. Conidigenous cells 6.5–11 × 4.5–10 µm, globose, ellipsoid or clavate, often remaining attached to the base of the conidium, hyaline and thin-walled, often collapsing, hyaline and thin-walled, sometimes becoming brown and thicker walled and then not collapsing; clavate cells with cylindrical connections to the basal cells of conidia rarely observed, perhaps suggestive of sympodial proliferation of conidigenous cells that do not detach with the conidia. Conidia (50–)95–140(–175) µm long, (27.5–)30–40(–52.5) µm wide, 7.5–15 µm thick, dark brown, paler in apical cells, planar, cheiroid in ventral view, cylindrical to acicular in lateral view, consisting of (59–)110–165(–180) cells; individual cells discoid or doliform, more oblong in side view than in face view, 3.5–6.5 µm tall, 4.5–6 µm wide in face view, 6–12 µm deep; typically arranged in (5–)6(–7) columns, 14–33 cells per column, the inner columns nested within the outer columns, the outer columns derived from the basal cell of the conidium; the intermediate columns are derived from the first or second cell of the outer columns; the inner columns derived from the first or second cell of the intermediate columns; usually 2–3 central columns longest and of equal length, 2–3 peripheral columns shorter and of equal length, and one of the outer columns shortest but with several variations observed, including additional branching of one or more of the columns resulting in conidia with up to 9 columns, or straight or curved extension of 1–2 adjacent columns far beyond than the rest of the columns. Conidial appendages absent. Conidia germinating by hyaline hyphae 2–3 µm wide from the terminal cells of each column.

Culture characteristics — Colonies on cornmeal agar at RT 8–15 mm radius after 15 d, planar, obverse and reverse hyaline, margin uneven, sporulating after about 10 d, and then colonies with a uneven, spotted ring of conidial clusters around the in-oculum, surface otherwise smooth and overlaid with sparse, hyaline aerial hyphae.

Typos. Canada, Ontario, Renfrew Co., Blithfield Twp., Barry Lake, developed in moist chamber on previously submerged wood, collected 3 Sept. 2008, observed 26 Dec. 2008, Nancy Hiscock, holotype DAOM 241241; culture ex-type CCF 241241, ITS sequence GenBank JF951154 and LSU sequence GenBank JF951177, MycoBank MB561250.

Notes — Dictyosporium stellatum produces the longest conidia of the approximately 34 species described (Goh et al. 1999, Cai et al. 2003, Croux et al. 2009a). Stellate sporodochia, which give the species its epithet, have not been reported in other species. Despite the many collections attributable to this genus deposited in DAOM by the senior author and his mentor Dr S.J. Hughes over several decades, no other specimens were found and thus D. stellatum may be a rare fungus. On the holotype, sporulation was often most prolific on stromata of a Hypoxylon-like fungus, and some parasitism may be involved.

The phylogenetic analysis below is based on recent internal transcribed spacer (ITS) analyses of Dictyosporium and related cheiroid genera (Tsiu et al. 2006, Cai et al. 2008) with our own species added. Our species has distinct ITS sequences from those sequenced to date and sits in a well-supported clade that includes the type species, D. elegans. Although Dictyosporium appears monophyletic in this NJ tree, it is paraphyletic with the Pseudodictyosporium/Chairomoniellaphora/Chaeirosporium clade in nine of ten MPTs in a heuristic parsimony analyses (not shown). No analyses have well-supported overall structure, perhaps reflecting the scant sampling of species in this group.

Colour illustrations. The shoreline of Barry Lake where the holotype was collected; stellate sporodochial on surface of wood through the dissecting microscope (taken with CombineZ) and through the compound microscope; a single conidium in lateral view showing three planes of focus and the different lengths of the arms; a single conidium in face view. Scale bar = 10 µm.

Neighbour-joining tree (TL = 448; CI = 0.538; RI = 0.596) of an ITS sequence alignment generated by MAFFT (Katoh et al. 2005) using PAUP v4.0b10 (Swoford 2003). Bootstrap support values above 70 % from 1 000 replicates are shown at the nodes and branches occurring in the strict consensus of 10 MPTs from a heuristic parsimony search of the same alignment are in bold; type strains are indicated with T. The species described here is printed in bold face. The tree was rooted with Helminthosporium velutinum.
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