Beware of your dishwasher!

Your dishwasher probably harbours a fungus that is potentially able to grow in your brain. This disturbing news was presented by Polona Zalar at a Workshop on Black yeasts in Slovenia, May 2010, with data from a worldwide sampling study. Dishwashers appeared to be an excellent environment for fungi that we otherwise extract from nature only with great efforts and sophisticated isolation methods. Earlier also bathrooms, steamaths and swimming pools had been found positive for an array of black fungi that are otherwise known from human infections (Matos et al. 2002, Lian & de Hoog 2010). This waterborne mycobiota has large health implications, and has systematically been neglected in indoor studies.

The workshop was organised by Nina Gunde-Cimerman and colleagues. The very different backgrounds of the 50 participants reflected the highly diverse ecologies of the black yeasts and allies. A recent lecture by Cecile Gueidan given at the International Mycological Congress in Edinburgh, last August, provided a beautiful summary of the fascinating diversity of life styles of these fungi. Chaetothyriales are notorious for their morbid opportunism on healthy humans. People finally die after a chronic but devastating disease process (Li et al. 2010). Where does this ability come from? Cecile investigated the ancestral lineages of Chaetothyriales, and encountered bizarre ecologies only: growth on bare rock, in the nests of ants and making up living communication tunnels, as species-specific symbionts of mosses, in the deep sea – and frequently on humans, frogs, toads and fishes. Do any of these habitats give clues to understanding their virulence?

Not only opportunism is striking in the Chaetothyriales, but also their association with highly toxic hydrocarbons. Francesc Prenafeta-Boldú and colleagues had described this remarkable combination of features as ‘dual ecology’ (Prenafeta-Boldú et al. 2006). It reminds one of Cryptococcus neoformans which uses laccase to decompose monomeraomes, enabling dopamin assimilation which explains its neurotropism in the human host. Also the black yeasts comprise nitroproteins, such as the BioSafety Level-3 pathogens Cladophialophora bantiana and Rhinocladiella mackenziei. Dual ecology may have its roots in ant-symbiosis. From the work of Rumsai Blatrix and Veronika Mayer it appeared that alkylbenzenes are essential compounds in ant ecology: the insects communicate with each other using a wide diversity of derivatives, and keep their nests free from microbial contamination by a massive production of creosote-like compounds. It has been known since the early studies of June Wang that creosoted wood is an excellent enrichment source for black yeasts (Wang & Zabel 1990). And the habit to grow with toxic compounds may stem from their ancestral habit to grow with lichens, which are active producers of an array of secondary metabolites. This closes the circle and links degradation of peculiar classes of chemical compounds with accidental but highly effective opportunism – a remarkable example of ecological fit and allowing drastic host jumps (Sudhadham et al. 2008). Dothidealean black yeasts are perhaps even more bizarre. They live at the edge of life, as extremophiles on bare rock in the Antarctic or on sun-littered buildings of the Mediterranean where summer temperatures may rise till over 60 °C. Others massively colonise the heavily irradiating remains of the Chernobyl nuclear power plant. Black fungi may even benefit from radioactivity (Dadachova et al. 2007). This fits with their ancestral position in phylogenetic trees indicating their possible prevalence in prehistoric ages when the atmosphere allowed more radiation than today. They are also found in salters in hot waters near the NaCl saturation point, and colonise galvanisation jars at a pH below 1. Their specialised mechanisms to cope with increased osmolarity also enable them to cope with other types of stress (Plemenitas et al. 2008). Silvano Onofri presented experiments with Cryomyces in the Space Shuttle, where the Antarctic extremophile was subjected to conditions of the extraterrestrial. The fungus was not harmed in any way (Onofri et al. 2008). It therefore provides an excellent model for space research: if anything will ever appear to live on the planet Mars, it will look like a Cryomyces.

Here again we had the central research question: why do these fungi thrive in such difficult environments? They disappear when conditions become milder, and some might therefore be good markers of climate change: they will be among the first Antarctic fungi to become extinct, after having survived the extreme successfully for millions of years (Selbmann et al. 2005). But their weakness is that they are utterly unable to cope with competition of fellow microbes which are moving in with more permissive climatic conditions. On the other hand, an extremophile like Friedmanniomyces antarcticus is also involved in a finely tuned interplay of algae, cyanobacteria and black fungi inside rock called the ‘cryptendolithic community’, together surviving the climate of Antarctica’s Dry Valleys, the World’s most hostile place to live (Friedmann & Ocampo 1976).

The black yeasts are a Wonder World of inventive solutions to environmental challenge. They are closer to us than we realised until recently, and they harbour a wealth of undescribed diversity. The Black Yeast Working Group, which functions under the auspices of the International Society for Human and Animal Mycology (ISHAM) has opened a Pandora’s box of ecologies. The implications are good and bad: we need to become aware of the health risk of these fungi, without neglecting their potential applications in agriculture, industry, medicine, and bioremediation.

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The 9th International Mycological Congress, which was organised by the British Mycological Society, was held in Edinburgh during the first week of August 2010. The meeting, which is widely seen as the ‘Olympiad of Mycology’, was attended by close to 1 800 mycologists, and included close to 500 different speakers, which by itself is quite an accomplishment. Due to the limited time available to fit ‘mycology’ into a single week, 30-odd symposia were presented as Special Sessions. Due to the concept of registration of names via MycoBank, the name repository of the IMA, finally during the closing ceremony the delegates voted to be overwhelmingly in favour of adopting the concept of registration of names via MycoBank, the name repository of the IMA. During the first week of August 2010, the meeting kicked off with a keynote by John Taylor, wearing a Scottish kilt, and citing Scottish poetry in a keynote address titled The poetry of mycological accomplishment and challenge. The plenary speakers representing the different themes were: Alastair Fitter (York University, UK) – A forgotten phylum?; Joseph Heitman (Duke University, USA) – Microbial pathogens in the fungal kingdom; David Hibbett (Clark University, USA) – Knowing and growing the fungal tree of life; Nancy Keller (UW Madison, USA) – Unlocking the fungal treasure box; and Gero Steinberg (Exeter University, UK) – Organelle transport in fungi - stochastic or controlled?; Nick Talbot (Exeter University, UK) – Welcome to the pressure dome: investigating the molecular genetics of plant infection by the rice blast fungus. Other noteworthy happenings were the official launch of the journal of the International Mycological Association IMA Fungus – The global mycological journal. David Hawksworth will be acting as Editor-in-Chief, while the Executive Committee elected for the coming 4 years will be associate editors. The journal will cover all aspects of mycology, and is peer-reviewed, open-access, full colour, and fast track, appearing in June and December (www.imafungus.org), and from January 2011 onwards, will also be hosted online via IngentaConnect. Other exciting happenings related to the nomenclature sessions convened by David Hawksworth, and moderated by Ronald Petersen. Based on a questionnaire, delegates voted to be overwhelmingly in favour of adopting the concept of registration of names via MycoBank, the name repository of the IMA. Finally, during the closing ceremony the IMA bestowed awards upon several deserving mycologists, namely Franz Oberwinkler was awarded the de Bary medal for extraordinary service to world mycology, namely to Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org). The meeting closed with Emory Simmons and to Richard Korf (letters of nomination can be read on www.ima-mycology.org).
IMC9 Edinburgh: a selection of mycologists and memorable events that made the meeting a great success.
Nectriella ruscii
**Nectriella rusci** Lechat, Lowen & Gardiennet, *sp. nov.*

**Anamorph.** Acremonium-like.

Ascomata subglobosa, immersa, haud stromatica 180–220 μm diam, aurantia vel pallide luteis, immutabilia in 3 % KOH vel acido lactico. Paries peritheciorum 20–25 μm lata. Asci clavatos (53–)60–70(–75) × 8.5–10(–12) μm (m = 63.4 × 9.2 μm, n = 20), octospori, unitunicati, ascosporis biserialibus. Ascosporae ab ellipsoideis ad fusiformes (12.5–)13–14.5(–17) × 2.8–3.2 μm (m = 14.2 × 3 μm, n = 20), uniseptatae, hyalinae, spinosae. Status asexualis Acremonii similis.

**Etymology.** The epithet *rusci* refers to the substratum *Ruscus aculeatus*.

Ascomata scattered singly or in groups of 2–5, subglobose, 180–220 μm diam, non-stromatic, totally immersed in host tissues, with only the rounded apex of papilla protruding at surface of periderm, at first orange-yellow, then pale yellow, not changing colour in 3 % KOH or lactic acid, completely covered by thick-walled, intertwined hyphae, except ostiolar region, 1.5–2.5 μm diam with wall 0.5–1 μm thick, hyaline. Apex of papilla composed of thin-walled, cylindrical to clavate cells, 8–12 × 2–2.8 μm. Ascomatal wall comprised of intertwined hyphae, 20–25 μm thick, of a single region composed of globose to ellipsoidal cells, 2.5–8 × 1.5–2.5 μm, hyaline to pale yellowish, thick-walled, windowed, wall 0.7–1.5(–2) μm thick, becoming narrower and thin-walled toward centre. Asci clavate, (53–)60–70(–75) × 8.5–10(–12) μm (av. = 63.4 × 9.2 μm, n = 20), short-stipitate, apex rounded with an inconspicuous refractive apical ring, usually containing biseriate ascospores, completely filling each ascus, numerous asci in which 2–4 of 8 ascospores are aborted. Ascospores ellipsoidal to fusiform with rounded ends, (12.5–)13–14.5(–17) × 2.8–3.2 μm (av. = 14.2 × 3 μm, n = 20), 1-septate, not constricted at septum, hyaline, spinulose.

Culture characteristics — Colony grown at 25 °C, on 2 % Difco potato-dextrose agar with 5 mg/L streptomycin, pale pinkish white, reaching 4–5 cm diam after 2 wk. Hyphae smooth, 2–3 μm diam. Conidiophores long, subcylindrical, monopodialic 70–100 μm long, 2–3 μm diam, 1–2-septate, simple or stalked with two secondary branches, sporulating in middle of colony, some orthophialides observed. Conidia ellipsoidal to subcylindrical, hyaline, smooth, non-septate, hyaline, smooth, (4.5–)5–12(–18) × 2.5–4.8(–5.2) μm (av. = 8.4 × 4.5 μm, n = 30). Abscission scar basal, minute.

**Typus.** FRANCE, Côte d’Or, Messigny et Vantoux, on cladodes of *Ruscus aculeatus*, 12 Dec. 2009, A. Gardiennet, deposited at Faculté de Pharmacie de Lille, France (LIP) AG09358 holotype, culture ex-type CBS 126457, MycoBank MB516770.

**Notes.** Through our ongoing research of hypocrealean fungi we discovered an undescribed species of *Nectriella* on the cladodes of *Ruscus aculeatus*. Although we have found many other hypocrealean fungi on this host, this is the first time a species of *Nectriella* is reported on *Ruscus*. *Nectriella rusci* is difficult to see because it is totally immersed in the tissues of the host and possesses very small pale yellow ascomata. This fungus is not described in Lowen (1991)¹ and Rossman et al. (1999)²; we did not find any species corresponding to our specimen. *Nectriella rusci* resembles *N. alpina* because of the intertwined hyphal wall but differs from *N. alpina* by its smaller ascospores, (12.5–)13–14.5(–17) × 2.8–3.2 μm vs (12.5–)13–17.5(–19) × 3.5–5(–7) μm, and hosts, *Arabidis* or *Saxifraga* vs *Ruscus aculeatus*.

**Colour illustrations.** Ascomata on host substratum; vertical section through ascomatal wall; asci and ascospores; conidiophore and conidia (C. Lechat). Scale bars = 10 μm.

**References.** ¹Lowen R. 1991. A monograph of the genera Nectriella Nitschke and Pronectria Clements with reference to Charonectria, Crypto-nectriella, Hydronectria and Pseudonectria. PhD dissertation, City University of New York. ²Rossman AY, Samuels GJ, Rogerson CT, Lowen R. 1999. Genera of Bionectriaceae, Hypocreaceae and Nectriaceae (Hypocreales, Ascomycetes). Studies in Mycology 42: 1–248.
Sphaerographium nyssicola
**Fungal Planet 51 – 23 December 2010**

**Sphaerographium nyssicola** Minnis, Rossman & D.F. Farr, *sp. nov.*

Conidiis uniseptatis. Differt a *Sphaerographium tenuirostrum* conidios lon-

gioribus, 20–29 μm longis.

Etymology. Named for its occurrence on overwintered, dead and fallen

leaves of the genus Nyssa, the substrate from which the type was isolated.

*Conidiomata* pycnidial, superficial or immersed in agar, separ-

ate or confluent with walls partially fused, typically globose,

glabrous, unilocular, black, 190–650 μm diam. *Ostioles* single

or rarely two, on end of a concolorous neck up to 480 μm

long or on a short papilla in neckless forms. *Conidiomatal wall*

bilayered with a darkly pigmented outer layer of relatively thick-

walled *textura angularis* and a hyaline inner layer of similarly

shaped cells with thinner walls. *Conidiophores* covering inner

wall layer, often branching at base and at times with second-

ary branching, smooth, hyaline, septate, 16–56 × 1.3–2.6

μm. *Conidiogenous cells* determinate, integrated or discrete,

phialidic, cylindrical, walls smooth, hyaline, non-terminal cells

producing conidia at a locus immediately below each apical

septum, terminal cells 6.4–12 × 1.3–1.9 μm, collarette lacking.

*Conidia* whitish in mass, solitary, fusiform, falcate, apex acute,

base broadly acute to slightly rounded, walls smooth, hyaline,

medianly 1-septate, eguttulate, vacuoles occasionally present,

20–29 × 1.9–2.6 μm.

Culture characteristics — Colonies 46–50 mm diam on

potato-dextrose agar (Difco) after 14 d at 24 °C with a 12 h

light/dark rhythm; mycelium at times scanty, superficial to more

or less immersed, with aerial mycelium absent or present as

a low, dense, white, velutinous to lanose mat; margin even to

slightly lobed, colourless; pycnidia developing somewhat in a

pattern of concentric rings; reverse colourless to white, pycnidia

observable. Mycelium with hyphae branching, septate, walls

smooth, hyaline, 1.3–3.8 μm diam.

Typos. USA, Maryland, Prince George’s Co., Glenn Dale, U.S. Plant

Introduction Station, 11601 Old Pond Dr., 38°58′00.49″N 76°48′12.78″W, on

overwintered, dead and fallen leaves of Nyssa spp., May 2009, collected by

R.T. Olsen, isolated by A.M. Minnis from BPI 880897 (sparse material as-

associated with proposed epitype of *Sphaerella nyssicola*), BPI 881009 (dried

culture on PDA, holotype); culture ex-holotype CBS 126284, GenBank ITS

HQ338472, MycoBank MB519095.

Notes — *Sphaerographium* is a little known and rarely col-
generated genus of coelomycetes. Recent work including a revision

of the genus has reduced the number of species that are

correctly classified in the genus to three. *Sphaerographium petiolicola*, known from *Sorbus* petioles in Europe, differs from

the present species in having asepctate conidia; *S. squarrosum*,

known from *Lonicera* twigs in Europe, differs in having 1–3

septate conidia; and *S. tenuirostrum*, known from *Camellia*

petals in New Zealand, differs in having shorter (< 20 μm long)

conidia. *Sphaerographium nyssicola* is the only species in

the genus known from the USA.

No ITS sequences of *Sphaerographium* exist for species rank

comparison; we have generated one for this new species and

deposited it in GenBank as a DNA barcode for future work. A

Blast search of the ITS sequence data in GenBank reveals

an affinity with *Chaetomella* and *Pilidium*. Based on previous

analyses using nSSU rDNA, these two coelomycetous genera

along with *Sphaerographium* and others form a recently discov-
ered lineage in the *Leotiomycetes, Ascomycota*. It is presumed that *S. nyssicola* and the other species classified in the genus

are saprobic. Significantly more sampling is needed to gain a

better understanding of this genus. However, this information

is more likely to come from chance encounters like the present

one than directed efforts due to the difficulty in obtaining fresh

collections.

References. 1Rossman AY, Aime MC, Farr DF, Castlebury LA, Peterson

KR, Leahy R. 2004. The coelomycetous genera *Chaetomella* and *Pilidium*

represent a newly discovered lineage of inoperculate discomycetes. Myco-

logical Progress 3: 275–290. 2Verkley GJM. 2001. On *Sphaerographium*

petiolicola, known from *Sorbus* petioles in Europe, differs from the

present species in having aseptate conidia; *S. squarrosum*,

known from *Lonicera* twigs in Europe, differs in having 1–3

septate conidia; and *S. tenuirostrum*, known from *Camellia*

petals in New Zealand, differs in having shorter (< 20 μm long)

conidia. 3Verkley GJM. 2002. A revi-

sion of the genus *Sphaerographium* and the taxa assigned to *Rhynchophoma*

3 has reduced the number of species that are

correctly classified in the genus to three. *Sphaerographium petiolicola*, known from *Sorbus* petioles in Europe, differs from

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along with *Sphaerographium* and others form a recently discov-
ered lineage in the *Leotiomycetes, Ascomycota*. It is presumed that *S. nyssicola* and the other species classified in the genus

are saprobic. Significantly more sampling is needed to gain a

better understanding of this genus. However, this information

is more likely to come from chance encounters like the present

one than directed efforts due to the difficulty in obtaining fresh

collections.

Andrew M. Minnis, Amy Y. Rossman & David F. Farr, Systematic Mycology & Microbiology Laboratory, USDA-ARS, Rm. 304, B011A,

10300 Baltimore Ave., Beltsville, MD 20705, USA; e-mail: Drew.Minnis@ars.usda.gov & Amy.Rossman@ars.usda.gov

Richard T. Olsen, Floral and Nursery Research Unit, US National Arboretum, USDA-ARS, Rm. 128, B010A, 10300 Baltimore Ave., Beltsville, MD 20705, USA; e-mail: Richard.Olsen@ars.usda.gov

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**Sphaceloma freyliniae** Crous, sp. nov.

*Sphacelomatis protearum* similis, sed conidiis (3.5–)4–6(–7) × (2.5–)3–4 μm.

**Etymology.** Named after the host from which it was collected, *Frelinia lanceolata*.

**Lesions** foliicolous, amphigenous, irregular, red-brown with indistinct margins, 1–6 mm diam. **Mycelium** internal, consisting of hyaline to pale brown, smooth, 3–4 μm wide hyphae. **Conidiomata** sporodochial or acervular on leaves, cream to pale brown, wall composed of pale brown **textura angularis**, up to 300 μm diam. **Conidiophores** subcylindrical to doliform or ampulliform, hyaline to pale brown, smooth, 0–2-septate, unbranched or branched below, 10–20 × 3.5–5 μm. **Conidiogenous cells** enteroblastic, polyphialidic, hyaline to pale brown, smooth-walled, subcylindrical to doliform or ampulliform, 6–10 × 3.5–4.5 μm; collarettes and loci indistinct. **Conidia** hyaline, aseptate, ellipsoidal, apex obtuse, base subtruncate to bluntly rounded, (3.5–)4–6(–7) × (2.5–)3–4 μm in vitro.

**Culture characteristics** — (in the dark, 25 °C): Colonies slow growing, reaching 5 mm diam after 7 d. On oatmeal agar erumpent, with sparse to moderate aerial mycelium, and smooth, lobate margins; surface scarlet with patches of saffron. On malt extract agar and potato-dextrose agar saffron, with patches of scarlet.

**Type.** South Africa, Western Cape Province, Cape Town, Kirstenbosch Botanical Garden, on leaves of *Frelinia lanceolata*, 8 May 2010, P.W. Crous, CBS-H 20485 holotype, cultures ex-type CPC 18336, 18335 = CBS 128204, ITS sequence of CPC 18335, GenBank HQ599577, MycoBank MB517530.

**Notes** — The genus *Frelinia* (*Scrophulariaceae*) is endemic to Africa, and has nine species that occur in South Africa. *Frelinia lanceolata* (common names: honeybells, honeybell bush, ‘heuningklokjesbos’ in Afrikaans) is a small tree or shrub with golden-yellow, honey-scented, cylindrical flowers that occur in terminal heads on long, arching, drooping branches. The ITS sequence of this species identifies its closest sister species to be *Elsinoë australis* (GenBank FJ010289; identity = 593/655 (91 %), gaps = 39/655 (5 %)).

Scab leaf disease, caused by *Sphaceloma freyliniae*, represents the first disease recorded on this host in South Africa.

**Colour illustrations.** Leaves of a *Frelinia lanceolata* tree in Kirstenbosch Botanical Garden with scab disease symptoms; honeybell flowers; sporodochia on host; conidiogenous cells giving rise to conidia; conidia. Scale bars = 10 μm.

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Anthostomella pinea
Fungal Planet 53 – 23 December 2010

**Anthostomella pinea** Crous, *sp. nov.*

*Anthostomellae formosae similis, sed ascoporis majoribus, (15–16–18 (–19)) × (6–7–8 μm, distinguitur.*

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

*Ascomata* immersed, solitary, ostiolar region papillate, black, shiny, globose, up to 300 μm diam, with central periphsate ostiolar canal, up to 30 μm; wall consisting of 3–4 layers of brown *textura angularis*. *Paraphyses* hyaline, septate, branched, with rounded ends, 3–4 μm wide, intermingled among asci, exceeding them in length. *Asci* 8-spored, subcylindrical, 70–140 × 5–6 μm, stipitate, uniseriate, with a bluntly rounded apex, apex not staining in Meltzer’s reagent. *Ascospores* (15–)16–18(–19) × (6–)7–8 μm, uniseriate, ellipsoid to gibbose, smooth-walled, with a central guttule, consisting of a larger brown cell, 12–16 μm long, and a smaller, hyaline, basal dwarf cell, 2–3 μm long and 3 μm wide; with straight germ slit in middle of the spore, not covering the whole length of the spore, asci that do not stain in Meltzer’s reagent, and lack any visible apical apparatus, the present collection appears to represent a novel species, described here as *A. pinea*. A megablast search in GenBank using the ITS sequence was mainly uninformative; mostly unnamed sequences such as ‘*Sordariomycetes* sp.’ and ‘*Xylaria* sp’ were obtained. The closest named hits were obtained with *Anthostomella conorum* (GenBank EU552099; Identities = 578/681 (85 %), Gaps = 54/681 (7 %)) and *Anthostomella proteae* (GenBank EU552101; Identities = 561/660 (85 %), Gaps = 44/660 (6 %)).

**Culture characteristics — (in the dark, 25 °C):** Colonies on oatmeal agar, potato-dextrose agar and malt extract agar cream to white, with moderate aerial mycelium; surface somewhat woolly, margins feathery; reverse cream. Colonies reaching 12 mm diam after 7 d, remaining sterile.

**Typus.** **FRANCE.** Rente de Mars, next to the Autogrill along the A31, 47°25.342’N 005°10.258’E, on needles of *Pinus* sp., 17 July 2010, P.W. Crous, CBS-H 20486 holotype, cultures ex-type CPC 18388, 18387 = CBS 128205, ITS sequence of CPC 18387 GenBank HQ599578, MycoBank MB517531.

**Notes — Lu & Hyde** treat several species of *Anthostomella* that occur on *Pinaceae*, and need to be compared to this taxon. However, based on its ascospore dimensions and basal dwarf cell, the germ slit that does not cover the whole length of the spore, asci that do not stain in Meltzer’s reagent, and lack any visible apical apparatus, the present collection appears to represent a novel species, described here as *A. pinea*. A megablast search in GenBank using the ITS sequence was mainly uninformative; mostly unnamed sequences such as ‘*Sordariomycetes* sp.’ and ‘*Xylaria* sp’ were obtained. The closest named hits were obtained with *Anthostomella conorum* (GenBank EU552099; Identities = 578/681 (85 %), Gaps = 54/681 (7 %)) and *Anthostomella proteae* (GenBank EU552101; Identities = 561/660 (85 %), Gaps = 44/660 (6 %)).
Fuscidium peltigericola Crous & Diederich, sp. nov.

Conidiophora solitaria, erecta, subcylindrica, recta vel geniculata-sinuosa, non ramosa, 1–4(–7)-septata, 10–40(–90) × 3–4 μm, brunnea, laevia. Cellulae conidiogenae terminales, brunneae, laevae, sympodialiter proliferantes, subcylindricae, 10–30 × 3–4 μm; cicatrices conidiales applanatae, inconspicuae vel leniter fuscatae, sed non refractivae et non incrassatae, 2–2.5 μm diam. Ramoconidia in 1–3 seriesbus, subcylindrica, in medio unieuseptata, (27–)33–40(–65) × 4(–5) μm; conidia intercalaria et terminalia, subcylindrica, medio-brunnea, subtilve verruculosa, 0–1-euseptata, (18–)25–33(–40) × (3.5–)4(–5) μm.

Etymology. Named after the lichen host from which it was collected, Peltigera rufescens.

Mycelium consisting of smooth, branched, septate, brown, 2–3 μm diam hyphae. Conidiophores solitary, erect, subcylindrical, straight to geniculose-sinuous, unbranched, 1–4(–7)-septate, 10–40(–90) × 3–4 μm, brown, smooth. Conidiogenous cells terminal, brown, smooth, proliferating sympodially, subcylindric, rarely straight, mostly geniculate-sinuous, 10–30 × 3–4 μm; scars flattened, inconspicuous to somewhat darkened, but not refractive, not appearing thickened, 2–2.5 μm wide. Ramoconidia in 1–3 series, subcylindrical, medianly 1-euseptate, relatively thick-walled, medium brown, finely verruculose, basal hilum flattened, somewhat brown, 2–2.5 μm wide, with one to several sympodial, apical loci; frequently with lateral branch up to 10 μm long, 3–4 μm wide, (27–)33–40(–65) × 4(–5) μm; older ramoconidia at times developing up to 3 septa; intercalary and terminal conidia subcylindrical, medium brown, finely verruculose, apex obtusely rounded or flattened, proliferating in sympodial fashion to form short chains of conidia, 0–1-euseptate: septum mostly in upper third of conidium, (18–)25–33(–40) × (3.5–)4(–5) μm; hilum flattened, 2–2.5 μm wide, somewhat darkened, not thickened.

Culture characteristics — (in the dark, 25 °C): Colonies on oatmeal agar spreading, with moderate aerial mycelium; surface smooth, fuscous-black, margin lobate, smooth; reaching 15 mm diam after 1 mo. Colonies on cornmeal agar erumpent, spreading with dense, moderate aerial mycelium and lobate, smooth to feathery margins; colonies reaching 15 mm diam after 1 mo; surface olivaceous-grey to fuscous-black.

Typus. Luxemburg, Lamadelaine, in a disused quarry, on terricolous Peltigera rufescens, over galls induced by Hawksworthiana peltigericola, May 2008, P. Diederich, CBS-H 20487 holotype, culture ex-type CPC 15252 = CBS 128296, ITS sequence GenBank HQ599579, MycoBank MB517532.

Notes — The genus Fuscidium is recognised as anamorph of Venturia1,2. Presently no Fuscidium species are known from lichens, nor are there any DNA sequence data of similar species currently deposited in GenBank. The closest sister taxa in GenBank based on the ITS sequence are Fuscidium betulae (GenBank FJ839641; Identities = 459/464 (99 %), Gaps = 2/464 (0 %)), Venturia tremulae var. tremulae (GenBank EU035475; Identities = 704/712 (99 %), Gaps = 4/712 (0 %)) and Venturia ditricha (GenBank EU035456; Identities = 704/712 (99 %), Gaps = 4/712 (0 %)). Morphologically F. peltigericola is distinct from all taxa treated in the recent monograph by Schubert et al.2 based on the combination of characters, namely its large, subcylindrical ramoconidia that become up to 3-septate, and its terminal conidia that become 1-septate in the upper third of the conidium. Although F. peltigericola was isolated from a Peltigera thallus colonised with Hawksworthiana peltigericola (which could not be cultivated), there was no conclusive macroscopic proof that F. peltigericola is lichenicolous. However, conidia isolated from the thallus took up to 2 wk to germinate, and grew extremely slowly for the first few months, suggesting that there may be an association with P. rufescens. Further collections would be required, however, to clarify its ecology.

Acknowledgement The authors acknowledge G. Marson for the background photograph.

References. 1Beck A, Ritschel A, Schubert K, Braun U, Triebel D. 2005. Phylogenetic relationships of the anamorphic genus Fuscidium s. lat. as inferred by ITS nrDNA data. Mycological Progress 4: 111–116. 2Schubert K, Ritschel A, Braun U. 2003. A monograph of Fusicladium s. lat. (hyphomycetes). Schlechtendalia 9: 1–132. 3Crous PW, Schubert K, Braun U, Hoog GS de, Hocking AD, Shin H-D, Groenewald JZ. 2007. Opportunistic, human-pathogenic species in the Herpotrichiellaceae are phenotypically similar to saprobiic or phytopathogenic species in the Venturiaceae. Studies in Mycology 58: 185–217.
Fungal Planet 55 – 23 December 2010

**Xenopolyscytalum Crous, gen. nov.**

*Polyscytalum* morphologicum similis, sed conidiis asetatis cum hilis fuscatis et item statu synanamorphopo chalarioide discernitur.

**Etymology.** Named after its similarity to the genus *Polyscytalum*.

*Mycelium* consisting of smooth, branched, septate, brown hyphae, which become somewhat warty with age. *Conidiophores* dimorphic. *Penicillate conidiophores* erect, with white tufts of branched, catenulate conidia; conidiophore cylindrical, erect, brown, verruculose, septate; base lacking rhizoids and not swollen; conidigenous cells apical, hyaline to brown, smooth, proliferating sympodially, giving rise to ramoconidia. *Ramoconidia* hyaline, asetate, smooth, subcylindrical. *Conidia* subcylindrical to narrowly ellipsoid, hyaline, smooth, aseptate, occurring in branched chains, ends with a flattened, somewhat erumpent, darkened scar. *Chalara*-type conidiophores erect, cylindrical, unbranched, brown, verruculose to smooth, septate. *Conidiogenous cells* terminal, long ampulliform; collarette with flaring apex, and visible ring wall building at base of collarette. *Conidia* cylindrical, hyaline, smooth; ends truncate, somewhat darkened.

**Type species.** *Xenopolyscytalum pinae*. MycoBank MB517533.

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**Xenopolyscytalum pinae Crous, sp. nov.**

Conidiophora penicillata, erecta, cylindrica, brunnea, verruculosa, 2–6–septata, ad 50 μm procera, 2–3 μm lata; ad basim non rhizida et non inflata; cellulae conidiogenae terminales, hyalinae vel brunneae, laeviae, 5–12 × 1.5–2.5 μm, symprobolai ter proliferantes, 1–3 conamorpha facientes, hyalinae, laeviae, aseptatae, subcylindricae, 5–10 × 1.5–2 μm. Conidia subcylindrica vel anguste ellipsoidea, hyalina, laevia, aseptata, catenulata, 3–4(–7) × 1.5(–2) μm.

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

*Mycelium* consisting of smooth, branched, septate, brown, 1.5–2.5 μm diam hyphae, which become somewhat warty with age. *Conidiophores* dimorphic. *Penicillate conidiophores* erect, with white tufts of branched, catenulate conidia; conidiophore cylindrical, erect, brown, verruculose, 2–6–septate, up to 50 μm tall, 2–3 μm wide; base lacking rhizoids and not swollen; conidigenous cells apical, hyaline to brown, smooth, 5–12 × 1.5–2.5 μm, proliferating sympodially, giving rise to 1–3 ramoconidia. *Ramoconidia* hyaline, smooth, asetate, subcylindrical, 5–10 × 1.5–2 μm. *Conidia* subcylindrical to narrowly ellipsoid, hyaline, smooth, asetate, occurring in branched chains, ends with a flattened, somewhat erumpent, darkened scar, 0.5 μm wide, 3–4(–7) × 1.5(–2) μm. *Chalara*-type conidiophores erect, cylindrical, unbranched, brown, verruculose to smooth, 1–3–septate, up to 40 μm tall, 2–3 μm wide. *Conidiogenous cells* terminal, long ampulliform, 15–25 × 2–3 μm; collarette 3–5 μm long, apex flaring, 1.5–2 μm wide with visible ring wall building at base of collarette, which is 1 μm wide. *Conidia* cylindrical, hyaline, smooth, 3–4(–5) × 1.5(–2) μm; ends truncate, somewhat darkened.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies on oatmeal agar flat, spreading, lacking aerial mycelium, with diffuse margin; surface dark mouse grey with patches of mouse grey and pale mouse grey; reverse dark mouse grey to mouse grey.

**Typus.** *Netherlands*, Putten, on needles of *Pinus* sp., 8 July 2007, P.W. Crous, CBS-H 20488 holotype, cultures ex-type CPC 14225, 14234 = CBS 126493. ITS sequences of CPC 14234, 14225 GenBank HQ599581 and HQ599580, respectively and LSU sequences of CPC 14234, 14225 GenBank HQ599585 and HQ599582, respectively, MycoBank MB517534.

Notes — The genus *Polyscytalum*, which is based on *P. fleececissimus*, clustered with *Phlogicylindrium eucalypticum in Sordariomycetes*6,7, and is thus genetically distinct from *Xenopolyscytalum*, which belongs to the *Helotiales*. Morphologically *Xenopolyscytalum* is distinct from *Polyscytalum* in having macroconidiophores that have chains of asetate conidia with somewhat darkened hila, and having microconidiophores that are *Chalara*-like, but distinct from *Chalara* s.str. in having flaring collarettes. Identical ITS and LSU sequences were obtained for both strains of *X. pinea* sequenced. A megablast search of NCBIs GenBank nucleotide database using the LSU sequence retrieved as closest sisters *Chalara constricta* (GenBank FJ176256; Identities = 848/853 (99 %), Gaps = 0/853 (0 %)). *Trichicladium caudatum* (GenBank GQ477319; Identities = 843/850 (99 %), Gaps = 0/850 (0 %)); *Discocistella grevillei* (GenBank GU727554; Identities = 865/874 (99 %), Gaps = 5/874 (0 %)); *Cistella acumin* (GenBank GU727552; Identities = 865/874 (99 %), Gaps = 5/874 (0 %)) and *Rhytisma acerinum* (GenBank AF356696; Identities = 798/820 (98 %), Gaps = 4/820 (0 %)). The highest identities based on ITS were found with *Helicodendron websteri* (GenBank EF029197; Identities = 522/530 (99 %), Gaps = 4/530 (0 %)) and *Hyalodendriella betulae* (GenBank EU040232; Identities = 575/618 (94 %), Gaps = 11/618 (1 %)).

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**Colour illustrations.** Pine trees in Putten; colonies on needle and agar; conidiophores giving rise to conidial chains; *Chalara*-like synanamorph. Scale bars = 10 μm.

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References. 1Crous PW, Schubert K, Braun U, Hoog GS de, Hocking AD, Shin H-D, Groenewald JZ. 2007. Opportunistic, human-pathogenic species in the Herpotrichiellaceae are phenotypically similar to saprobic or phytopathogenic species in the Venturiaceae. Studies in Mycology 58: 185–217.
2Cheewangkoon R, Groenewald JZ, Summerell BA, Hyde KD, To-anun C, Crous PW. 2009. *Myrtaceae*, a cache of fungal biodiversity. Persoonia 23: 55–85.

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Strelitziana albiziae Crous & H.D. Shin, sp. nov.

Strelitziana australiensis similis, sed conidiis minoribus et obclavatis, (17–)38–65(–80) × (2.5–)3 μm, (1–)3–8(–10)-septatis, distinguitur.

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

Mycelium consisting of smooth, septate, branched hyphae, pale brown, 2.5–3 μm diam. Conidiophores erect, solitary, subcylindrical, straight to geniculose-sinuous, pale brown, 1–9-septate, 20–100 × 3–4 μm. Conidiogenous cells terminal, integrated, pale brown, with several short, conspicuous apical denticles, 2–4 μm long, 1–1.5 μm wide; conidiogenesis rhexolytic with remnants of separating cell clearly visible on conidiogenesis cell, and at times visible on conidium hilum as a minute marginal frill, 15–50 × 3–4 μm. Conidia pale brown, smooth, long obclavate, widest at basal septum, tapering to a subobtusely rounded apex and long obconically subtruncate base, 1 μm wide, at times with inconspicuous marginal frill, (17–)38–65(–80) × (2.5–)3 μm, (1–)3–8(–10)-septate; microcyclic conidiation present in culture.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies on oatmeal agar (OA) spreading with moderate aerial mycelium, with even, smooth margins; surface greenish black, with patches of olivaceous-grey; greenish black on malt extract agar (MEA) (surface and reverse), olivaceous-grey on potato-dextrose agar (PDA) (surface), iron-grey (reverse); colonies reaching 40 mm diam on OA, 25 mm on MEA, and PDA.

Typus. Korea, Jecheon, on leaves of Albizia julibrissin infected with Camptomeris albiziae, 19 Oct. 2007, H.-D. Shin, CBS-H 20489 holotype, cultures ex-type CPC 14750, 14749 = CBS 126497, ITS sequence GenBank HQ599584 and LSU sequence GenBank HQ599585, MycoBank MB517535.

Notes — A megablast search in GenBank using the LSU sequence retrieved as closest sisters Strelitziana australiensis (GenBank GQ303326; Identities = 856/891 (97 %), Gaps = 10/891 (1 %)) and S. africana (GenBank DQ885895; Identities = 890/928 (96 %), Gaps = 12/928 (1 %)). These same two species were also obtained when a megablast was performed with the ITS sequence, albeit with a slightly lower sequence identity (S. australiensis GenBank GQ303295, Identities = 659/716 (93 %), Gaps = 27/716 (3 %) and S. africana GenBank DQ885895, Identities = 668/724 (93 %), Gaps = 25/724 (3 %)). Therefore on DNA sequence data, S. albiziae is related to S. africana (conidia (18–)50–70(–95) × 3(–3.5) μm, 3–5(–10)-septate), and S. australiensis (30–)50–60(–73) × 2.8–3.2 μm, 4–8-septate)1, 2. Conidia of S. australiensis are similar in size to those of S. albiziae, and also have a small, globose, hyaline, apical mucilaginous appendage. On average though, conidia of S. albiziae are smaller, have more septa, and are obclavate rather than subcylindrical.

Colour illustrations. Leaves of Albizia julibrissin infected with Camptomeris albiziae; conidiophore with conidiogenous cell giving rise to conidium (note separating cell); conidiogenous cell with remnants of separating cells; conidia. Scale bars = 10 μm.

References. 1. Arzanlou M, Crous PW. 2006. Strelitziana africana. Fungal Planet No. 8. 2. Cheewangkoon R, Groenewald JZ, Summerell BA, Hyde KD, To-anun C, Crous PW. 2009. Myrtaceae, a cache of fungal biodiversity. Persoonia 23: 55–85.
Toxicocladosporium protearum
**Toxicocladosporium protearum** Crous & Roets, *sp. nov.*

Toxicocladosporio veloxo simil, sed conidiis majoribus, (9–)11–13(–16) × (2–)2.5(–3) μm, discernitur.

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

**Mycelium** consisting of smooth, septate, brown, branched, 2–3 μm diam hyphae. *Conidiophores* erect, medium brown, with an apical apparatus of penicillate branches; conidiophores cylindrical, smooth, 1–8-septate, 30–80 μm tall, 3–4 μm wide; base lacking rhizoids. *Conidiogenous cells* terminal, medium to dark brown, smooth, subcylindrical, 10–20 × 2.5–3 μm, with 1–2 apical loci, that are thickened, darkened, somewhat refractive, 1–1.5 μm wide. *Ramoconidia* subcylindrical, 0–1-septate, medium to dark brown, smooth, 15–20 × 2.5–3.5 μm. *Conidia* occurring in branched chains of up to 10, subcylindrical to narrowly fusoid-ellipsoidal, (9–)11–13(–16) × (2–)2.5(–3) μm, 0–1-septate; conidial hila somewhat thickened, darkened and refractive, 0.5–1 μm.

**Culture characteristics —** (in the dark, 25 °C, after 1 mo): Colonies on oatmeal agar flat, spreading, with sparse aerial mycelium, with even, smooth margins; surface greenish black, reaching 40 mm diam. On malt extract agar spreading, with moderate aerial mycelium, folded, green-black, with sectors of olivaceous-grey; greenish black in reverse. Similar on potato-dextrose agar.

**Typus.** *SOUTH AFRICA*, Stellenbosch, J.S. Marais Garden, on leaves of *Protea* sp., 22 Apr. 2008, F. Roets, CBS-H 20490 holotype, cultures ex-type CPC 15254 = CBS 126499, CPC 15255, 15256, ITS sequence of CPC 15254 GenBank HQ599586 and LSU sequence of CPC 15254 GenBank HQ599587, MycoBank MB517536.

**Notes —** A megablast search in GenBank using the LSU sequence retrieved as closest sisters *Toxicocladosporium chlamydosporum* (GenBank FJ790302; Identities = 881/883 (99 %), Gaps = 0/883 (0 %)), *Toxicocladosporium veloxum* (GenBank FJ790306; Identities = 880/883 (99 %), Gaps = 0/883 (0 %)) and *Toxicocladosporium irritans* (GenBank EU040243; Identities = 870/885 (99 %), Gaps = 4/885 (0 %)). These three species were also obtained when a megablast was performed with the ITS sequence, albeit with a slightly lower sequence identity (*T. veloxum* GenBank FJ790288, Identities = 609/613 (99 %), Gaps = 3/613 (0 %), *T. chlamydosporum* GenBank FJ790284, Identities = 604/614 (99 %), Gaps = 3/614 (0 %) and *T. irritans* GenBank EU040243, Identities = 517/542 (96 %), Gaps = 12/542 (2 %)). Therefore on DNA sequence data of the ITS region, *T. protearum* is 4 nucleotides different from *T. veloxum*. Morphologically they differ in that *T. veloxum* has smaller intercalary (9–12 × 2.5–3 μm) and terminal (8–10 × 2–2.5 μm) conidia than *T. protearum.*

**Reference.** *Crous PW, Wingfield MJ, Groenewald JZ. 2009. Niche sharing reflects a poorly understood biodiversity phenomenon. Persoonia 22: 83–94.*
Exophiala encephalarti
**Exophiala encephalarti** Crous, sp. nov.

*Exophialae placitae similis, sed conidiis minoribus, (3–)4–5(–6) × (2–)2.5(–3) μm, discernitur.*

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

*Mycelium* consisting of smooth, septate, brown, branched, 2–3 μm diam hyphae. *Conidiophores* mostly reduced to conidiogenous cells, or with a supporting cell. *Conidiogenous cells* pale brown, smooth, reduced to conidiogenous loci, 0.5 μm wide, or ampulliform to doliiform, 5–7 × 1.5–2.5 μm; proliferating 1–2 times percurrently near apex. *Conidia* aseptate, (3–)4–5(–6) × (2–)2.5(–3) μm, ellipsoid, hyaline, smooth, guttulate, widest in middle, apex obtuse, tapering to a subtruncate base, 0.5 μm wide.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies on oatmeal agar slimy, lacking aerial mycelium, with diffuse margins, greyish-sepia. On potato-dextrose agar flat, spreading, with sparse aerial mycelium and feathery margins; surface olivaceous-grey with iron-grey margins; reverse iron-grey; colonies reaching 15 mm diam.

**Typus.** SOUTH AFRICA, Western Cape Province, Kirstenbosch Botanical Garden, on leaves of *Encephalartos transvenosus*, 27 Feb. 2009, P.W. Crous, CBS-H 20491 holotype, cultures ex-type CPC 16282, 16281 = CBS 128210, ITS sequence of CPC 16281 GenBank HQ599588 and LSU sequence of CPC 16281 GenBank HQ599589, MycoBank MB517537.

Notes — Based on the LSU sequence of *Exophiala encephalarti*, a megablast search of the NCBI’s GenBank nucleotide database reveals the closest neighbours to be *Brycekenrickomyces acaciae* (GenBank FJ839641; Identities = 852/880 (97 %), Gaps = 10/880 (1 %)), *Exophiala placitae* (GenBank EU040215; Identities = 845/885 (96 %), Gaps = 16/885 (1 %)) and *Sarcinomyces petricola* (GenBank FJ358249; Identities = 814/854 (96 %), Gaps = 16/854 (1 %)), all in *Chaetothyriales*. Morphologically it resembles other species of *Exophiala*¹, though phylogenetically, it appears to represent a distinct lineage.

Reference. ¹Crous PW, Schubert K, Braun U, Hoog GS de, Hocking AD, Shin H-D, Groenewald JZ. 2007. Opportunistic, human-pathogenic species in the Herpotrichiellaceae are phenotypically similar to saprobic or phytopathogenic species in the Venturiaceae. Studies in Mycology 58: 185–217.

**Colour illustrations.** *Encephalartos* plants growing in Kirstenbosch Botanical Garden; hyphae with conidiogenous cells giving rise to conidia. Scale bar = 10 μm.

Pedro W. Crous & Johannes Z. Groenewald, CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: p.crous@cbs.knaw.nl & e.groenewald@cbs.knaw.nl
Pseudocercospora nephrolepidicola
Pseudocercospora nephrolepidicola Crous & R.G. Shivas, sp. nov.

Teleomorph. Mycosphaerella-like.

Pseudocercosporae nephrolepidis similis, sed conidiis minoribus, (40–)50–60(–95) × (2.5–)3.5(–4) μm, distinguetur.

Etymology. Named after the host from which it was collected, Nephrolepis (Lomariopsidaceae).

Leaf spots amphigenous, medium brown, with indistinct margins, 2–12 mm diam. Conidiomata pale to medium brown, amphigenous, fasciculate, arising from a well-developed subepidermal, medium brown stroma, up to 150 μm wide, and 50 μm high. Mycelium consisting of smooth, septate, brown, branched, 2–3 μm diam hyphae. Conidiophores subcylinrdrical, medium brown, smooth, unbranched or branched below, irregularly geniculate-sinuous, in loosely aggregated fascicles, or separate on superficial mycelium, 25–45(–90) × 2.5–3(–3.5) μm. Conidiogenous cells terminal on conidiophore, integrated, subcylinrdical, pale brown, smooth, proliferating 1–2 times percurrently near apex, 15–25(–40) × (2–)2.5(–3) μm. Conidia medium brown, smooth, guttulate, subcylinrdical, straight to irregularly flexuous, apex obtusely rounded, base truncate, 3–6(–9)-septate, (40–)50–60(–95) × (2.5–)3.5(–4) μm; hila not thickened nor darkened. Ascomata globose, erumpent, brown, up to 80 μm diam, with a central ostiole. Asci subcylinrdical to narrowly obovoid, 35–50 × 8–10 μm. Ascospores fusoid-ellipsoidal, widest in middle of apical cell, tapering towards both ends, apex acutely rounded, constricted at septum, 9–11 μm.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent, with folded surface and even, lobate margins, reaching up to 15 mm diam. On potato-dextrose agar surface smoke-grey with patches of grey-olivaceous, iron-grey in reverse; on oatmeal agar olivaceous-grey, iron-grey in reverse; on malt extract agar pale olivaceous-grey, iron-grey in reverse; on potato-dextrose agar surface smoke-grey with patches of grey-olivaceous, iron-grey in reverse; on oatmeal agar olivaceous-grey, iron-grey in reverse; on malt extract agar pale olivaceous-grey, iron-grey in reverse.

Colour illustrations. Nephrolepis falcata at Brisbane Botanical Gardens; conidiomata on frond; ascomatum, asci with ascospores; conidiophores, conidia. Scale bars = 10 μm.

Notes — There are several specimens of Pseudocercospora spp. on Nephrolepis in BRIP, which cannot easily be identified using morphology alone. Pseudocercospora nephrolepidicola is morphologically and phylogenetically distinct from P. nephrolepidis (on Nephrolepis cordifolia (as N. auriculata) in Taiwan); conidia subcylinrdical, (32–)67–101(–113) × 2–3 μm, 2–9 septate; CBS 119121), in that its conidia are shorter, and wider. Furthermore, Pseudocercospora phyllitidis, which was described from leaves of Nephrolepis sp. from Florida, has smaller stromata (up to 75 μm diam) with straight to mildly curved obclavate conidia, 20–80 × 2–3.5 μm², than the Australian specimen. A megablast search of NCBI’s Genbank nucleotide database using the LSU sequence retrieved as closest sisters Mycosphaerella quasiparkii (GenBank EU882143; Identities = 807/808 (99 %), Gaps = 0/808 (0 %)), Rosenscheldiella brachyglottidis (GenBank GQ355334; Identities = 874/886 (99 %), Gaps = 0/886 (0 %)), Mycosphaerella swartii (GenBank GQ923536; Identities = 865/888 (96 %), Gaps = 3/888 (0 %)) and Pseudocercospora vitis (GenBank GU214483; Identities = 864/889 (98 %), Gaps = 5/889 (0 %)). A megablast with the ITS sequence revealed high identity to *Mycosphaerella* sp. De-No (GenBank HM189290; Identities = 481/482 (99 %), Gaps = 0/482 (0 %)), M. quasiparkii (GenBank EU882127; Identities = 573/597 (96 %), Gaps = 17/597 (2 %)) and Pseudocercospora schizolobii (GenBank GQ852765; Identities = 571/610 (94 %), Gaps = 28/610 (4 %)).

References. *Kirschner R, Chen CJ. 2007. Follicolous hyphomycetes from Taiwan. Fungal Diversity 26: 219–239. *Chupp C. 1954. A monograph of the fungus genus Cercospora. Ithaca, New York. Published by the author.

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"Pseudophloeospora eucalypti"
Fungal Planet 60 – 23 December 2010

**Pseudophloeospora** Crous & R.G. Shivas, *gen. nov.*

*Phloeosporae* morphologice similis, sed conidiomatis in vivo pycnidia-

*Etymology.* Morphologically similar, but distinct from *Phloeospora.*

Associated with leaf spots. *Conidiomata* amphigenous, pyc-

*Leaf spots* amphigenous, irregular, pale brown, with raised,

*Conidiomata* amphigenous, pycnidial, globose, medium brown, up to 250 μm
diam; pycnidial wall consisting of 3–6 layers of brown textura angularis. *Conidiophores* lining the cavity, hyaline, smooth, reduced to conidiogenous cells, or with 1–2 supporting cells, subcylindrical, branched below or unbranched. *Conidiogenous cells* terminal or lateral, hyaline, smooth, tapering to an acutely truncate apex; proliferating inconspicuously percurrently at apex. *Conidia* hyaline, smooth, filiform, flexuous, subcylindrical, tapering to an acutely rounded apex and truncate base, not thickened nor darkened, transversely euseptate.

**Pseudophloeospora eucalypti** Crous & R.G. Shivas, *sp. nov.*

*Phloeosporellae* eucalypticole similis, sed cellulis conidiogenis percurrenter proliferantibus et conidiis 3-septatis discernitur.

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

*Leaf spots* amphigenous, irregular, pale brown, with raised, thin, red-brown margins, 3–10 mm diam. *Conidiomata* amphigenous, pycnidial, globose, medium brown, up to 250 μm diam; pycnidial wall consisting of 3–6 layers of brown textura angularis. *Conidiophores* lining the cavity, hyaline, smooth, reduced to conidiogenous cells, or with 1–2 supporting cells, subcylindrical, branched below or unbranched, 5–15×2–3 μm. *Conidiogenous cells* terminal or lateral, hyaline, smooth, tapering to an acutely truncate apex, 0.5–1 μm diam; proliferating inconspicuously percurrently at apex, 4–6×1.5–2 μm. *Conidia* hyaline, smooth, guttulate, filiform, flexuous, subcylindrical, widest in lower third, tapering to an acutely rounded apex and truncate base, 0.5–1 μm wide, not thickened nor darkened, (60–)65–75(–80)×(1.5–)2(–2.5) μm, 3-septate.

*Culture characteristics* — (in the dark, 25 °C, after 2 wk): Colonies spreading, flat to somewhat erumpent with sparse aerial mycelium and even, smooth margins, reaching up to 8 mm diam. On potato-dextrose agar surface and reverse dirty white (surface), luteus (reverse); colonies fertile on OA. On oatmeal agar cream to white. On malt extract agar luteus. On oatmeal agar cream to white. On malt extract agar luteus. On oatmeal agar cream to white. On malt extract agar luteus.

**Type species.** *Pseudophloeospora eucalypti.* MycoBank MB517539.

**Notes.** Based on its pycnidial conidiomata, and percur-

**Notes.** — A megablast search in GenBank using the LSU se-

**Typos.** *Australia*, Queensland, Brisbane, Jolley’s Lookout, 27°23'59.8"S

**Typos.** *Australia*, Queensland, Brisbane, Jolley’s Lookout, 27°23'59.8"S

**Notes.** — A megablast search in GenBank using the LSU se-

*Notes.** — A megablast search in GenBank using the LSU se-

**References.** 1 Crous PW, Schoch CL, Hyde KD, Wood AR, Gueidan C, Hoog GS de, Groenewald JZ. 2009. Phylogenetic lineages in the Capno-

**References.** 1 Crous PW, Schoch CL, Hyde KD, Wood AR, Gueidan C, Hoog GS de, Groenewald JZ. 2009. Phylogenetic lineages in the Capno-

**Colour illustrations.** View from Jolley’s Lookout; pycnidium sporulating on oatmeal agar; conidiophores with conidiogenous cells giving rise to conidia. Scale bar = 10 μm.
Phaeothecoidea melaleuca
Phaeothecoidea melaleuca Crous & R.G. Shivas, sp. nov.

Phaeothecoideae proteae similis, sed conidiis minoribus, (5–)6–7(–8) × (4–)5–6 μm, distinguitur.

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

Mycelium consisting of branched, septate, pale to medium brown, 3–5 μm diam hyphae, frequently constricted at septa and encased in a mucoid sheath which results in black, shiny exudate on the surface of agar media; hyphal ends becoming swollen, ellipsoid, 20–35 μm wide, 25–70 μm long, filled with endoconidia. Endoconidia brown, thick-walled, smooth to finely verruculose, ellipsoid to globose, 0–1-septate, (5–)6–7(–8) × (4–)5–6 μm.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, flat, folded, with sparse aerial mycelium, and smooth, lobate margins, exuding copious amounts of black slime; reaching 15 mm diam. On oatmeal agar, potato-dextrose agar and malt extract agar, olivaceous-black.

Typus. AUSTRALIA, Queensland, Brisbane, Slaughter Falls, 27°28’35”S 152°57’48.9”E, on leaves of Melaleuca quinquenervia, 16 July 2009, P.W. Crous & R.G. Shivas, CBS-H 20494 holotype, cultures ex-type CPC 17223, 17224 = CBS 128213, ITS sequence of CPC 17223 GenBank HQ599594 and LSU sequence of CPC 17223 GenBank HQ599595, MycoBank MB517541.

Notes — A megablast search in GenBank using the LSU sequence retrieved as closest sister species Readeriella brunneotingens (GenBank EU019286; Identities = 887/907 (98 %), Gaps = 7/907 (0 %)), Teratosphaeria dimorpha (GenBank FJ493215; Identities = 886/907 (98 %), Gaps = 7/907 (0 %)) and Penidiella columbiana (GenBank EU019274; Identities = 885/906 (98 %), Gaps = 5/906 (0 %)). A megablast with the ITS sequence revealed as closest sister species Phaeothecoidea proteae (GenBank EU707898; Identities = 604/646 (94 %), Gaps = 20/642 (3 %)) and Batcheloromyces leucadendri (GenBank EU707890; Identities = 593/642 (93 %), Gaps = 20/642 (3 %)). Morphologically P. melaleuca and P. proteae are distinct, in that endoconidia of P. proteae are verruculose and larger in size, (6–)8–10(–13) × (4–)5–6(–11) μm than those of P. melaleuca.

Colour illustrations. Melaleuca quinquenervia; colony on potato-dextrose agar; hyphae with endoconidia; endoconidia. Scale bars = 10 μm.

Reference. Crous PW, Summerell BA, Mostert L, Groenewald JZ. 2008. Host specificity and speciation of Mycosphaerella and Teratosphaeria species associated with leaf spots of Proteaceae. Persoonia 20: 59–86.

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Strelitziana eucalypti Crous & R.G. Shivas, sp. nov.

Strelitzianae australiensis similis, sed conidios majoribus, (40–)60–80(–130) × (3–)3.5(–4) μm, discernitur.

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

**Mycelium** superficial, consisting of smooth, septate, branched hyphae, pale brown, 2–3 μm diam. **Conidiophores** reduced to conidiogenous cells. **Conidiogenous cells** intercalary on hyphae, pale brown, concolorous with hyphae, basal part swollen, ellipsoid to globose, up to 6 μm tall, with a single conspicuous denticle, 2–5 × 1.5–2 μm; conidiogenesis rhexolytic with remnants of separating cell clearly visible on conidiogenesis cell, rarely visible on conidium hilum as a minute marginal frill.

**Conidia** pale brown, smooth, guttulate, long obclavate, widest at basal septum, tapering to a subobtusely rounded apex and truncate base with inconspicuous marginal frill, (40–)60–80(–130) × (3–)3.5(–4) μm, 6–10-septate; conidial hila neither thickened nor darkened, 1.5–2 μm wide; conidial apex frequently with globose mucoid appendix; microcyclic conidiation present in culture.

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies erumpent, spreading, with sparse aerial mycelium and feathery margins; reaching up to 7 mm diam. On potato-dextrose agar pale olivaceous-grey (centre), olivaceous-grey (margin), and olivaceous-grey in reverse; on oatmeal agar olivaceous-grey; on malt extract agar pale olivaceous-grey (surface), olivaceous-grey (reverse).

**Typus.** **AUSTRALIA**, Queensland, Brisbane, 27°21'41.5"S 152°47'18.3"E, on leaves of *Eucalyptus* sp. infected with black mildew, 15 July 2009, P.W. Crous & R.G. Shivas, CBS-H 20495 holotype, cultures ex-type CPC 17261, 17260 = CBS 128214, ITS sequence of CPC 17260 GenBank HQ599596 and LSU sequence of CPC 17260 GenBank HQ599597, MycoBank MB517543.

**Notes** — A megablast search in GenBank using the LSU sequence retrieved as closest sisters *Strelitziana australiensis* (GenBank GQ303326; Identities = 820/825 (99 %), Gaps = 3/825 (0 %)) and *Strelitziana africana* (GenBank DQ885895; Identities = 798/830 (97 %), Gaps = 13/830 (1 %)). These same two species, as well as *Pseudoramichloridium henryi* (GenBank GQ303289; Identities = 680/686 (99 %), Gaps = 2/686 (0 %)), were obtained when a megablast was performed with the ITS sequence, albeit with a slightly different sequence identity (*S. australiensis* GenBank GQ303295, Identities = 699/706 (99 %), Gaps = 2/706 (0 %) and *S. africana* GenBank DQ885895, Identities = 665/724 (92 %), Gaps = 23/724 (3 %)). Based on DNA sequence data of the ITS gene, *S. eucalypti* is related to *S. australiensis*. However, *S. eucalypti* has much longer conidia than *S. australiensis* (conidia 30–73 × 2.8–3.2 μm, 4–8-septate)\(^1\).\(^3\). There is also a significant difference in the ITS sequence between *S. eucalypti* and *S. albiziae* (described in Fungal Planet 56 elsewhere in this volume), Identities = 665/724 (92 %), Gaps = 28/724 (3 %).

An important ecological observation is that *S. albiziae* was isolated from leaves of *Albizia julibrissin* heavily infected with *Camptomeris albiziae*, while *S. eucalypti* was isolated from leaves of a *Eucalyptus* sp. infected with a black mildew. In both cases the causal organism failed to grow in culture, and eventually a species of *Strelitziana* was isolated, suggesting that members of this genus may be fungicolous.

**Colour illustrations.** Eucalyptus leaves with black mildew, including *Strelitziana eucalypti*; hyphae with separating cells attached to conidiogenous cells; conidia attached to conidiogenous cells; conidium with apical mucoid appendage. Scale bars = 10 μm.

**References.** 1. Arzanlou M, Crous PW. 2006. Strelitziana africana. Fungal Planet No. 8. 2. Cheewangkoon R, Groenewald JZ, Summerell BA, Hyde KD, To-anun C, Crous PW. 2009. Myrtaceae, a cache of fungal biodiversity. Persoonia 23: 55–85.
Toxicocladosporium banksiae
**Toxicocladosporium banksiae** Crous, R.G. Shivas & McTaggart, *sp. nov.*

Toxicocladosporio veloxo similis, seconidiis terminalibus majoribus, (7–)8–10(–11) × (2–)2.5–3 μm, distinguitur.

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

Mycelium on potato-dextrose agar consisting of smooth, septate, branched hyphae, dark brown, 2.5–4 μm diam; walls and septa becoming dark brown and thickened with age. *Conidiophores* solitary, dimorphic, macroconidematous, or microconidematous, reduced to conidiogenous cells. *Macronematous conidiophores* subcylindrical, straight to geniculate-sinuous, unbranched or branched above, 3–7-septate, dark brown, smooth, walls and septa thick, dark brown, 50–130 × 3–4 μm. *Micronematous conidiophores* reduced to conidiogenous cells (rarely with one or two supporting cells), erect, subcylindrical to doliiform, tapering at apex, 10–40 × 2.5–4 μm. *Conidiogenous cells* integrated, terminal or lateral, subcylindrical, with slight taper towards apex, 6–20 × 2.5–3 μm; proliferating sympodially with 1–3 apical, protruding loci, 1–1.5 μm wide, thickened, darkened and refractive. *Conidia* catenate in branched or unbranched chains, medium to dark brown, thick-walled, with dark, thick septa, finely verruculose; ramoconidia (14–)17–25 × (2.5–)3–4 μm, 0–1-septate, constricted at septa, broadly ellipsoid to subcylindrical; intercalary conidia ellipsoid to ovoid, 10–12(–20) × (2.5–)3–3.5 μm, 0–1-septate, apical conidia pale to medium brown, aseptate, (7–)8–10(–11) × (2–)2.5–3 μm; hila protruding, 1–1.5 μm wide, thickened, darkened and refractive.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies erumpent, spreading, folded, with sparse aerial mycelium and even, lobate margins, reaching up to 7 mm diam. On malt extract agar surface pale olivaceous-grey, reverse olivaceous-grey; on oatmeal agar olivaceous-grey; on potato-dextrose agar olivaceous-grey (surface and reverse).

**Typos. Australia.** Queensland, Noosa National Park, 26°34′14.0"S 153°4′21.6"E, on leaves of *Banksia emulata*, 13 July 2009, P.W. Crous, R.G. Shivas & A.R. McTaggart, CBS-H 20496 holotype, cultures ex-type CPC 17281, 17280 = CBS 128215, ITS sequence of CPC 17280 GenBank HQ599598 and LSU sequence of CPC 17280 GenBank HQ599599, Myco-Bank MB517544.

Notes — A search of GenBank using the LSU sequence retrieved as closest sisters *Toxicocladosporium chlamydosporum* (GenBank FJ790302; Identities = 854/864 (99 %), Gaps = 4/864 (0 %)), *Toxicocladosporium irritans* (GenBank EU040243; Identities = 853/864 (99 %), Gaps = 4/864 (0 %)) and *Toxicocladosporium veloxum* (GenBank FJ790306; Identities = 853/864 (99 %), Gaps = 4/864 (0 %)). Two of these three species were also obtained when a megablast was performed with the ITS sequence, albeit with a slightly lower sequence identity (*T. veloxum* GenBank FJ790288, Identities = 596/615 (97 %), Gaps = 11/615 (1 %) and *T. chlamydosporum* GenBank FJ790284, Identities = 596/617 (97 %), Gaps = 13/617 (2 %)). Based on the DNA sequence data of the ITS gene, *T. banksiae* is closely related to *T. veloxum* and *T. chlamydosporum*. *Toxicocladosporium veloxum* has smaller intercalary (9–12 × 2.5–3 μm) and terminal (8–10 × 2–2.5 μm) conidia. In *T. chlamydosporum* the ramoconidia (15–18 × 2.5–4 μm), intercalary (8–11 × 3–3.5 μm) and terminal conidia (6–9 × 2.5–3 μm) are smaller, and *T. banksiae* lacks chlamydospores. There is also a significant difference in the ITS sequence between *T. banksiae* and *T. protearum* (described as Fungal Planet 57 elsewhere in this volume), Identities = 636/655 (98 %), Gaps = 10/655 (1 %).

**Colour illustrations.** Noosa National Park; colony on malt extract agar; conidiophores with conidiogenous cells giving rise to conidia. Scale bar = 10 μm.

**Reference.** Crous PW, Wingfield MJ, Groenewald JZ. 2009. Niche sharing reflects a poorly understood biodiversity phenomenon. *Persoonia* 22: 83–94.
Fusicladium eucalypti
Fusiladium eucalypti Crous & R.G. Shivas, sp. nov.

Fusiladium africano simile, sed conidios terminalibus minoribus, (7–)8–9(–10) × (2–)2.5(–3) μm, discernitur.

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

Mycelium on potato-dextrose agar consisting of smooth, septate, branched hyphae, medium brown, 2–3 μm diam. Conidiophores dimorphic, solitary, erect, pale brown, smooth. Macroconidiophores 1–6-septate, subcylindrical, straight to flexuous, 30–60 × 2.5–4 μm. Microconidiophores reduced to conidiogenous cells, subcylindrical to doliform, 4–6 × 3–4 μm. Conidiogenous cells integrated, terminal or lateral, subcylindrical to doliform, pale brown, smooth, 4–15 × 3–4 μm; proliferating sympodially near apex; loci thickened and darkened, not refractive, 1–1.5 μm wide. Conidia in branched chains, pale brown, smooth, guttulate, subcylindrical to fusoid-ellipsoidal, widest in middle, tapering towards truncate ends; ramoconidia 0–1-septate, (10–)12–13(–15) × (2–)2.5–3 μm; intercalary and apical conidia aseptate, (7–)8–9(–10) × (2–)2.5(–3) μm; hila with darkened, thickened scars, not refractive, 0.5–1 μm wide.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies erumpent, spreading, with moderate aerial mycelium and even, lobate margins, reaching up to 10 mm diam. On malt extract agar surface umber, reverse chestnut; on oatmeal agar umber; on synthetic nutrient-poor agar ochreous.

Reference. 1Schubert K, Ritschel A, Braun U. 2003. A monograph of Fusiladium s. lat. (hyphomycetes). Schlechtendalia 9: 1–132.
Devriesia fraseriae
**Devriesia fraseriae** Crous & R.G. Shivas, sp. nov.

*Devriesia lagerstroemiae* similis, sed ramoconidiis longioribus, (9–)10–14 (–20) × (3–)3.5(–4) μm, distinguitur.

**Etymology**. Named after Eliza Anne Fraser (c. 1798–1858?) from whom Fraser Island, where this specimen was collected, takes its name. The pregnant Eliza was shipwrecked on a reef off the Queensland coast in 1836, along with 18 men including her husband Captain James Fraser, who was captain of the sailing ship *Stirling Castle*. The subsequent events, including her rescue, have been the source of much myth and legend.

*Mycelium* on potato-dextrose agar consisting of smooth, septate, branched hyphae, medium brown, 1.5–2.5 μm diam; forming chains of chlamydospore-like cells, globose, 5–7 μm diam. *Conidiophores* solitary, erect, subcylindrical, straight to somewhat flexuous, unbranched or branched, 6–12-septate, with septa and walls becoming darkened and thickened, medium to dark brown, smooth, 20–110 × 3–4(–5) μm. *Conidigenous cells* integrated, terminal or lateral, subcylindrical, medium brown, 5–11 × 3–5 μm; proliferating sympodially, scars flattened with an outer collarette visible as a circular rim, darkened along the rim, neither thickened nor refractive, 1–2 μm wide. *Conidia* medium brown, smooth, ellipsoid to subcylindrical or obclavate, in branched chains that often remain intact; ramoconidial 1–2-septate, mostly not constricted at septa, (9–)10–14(–20) × (3–)3.5(–4) μm; intercalary and apical conidia ellipsoid, 0–1-septate, (6–)8–10(–11) × 3(–4) μm; hila somewhat darkened, neither thickened nor refractive, 1–2(–3) μm wide; minute collarette visible on conidial hila.

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies spreading, flat, with sparse aerial mycelium and even, lobate margins, reaching up to 8 mm diam. On oatmeal agar iron-grey; on malt extract agar olivaceous-grey to iron-grey (surface), iron-grey in reverse; on synthetic nutrient-poor agar olivaceous-grey.

**Typus. Australia.** Queensland, Fraser Island, Kingfisher Bay Resort, Main Camp, 25°23’33.2”S 153°01’47.0”E, on leaves of *Melaleuca* sp., 30 July 2009, P.W. Crous, CBS-H 20498 holotype, cultures ex-type CPC 17343, 17342 = CBS 128217, ITS sequence of CPC 17342 GenBank HQ599602, MycoBank MB517546.

**Notes** — A search of GenBank using the ITS sequence retrieved as closest sister species *Devriesia lagerstroemiae* (GenBank GU214634; Identities = 561/585 (96 %), Gaps = 13/585 (2 %)), *Teratosphaeria knoxdaviesii* (GenBank EU707865; Identities = 561/590 (96 %), Gaps = 11/590 (1 %)) and *Devriesia hilliana* (GenBank GU214633; Identities = 552/605 (92 %), Gaps = 28/605 (4 %)). Based on DNA sequence data of the ITS region, *D. fraseriae* is closely related to *D. lagerstroemiae*, but distinct in that the latter has shorter ramoconidia (9–15 × 3–5 μm), and narrowly ellipsoid intercalary and terminal conidia, (5–)8–12(–15) × 2–3(–4) μm.

**Colour illustrations.** Beach at Fraser Island; conidiophores with conidigenous cells giving rise to conidia. Scale bars = 10 μm.

**Reference.** 1Crous PW, Schoch CL, Hyde KD, Wood AR, Gueidan C, Hoog GS de, Groenewald JZ. 2009. Phylogenetic lineages in the Capnodiales. Studies in Mycology 64: 17–47.
Pseudocercospora casuarinae
Pseudocercospora casuarinae Crous & R.G. Shivas, sp. nov.

Conidiomata sporodochialia, ad 600 μm diam. et 200 μm procera. Conidiophora brunnea, ramosa, pluriseptata, ad septa constricta vel non constricta, ad 200 μm procera, 3–5 μm lata. Cellulae conidiogenae terminales vel late-rales, integratae, subcylindraceae, pallide brunneae, laeviae, 15–30 × 3–4 μm. Conidia pallide brunnea, laevia vel delicately verruculosa, subcylindracea, 3–6-septata, (15–)20–27(–35) × (4–)5(–6) μm. Conidiogenous cells terminal or lateral, integrated, subcylindrical, pale brown, smooth, proliferating sympodially, apex rounded or truncate, fertile locus, 15–30 × 3–4 μm. Conidia pale brown, smooth to finely verruculose, subcylindrical to clavate, with rounded apex, tapering from the middle towards a truncate base, 3–6-septate, (15–)20–27(–35) × (4–)5(–6) μm; hila neither thickened nor darkened.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, erumpent with sparse aerial mycelium, folded surface, and even, lobate margins; colonies reaching up to 8 mm diam. On oatmeal agar iron-grey with patches of pale olivaceous-grey, forming a diffuse red pigment in the agar; on malt extract agar iron-grey on surface and reverse; on synthetic nutrient-poor agar pale olivaceous-grey.

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

Conidiomata sporodochial, developing on needles with red-band needle disease; conidiomata on malt extract agar erumpent, dark brown, dense, up to 600 μm diam, and 200 μm high; basal cells of dense, dark brown texturea intricata, giving rise to cylindrical, brown, finely verruculose conidiophores that are branched, multi-septate, constricted at septa or not, up to 120 μm tall, 3–5 μm wide, becoming pale brown toward apex, terminating in conidiogenous cells. Conidiogenous cells terminal or lateral, integrated, subcylindrical, pale brown, smooth, proliferating sympodially, apex rounded or truncate, fertile locus, 15–30 × 3–4 μm. Conidia pale brown, smooth to finely verruculose, subcylindrical to clavate, with rounded apex, tapering from the middle towards a truncate base, 3–6-septate, (15–)20–27(–35) × (4–)5(–6) μm; hila neither thickened nor darkened.

Typos. AUSTRALIA, Queensland, Cape Tribulation, between Cape Tribulation and Daintree Reserve, Thornton Beachfront Cafe, 16°10'25.7"S 145°26'26.9"E, on needles of Casuarina cunninghamiana, 9 Aug. 2009, P.W. Crous & R.G. Shivas, CBS-H 20499 holotype, cultures ex-type CPC 17348, 17347 = CBS 128218, ITS sequence of CPC 17347 GenBank HQ599603 and LSU sequence of CPC 17347 GenBank HQ599604, MycoBank MB517547.

Notes — A megablast search of GenBank using the LSU sequence retrieved numerous sequences identical to that of P. elaeodendri, e.g. P. madagascariensis (GenBank GQ852651), P. zelkovae (GenBank GU253850) and P. weigeliae (GenBank GU253847). Based on DNA sequence data of the ITS region, P. casuarina (on Casuarinaceae) is closely related to P. elaeodendri (on Celastraceae) (GenBank GU980950). Pseudocercospora elaeodendri differs in having larger conidia (15–95 × 2.5–4 μm, 3–11-septate) than P. casuarina*.

Colour illustrations. Beach at Cape Tribulation, Daintree Reserve; colony on malt extract agar; aggregated conidiophores with conidiogenous cells giving rise to conidia. Scale bars = 10 μm.

Reference. *Deighton FC. 1976. Studies on Cercospora and allied genera VI. Pseudocercospora Sp., Pantospora Clf. and Cercoseptoria Petr. Mycological Papers 140: 1–168.
Devriesia xanthorrhoeae
Fungal Planet 67 – 23 December 2010

*Devriesia xanthorrhoeae* Crous, Pascoe & Jacq. Edwards, *sp. nov.*

*Devriesia lagerstroemiae* similis, sed *ramoconidiis longioribus, 11–20 × 3–4 μm, discernitur.*

**Etymology.** Named after the host from which it was collected, *Xanthorrhoea australis.*

**Mycelium** on potato-dextrose agar consisting of smooth, septate, branched hyphae, medium brown, 2–3 μm diam; forming chains of chlamydospore-like cells, ellipsoid, up to 8 μm diam. **Conidiophores** dimorphic, pale brown, smooth, erect. **Macroconidiophores** subcylindrical, straight to flexuous, unbranched or branched, 1–4–septate, 30–80 × 3–4 μm. **Microconidiophores** reduced to conidiogenous cells, doliform to subcylindrical, 3–7 × 3–4 μm. **Conidiogenous cells** integrated, terminal or lateral, pale brown, smooth, proliferating sympodially, 3–25 × 2–3.5 μm; scars somewhat darkened, neither thickened nor refractive, 1–1.5 μm wide. **Conidia** pale brown, smooth, guttulate, in branched chains; **ramoconidia** subcylindrical to fusoid-ellipsoidal, 0–1-septate, 11–20 × 3–4 μm; intercalary and apical conidia fusoid-ellipsoidal, 0–1-septate, (8–)9–10(–11) × (2–)2.5(–3) μm; hila somewhat darkened, neither thickened nor refractive, 1–1.5 μm wide.

**Culture characteristics** — (in the dark, 25 °C, after 2 wk): Colonies spreading, flat to erumpent; surface folded, margins smooth, even; colonies reaching up to 8 mm diam. On oatmeal agar pale olivaceous-grey with iron-grey margins; on potato-dextrose agar and malt extract agar iron-grey on surface and reverse.

**Typus.** *Australia*, Victoria, Grampians, 37°37’7.5”S 142°19’32.3”E on leaves of *Xanthorrhoea australis* (Xanthorrhoeaceae), 21 Oct. 2009, P.W. Crous, I.G. Pascoe & J. Edwards, CBS-H 20500 holotype, cultures ex-type CPC 17721, 17720 = CBS 128219, ITS sequence of CPC 17720 GenBank HQ599605 and LSU sequence of CPC 17720 GenBank HQ599606, Myco-Bank MB517548.

**Notes** — A megablast search of GenBank using the LSU sequence retrieved as closest sister species *Devriesia hilliana* (GenBank GU214414; Identities = 909/911 (99 %), Gaps = 0/911 (0 %)), *D. lagerstroemiae* (GenBank GU214415; Identities = 836/852 (99 %), Gaps = 6/852 (0 %)) and *Teratosphaeria knoxdaviesii* (GenBank EU707865; Identities = 883/900 (99 %), Gaps = 6/900 (0 %)). Based on DNA sequence data of the ITS gene, *D. xanthorrhoeae* is closely related to *D. lagerstroemiae* (GenBank GU214634), but distinct in that the latter has shorter *ramoconidia* (9–15 × 3–5 μm), and longer intercalary and terminal conidia, (5–)8–12(–15) × 2–3(–4) μm.

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Pedro W. Crous & Johannes Z. Groenewald, CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: p.crous@cbs.knaw.nl & e.groenewald@cbs.knaw.nl

Ian G. Pascoe & Jacqueline Edwards, Biosciences Research Division, Department of Primary Industries, P. Bag 15, Ferntree Gully Delivery Centre, Victoria 3156, Australia; e-mail: pascoeig@bigpond.net.au & jacky.edwards@dpi.vic.gov.au

Colour illustrations. *Xanthorrhoea australis* growing in the Grampians; colony on oatmeal agar; conidiophores with conidiogenous cells giving rise to conidia. Scale bar = 10 μm.

Reference. 1Crous PW, Schoch CL, Hyde KD, Wood AR, Gueidan C, Hoog GS de, Groenewald JZ. 2009. Phylogenetic lineages in the Capnodiales. Studies in Mycology 64: 17–47.
Pseudocercospora microsori
Pseudocercospora microsori  R.G. Shivas, A.J. Young & B.C. McNeil, sp. nov.

Fruiting bodies amphigenous, subcylindraceous, brownish, 10–35 × 3–5 μm. Conidiogenous cells subcylindraceae, branched, 10–35 × 2.5–4 μm. Conidia obclavate to subcylindrical, curved to flexuous, apex rounded, base truncate, 1–5-septate, 50–110 μm, brown to black, Connidium olivacea to subcylindracea, curvata ad flexuosa, apice rotundata, basi truncata vel paulum obconica truncata, 2–12-septata, 50–110 × 2.5–4 μm, brunneola, levia; hila nec crassata nec fuscata.

Etymology. From the name of the host plant Microsorum (Polypodiaceae).

Conidiomata amphigenous, scattered to confluent, often covering much of the frond surface, circular to irregular with distinct, uneven margins and chlorotic haloes, limited by the main veins, 5–15 mm diam, dark reddish brown with centres becoming grey. Conidiophores that have been recorded on ferns, include: P. adianti, P. arachniodis, P. athyrii, P. christellae, P. cyathae, P. lonchitidis, P. nephrolepidis, P. phyllitidis, P. pteridicola, P. pteridophytophila and P. thelypteridis. Pseudocercospora microsori is morphologically distinct from these species with its combination of moderately wide (2.5–4 μm) and curved to flexuous conidia. A megablast search of NCBI GenBank nucleotide database using the ITS sequence revealed high identity to P. lythri (GenBank EF535713; Identities = 496/498 (99 %), Gaps = 0/498 (0 %)), P. humuli (GenBank EF535685; Identities = 495/498 (99 %), Gaps = 1/498 (0 %)), P. crousii (GenBank GQ852756; Identities = 497/502 (99 %), Gaps = 2/502 (0 %)) and P. araliae (GenBank EF535717; Identities = 495/499 (99 %), Gaps = 1/499 (0 %)). Genomic DNA of P. microsori (holotype) is stored in the Australian Biosecurity Bank (www.padii.gov.au/pbt/).

Maximum Likelihood Tree obtained using the General Time Reversible Model from an ITS sequence alignment generated with MUSCLE in MEGA4. 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 Cercospora zeaehvae CBS 118790 (GU214657).

Colour illustrations. Microsorum pustulatum in a garden, Brisbane with a frond (right) severely infected with P. microsori; frond with lesions caused by P. microsori; stroma with conidiophores; conidia. Scale bars (left to right) = 1 cm, 10 μm, 10 μm.

References. 1. Crous PW, Braun U. 2003. Mycosphaerella and its ana-morphs. 1. Names published in Cercospora and Passalora. CBS Biodiversity Series 1: 1–571. 2. Guo YL, Liu XL, Hsieh WH. 1998. Pseudocercospora. Flora Fungorum Sinicum, Vol. 9. Science Press, Beijing. 3. Phensingsin P, Chukeatirote E, McKenzie EHC, Moslem MA, Hyde KD, Braun U. 2010. Two new species and a new record of cercosporoids from Thailand. Mycosphere 1: 205–212. 4. Nakashima C, Inaba S, Park YJ, Ogawa Y. 2006. Addition and re-examination of Japanese species belonging to the genus Cercospora and allied genera. IX. Newly recorded species from Japan (4). Mycoscience 47: 48–52. 5. Kirschner R, Chen CJ. 2007. Foliocalous hyphomycetes from Taiwan. Fungal Diversity 26: 219–239. 6. Braun U, Melnik VA. 1997. Cercosporoid fungi from Russia and adjacent countries. Proceedings of the Komarov Botanical Institute, Russian Academy of Sciences.
Upcoming Meeting: CBS symposium 1F=1N

Fungi are the only Kingdom where single species are allowed to have more than one valid scientific name. Is this solution to dealing with fungal pleomorphy still appropriate?

Does DNA sequencing make dual nomenclature superfluous?

Can the International Botanical Code be modified to enable this process, or would a MycoCode be more effective?

How can the mycological community get rid of the legacy of dual nomenclature and Article 59 without nomenclatural chaos?

These fundamental questions in modern fungal taxonomy are the focus of this three day meeting organised by the CBS-KNAW Fungal Biodiversity Centre on the theme “One Fungus = One Name”.

Keynote speakers are John Taylor, Mike Wingfield, Scott Redhead and David Hawksworth. The ‘One Fungus = One Name’ concept will be discussed by various speakers in the following sessions:

- Nomenclature in Applied and Industrial Mycology
- Nomenclature and Fungal Databases
- Names of Fungi in Medical Mycology
- Nomenclature in Plant Pathogenic and saprobic Fungi
- ‘One Fungus = One Name’, and the International Code of Botanical Nomenclature
- Election of the International Commission on the Taxonomy of Fungi (ICTF)

Date and Venue: The symposium will be held in Amsterdam from 19–21 April 2011 at the Trippenhuis, Royal Netherlands Academy of Arts and Sciences (KNAW).

Presentations: The meeting will consist of invited and offered presentations, and posters.

Celebrations: 40-years CBS, Rob Samson, Joost Stalpers and Sybren de Hoog.

Book launches: The Yeasts, a Taxonomic Study, 5th edition (CP Kurtzman, JW Fell & T Boekhout, eds) and Genera of Hyphomycetes (KA Seifert, G Morgan-Jones, W Gams & B Kendrick).

Fungal barcoding workshop: Finding the best fungal gene: 17–18 April, at CBS (schoch2@ncbi.nlm.nih.gov for details) see http://connect.barcodeoflife.net/.

Registration: Euro 250,— (includes lunches, coffee and tea for three days and two cocktail parties).

Updated information can be found at http://www.cbs.knaw.nl.
## Taxonomic novelties in this issue

| Species | Gene loci sequenced |
|---------|---------------------|
| Anthostomella pinea Crous, sp. nov. (p. 127) | ITS |
| Devriesia fraseriae Crous & R.G. Shivas, sp. nov. (p. 151) | ITS |
| Devriesia xanthorrhoeae Crous, Pascoe & Jacq. Edwards, sp. nov. (p. 155) | ITS, LSU |
| Exophiala encephalarti Crous, sp. nov. (p. 137) | ITS, LSU |
| Fusicladium eucalypti Crous & R.G. Shivas, sp. nov. (p. 149) | ITS, LSU |
| Fusicladium peteligerica Crous & Diederich, sp. nov. (p. 129) | ITS |
| Graphium adansoniae Cruywagen, Z.W. de Beer & Jol. Roux, sp. nov. (p. 67) | ITS, EF, SSU |
| Graphium fabiforme Cruywagen, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 69) | ITS, EF, SSU |
| Graphium magnogascarianum Cruywagen, Z.W. de Beer & Jol. Roux, sp. nov. (p. 69) | ITS, EF, SSU |
| Lasiodiplodia citrinola Abdollahzadeh, Javadi & A.J.L. Phillips, sp. nov. (p. 4) | ITS, EF |
| Lasiodiplodia gilanensis Abdollahzadeh, Javadi & A.J.L. Phillips, sp. nov. (p. 5) | ITS, EF |
| Lasiodiplodia hormozganensis Abdollahzadeh, Zare & A.J.L. Phillips, sp. nov. (p. 6) | ITS, EF |
| Lasiodiplodia iraniensis Abdollahzadeh, Zare & A.J.L. Phillips, sp. nov. (p. 8) | ITS, EF |
| Leptographium altius Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 106) | ITS2-LSU, TUB, EF |
| Leptographium celere Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 100) | ITS2-LSU, TUB, EF |
| Leptographium conjunctum Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 99) | ITS2-LSU, TUB, EF |
| Leptographium curvicolumnum Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 104) | ITS2-LSU, TUB, EF |
| Leptographium gracile Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 103) | ITS2-LSU, TUB, EF |
| Leptographium latens Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 104) | ITS2-LSU, TUB, EF |
| Leptographium manifestum Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 102) | ITS2-LSU, TUB, EF |
| Leptographium pistaciae Paciura, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 104) | ITS2-LSU, TUB, EF |
| Nectriella rusci Lechat, Lowen & Gardiennet, sp. nov. (p. 121) | – |
| Ophiostoma fuscum Linnakoski, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 85) | ITS, TUB |
| Ophiostoma pallidulum Linnakoski, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 86) | ITS, TUB |
| Ophiostoma rachisporum Linnakoski, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 83) | ITS, TUB |
| Ophiostoma saponiodorum Linnakoski, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 88) | ITS, TUB |
| Ophiostoma taponis Linnakoski, Z.W. de Beer & M.J. Wingf., sp. nov. (p. 84) | ITS, TUB |
| Phaeothecoidea melanoeuca Crous & R.G. Shivas, sp. nov. (p. 143) | ITS, LSU |
| Phytophthora capensis C.M. Bezuidenhout, Denman, A. McLeod & S.A. Kirk, sp. nov. (p. 45) | ITS, EF, CO1, TUB, NADH |
| Pseudocercospora casuarinae Crous & R.G. Shivas, sp. nov. (p. 153) | ITS, LSU |
| Pseudocercospora microsori R.G. Shivas, A.J. Young & B.C. McNeil, sp. nov. (p. 157) | ITS |
| Pseudocercospora nephrolepidicola Crous & R.G. Shivas, sp. nov. (p. 139) | ITS, LSU |
| Pseudophloeospora Crous & R.G. Shivas, gen. nov. (p. 141) | ITS, LSU |
| Pseudophloeospora eucalypti Crous & R.G. Shivas, sp. nov. (p. 141) | ITS, LSU |
| Pythium camurandrum Bala, de Cock & Lévesque, sp. nov. (p. 26) | ITS, CO1 |
| Pythium emineosum Bala, de Cock & Lévesque, sp. nov. (p. 25) | ITS, CO1 |
| Pythium oopapillum Bala, de Cock & Lévesque, sp. nov. (p. 23) | ITS, CO1 |
| Salisapilia Hulvey, Nigrelli, Telle, Lamour & Thines, gen. nov. (p. 112) | ITS, LSU |
| Salisapilia nakagiri Hulvey, Nigrelli, Telle, Lamour & Thines, sp. nov. (p. 113) | ITS, LSU |
| Salisapilia sapeloensis Hulvey, Nigrelli, Telle, Lamour & Thines, sp. nov. (p. 113) | ITS, LSU |
| Salisapilia tartarea (Nakagiri & S.Y. Newell) Hulvey, Nigrelli, Telle, Lamour & Thines, comb. nov. (p. 114) | ITS, LSU |
| Salisapiliaceae Hulvey, Nigrelli, Telle, Lamour & Thines, fam. nov. (p. 112) | ITS, LSU |
| Sphaeloloma freyliniae Crous, sp. nov. (p. 125) | ITS |
| Sphaerotheca rsicola Minnis, Rossman & D.F. Farr, sp. nov. (p. 123) | ITS |
| Strelitziana abigailae Crous & H.D. Shin, sp. nov. (p. 133) | ITS, LSU |
| Strelitziana eucalypti Crous & R.G. Shivas, sp. nov. (p. 145) | ITS, LSU |
| Toxicocladosporium banksiae Crous, R.G. Shivas & McTaggart, sp. nov. (p. 147) | ITS, LSU |
| Toxicocladosporium protearum Crous & Roets, sp. nov. (p. 135) | ITS, LSU |
| Xenopolyscytalum Crous, gen. nov. (p. 131) | ITS, LSU |
| Xenopolyscytalum pinae Crous, sp. nov. (p. 131) | ITS, LSU |
