

Periconia cyperacearum
& *Paracladophialophora cyperacearum*



Fungal Planet 775 & 776 – 13 July 2018

***Periconia cyperacearum* Crous, sp. nov.**

Etymology. Name refers to *Cyperaceae*, the host family from which this fungus was collected.

Classification — *Periconiaceae*, *Pleosporales*, *Dothideomycetes*.

Conidiophores solitary, erect, subcylindrical, unbranched with branches in conidiogenous head bearing a cluster of dry conidia; thick-walled (1–2 µm diam), dark brown, finely roughened, septa 40–60 µm apart, base bulbous, 12–25 µm diam, stipe 150–350 µm tall (with percurrent rejuvenation), 10–13 µm diam. *Conidiogenous head* penicillate, primary branches dark brown, subcylindrical to doliiform, curved to straight, thick-walled, finely roughened, 0–1-septate, (10–)14–18(–22) × (6–)8–10(–12) µm, giving rise to 1–3 secondary branches, aseptate, doliiform to subcylindrical, medium brown, finely roughened, 8–12 × 6–7 µm; tertiary branches aseptate, doliiform to subcylindrical, medium brown, finely roughened, 5–7 × 5–6 µm, giving rise to monoblastic (rarely polyblastic) *phialides*, doliiform to ellipsoid, pale to medium brown, finely roughened, 5–6 × 3–4 µm. *Conidia* occurring in short, unbranched chains (–6), aseptate, ellipsoid to subcylindrical, medium brown, verruculose, thick-walled, (6–)7–9(–12) × (4.5–)5–6(–7) µm.

Culture characteristics — Colonies erumpent, spreading, with moderate aerial mycelium and even, lobate margin, reaching 12 mm diam on PDA, and 35 mm diam on MEA and OA after 2 wk at 25 °C. On MEA surface dirty white to buff, reverse cinnamon. On PDA surface buff, reverse isabelline. On OA surface isabelline with patches of dirty white.

Typus. AUSTRALIA, New South Wales, Fitzroy Falls, Morton National Park, on leaves of *Cyperaceae*, 26 Nov. 2016, *P.W. Crous* (holotype CBS H-23569, culture ex-type CPC 32138 = CBS 144434, ITS, LSU and *tef1* sequences GenBank MH327815.1, MH327851.1 and MH327882.1, MycoBank MB825429).

Notes — The genus *Periconia* is paraphyletic and is in urgent need of revision. For the present however, we will treat this collection as part of *Periconia* s.lat. *Periconia cyperacearum* is phylogenetically distinct from all species presently known based on their DNA sequence data, being allied to *P. cookei* and *P. homothallica* (Tanaka et al. 2015). Using the key provided by Ellis (1971) it is easily distinguished from other species based on the number of conidiophore branches as well as the shape, ornamentation and conidial dimensions.

***Paracladophialophoraceae* Crous, fam. nov.**

Classification — *Paracladophialophoraceae*, *Chaetothyriales*, *Eurotiomycetes*.

Mycelium consisting of pale brown, smooth, septate, branched, hyphae. *Conidiophores* reduced to conidiogenous cells on hyphae, pale brown, smooth, subcylindrical, proliferating sympodially. *Conidia* pale brown, smooth, guttulate, fusoid-ellipsoid to subcylindrical, aseptate, occurring in branched chains; hila not thickened nor darkened.

Type genus. *Paracladophialophora* Crous.
MycoBank MB825430.

Notes — *Paracladophialophoraceae*, which presently only includes the type genus, is allied to *Cyphellophoraceae*, which is distinct in having solitary conidia arising from phialides and aggregating in a mucoid droplet.

***Paracladophialophora cyperacearum* Crous, sp. nov.**

Etymology. Name refers to *Cyperaceae*, the host family from which this fungus was collected.

Mycelium consisting of pale brown, smooth, septate, branched, 2.5–3 µm diam hyphae. *Conidiophores* reduced to conidiogenous cells on hyphae, pale brown, smooth, subcylindrical, 5–10 × 2.5–3 µm, proliferating sympodially. *Conidia* pale brown, smooth, guttulate, fusoid-ellipsoid to subcylindrical, aseptate, occurring in branched chains (–20); ramoconidia 8–10 × 2–2.5 µm; conidia 4–9 × (1.5–)2(–2.5) µm; hila not thickened nor darkened.

Culture characteristics — Colonies flat, spreading, with moderate aerial mycelium and smooth, lobate margin, reaching 5 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface and reverse olivaceous grey.

Typus. AUSTRALIA, New South Wales, Fitzroy Falls, Morton National Park, on leaves of *Cyperaceae*, 26 Nov. 2016, *P.W. Crous* (holotype CBS H-23575, culture ex-type CPC 33046 = CBS 144427, ITS, LSU and *tub2* sequences GenBank MH327808.1, MH327844.1 and MH327892.1, MycoBank MB825431).

Notes — The monotypic genus *Paracladophialophora* was established for *P. carceris* (on leaves of *Aloe* sp., collected in the prison courtyard on Robben Island, South Africa). *Paracladophialophora cyperacearum* is allied to *P. carceris*, but distinct in that the latter species has well-defined conidiophores, and longer ramoconidia (0–3-septate, (7–)9–15(–17) × (2–)2.5(–3) µm), and conidia ((6–)7–8 × (2.5–)3 µm; Crous et al. 2016a).

Colour illustrations. *Cyperaceae* at Fitzroy Falls, Morton National Park; *Periconia cyperacearum* (left column), conidiophores, *in vivo* (top), and *in vitro* (bottom). *Paracladophialophora cyperacearum* (right column), conidiophores sporulating on SNA, with conidiogenous cells and conidia. Scale bars = 10 µm.

Pedro W. Crous & Johannes Z. Groenewald, Westerdijk Fungal Biodiversity Institute, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: p.crous@westerdijkinstituut.nl & e.groenewald@westerdijkinstituut.nl
Michael J. Wingfield, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, Pretoria 0002, South Africa; e-mail: mike.wingfield@fabi.up.ac.za
Treena I. Burgess & Giles E. St. J. Hardy, Centre for Phytophthora Science and Management, Murdoch University, 90 South Street, Murdoch, WA 6150, Australia; e-mail: tburgess@murdoch.edu.au & g-hardy@murdoch.edu.au