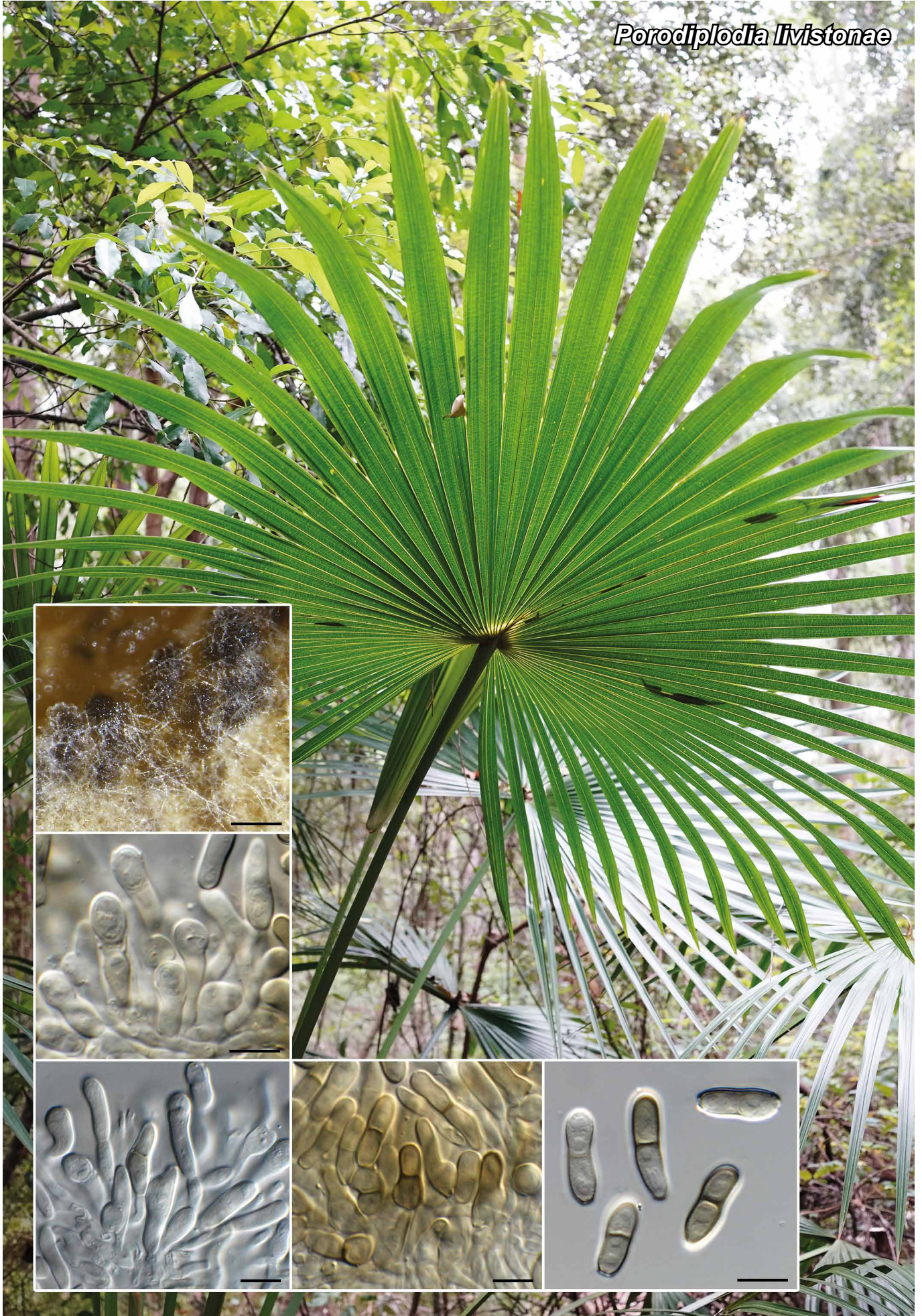


Porodiplodia livistonae



Fungal Planet 770 – 13 July 2018

Porodiplodiaceae Crous, *fam. nov.*

Classification — *Porodiplodiaceae*, *Helotiales*, *Leotiomyces*.

Conidiomata eustromatic, uni- to multilocular, brown, globose, aggregated on agar, ostiolate, or hyphomycetous, forming clusters of conidiophores. *Conidiophores* lining inner cavity of conidioma, subcylindrical, hyaline, smooth, branched, septate, proliferating percurrently near apex, or occurring in clusters on hyphae, septate, subcylindrical, with upper cells pigmented; conidiogenous cells proliferating percurrently, or phialidic, with

Porodiplodia Crous, *gen. nov.*

Etymology. Name refers to a morphological similarity to the genus *Diplodia*, but with conidia having a minute basal pore in the hilum.

Conidiomata eustromatic, uni- to multilocular, brown, globose, aggregated on agar, ostiolate. *Conidiophores* lining inner cavity, subcylindrical, hyaline, smooth, branched, septate, proliferating percurrently near apex. *Paraphyses* intermingled among conidiophores, hyaline, smooth, septate, subcylindrical with obtuse

Porodiplodia livistonae Crous, *sp. nov.*

Etymology. Name refers to the host genus *Livistona* from which it was isolated.

Conidiomata eustromatic, uni- to multilocular, brown, globose, 180–250 µm, aggregated on agar, ostiolate. *Conidiophores* lining inner cavity, subcylindrical, hyaline, smooth, 1–3-septate, 15–25 × 2.5–3.5 µm, proliferating percurrently near apex. *Paraphyses* intermingled among conidiophores, hyaline, smooth, septate, subcylindrical with obtuse ends, 25–35 × 3–4 µm. *Conidia* in short chains (–3), fusoid-ellipsoid to subcylindrical, medium brown, finely verruculose, guttulate, thick-walled, 1-septate, apex obtuse, base truncate with central pore, 2 µm diam, (14–)15–17(–20) × 5(–6) µm.

Culture characteristics — Colonies erumpent, spreading, with moderate aerial mycelium and smooth, lobate margin, reaching 17 mm diam after 2 wk at 25 °C. On MEA surface cinnamon to buff, reverse sienna. On PDA surface saffron, reverse cinnamon. On OA surface cinnamon, with diffuse cinnamon pigment.

Typus. AUSTRALIA, New South Wales, Murramarang National Park, on leaves of *Livistona australis* (*Arecaceae*), 27 Nov. 2016, P.W. Crous (holotype CBS H-23574, culture ex-type CPC 32154 = CBS 144428, ITS and LSU sequences GenBank MH327809.1 and MH327845.1, MycoBank MB825421).

Notes — A genus that should be compared to *Porodiplodia* is the monotypic genus *Hendersonina*, based on *H. sacchari*. *Hendersonina sacchari* is a fungus that has been implicated with collar rot of sugarcane, though it is accepted to be of minor importance (Nyvall 2013). The morphology of the monotypic genus *Hendersonina* has remained somewhat confused. Sutton

Colour illustrations. *Livistona australis* at Murramarang National Park; conidiomata sporulating on PDA (scale bar = 250 µm), conidiogenous cells and conidia (scale bars = 10 µm).

prominent collarettes. *Conidia* in chains, fusoid-ellipsoid to subcylindrical, hyaline to medium brown, smooth to finely verruculose, guttulate, 0–1-septate.

Type genus. *Porodiplodia* Crous.
MycoBank MB825419.

Notes — The family *Porodiplodiaceae* presently contains two genera, namely *Porodiplodia* and a chalaralike fungus, *Chalara clidemiae* (see Crous et al. 2016b), as well as a strain identified as *Chalara africana* (OC0018).

ends. *Conidia* in short chains (–3), fusoid-ellipsoid to subcylindrical, medium brown, finely verruculose, guttulate, thick-walled, 1-septate, apex obtuse (at times with central pore), base truncate with central pore, 2 µm diam.

Type species. *Porodiplodia livistonae* Crous.
MycoBank MB825420.

(1980) described the conidiomata as eustromatic, but showed conidia as being fusoid to somewhat cylindrical, 1-septate, with a dark, thickened scar at each end (conidia from different specimens given as 21–28 × 5.5–9.5 µm, 19–29 × 4–5 µm, 17–24 × 4–5 µm). The conidiogenesis was described and illustrated as (not observed in original material) enteroblastic, phialidic, with prominent periclinal thickening. The matter was further confused in that Butler & Khan (1913) also referred to hyaline, aseptate secondary conidia.

The two species of *Porodiplodia* studied here in culture are characterised by eustromatic conidiomata, and conidia occurring in short chains. Although a pore was observed at both ends in several conidia, this was rather uncommon. They were never thickened and darkened, and were found only in secondary and tertiary conidia. *Porodiplodia* differs from *Hendersonina* due to its branched conidiophores, conidia lacking scars, and being conspicuously 1-septate (septa in *Hendersonina* are thin-walled). It differs from other genera allied to *Diplodia* (Phillips et al. 2013, Yang et al. 2017) in having conidia occurring in short chains, with visible central pores in their hila.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence had highest similarity to *Chalara clidemiae* (GenBank NR_145313.1; Identities = 521/540 (96 %), 1 gap (0 %)), *Mollisia caespiticia* (GenBank KY965813.1; Identities = 496/531 (93 %), 2 gaps (0 %)) and *Peizizella discreta* (GenBank JF908571.1; Identities = 509/550 (93 %), 3 gaps (0 %)). Closest hits using the LSU sequence are *Chalara clidemiae* (GenBank KX228321.1; Identities = 864/871 (99 %), no gaps), *Chalara africana* (GenBank FJ176249.1; Identities = 840/855 (98 %), 2 gaps (0 %)) and *Urceolella crispula* (GenBank JN086682.1; Identities = 859/892 (96 %), 1 gap (0 %)).

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