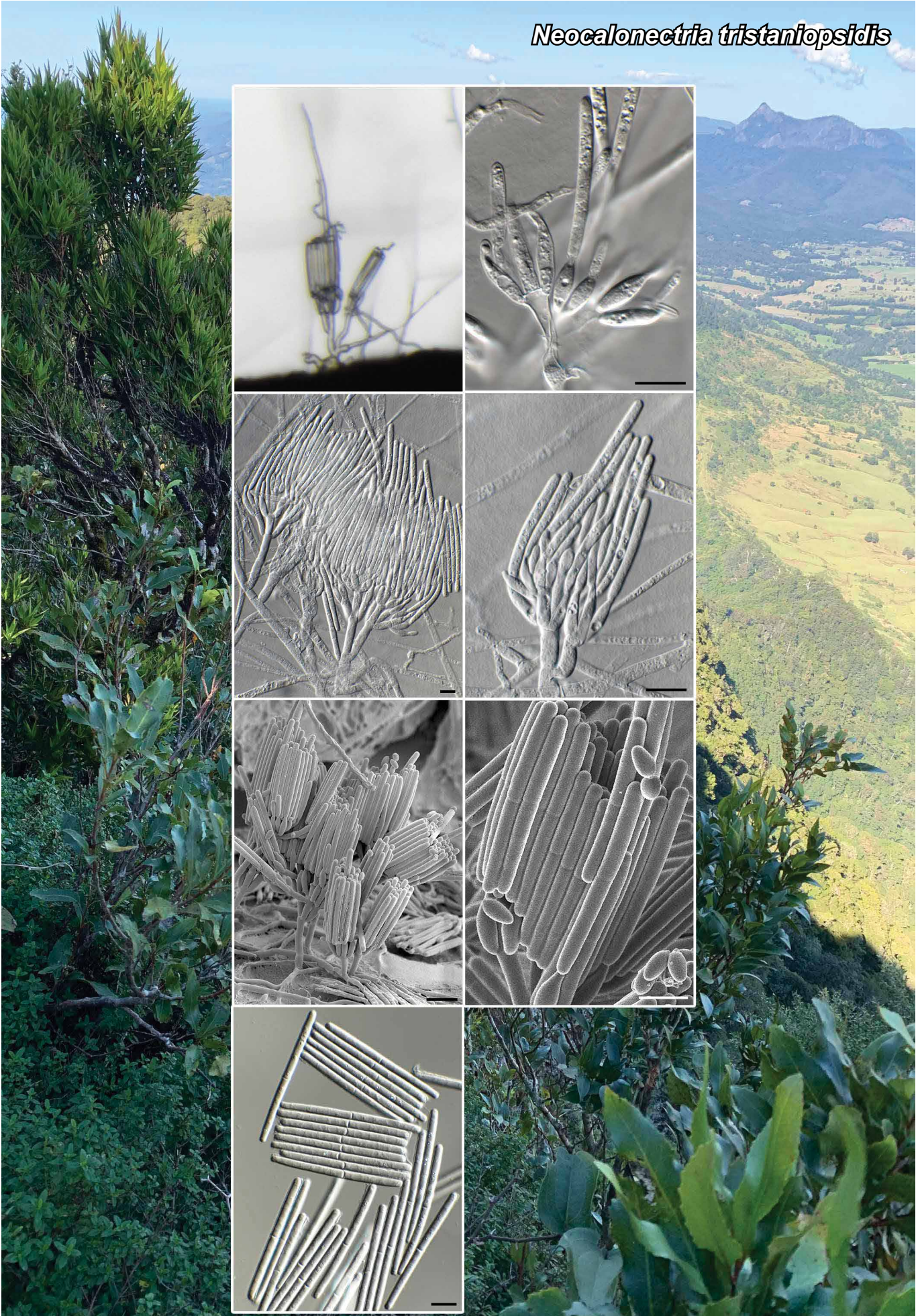


Neocalonectria tristanopsidis



Fungal Planet 1112 – 19 December 2020

***Neocalonectria* Crous, gen. nov.**

Etymology. Name refers to its superficial resemblance of the genus *Calonectria*.

Classification — *Nectriaceae*, *Hypocreales*, *Sordariomycetes*.

Conidiophores consisting of a stipe, a penicillate arrangement of fertile branches, one to several aversiculate stipe extensions, lacking a terminal vesicle; stipe septate, hyaline, smooth; stipe extensions septate, straight to flexuous, terminating in an acicular apical cell. *Conidiogenous apparatus*: primary branches aseptate or 1-septate, secondary and tertiary branches aseptate, each terminal branch producing 2–6 phialides; *phialides* elongate doliform to reniform, hyaline, aseptate, apex with minute periclinal thickening and inconspicuous collarette. *Conidia* cylindrical, rounded at both ends, straight to gently curved, 1-septate, lacking a visible abscission scar, held in parallel cylindrical mucoid clusters. *Mega-* and *microconidia* not seen.

Conidiogenous apparatus: primary branches aseptate or 1-septate, secondary and tertiary branches aseptate, each terminal branch producing 2–6 phialides; *phialides* elongate doliform to reniform, hyaline, aseptate, apex with minute periclinal thickening and inconspicuous collarette. *Conidia* cylindrical, rounded at both ends, straight to gently curved, 1-septate, lacking a visible abscission scar, held in parallel cylindrical mucoid clusters. *Mega-* and *microconidia* not seen.

Type species. *Neocalonectria tristaniopsisidis* Crous.
Mycobank MB837819.

***Neocalonectria tristaniopsisidis* Crous, sp. nov.**

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

Conidiophores consisting of a stipe, a penicillate arrangement of fertile branches, one to several aversiculate stipe extensions, lacking a terminal vesicle; stipe septate, hyaline, smooth, 30–70 × 5–6 µm; stipe extensions septate, straight to flexuous, 70–150(–200) µm long, 3–4 µm wide at the apical septum, terminating in an acicular apical cell. *Conidiogenous apparatus* 50–80 µm long, 30–50 µm wide; primary branches aseptate or 1-septate, 12–20 × 4–5 µm; secondary branches aseptate, 10–12 × 3–4 µm, and tertiary branches aseptate, 8–10 × 3–4 µm, each terminal branch producing 2–6 phialides; *phialides* elongate doliform to reniform, hyaline, aseptate, 8–12 × 2.5–4 µm, apex with minute periclinal thickening and inconspicuous collarette. *Conidia* cylindrical, rounded at both ends, straight to gently curved, (39–)40–43(–46) × 3(–3.5) µm (mean 42 × 3 µm), 1-septate, lacking a visible abscission scar, held in parallel cylindrical mucoid clusters. *Mega-* and *microconidia* not seen.

Notes — *Neocalonectria* resembles *Calonectria* and *Xenocylindrocladium* in having penicillate conidiophores with hyaline, cylindrical, septate conidia (Crous 2002). Morphologically it is closer to *Xenocylindrocladium*, as it has multiple stipe extensions per conidiophore that lack terminal vesicles (Decock et al. 1997, Crous et al. 2001). *Neocalonectria* forms a well-supported clade closely related to the genera *Calonectria*, *Curviciadiella* and *Xenocylindrocladium* (Lombard et al. 2015). Although several stipe extensions were observed arising from conidiophores on host material, cultures of *Neocalonectria* sporulate profusely, but rarely form stipe extensions on synthetic nutrient-poor agar. Morphologically it is hard to argue why the present collection does not belong to the genus *Xenocylindrocladium*, but phylogenetically, it clusters apart, being more closely related to *Curviciadiella*, which has hooked, 1-septate, thick-walled, pigmented, verruculose stipe extensions. A Scanning Electron Microscope (SEM) micrograph of *Neocalonectria tristaniopsisidis* can also be seen on the covers of the various issues of Fungal Biology Reviews volume 34, published in 2020.

Culture characteristics — Colonies erumpent, spreading, with moderate aerial mycelium and smooth, even margin, covering dish after 2 wk at 25 °C. On MEA, PDA and OA surface ochreous, with chains of brown, thick-walled chlamydospores.

Blast results are supplied as part of the supplementary material.

Typus. AUSTRALIA, New South Wales, Limpinwood Nature Reserve, on leaves of *Tristaniopsis collina* (*Myrtaceae*), 26 May 2015, B.A. Summerell, HPC 2948 (holotype CBS H-24396, culture ex-type CPC 38081 = CBS 146800, ITS, LSU, *actA*, *cmdA*, *his3*, *rpb2*, *tef1* and *tub2* sequences GenBank MW175333.1, MW175373.1, MW173091.1, MW173097.1, MW173106.1, MW173109.1, MW173118.1 and MW173130.1, MycoBank MB837820).

Supplementary material

FP1112 Consensus phylogram (50 % majority rule) of 93 002 trees resulting from a Bayesian analysis of the combined 8-gene (ITS, LSU, *actA*, *cmdA*, *his3*, *rpb2*, *tef1* and *tub2*) sequence alignment (69 sequences including outgroup; 6214 aligned positions; 418, 203, 347, 600, 395, 668, 504 and 484 unique site patterns, respectively) using MrBayes v. 3.2.7a (Ronquist et al. 2012). Bayesian posterior probabilities (PP) > 0.84 are shown at the nodes and thickened lines represent nodes with PP = 1.00. The scale bar represents the expected changes per site. The taxonomic novelty described in this study is highlighted with **bold** text and the genera are represented by coloured blocks. The culture collection accession and/or Fungal Planet numbers are indicated behind the species names. The tree was rooted to *Stachybotrys chartarum* (culture CBS 129.13). The alignment is a reduced version of the alignment used by Lombard et al. (2015) and corresponding GenBank accession numbers of the sequences used can be found in that reference. The alignment and tree were deposited in TreeBASE (Submission ID 27179).

Additional material examined. AUSTRALIA, New South Wales, Limpinwood Nature Reserve, on leaves of *T. collina*, 26 May 2015, B.A. Summerell, HPC 2948, CBS H-24400, culture CPC 38155 = CBS 146805, ITS, LSU, *actA*, *cmdA*, *his3*, *rpb2*, *tef1* and *tub2* sequences GenBank MW175334.1, MW175374.1, MW173092.1, MW173098.1, MW173107.1, MW173110.1, MW173119.1 and MW173131.1.

Colour illustrations. Rainforest at Limpinwood Nature Reserve (photo B. Summerell). Penicillate conidiophores giving rise to cylindrical 1-septate conidia on synthetic nutrient-poor agar (scale bars = 10 µm); SEM micrographs captured on host tissue showing conidiophores and conidia (small, aseptate, ellipsoid conidia belong to an acremonium-like fungus). SEM scale bars = 20 µm (left) and 10 µm (right).