

Pseudosporidesmium lambertiae



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Pseudosporidesmiaceae Crous, *fam. nov.*

Classification — *Pseudosporidesmiaceae*, *Xylariales*, *Sordariomycetes*.

Mycelium consisting of branched, septate, pale brown, hyphae. *Conidiophores* solitary or in clusters, flexuous or erect, somewhat repent, arising from superficial hyphae, rejuvenating percurrently; stipe cylindrical, brown, smooth, thick-walled, mostly unbranched. *Conidiogenous cells* terminal, cylindrical, brown; scars truncate, unthickened. *Conidia* solitary, obclavate, apex subobtuse, base truncate, euseptate, smooth-walled, brown.

Conidia frequently remain attached to the sides of the percurrently rejuvenating conidiophore (delayed secession), creating the impression of sympodial proliferation.

Type genus. *Pseudosporidesmium* K.D. Hyde & McKenzie.
Mycobank MB823464.

Notes — *Pseudosporidesmiaceae* includes species of *Pseudosporidesmium* and a taxon tentatively identified as *Repetophragma inflatum* (GenBank DQ408576.1), of which the identification could not be confirmed, suggesting it may well be a species of *Pseudosporidesmium*.

Pseudosporidesmium lambertiae Crous, *sp. nov.*

Etymology. Name refers to *Lambertia*, the host genus from which this fungus was collected.

Mycelium consisting of branched, septate, pale brown, 2–3 µm diam hyphae. *Conidiophores* solitary or in clusters of up to three, flexuous or erect, somewhat repent, arising from superficial hyphae, rejuvenating percurrently, base mostly not swollen, and lacking rhizoids; stipe cylindrical, brown, smooth, thick-walled, mostly unbranched, 100–300 × 5–7 µm. *Conidiogenous cells* terminal, cylindrical, brown, 10–20 × 6–7 µm; scars truncate, unthickened, 6–7 µm diam. *Conidia* solitary, obclavate, apex subobtuse, base truncate, 6–7 µm diam, (2–)4-euseptate, smooth-walled, guttulate, (37–)45–55(–60) × (11–)14–15 µm, basal cell pale brown, conidium body medium brown, apical cell pale brown, forming a long beak with subobtuse apex. *Conidia* frequently remain attached to the sides of the percurrently rejuvenating conidiophore (delayed secession), creating the impression of sympodial proliferation.

Culture characteristics — Colonies erumpent, spreading, with abundant aerial mycelium and feathery margins, reaching 30 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface olivaceous grey, reverse iron-grey.

Typus. AUSTRALIA, New South Wales, Fitzroy Falls, Morton National Park, on leaves of *Lambertia formosa* (*Proteaceae*), 26 Nov. 2016, P.W. Crous (holotype CBS H-23269, culture ex-type CPC 32206 = CBS 143169, ITS and LSU sequences GenBank MG386034 and MG386087, MycoBank MB823375).

Notes — *Pseudosporidesmium lambertiae* is closely related to the ex-type strain of *Sporidesmium knawiae* and a specimen identified as *Repetophragma inflatum* (voucher NN42958; GenBank DQ408576.1). Su et al. (2016) established the genus *Pseudosporidesmium* based on the fact that conidiophores of *Sporidesmium knawiae* show percurrent rejuvenation, and those of *Sporidesmium* s.str. do not, and tend to have percurrent proliferation at the apex. Because the genus *Sporidesmium* is polyphyletic, we follow this decision, although it should be noted that the type species of *Sporidesmium* has not yet been collected, and thus the phylogeny of the genus remains unsettled. *Pseudosporidesmium lambertiae* differs from *P. knawiae* by having 4-euseptate conidia that are longer and narrower, (60–)65–70(–80) × (10–)11–12(–13) µm, than those of *P. knawiae* (Crous et al. 2008).

Based on a megablast search using the ITS sequence, the closest matches in NCBI's GenBank nucleotide database were *Pseudosporidesmium knawiae* (GenBank FJ349609; Identities 343/381 (90 %), 20 gaps (5 %)), *Nigrospora oryzae* (GenBank KX355191; Identities 306/359 (85 %), 26 gaps (7 %)) and *Anungitea grevilleae* (GenBank KX228252; Identities 299/351 (85 %), 18 gaps (5 %)). The highest similarities using the LSU sequence were *Repetophragma inflatum* (GenBank DQ408576; Identities 787/792 (99 %), 1 gap (0 %)), *Pseudosporidesmium knawiae* (GenBank FJ349610; Identities 785/792 (99 %), no gaps) and *Annulohyphoxylon moriforme* (GenBank DQ840058; Identities 753/798 (94 %), 10 gaps (1 %)).

Colour illustrations. *Lambertia formosa* at Fitzroy Falls; conidiophores and conidia. Scale bars = 10 µm.

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