

*Verrucocladosporium carpobroti*



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## *Verrucocladosporium carpobroti* Crous, *sp. nov.*

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

*Classification* — *Cladosporiaceae*, *Cladosporiales*, *Dothi-deomycetes*.

*Conidiophores* solitary, erect, straight to flexuous, branched, subcylindrical, medium brown, verruculose, arising from superficial mycelium, 50–200 × 5–6 µm, 2–10-septate, giving rise to a series of branches, 20–50 × 5–6 µm, which are medium brown, verruculose, subcylindrical, 1–3-septate. *Conidiogenous cells* integrated, subcylindrical, medium brown, verruculose, terminal and intercalary, 20–40 × 3–5 µm; loci thickened, darkened and refractive, 2–3 µm diam. *Primary ramoconidia* fusoid-ellipsoid to subcylindrical, thick-walled, medium brown, verruculose to warty, 0–2-septate, 25–55 × 4–5 µm, with 1–3 apical, flat-tipped loci, 2 µm diam, thickened, darkened. *Secondary ramoconidia* straight, medium brown, verruculose to warty, thick-walled, 0–1-septate, subcylindrical to fusoid-ellipsoid, 15–20 × 4–5 µm; hila thickened and darkened, 1.5–2 µm diam, giving rise to branched, dry chains of acropetal *conidia*, medium brown, verruculose to warty, subcylindrical to fusoid-ellipsoid, 0(–1)-septate, (10–)12–14(–16) × (4–)5–6 µm; hila 1.5–2 µm diam, thickened and darkened.

*Culture characteristics* — Colonies flat, spreading, with moderate aerial mycelium and smooth, even margin, reaching 20 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface and reverse olivaceous grey.

*Typus.* SOUTH AFRICA, Western Cape Province, Clanwilliam, on leaves of *Carpobrotus quadrifidus* (*Aizoaceae*), 2018, P.W. Crous, HPC 3027 (holotype CBS H-24427, culture ex-type CPC 38635 = CBS 146784, ITS and LSU sequences GenBank MW175353.1 and MW175393.1, MycoBank MB837845).

*Additional material examined.* SOUTH AFRICA, Western Cape Province, Namaqualand, on leaves of *Dimorphotheca* sp. (*Asteraceae*), 2018, P.W. Crous, HPC 3040 (CBS H-24430, culture CPC 38645 = CBS 146796, ITS and LSU sequences GenBank MW175354.1 and MW175394.1).

*Notes* — *Verrucocladosporium* was introduced to accommodate cladosporium-like species having ± planate, non-coronate conidiogenous loci and hila, and warty, verruculose conidia. *Verrucocladosporium carpobroti* is related to *V. dirinae* (conidiophores up to 85 µm long, conidia 4–18(–23) × (2–)2.5–3.5 µm, 0–1-septate; Crous et al. 2007a), but is morphologically distinct.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence had highest similarity to *Verrucocladosporium dirinae* (strain CBS 112794, GenBank NR\_152317.1; Identities = 496/509 (97 %), no gaps), *Verrucocladosporium visseri* (strain CPC 36317, GenBank NR\_166320.1; Identities = 475/487 (98 %), one gap (0 %)), and *Graphiopsis chlorocephala* (strain CPC 11969, GenBank EU009458.2; Identities = 475/498 (95 %), six gaps (1 %)). Closest hits using the LSU sequence are *Verrucocladosporium dirinae* (strain MUT<ITA> 4857, GenBank KP671739.1; Identities = 865/873 (99 %), no gaps), *Graphiopsis chlorocephala* (strain CPC 11969, GenBank EU009458.2; Identities = 865/873 (99 %), no gaps), and *Verrucocladosporium visseri* (strain CPC 36317, GenBank NG\_068322.1; Identities = 861/869 (99 %), no gaps).

*Colour illustrations.* Flower of *Carpobrotus quadrifidus*. Conidiophores on SNA; conidiogenous cells giving rise to conidia. Scale bars = 10 µm.