

Endoconidioma euphorbiae



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***Endoconidioma euphorbiae* Crous, sp. nov.**

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

Classification — *Dothioraceae*, *Dothideales*, *Dothideomycetes*.

Conidiomata erumpent, globose, black, pycnidial, 200–250 µm diam, with central ostiole exuding a black mucoid conidial mass. *Conidiophores* reduced to conidiogenous cells lining the inner cavity, hyaline, smooth, doliiform to ampulliform, 7–10 × 5–7 µm, proliferating percurrently at apex. *Conidia* solitary, aseptate, golden-brown, thick-walled, verruculose, ellipsoid, apex obtuse, base bluntly rounded, (11–)12–13(–14) × (7–)8(–9) µm.

Culture characteristics — Colonies flat, spreading, with moderate aerial mycelium and lobate, feathery margin, covering dish after 2 wk at 25 °C. On MEA and PDA surface and reverse iron-grey; on OA surface olivaceous grey.

Typus. SOUTH AFRICA, Western Cape Province, Nieuwoudtville, on leaves with tip dieback of *Euphorbia mauritanica* (*Euphorbiaceae*), 2018, P.W. Crous, HPC 3069 (holotype CBS H-24422, culture ex-type CPC 38551 = CBS 146776, ITS and LSU sequences GenBank MW175350.1 and MW175390.1, MycoBank MB837843).

Additional material examined. SOUTH AFRICA, Western Cape Province, Nieuwoudtville, on leaves with dieback of *Brunsvigia bosmaniae* (*Amaryllidaceae*), 2018, P.W. Crous, HPC 3041 (CBS H-24423, culture CPC 38583 = CBS 146777, ITS and LSU sequences GenBank MW175351.1 and MW175391.1).

Endoconidioma Tsuneda et al., *Mycologia* 96: 1129. 2004.

Synonym. *Coniozyma* Crous, In: Marinowitz et al., *CBS Diversity Ser.* (Utrecht) 7: 97. 2008.

Endoconidioma carpetanum (Bills et al.) Crous, *comb. nov.* MycoBank MB837886

Basionym. *Hormonema carpetanum* Bills et al., *Stud. Mycol.* 50: 152. 2004.

Endoconidioma leucospermi (Crous & Denman) Crous, *comb. nov.* MycoBank MB837887

Basionym. *Coniothyrium leucospermi* Crous & Denman, *S. Afr. J. Bot.* 64: 139. 1998.

Synonym. *Coniozyma leucospermi* (Crous & Denman) Crous, In: Marinowitz et al., *CBS Diversity Ser.* (Utrecht) 7: 97. 2008.

Notes — *Endoconidioma* (based on *E. populi*) is a genus originally described from twigs of *Populus tremuloides* collected in Canada. It is characterised by having a yeast-like morph in culture, as well as endoconidia, and a coelomycetous, coniothyrium-like morph (Tsuneda et al. 2004). *Endoconidioma* appears to be the oldest name for a clade in the *Dothioraceae* containing species with highly adaptable morphology. *Coniozyma* (based on *C. leucospermi*), is a morphologically highly variable fungus associated leaf spots of *Proteaceae* (Taylor & Crous 2001, Marinowitz et al. 2008), which appears to be better accommodated in *Endoconidioma*. *Endoconidioma euphorbiae* is phylogenetically related to *E. leucospermi* (conidia 6–12 × 3–8 µm *in vivo*, 6.5–15 × 3.5–8 µm *in vitro*; Taylor & Crous 2001), but distinguished based on its slightly larger conidia. Isolates from *Brunsvigia bosmaniae* (CPC 38583, conidia (13–)15–16(–17) × 7(–8) µm) are similar in size, though slightly more subcylindrical, and olivaceous brown in colour, but are accepted as falling within the variation for *E. euphorbiae*.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the **ITS** sequence of CPC 38551 had highest similarity to *Coniozyma leucospermi* (strain CBS 111289, GenBank EU552113.1; Identities = 579/592 (98 %), four gaps (0 %)), *Hormonema carpetanum* (strain 235J14, GenBank KU516485.1; Identities = 561/574 (98 %), four gaps (0 %)), and *Endoconidioma populi* (strain NWHC 46379-1433_1SD, GenBank MK782233.1; Identities = 516/528 (98 %), three gaps (0 %)). The ITS sequences of CPC 38551 and 38583 differ at two nucleotide positions (590/592 similar nucleotides). Closest hits using the **LSU** sequence of CPC 38551 are *Coniozyma leucospermi* (strain CBS 111289, GenBank EU552113.1; Identities = 844/849 (99 %), no gaps), *Hormonema carpetanum* (strain ATCC 74360, GenBank MF611880.1; Identities = 843/849 (99 %), no gaps), and *Endoconidioma populi* (strain UAMH 10297, GenBank NG_059198.1; Identities = 812/819 (99 %), no gaps). The LSU sequences of CPC 38551 and 38583 differ at one nucleotide position (811/812 similar nucleotides).

Colour illustrations. *Euphorbia mauritanica*. Conidia on SNA, and conidiomata oozing dark brown conidia on PNA (scale bars = 200 µm); conidiogenous cells giving rise to conidia; conidia (scale bars = 10 µm).

(for tree see Supplementary material page FP1141)