Xenosonderhenia eucalypti & Zasmidium eucalyptigenum
Xenosonderhenia eucalypti Crous & M.J. Wingf., sp. nov.

Etymology. Name reflects the host genus *Eucalyptus*, from which this species was isolated.

Leaf spots amphigenous, dark brown, 10–20 mm diam, with dark brown border. Co-occurring on leaf spots with *Zasmidium eucalyptigenum*. Ascomata hypophyllous, black erumpent, globose, solitary, up to 110 µm diam, with central ostiole; wall of 2–3 layers of brown *textura angularis*. Ascii fusculate, bitunicate, subseptate, hyaline, smooth, 8-spored, obvoid to ellipsoid, apophysate, straight to slightly curved, 35–45 × 10–12 µm. *Pseudoparaphyses* absent. Ascospores tri- to multiseriate, hyaline, smooth, fusoid-ellipsoid, widest in apical cell, one third from apex, tapering towards both ends, not constricted at median septum; (17–)18–20(–22) × (3–)4 µm; ascospores germinating from both ends, not constricting or distorting, remaining hyaline, 4–5 µm diam; germ tubes developing numerous lateral branches.

Culture characteristics — Colonies spreading, erumpent, with moderate aerial mycelium and smooth, lobate margins, reaching 20 mm diam on PDA, MEA and OA after 2 wk at 25 °C in the dark. On MEA surface pale luteus with patches of dirty white, reverse sienna. On OA surface saffron. On PDA surface saffron, reverse pale luteus.

Zasmidium eucalyptigenum Crous & M.J. Wingf., sp. nov.

Etymology. Name reflects the host genus *Eucalyptus*, from which this species was isolated.

Co-occurring on leaf spots with *Xenosonderhenia eucalypti*. Ascomata hypophyllous, black erumpent, globose, solitary, up to 100 µm diam, with central ostiole; wall of 2–3 layers of brown *textura angularis*. Ascii fusculate, bitunicate, subseptate, hyaline, smooth, 8-spored, obvoid to ellipsoid, apophysate, straight to slightly curved, 25–40 × 8–10 µm. *Pseudoparaphyses* absent. Ascospores hyaline, smooth, fusoid-ellipsoid, widest in middle of apical cell, tapering towards both ends, constricted at median septum; 13–16 × (2.5–)3.5–4 µm; ascospores germinating from both ends, becoming constricted, but remaining hyaline and smooth, 4–6 µm diam, developing lateral branches. Mycelium brown, verrucose, typical of *Zasmidium* asexual morph. Conidiophores brown, verrucose, solitary on superficial hyphae, erect, branched or not, up to 50 µm tall, 3–4 µm diam, 1–3-septate. *Conidiogenous cells* terminal or intercalary, with several thickened, darkened, refractive scars, 1 µm diam. Conidia brown, verrucose, straight to curved, solitary or in branched chains, subcylindrical, apex obtuse, base tapering to a truncate hilum, 1–1.5 µm diam, 1–9-septate, 30–120 × (2.5–)3 µm.


Notes — The genus *Mycosphaerella* is polyphylectic (Crous et al. 2007a), and *Zasmidium* is the oldest name to accommodate stenella-like taxa clustering in the *Mycosphaerellaceae* (Arzanlou et al. 2007). Several species have thus far been described from *Eucalyptus* (Crous et al. 2009a, b, Braun et al. 2010), all of which are phylogenetically distinct from *Z. eucalyptigenum*.

ITS. Based on a megablade search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are *Xenosonderhenia syzygii* (GenBank JX069872; Identities = 506/525 (96 %), Gaps = 3/525 (0 %)), *Mycosphaerella elaeocarpi* (GenBank EF394833; Identities = 492/520 (95 %), Gaps = 4/520 (0 %)) and *Mycosphaerella elaeocarpi* (GenBank EU040212; Identities = 514/547 (94 %), Gaps = 7/547 (1 %)).