

***Phlogicylindrium eucalyptorum* Crous, sp. nov.**

Mycobank: MB504462.

Etymology: Named after its host plant, *Eucalyptus*.

Latin diagnosis: *Phlogicylindriae eucalypti* similis, sed conidiis subcylindricis, 1(–3)-septatis, (27–)40–50(–55) × 2–2.5(–3) µm, differens.

Description: *Conidiomata* sporodochial on leaves, but forming erect hyphal tufts with conidiophores on oatmeal agar¹, also occurring on pseudothecial ascomata of a *Mycosphaerella* sp., associated with large, brown leaf spots; conidiomata pale brown to brown on leaves, amphigenous, up to 300 µm diam. *Conidiophores* arising from a brown stroma of 3–6 layers of *textura angularis*, giving rise to subcylindrical, hyaline (dark brown at the base), smooth, frequently branched conidiophores, 0–2(–6)-septate, 15–25(–45) × 3–4 µm. *Conidiogenous cells* hyaline, smooth, subcylindrical, 10–15 × 2–4 µm, proliferating sympodially and percurrently near apex. *Conidia* hyaline, smooth, subcylindrical, 1(–3)-septate, apex obtusely rounded, base truncate, slightly curved to irregularly so, conidium body uneven in width, appearing irregular, (27–)40–50(–55) × 2–2.5(–3) µm *in vivo*; dimensions similar on cornmeal agar, but conidia uniformly cylindrical, losing their irregular appearance as observed *in vivo*.

Cultural characteristics: Colonies on potato-dextrose agar¹ reaching 15 mm diam after 2 weeks at 25 °C; erumpent with moderate aerial mycelium, smooth, but with uneven margins, rosy-buff; reverse cinnamon. On oatmeal agar colonies produce a distinct red pigment demarcating it from the agar, and on malt extract agar colonies are dark cinnamon, and have a wrinkled, erumpent appearance, lacking aerial mycelium.

Typus: **Australia**, Victoria, Otway Ranges, (near Gellibrand), latitude: -38.568412, longitude: 143.539586, elevation: 175 m on leaves of *Eucalyptus globulus*, September 2005, collected by I. Smith, CBS-H 19771, **holotypus**, cultures ex-type CPC 12427 = GenBank EU040222, CPC 12428, CPC 12429 = CBS 120221, GenBank EU040223.

Notes: Although morphologically distinct, *Phlogicylindrium eucalyptorum* is somewhat reminiscent of *Phloeospora eucalypticola* H.Y. Yip, which has acervuli, short, polyblastic, lageniform conidiogenous cells, 3–4 × 4–8 µm, and hyaline, filiform, 1-septate conidia with a prominent taper to acutely rounded apices, and truncate bases, 35–170 × 2–4 µm (BRIP 21999, holotype examined). Phylogenetically *Phlogicylindrium eucalyptorum* is closely related to the type species of the genus, *P. eucalypti* Crous, Summerb. & Summerell. Because the erect flame-like conidiomata observed in the latter² are largely absent in *P. eucalyptorum*, we originally identified it as a species of *Pseudocercospora* Deighton. The latter genus, however, is allied to *Mycosphaerella* Johanson (*Mycosphaerellaceae*), whereas *Phlogicylindrium* Crous, Summerb. & Summerell belongs to the *Amphisphaeriaceae*.

BLASTn results of the ITS sequence of *P. eucalyptorum* strain CBS 120221 had high identity to sequences of *Phlogicylindrium eucalypti* (DQ923534, 97 % identical), *Plectosphaera eucalypti* (Cooke & Masee) H.J. Swart (DQ923538, 87 % identical) and *Pestalotiopsis microspora* (Spieg.) Bat. & Peres (EF451802, 85 % identical).

Colour illustrations: *Eucalyptus* trees severely affected by *Mycosphaerella* spp. *Phlogicylindrium eucalyptorum* co-occurred on some of these *Mycosphaerella* lesions (I. Smith); colony on oatmeal agar; conidiogenous cells and conidia; cylindrical conidia (P.W. Crous). Scale bars = 10 µm.

References: ¹Gams W, Verkley GJM, Crous PW (2007). *CBS course of mycology*. 5th ed. Centraalbureau voor Schimmelcultures, Utrecht, Netherlands. ²Summerell BA, Groenewald JZ, Carnegie AJ, Summerbell RC, Crous PW (2006). *Eucalyptus* microfungi known from culture. 2. *Alysidiella*, *Fusculina* and *Phlogicylindrium* genera nova, with notes on some other poorly known taxa. *Fungal Diversity* **23**: 323–350.

Pedro W. Crous & Johannes Z. Groenewald, CBS Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, Netherlands. Email: p.crous@cbs.knaw.nl & e.groenewald@cbs.knaw.nl
Ian W. Smith, School of Forest and Ecosystem Science, University of Melbourne, 123 Brown Street, Heidelberg, VIC 3084, Australia. Email: ismith@unimelb.edu.au

Phlogicylindrium eucalyptorum

