

Pseudophloeospora eucalypti



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Pseudophloeospora* Crous & R.G. Shivas, gen. nov.Phloeosporae* morphologicis similis, sed conidiomatibus in vivo pycnidialibus.*Etymology.* Morphologically similar, but distinct from *Phloeospora*.

Associated with leaf spots. *Conidiomata* amphigenous, pycnidial, globose, medium brown; pycnidial wall consisting of 3–6 layers of brown *textura angularis*. *Conidiophores* lining the cavity, hyaline, smooth, reduced to conidiogenous cells, or with 1–2 supporting cells, subcylindrical, branched below or unbranched. *Conidiogenous cells* terminal or lateral, hyaline, smooth, tapering to an acutely truncate apex; proliferating inconspicuously percurrently at apex. *Conidia* hyaline, smooth, filiform, flexuous, subcylindrical, tapering to an acutely rounded apex and truncate base, not thickened nor darkened, transversely euseptate.

Type species. Pseudophloeospora eucalypti.
Mycobank MB517539.

Notes — Based on its pycnidial conidiomata, and percurrently proliferating conidiogenous cells, the present collection appears to be a member of the *Septoria/Phloeospora* complex. Morphologically, it is distinct from *Phloeospora* by having pycnidial conidiomata on the host, and from *Septoria* s.str. by lacking sympodial proliferating conidiogenous cells. Phylogenetically, it clusters apart from the *Capnodiales* (*Mycosphaerellaceae*), and is thus described as a new genus, *Pseudophloeospora*.

Pseudophloeospora eucalypti* Crous & R.G. Shivas, sp. nov.Phloeosporae eucalypticolae* similis, sed cellulis conidiogenis percurrenter proliferantibus et conidiis 3-septatis discernitur.*Etymology.* Named after the host genus from which it was collected, *Eucalyptus*.

Leaf spots amphigenous, irregular, pale brown, with raised, thin, red-brown margins, 3–10 mm diam. *Conidiomata* amphigenous, pycnidial, globose, medium brown, up to 250 µm diam; pycnidial wall consisting of 3–6 layers of brown *textura angularis*. *Conidiophores* lining the cavity, hyaline, smooth, reduced to conidiogenous cells, or with 1–2 supporting cells, subcylindrical, branched below or unbranched, 5–15 × 2–3 µm. *Conidiogenous cells* terminal or lateral, hyaline, smooth, tapering to an acutely truncate apex, 0.5–1 µm diam; proliferating inconspicuously percurrently at apex, 4–6 × 1.5–2 µm. *Conidia* hyaline, smooth, guttulate, filiform, flexuous, subcylindrical, widest in lower third, tapering to an acutely rounded apex and truncate base, 0.5–1 µm wide, not thickened nor darkened, (60–)65–75(–80) × (1.5–)2(–2.5) µm, 3-septate.

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies spreading, flat to somewhat erumpent with sparse aerial mycelium and even, smooth margins, reaching up to 8 mm diam. On potato-dextrose agar surface and reverse luteus. On oatmeal agar cream to white. On malt extract agar dirty white (surface), luteus (reverse); colonies fertile on OA.

Typus. AUSTRALIA, Queensland, Brisbane, Jolley's Lookout, 27°23'59.8"S 152°48'23.7"E, on leaves of *Eucalyptus* sp., 15 July 2009, P.W. Crous & R.G. Shivas, CBS-H 20493 holotype, culture ex-type CPC 17051 = CBS 128212, ITS sequence GenBank HQ599592 and LSU sequence GenBank HQ599593, Mycobank MB517540.

Notes — A megablast search in GenBank using the LSU sequence retrieved as closest sisters *Ellisembia calyptrata* (GenBank DQ408564; Identities = 824/850 (97 %), Gaps = 8/850 (0 %)), *Dactylaria zapatensis* (GenBank EU107287; Identities = 838/865 (97 %), Gaps = 7/865 (0 %)), *Dactylaria fragilis* (GenBank EU107290; Identities = 832/860 (97 %), Gaps = 8/860 (0 %)) and *Polyscytalum fecundissimum* (GenBank EU035441; Identities = 808/836 (97 %), Gaps = 9/836 (1 %)). A megablast search with the ITS sequence did not reveal any conclusive hits with significant similarity.

Phylogenetically *Pseudophloeospora* is unrelated to *Septoria* s.str. and *Phloeospora* s.str. (*Capnodiales*, *Mycosphaerellaceae*)¹, but clusters with members of *Orbiliiales*. *Pseudophloeospora eucalypti* differs morphologically from *Phloeosporella eucalypticola*² (BRIP 21999!) in having branched conidiophores, conidiogenous cells with single loci, and 3-septate conidia.

Colour illustrations. View from Jolley's Lookout; pycnidium sporulating on oatmeal agar; conidiophores with conidiogenous cells giving rise to conidia. Scale bar = 10 µm.*References.* ¹Crous PW, Schoch CL, Hyde KD, Wood AR, Gueidan C, Hoog GS de, Groenewald JZ. 2009. Phylogenetic lineages in the Capnodiales. *Studies in Mycology* 64: 17–47. ²Yip HY. 1997. *Phloeosporella eucalypticola* sp. nov. from a hybrid between *Eucalyptus radiata* and *E. dives* in Australia. *Australasian Plant Pathology* 26: 26–27.

Pedro W. Crous & Johannes Z. Groenewald, CBS-KNAW Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: p.crous@cbs.knaw.nl & e.groenewald@cbs.knaw.nl

Roger G. Shivas, Agri-Science Queensland, Ecosciences Precinct, Dutton Park 4102, Queensland, Australia; e-mail: roger.shivas@deedi.qld.gov.au