

Pseudocercospora avicenniae



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Pseudocercospora avicenniae R.G. Shivas, A.J. Young & Crous, *sp. nov.*

Maculae foliorum amphigenae, angulares, venis foliorum marginatae, confluentes, interdum totam paginam foliorum operientes, superficies fit chlorotica versus pannos cinereos-brunneos ad fuscus in pagina inferiore. Mycelium internum et externum. Conidiophora dense aggregata, ramosa, orientia ex hyphis superficialibus, subcylindracea, recta ad geniculata-sinuata, 20–90 × 3–5.5 µm. Cellulae conidiogenae terminales vel intercalares, cylindraceae, pallidae-brunneae, leves. Conidia sola, pallida-brunnea, levia, subcylindracea, apex obtusus, basis attenuata ad obconice truncata, 3–12 septata, 30–100 × 3–5 µm; hila et cicatrices inconspicuae.

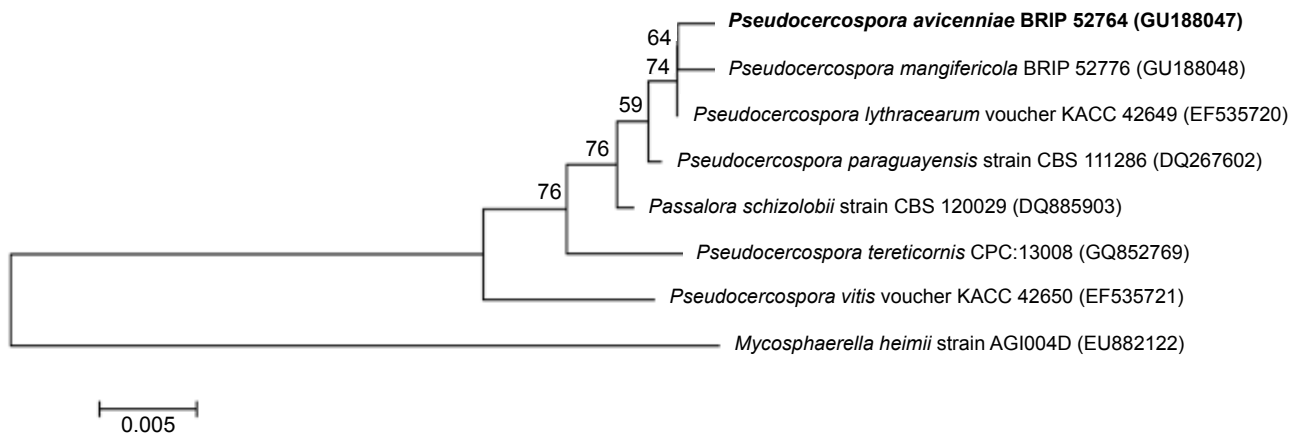
Etymology. Named after the host plant *Avicennia marina* (Acanthaceae).

Leaf spots amphigenous, angular, bordered by leaf veins, confluent, occasionally covering entire leaf surface, adaxial surface becomes chlorotic opposite greyish brown to dark brown patches on abaxial surface. *Mycelium* internal and external. *Conidiophores* densely aggregated, branched, arising from superficial hyphae, subcylindrical, straight to geniculate-sinuuous, 20–90 × 3–5.5 µm. *Conidiogenous cells* terminal or intercalary, cylindrical, pale brown, smooth. *Conidia* solitary, pale brown, smooth, subcylindrical, apex obtuse, base attenuated to obconically truncate, 3–12-septate, 30–100 × 3–5 µm; hila and scars inconspicuous.

Culture characteristics — Colonies on potato-dextrose agar (Difco) circular, up to 2 cm diam after 28 d at 25 °C; brownish grey to dark brown; reverse dark brown to brownish black; velvety, flat with a raised center of dense aerial mycelium, margin regular, smooth.

Typus. AUSTRALIA, Queensland, Cape Tribulation, alt. 0 m, on leaves of *Avicennia marina*, 8 Aug. 2009, R.G. & M.D.E. Shivas, P.W. & K. Crous, J. Edwards, R.C. Mann, J. Ghiano, BRIP 52764, holotype; cultures ex-type BRIP 52764, GenBank: GU188047; MycoBank: MB515468.

Notes — *Avicennia marina* (grey mangrove) is a pantropical mangrove species that is commonly found on the seaward edge of mangrove habitats across northern Australia. Molecular phylogenetic analysis supports the placement of *Avicennia* in the monogeneric family *Avicenniaceae*¹. We were unable to find records of either *Pseudocercospora* or other anamorphic *Mycosphaerellaceae* on *Avicennia*. Of interest is the close affinity of *P. avicenniae* with another newly-discovered fungus from far north Queensland, *P. mangifericola*, differing in only three bases over 500 bases of ITS1, 5.8S rRNA and ITS2 sequence. This result was validated by obtaining sequences from three separate DNA extractions from each new species.



An ITS neighbour-joining tree constructed using MEGA4². The scale bar shows 0.005 changes per site, and bootstrap support values from 1 000 replicates are shown at the nodes. The species described here is printed in **bold face**. The tree was rooted to *Mycosphaerella heimii* (GenBank EU882122).

Colour illustrations. *Avicennia marina* on the foreshore at Cape Tribulation; infected leaves; stromata with conidiophores; conidia in vivo. Scale bar = 1 cm for leaves of *A. marina*; other scale bars = 10 µm.

References. ¹Schwarzbach AE, McDade LA. 2002. Phylogenetic relationships of the mangrove family Avicenniaceae based on chloroplast and nuclear ribosomal DNA sequences. *Systematic Botany* 27: 84–98. ²Tamura K, Dudley J, Nei M, Kumar S. 2007. MEGA4: Molecular Evolutionary Genetics Analysis (MEGA) v4.0. *Molecular Biology and Evolution* 24: 1596–1599.

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