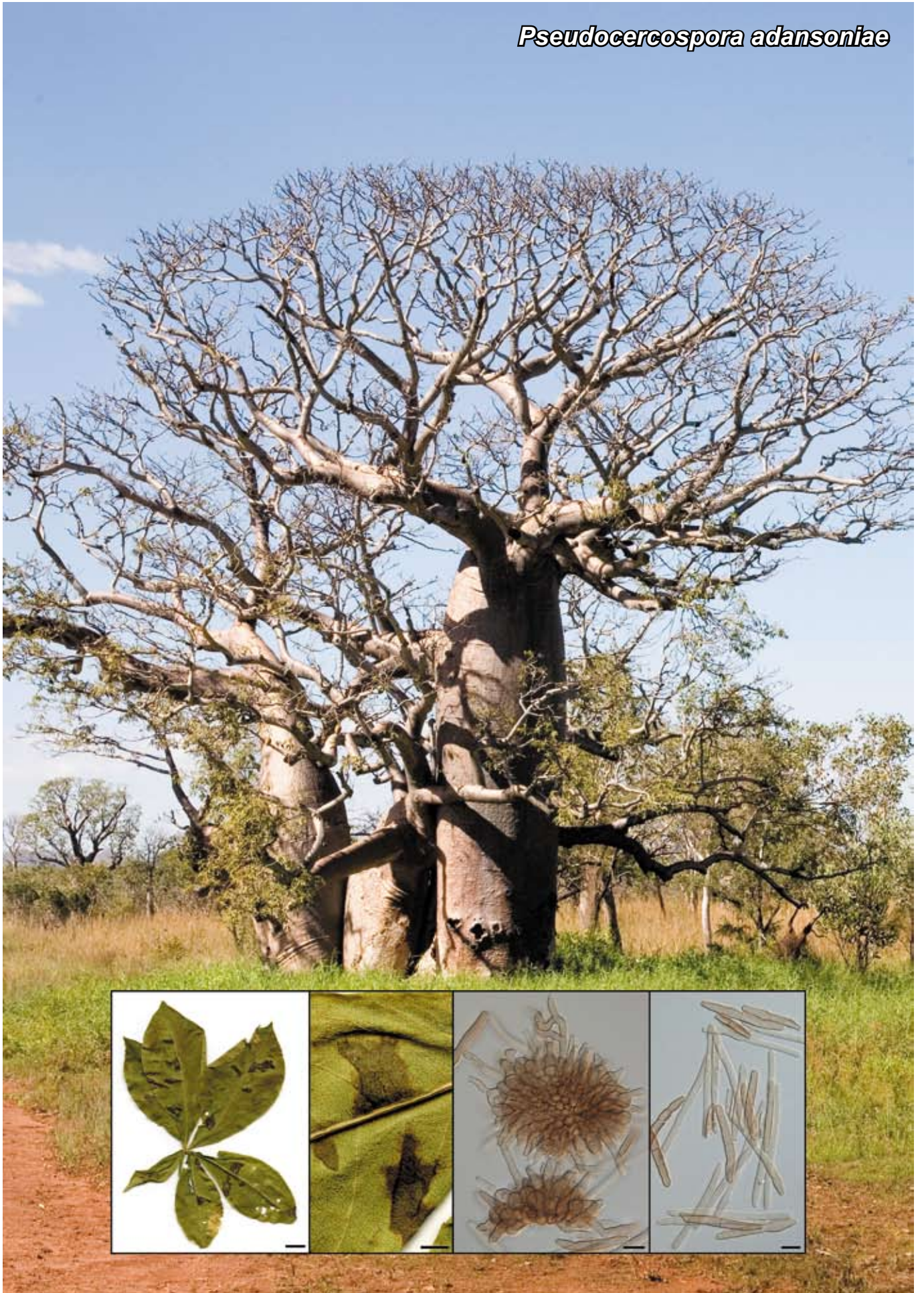


Pseudocercospora adansoniae



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***Pseudocercospora adansoniae* McTaggart & R.G. Shivas, sp. nov.**

Maculae foliorum amphigenae, angulares ad irregulares, marginatae venis foliorum, confluentes, brunneae, 1–8 mm longae, fructus hypophyllus. *Mycelium* internum. *Conidiophora* erumpentia per stomata, in fasciculis triginta vel pluribus, interdum ramosa, 0–1-septa, plerumque aseptata, largeniformia ad ampulliformia ad interdum cylindracea, recta ad aliquando geniculata, 15–27 µm longa et 2–4 µm lata, basi usque ad 8 µm lata. *Cellulae conidiogenae* terminales, brunneolae, apice rotundato, percurrentes (usque ad tres annellations); cicatrices inconspicuae. *Conidia* solitaria, pallidissima ad brunneola, levia, recta ad interdum curvata, cylindracea ad obclavata, apice rotundato, basi attenuata ad obconice truncatam, 1–5-septata, 25–62 × 3–5 µm; hila inconspicua.

Etymology. Derived from the name of the host plant genus, *Adansonia*.

Leaf spots amphigenous, angular to irregular, bordered by leaf veins, confluent, brown, 1–8 mm long, fruiting hypophyllous. *Mycelium* internal. *Stromata* erumpent through stomata, up to 75 µm wide. *Conidiophores* in dense fascicles of 30 or more, sometimes branched, 0–1-septa, mostly aseptate, lageniform to ampulliform to sometimes cylindrical, straight to occasionally geniculate, 15–27 µm long and 2–4 µm wide, up to 8 µm wide at base. *Conidiogenous cells* terminal, pale brown, rounded at apex, percurrent (with up to 3 annellations), conidiogenous loci (scars) inconspicuous. *Conidia* solitary, very pale to light brown, smooth, straight to sometimes curved, cylindrical to obclavate, apex rounded, base attenuated to obconically truncate, 1–5-septate, 25–62 × 3–5 µm; hila neither thickened nor darkened.

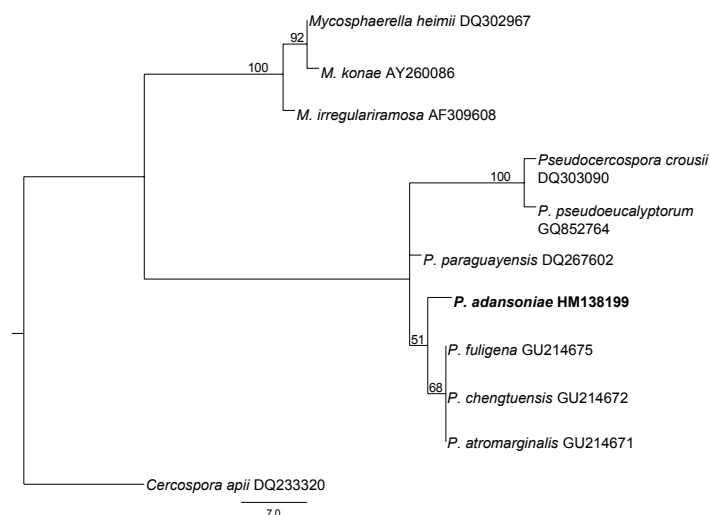
Culture characteristics — Colonies on potato-dextrose agar (Difco) circular, up to 14 mm diam after 21 d at 25 °C; greyish black to black; reverse black; velvety, flat with a raised central dome of dense aerial mycelium, margin entire, smooth.

Typus. AUSTRALIA, Western Australia, near Kununurra, 15°42'48" S, 128°45'21" E, *Adansonia gregorii*, 31 Aug. 2009, J.D. Ray 859, BRIP 53110, holotype; ITS sequence GenBank HM138199, MycoBank MB518299.

Notes — *Adansonia* is classified in the subfamily *Bombacoideae* in the *Malvaceae* family¹. Five cercosporoid fungi have been described from hosts in the *Bombacoideae*, viz. 1) *Cercospora ceibae*, which is morphologically similar to *C. apii* s.l.²; 2) *Pseudocercospora eriodendri* on *Eriodendron*, which differs from *P. adansoniae* in having longer (10–40 µm) cylindrical conidiophores^{2,3}; 3) *P. eriothecae* on *Eriotheca*, which has variable shaped conidiophores that proliferate sympodially rather than by annellides as in *P. adansoniae*⁴; 4) *P. pseudobombacis* on *Pseudobombax* sp., which has multiseptate and wider conidia than *P. adansoniae*⁴; and 5) *P. pachirae*, which is morphologically similar to *P. adansoniae*, except for conidiophores of uniform-width and much thinner conidia (1.5–3 µm)^{2,3}.

BLASTn results of the ITS sequence of *P. adansoniae* (GenBank HM138199) had high identity to sequences of *P. fuliginea* on *Lycopersicum* sp. (GU214675.1, 99 % identical over 100 % query coverage), *P. chengtuenensis* on *Lycium chinense* (GU214672.1, 99 % identical over 100 % query coverage) and *P. atromarginalis* on *Solanum nigrum* (GU214971.1, 99 % identical over 100 % query coverage). These taxa of high sequence identity were from Thailand and South Korea. Genomic DNA of *P. adansoniae* (holotype) is stored in the Australian Biosecurity Bank (www.padii.gov.au/pbt/).

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The single tree (TL = 99; CI = 0.919; RI = 0.929; RC = 0.854) obtained using parsimony in an exhaustive search from an ITS sequence alignment using PAUP v4.0b10. The 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 *Cercospora apii* (GenBank DQ233320.1). A tree with the same topology was obtained from a maximum likelihood analysis in PAUP. *Pseudocercospora* was shown in a molecular phylogenetic analysis to be a polyphyletic genus with two distinct clades⁵. *Pseudocercospora adansoniae* occurs in the *Pseudocercospora* s.str. clade, having conidiophores in dense fascicles that proliferate percurrently with inconspicuous scars from conidial secession.

Colour illustrations. *Adansonia gregorii* (aka boabab), near Kununurra, Western Australia; leaves with lesions caused by *P. adansoniae*; caespituli on leaf spots; stroma with conidiophores; conidia. Scale bars (from left to right) = 1 cm, 25 mm, 10 µm, 10 µm.

References. ¹Stephens PF. 2001. Angiosperm Phylogeny Website. Version 9, June 2008. ²Crous PW, Braun U. 2003. Mycosphaerella and its anamorphs. CBS Biodiversity Series 1: 1–571. ³Chupp C. 1954. A monograph of the fungus genus *Cercospora*. Published by the author: Ithaca, New York. ⁴Hernandez-Gutierrez A, Dianese JC. 2008. New cercosporoid fungi from the Brazilian Cerrado 1. Species on hosts of the families Anacardiaceae, Araliaceae, Bombacaceae, Burseraceae and Celastraceae. Mycotaxon 106: 41–63. ⁵Crous PW, Summerell BA, Carnegie AJ, Wingfield MJ, Hunter GC, Burgess TI, Andjic V, Barber PA, Groenewald JZ. 2009. Unravelling Mycosphaerella: do you believe in genera? Persoonia 23: 99–118.

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