

Exophiala placitae* Crous & Summerell, sp. nov.*Mycobank:** MB504459.**Etymology:** Named after its host species, *Eucalyptus placita*.**Latin diagnosis:** *Exophialae spiniferae* similis, sed conidiis majoribus, (4–)5–6 × 3–4 µm.

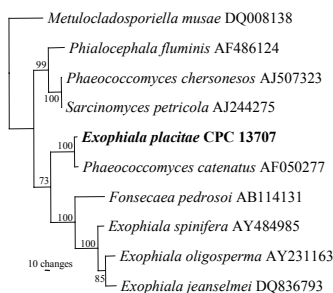
Description: *Conidiomata* appearing as flat pycnothyria with a central ostiole on leaves, absorbing moisture in damp chambers, becoming globose, erumpent, medium brown, conidiomata flattened when dry to appear as black pycnothyria; inner wall consisting of pale brown toruloid hyphae; outer wall of *textura epidermoidea*; centrum filled with toruloid hyphae that give rise to cheroid conidia. *Conidia* consisting of a central, basal, globose cell, verruculose, medium brown, 5–10 µm diam, giving rise to up to 6 radiating arms of 5–8 cells (5–7 µm long), each forming lateral branches of 2–4 narrowly ellipsoidal cells, 4–5 µm long; juvenile conidia hyaline, smooth. Single conidium isolations forming black, slimy colonies that give rise to an *Exophiala* state. *Mycelium* consisting of hyaline to pale brown, smooth, branched, septate, 3–4 µm wide hyphae; superficial and submerged hyphae strongly constricted at septa, but aerial hyphae not so. *Conidiogenous cells* intercalary or terminal, mono- or polyphialidic, loci at times appearing subdenticulate, up to 1.5 µm wide, rarely proliferating percurrently, 7–15 × 5–7 µm. *Conidia* hyaline, aseptate, smooth, guttulate, hyaline to pale brown, narrowly ellipsoidal with obtuse apex and subtruncate base, (4–)5–6 × 3–4 µm; yeast cells common in culture.

Cultural characteristics: Colonies reaching 6 mm diam after 2 weeks on 2 % malt extract agar¹ in the dark at 25 °C; aerial mycelium sparse to absent; colonies erumpent, folding, with catenulate, irregular margins; surface on 2% potato-dextrose agar¹ olivaceous black to iron-grey; reverse greenish black.

Typus: **Australia**, New South Wales, Bimbadeen Lookout, ca. 10 km west of Cessnock, North Coast, on leaves of *Eucalyptus placita*, 26 January 2007, collected by B. Summerell, CBS H-19922, **holotypus**, cultures ex-type CPC 13707–13708, CPC 13709 = CBS 121716, GenBank EU040215.

Notes: Species of *Exophiala* frequently have *Cladophialophora* synanamorphs, and have been linked to *Capronia* teleomorphs (*Herpotrichiellaceae*, *Chaetothyriales*)². Although several species are commonly isolated as human pathogens, others again appear to be saprobes or fungicolous, occurring on a wide range of substrates and ecological niches³. This is, however, the first time that such a peculiar coelomycete synanamorph has been linked to a species of *Exophiala*. Although the ecology of *Exophiala placitae* remains unknown, the pycnothyria were situated on the upper surface of the leaf tips. The fact that we have observed them quickly rehydrating and dispersing their spores, suggests that this fungus has specifically developed this unique synanamorph to enable it to survive in this harsh, dry, extreme environment.

BLASTn results of the ITS sequence of *E. placitae* strain CPC 13707 had high identity to sequences of *Phaeococcomyces catenatus* (de Hoog & Herm.-Nijh.) de Hoog (AF050277, 97 % identical), *Phaeococcomyces chersonesos* Bogom. & Minter (AJ507323, 85 % identical) and *Exophiala spinifera* (H.S. Nielsen & Conant) McGinnis (AY484985, 82 % identical).



Single most parsimonious tree (TL = 569; CI = 0.822; RI = 0.794; RC = 0.653) obtained from a heuristic search with 100 random taxon additions of an ITS sequence alignment using PAUP v. 4.0b10. The scale bar shows 10 changes, and bootstrap support values from 1000 replicates are shown at the nodes. The species described here is printed in bold face. The tree was rooted to *Metulocladosporiella musae* (E.W. Mason) Crous, Schroers, J.Z. Groenew., U. Braun & K. Schub. (GenBank DQ008138). The alignment and tree is available in MycoBank (Accession MB504459).

Colour illustrations: *Eucalyptus placita* tree in New South Wales, Australia (A. Orme); pycnothyria on leaf; swollen, globose pycnidia; cheroid conidium; colony on malt extract agar; toruloid hyphae; hypha with conidiogenous cells; *Exophiala* 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. ²Hoog GS de, Guarro, J, Gené J, Figueras MJ (2000). *Atlas of clinical fungi*, 2nd ed. CBS, Utrecht and Universitat Rovira I Virgili, Reus. ³Crous PW, Schubert K, Braun U, Hoog GS de, Hocking AD, Shin H-D, Groenewald JZ (2007). Opportunistic, human-pathogenic species in the *Herpotrichiellaceae* are phenotypically similar to saprobic or phytopathogenic species in the *Venturiaceae*. *Studies in Mycology* **58**: in press.

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
Brett Summerell, Royal Botanic Gardens and Domain Trust, Mrs. Macquaries Road, Sydney, NSW 2000, Australia. Email: brett.summerell@rbgsyd.nsw.gov.au

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