

Neoceratosperma eucalypti



Fungal Planet 255 – 10 June 2014

Neoceratosperma Crous & Cheew., gen. nov.

Etymology. Named after its morphological similarity to the genus *Ceratosperma*.

Mycelium consisting of branched, septate, brown, verruculose hyphae that turn warty with age. *Conidiophores* reduced to conidiogenous cells, or septate, erect, brown, verruculose, unbranched, subcylindrical, dark brown and smooth at the base. *Conidiogenous cells* subcylindrical, brown, verruculose, but conidiogenous apical area smooth, forming a short rachis

that proliferates sympodially; loci somewhat thickened and darkened. *Conidia* solitary, rarely in unbranched chains, subcylindrical, medium brown, becoming dark brown, verruculose, becoming warty, distoseptate, less obvious when older (dark brown, warty), straight to irregularly curved; apex obtuse, base truncate, but scars somewhat thickened and darkened.

Type species. *Neoceratosperma eucalypti*.
Mycobank MB808935.

Neoceratosperma eucalypti Crous & Cheew., sp. nov.

Etymology. Named after the genus from which it was collected, *Eucalyptus*.

Mycelium consisting of branched, septate, brown, verruculose 2–3 µm diam (warty with age, warts 1 µm diam) hyphae. *Conidiophores* reduced to conidiogenous cells, or 1–15-septate, erect, brown, verruculose, unbranched, subcylindrical, up to 100 µm long, 3–4 µm diam, dark brown and smooth at the base. *Conidiogenous cells* subcylindrical, brown, verruculose, but conidiogenous apical area smooth, 2–27 × 2–4 µm, forming a short rachis that proliferates sympodially; loci somewhat thickened and darkened, 1–1.5 µm diam. *Conidia* solitary, rarely in unbranched chains, subcylindrical, medium brown, becoming dark brown, verruculose, becoming warty, 1–7-distoseptate, less obvious when older (dark brown, warty), straight to irregularly curved, 40–150(–200) × 3–4 µm; apex obtuse, base truncate, but scars somewhat thickened and darkened, 1–1.5 µm diam.

Culture characteristics — Colonies reaching 10 mm diam after 2 wk at 22 °C. On MEA surface erumpent with moderate aerial mycelium, margins uneven. Surface olivaceous-grey, reverse iron-grey, similar on OA and PDA.

Typus. THAILAND, Chiang Mai, on living *Eucalyptus* (*Myrtaceae*) leaves, Sept. 2013, R. Cheewangkoon (holotype CBS H-21712, culture ex-type CPC 23465 = CBS 137998; ITS sequence GenBank KJ869153, LSU sequence GenBank KJ869210, MycoBank MB808936).

Notes — The genus *Ceratosperma* was established by Sutton & Hodges (1981) for a fungus occurring on *Eucalyptus* leaves in Brazil, characterised by superficial mycelium, holoblastic conidiogenous cells, and solitary, pigmented, smooth, distoseptate conidia. It is distinguished from *Neoceratosperma* in that the latter has flexuous conidiophores that give rise to several conidia in a short sympodial rachis, conidia are solitary, but can also occur in unbranched chains, and all structures are prominently verruculose and have slightly thickened, darkened hila and scars. Morphologically, *Neoceratosperma* therefore resembles the *Stenella-Zasmidium* generic complex, though it is distinct in that conidia are distoseptate (lumina reduced, clearly visible when immature). The introduction of *Neoceratosperma* adds yet another genus to the *Mycosphaerellaceae* (Crous et al. 2009a–c).

ITS. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are *Mycosphaerella crystallina* (GenBank EU167579; Identities = 656/708 (93 %), Gaps = 16/708 (2 %)), *Pallidocercospora acaciigena* (GenBank GU214661; Identities = 655/708 (93 %), Gaps = 16/708 (2 %)) and *Passalora brachycarpa* (GenBank GU214664; Identities = 653/707 (92 %), Gaps = 11/707 (1 %)).

LSU. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Passalora haldinae* (GenBank KC677925; Identities = 842/859 (98 %), no gaps), *Mycosphaerella elaeocarpi* (GenBank EU040212; Identities = 851/872 (98 %), no gaps) and *Xenosonderhenia syzygii* (GenBank JX069856; Identities = 862/885 (97 %), no gaps).

Colour illustrations. Countryside in Chiang Mai, Thailand; conidiophores and conidia (note sympodial proliferation, and conidia with distoseptation) in culture. Scale bars = 10 µm.

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
Ratchadawan Cheewangkoon, Department of Plant Pathology, Faculty of Agriculture, Chiang Mai University, Chaing Mai 50200, Thailand;
e-mail: ratcha.222@gmail.com