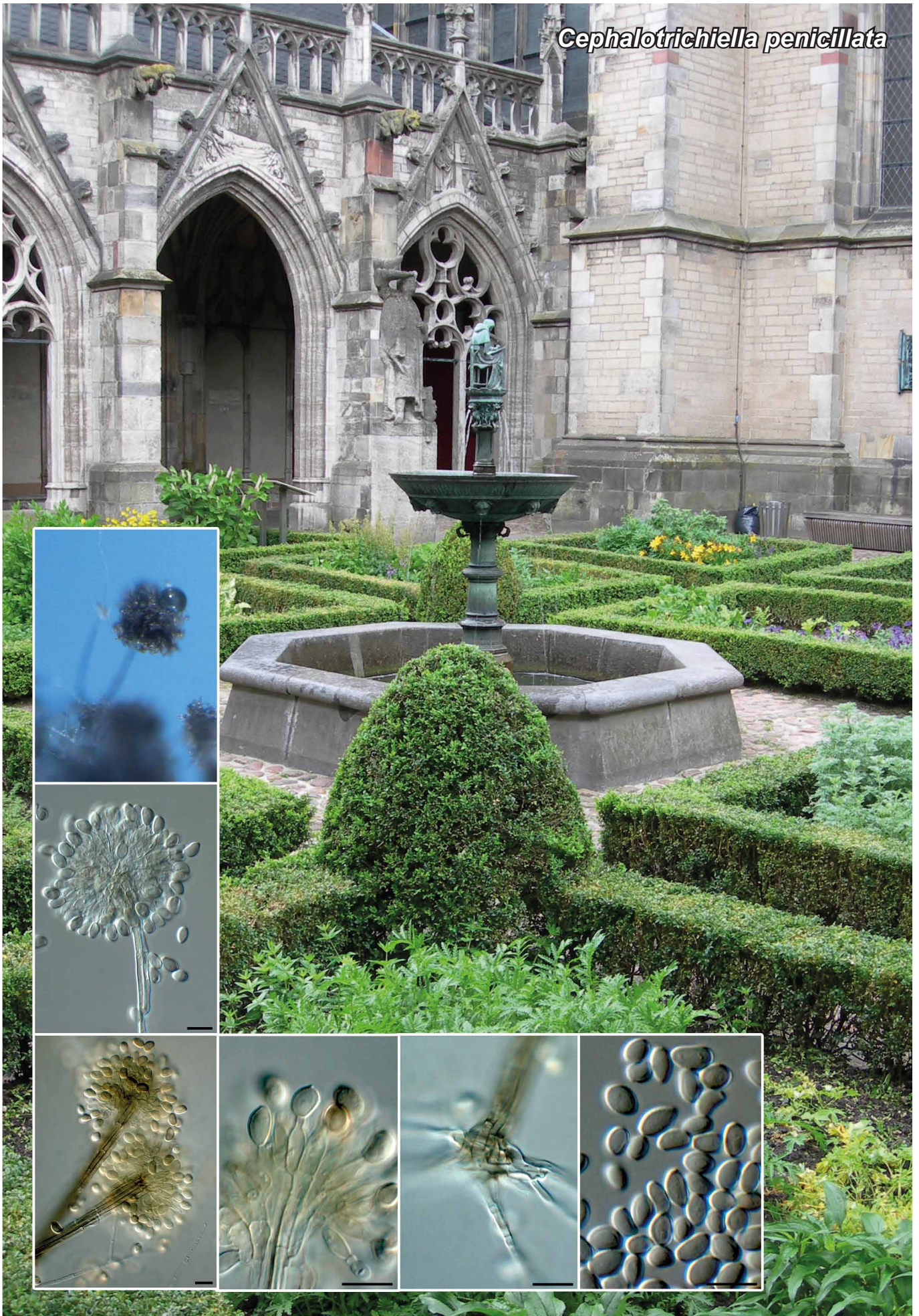


Cephalotrichiella penicillata



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Cephalotrichiella Crous, gen. nov.

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

Mycelium consisting of pale brown, smooth, branched, septate hyphae. *Conidiophores* erect, olivaceous-brown, synnematos, consisting of up to 20 hyphae, olivaceous-brown, smooth; conidiophore base with rhizoids, stem straight, erect to flexuous, with penicillate conidiogenous apparatus. Primary branches olivaceous-brown, smooth, subcylindrical, giving rise to second-

dary and tertiary branches. *Conidiogenous cells* ampulliform, smooth, pale olivaceous, with inconspicuous percurrent proliferation at the apex. *Conidia* in a dry mass, solitary, olivaceous-brown, smooth to verruculose, guttulate, ellipsoid but with inequilateral sides, subacute apex, truncate base, not thickened nor darkened, with minute marginal frill.

Type species. *Cephalotrichiella penicillata*.
Mycobank MB808954.

Cephalotrichiella penicillata Crous, sp. nov.

Etymology. Named after its penicillate conidiophores.

Mycelium consisting of pale brown, smooth, branched, septate, 2–2.5 µm diam hyphae. *Conidiophores* erect, olivaceous-brown, synnematos, consisting of up to 20 hyphae, 2–2.5 µm diam, olivaceous-brown, smooth, septa 25–35 µm apart; conidiophore base with rhizoids, stem straight, erect to flexuous, 150–400 × 7–15 µm with penicillate conidiogenous apparatus. Primary branches olivaceous-brown, smooth, subcylindrical, 12–15 × 2.5–3.5 µm, giving rise to 1–2 secondary and tertiary branches, 5–7 × 3–4 µm; tertiary branches give rise to 2–4 conidiogenous cells. *Conidiogenous cells* ampulliform, smooth, pale olivaceous, 6–8 × 2.5–3.5 µm, with inconspicuous percurrent proliferation at the apex. *Conidia* in a dry mass, solitary, olivaceous-brown, smooth to verruculose, guttulate, ellipsoid but with inequilateral sides, subacute apex, truncate base, 1.5–2 µm diam, with minute marginal frill, (5–)6–7(–8) × (3.5–)4(–4.5) µm.

Culture characteristics — Colonies reaching 12 mm diam after 2 wk at 22 °C, spreading with sparse aerial mycelium and lobed, feathery margins. On MEA surface pale olivaceous-grey, reverse olivaceous-grey. On OA and PDA surface olivaceous-grey.

Typus. NETHERLANDS, Utrecht, isolated from air, Dec. 2013, *P.W. Crous* (holotype CBS H-21725, culture ex-type CPC 23865 = CBS 138011; ITS sequence GenBank KJ869166, LSU sequence GenBank KJ869223, MycoBank MB808955).

Notes — Morphologically, *Cephalotrichiella* resembles the genus *Graphium* in having pigmented, synnematos conidiophores and pigmented conidia. It is somewhat different in that the conidiophores are much taller, more similar to *Leptographium*, and conidia are inequilateral. The conidiophores of *Ceratocладиella* have dry conidial masses, resembling those of *Cephalotrichum* (incl. *Doratomyces*) (Seifert et al. 2011). It is distinct from *Cephalotrichum*, however, in that it has a well-defined penicillate head of conidiogenous cells, in contrast to *Cephalotrichum*, which also has lateral conidiogenous cells. Phylogenetically, *Cephalotrichiella* is allied to the genera in the *Microascales*, but still clusters distant, hence we introduce a new genus to accommodate it.

ITS. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are *Scedosporium prolificans* (GenBank AY228124; Identities = 370/418 (89 %), Gaps = 15/418 (3 %)), *Kernia pachypleura* (GenBank DQ318208; Identities = 580/694 (84 %), Gaps = 52/694 (7 %)) and *Pseudallescheria boydii* (GenBank GU566282; Identities = 544/653 (83 %), Gaps = 45/653 (6 %)).

LSU. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Graphium eumorphum* (GenBank JF746156; Identities = 843/873 (97 %), Gaps = 5/873 (0 %)), *Pseudallescheria boydii* (GenBank AY882372; Identities = 836/866 (97 %), Gaps = 5/866 (0 %)) and *Scedosporium apiospermum* (GenBank FJ345358; Identities = 848/879 (96 %), Gaps = 5/879 (0 %)).

Colour illustrations. Inner garden next to the Dom tower in Utrecht, The Netherlands; synnematos conidiophores, conidiogenous cells, conidiophores with rhizoids and conidia in culture. Scale bars = 10 µm.