



Fungal Planet 55 – 23 December 2010

Xenopolyscytalum Crous, gen. nov.

Polyscytalo morphologica simile, sed conidiis aseptatis cum hilis fuscatis et item statu synanamorphoso *chalaroide* discernitur.

Etymology. Named after its similarity to the genus *Polyscytalum*.

Mycelium consisting of smooth, branched, septate, brown hyphae, which become somewhat warty with age. *Conidiophores* dimorphic. *Penicillate conidiophores* erect, with white tufts of branched, catenulate conidia; conidiophore cylindrical, erect, brown, verruculose, septate; base lacking rhizoids and not swollen; conidiogenous cells apical, hyaline to brown, smooth, proliferating sympodially, giving rise to ramoconidia. *Ramoconidia* hyaline, aseptate, smooth, subcylindrical. *Conidia*

subcylindrical to narrowly ellipsoid, hyaline, smooth, aseptate, occurring in branched chains, ends with a flattened, somewhat erumpent, darkened scar. *Chalara*-type conidiophores erect, cylindrical, unbranched, brown, verruculose to smooth, septate. *Conidiogenous cells* terminal, long ampulliform; collarette with flaring apex, and visible ring wall building at base of collarette. *Conidia* cylindrical, hyaline, smooth; ends truncate, somewhat darkened.

Type species. *Xenopolyscytalum pinea*.
Mycobank MB517533.

Xenopolyscytalum pinea Crous, sp. nov.

Conidiophora penicillata, erecta, cylindrica, brunnea, verruculosa, 2–6-septata, ad 50 µm procera, 2–3 µm lata; ad basim non rhizoida et non inflata; cellulae conidiogenae terminales, hyalinae vel brunneae, laeviae, 5–12 × 1.5–2.5 µm, sympodialiter proliferantes, 1–3 ramoconidia facientes, hyalinae, laeviae, aseptatae, subcylindricae, 5–10 × 1.5–2 µm. Conidia subcylindrica vel anguste ellipsoidea, hyalina, laevia, aseptata, catenulata, 3–4(–7) × 1.5(–2) µm.

Etymology. Named after the host from which it was collected, *Pinus*.

Mycelium consisting of smooth, branched, septate, brown, 1.5–2.5 µm diam hyphae, which become somewhat warty with age. *Conidiophores* dimorphic. *Penicillate conidiophores* erect, with white tufts of branched, catenulate conidia; conidiophore cylindrical, erect, brown, verruculose, 2–6-septate, up to 50 µm tall, 2–3 µm wide; base lacking rhizoids and not swollen; conidiogenous cells apical, hyaline to brown, smooth, 5–12 × 1.5–2.5 µm, proliferating sympodially, giving rise to 1–3 ramoconidia. *Ramoconidia* hyaline, smooth, aseptate, subcylindrical, 5–10 × 1.5–2 µm. *Conidia* subcylindrical to narrowly ellipsoid, hyaline, smooth, aseptate, occurring in branched chains, ends with a flattened, somewhat erumpent, darkened scar, 0.5 µm wide, 3–4(–7) × 1.5(–2) µm. *Chalara*-type conidiophores erect, cylindrical, unbranched, brown, verruculose to smooth, 1–3-septate, up to 40 µm tall, 2–3 µm wide. *Conidiogenous cells* terminal, long ampulliform, 15–25 × 2–3 µm; collarette 3–5 µm long, apex flaring, 1.5–2 µm wide with visible ring wall building at base of collarette, which is 1 µm wide. *Conidia* cylindrical, hyaline, smooth, 3–4(–5) × 1.5(–2) µm; ends truncate, somewhat darkened.

Culture characteristics — (in the dark, 25 °C, after 1 mo): Colonies on oatmeal agar flat, spreading, lacking aerial mycelium, with diffuse margin; surface dark mouse grey with patches of isabelline, reaching 60 mm diam. On potato-dextrose agar similar, dark mouse grey on surface and reverse. On malt

extract agar spreading, somewhat erumpent, with sparse aerial mycelium, and smooth, even margins; surface dark mouse grey, with patches of mouse grey and pale mouse grey; reverse dark mouse grey to mouse grey.

Typus. NETHERLANDS, Putten, on needles of *Pinus* sp., 8 July 2007, P.W. Crous, CBS-H 20488 holotype, cultures ex-type CPC 14225, 14234 = CBS 126493, ITS sequences of CPC 14234, 14225 GenBank HQ599581 and HQ599580, respectively and LSU sequences of CPC 14234, 14225 GenBank HQ599583 and HQ599582, respectively, MycoBank MB517534.

Notes — The genus *Polyscytalum*, which is based on *P. fecundissimum*, clustered with *Phlogicylindrium eucalypti* in *Sordariomycetes*^{1,2}, and is thus genetically distinct from *Xenopolyscytalum*, which belongs to the *Helotiales*. Morphologically *Xenopolyscytalum* is distinct from *Polyscytalum* in having macroconidiophores that have chains of aseptate conidia with somewhat darkened hila, and having microconidiophores that are *Chalara*-like, but distinct from *Chalara* s.str. in having flaring collarettes. Identical ITS and LSU sequences were obtained for both strains of *X. pinea* sequenced. A megablast search of NCBI's GenBank nucleotide database using the LSU sequence retrieved as closest sisters *Chalara constricta* (GenBank FJ176256; Identities = 848/853 (99 %), Gaps = 0/853 (0 %)), *Tricladium caudatum* (GenBank GQ477319; Identities = 843/850 (99 %), Gaps = 0/850 (0 %)), *Discocistella grevillei* (GenBank GU727554; Identities = 865/874 (99 %), Gaps = 5/874 (0 %)), *Cistella acuum* (GenBank GU727552; Identities = 865/874 (99 %), Gaps = 5/874 (0 %)) and *Rhytisma acerinum* (GenBank AF356696; Identities = 798/820 (98 %), Gaps = 4/820 (0 %)). The highest identities based on ITS were found with *Helicodendron websteri* (GenBank EF029197; Identities = 522/530 (99 %), Gaps = 4/530 (0 %)) and *Hyalodendriella betulae* (GenBank EU040232; Identities = 575/618 (94 %), Gaps = 11/618 (1 %)).

Colour illustrations. Pine trees in Putten; colonies on needle and agar; conidiophores giving rise to conidial chains; *Chalara*-like synanamorph. Scale bars = 10 µm.

References. ¹Crous 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 phyto-pathogenic species in the Venturiaceae. *Studies in Mycology* 58: 185–217. ²Cheewangkoon R, Groenewald JZ, Summerell BA, Hyde KD, To-anun C, Crous PW. 2009. Myrtaceae, a cache of fungal biodiversity. *Persoonia* 23: 55–85.