
Xenocylindrosporium

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Xenocylindrosporium Crous & Verkley, *gen. nov.*

Cylindrosporio simile, sed conidiomatibus minore evolutis, conidiis curvatis, apice attenuato, 0–1-septatis et phylogenetice distinctis.

Etymology. Morphologically similar, but distinct from *Cylindrosporium*.

Conidiomata on host immersed, black, opening by irregular rupture, acervuloid, up to 300 µm diam; wall consisting of 3–4 layers of pale brown *textura angularis*. *Conidiophores* hyaline, smooth, subcylindrical, branched, septate, or reduced to ampulliform conidiogenous cells. *Conidiogenous cells* hyaline, smooth, ampulliform to subcylindrical, terminal or lateral on septate conidiophores, monophialidic with minute periclinal thickening. *Conidia* solitary, hyaline, smooth, curved, widest in middle, tapering to acutely rounded apex and truncate base, 0–1-septate.

Type species. *Xenocylindrosporium kirstenboschense*. MycoBank MB514709.

Xenocylindrosporium kirstenboschense Crous & Verkley, *sp. nov.*

Conidiomata acervulata, ad 300 µm diam. Conidiophora hyalina, laevia, subcylindrica, ramosa, 2–4-septata, 10–30 × 2–3 µm. Cellulae conidiogenae hyalinae, laeviae, ampulliformes vel subcylindricae, 5–15 × 2–3 µm. Conidia solitaria, hyalina, laevia, curvata, in medio maxime lata, apice attenuato, acute rotundato, basi truncata, 0–1-septata, (17–)22–27(–32) × (1.5–)2(–3) µm.

Etymology. Named after Kirstenbosch Botanical Gardens, South Africa, where this fungus was collected.

Leaf spots grey-brown, epiphyllous, irregular, 2–5 mm diam, coalescing. *Conidiomata* on host immersed, black, opening by irregular rupture, acervuloid, up to 300 µm diam; in culture on 2 % malt extract agar (MEA; Oxoid) similar, but pale brown; wall consisting of 3–4 layers of pale brown *textura angularis*; opening by means of irregular rupture. *Conidiophores* hyaline, smooth, subcylindrical, branched, 2–4-septate, 10–30 × 2–3 µm; or reduced to ampulliform conidiogenous cells. *Conidiogenous cells* hyaline, smooth, ampulliform to subcylindrical, terminal or lateral on septate conidiophores, 5–15 × 2–3 µm; monophialidic with minute periclinal thickening. *Conidia* solitary, hyaline, smooth, curved, widest in middle, tapering to acutely rounded apex and truncate base, 0–1-septate, (17–)22–27(–32) × (1.5–)2(–3) µm.

Culture characteristics — Colonies on MEA at 25 °C in the dark after 2 wk: 5 mm diam, spreading, erumpent, slow-growing, surface crumpled, irregular, with smooth, lobate margin and sparse aerial mycelium; surface and reverse dirty cream with patches of scarlet. On potato-dextrose agar (PDA) similar, on oatmeal agar (OA) more flattened, spreading, flesh to scarlet, with sparse aerial mycelium. In conidiomata developed on OA, microconidia were observed in addition to the typical macroconidia, produced from similar conidiomata. *Microconidia* cylindrical, hyaline, smooth, straight or curved, rounded at the top, (sub)truncate at the base, 0-septate, (5–)6–10 × 1 µm.

Typus. South Africa, Western Cape Province, Kirstenbosch Botanical Gardens, 33° 59' 21.5" S, 18° 25' 45.4" E, on leaves of *Encephalartos friderici-guilielmi*, 13 Jan. 2009, *P.W. Crous*, CBS H-20346, holotype, culture ex-type CPC 16311, 16312 = CBS 125545; GenBank (ITS: GU229890; LSU: GU229891), MycoBank MB514710.

Notes — Based on its acervular conidiomata, phialides, and hyaline, curved conidia, this present collection appears to represent a species of *Cylindrosporium*, the differences being that in *Cylindrosporium* the conidiomata are shallow, and less well-developed, and the conidia are cylindrical, and aseptate. Furthermore, it also clusters apart from the type species of *Cylindrosporium, C. concentricum* (teleomorph *Pyrenopeziza brassicae*, *Helotiales*)[1]. As *Cylindrosporium* is representative of a generic complex[2], a new genus, *Xenocylindrosporium*, is herewith introduced to accommodate the fungus occurring on *Encephalartos*. Although nothing is known about the ecology of *X. kirstenboschense*, it is associated with leaf spots on *E. friderici-guilielmi*, and appears to be pathogenic to this host. Although the infected plants occurred among several other *Encephalartos* species in the Kirstenbosch gardens, *X. kirstenboschense* was not observed on any other host, and may well be host specific.

BLASTn results of the ITS sequence (GenBank GU229890) revealed that the species has 85 % identity to *Phaeomoniella chlamydospora* (GenBank AB278179; incertae sedis), *Phaeomoniella capensis* (GenBank FJ372391; incertae sedis) and *Cladophialophora minutissima* (GenBank EF016377; *Chaetothyriales*); and 86 % identity to *Cyphellophora laciniata* (GenBank EU035416; *Chaetothyriales*). BLASTn results of the LSU sequence (GenBank GU229891) also supported its association with *Phaeomoniella capensis* (93 % identity; GenBank FJ372408; incertae sedis), *Amorphotheca resinae* (92 % identity; GenBank EU030277; incertae sedis), and *Rhynchostoma proteae* (91 % identity; GenBank EU552154; incertae sedis).

Colour illustrations. Leaves of *Encephalartos friderici-guilielmi* with leaf spot symptoms; leaf spot with black, immersed conidiomata; conidiophores giving rise to curved conidia; single conidiogenous cell and curved conidia. Scale bar = 10 µm.

References. [1]Rawlinson CJ, Sutton BC, Muthyalu G. 1978. Taxonomy and biology of Pyrenopeziza brassicae sp. nov. (Cylindrosporium concentricum), a pathogen of winter oilseed rape (Brassica napus ssp. oleifera). Transactions of the British Mycological Society 71: 415–439. [2]Sutton BC. 1980. The Coelomycetes, Fungi imperfecti with pycnidia acervuli and stromata. Commonwealth Mycological Institute, Kew, Surrey, England.

Pedro W. Crous, Gerard J.M. Verkley & Johannes Z. Groenewald, CBS Fungal Biodiversity Centre, P.O. Box 85167, 3508 AD Utrecht, The Netherlands; e-mail: p.crous@cbs.knaw.nl, g.verkleij@cbs.knaw.nl & e.groenewald@cbs.knaw.nl