

Cladioriella xanthorrhoeae



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***Cladoriellales* Crous, ord. nov.**

MycoBank MB823435.

***Cladoriellaceae* Crous, fam. nov.**

MycoBank MB823435.

Classification — *Cladoriellaceae*, *Cladoriellales*, *Dothideo-mycetes*.

The diagnosis of the order *Cladoriellales* and family *Cladoriellaceae* is based on the type genus, *Cladoriella*.

Type genus. *Cladoriella* Crous.

External *hyphae* coiling on the leaf surface, medium to dark brown, thick-walled, smooth to finely verruculose, branched, septate, with swollen cells giving rise to conidiophores; hyphododium-like structures present, simple, intercalary. *Conidio-*

phores separate, erect, medium to dark brown, smooth to finely verruculose, thick-walled, subcylindrical, straight, septate. *Conidiogenous cells* terminal or intercalary, mono- or polytretic, sympodial, with 1–2 conspicuous loci, thickened, darkened, refractive, with a minute central pore. *Conidia* frequently remaining attached in long acropetal chains, simple or branched, narrowly ellipsoidal to cylindrical or fusoid, septate, medium brown, thick-walled, finely verruculose, apical conidium with rounded apex, additional conidia with truncate, conspicuous hila; thickened, darkened, refractive, with a minute central pore. *Chlamydospores* absent. *Sexual morph* unknown.

***Cladoriella xanthorrhoeae* Crous, sp. nov.**

Etymology. Name refers to *Xanthorrhoea*, the host genus from which this fungus was collected.

Mycelium consisting of medium brown, smooth, septate, branched, 2–3 µm diam hyphae. *Conidiophores* integrated, arising as terminal ends of hyphae, with *conidiogenous cells* integrated, subcylindrical, medium brown, smooth, 5–10 × 2–2.5 µm. *Conidia* arranged in branched, erect chains. *Ramoconidia* fusoid-ellipsoid or subcylindrical, 0–1-septate, medium brown, finely verruculose, 11–20 × 3–5 µm. *Conidia* fusoid-ellipsoid, medium brown, finely verruculose, medianly (0–)1(–2)-septate, (10–)12–15(–20) × (2.5–)3–4 µm; hila thickened, darkened, and refractive, 1.5–2 µm diam.

Culture characteristics — Colonies erumpent, spreading, with moderate aerial mycelium and smooth, lobate margins, reaching 8 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface brown vinaceous, reverse chestnut, with diffuse vinaceous pigment in agar.

Typus. AUSTRALIA, New South Wales, Nullica State Forest, on *Xanthorrhoea* sp. (*Asphodelaceae*), 29 Nov. 2016, P.W. Crous (holotype CBS H-23300, culture ex-type CPC 32432 = CBS 143398, ITS and LSU sequences GenBank MG386061 and MG386114, MycoBank MB823409); additional culture CPC 32714, ITS and LSU sequences GenBank MG386062 and MG386115.

Notes — *Cladoriella* was established to accommodate a cladosporium-like genus occurring on *Eucalyptus* leaf litter in South Africa (Crous et al. 2006). Of the species presently known, *C. xanthorrhoeae* (conidia fusoid-ellipsoid, (0–)1(–2)-septate, (10–)12–15(–20) × (2.5–)3–4 µm) is related to, but distinct from *C. rubrigena* (conidia 0–1-septate, (11–)14–17(–20) × 3.5–4.2 µm) and *C. eucalypti* (conidia 1–3-septate, (8–)15–20(–25) × 2–2.5(–3) µm; Cheewangkoon et al. 2009). This is the first record of a species of *Cladoriella* occurring on a host other than *Eucalyptus*.

Based on a megablast search using the ITS sequence, the closest matches in NCBI's GenBank nucleotide database were *C. rubrigena* (GenBank GQ303273; Identities 498/552 (90 %), 15 gaps (2 %)), *C. eucalypti* (GenBank EU040224; Identities 485/537 (90 %), 15 gaps (2 %)) and *C. paleospora* (GenBank NR_132833; Identities 309/360 (86 %), 12 gaps (3 %)). The highest similarities using the LSU sequence were *C. rubrigena* (GenBank GQ303304; Identities 837/851 (98 %), 2 gaps (0 %)), *C. eucalypti* (GenBank EU040224; Identities 831/846 (98 %), 2 gaps (0 %)) and *Kellermania micranthae* (GenBank NG_042706; Identities 792/853 (93 %), 16 gaps (1 %)).

Colour illustrations. Dead leaves of *Xanthorrhoea* sp.; conidiophores sporulating on PNA, conidiophores and conidia. Scale bars = 10 µm.

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