

*Xenopassalora petrophiles*



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## *Xenopassalora* Crous, gen. nov.

*Etymology.* Named refers to its morphological similarity to the genus *Passalora*.

*Classification* — *Mycosphaerellaceae*, *Capnodiales*, *Dothideomycetes*.

Phytopathogenic, associated with small red-brown leaf spots. *Mycelium* consisting of brown, verruculose to warty, septate, branched, thick-walled hyphae, at time encased in mucoid layer and forming a brown stroma of pseudoparenchymatal cells; hyphae becoming prominently constricted at septa, cells swelling,

becoming muriformly septate. *Conidiophores* solitary, erect on hyphae, geniculous-flexuous, septate, dark brown, thick-walled, roughened. *Conidiogenous cells* terminal, integrated, medium brown, smooth, consisting of a rachis of sympodial loci; scars round, thickened, darkened. *Conidia* solitary, aseptate, medium brown, guttulate, verruculose, ellipsoid, apex obtuse, tapering in lower third to truncate hilum, thickened, darkened.

*Type species.* *Xenopassalora petrophiles* Crous.  
MycoBank MB823376.

## *Xenopassalora petrophiles* Crous, sp. nov.

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

Phytopathogenic, associated with small red-brown leaf spots. *Mycelium* consisting of brown, verruculose to warty, septate, branched, thick-walled, 4–5 µm diam hyphae, at time encased in mucoid layer and forming a brown stroma of pseudoparenchymatal cells; hyphae becoming prominently constricted at septa, cells swelling, becoming muriformly septate, up to 20 µm diam. *Conidiophores* solitary, erect on hyphae, geniculous-flexuous, 2–8-septate, dark brown, thick-walled, roughened, 15–90 × 3–5 µm. *Conidiogenous cells* terminal, integrated, medium brown, smooth, consisting of a rachis of sympodial loci, 15–30 × 4–5 µm; scars round, thickened, darkened, 1–1.5 µm diam. *Conidia* solitary, aseptate, medium brown, guttulate, verruculose, ellipsoid, apex obtuse, tapering in lower third to truncate hilum, 1–1.5 µm diam, thickened, darkened, (5–)6–7(–9) × (4–)5(–5.5) µm.

*Culture characteristics* — Colonies erumpent, spreading, surface folded, with moderate aerial mycelium and even, lobate margins, reaching 10 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface olivaceous grey, reverse iron-grey.

*Typus.* AUSTRALIA, New South Wales, Fitzroy Falls, on leaves of *Petrophile pedunculata* (*Proteaceae*), 26 Nov. 2016, P.W. Crous (holotype CBS H-23270, culture ex-type CPC 32085 = CBS 143180, ITS, LSU and *rpb2* sequences GenBank MG386035, MG386088 and MG386140, MycoBank MB823377).

*Notes* — No passalora-like fungal records are known from *Petrophile*, and it can be assumed that *X. petrophiles*, which also has no matches with fungal taxa presently known from DNA sequence, represents a new species. Because of its pigmented aseptate conidia, it is reminiscent of the *Ramichloridium* complex, but is distinct in that it does not form a rachis, and denticles are absent. Conidial hila and scars are thickened and darkened, as found in the *Passalora* complex. However, the aseptate conidia, and solitary conidiophores, are rather distinct features. Phylogenetically, it also does not cluster in any genus of *Mycosphaerellaceae* (Videira et al. 2017), and thus we introduce a new genus, *Xenopassalora*, to accommodate it.

Based on a megablast search using the ITS sequence, the closest matches in NCBI's GenBank nucleotide database were *Paracercosporidium microsorum* (as *Mycosphaerella microsora*; GenBank EU167599; Identities 496/534 (93 %), 14 gaps (2 %)), *Passalora arctostaphyli* (GenBank KJ152782; Identities 494/532 (93 %), 11 gaps (2 %)) and *Pantospora guazumae* (GenBank NR\_119971; Identities 494/534 (93 %), 14 gaps (2 %)). The highest similarities using the LSU sequence were *Phaeophleospora scytalidii* (GenBank JN232427; Identities 808/836 (97 %), 3 gaps (0 %)), *Devonomyces endophyticus* (as *Mycosphaerella* sp.; GenBank GU214450; Identities 808/836 (97 %), 3 gaps (0 %)) and *Mycosphaerella stromatosa* (GenBank EU167598.2; Identities 808/836 (97 %), 3 gaps (0 %)). The highest similarities using the *rpb2* sequence were distant hits with *Fusoidiella depressa* (GenBank KX348055; Identities 600/785 (76 %), 10 gaps (1 %)), *Zasmidium anthuriicola* (GenBank KT216547; Identities 632/835 (76 %), 34 gaps (4 %)) and *Ramularia vizellae* (GenBank KP894758; Identities 620/822 (75 %), 30 gaps (3 %)).

*Colour illustrations.* *Petrophile pedunculata* at Fitzroy Falls; conidiophores and conidia. Scale bars = 10 µm.

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