

Setophaeosphaeria citri



Fungal Planet 656 – 20 December 2017

***Setophaeosphaeria citri* Guarnaccia & Crous, sp. nov.**

Etymology. Name refers to *Citrus*, the plant genus from which this fungus was collected.

Classification — *Incertae sedis*, *Pleosporales*, *Dothideomycetes*.

Ascomata not observed. *Conidiomata* immersed (on PDA and OA) to erumpent (on PNA), pycnidial, brown, globose, erumpent, with central, round to ellipsoid ostiole, to 250 µm diam; wall of 6–8 layers of pale brown *textura angularis*. *Setae* brown, unbranched, flexuous, septate, covering conidiomata, smooth, with obtuse to rounded ends, to 150 µm long, 2–2.5 µm wide. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* lining the inner cavity, hyaline, smooth, ampulliform, 3–7 × 3–4 µm. *Conidia* solitary, aseptate, hyaline, smooth, guttulate, subcylindrical with obtuse ends, straight or gently curved, 3.5–5 × 2–3 µm.

Culture characteristics — Colonies covering the entire plate after 4 wk at 22 °C. On MEA, PDA and OA spreading, with sparse aerial mycelium and embedded conidiomata, surface folded, lobed, surface smoke-grey to dark grey. Reverse olivaceous grey on MEA and PDA, dark grey to black on OA.

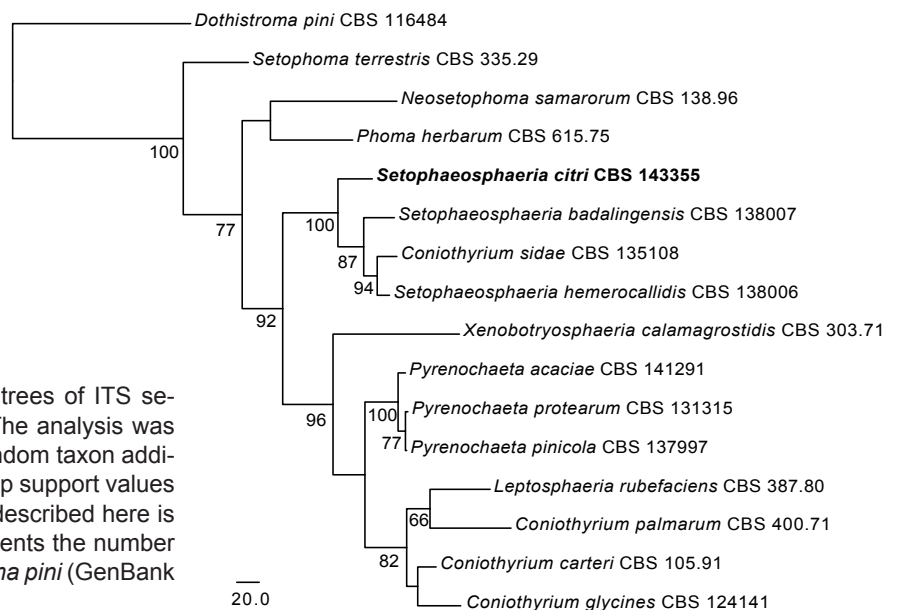
Typus. ITALY, Massafra, Taranto, Apulia, on twigs of *Citrus reticulata* (*Rutaceae*), 9 June 2015, V. Guarnaccia (holotype CBS H-23240, culture ex-type CPC 27148 = CBS 143355; ITS and LSU sequences GenBank MG263524 and MG263525, MycoBank MB823316).

Notes — The genus *Setophaeosphaeria* was recently described including two species, *S. hemerocallidis* and *S. badalingensis*. Another species previously known as *Phaeosphaeria setosa* was also included (Crous et al. 2014a). When present, ascomata are pseudothecial, immersed on leaves and stems, producing ellipsoid, bitunicate, 8-spored asci. The ascospores

are pale brown, fusoid to ellipsoid, with mucoid caps at each end, guttulate and septate. Conidiomata develop readily in culture and are pycnidial, brown, globose, producing hyaline, subcylindrical, guttulate, aseptate conidia. *Setophaeosphaeria citri* is phylogenetically distinct from *S. badalingensis*, *S. hemerocallidis* and *S. setosa*, and also has smaller conidia than those observed in *S. badalingensis*, (5–)6(–7) × (2.5–)3 µm. Moreover, *S. citri* forms only conidiomata whilst *S. hemerocallidis* produces ascomata with ascospores and also presents larger conidia, (11–)13–16(–19) × (3–)3.5(–4) µm (Crous et al. 2014a). No *Setophaeosphaeria* species are known from *Citrus*.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are *S. hemerocallidis* (GenBank KJ869161; Identities = 387/407 (95 %), Gaps = 1/407 (0 %)), *S. badalingensis* (GenBank KJ869162; Identities = 443/489 (91 %), Gaps = 13/489 (2 %)) and *Coniothyrium sidae* (GenBank KF251149; Identities = 439/483 (91 %), Gaps = 18/483 (3 %)). Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *S. badalingensis* (GenBank KJ869219; Identities = 783/786 (99 %), Gaps = 0/786 (0 %)), *Coniothyrium sidae* (GenBank KF251653; Identities = 782/786 (99 %), Gaps = 0/786 (0 %)) and *Pyrenochaeta acaciae* (GenBank KX228316; Identities = 776/786 (99 %), Gaps = 0/786 (0 %)).

The first of two equally most parsimonious trees of ITS sequences obtained from a heuristic search. The analysis was conducted with PAUP* v. 4.0b10 with 100 random taxon additions and 1000 bootstrap replicates. Bootstrap support values are shown at the nodes. The novel species described here is shown in **bold face** and the scale bar represents the number of changes. The tree was rooted to *Dothistroma pini* (GenBank JX901736).



Colour illustrations. Young plantation of *Citrus reticulata*; colony on PDA, conidiomata sporulating on PNA, setae, conidiogenous cells and conidia. Scale bars = 10 µm.