Neofusicoccum mediterraneum Crous, M.J. Wingf. & A.J.L. Phillips, sp. nov.

MycoBank: MB504461.

Etymology: Named for the Mediterranean region where this fungus was discovered.

Latin diagnosis: Neofusoccci parvi similis, sed conidis majoribus, (19–)22–26(–27) × (5.5–)6(–6.5) µm.

Description: Associated with branch die-back and leaf tip-blight symptoms on Eucalyptus sp. on the Island of Rhodes, and drupe rot of Olea europaea in Italy. Conidiodoma amphiogenous, pycnidoid, stromatic, brown, up to 450 µm diam in culture (sporulating on sterilized pine needles); ostiolate, exuding conidia in a white mucoid mass; wall consisting of 3–5 layers of brown textura angularis. Conidiophores lining the inner layer of the conidioma, hyaline, smooth, 0–1-septate, 15–40 × 3–5 µm. Conidiogenous cells integrated, phialidic, subcylindrical, rarely ampulliform, 15–30 × 3–5 µm; proliferating several times percurrently near apex, rarely with minute pericinal thickening. Conidia hyaline, smooth, thin-walled, fusoid-ellipsoidal, widest in the middle or in the upper third, apex subobtuse, base subtruncate, somewhat flattened with minute marginal frill, (19–)22–26(–27) × (5.5–)6(–6.5) µm in vitro (av. 24 × 6 µm; L:W = 4:1), with granular cytoplasm.

Cultural characteristics: Colonies on 2 % malt extract agar1 fluffy, iron-grey, with abundant grey aerial mycelium; fertile on water agar overlaid with autoclaved pine needles; no Dichomera synanamorph observed.


Notes: Neofusicoccum mediterraneum is morphologically similar to N. parvum (Pennycook & Samuels) Crous, Slippers & A.J.L. Phillips (conidia 12–25 × 5–7.5 µm)2, but can be distinguished from it in having slightly larger conidia (19–27 × 5–6.5 µm). Neofusicoccum mediterraneum was also found associated with roting drupes of O. europaea in southern Italy, but the frequency of occurrence in this habitat is low compared with other Neofusicoccum spp. on the same host. Symptoms on olives are identical to those caused by Botryosphaeria dothidea (Moug. : Fr.) Ces. & De Not., N. australe (Slippers, Crous & M.J. Wingf.) Crous, Slippers & A.J.L. Phillips and N. viticiforine (Niekerk & Crous) Crous, Slippers & A.J.L. Phillips. Neofusicoccum mediterraneum was shown to be pathogenic to olive inoculums3.

BLASTn results of the ITS sequence of N. mediterraneum strain CPC 13137 had high identity to sequences of Guignardia laricina (Sawada) W. Yamam. & Kaz. Itô (AB041245, 97 % identical), Neofusicoccum corticosae Crous & Summerell (DQ923533, 97 % identical) and Botryosphaeria lutea A.J.L. Phillips (AY259091, 98 % identical). It differed in three nucleotides from Botryosphaeria dothidea (AB041245, 97 % identical), but the latter sequence is a misidentification because it does not cluster with reference strains of B. dothidea.

Notes: Single most parsimonious tree (TL = 310; CI = 0.965; RI = 0.761; RC = 0.734) obtained from a heuristic search with 100 random taxon additions of an ITS sequence alignment using PAUP v. 4.0b10. The scale bar shows 10 changes, and bootstrap support values from 1000 replicates are shown at the nodes. The species described here is printed in bold face. The tree was rooted to Camarosporium sophorae Gonz. Frag. (GenBank DQ885900). The alignment and tree is available in MycoBank (Accession MB504461).

Colour illustrations: Aerial view of Eucalyptus trees with visible die-back symptoms, growing in front of the Rhodes Palace Hotel; pycnidia forming on a sterile pine needle on water agar; conidiogenous cells; conidia (P.W. Crous).

Scale bar = 10 µm.
Neofusicoccum mediterraneum