**Penicillium americanum** Jurjević, G. Perrone, S.W. Peterson, D. Magistà, *sp. nov.*

**Etymology.** Named for USA, where the culture was isolated.

**Classification — Aspergillaceae, Eurotiales, Eurotiomycetes.**

Micromorphologically (on malt extract agar; MEA): **Conidiophores** borne on surface, on aerial hyphae, (100–)150–350–(375) × (3–)4–5–(6) µm, with smooth, occasionally finely roughened walls, bearing terminal biverticillate or terverticillate penicilli; rami commonly with divergent asymmetric branching 2–3(–4), (8)–10–25 × 4–5 µm; (3–)5–9–(11) metulae in verticils, (6–)7–12–(14) × 3–4–(4.5) µm; phialides (3–)5–9–(11) per metula, ampulliform, 7–9–(9.5) × (2–)2.5–3.5 µm, with short collarettes. **Conidia** spherical to subospherical, occasionally broadly ellipsoidal, 2.5–3.5–(5) × 2.5–4.5 µm, with smooth to finely roughened walls. Borne in long, loose to clustered chains.

**Culture characteristics — (in darkness, 25 °C after 7 d):** Colonies on MEA 11–12 mm diam, colony texture velutinous to floccose centrally, rising c. 3 mm, mycelium white, visible at margins, sporulation heavy, conidia en masse, Medici blue to deep green-blue grey (R48; Ridgway 1912), exudate absent, soluble pigments yellow ochre (R15) to primuline yellow (R16), reverse wax yellow to strontium yellow (R16). Colonies on Czapek yeast autolysate agar (CYA) 12–13 mm diam, colony texture velutinous to rudimentally floccose centrally, rising c. 4 mm, mycelium white, mainly visible at margins, sporulation heavy, conidia en masse, greyish greenish blue (Medici blue to dark Medici blue, R48), exudate abundant, mustard yellow to wax yellow (R16), at the centre of the colony c. 5 mm diam, soluble pigments mustard yellow to mustard yellow to primuline yellow (R16), reverse wax yellow to straw yellow (R16), near straw yellow marginally. Colonies on potato dextrose agar (PDA) 11–12 mm diam, colony texture velutinous to rudimentally floccose centrally, rising c. 3 mm, mycelium white, sporulation heavy, conidia en masse, Medici blue to deep green-blue grey (R48), exudate barium yellow to wax yellow, abundant (R16), soluble pigments mustard yellow (R16) to honey yellow (R30), reverse wax yellow to straw yellow (R16). Colonies on Czapek yeast agar with 20 % sucrose (CY20S) 10–11 mm diam, colony texture velutinous, mycelium white, sporulation very good, conidia en masse pale light dull glaucous-blue to greenish glaucous-blue (R42), exudate absent, soluble pigments absent, reverse uncoloured to carborundum brisk (R30). Colonies on dichloran-glycerol agar (DG18) 14–15 mm diam, colony texture velutinous, centrally rising c. 3 mm, and c. 4 mm diam, button-like, mycelium white, mainly visible at margins c. 2 mm diam, very heavy sporulation, conidia en masse, greyish greenish blue (Medici blue to dark Medici blue, R48), exudate absent, soluble pigments absent, reverse carborundum brisk (R30) to pale glass green (R31). Colonies on CYA with 5 % NaCl (CYAS) 17–18 mm diam, colony texture velutinous to rudimentally floccose, centrally rising c. 4 mm, radially moderate to deep sulphate, mycelium white, sporulation heavy, conidia en masse, greyish greenish blue (light Medici blue to deep Medici blue, R48), exudate absent, soluble pigments absent, reverse carborundum brisk to colonial buff, near reed yellow (R30). Colonies on oatmeal agar (OA) 9–10 mm diam, colony texture velutinous, centrally rising c. 2 mm, button like, mycelium white, visible at margins c. 2 mm diam, sporulation heavy, conidia en masse, greyish greenish blue (Medici blue to dark Medici blue, R48), exudate clear to brown, soluble pigments absent, reverse in pale brown shades. Colonies on creatine succose agar (CREA), 4–5 mm diam, no acid production, poor growth. On CYA/MEA (colony diam in mm) at 15 °C 11–13/13–24; 20 °C 18–19/19–20; no growth at 5 °C, 30 °C or 37 °C.

**Notes — BLAST searches of the sequences of *Penicillium americanum* sp. nov. showed a β-tubulin similarity to *P. soppii* GenBank MF351761 (90.65 %) and a calmodulin similarity to *P. lenticrescens* GenBank KJ775404 (91.06 %). The ITS barcode was 98.72 % similar to *P. soppii* GenBank MF303707 and *P. lenticrescens* GenBank KJ775675 (98.53 %).**

*Penicillium americanum* produces conidiophores (100–)150–350–(375) µm long, while sclerotic production is not observed, compared to *P. soppii* which produces abundant sclerotia and conidiophores up to 500 µm long (Raper & Thom 1949); *Penicillium lenticrescens* produces conidiophores 150–415 µm long (Visagie et al. 2014a).

**Supplementary material**

FP937 Maximum likelihood tree of *Penicillium americanum* sp. nov. and closely related species (30 strains in total) of the Sections Ramosa and Brevicompacta based on concatenated BenA, CaM, ITS DNA sequences give evidence of net separation of this new species from the other well-resolved branch. All positions with less than 90 % site coverage were eliminated, i.e., fewer than 10 % alignment gaps, missing data, and ambiguous bases were allowed at any position (partial deletion option); 1141 positions were used in the final dataset. The evolutionary history was inferred by using the Maximum Likelihood method and Kimura 2-parameter model as implemented in MEGA X (Kumar et al. 2018). The tree with the highest log likelihood (-7673.46) is shown. The percentage of trees in which the associated taxa clustered together is shown next to the branches. Support values at branches were obtained from 1000 bootstrap replicates. Bootstrap support values greater than 70 % are shown.

**Colour illustrations.** Air, medicinal marijuana greenhouse. 7-d-old cultures of *Penicillium americanum* on MEA (top to bottom 15 °C, 20 °C, 25 °C); conidia and conidiophores on MEA. Scale bars = 10 µm.