

Penicillium restingae

CYA 25°C



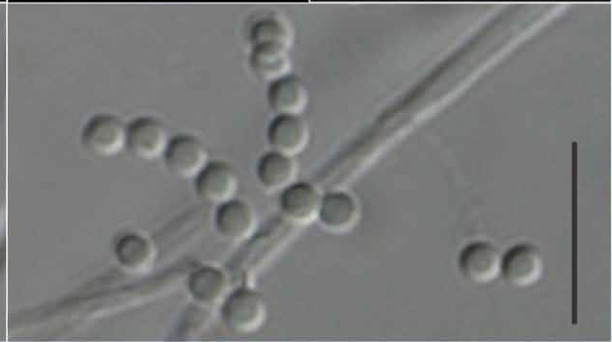
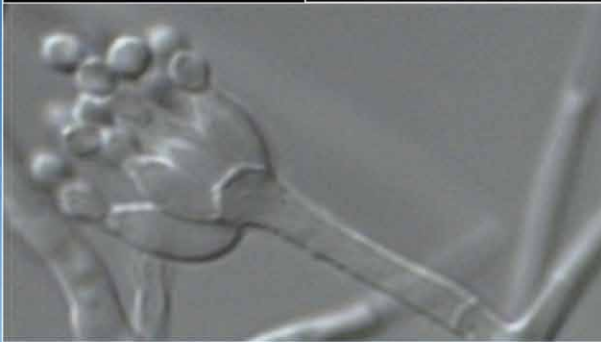
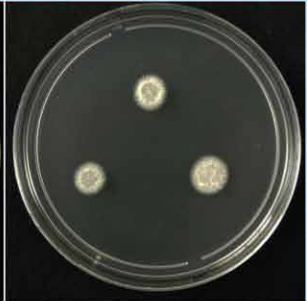
CYA 37°C



MEA 25°C



G25N 25°C



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Penicillium restingae J.P. Andrade, P.A.S. Marbach, C.M.S. Motta & J.T. De Souza, *sp. nov.*

Etymology. Referring to the sandbanks ecosystem, known as restinga in Brazil, where this species was isolated from.

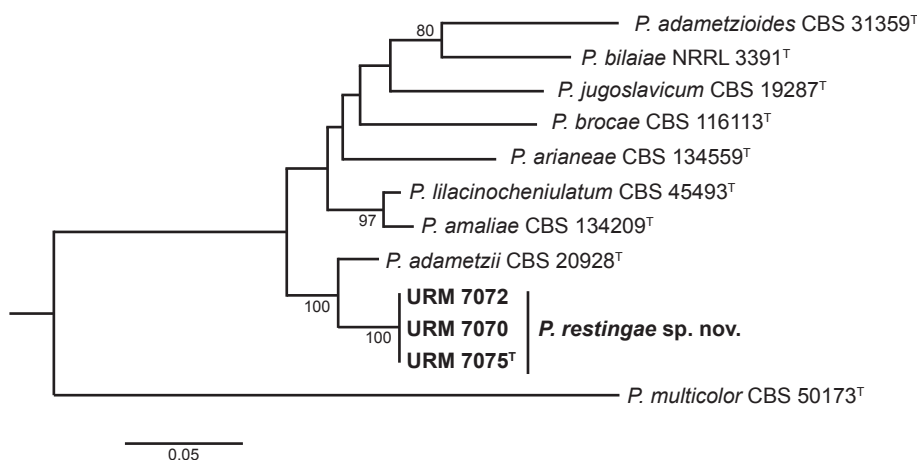
Conidiophores strictly monoverticillate. *Stipes* smooth-walled, short, 10–22(–40) × 1–2(–3) µm. *Conidiophores vesiculate* 2–9(–12) × 2–6 µm. *Phialides* ampulliform, 4–6 × 1.2–2(–4) µm. *Conidia* with walls finely roughened, spheroidal, 1.5–2(–2.5) µm. *Sclerotia* not observed.

Culture characteristics — (in the dark, colony diam after 7 d): Colonies on Czapek yeast extract agar (CYA) 25 °C 18–27 mm, plane or umbonate, radially and concentrically sulcate or wrinkled, low to moderately deep, mycelium white, texture velutinous to slightly floccose, sporulation light to moderate, conidial colour *en masse* pale grey to green-grey (1B1–1D2; Kornerup & Wanscher 1984), exudate clear to yellow-brown, red-brown soluble pigment occasionally produced, reverse typically pale to pale grey, less commonly light yellow or red-brown (2A2–1B1–4A4–8D8). CYA 37 °C 23–33 mm, colony diameter was the only difference observed between these two temperatures. CYA 5 °C no growth. Colonies on malt extract agar (MEA) 25 °C 16–23 mm, usually umbonate, in some isolates plane, mycelium white, texture floccose, sporulation light to moderate, conidial colour *en masse* white to light grey (1A1–1C1), exudate absent, soluble pigment absent, reverse pale yellow to pale grey (1A3–1B1). Colonies on 25 % glycerol nitrate agar (G25N) 25 °C 9–18 mm, plane, mycelium white, texture floccose or less commonly velutinous, reverse pale (2A2).

Typus. BRAZIL, Bahia, in soil from the Guaibim sandbank, S13°18' W38°57', 20 Jan. 2011, J.P. Andrade (holotype CMR H-12 (dried culture on MEA), culture ex-type URM 7075; ITS sequence GenBank KF803355, BenA sequence GenBank KF803349, Cmd sequence GenBank KF803352, MycoBank MB807051).

Additional specimens examined. URM 7070 and URM 7072, both from soil, Brazil, Bahia, J.P. Andrade. The former strain was isolated on 13 Mar. 2011, the latter on 22 May 2011. Sequence GenBank accession numbers: ITS KF803354, KF803353; BenA KF803348, KF803347; Cmd KF803351, KF803350.

Notes — Comparison of ITS, BenA and Cmd sequences to the ones available in public databases and subsequent phylogenetic analyses show that *P. restingae* is most closely related to *P. adametzii* in the section *Sclerotiora* (Visagie et al. 2013). It differs from *P. adametzii* by several insertions, deletions and substitutions in ITS, BenA and Cmd sequences (TreeBASE ID 15230). The morphology of *P. restingae* resembles that of *P. restrictum* (Pitt 1988). *Penicillium restingae* differs from *P. adametzii* in colony diameter on MEA 25 °C, CYA 37 °C and stipe length and from *P. restrictum* in having a vesiculate conidiophores, smaller conidia and showing faster growth rate on CYA 37 °C.



Maximum likelihood tree of *Penicillium* strains belonging to section *Sclerotiora* based on 1 090 aligned nucleotides (combined ITS, BenA and Cmd data). Analysis performed using MEGA v. 5.1 with the Tamura 3-parameter substitution model. Bootstrap analysis employed 1 000 re-samplings; only bootstrap support values above 80 % presented at the nodes. *Penicillium multicolor* was used as outgroup. The scale indicates the number of substitutions per site. The new species is presented in **bold font** (T = ex-type).

Colour illustrations. Brazil, Bahia, Guaibim sandbank; colonies growing on CYA, MEA and G25N; conidiophores with conidia. Scale bar = 10 µm.

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