Penicillium alagoense
**Penicillium alagoense** L.O. Ferro, A.D. Cavalcanti, O.M.C. Magalhães, Souza-Motta & J.D.P. Bezerra, *sp. nov.*

*Etymology.* The name refers to the Brazilian state, Alagoas, where this fungus was found.

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

On malt extract agar (MEA), conidiophores varying in length, erect not ramified, 70–300 × 2–2.5 μm; stipes septate with wall echinulate and apice enlarged (4 μm); asymmetric *penicilli*, monoverticillate, occasionally with *branch*, biverticillate, lightly echinulate, spathulate, 10.5–15.5 × 2–2.5 μm; *phialides* amphiulliform, 3–4 (–5) phialides per metulae, 7.5–10 × 2–2.5 μm; *conidia* smooth to echinulate, globose, greenish, 2–3.5 μm.

*Culture characteristics.* (25°C, 7 d, darkness) — On *Czapek* Yeast extract Agar (CYA): colonies slightly raised, texture velvety, radially sulcate, slow sporulation, centrally purplish grey, hyaline mycelium with whitish margin, exudate and pigment absent; reverse cream. On MEA: colonies low, plane, texture velvety, light sporulation, greyish green to greenish glaucous, hyaline mycelium with whitish margin, exudate and pigment absent; reverse brownish to umber.


*Typus*. *BRAZIL*, Alagoas state, Quebrangulo, Pedra Talhada Biological Reserve, S09°15′26.8″ W36°25′53.7″, as endophyte from leaves of *Miconia* sp. (Melastomataceae), July 2018, L.O. Ferro (holotype URM 93058, culture ex-type URM 8086, ITS, *BenA*, *CaM* and *RPB2* sequences GenBank MK804503, MK802333, MK802336 and MK802338, MycoBank MB830760).

*Additional materials examined*. *BRAZIL*, Alagoas state, Quebrangulo, Pedra Talhada Biological Reserve, S09°15′26.8″ W36°25′53.7″, as endophyte from leaves of *Miconia* sp., July 2018, L.O. Ferro, URM 8087, ITS, *BenA*, *CaM* and *RPB2* sequences GenBank MK804502, MK802332, MK802335 and MK802337, Alagoas state, Quebrangulo, Pedra Talhada Biological Reserve, S09°14′47.0″ W36°25′15.0″, as endophyte from leaves of *Handroanthus albus* (Bignoniaceae), July 2018, A.D. Cavalcanti, B17B, *BenA* sequence GenBank MK802334.

*Notes*. — *Penicillium alagoense* exhibits phylogenetic and morphological similarities to *P. skrjabini*. *Penicillium alagoense* differs from *P. skrjabini* by the numbers and size of phialides (6–8 per metulae, 7.7–10.5 × 2.3–3 μm), metulae (26.4–32 × 2.4–3 μm) and by the production of *conidia* that are ellipsoidial, globose or subglobose (3.5–5 × 1.8–2.4 μm) (Ramírez 1982). In addition, *P. alagoense* differs from *P. skrjabini* by macroscopic characteristics presenting lower growth in the colonies and no growth at 37°C.

Bayesian inference (BI) tree obtained by a phylogenetic analysis of the combined ITS rDNA, *BenA* and *CaM* sequences conducted in MrBayes on XSEDE and Maximum Likelihood (ML) analysis in RAxML in the CIPRES science gateway (Miller et al. 2010). The substitution model GTR+I+G was used for ITS, SYM+G for *CaM*, and GTR+G for *BenA* alignments in the BI and GTR+G+I in the ML. Bayesian posterior probability and Maximum Likelihood bootstrap support values are indicated at the nodes. The new species is indicated in *bold*. *Penicillium glabrum* (CBS 125543) was used as outgroup.

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