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## *Aspergillus serratalhadensis* L.F. Oliveira, R.N. Barbosa, G.M.R. Albuquerque, Souza-Motta, Viana Marques, *sp. nov.*

*Etymology.* *serratalhadensis*, refers to the Brazilian city Serra Talhada, the location of the ex-type strain of this species.

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

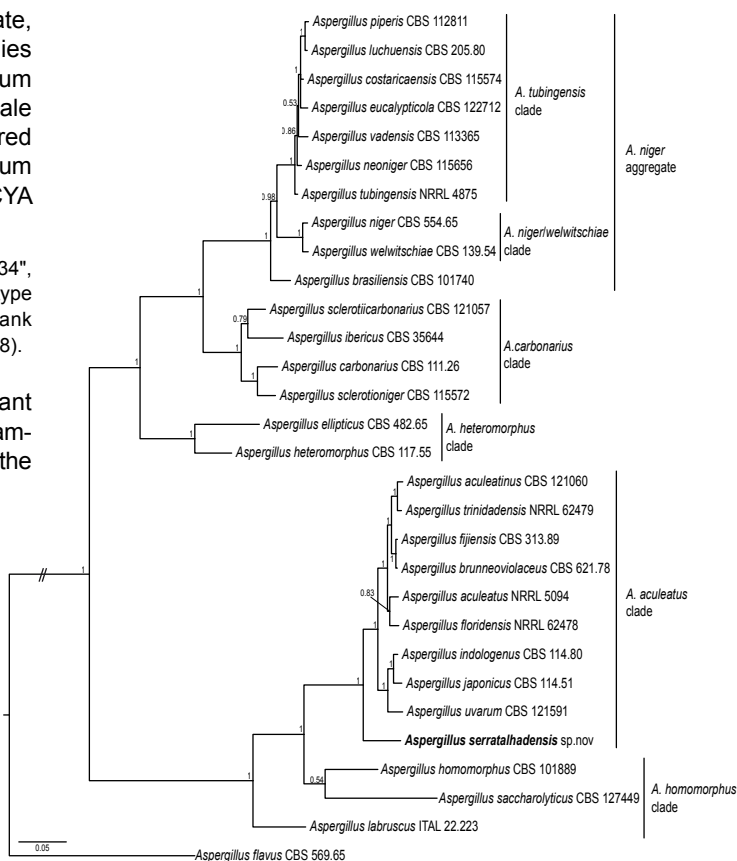
On MEA: *Stipes* brown, smooth, (200–)250–400(–500) × 8–9(–10) μm; *conidial heads* pale to dark brown; uniseriate; *vesicle* subglobose to globose, (32–)50 × 50(–42) μm diam; *phialides* flask-shaped and covering the entire surface of the vesicle, measuring (1.5–)2 × 1.5(–2) μm; *conidia* globose occasionally subglobose, rough-walled to echinulate, brown-black in mass, 5(–6.5) μm diam including ornamentation.

*Culture characteristics* — (in the dark, 25 °C after 7 d): Colonies on MEA 54–56 mm diam, sporulating dark brown to black, mycelium white, floccose, exudate absent, no soluble pigments, reverse brownish to buff. Colonies on CYA 60–68 mm diam, dark brown to black, mycelium white, floccose, exudate absent, no soluble pigments, reverse brownish to buff. Colonies on OA 38–40 mm diam, sporulating dark brown to black, mycelium white to pale, floccose, exudate absent, no soluble pigments, reverse darkness. Colonies on YES 60–65 mm diam, sporulating dark brown to black, mycelium white, floccose, sulcate, exudate absent, no soluble pigments, reverse pale. Colonies on CY20S 60–65 mm diam, with black sporulation, mycelium white, floccose, no exudate, no soluble pigments, reverse pale to buff. Colonies on CREA growing more slowly compared with other media, 19–20 mm diam, poor sporulation, mycelium white, production of acid positive. No growth on MEA and CYA at 37 °C.

*Typus.* BRAZIL, Pernambuco state, Serra Talhada, S7°57'21" W38°17'34", isolated from soil, Sept. 2015, L.F. Oliveira (holotype URM 91189, ex-type culture URM 7866, ITS, *BenA*, *CmD* and *RPB2* sequences GenBank MH169127, LT993222, LT993223 and LT995971, MycoBank MB824978).

*Notes* — ITS, *CmD* and *BenA* sequences are important identification markers for *Aspergillus* (Fungaro et al. 2017, Samson et al. 2014). Based on the current phylogenetic analysis, the

new species *Aspergillus serratalhadensis* is a distinct lineage which belongs to *Aspergillus* section *Nigri*, clustering in the *A. aculeatus* clade. The BLASTn analysis showed low similarity of *BenA* sequences: *A. aculeatus* (GenBank HE577806.1; 93 %) and *A. brunneoviolaceus* (GenBank EF661105.1; 92 %). For *CmD* low similarities were found to *A. aculeatus* (GenBank FN594542.1; 90 %) and *A. brunneoviolaceus* (GenBank EF661147.1; 90 %). *Aspergillus serratalhadensis* and these two species are uniseriate. However, in *A. brunneoviolaceus* the conidia are globose to ellipsoidal, smooth, slightly roughened, 3.5–4.5(–6) × 3.5–4.5(–5) μm diam, with a spherical vesicle, (30–)35–70(–90) μm diam. In *A. aculeatus* conidia were spherical, smooth, slightly roughened, 4.9–5.4 μm diam, with a spherical vesicle, 60–63 μm diam (Klich 2002, Jurjević et al. 2012). The new species described also differs in growth rate on the various media tested. *Aspergillus serratalhadensis* was isolated from soil collected in the Brazilian tropical dry forest (Caatinga) in the city of Serra Talhada, Pernambuco state.



Bayesian inference tree obtained by phylogenetic analyses of the combined ITS, *BenA* and *CmD* sequences conducted in MrBayes on XSEDE in the CIPRES science gateway. Bayesian posterior probability values are indicated at the nodes. The new species is indicated in **bold face**. *Aspergillus flavus* (CBS 569.65) was used as outgroup.

*Colour illustrations.* Caatinga's soil, isolation source of *Aspergillus serratalhadensis*; conidia; conidiophores from 7-d-old colonies on MEA. Scale bars = 10 μm.

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