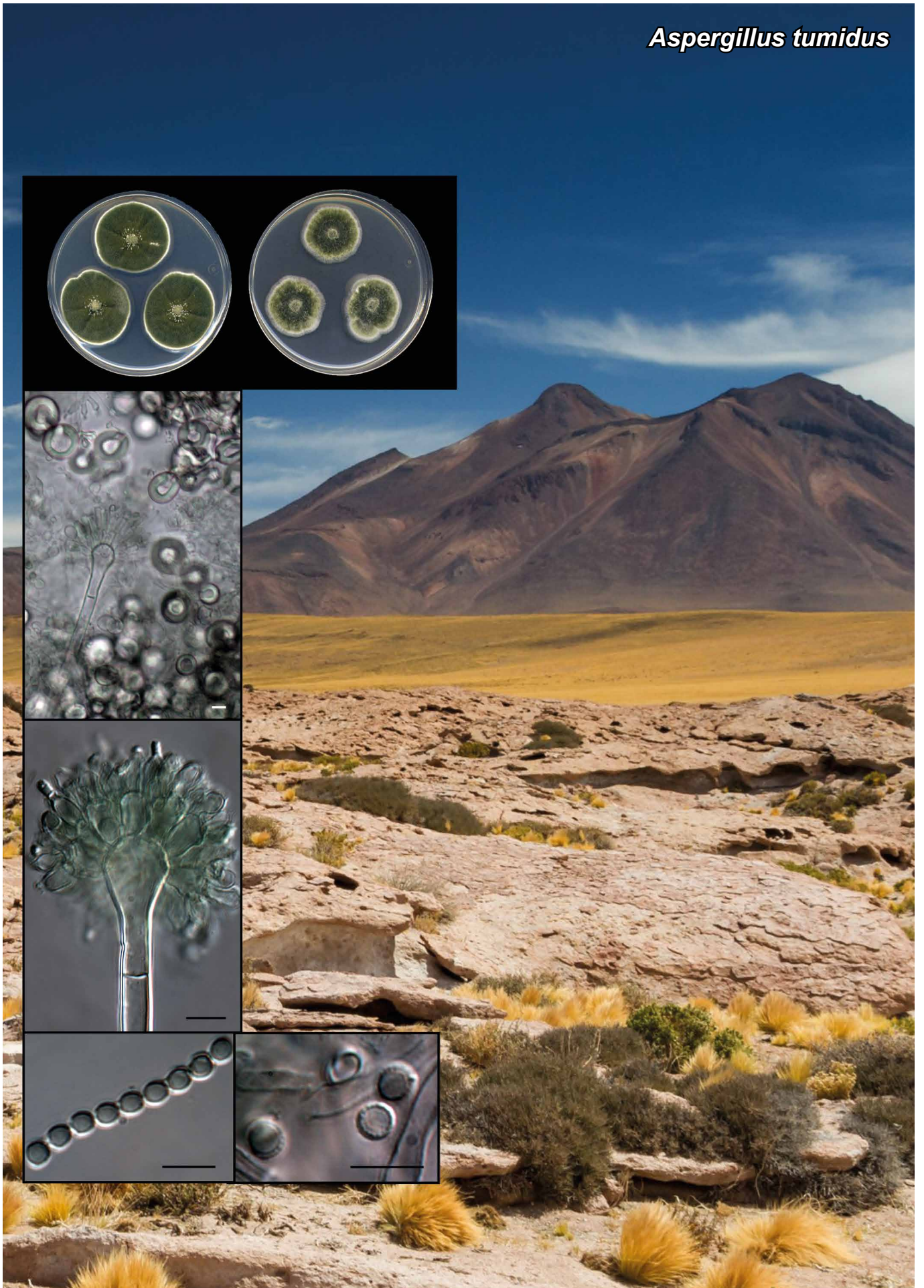


Aspergillus tumidus



Fungal Planet 719 – 13 July 2018

Aspergillus tumidus J.P.Z. Siqueira, Gené, Dania García & Guarro, *sp. nov.*

Etymology. Name refers to the swollen metulae on its conidiophores.

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

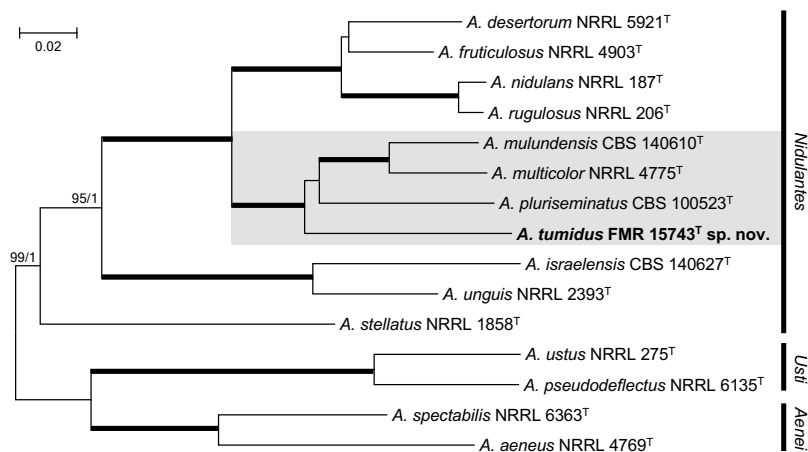
Conidiophores on MEA hyaline, commonly septate, smooth, 80–400 × 3–5.5 µm. *Conidial heads* biseriate, radiate, in shades of green. *Vesicles* subglobose, 5.5–15 µm wide. *Metulae* usually inflated, covering 75–100 % of the vesicle, 5.5–9.5 × 2.5–8 µm. *Phialides* flask-shaped, 6.5–10 × 2.5–5 µm. *Conidia* globose to subglobose, in shades of green, smooth-walled to finely roughened, 3–8 µm. *Hülle cells* frequently observed, mostly globose, sometimes irregularly shaped, 12–28 µm. *Ascomata* not observed.

Culture characteristics — (in the dark, at 25 °C after 7 d): Colonies on CYA attaining 34–37 mm diam, velvety to floccose, slightly radially sulcate, with elevated centre, mycelium white, margin entire to slightly lobulate; reverse light green (28A4) to dark brown (6F6) (Kornerup & Wanscher 1978); sporulation dense; with conidial masses dark green (29F7); soluble pigment absent; exudate absent. On MEA, colonies reaching 22–23 mm diam, floccose to loosely cottony, mycelium white to greenish white (28A2), margin slightly lobulate; reverse light orange (5A4); sporulation dense, with conidial masses pale green (28A3) to dark green (28F8); soluble pigment absent; exudate light green (28A4). On DG18, colonies reaching 22–23 mm diam, floccose to powdery, mycelium white to greenish white (28A2), margin slightly lobulate; reverse light orange (5A4); sporulation dense, with conidial masses pale green (28A3) to dark green (28E8); soluble pigment absent; exudate light green (28A4). On YES, colonies reaching 33–35 mm diam, floccose to slightly cottony, radially sulcate, mycelium white to greyish

green (29B3), margin lobulate; reverse light yellow (4A4) to dark brown (6F6); sporulation dense, with conidial masses greyish green (27C3 to 27E7); soluble pigment absent; exudate yellowish white (3A2) to light yellow (3A4). On OA, colonies reaching 29–31 mm diam, cottony at centre, powdery towards the periphery, mycelium white, margin slightly lobulate and with submerged mycelium; reverse white to dull green (28D4); sporulation moderately dense, with conidial masses deep green (29E8); soluble pigment absent; exudate absent. On CREA, colonies reaching 20–22 mm diam, loosely cottony, dense at the centre, mycelium white, margin irregular; sporulation moderately dense, with conidial masses greyish green (28B4); acid production absent. On CYA after 7 days, the colonies reached 32–34 mm diam at 30 °C; growth absent at 37 °C.

Typus. CHILE, Atacama desert, from soil, 2014, coll. A.M. Stchigel, isol. J.P.Z. Siqueira (holotype CBS H-23244, cultures ex-type FMR 15743 = CBS 143587, ITS, LSU, *BenA*, *CaM* and *RPB2* sequences GenBank LT903691, LT992011, LT903682, LT903685 and LT903688, MycoBank MB823690).

Notes — A multilocus phylogenetic analysis based on ITS, *BenA*, *CaM* and *RPB2* revealed that this species belongs to the *A. multicolor* clade in section *Nidulantes*, together with *A. multicolor*, *A. mulundensis* and *A. pluriseminatus* (Chen et al. 2016). Species in this clade show low genetic similitude, being easier to distinguish by sequence comparison. Nonetheless, phenotypic differences could be observed in order to differentiate the new species from others. *Aspergillus multicolor* has pink to purple drab mycelium and pink Hülle cells; *A. mulundensis* presents conidial masses pale green to blue green (Chen et al. 2016); and *A. pluriseminatus* produces only the sexual morph (Stchigel & Guarro 1997).



Colour illustrations. Chile, Atacama desert, from soil, 2014, coll. A.M. Stchigel, isol. J.P.Z. Siqueira (holotype CBS H-23244, cultures ex-type FMR 15743 = CBS 143587, ITS, LSU, *BenA*, *CaM* and *RPB2* sequences GenBank LT903691, LT992011, LT903682, LT903685 and LT903688, MycoBank MB823690).

Maximum Likelihood tree inferred with MEGA v. 6 software (Tamura et al. 2013) from the combined ITS, *BenA*, *CaM* and *RPB2* regions from the ex-type strains (°) of the species included in the *A. multicolor* clade of section *Nidulantes*, and selected *Aspergillus* sections *Nidulantes*, *Usti* and *Aenei* species. Maximum likelihood bootstrap support values ≥ 70 % and Bayesian posterior probabilities ≥ 0.95 are displayed at the nodes. Thickened branches correspond to fully supported clades (100/1). The *A. multicolor* clade is indicated in the grey box and the novel species in bold face.