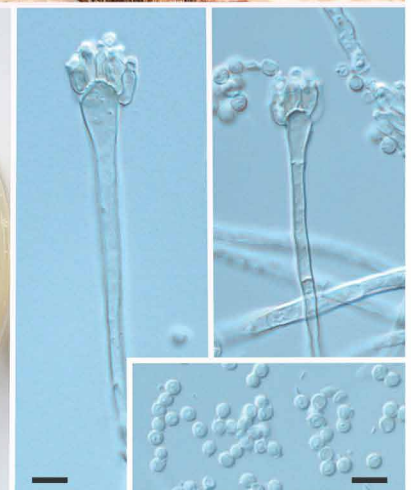
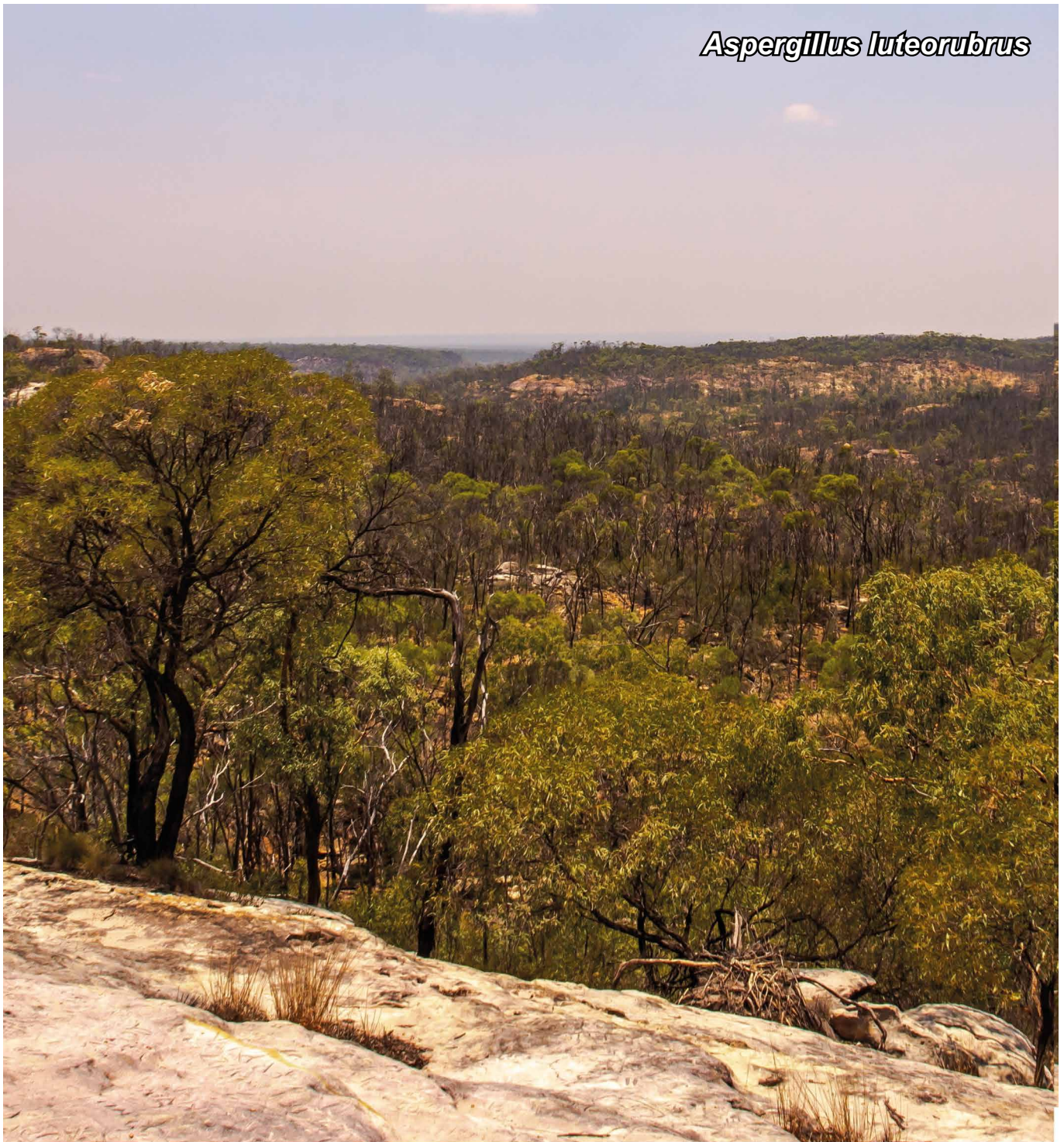


Aspergillus luteorubrus



Fungal Planet 1064 – 29 June 2020

***Aspergillus luteorubrus* Pitt, sp. nov.**

Etymology. Named for the colony colours on CYA plates: Latin *luteus*, yellow and *ruber*, red.

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

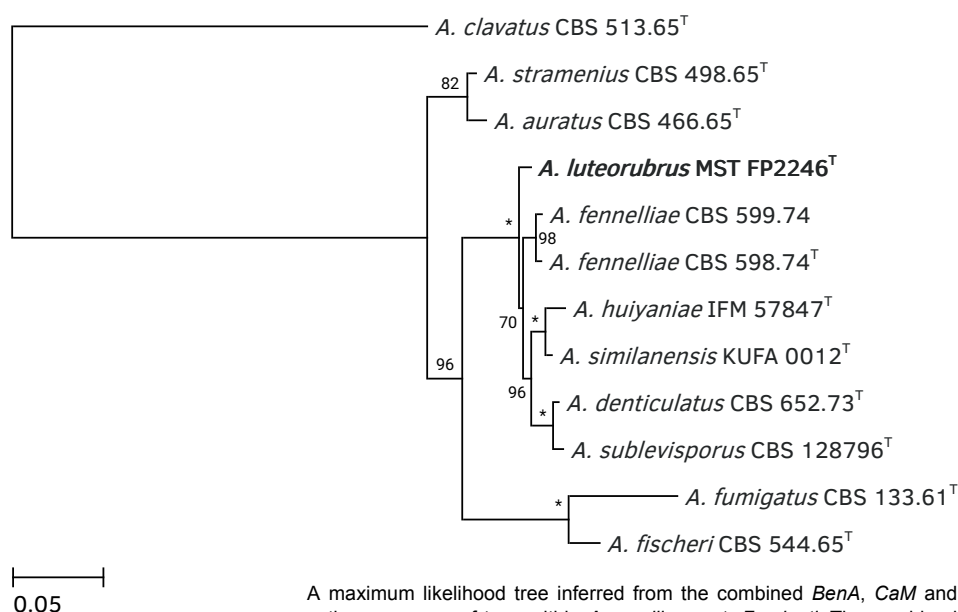
Conidiophores borne from aerial hyphae, slender, (40–)100–200(–300) × 2–2.5 µm, with thin smooth walls, enlarging slowly to very small spatulate vesicles, 4–6(–7) µm diam; bearing few short phialides, 5–7 × 2.5–3 µm. *Conidia* spherical, 2–2.5 µm diam, smooth-walled, borne in short disordered chains.

Culture characteristics — Czapek yeast extract agar (CYA), 25 °C, 7 d: Colonies 38–42 mm diam, dense and velutinous, plane or lightly wrinkled; margins low to moderately deep, entire; mycelium pale yellow (M. 3–4A2–3); sporulation very light, inconspicuous or pale brown (M. near 4B3); exudate absent, soluble pigment sometimes produced, pale yellow; reverse bright yellow at the margins, otherwise intensely coloured, Cadmium Orange to Brownish Red (M. 5–8A–C8). Malt extract agar (MEA), 25 °C, 7 d: Colonies 50–60 mm diam, plane, dense and velutinous to floccose; mycelium white to very pale yellow, in age becoming bright yellow (M. 4A3) centrally; sporulation inconspicuous; exudate and soluble pigment absent; reverse centrally Cadmium Orange (M. 5–6A–B7–8), paler yellow (M. 4A4–4A8) towards the margins. 25 % Glycerol nitrate agar (G25N), 25 °C, 7 d: Colonies 10–12 mm diam; pale yellow. 37 °C, CYA, 7 d: Colonies 55–60 mm diam, of white or pale yellow mycelium; reverse Amber to Yolk Yellow (M. between 3 and 4B7–8).

Media formulations are from Pitt & Hocking (2009); (M.) capitalised colours and notation are from Kornerup & Wanscher (1978).

Typus. AUSTRALIA, Queensland, White Mountains National Park, from soil in a dry creek bed, 2004, J.I. Pitt (holotype DAR 85045, cultures ex-type FRR 5427 = MST FP2246 = CBS 146723; ITS, *BenA*, *CaM* and *RPB2* sequences MT179305, MT184781, MT184787 and MT184793, MycoBank MB835226).

Notes — *Aspergillus luteorubrus* clusters in *Aspergillus* subg. *Fumigati*, near *A. fennelliae*. This heterothallic species produces cleistothecia and ascospores characteristic of the sexual genus *Neosartorya*. As only a single strain of *A. luteorubrunneus* is known, it is not clear whether this is an asexual species or, perhaps more likely, heterothallic. *Aspergillus luteorubrus* differs from this and other closely related species in colony colours, conidial size, shape and ornamentation. Differences also exist in molecular phylogeny and chemistry (unpubl. data).



A maximum likelihood tree inferred from the combined *BenA*, *CaM* and actin sequences of taxa within *Aspergillus* sect. *Fumigati*. The combined sequence alignment was partitioned by marker; substitution models for each partition were chosen according to the corrected Information Criteria using ModelTest-NG v. 0.1.6 (Darriba et al. 2020). The K80+G4 was used for *BenA* sequences, K80+G4 for *CaM* and TPM+I for actin. The tree was constructed using RAxML-NG v. 0.9.0 (Kozlov et al. 2019). Bootstrap support values are derived from 1000 bootstrap replicates. Alignment in TreeBASE (study S25915).

Colour illustrations. View out over White Mountains National Park. Colonies of *Aspergillus luteorubrus* grown on CYA, left obverse, right reverse, for 7 d at 25 °C; fruiting structures and conidia. Scale bar = 5 µm.

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