Austroboletus yourkai
Austroboletus yourkae F.E. Guard, McMull.-Fish., Van Wyk, T. Lebel, & Halling, sp. nov.

Etyymology. Named for the Yourka Bush Reserve, on which this species occurs.

Classification — Boletaceae, Boletales, Agaricomycetes.

Pileus 2.5–5 cm broad, convex to plano-convex to plane, dry, to very slightly tacky at first, but not viscid or glutinous, tomentose, sometimes densely so, to matted tomentose, amber yellow (4B6.5,4; Körnerup & Wanscher 1983), even at margin (veil remnants apparently lacking) but with a white, barely visible sterile projection in one medium sized basidiome. Flesh white, unchanging. Odour fishy with a metallic tang, sometimes mild. Taste mild. Tubes adnexed, pale pink when young, vinaeous pink with age, bruising slightly brownish. Stipe 2.5–5 cm long, 0.6–1.5 cm broad, straight or curved, subclavate to equal and tapered at base, dry, coarsely alveolate-reticulate, white, developing orange stains at base in situ, slowly developing some pale brown stains at base with handling, with interior white, unchanging, pale yellow in base of mature basidiome, with white mycelium at base. Basidiospores 11.9–18.6 × 4.9–7 μm, (av. = 13.72 × 5.93, Q = 2.314, spores n = 30, specimens n = 2) subfuscoid to ellipsoid, inequilateral in profile, hyaline in KOH, white, unchanging. Clamp connections absent.

Habit, Habitat & Distribution — Gregarious on soil in dry sclerophyll woodland with Cryptomeria intermedia, Eucalyptus resinifera. So far, only known from northeastern Queensland.

Notes — In Australia, there are at least 17 species of Austroboletus, some of which are still undescribed (Halling et al., unpubl. data). The species that has the closest match to A. yourkae, in terms of morphology (spore ornamentation) and BLAST searches in GenBank for nrLSU and rpB1, rpB2 gene sequences is A. austrovirens (Fechner et al. 2017). A RAxML analysis was conducted via Geneious v. 9.3.1 from concatenated LSU and rpB1 data (https://www.geneious.com). Austroboletus austrovirens occurs in wetter sclerophyll habitats in northern Queensland but is easily distinguished by the green pigments on the pileus surface and stipe reticulum as well as the apricot orange pigments on the stipe surface between the reticulum ridges (Fechner et al. 2017, f. 1a).

Phylogram distinguishing Austroboletus yourkae. Phylogram from RAXML analysis generated via Geneious v. 9.3.1 of concatenated rpB1 and LSU sequences for a selection of Austroboletus species, including some other bolete genera, with Pulveroboletus as outgroup. Thickened lines indicate ML support 0.90 and all bootstrap values are noted at branches. Scale bar shows substitutions per site. Novel sequences generated in this study are in bold text.

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