Afroboletus vietnamensis
Afroboletus vietnamensis T.H.G. Pham, A.V. Alexandrova, O.V. Morozova, sp. nov.

Etymology. The epithet refers to the country Vietnam where the species was collected.

Classification — Boletaceae, Boletales, Agaricomycetes.

Basidiomata medium large sized, boletoid. Pileus 30–80 mm diam, initially hemispherical, becoming convex, greyish yellow (2B3–4, 2C3–4, Körnerup & Wanscher 1978), darker in the centre (2D3–4, 3D3–4), paler towards the margin (up to 2A2–3), surface dry, velutinous, tomentous or felted. Hymenophore adnate to shortly decurrent to the stipe, 6–8 mm thick, light yellow to greenish yellow (1A4–6), becoming greyish yellow (2B4–5, 3B5–6, 4B4–5); pores irregular, 1–2 mm diam. Stipe 60–90 mm, x 10–20 mm, cylindrical or fusiform, often tapered towards the base, dry, deeply broadly alveolate-reticulate, pale yellow (2A3–4), staining pale orange near the base (5A3–5). Context pale yellow (2A2–4), staining in the stipe brownish red when bruised, with reddish spots in the stipe base. Smell weak, taste not reported. Spores (11–)12–12.5(–15) x (8–)8.5–9.5(–11) μm, Q = (1.2–)1.3–1.4(–1.5), dark brown, ellipsoid in outline: amygdaliform with 1–2 μm broad longitudinal wings, sometimes with outgrowths and crystals (SEM). Basidia 38–48 x 11–12 μm, 4-spored, narrowly clavate to clavate, clampless. Cheilocystidia 52–99 x 5–18 μm, fusoid to lageniform with more or less long neck, pleurocystidia similar. Hymenophoral trama regular, made up of long, thin, cylindrical hyphae, 70–250 x 4–6 μm. Pileipellis a trichoderm, made up of cylindrical hyphae, 5–9 μm wide, with brown intracellular and in some hyphae also incrusting pigment. Dermatocystidia of two types: simple lageniform, 37–52 x 8–10 μm, with intracellular light brown pigment, and complex, abundant in the central part, 18–80 x 6–10 μm, fusiform, lageniform, septate: basal part with light brown diffuse intracellular pigment and apical – with bluish black agglutinate intracellular and sometimes additionally incrusting pigment. Stipitipellis a hymeniderm of basidiolae-like clavate cells, 19–30 x 7–10 μm. Caulocystidia 68–130 x 11–16 μm, lageniform, sometimes septate. Clamp connections absent.

Habit, Habitat & Distribution — In groups on soil in evergreen tropical forests. Known from Vietnam.

Typus. VIETNAM, Dak Lak Province, Yok Don National Park, 40 km to the northwest of Buon Ma Thuot city, N12.941306° E107.788167°, h = 212 m, on soil in evergreen tropical forest on the top of the hill dominated by Fagaceae, Euphorbiaceae, Sapindaceae, Ebenaceae and Meliaceae, 13 May 2014, A. Alexandrova (holotype LE311973, ITS and LSU sequences GenBank MH087059 and MH087058, MycoBank MB824736).

Additional material examined. VIETNAM, Binh Phuoc Province, Bu Gia Map District, Bu Gia Map National Park, N12.204509° E107.204415°, h = 346 m, on soil in foothill polydominant tropical forest dominated by Dipterocarpaceae, Lythraceae, Rubiaceae, Theaceae, Lauraceae and Arecales, 3 May 2013, A. Alexandrova, LE311972, ITS sequence GenBank MH087060.

Notes — The genus Afroboletus has been described based on material from equatorial Africa (Pegler & Young 1981). It is characterised first of all by the dark brown ellipsoidal spores with a complex eusporial ornamentation of 8–12 large, winged, longitudinal costae, intercostal ridging, and basal thickened rim. Afroboletus vietnamensis resembles A. malaysianus, which was invalidly described from the Peninsular Malaysia (Chan 2010). However, A. vietnamensis differs from A. malaysianus by the paler colour of the pileus, by lageniform cheilocystidia with narrow neck, and by the pileipellis structure with characteristic dermatocystidia containing three types of pigment – diffuse brown intracellular, agglutinated dark-blue intracellular and incrusting. Although A. vietnamensis does not cluster in the phylogenetic tree with representatives of any known boletoid genera, including African Afroboletus, we consider the introduction of a new genus as premature.