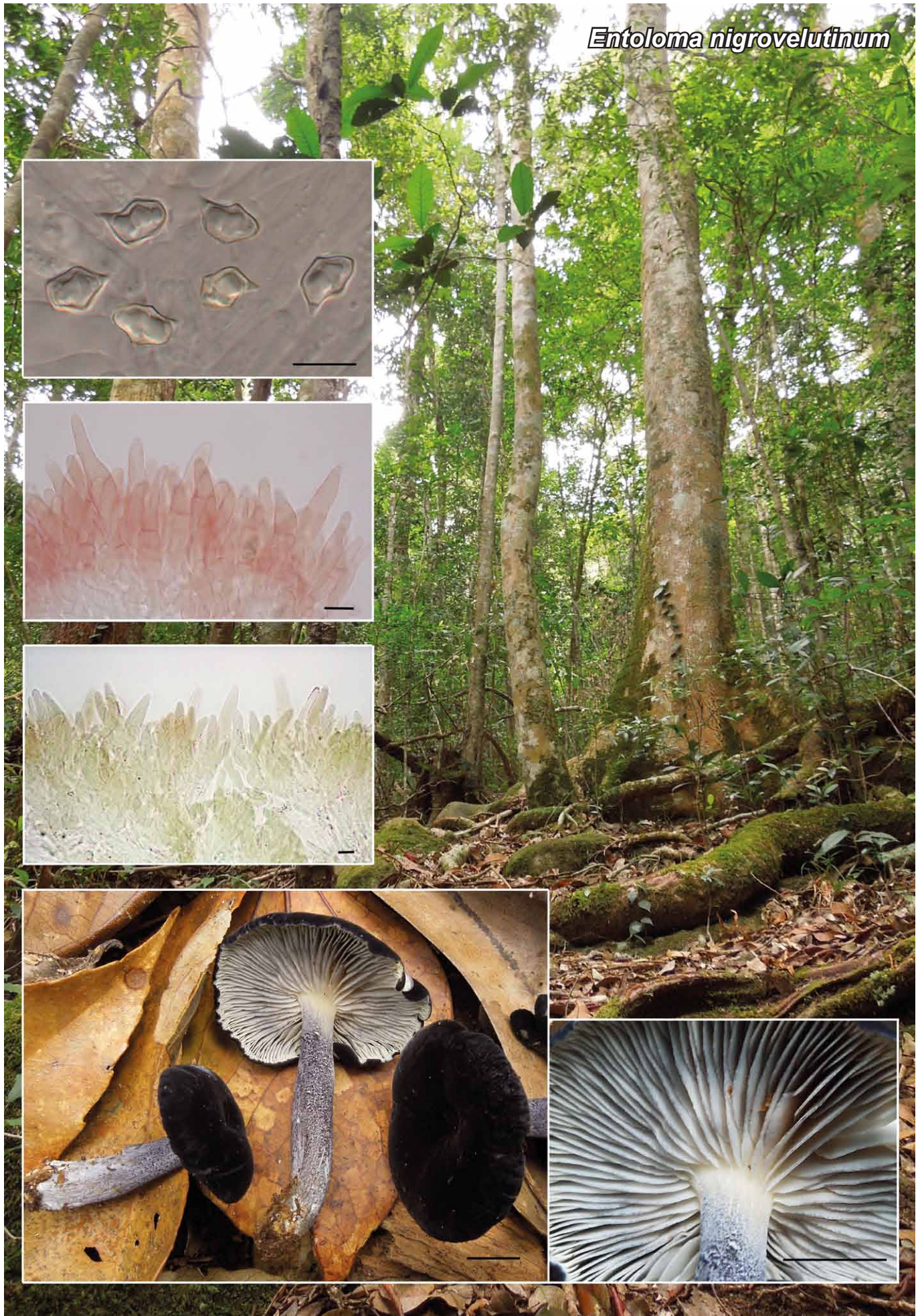


Entoloma nigrovelutinum



Fungal Planet 632 – 20 December 2017

***Entoloma nigrovelutinum* O.V. Morozova & A.V. Alexandrova, sp. nov.**

Etymology. The epithet refers to bluish black and velvety pileus surface – from Latin *nigrus* (black) and *velutinus* (velvety).

Classification — *Entolomataceae*, *Agaricales*, *Agaricomycetes*.

Basidiomata medium-sized, collybioid to tricholomatoid. *Pileus* 15–40 mm diam, initially hemispherical to convex, becoming applanate with or without central depression, with involute margin, not hygrophanous, not translucently striate, blackish blue to dark violet (18F6–8, 19F6–8; Kornerup & Wanscher 1978), entirely uniformly velvety. *Lamellae* moderately distant, adnexed, adnate-emarginate or adnate with small decurrent tooth, bluish grey (19B2–3), becoming greyish pink, with dark blackish blue serrulate edge. *Stipe* 30–70 × 4–6 mm, cylindrical, broadened or tapering towards the base, longitudinally striate, covered with blackish blue (19F6–8) squamules on a whitish background, with white apex, white tomentose at base. *Context* white, bluish under the pileus surface. *Smell* faint, taste not reported. *Spores* (8.5–)9.5(–10.5) × (6–)6.5(–7) μm, Q = (1.4–)1.5(–1.6), heterodiametrical, with 5–6 angles in side-view. *Basidia* 36–40.5 × 9.7–10.5 μm, 1–4-spored, narrowly clavate to clavate, clampless. *Cheilocystidia* 35–65 × 5.5–10.5 μm, forming a sterile edge, cylindrical, lageniform or fusiform, sometimes septate with dark intracellular pigment. *Pileipellis* a well-differentiated trichoderm of cylindrical to slightly inflated or fusiform hyphae 10–20 μm wide with swollen terminal elements and bluish violaceous intracellular pigment, brownish in KOH. *Caulocystidia* as cylindrical hairs, 40–120 × 6–10 μm. *Clamp-connections* absent.

Habit, Habitat and Distribution — In small groups on soil in tropical montane evergreen mixed forests. Known from Vietnam.

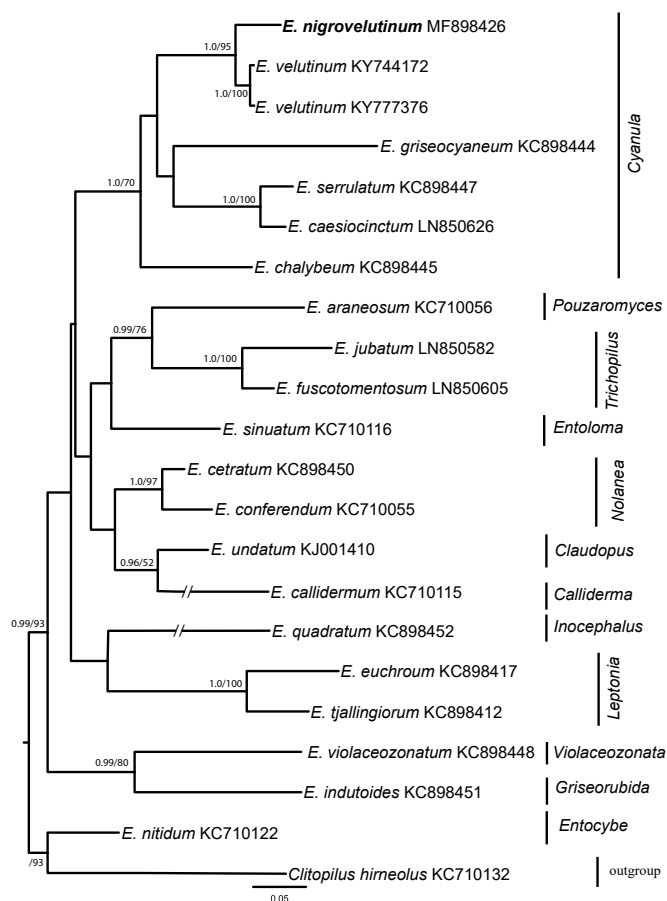
Typus. VIETNAM, Đắk Lắk Province, Krông Bông District, Bông Krang communes, Krông Kmar, Chu Yang Sin National Park, 1.5 km W of Chu Pan Phan Mt, 12.375567°N 108.354404°E, alt. 1 700 m, tropical montane evergreen mixed forest (*Fagaceae*, *Magnoliaceae*, *Theaceae*, *Podocarpaceae*), 9 Apr. 2012, A. Alexandrova (holotype LE295077, ITS and LSU sequences GenBank MF898426 and MF898427, MycoBank MB822676).

Notes — *Entoloma nigrovelutinum* is a remarkable species with bluish black basidiomata characterised by a trichoderm structure of the pileipellis and absence of clamp-connections. The structure of pileipellis makes it superficially similar to species of the subgenus *Trichopilus* (Aime et al. 2010) or *Calliderma* (Morgado et al. 2013). Due to the stipitipellis structure it also has a resemblance to some *Leptonia* species (Morozova et al. 2014), or members of the newly proposed section *Violaceozonata* with *serrulatum*-type lamellae edge. However, the

Colour illustrations. Vietnam, Chu Yang Sin National Park, tropical montane evergreen mixed forest, type locality; spores; cheilocystidia; pileipellis; basidiomata (all from holotype). Scale bars = 1 cm (basidiomata), 10 μm (spores, cheilocystidia and pileipellis).

absence of clamp-connections combined with the form of the cheilocystidia suggests that this species belongs to the subgenus *Cyanula*. The position of the species within the *Cyanula*-clade has been confirmed based on the molecular analysis.

The closest species *Entoloma velutinum* from USA (Tennessee) differs by the more slender habit, deeply depressed pileus, and p-distance = 4 %.



Phylogenetic tree derived from Bayesian analysis based on nrITS1-5.8S-ITS2 data. Analysis was performed under GTR model, for 5 M generations, using MrBayes v. 3.2.1 (Ronquist et al. 2012). The ML analysis was run in the RAXML server (<https://embnet.vital-it.ch/raxml-bb/>) (Stamatakis et al. 2008). Posterior probability (PP > 0.95) values from the Bayesian analysis followed by bootstrap support values from the Maximum Likelihood (BS > 50 %) analysis are added to the left of a node (PP/BS).

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