Entoloma ekaterinae
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**Entoloma ekaterinae** O.V. Morozova, Noordel., K. Nara, Dima & Brandrud, sp. nov.

**Etymology.** Named in honour of Ekaterina Malysheva, Russian agraricologist, known particularly as an investigator of the mycobiotic of Far East and collector of the type specimen of this species.

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

*Basidiomata* small to medium-sized, collybioid. *Pileus* 10–25 mm diam, conico-convex soon expanding to plano-convex with flat to slightly depressed centre, with deflexed then straight margin, hygrophanous, translucently striate almost up to the centre, at first densely covered with dark brown squamules (20D5–7, 20E5–7, 21D5–7), white ground between them and stripes (21B3–4, 21C3–5). *Lamellae* moderately distant, adnate-eminiginate, ventricose, whitish, becoming pink, with entire concolorous edge. *Stipe* 30–70 × 1.5–2 mm, cylindrical, smooth, polished, dark blue, concolorous with the pileus (20D5–7, 20E5–7, 21D5–7), white tomentose at base. *Context* white, greyish under the surface. *Smell* indistinct, taste not reported. *Basidiospores* 8–10(–11) × (5.5–)6.5–7(–8) μm, Q = (1.2–)1.4–1.5(–1.6), heterodiametrical, with 5–6 angles in side-view, relatively simple. Basidia 25–31 × 7.5–12.5 μm, 4-spored, narrowely clavate to clavate, clampless. *Cheliocystidia* 19–39 × 5–18 μm, broadly clavate, subglobose or sphaeropodunculate, sometimes septate, with several cylindrical or lageniform cells, not pigmented, forming sterile lamellae edge. *Pileipellis* cutis of cylindrical hyphae 2–7 μm broad with bundles of rising hyphae with globose to broadly clavate terminal elements (26–39 × 18–25 μm), forming squamules and central disk of pileus. *Clamp connections* absent.

**Habitat & Distribution —** In small groups on soil in *Quercus mongolica* forest and along the road in mixed forest of *Quercus mongolica*, *Acer mono*, *Tilia amurensis*, *Pinus koraiensis*, or in perennial herbaceous shrubs dominated by *Falloplia japonica*, some other *Poaceae* and *Asteraceae* plants. Known from Russia (Far East) and Japan.


**Notes —** *Entoloma ekaterinae* is characterised by the entirely dark-blue basidiomata, by the uniformly coloured pilei, which becomes distinctly translucently striate with dark squamules on a paler greyish blue background with age, and the trichodermal nature of the squamules, composed of globose elements. Microscopically, the sterile lamella edge composed of dense layer of clavate to subglobose and sphaeropodunculate cystidia is distinctive but, especially, in young specimens they can be mixed with cylindrical and lageniform cystidia. *Entoloma subcaesiellum*, described from the same region, is very similar morphologically, differing mainly in pileipellis structure (Noordeloos & Morozova 2010), but phylogenetically it is distinct. According to the molecular data, *Entoloma ekaterinae* belongs to the /chalybeum clade of the /Cyanula clade.

Phylogenetic tree derived from a Maximum Likelihood analysis based on nrITS1-5.8S-ITS2 data. Analysis performed in PhyML v. 3.0 (Guindon et al. 2010) using the non-parametric Shimodaira-Hasegawa version of the approximate likelihood-ratio test (SH-aLRT) and the GTR+I+Γ model of evolution. ML bootstrap support values > 60 % shown at the nodes. Sequences of the new species generated for this study are highlighted in **bold**.

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