

Cortinarius alboluteus Lebeuf, Andre Paul, Liimat., Niskanen, & Ammirati, in Ammirati, sp.nov.

IF554765

Basidiomata small- to medium-size, pileus surface bright yellow to darker yellow centrally, lamellae cream-colored at first, stipe cylindrical to clavate, white veil bright yellow, \pm sparce. Basidiospores $5.5\text{--}6.5$ (-7) \times $5.0\text{--}5.5$ (-6.0) μm , \pm subglobose, distinctly verrucose, slightly to moderately dextrinoid. Pileipellis: distinct epicutis of interwoven to entangled, often encrusted, cylindrical hyphae hypocutis not distinctly differentiated. Solitary to gregarious in deciduous with *Fagus* and mixed woods, *Quercus*, *Acer*, *Fagus*, *Plantanus*, *Liquidambar*. The ITS sequence (GenBank MH299787) is distinct from other members of *Cortinarius*. This species is most closely related to *C. cf. calaisopus* (GenBank JQ287696), from which it differs in the ITS regions by 15 substitutions and indel positions, a similarity of 97.6%. Pileus 15–35 mm diam, at first hemispherical then convex, with an incurved margin, uniformly coloured bright yellow or slightly darker yellow at the center, fibrillose. Lamellae adnate to broadly adnexed, close, cream-colored at first, convex, eroded at the margin. Stipe 40–75 mm long, 4–8 mm thick at apex, 4–17 mm at the base, cylindrical, slightly enlarged at base or clavate, white, fibrillose, solid at first, becoming stuffed or hollow. Universal veil bright yellow, thin, sparce, in the form of fibrils or bands on stipe. Cortina white. Context yellow, whitish at the periphery of stipe, somewhat darker yellow in pileus. Odor raphanoid or indistinct. Taste not recorded. Basidiospores $5.5\text{--}6.5$ (-7) \times $5.0\text{--}5.5$ (-6.0) μm , \pm subglobose or slightly broad ellipsoid (rarely larger pip-shaped), distinctly, moderately to more coarsely verrucose, slightly- to moderately dextrinoid, some collapsed in Melzer's reagent. Basidia 4-spored, mostly $28\text{--}32 \times 7.5\text{--}9.0$ μm , clavate, colorless, some with granular contents. Lamella trama hyphae colorless, smooth or slightly encrusted. Pileipellis: epicutis hyphae mostly 4–9 μm wide, \pm cylindrical (apices rounded to tapered), interwoven to entangled or \pm radially arranged, often encrusted, sometimes strongly so with yellowish to colorless plaques and bracelets, walls refractive, colorless to yellowish, \pm thickened hypocutis not distinctly differentiated, hyphae interwoven, \pm radially arranged, \pm cylindrical, mostly 4–12 μm wide, colorless or slightly yellowish, walls smooth to encrusted. Clamp connections present. Exsiccatae: Pileus surface uniformly ochre yellow or darker at the center, lamellae medium rusty brown, stipe light greyish yellow, context light brownish yellow. UV Fluorescence: The exsiccatae show no colour change from the colour in day light. KOH: Not recorded. Ecology and Distribution: Growing solitary or in small groups, sometimes a few individuals fasciculate. Occasional. In rich soil in deciduous with *Fagus* and mixed forests. Known from Eastern North America, from Québec and Ontario (Canada) south into Connecticut, New Jersey, Maryland, Pennsylvania, North Carolina and Alabama (USA). Discussion: This is a distinctly coloured species of *Cortinarius* with small, \pm subglobose basidiospores, a pileipellis with a distinct epicutis of entangled to interwoven hyphae, commonly with yellow encrusted refractive walls, and an indistinct hypocutis. This species has been incorrectly identified as *Cortinarius luteus* Peck, which based on sequence data from the type specimens is *C. limonius* (Fr.) Fr. The phylogenetic position of *C. alboluteus* is uncertain. Its closest known relatives are in the Southern Hemisphere and more data will be needed for a more accurate placement. Holotype: USA. Connecticut. New London County. Groton, Pequot Woods. 1 Aug 2015, collected by G Yager, coll R Lebeuf, HRL2038 (holotype DAOM, isotype WTU) Genbank no. MH299787. Additional Specimens Examined: Canada. Quebec. MRC Portneuf, Saint-Thuribe, Rang Saint-Leon, mesic deciduous forest, *Acer*, *Fagus grandifolia*, with some *Taxus canadensis*, 13 Sept 2015, coll. A Paul, R Lebeuf HRL2150 (WTU), GenBank no. MH299788. USA. New Jersey. Burlington County. Rancocas, mixed woods, *Quercus*, *Acer*, *Fagus*, *Plantanus*, *Liquidambar*, 20 Aug 2011, coll. T & J N Burghardt (WTU).

Holotype DAOM, Lebeuf HRL2038.

Etymology: For the white and bright yellow colors of the basidiomata