

**Cortinarius subsulfurinus** Ammirati, Dima, Liimat., Niskanen & Garnica, sp.nov.

**IF551407**

Pileus 40-90 mm diam., hemispheric to convex or broadly convex, disc broadly umbonate to plane, margin involute at first and remaining so for some time, viscid or sticky when dry, center with dark spots or small patches of dried gluten, margin finely fibrillose to faintly fibrillose streaked, margin at first pale yellow green, yellow, or dull light greenish yellow becoming dirty greenish yellowish brown, center light yellowish olive, brownish yellow, yellow brown or olive brown or with slight reddish brown tones. Lamellae yellow at first becoming more olive yellow to olive brown then yellowish brown mature, adnexed, more or less crowded, edges uneven. Stipe 40-85 mm long, 11-18 mm thick above, base 25-40 mm thick, bulb marginate to obliquely marginate, pale yellow to pale citron yellow or slightly darker in places, basal mycelium white, universal veil yellow to lemon yellow on margin of bulb, cortina pale yellow to whitish. Context very pale yellow to pale dingy yellow in pileus and in bulb, brighter yellow to yellow greenish in stipe, interior somewhat whitish. Odor slightly parsley- or marjoram-like or none. Taste mild. Reaction with 30 % KOH: on pileus surface brownish to faintly reddish brown, on pileus context brownish, on stipe base (with veil) reddish, in stipe base brownish. Basidiospores 10.7-13.3 (-13.8) x 6-7.7  $\mu\text{m}$ , sublimoniform to limoniform, verrucose. Basidia 4-spored. Pileipellis simplex gelatinous surface layer composed of ascending to subparallel, cylindrical, colorless to yellowish hyphae, 3.5-4.5  $\mu\text{m}$  wide hyphae of epicutis more or less radially arranged, 5.5-7 (-10)  $\mu\text{m}$  wide, cylindrical to broadly cylindrical, colorless or with yellowish, greenish or brownish walls, some encrusted, some with brownish contents. Clamp connections present. Remarks: Distinguishing features include the yellow, brownish and olivaceous coloration which it shares with *C. sulfurinus* Quel. and *C. oliveopetasatus* M.M. Moser. The ITS sequence (GenBank no. KT351642, holotype) is distinct from the other members of Sulfurini clade and deviating from the closest relative *C. oliveopetasatus* (GenBank no. KF732363, holotype) in the ITS region by four substitutions and one indel positions. Ecology and distribution: Known from western North America and northern Rocky Mountains, in coniferous and mixed forests of conifers, *Populus* and *Betula*, often with *Picea*, August through September. Additional specimens: Canada, British Columbia, McDonnell FSR Smithers, F16425 (UBC) GenBank no. FJ039646 McCabe Trail Smithers, F16426 (UBC) GenBank no. FJ039647. U.S.A., Washington, Skagit County, Easy Pass Trailhead, T. Niskanen 09-034 (H) GenBank no. KT351643, and JFA 12399 (WTU) GenBank no. EU056994 Wyoming, Carbon County, Fourmile Meadow, JFA9942 (WTU) and IB 89/230, GenBank no. EU057063, Fremont County, Brooks Lake, JFA 12412 (WTU) GenBank no. EU056993. Etymology: The name refers to the similarity with *Cortinarius sulfurinus*. Holotype: U.S.A., Alaska, Fairbanks, Wedgewood Resort trails starting from the auto museum, mesic *Picea* dominated forest with some *Betula* and *Populus*, on rich ground, coll. K. Liimatainen & T. Niskanen, 16 Aug 2011, T. Niskanen 11-093 (H), GenBank no. KT351642.

Holotype H, T. Niskanen 11-093.