

Tube trama divergent from obscure central strand, hyaline in KOH, hyphae 5–7 μ in diam. Pileus trama interwoven, homogeneous, hyphae 6–10 μ in diam. Clamp connections absent.

Chemical reactions. KOH—flesh yellow in base of stipe. Guaiac—positive on surface of pileus and base of stipe.

Habit, habitat and distribution. Solitary to gregarious in soil under madrone (*Arbutus menziesii*). Known only from the watershed property of the San Francisco Water Department, San Mateo County.

Material studied. San Mateo County: Thiers 18193-type.

Observations. This species is easily recognized by the pale pink to apricot color of the pileus and the white scales on the stipe which never become dark brown or black. *Leccinum clavatum* appears somewhat similar but is readily distinguished by its darker and more intensely colored pileus, smaller spores, the pale lilac color of the pores when bruised and a different mycorrhizal host.

6. *Leccinum brunneum* Thiers, sp. nov.

Pileus 6–10 cm latus, siccus, glaber, fuscus. Caro alba, demum fusca. Tubuli 1–2 cm longi, albi, demum bubalini, tactu brunnei. Stipes 8–15 cm longus, 1.5–3 cm crassus, clavatus, albus, fibrilloso-squamosus; squamulae atrae. Sporae 15.5–19.5 \times 4–5 μ , fusoideae. Cystidia 35–50 \times 8–12 μ , hyalina. Globuli pigmenti in hyphis cuticulae absentes in “Melzer’s reagent.”

Typum legit H. D. Thiers, n. 20753, Luther Pass, Eldorado County, Calif., Sept. 6, 1967, in herb. San Francisco State College conservatum.

Pileus 6–10 cm broad, convex when young becoming broadly convex to pulvinate to plano-convex to irregular in outline at maturity; surface dry but may be viscid or subviscid in wet weather, dull, glabrous to finely subtomentose or obscurely appressed fibrillose, occasionally becoming somewhat fibrillose with age; color dark brown (“bister” to “warm sepia” to “Prouts brown”), sometimes somewhat paler brown (“cinnamon-brown” to “Verona brown” to “snuff brown”) with age, drying dark dull brown; margin incurved, with conspicuous sterile cuticular flaps. Context 1–2.5 cm thick, white when first exposed, changing to fuscous with no reddish intermediate phase, fuscous color sometimes fading after prolonged exposure. Taste and odor mild.

Tubes 1–2 cm in length, depressed, white when young becoming pale olive (“pale olive-buff”) when mature, staining brown (“clay color” to “buckthorn brown” to “Mikado brown”) when bruised, color fading in some after bruising; pores angular, up to 1 mm broad, concolorous.

Stipe 8–15 cm long, 1.5–3(–4) cm broad at the apex, clavate, solid; surface dry, covered with small fibrillose scales, ground color white, scales white at first becoming darker with maturity. Context white

when first exposed then becoming fuscous directly as in the pileus, sometimes becoming blue in the base.

Spores brown ("cinnamon-brown") in deposit.

Spores (14-) 15.5-19.5 \times 4-6 μ , ochraceous in KOH, some showing a dextrinoid reaction in Melzer's reagent, fusoid to subcylindric to subellipsoid, inequilateral; walls smooth, moderately thick.

Basidia 30-35 \times 7-11 μ , hyaline in KOH, clavate to pyriform, 4-spored. Hymenial cystidia 35-50 \times 8-12 μ , scattered to abundant, often inconspicuous, some staining pale brown in KOH and dark reddish brown in Melzer's reagent, fusoid to fusoid ventricose to clavate. Caulocystidia 24-37 \times 7-12 μ , clavate to fusoid to clavate with elongated, tapering apices, typically dark brown but sometimes hyaline in KOH.

Pileus cutis differentiated as a trichodermium of tangled hyphal tips, pale ochraceous in KOH, tawny to russet in Melzer's reagent; terminal cells relatively long and narrow, tapered somewhat at the tip, walls sometimes asperulate, pigment globules not forming when mounted in Melzer's reagent, hyphae 11-15 μ in diam. Tube trama hyaline, divergent from a distinct central strand, hyphae 3-7 μ in diam. Pileus trama interwoven, homogeneous, hyaline in KOH, hyphae 5-9 μ in diam. Clamp connections absent.

Chemical reactions. No distinctive reactions observed.

Habit, habitat and distribution. Gregarious to scattered in soil under aspens. Known only from the higher elevations in the Sierra Nevada, perhaps because of a similar restriction of its only known mycorrhizal host.

Material studied. Alpine County: Thiers 20818. Eldorado County: Thiers 20745, 20747, 20749, 20751, 20753-type, 20756, 20759, 20767. Mono County: Thiers 20963.

Observations. The dull dark brown color of the pileus readily distinguishes this species. It is most likely to be confused with *L. fibrillosum* but the color changes of the exposed context are different and the pileus is not strongly fibrillose. *Leccinum brunneum* is distinguished from *L. obscurum* by the difference in the color of the cap and the lack of incrustations on the cuticular hyphae. *Leccinum subspadiceum*, another brown species, is distinct because of the smaller spores, cinnamon-buff colored pores and the yellow color in the dried stipe.

7. *LECCINUM INSIGNE* Smith, Thiers & Watling, Michigan Bot. 5: 160. 1966.

Pileus 6-17 cm broad, convex to globose when young becoming broadly convex to plano-convex to highly irregular with broad, shallow depressions or pits at maturity; surface dry to moist, occasionally sub-