

dull cinnamon veil distinguish it from *P. fulvozonata*, *P. brunnescens*, and *P. highlandensis*.

151. *Pholiota luteobadia* sp. nov.

*Pileus* 8–20 mm *latus, late convexus, glaber, glutinosus, badiorubrus; contextus luteus; lamellae luteae, angustae, confertae; stipes* 1–2.5 cm *longus, 1–1.5 mm crassus, luteus, subfibrillosus. Sporae* 6–7.5 × 3.8–4.2 μ; *pleurocystidia* 48–75 × 10–15 μ *subacuta; cheilocystidia* 33–55 × 8–16 μ, *clavata, submucronata vel fusioide ventricosa et ad apicem obtusa. Specimen typicum in Herb. Univ. Mich. conservatum est; legit prope Wilderness Point State Park, Emmet Co., Mich. 24 Sept. 1953. Smith 43222.*

*Pileus* 8–20 mm broad, broadly convex with an inrolled margin, surface glabrous, slimy, dark bay red over all and remaining this color in drying. Context yellowish, thin, pliant, odor and taste not recorded.

Lamellae narrow close, adnate, ochre yellow and retaining much of this color in drying.

Stipe 1–2.5 cm long, 1–1.5 mm thick, equal, yellowish and drying with a yellow tone, veil rudimentary, stipe surface at maturity merely with a thin coating of fibrils, darkening only slightly at the base.

Spores 6–7.5 × 3.8–4.2 μ, smooth, apical pore minute; shape in face view elliptic to narrowly ovate, in profile elliptic to oblong; color in KOH dark cinnamon, in Melzer's reagent paler; wall about 0.25 μ thick.

Basidia 16–20 × 5–6 μ, yellow in KOH, fading to hyaline, 4-spored, clavate. Pleurocystidia abundant, 48–64 (75) × 10–15 μ, fusoid ventricose with subacute to obtuse apex, rarely branched, walls thin, content homogeneous and yellow to hyaline. Cheilocystidia abundant, 33–55 × 8–16 μ clavate to utriform or merely fusoid-ventricose.

Gill trama of a central area of parallel non-gelatinous smooth hyphae yellowish in KOH becoming hyaline, the walls smooth and the cells not greatly inflated (all young); subhymenium a very narrow subcellular zone of hyphal cells (1–2 deep) possibly subgelatinous (very slightly refractive in KOH). *Pileus cutis* a very thick pellicle of gelatinous ochraceous often incrustated hyphae 2–3 μ diam., loosely interwoven; hypodermium bright ferruginous, the hyphae heavily incrustated but hyphae not (yet) greatly enlarged. Context of yellowish then hyaline thin-walled closely interwoven hyphae. Clamp connections present.

HABIT, HABITAT, AND DISTRIBUTION: Gregarious in a burned area, Wilderness Park, Mich., Emmet Co., Sept. 24, 1953. Smith 43222, type.

OBSERVATIONS: This is a distinctive species both in the field and in the herbarium by virtue of the dark red pileus and yellow gills and stipe. Of the microscopic features the very weak development of a subhymenium appears significant, but old specimens have not been available for study.

152. *Pholiota molesta* sp. nov.

Illustrations: Pls. 7a, 70b.

*Pileus* 2–4 cm *latus*, *late convexus*, *pallide luteolus* (“pale pinkish-buff”), *viscidus*. *Lamellae pallidae angustae, confertae*. *Stipes* 3–7 cm *longus*, 5–10 mm *crassus*, *subalbidus*, *fibrillosus*. *Sporae* 5.5–6.5(7.5) × 3.5–4 μ. *Pleurocystidia* 45–66(70) × 8–12(16) μ *in ligno semiusto*. *Specimen typicum in Herb. Univ. Mich. conservatum est; legit prope McCall, Idaho. 23 Juni 1962, Smith 65008.*

*Pileus* 2–4 cm broad, broadly convex with an incurved margin which for a time is fringed with a thin layer of veil remnants, “pale pinkish-buff” overall (young), developing a reddish or brownish flush in age, thinly glutinous, glabrous except for minute veil particles or fibrils near margin, somewhat virgate. Context white; odor mild, taste fungoid. KOH slowly orange-yellowish, FeSO<sub>4</sub>—no reaction.

*Lamellae* adnate, pallid like *pileus*, becoming cinnamon-buff to wood-brown, crowded, narrow, edges even and concolorous.

*Stipe* 3–7 cm long, 5–10 mm thick, surface at first whitish-fibrillose overall and whitish beneath the fibrils, equal or narrowed downward, solid, watery pallid within, cortex whitish, not discoloring below, the fibrillose (veil) layer separating into zones or patches and becoming a dingy brownish orange, terminating as a faint annular zone, white and silky above the zone.

Spores 5.5–6.5 (7.5) × 3.5–4 μ, smooth, no apical pore present, in face view elliptic to ovate, in profile somewhat inequilateral, ventral line nearly straight as seen in optical section, dorsal line humped toward apiculate end or merely convex, wall about 0.3 μ thick, color in KOH dull cinnamon to dull tawny, in Melzer’s reagent pale tawny.

*Basidia* 4-spored, 24–30 × 4.5–6 μ, hyaline in KOH, pale yellowish in Melzer’s reagent. *Pleurocystidia* abundant, 45–66 (70) × 8–12 (16) μ, fusoid-ventricose with subacute to obtuse apex, wall thin smooth and hyaline, content homogeneous and hyaline, rarely with yellow to brown content. *Cheilocystidia* 28–45 × 8–15 μ, clavate to subfusoid or fusoid-ventricose, walls thin smooth and hyaline, content homogeneous and hyaline. *Caulocystidia* none found.

*Gill trama* of a central area of more or less parallel floccose hyphae hyaline or nearly so in KOH; hyphae 4–6 μ broad before cells inflate, walls thin to slightly thickened (“double”); subhymenium a distinctly differentiated layer of gelatinous hyphae. *Pileus cuticle* a thick gelatinous pellicle of hyphae 2–5 μ diam. walls smooth to roughened, hyaline to yellowish in KOH; *hypodermium* a layer of floccose hyphae with bright orange-rusty walls in KOH, walls mostly smooth. Context hyphae with thin to slightly thickened “double” walls, smooth, cells inflated. Clamp connections present. All hyphae inamyloid.

**HABIT, HABITAT, AND DISTRIBUTION:** On burned area, Idaho, June. Smith 65008, type.

**OBSERVATIONS:** The distinctive characters of this species include the pale pinkish-buff young *pileus* which develops a reddish or brownish flush, the short thick *stipe* the white veil which becomes dingy brownish

orange, and the separation of the veil into zones or patches on the stipe. These features distinguish it from other carbon-inhabiting species. The pale pileus of immature basidiocarps is the best feature for distinguishing the species from *P. highlandensis* in the field, and the lack of caulocystidia will distinguish it in the herbarium. Since in most *Pholiota* species the stipe darkens at the base we believe more observations on this non-darkening species are desirable.

153. *Pholiota brunnescens* sp. nov.

Illustrations: Text figs. 325-327; 447-450; pls. 40a, 71.

*Pileus* 2-7 cm *latus*, *convexus* *demum* *late* *convexus* *vel* *obtus* *umbonatus*, *glutinosus*, *squamulosus*, *glabrescens*, *sordide* *luteo-brunneus*, *subhygrophanus*. *Lamellae* *adnatae*, *angustae*, *confertae*, *albidae* *demum* *cinnamomeae*. *Stipes* 4-6(9) cm *longus*, (4)8-10 mm *crassus*, *aequalis*, *albidus* *demum* *pallide* *luteus*, *tactu* *brunneus*, *luteo-fibrilloso-cingulatus*. *Sporae* 6-7 × 4-4.5 μ. *Pleurocystidia* 48-70 × 9-16 μ, *fusoide* *ventricosa*, *saepe* *bifurcata*. *Caulocystidia* 40-120 × 15-40 μ *versiformia*. *Specimen* *typicum* *in* *Herb. Univ. Mich. conservatum* *est*; *legit* *prope* *Lake Tahkenitch, Ore., Nov. 18, 1935, Smith 3525*.

*Pileus* 2-7 cm broad, convex with an incurved margin, expanding to plane or retaining a low umbo, at times slightly depressed around the umbo, viscid to glutinous, at first sparsely decorated with small, whitish veil remnants forming evanescent fibrillose squamules, "Prout's-brown," "chestnut-brown," "tawny-olive," or "snuff-brown" (dark yellow-brown) margin at times fading to "apricot-orange." Context rather thick, dingy watery brown; odor and taste mild or slightly disagreeable.

Lamellae adnate to adnexed, at first whitish, becoming dull cinnamon, narrow, crowded, edges even or nearly so.

Stipe 4-6 (9) cm long, (4) 8-10 mm thick, equal, whitish to ivory-yellow, with numerous concentric fibrillose zones of citrine-yellow veil remnants, the surface staining tawny in age or where handled.

Spores 6-7 × 4-4.5 μ ovate to subelliptic in face view, obscurely inequilateral to elliptic in profile, smooth, wall slightly thickened ( $\pm 0.3 \mu$ ), apex with an extremely minute pore (1.4), pale to medium tawny in KOH, pale tawny to ochraceous in Melzer's reagent.

Basidia 18-22 × 5-6 μ, 4-spored, hyaline in KOH, yellowish in Melzer's reagent. Pleurocystidia 48-70 × 9-16 μ, abundant, fusoid-ventricose, apex obtuse, wall thin and hyaline, content homogeneous or with coagulated ochraceous content in neck as revived in KOH, in Melzer's reagent the coagulated material rather rusty-ochraceous to dingy orange-brown, many forked (with 2 necks). Cheilocystidia 32-47 × 9-14 μ, subfusoid to broadly fusoid or fusoid-ventricose, thin-walled, hyaline to ochraceous in KOH, smooth. Caulocystidia in tufts, voluminous 40-120 × 15-40 μ, thin-walled, smooth, content homogeneous, clavate to clavate-mucronate to fusoid, some forked, wall yellowish in KOH.



