

forming the viscid pellicle. *H. purus* has much the stature of *H. calyptraeformis*, but its white pileus and glutinous stipe at once distinguishes it. Peck (1907) says that *H. calyptraeformis* var. *niveus* Cke. scarcely differs from *H. purus*, but we found no cystidia on Peck's type.

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**Hygrophorus singeri** Sm. & Hes. var. *singeri*

Sydowia 8: 331. 1954

*Hygrocybe singeri* (Sm. & Hes.) Singer, Sydowia 11: 355. 1957.

Pileus 1–3 cm broad, conic, becoming broadly conic, color reddish orange to yellow, translucent-striate to disc, blackening in age, glabrous, slimy-viscid. Context very soft, greenish yellow, blackening when cut or bruised; odor and taste not distinctive.

Lamellae ascending and attached at very apex of stipe, pale orange when young and finally greenish yellow, blackening where bruised, close, broad, 2 tiers of lamellulae.

Stipe 4–6 cm long, 3–5 mm thick, equal, pale orange-yellow becoming greenish yellow, blackening where bruised, slimy-viscid over entire length (as in *H. laetus*).

Spores 9–12 × 5–6  $\mu$ , elliptic in face view, in side view slightly bean-shaped, smooth, yellowish in Melzer's solution. Basidia 36–42 × 9–11, 4-spored. Pleurocystidia and cheilocystidia none. Gill trama parallel. Cuticle a gelatinous zone of narrow, repent hyphae (an ixocutis). No hypodermium differentiated. Pileus trama of radial hyphae. Clamp connections present. Stipe with narrow hyphae (3–5  $\mu$ ), gelatinous in KOH and present as an outer layer. Clamp connections present.

HABIT, HABITAT, AND DISTRIBUTION—Scattered on a wet bank under herbaceous plants, Oregon, Washington, Michigan, Mexico, and Argentina.

MATERIAL STUDIED—MICHIGAN: Smith 43520, 43618, 49825. OREGON: Smith 19162 (type, from East Fork, Salmon River, Mt. Hood, about 4300 ft.), 19606. WASHINGTON: Stuntz, Mt. Rainier National Park, Oct. 2, 1952. MEXICO: Singer M1538a. ARGENTINA: Singer M15.

OBSERVATIONS—This species is obviously in the *H. conicus* series, but the character of the viscid stipe is so unusual and striking that it cannot be regarded as other than a major character. One frequently finds specimens of *H. conicus* in which the stipe is soft to the touch and hence subviscid (or even doubtfully viscid in wet weather). These forms, however, are not to be confused with *H. singeri*. The latter often fruits during dry weather and yet the stipe is as viscid as

in *H. laetus*, so slimy that it is difficult to hold. The disjunctive distribution of this species, so far as now known, is interesting and peculiar.

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*Hygrophorus singeri* var. *albifolius*, var. nov.

*Pileus* 2–5 cm *latus, conicus, deinde conico-umbonatus, glutinosus, ochraceo-luteus, se obscurans deinde virescens, nigrescens siccus; lamellae albae, sub-caeruleae denique nigrae siccae, angustae; stipes* 10–12 cm *longus, 4–6 mm crassus, glutinosus, omnino flavus vel apice luteus, sub-viridis deinde nigrescens siccus; sporae* 9–13 × 6–7.5  $\mu$ , *ellipsoideae demum oblongae. Specimen typicum in Herb. Univ. Mich.; lectum Willamette, Ore., Nov. 16, 1947, Frank P. Sipe 1057.*

*Pileus* 2–5 cm broad at base, conic, conic-umbonate when expanded, glutinous, ochraceous orange beneath the gluten, becoming darker and then greenish, blackening in drying.

Lamellae white, bluish and finally black when dried, narrow ascending.

Stipe 10–12 cm long, 4–6 mm thick, equal, glutinous, yellow over all or orange at apex, smooth, greenish, and then blackening when bruised.

Spores 9–13 × 6–7.5  $\mu$ , elliptic to oblong, hyaline in KOH or content pale bister (from darkening process), yellowish hyaline in Melzer's solution. Basidia 2-spored, 38–50 × 9–14  $\mu$ , content often bister in KOH. Pleurocystidia and cheilocystidia none seen. Epicutis of gelatinous narrow interwoven hyphae. Clamp connections absent.

HABIT, HABITAT, AND DISTRIBUTION—Oregon, under fir, Willamette area, Nov. 16, 1947. Frank P. Sipe 1057.

OBSERVATIONS—The specimens had been pressed, which very likely accounts for their completely blackened condition. There are no clamps at the base of the basidium or on the cuticular hyphae. The floccose tissue of the cap revived poorly, and the apparent absence of clamps could be a failure to find them due to the condition of the material.

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*Hygrophorus ruber* Pk.

N. Y. State Museum Bull. 116: 32. 1907

*Hydrocybe ruber* (Pk.) Murr., North Amer. Flora 9: 379. 1916.

*Pileus* 1.5–5 cm broad, thin, conic, usually not expanded, acute or subobtuse, cuspidate or narrowly umbonate, bright red, not turning black in drying, viscid or glutinous.