

Collections studied:

ILLINOIS: Cook Co.: Paddock Woods Forest Preserve, 10 Jul., 1956, *Shaffer 834*. MICHIGAN: Livingston Co.: Fralick's Tree Farm, near Hell, 24 Sep., 1968, *Shaffer 6115*; two additional collections. Washtenaw Co.: Crooked Lake, Waterloo Recreation Area, 20 Jul., 1960, *Shaffer 2436*; Stinchfield Woods, south of Pinckney, 25 Sep., 1961, *Shaffer 3614*; Silver Lake area, Pinckney Recreation Area, 29 Jul., 1969, *Shaffer 6122*; eight additional collections. MASSACHUSETTS: Franklin Co.: Cricket Hill, south of Conway, 27 Jul., 1961, *Shaffer 3098*.

As Romagnesi (1967) stated, *Russula amoenolens* is *R. sororia* in the sense of Schaeffer (1952) and *R. pectinata* in the sense of Singer (1958) et al. However, Singer included western U. S. material such as *Smith 8572* that belongs in *R. cerolens*. The collections cited agree well with both Romagnesi's description of *R. amoenolens* and my French collections so identified in the field by him (e.g., *Shaffer 4357, 4477, 4492, and 4622*).

North American material of this species seems to have often passed under the names *Russula pectinata* and *R. pectinatoides*. *Russula amoenolens* differs from the latter in having larger, firm basidiocarps; darker, grayer pilei; more strongly acrid lamellae; a stronger spermatic-waxy odor; and paler spores.

7. *Russula cerolens* Shaffer, sp. nov.

FIGS. 29-33

Cuticula pilei sepiacea in centro, in margine pallidior; *trama pilei* cum lamellis sapore fortiter acri, *cerolens* in sicco; *sporae* pallide luteae in cumulo, 5.4-8.5(-9.0) \times 4.5-6.8 μ (ornamentatione exclusa), verrucis et cristis usque ad 0.3-0.5(-0.8) μ altis et connectivis, verrucis nonnunquam in catenis, ornamentatione reticulum inchoatum interdum formanti; *pseudocystidia hymenii* ope sulfovanilliniae atrantia; *subcutis pilei* ex hyphis conjunctivis intertextis et hyphis vascularibus constans; *epicutis pilei* primo trichodermium formans, mox inconspicua, pseudocystidia conspicua destituta. Holotypus: Sub Piceis, Lake Tahkenitch, Douglas Co., Ore., 12 Nov., 1935, *A. H. Smith 3447* (MICH).

PILEUS 4-8 cm broad; convex to plane with a slightly depressed disc, in age broadly depressed and with the margin upturned; sometimes split marginally; closely tuberculate-striate from the edge $\frac{1}{3}$ - $\frac{2}{3}$ the pileus radius. CUTICLE viscid when wet; glabrous; scarcely separable near the pileus edge; dark yellowish brown (Saccardo's Umber) to dark grayish yellowish brown (Sepia, Bister) centrally, moderate yellowish brown (Tawny-Olive) to light grayish brown marginally. TRAMA thick in the disc; strongly acrid (cuticle and lamellae included in piece tasted); disagreeable in odor, the dried specimens with a strong waxy

smell noticeable even above the odor of naphthalene; tinged the cuticular color just beneath the cuticle, otherwise white.

LAMELLAE unequal, the lamellulae few; adnate to nearly free; crowded or close; often forked at or near the stipe; white at first, then light yellow, stained yellowish brown.

STIPE 4–5 cm long, 1–2 cm thick; equal; dull; longitudinally rugulose; stuffed; white, often stained strong reddish brown or strong to dark yellowish brown basally.

COLOR REACTIONS (stipe surface): 10% FeSO₄ light reddish brown.

SPORES pale orange yellow (Light Buff) in mass; 5.4–8.5(–9.0) × 4.5–6.8 μ; usually elliptic to obovate, sometimes broadly so, or pip-shaped, rarely reniform. ORNAMENTATION of warts and short to long ridges, both up to 0.3–0.5(–0.8) μ high, the warts sometimes catenulate, and also a variable number of connectives; unusually variable in overall pattern, but occasionally forming a partial reticulum, rarely a complete one. SUPRAHILAR AREA usually a plage or with minute warts and lines, occasionally with a low, diffuse, amyloid patch, rarely ornamented like the rest of the spore wall.

BASIDIA 38–67 × 5.1–11.3 μ; clavate, in some basidiocarps elongate-clavate; 4-spored.

HYMENIAL PSEUDOCYSTIDIA 37–97 × 5.3–10.2 μ; subcylindric to clavate or fusoid-clavate, fusiform, or fusoid-ventricose; often papillate, capitate, or moniliform apically, sometimes simply rounded or subacute; in some basidiocarps often abnormally inflated or extruded-inflated (up to 17.0 μ broad) apically; with strongly SV+ contents; arising in the subhymenium or, more usually, in the outer part of the trama; embedded or projecting up to 40 μ beyond the basidioles; abundant.

SUBHYMENIUM 24–40 μ thick; pseudoparenchymatous.

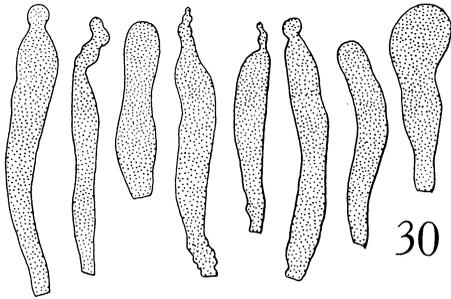
TRAMA with occasional, SV– to weakly SV+, granular vascular hyphae.

PILEUS SUBCUTIS 160–380 μ thick, evidently relatively thin at first, then thickening as the gelatinous matrix increases in volume; of horizontal- to ascending-interwoven, nongelatinous, hyaline to moderate or dark orange yellow connective hyphae 0.7–3.4(–6.8) μ broad; also with straight to tortuous, strongly SV+, glassy to granular vascular hyphae 2.8–10.2 μ broad, these often (if not always) the terminal cells of hyphae otherwise connective in nature and abundant in the lower part of the subcutis, less common or absent in the upper; also with rare to common, straight or curved, elongate-subcylindric or -fusiform, capitate or short-appendiculate pseudocystidia 70–170 × 2.3–5.2 μ which may extend into the epicutis.

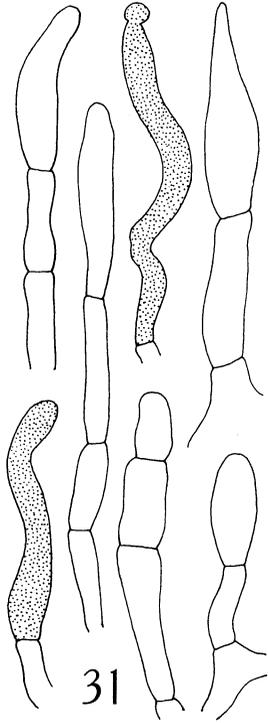
PILEUS EPICUTIS 40–50 μ thick; with a gelatinous matrix; at first a well-formed trichoderm of nongelatinous, sometimes branched, usually 3–6-celled, hyaline connective hyphal ends mostly 1.7–5.7 μ broad whose subapical cells may be slightly or rarely strongly inflated (up to 10.2 μ



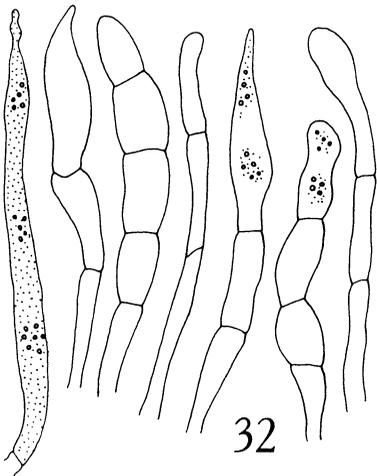
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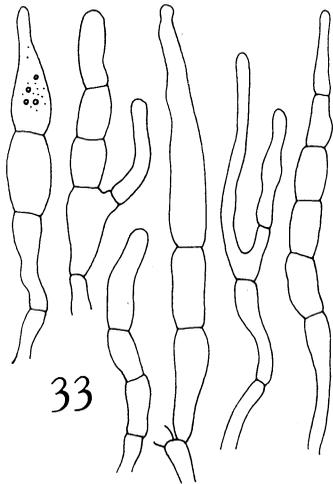
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broad) and whose apical cells are clavate, fusiform, or lanceolate and sometimes capitellate and may contain scattered, SV- to weakly SV+ contents; becoming discontinuous and inconspicuous, the epicutal hyphal ends then repent to erect and scattered or in small trichodermial patches.

STIPE SURFACE LAYER of longitudinal-interwoven, nongelatinous connective hyphae 1.2–4.5 μ broad which give rise to (1) hairs with \pm inflated cells up to 11.3 μ broad, (2) oval to fusiform cystidioid cells 10–17 \times 4.5–9.0 μ , and (3) pseudocystidia which are 34–62 \times 4.5–7.9 μ , subcylindric, lanceolate, clavate, or fusiform, sometimes capitate or short-appendiculate, and SV+; also with embedded, SV+ granular vascular hyphae 2.3–5.7 μ broad.

Gregarious on soil under conifers (pine, spruce), sometimes on dunes.

Collections studied:

OREGON: Tillamook Co.: Pacific City, 10 Nov., 1970, *Smith* 79794; Nestucca River at Fan Creek, 2 Nov., 1970, *Smith* 79477. Lane Co.: Blue River, 16 Nov., 1937, *Smith* 7839. Douglas Co.: Lake Tahkenitch, 11 and 12 Nov., 1935, *Smith* 3422 and 3447 (holotype of *Russula cerolens*). CALIFORNIA: Del Norte Co.: Crescent City, 9 Nov., 1937, *Smith* 8572.

Notes accompanying *Smith* 3447 and 79477 were adapted for the description of macroscopic structures of *Russula cerolens* whose basidiocarps I have seen only dried. Study of fresh specimens may reveal more clearly differences between this species and *R. amoenolens*; the most significant distinction now seems to be in spore ornamentation pattern (see the key to species and compare FIGS. 25 and 29).

8. *RUSSULA LAUROCERASI* Melzer, Činopsis Českoslov. Houby 243. 1920.
[citation from Petrak (1939)] FIGS. 34–37

Russula foetens var. *laurocerasi* (Melzer) Sing. Ann. Mycol., Berl. 40: 73. 1942.

PILEUS 3.5–13 cm broad; when young deeply pulvinate with an incurved margin, expanding through convex to plane with a depressed disc, in age concave or shallowly infundibuliform; prominently tuberculate-striate 4–20 mm from the edge inward. CUTICLE gelatinous-

FIGS. 29–33. *Russula cerolens*. 29. Spores (*Smith* 3422). 30. Hymenial pseudocystidia (*Smith* 3422). 31. Hyphal ends from stipe surface (*Smith* 3422). 32. Hyphal ends from pileus cuticle (*Smith* 79477). 33. Hyphal ends from pileus cuticle (*Smith* 3422).