



November 2013

## Lactarius Notebook 16

L. R. Hesler

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LACTARIUS GERARDII Pk.

On soil, in woods, Poughkeepsie, N.Y., leg. W. R. Gerard, September.

First Type (= label on box)

Spore deposit white; spores (7)8-10 x 7.5-9  $\mu$ , subglobose, globose, or broadly ellipsoid, warts 0.5-0.8  $\mu$  high, with broad bands forming a reticulum, occasionally a few fine lines. Basidia 52-58 x 7-9  $\mu$ , 4-spored. Pleurocystidia 38-63 x 6-11  $\mu$ , clavate, more or less buried, scattered, often absent; cheilocystidia 24-35 x 3-6  $\mu$ , cylindrical, fusoid, rarely capitate, at times numerous or again absent. Gill trama of irregular cells. Pileus trama vesiculose. Cuticle of 2-4 layers of cells, bearing a turf of pileocystidia, 25-50 x 3-7(12)  $\mu$ , cylindrical, clavate or flask-shaped, occasionally septate, yellowish brown. Stipe <sup>cuticle</sup> a brown zone 2-3 cells deep, bearing a turf of caulocystidia, 24-40 x 4-10  $\mu$ , versiform (cylindrical, clavate, bottle-shaped, ventricose), the subcuticular of hyphal which sometimes are subgelatinous. Clamp connections none.

Note: Second Type from Albany; Third Type from Croghan, Lewis Co. These agree with First Type.

LACTARIUS GERARDII Pk.

On soil, in woods, Poughkeepsie, N.Y., leg. W. R. Gerard, September.

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LACTARIUS GERARDII Pk.

On soil, in woods, Foughisepsie, N.Y., leg. W. R. Gerard, September.

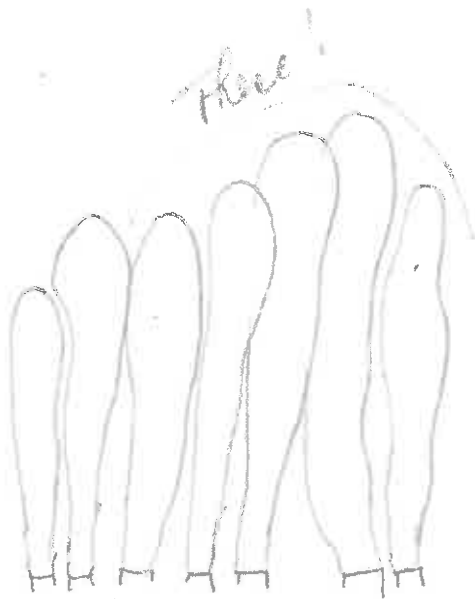
First Type

Spores 8-10 x 7.5-9  $\mu$ , subglobose, globose, or broadly ellipsoid, warts 0.5-0.8  $\mu$  high, with broad bands forming a reticulum, occasionally a few fine lines. Basidia 52-58 x 7-9  $\mu$ , 4-spored. Pleurocystidia 38-63 x 6-11  $\mu$ , clavate, more or less buried, scattered, often absent; cheilocystidia 24-35 x 3-6  $\mu$ , cylindrical, fusoid, rarely capitate, at times numerous or again absent. Gill trama cellular. Pileus trama vesiculose. Cuticle of pileus cellular, bearing a turf of pileocystidia, 25-47 x 3-6  $\mu$ , occasionally septate, yellowish brown. Cuticle of stipe of repent often subgelatinous hyphae, bearing a turf of yellowish-brown caulocystidia, 24-40 x 4-10  $\mu$ , versiform (cylindrical, clavate, bottle-shaped, fusoid, ventricose), arising from an epithelial zone of 2-3 cells. Clamp connections none.

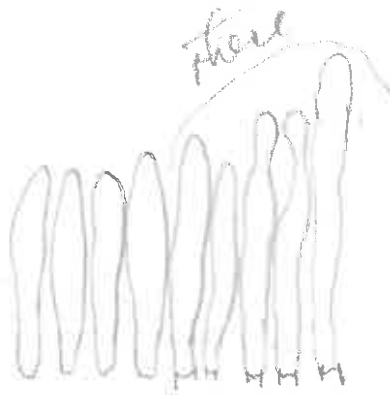
[ Note: Second Type from Albany; Third Type from Croghan, Lewis Co.  
These agree with First Type. ]

*Sactarius gerardii* PK.

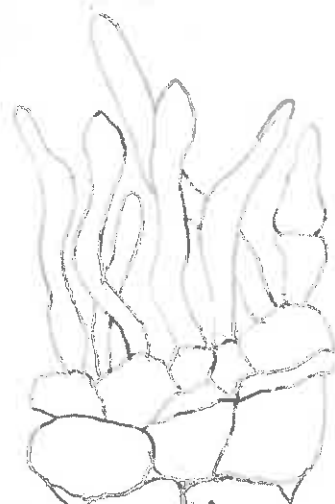
1<sup>st</sup> Type



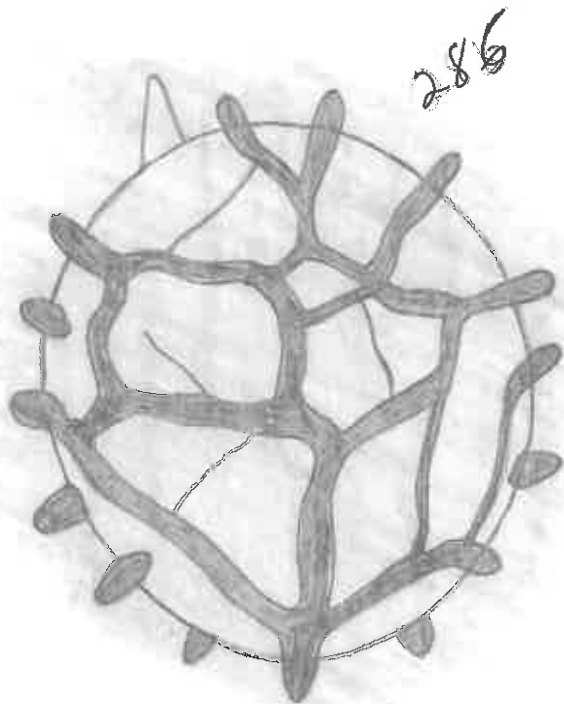
Fl - x 1000



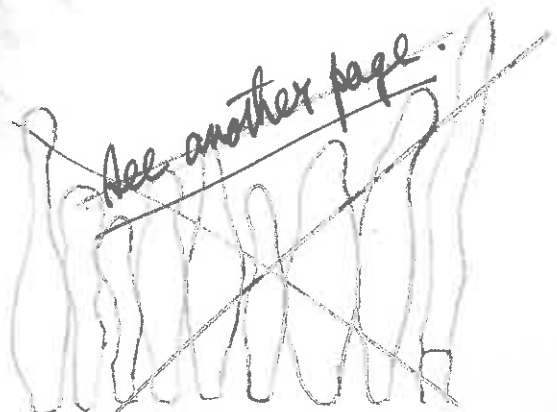
Ch - x 1000



Pileus cuticle + turf  
x 1000



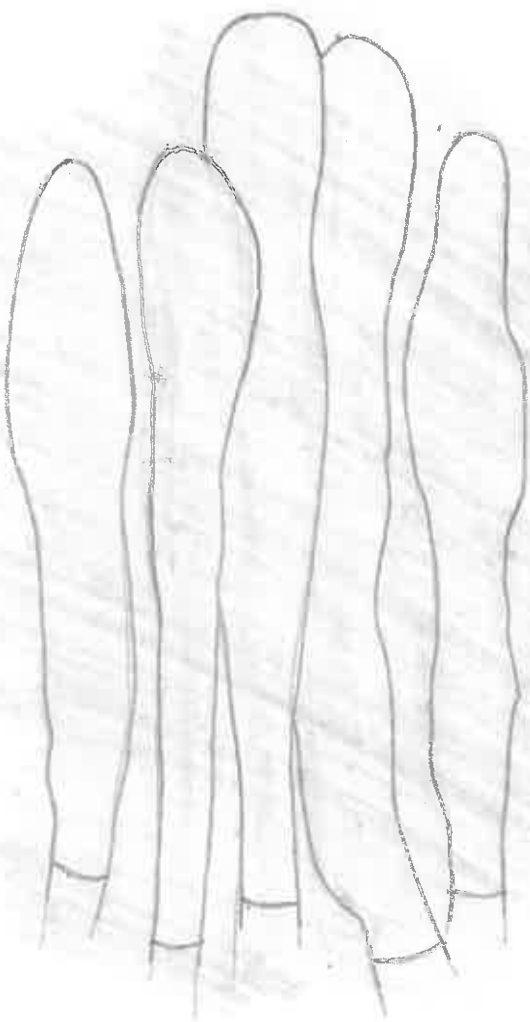
Sporic - x 8000



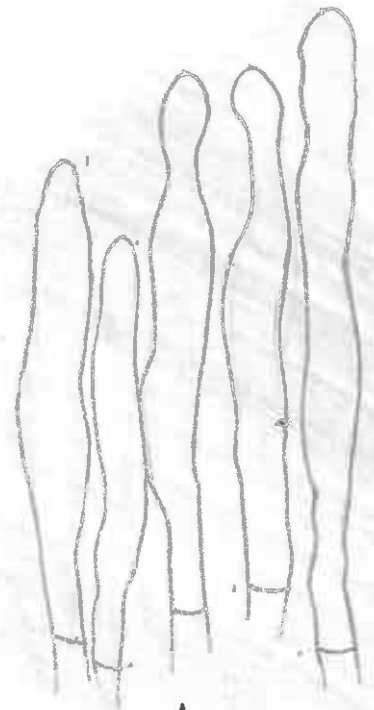
Canulo-turf x 1000

Lactarius gerardii Pk.

1<sup>st</sup> Type

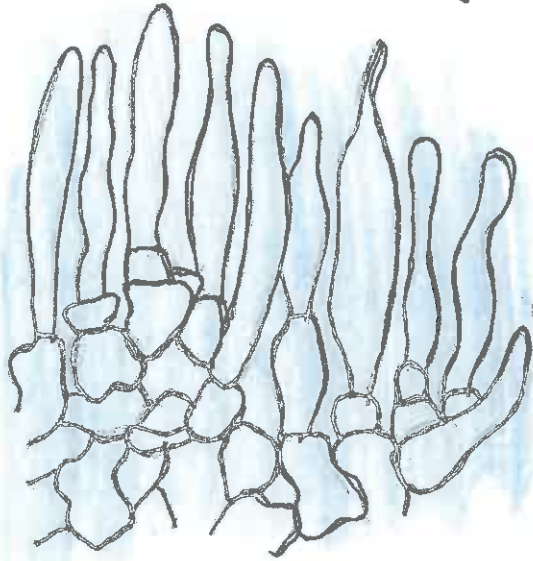


Pl - x 2000



Ch - x 2000

*Lactarius gerardii*  
Type (1<sup>st</sup> type)



1639

Pileus cuticle  
x 1000



1640

caulocystidia  
as terminal  
elements, forming  
a turf (trichodermium)

almost  
an epithelium

zone of subgelatinous  
hyphae

Stipe Cuticle - x 1000  
(caulo)

N.J.Sm-1691

LACTARIUS GERARDII

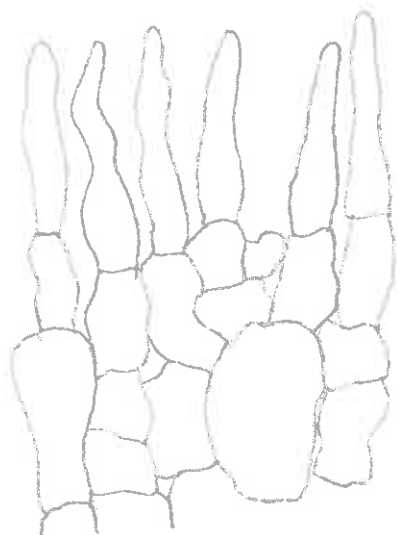
Marquette Co., Michigan, August 29, 1968

Spores 8-11 x 7-9  $\mu$ , warts 0.2-0.6  $\mu$  high, bands and lines forming a reticulum, at times partial. Otherwise typical.



*Saccarina gerardii*

NJ Sm - 1691



Pileus cuticle - x 1000

N.J.Sm-1701

LACTARIUS GERARDII

Marquette Co., Michigan, August 29, 1965.

Same as N.J.Sm-1691.

Ammirati - 1938

LACTARIUS GERARDII

Cespitose-gregarious in mixed woods, Upper Falls, Huron Mt. Club, Marquette Co., Michigan, July 25, 1968

Notes by Ammirati

Pileus 5-6.5 cm broad, margin edge incurved to decurved, margin ascendent, disc depressed but usually with slight umbo, overall more or less radially rugulose to wrinkled, dry, finely velvet-like, evenly light raw umber to Dresden brown over margin or with slight brownish olive tints, disc darker and more or less deep raw umber to mummy brown. Context white, brittle, solid or larvae eaten, latex watery and not changing (apparently not whitish); odor and taste slight to none.

Lamellae decurrent, subdistant, more or less ascendent, edges even, more or less thick, dull white developing dull cream color tones in age.

Stipe 4-5 cm x 15-20 mm apex, enlarged in central stipe then tapered to base or nearly equal, context whitish, hollow by larvae, brittle, fragile, surface more or less velvet-like with a fine subpruinose covering, whitish myceloid at base otherwise colored as pileus surface overall.

Spore deposit not obtained.

Notes by Hesler

(Not stated whether staining)

Spores 8.5-10(11) x 7.5-9  $\mu$ . Otherwise as in first Type.

*Actarins gerardii*  
Ammirati - 1938



ch. x 1000

3723

LACTARIUS GERARDII Pk.

Greenbrier, Tenn., August 5, 1934.

Spores 8-9.5 x 7.5-8.5  $\mu$ , globose or subglobose,  
warts 0.3-0.6  $\mu$  high, bands forming a reticulum.

Other characters as in Type.

Bigelow 3915      LACTARIUS GERARDII

Gregarious under spruce and fir, near Madawasha Lake, Aroostock Co., Maine, August 10, 1956. (Bigelow-11468 is same as 3915)

Notes by Bigelow

Pileus 4.5-6.5 cm broad, plane with the margin somewhat elevated in places, disc flat or with small umbo, not striate, surface very rugose about disc and usually also to margin, (somewhat reticulate-rugose), moist but not hygrophanous, obscurely short pubescent on disc to appressed fibrillose on margin (hard to see because of rugosity), color olive-brown (06 + 7-3<sup>0</sup>, 4<sup>0</sup>, 5<sup>0</sup> inc.), flesh whitish, thin, no odor and taste. Latex whey-like, not staining.

Gills short decurrent and somewhat plicate on stipe apex, distant, 6-10 mm broad, intervenose, rarely forked, whitish (near "cartridge buff," YV019-3<sup>0</sup>) edges even and straight, rather brittle.

Stipe 3.5-5 cm x 10-17 mm, equal, compressed at times, hollow, short pubescent, concolor with cap.

Spore deposit white.

Same as Bigelow 11468, according to Bigelow; his 11468 is L. gerardii.

5021

LACTARIUS GERARDII Pk.

Mt. LeConte, Tennessee, July 20, 1934.

Spores 7.5-9 x 6.5-8  $\mu$ . Otherwise as in Type, except that caulocystidia are more clavate, 15-40 x 2-7  $\mu$ , arising from cells, in turn the cells resting on a subgelatinous hyphal zone.

Sections made at the apex and near the base of the stipe showed the structure and component elements quite similar.

Sections made at apex of both young and fully mature stipes, showed that in the young ones the caulocystidia were predominantly more or less clavate; whereas in mature stipe the caulocystidia were more or less irregularly cylindrical-subventricose with an acute apex.

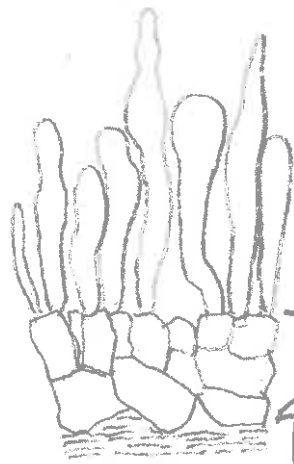
*Plectarimus gerardii* PK.

5021



[Caulo: mostly slender + subventricose irreg. cylindric, apices  $\pm$  acute]

fully mature stipe.



turf (brownish) of caulo.

$\pm$  epithelial zone

subgelatinous hyphal zone

Stipe cuticle

[young stipe: mostly, the caulo  $\pm$  clavate]



8057

LACTARIUS GERARDII Pk.

Cataloochee, N.C., July 28, 1935.

Spores 7-9 x 6-7.5  $\mu$ . Otherwise as Type.

8230                    LACTARIUS GERARDII Pk.  
Newfound Gap, N.C., August 18, 1935.

Spores 8-10.5 x 6.5-8  $\mu$ . Otherwise typical.

9064

LACTARIUS GERARDII Pk.

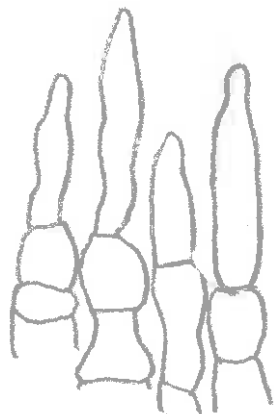
Cosby, Tenn., July 30, 1936.

Spores 8-10 x 7-9  $\mu$ , globose or subglobose.

Otherwise typical.

Sactarius gerardii PK.

9064



Carlo - X 1000

9093

LACTARIUS GERARDII Pk.

Clingmans Dome, N.C., August 2, 1936.

Spores 7.5-10.5 x 7-9  $\mu$ , globose to subglobose or short-ellipsoid. Otherwise typical.

9161

LACTARIUS GERARDII Pk.

Elkmont, Tenn., August 9, 1936.

Spores and other structures agree with the Type.

11344

LACTARIUS GERARDII Pk.

Highlands, N.C., September 9, 193<sup>7</sup>

Spores 8-10 x 7-8  $\mu$ , warts 0.3-0.5  $\mu$  high, bands forming a reticulum. Pleurocystidia 42-57 x 7-8  $\mu$ , more or less clavate, buried and inconspicuous, granular-spangled; cheilocystidia 25-32 x 5-7  $\mu$ , clavate-cylindric. Gill-trama cellular, with hyphae; subhymenium of small cells, more or less indistinct. Pileus cuticle cellular bearing pileocystidia. Stipe cuticle as in Type; rosettes none.

Bigelow 11468 LACTARIUS GERARDII

PHOTO

Baxter State Park, Maine, September 1, 1962.

(Bigelow says 11468 is same as 3915, see Card 3915)

Spores and other micro characters as in Type.





Bigelow-11468 : *Factarium gerardii* PK.

11473

LACTARIUS GERARDII Pk.

Mt. Lake, Va., Millikin, July 23, 1958.

Spores and other characters agree with Type.

Bigelow - 13253

LACTARIUS GERARDII

Stowe, Vt., Aug 3, 1964

Notes by Bigelow

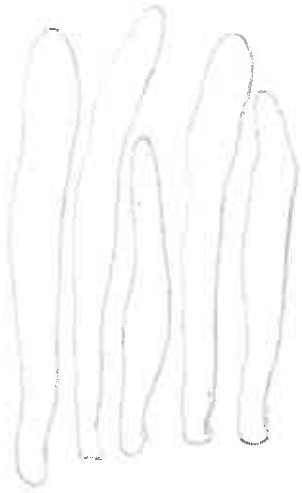
Cap umber. Gills white, distant, no pinking. Spores white.

Notes by Hesler

Spores 8-10 x 7.5-8 (9)  $\mu$ , ellipsoid to subglobose, bands forming a complete or partial reticulum, warts 0.4-0.8  $\mu$  high. Pleurocystidia 40-60 x 5-8  $\mu$ , clavate, cylindric, or subventricose, imbedded and inconspicuous; cheilocystidia 28-40 x 3-6  $\mu$ , †cylindric, subclavate, subventricose, at times abundant. Cuticle of pileus and of stipe as described.

*Lactarius Gerardii* PK.

Pajelow - 13253



PK - x 1000



Ch - x 1000

15771

LACTARIUS GERARDII Pk.

On soil, in spruce woods, Indian Gap, N.C., July 18, 1943.

Spores 8-11 x 7-8(9)  $\mu$ . Otherwise as in Type.

20119

LACTARIUS GERARDII Pk.

Claxton School, Anderson Co., Tenn., July 4, 1951.

Spores and other characters as in Type.

20909

LACTARIUS GERARDII

PHOTO

In mixed woods, Highlands, N.C., Coll. L. R. Hesler, July 20, 1953.

Pileus 4-13 cm broad, convex then upturned and depressed, velvety, dry, "snuff brown", paler at maturity (not matched), surface rivulose-rugose, azonate, margin even. Context white, unchanging. Latex white, unchanging, acrid.

Lamellae adnate-decurrent, white, not staining, sub-distant, 5-6-ranks, rather broad.

Stipe 5-8 cm long, 10-16 mm thick, velvety, concolor to pileus, equal, base and apex often contracted, apex plicate, dry, hollow.

Spores white in mass, 7.5-10 x 6-8(9)  $\mu$ , ellipsoid to subglobose or globose, warts 0.2-0.6  $\mu$  high, bands and a few lines forming a reticulum. Pleurocystidia and cheilocystidia, and the pileus and stipe cuticle as in the Type.



20909. *Faetarius gerardii*



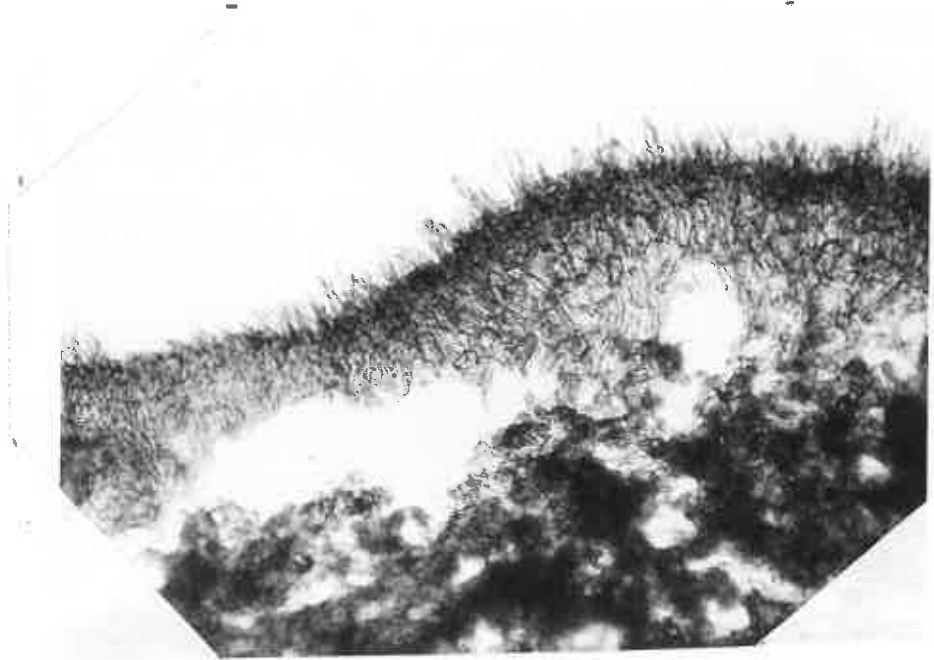


Fig. 8. - Lactarius gerardii Pk. (No. 20909) Tangential section through the pileus showing the cuticle with a turf of erect pilocystidia. X 275



Fig. 9. - Same as above, X 1250

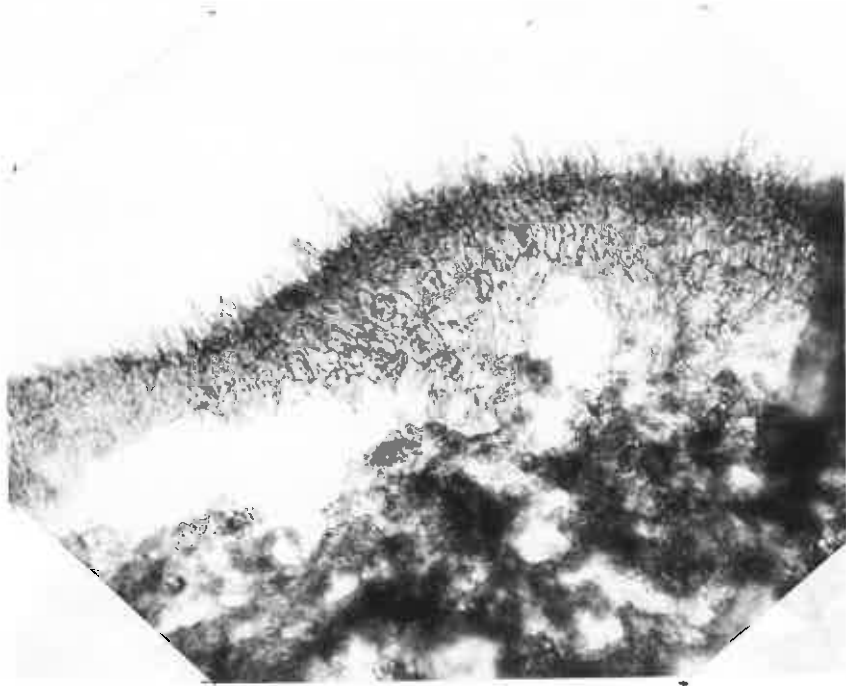


Fig. 8. - Lactarius gerardii Pk. (No. 20909) Tangential section through the pileus showing the cuticle with a turf of erect pilocystidia. X 275

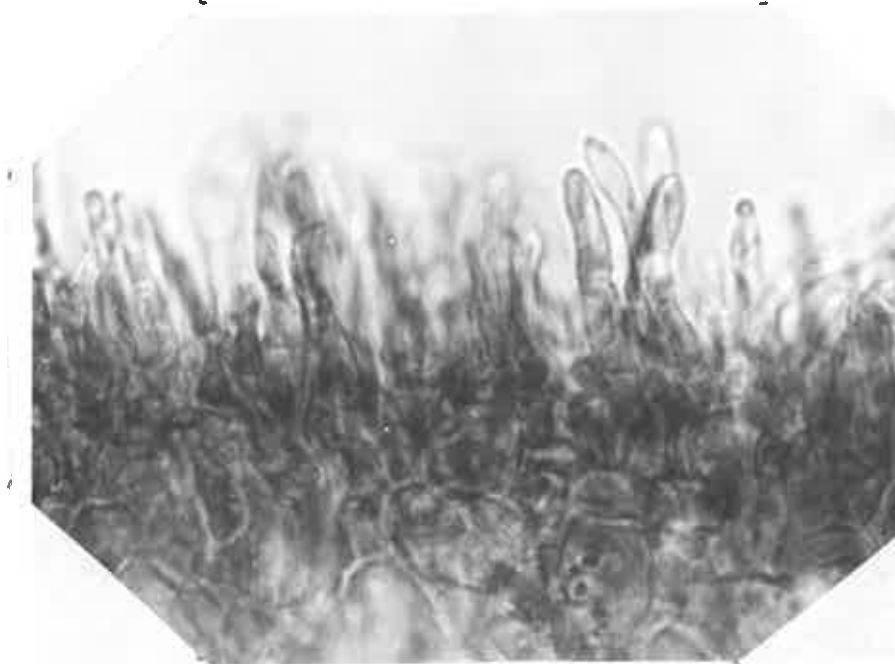


Fig. 9. - Same as above, X 1250

20922

LACTARIUS GERARDII Pk.

~~PHOTO~~

Fronyose woods, Highlands, N. C. Coll. & Det. L. R. Hesler,

July 19, 1953

Pileus 4-6 cm broad, convex, expanding, often upturned, small umbo, "dresden brown," dry, azonate, velvety, radiately rugulose, even. Flesh thin, white; odor mild, taste slightly acrid. Lamellae decurrent, white, finally pale cream, distant, 3.5-6 cm x 8-11 mm, concolor to pileus, dry, velvety, tapering subglobose, 7-9 x 6-8  $\mu$ , white in mass, bands forming a reticulum.

21304

LACTARIUS GERARDII Pk.

On soil, Abies forest, Clingmans Dome, July 9, 1965.

Pileus 3.5-4 cm broad, smoky olive (not matched), minutely velvety, radiately rugose on center or all over. Context white, unchanging; odor mild, taste astringent. Latex white, unchanging and not staining, mild.

Lamellae white then cream, medium broad, nearly distant, interveined.

Stipe 2.5-3 cm long, 6-12 mm thick, concolor, velvety, sometimes compressed.

Spores 8-10.5 x 6-8  $\mu$ , with bands forming a reticulum.

21848

LACTARIUS GERARDII Pk.

On soil, under hemlock, July 10, 1955, *Mt. Le Conte*

Spores and other characters usual.

22067

LACTARIUS GERARDII Pk.

PHOTO

In deciduous woods, near Lab., Highlands, N.C., Coll.

& Det.: LRH, August 21, 1955.

Pileus "Saccardo's umber." Lamellae white,  
nearly distant. Stipe tapering down, "Saccardo's umber."

Spores white in mass, 7-8.5(9) x 6-7.5  $\mu$  (slightly  
smaller than usual). Otherwise typical.



22067 - *Factorius gerardii*

22070

LACTARIUS GERARDII Pk.

PHOTO

On soil, in pine woods, near Lab., Highlands, N.C.,  
August 24, 1955.

Spores and other characters usual.



22337

LACTARIUS GERARDII Pk.

Photo

Under pine, Highlands, N.C., July 23, 1956.

Spores and other characters usual.



22337. *Faetarius gerardii*

24538

LACTARIUS GERARDII Pk.

PHOTO

Cades Cove, August 29, 1961.

Spores 8-10.5 x 7-9  $\mu$ . Otherwise typical.



Healy - ~~24538~~ 24538 Lactarius gerardii



24538

24538. *Fraxinarium gerardii* PK.

24717

LACTARIUS GERARDII Pk.

Under oak, Cades Cove, June 21, 1962.

Pileus 2.5-4 cm, convex, more or less radiately rugose, "Dresden brown," minutely velvety, dry, even. Context white, unchanging; odor and taste mild. Latex white, unchanging, mild.

Lamellae decurrent, arcuate, white, not stained by latex, more or less subdistant, broad behind, narrowed toward the front.

Stipe 4-5.5 cm x 7-12 mm, "Dresden brown," base white, glabrous, more or less equal, stuffed.

Spores white in deposit, 7-9 x 6-7.5  $\mu$ .  
Otherwise typical. *Stipe cuticle as in Type.*

29346

LACTARIUS GERARDII

PHOTO

On soil, pine woods, Cades Cove, September 6, 1966.

Pileus 5-7 cm broad, depressed, with a small umbo, velvety, disc radiately rugose, azonate, "Saccardo's umber," margin obscurely striate-ribbed. Context white. Latex white, unchanging, mild or faintly acrid.

Lamellae adnate-decurrent, sub-arcuate, subdistant, medium broad, white then cream.

Stipe 4 cm x 10-20 mm, equal or tapering downward, concolorous.

Spores white in Mass, 8-10 x 6-7.5(8)  $\mu$ .  
Otherwise usual.



29346

29346 - *Factarium gerardii* Fr.



29978

LACTARIUS GERARDII Pk.

n. 9  
PHOTO

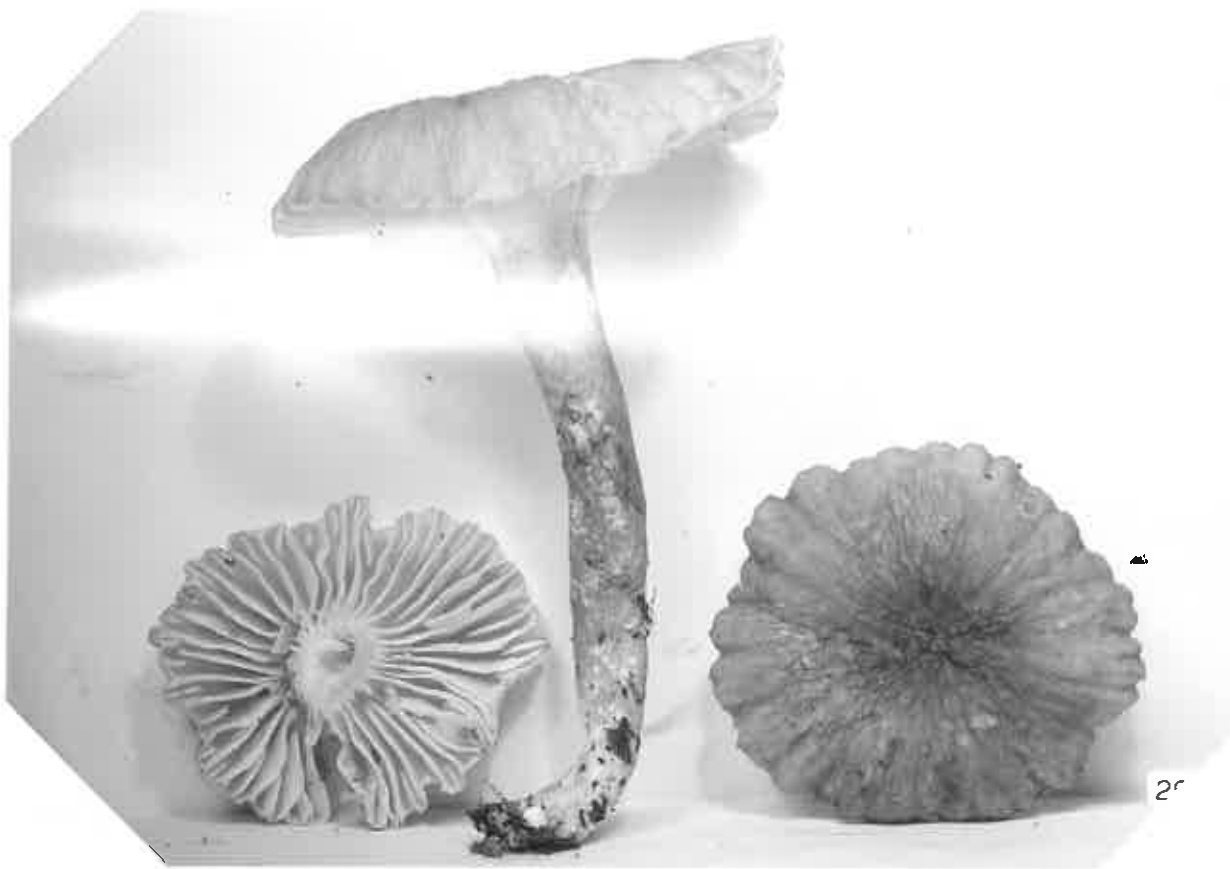
In hemlock woods, leg. Petersen, Roaring Fork, July 22, 1968.

Pileus 5-8 cm broad, convex-depressed, "drab" in center, paler (olive-grey-brown) elsewhere, densely ridged-rugulose, azonate, the ridges blackish, margin crenate. Context white, fragile; odor obscurely alkaline, taste mild. Latex white, unchanging, not staining gills or flesh.

Lamellae decurrent, white then ivory, broad, distant, lamellulae numerous.

Stipe 7-11 cm long, 11-15 mm thick, concolorous minutely velvety, tapering downward, hollow, base curved and white-tomentose.

Spores in deposit: white, 7-9.5 x 6-7.5  $\mu$ .  
Otherwise usual.



29978 - *Lactarius gerardii*

29981            LACTARIUS GERARDII Pk.

PHOTO

Cades Cove, August 12, 1968.

Spores white in mass, 7-10 x 6-8  $\mu$ . Otherwise usual.



29981 - *Factorius gerardii*

30264

LACTARIUS GERARDII Pk.

Cades Cove, August 8-11, 1968.

Latex white, unchanging, not staining flesh of gills, mild then slightly acrid.

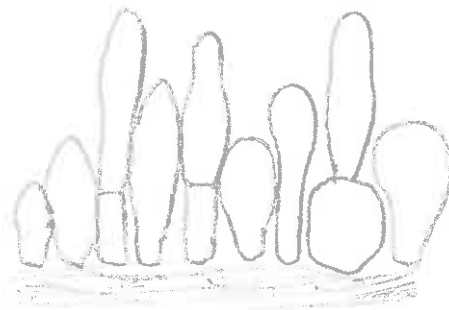
Spores white 7-9.5 x 6-8  $\mu$ ; agrees with Type microscopically. See drawings.

*Factarium gerarki* GK.

38264



GK - x 1000



Cauro - x 1000

35127

LACTARIUS GERARDII Pk.

Roaring Fork, Ron Petersen, July, ~~1971~~ 25, 1970

Pileus smoky-olive-brown, crisped. Latex white, unchanging, not staining, mild. Lamellae nearly distant, whitish. Stipe smoky.

Spores white (in thin deposit); spores 8-9 x 7.5-8.5  $\mu$ .

Sm-75023

LACTARIUS GERARDII

Montmorency Co., Mich., August 15, 1967.

Spores 8-10 x 7.5-9.5  $\mu$ , globose to short-ellipsoid. Pileus trama vesiculose and with vesiculose cell-nests. Stipe cortex with rosettes (toward cuticle), and vesiculose cell-nests within. Otherwise as in type.



Sm-75853

LACTARIUS GERARDII

Maple River (West Branch), Emmet County, Michigan, August 8, 1968 (no notes)

Notes by Hesler

(I assume the spores to be white; and the latex white, unchanging, and mild becoming slightly acrid.)

Spores 8-10 x 6-9  $\mu$ , globose, subglobose, or broadly ellipsoid, warts 0.2-0.5  $\mu$ , bands forming a complete reticulum. Other micro characters as in the Type.

*excluded? a synonym of -?*

LACTARIUS GLABRIPES A. H. Smith

Papers Mich. Acad. Sci., Arts. & Letters 17:175. 1933.

Pileus 2-3.5 cm broad, "pinkish buff" to "cream-buff", the umbilicate-depressed center darker and with minute "Isabella color" scales, appressed silky-pubescent toward the margin, the thin membranous margin spreading, even or rarely substriate in age. Context pallid or whitish, thin; milk white, unchanging and not staining the lamellae, ~~whitish~~, mild; odor none.

Lamellae inversely ascending, subdecurrent, a few forked or anastomosing, pale yellowish when fresh or "warm buff" varying to "cream color", distinct but close, narrow, slightly darker in age, edge entire.

Stipe 2-3 cm x 2-4(5) mm, colored like the pileus, <sup>becoming dark reddish brown when dried,</sup> slightly tapering upward or equal, glabrous, terete, even, hollow.

Spores 7.5-10 x 6-8.5  $\mu$ , broadly ellipsoid or subglobose, sparsely echinulate.

Type collected by Kauffman and Smith, <sup>Rock River, Michigan,</sup> September 18, 1929. Growing scattered here and there in wet mossy places in mixed conifer and hardwood swamps. This plant differs from L. luteolus in its much smaller size, thin pileus, glabrous stipe which is dark reddish brown when dry, appressed pubescence of the cap, and mild latex which does

not turn brownish when exposed to the air. From L.  
subvelutinus it differs in color, size, and glabrous stipe.  
It is, perhaps, closest to L. griseus, from which it  
differs in the mild latex, the pale yellowish lamellae  
when young, the entirely glabrous stipe, and slightly  
larger spores. In drying the stipe becomes a dark reddish  
brown which is not at all typical of L. griseus.

withhold from ms.

very close to crepitans

Tenn-35951  
W-K = 5631

LACTARIUS GLUTIGRISEUS W & K sp. nov. (in herb.)

Winner Creek Trail, Alaska, gregarious in moss and humus, Spruce-Hemlock woods, September 23, 1971 (near mucidus) (= same as W-K 4941)

Notes by Wells-Kempton

Pileus up to 10.5 cm broad, unicolorous or only very slightly paler on margin, in the field appeared to be brownish-gray with lavender undertones very much as in young L. trivialis, under artificial light <sup>medium</sup> grayish-brown, azonate, glutinous to viscid. Context gray when water soaked. Latex white, unchanging, remaining white when dried on a glass slide, strongly acrid, not staining the lamellae.

Lamellae white, in age often becoming ocher-spotted but not stained by latex.

Stipe 9.5 cm long, 10-15(25) mm thick, gray, more or less concolorous with the pileus or slightly paler, viscid to tacky.

Spores in deposit nearly white (A-B).

FeSO<sub>4</sub> and KOH negative on all parts.

MATERIAL STUDIED: Southcentral Alaska: ANCHORAGE (Glenn Acres, Chugach Mts.), 2925- Type (also in University of MICH as W/K 9/10/64-2); ALYESKA (Winner Creek Trail), 4276 (also in U of MICH), 4368, 5631 (also in U of TENN.); COOPER LAKE (Kenai Peninsula), 2926; CORDOVA (Crater Lake Trail), 2928; GIRDWOOD, 4204 (also in U of A herb. at College, Alaska); HOPE, 2927; TURNAGAIN PASS (formerly Johnson Pass, Seward Highway), 2922, 2923, 2924, 2929, 5698. Southeastern Alaska: HAINES (Water pipe trail behind Chilkoot Barracks), 4941 (also at U of MICH), 5585.

Notes by Hesler

Spores 8.5-11(12.5) x 7-8.5(9)  $\mu$ , ellipsoid, warts 0.2-0.4(1.0)  $\mu$  high, bands and branches forming a partial to nearly complete reticulum. Basidia 44-50 x 8-10  $\mu$ , 4-spored. Pleurocystidia 48-70 x 6-10  $\mu$ , ventricose to subclavate, more rarely obclavate, scattered; cheilocystidia 46-72 x 4-6  $\mu$ , long-projecting, slender-ventricose. Pileus cuticle an ixocutis, the gelatinous zone 125-150  $\mu$  thick, some hyphae more or less uplifted but not an ixotrichodermium; hypodermium brownish in KOH. Stipe cuticle an ixocutis; hypodermium brownish; rosettes present. Clamp connections none.

Filed in U-T Herb. under 35951.

Lactarius W/K 2925 (<sup>near</sup> mucidus) [*tartatively*; *glutiginus*]

Pileus 4-8 cm broad, convex with margins inrolled at first becoming irregularly expanded with margins up-raised and disc depressed, dark gray-brown overall becoming slightly paler with age, sometimes with a lavender tinge ("fuscous" of Ridgeway, 6F5 to 8E3 in Methuen Handbook of Color, #62 dark gray brown in the ISCC-NBS Centroid Color Charts), azonate though occasionally spuriously zonate around disc when drying, glutinous to viscid, glabrous, smooth to somewhat rugose from the gluten, margin finely striate with age, pellicle separable to the disc. Context whitish or pale gray-brown under the pellicle, moderately thin, brittle, odor not distinctive, taste tardily but strongly acrid.

Lamellae white, unchanging or spotted with yellow- to gray-brown <sup>IN</sup> ~~with~~ extreme age, narrowly adnate to subadnexed, close, narrow ( $\pm$  4mm), frequently forked, inter-venose.

Stipe (3) 4-7 cm long, 0.5-1.5 cm broad,  $\pm$  equal, concolorous with or slightly paler than the pileus at the apex, whitish toward the base, glabrous, tacky to viscid, smooth, stuffed becoming hollow, brittle.

Latex usually abundant, white, unchanging, strongly acrid and occasionally slightly bitter.

All parts negative with KOH, NH<sub>4</sub>OH, and FeSO<sub>4</sub>; pileus and stipe contexts dark vinaceous with phenol.

Spore deposit white. Spores (9) 9.5-11.5 (12) x 7.5-9.5 $\mu$  including ornamentation, broadly ellipsoid, orn-

amentation strongly amyloid composed mostly of obtuse ridges 0.5-0.8u high and broad forming a nearly complete reticulum, some narrower lines and isolated dots also present, plage smooth and inamyloid. Basidia 40-60 x (8) 9.5-11.5u, 4-spored, project when sporulating.

Pleurocystidia moderately abundant to abundant, 70-100 x 8.5-11.5u, extending 1/2 to 1/3 their length beyond the hymenial level, fusoid with acute apices, sometimes mucronate, smooth, thin-walled, content yellow granulose. Cheilocystidia similar to the pleurocystidia though smaller (35-55 x 5.5-9.5u). Hymenophoral trama interwoven of hyaline, smooth, thin-walled hyphae 3.5-15u broad, lactiferous hyphae present, sphaerocysts occasionally present. Pileus trama colorless, heteromerous.

Pileus epicutis a colorless ixotrichodermium 150-300u thick; hyphae interwoven and repent in the subcutis then vertically ascending  $\pm$  150u into the gelatinous layer, 2-3.5u broad, filamentous, hyaline to yellowish, thin-walled, smooth, often branched and flexuous. Stipe epicutis a thin (40-50u) gelatinous layer with  $\xi$  embedded, interwoven, hyaline to yellowish, thin- to slightly thick-walled hyphae 2-3.5u broad. Clamp connections none. All hyphae yellowish in Melzer's.

Gregarious in coastal coniferous forests under hemlock. August-October.

Material studied: Southcentral Alaska: Anchorage, 2925 (Type, also in U. of Mich. Herb. as W/K 9/10/64-#2); Cooper Lake, Kenai Peninsula 2926; Cordova, 2928; Gird-

Place in A-T Herb under 33951

5631

wood 4204, 4276; Turnagain Pass 2922, 2923, 2924, 2929.

Southeastern Alaska: Haines 4941.

Observations: Lactarius 2925 is closely related to L. mucidus Burl. but differs from the latter species by its more uniformly colored pileus, unchanging latex, and slightly larger spores which have a shorter ornamentation and a smooth plage.

Although it is common in mixed spruce-hemlock forests, L. 2925 is apparently associating with hemlock. ~~alone~~. We have never found it on Kodiak Island nor in interior Alaska where hemlock does not occur. However, L. 2925 does grow with at least two species of Hemlock, Tsuga heterophylla and T. mertensiana. The type collection of L. 2925 was found with T. mertensiana.

In distribution, L. 2925 may be confined to the Pacific Coast of North America though this matter needs further research. We have seen it in considerable numbers in western Oregon and Washington where it is presently being called L. mucidus.



Wells-Kempton - 4941

LACTARIUS

*glutiginosus*

Gregarious in needle mold and humus, in predominantly spruce-hemlock woods, with alder, willow, birch, Haines, Alaska, September 19, 1970

Notes by Wells-Kempton

Latex milky-watery, unchanging, typical L. mucidus.

Notes by Hesler

Spores 8-10.5 x 6-7.5(8)  $\mu$ , warts 0.3-0.8  $\mu$ , blunt, bands and branches rather closely spaced forming a partial or complete reticulum. Pleurocystidia 56-103 x 5-10  $\mu$ , in general the diameter wider on the upper portion of the gills, ventricose-acuminate; cheilocystidia 42-50 x 5-7  $\mu$ , similar. Pileus cuticle an ixotrichodermium; hypodermium brown; a few rosettes in lower trama. Stipe cuticle an ixocutis, thin but distinct; rosettes present.

This is wrong color for mucidus; moreover the notes say latex unchanging, whereas in mucidus the latex dries glaucous-green.

Notes scarcely adequate for identification.

Letter, from Mrs K, Apr 26 -71 says they intend to publish it. On another letter (Aug. 25, 1971), she says M-K will publish it in their paper in the book honoring Alex Smith, perhaps in 1973 or 1974.

24283 LACTARIUS GLUTINOPALLENS Moell. & Lange

(from Gnadenwald, Tyrol)

Spores 9-11 (12) x 8-9  $\mu$ , ellipsoid, warts 0.2-0.4  $\mu$  high, at times isolated, with partial or complete reticulum of broad bands, bands often with free ends and in short isolated units. Basidia (35) 45-58 x 7-11  $\mu$ , 4-spored. Pleurocystidia 54-77 x 6-7  $\mu$ , slender-fusoid to subcylindric, apices tapering; cheilocystidia 44-55 x 5-7  $\mu$ , clavate, obclavate, or fusoid, apices tapering or capitate. Gill trama of subparallel, short-celled hyphae. Pileus trama heteromerous. Cuticle a distinct ixotrichodermium, hyphae slender (80-130 x 1.5-3  $\mu$ ), erect, forming a turf, imbedded deeply in a broad (350-400  $\mu$ ) zone of gluten above the turf. Clamy connections none. The stipe cuticle a distinct ixocutis, the zone 40-55  $\mu$  thick.

See Range: p. 39 and Plate 170A.  
(Rahn diag. p. IV)

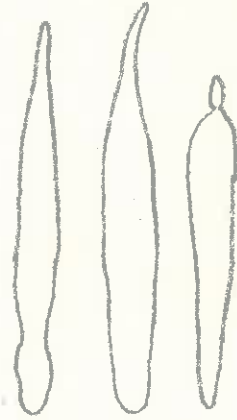
*Lactarius glutinopallens* Moell. + Sge.  
No. 24283



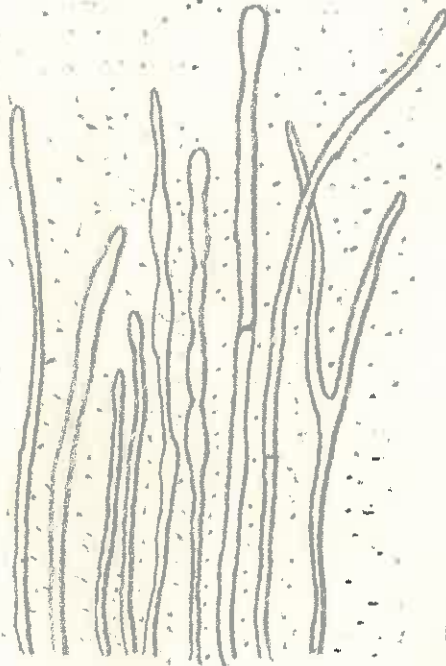
Sp - x 1000



x 3600



Sp - x 1000



Pili  
Xotrichodermium - x 1000

Bas - 3390 LACTARIUS GLUTINOPALLENS Moeller and Lange

(Tenn - 35546)

In bog, near Burt Lake, Cheboygan Co., Michigan, leg.-det. Bas,

July 22, 1963

Notes by Bas

Pileus 3.4-3.7 cm, plano-convex, or with slightly depressed center, outermost margin bent inwards and whitish pubescent in places, dark dingy brown with purplish tinge (more or less Expo F 42 = Munsell, between 5 yr  $4/3$  and  $3/3$ ) at center, rugulose, glutinous-viscid. Context with dingy pinkish tinge, vinaceous brownish under pileipellis (which is thick and gelatinous). Latex white, rather scanty, slowly acrid.

Gills short-decurrent, pale dingy pallid, nearly white, turning brownish at the edge (after pressure), rather crowded, moderately broad (more or less 3 mm).

Stem 4-4.5 cm long, 9-10 mm thick, pale pinkish brown, viscid, more or less equal or very slightly ventricose, somewhat irregular in places, hollow.

Spores about  $9 \times 7 \mu$ . Pileipellis an ixotrichodermium.

Notes by Hesler

Spores  $7-10(11) \times 6-7.5(8.5) \mu$ , warts  $0.2-0.4 \mu$  high, broad and narrow bands, a few branches, and lines forming a partial to nearly complete reticulum. Basidia  $44-50 \times 8-10 \mu$ , 4-spored. Pleurocystidia  $62-96 \times 7-12 \mu$ , ventricose-acuminate, granular-spangled; cheilocystidia  $32-57 \times 7-12 \mu$ , at times rather short and relatively broad, ventricose-acuminate. Gill trama of narrow, subparallel, more or less undulating hyphae.

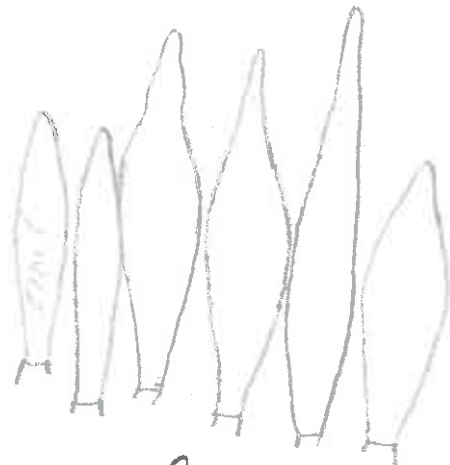
Pileus cuticle an ixotrichodermium; hypodermium brownish. Stipe cuticle an ixocutis; hypodermium brownish; rosettes present. Clamp connections absent.

Neuhoff says the gills, where bruised, turn olive-gray.

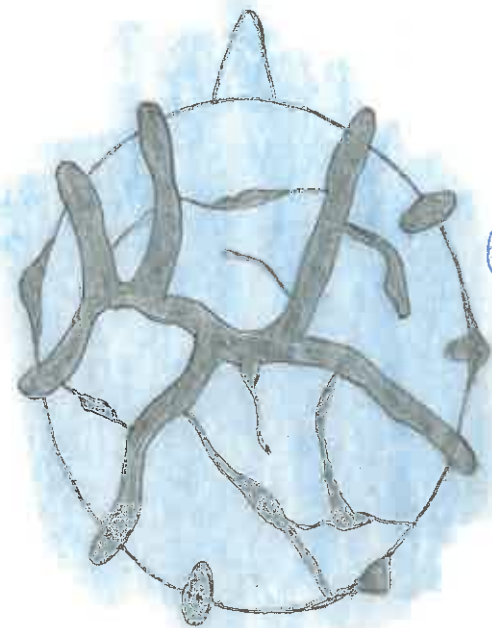
*Saccarium glutinopallens* Sange  
Bas - 3390 (Tenn - 35546)



Pl. x 1000



Ch. x 1000

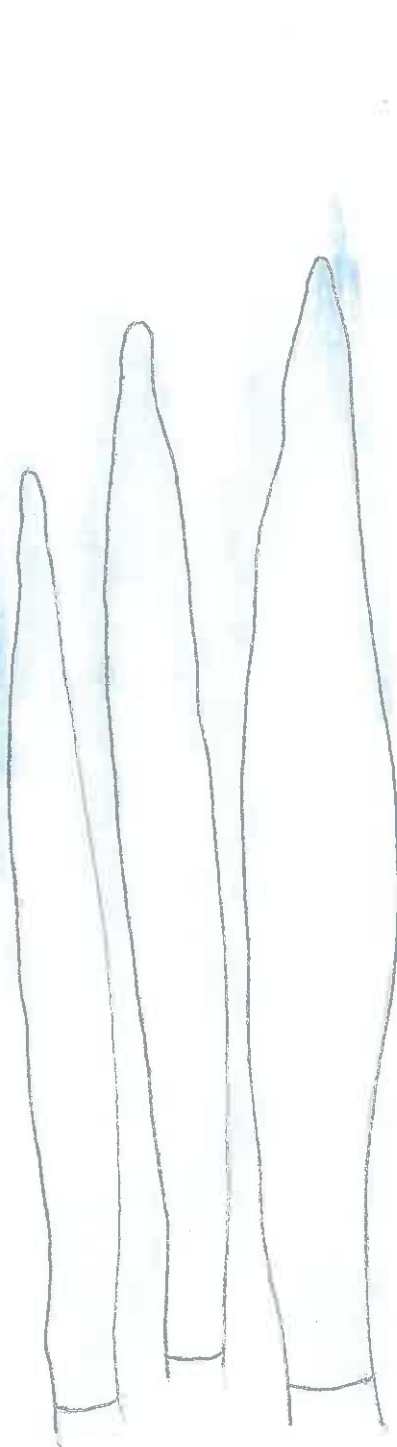


670

Spore - x 8000

*R. glutinopallens* Lange

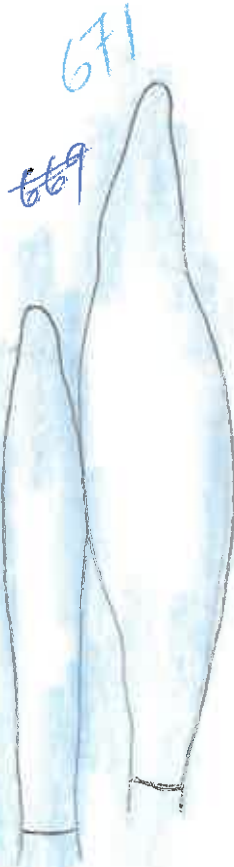
Bas - 3390 (Jenn - 355-46)



RL - X 2000

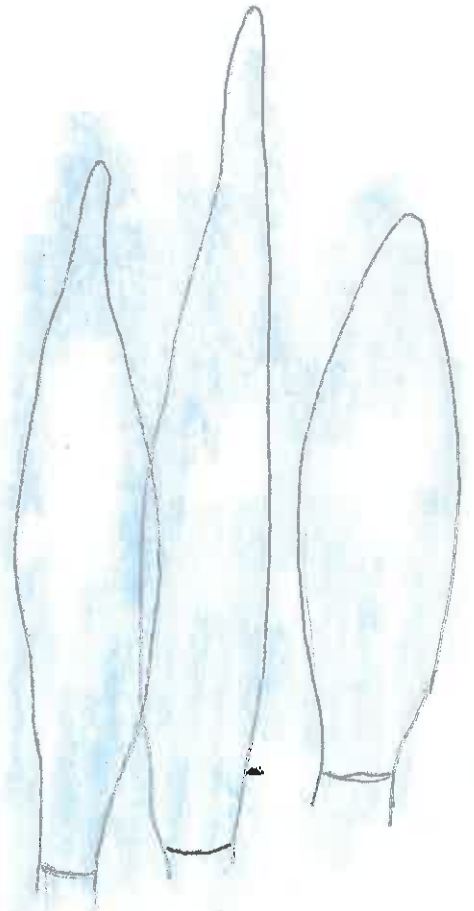


669



671

~~669~~



ch - X 2000

30173

*glutinopallens* *Fr. + Møller*  
~~LACTARIUS TRIVIALIS var. TRIVIALIS~~

Cades Cove, Ron Petersen, July 11, 1968

Pileus pale livid to pale plum-colored (not matched), disc stained yellow, viscid, even. Context white, medium thick on disc, thin on margin. Latex white, promptly very pale-cream, drying pale gray-greenish on gills, staining gills dingy greenish, bitter then acrid.

Lamellae pale cream becoming darker cream, close, rather narrow to medium broad, lamellulae of several ranks, a few forking.

Stipe whitish, tinged yellowish, unchanging, equal, spongy, then hollow, *viscid*.

Spore deposit: D-E. Spores 8.5-10.5(11.5) x 7-8.5  $\mu$ , warts 0.5-1.0  $\mu$ , with bands and lines, forming a partial reticulum. Pleurocystidia 68-94 x 9-14  $\mu$ , long-acuminate; cheilocystidia similar, shorter. Pileus cuticle an ixocutis; hypodermium brown. Stipe cuticle a narrow ixocutis but distinct repent; rosettes present.



35676

*glutinosipallens* Fge. + Molley  
LACTARIUS ~~TRIVIALIS~~ Fr. var. ~~TRIVIALIS~~

Norton Road, Highlands, North Carolina, August 19, 1970

Pileus 12 cm, pallid-plum with a grey tint (near "drab-gray"), viscid. Latex white, unchanging, staining gills dark greenish brown, acrid. Gills adnate, close, medium broad, forked behind, lamellulae numerous, white then pale pinkish buff. Stipe 5.5 cm x 22 mm, dingy white, not scrobiculate, viscid, hollow.

Spore deposit "warm buff." Spores 8-11.5 x ~~7~~ 7.5-8.5(9)  $\mu$ , warts 0.6-1.0  $\mu$ , bands and branches forming a partial reticulum. Pleurocystidia 62-106 x 7-12  $\mu$ , ventricose-acuminate; cheilocystidia 43-58 x 6-9  $\mu$ , similar. Pileus and stipe cuticles as an ixocutis; hypoderm brown.

35830

LACTARIUS ~~TRIVIALIS~~ var. ~~TRIVIALIS~~

*glutinopallens* Fge. + Moller

Cades Cove, leg. Petersen, July 2, 1971

Pileus 9-12.5 cm, near "light drab" with a violaceous tint or livid gray, viscid, azonate, or rarely obscurely zonate on the margin, even. Context white, rather thick on center, thin on margin. Latex whitish, promptly with a pale yellowish tint (near "ivory yellow" but paler), drying on the gills grayish greenish staining brownish, acrid.

Lamellae subdecurrent, close, broad, "cream buff," lamellulae numerous.

Stipe pallid-whitish, viscid, not spotted.

Spores 8-10.5 x (6)7-8.5  $\mu$ . Pleurocystidia 55-96 x 7-14  $\mu$ ; cheilocystidia 40-48 x 7-8  $\mu$ . Pileus cuticle an ixocutis. Stipe cuticle a thin but well-defined ixocutis.

35910

LACTARIUS ~~RAVUS~~ sp. nov.

*Lentinopallens* Lge. + Moller  
sp. Neuhoff

On soil, in mixed woods, Cades Cove, October 13, 1971

Pileus 3-5 cm broad, plano-convex, then depressed, center "drab," elsewhere gray (not matched), viscid, azonate, glabrous, margin even. Context whitish; odor mild, taste burning acrid. Latex white, drying glaucous green, acrid, staining lamellae olive-green.

Lamellae adnate, white/ then tinged cream, forking behind, lamellulae alternating, close, narrow.

Stipe 2.5-4.5 cm x 5-7 mm, drab to grayish, viscid, hollow.

Spores "cream buff" in deposit, 8-11 x 7-8.5  $\mu$ , warts 0.3-0.8(1.0)  $\mu$ , bands and branches forming a partial to nearly complete reticulum. Pleurocystidia 53-78 x 7-10  $\mu$ , ventricose-acuminate; cheilocystidia 34-50 x 5-7  $\mu$ , similar. Pileus cuticle an ixocutis. Stipe cuticle an ixocutis; rosettes present. Clamp connections none.

Hypodermium hyphoid, the hyphae extending radially.

*Sactarius glutinopallens*  
~~*farus* sp. nov.~~

35910 - ~~Type~~



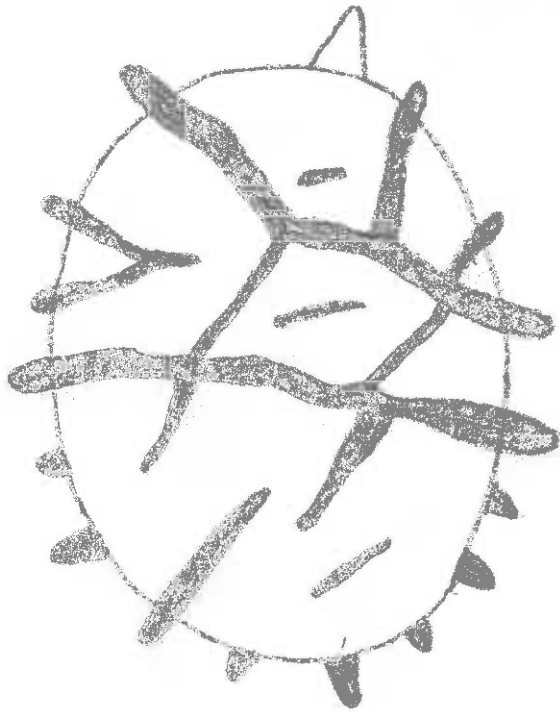
Sp  $\times 1000$



Sp  $\times 1000$



Basidium  
 $\times 1000$



Spore  $\times 8000$

LACTARIUS GLUTINOPALLENS Lge. & Møller

37261

Cades Cove, Tenn. GSMNP, leg. Ron Petersen, July 25, '72

Pileus more or less plum tinted, viscid, azonate. Latex whitish to pale cream, drying grayish green, staining dark brown.

Spores 8-10.5 x (6)7-8.5  $\mu$ , warts 0.3-1.0  $\mu$ , hands forming a partial reticulum. Pleurocystidia 73-98 x 9-12  $\mu$ , ventricose; cheilocystidia similar, smaller. Pileus cuticle an ixocutis -- the hyphae more or less dissolved in their own glutin; stipe cuticle an ixocutis.

LACTARIUS GLUTINOSUS Sumstine

In mixed wood, near stream, Pocono Manor, Monroe Co., Pa., leg.-det.

David R. Sumstine, August 12, 1937.

Type

Spores 7-8.5 x (5.5)6-7  $\mu$ , ellipsoid, short-ellipsoid, or sub-globose, warts 0.2-0.5  $\mu$  high, more or less scattered, tips sharp or blunt, reticulum partial, bands mostly broad, some bands narrow. Basidia 28-34 x 6-8  $\mu$ , 4-spored. Pleurocystidia 48-76 x 7-10  $\mu$ , base usually arising deep in the trama, ventricose, apex tapering, often the tip acute; cheilocystidia 34-51 x 4-7  $\mu$ , similar. Gill trama a very narrow zone of small cells; subhymenium not distinctive. Pileus trama vesiculose, with hyphae. <sup>Pileus</sup> Cuticle cellular, bearing a turf of colorless pileocystidia, 28-80 x 2-5  $\mu$ , cylindric, apices rounded or tapering, rarely septate, immersed in a gelatinous zone (ixotrichodermium). Stipe (apex) cuticle of small cells, bearing a turf of caulocystidia imbedded in a gelatinous matrix, as in the pileus cuticle. Clamp connections none. Lactifers 3-12  $\mu$  broad.

Chemical reactions:

	<u>Cuticle</u>	<u>Pileo</u>	<u>Ptr</u>	<u>Lactifers</u>	<u>Gtr</u>	<u>Hymen</u>	<u>Cyst.</u>
KOH	pale br	0	0	pale y	ybr	pale ybr	0
Melzer's	red br	0	0	y	rbr	"	0

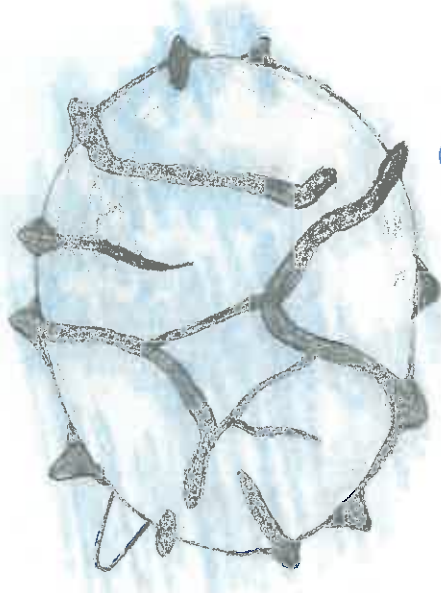
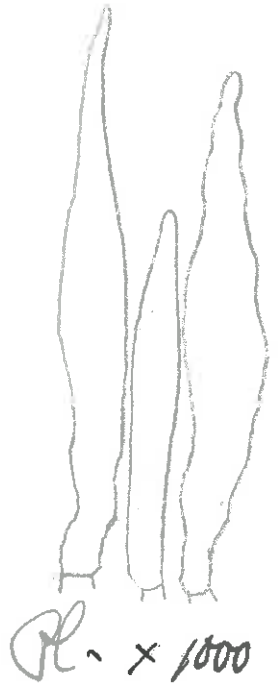
Chemical reactions:

	<u>Cuticle</u>	<u>Pileo</u>	<u>Ptr</u>	<u>Lactifers</u>	<u>Gtr</u>	<u>Hymen</u>	<u>Cyst.</u>
KOH	pale br	0	0	pale y	ybr	pale yrb	0
Melzer's	red br	0	0	y	rbr	"	0

The above description is based on my study of the type. Sumstine says, in his comments, that it is intermediate between L. trivialis and L. mucidus. From both, it differs mainly in the color of the pileus, in size of spores, (he says they are 5-7  $\mu$ ), and in cystidia (he says these are 70-80 x 8-10  $\mu$ , numerous, cuspidate). Says that authentic specimens in N. Y. Bot. Gard. herb. ~~show~~ of these species (L. trivialis and <sup>show</sup>mucidus) no cystidia (I find pleurocystidia and cheilocystidia in both species!); the latex of the above 2 species stains lamellae glaucous-green.

# Factarius glutinosus Sumstine

## Type



848



Gelatinous layer over cuticle

Pileo turf

1774

Cuticle

Pileo-cuticle - x 1000



LACTARIUS GLUTINOSUS Sumstine

Mycologia 33:18. 1941

ILLUSTRATIONS:

Pileus 4-6 cm broad, convex then depressed in the center, smoky gray, darker at the center, glabrous, azonate, very viscid in wet weather, covered with a glutinous coat which disappears in drying, margin regular or sometimes sulcate. Context white, thin, taste acrid. Latex white, unchanging, acrid, not staining the gills.

Lamellae slightly decurrent, white, becoming ochraceous on drying, moderately distant, with shorter ones intermixed.

Stipe 3-4 cm long, 5-15 mm thick, concolorous with or a little lighter than the pileus, tapering downward, glabrous, appearing striate at times, solid, viscid.

Spores 7-8.5 x (5.5)6-7  $\mu$ , ellipsoid, short-ellipsoid, or subglobose, warts 0.2-0.5  $\mu$  high, more or less scattered, tips sharp or blunt, reticulum continuous or broken, some bands narrow, mostly broad. Basidia 28-34 x 6-8  $\mu$ , 4-spored. Pleurocystidia 48-76 x 7-10  $\mu$ , base usually arising rather deep in the trama, ventricose, apex tapering, often the tip acuted; cheilocystidia 34-51 x 4-7  $\mu$ , similar. Gill trama a very narrow zone of small cells; subhymenium not distinctive. Pileus trama vesiculose. Pileus cuticle cellular, bearing a turf of colorless pileocystidia, 28-80 x 2-5  $\mu$ , cylindrical, apices rounded or tapering, rarely septate, immersed in a gelatinous zone and forming an ixotrichodermium. Stipe (apex) cuticle of small cells, bearing a turf of caulocystidia, imbedded in a gelatinous matrix, forming an ixotrichodermium. Clamp connections none. Lactifers 3 - 12  $\mu$  broad.

HABIT, HABITAT, AND DISTRIBUTION - On soil, in mixed woods,  
Pocono Manor, Pennsylvania, leg. Sumstine, type (CM), August 12, 1937.

OBSERVATIONS - This species is characterized by its smoky gray  
pileus, which is glutinous and ~~dry~~ azonate; the white, unchanging, not  
staining, acrid latex; and by its cellular structure of the cuticle of  
the pileus and stipe. The cuticular zone stains pale brown in 2% KOH,  
and reddish-brown in Melzer's reagent.

*glutinosus* Sumstine

35249

LACTARIUS ~~RAVIDO-OLIVACEUS~~ sp. nov.

Under hemlock, Lab., Highlands, N.C., August 23, 1969

Pileus 2-3.5 cm broad, plano-convex, becoming wavy-depressed, fuliginous over center, elsewhere grayish, to grayish-olivaceous, glutinous, azonate, even. Latex white, unchanging, not staining, acrid.

Lamellae adnate-decurrent, white, then pale cream, close, rather narrow, unchanging where bruised.

Stipe 2.5-4.5 cm long, 4-5 mm thick, grayish (concolorous with the pileus), equal, solid, *viscid*.

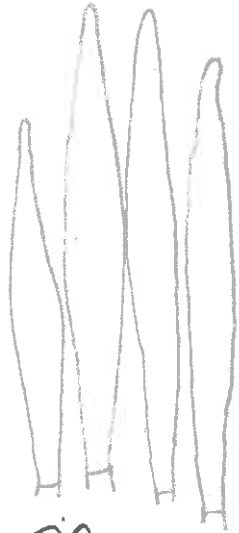
Spores in deposit: C; spores 7-9(9.5) x 6.5-7.5  $\mu$ , ellipsoid to subglobose, warts 0.2-0.5  $\mu$ , bands sometimes wide-spaced, again broken, and at times obscurely zebra-like. Basidia 38-44 x 7-9  $\mu$ , 4-spored. Pleurocystidia 48-64 x 6-8  $\mu$ , ventricose-acuminate; cheilocystidia 33-45 x 5-8  $\mu$ , ventricose-acuminate. Pileus cuticle an ixotrichodermium. Stipe cuticle an ixocutis; rosettes present.

The chief characters: pileus colors, the pileus cuticle an ixotrichodermium, and the stipe cuticle an ixocutis.

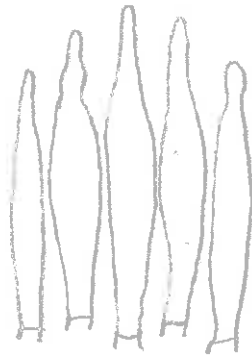
*Ractarius ~~hirsutus~~ olivaceus* sp. nov.

35249

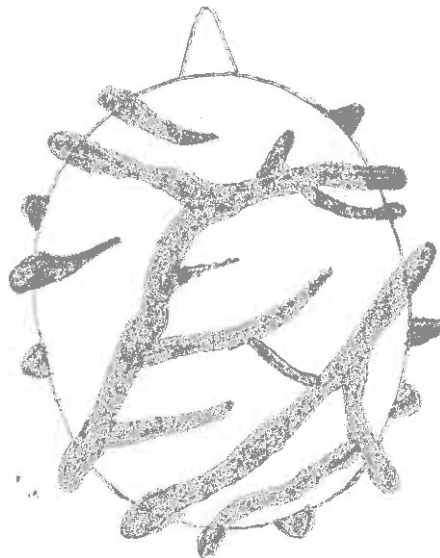
glutinosus Sumstine



Pl. - x 1000



Ch. - x 1000



Spore -  
x 8000

Sm-40799

LACTARIUS ~~RAVIDO-OLIVACEUS~~ sp. nov.

PHOTO

Under fir and Alaska cedar, Mt. Rainier Nat. Park, Washington,  
October 11, 1952

Notes by Smith

Pileus 3-6 cm broad, convex-depressed, in all broadly vase-shaped evenly pale putty color (dingy a shy-brown), glabrous, viscid to glutinous, pellicle readily separable. Context white (to ash color beneath cuticle), very quickly burning acrid. Latex white, unchanging, not spotting the gills, acrid.

Gills short-decurrent, close, moderately broad, pallid (tulleul buff to tinged vinaceous buff, but not becoming distinctly colored in age), edges even.

Stipe 2-4 cm long, 8-12 mm thick, hollow and fragile, shining as if thinly viscid when still wet, whitish over all young but in age tinged or shaded the color of the pileus, base remaining white.

Spores pale creamy vinaceous in deposit.

(Smith, on label, says it, (out West) intergrades with L. mucidus. He queries: is it a large form of cinereus or porous?)

Notes by Hesler

Spores 8-10(11) x 7-8  $\mu$ , warts 0.2-0.5  $\mu$ , bands broad, a few narrow, branched, a few more or less zebra-like,

forming a partial reticulum. Basidia 52-60 x 9-11  $\mu$ , 4-spored. Pleurocystidia 73-95 x 7-11  $\mu$ , subfusoid-acuminate; pseudocystidia filamentous; cheilocystidia 44-68 x 6-10  $\mu$ , similar. Gill trama more or less interwoven. Pileus cuticle an ixotrichodermium; hypoderm distinct, brownish. Stipe cuticle an ixocutis; hypoderm brown; rosettes present.

Sm-52334

*glutinosus*  
LACTARIUS ~~RAVENS~~-OLIVACEUS sp. nov.

Under spruce, Trout Lake, San Juan Mountains, Colorado, August 16, 1956

Notes by Smith

Pileus pale lead-gray-brown, glutinous. Taste slowly burning  
*unchanging, acid* acrid. Latex white, *not staining,* Gills pallid, close, Stipe pallid, viscid.

Notes by Hesler

*7.5-9.5 x 6.5-8 μ,*  
Spores ~~8-9.5(10) x 6-8(9) μ,~~ warts 0.2-0.4 μ, bands and branches  
forming a partial reticulum. Basidia 52-57 x 9-11 μ, 4-spored.  
Pleurocystidia 60-102 x 10-12 μ, clavate-conic or acuminate;  
cheilocystidia 48-60 x 7-11 μ, somewhat similar. Pileus cuticle an  
ixotrichodermium. Stipe cuticle an ixocutis; rosettes present.

Sm-52517

*platinovus*  
LACTARIUS ~~RAVISO-OLIVACEUS~~ sp. nov. - ~~LACTARIUS~~

Under spruce, Trout Lake, San Juan Mountains, Colorado, August 19, 1956

Notes by Smith

Pileus 4-7 cm, cinnamon drab to drab, slimy, azonate. Latex white, unchanging, not staining, slowly burning acrid. ¶Gills pallid to pale pinkish buff, close, not staining. ¶Stipe pallid, slimy.

Notes by Hesler

7.5-9.5 x 6.5-8.5  $\mu$ ,  
~~8-11 x 7.5-8.5  $\mu$~~

Spores ~~8-10(11) x 7-8(8.5)  $\mu$~~ , warts 0.2-0.5  $\mu$ , bands and branches forming a partial reticulum. Pleurocystidia, cheilocystidia, and other micro characters as in Sm-52334.



Sm-77258

*glutinosus*  
LACTARIUS ~~PAVIDO-OLIVACEUS~~ sp. nov. (?)

Rifle River, Ogemaw Co., Michigan, October 12, 1969

Notes by Smith

Cap pallid to pale dingy gray, slimy. Gills not spotting. Taste acrid. Stipe pallid, slimy.

Spores yellow.

Notes by Hesler

Spores 8-10 x 6-8  $\mu$ , warts 0.2-0.5  $\mu$ , bands and branches forming a partial or rarely complete reticulum. Pleurocystidia 48-80 x 6-10  $\mu$ , ventricose-acuminate; cheilocystidia 36-45 x 5-7  $\mu$ , similar. Pileus cuticle an ixotrichodermium. Stipe cuticle an ixocutis (or near ixolattice); rosettes present.

Best I can do; no notes on latex.

LACTARIUS GLYCIOSMUS (Fr. ex Fr.) Fr.

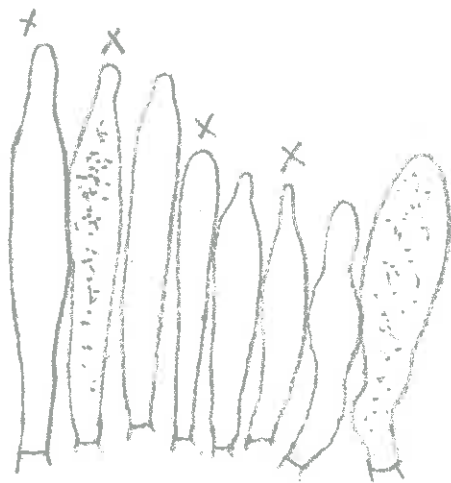
Burlingham Collection, Newfane, Vermont, September, 1935

Spores 6.5-8 x 5-6  $\mu$ , ellipsoid, warts sometimes blunt, 0.2-0.4  $\mu$  high, bands (broad, few narrow) and an occasional fine line forming a partial reticulum. Basidia 25-30 x 6-7  $\mu$ , 4-spored. Pleurocystidia 34-50 x 5-10  $\mu$ , clavate, ventricose, granular; cheilocystidia 27-40 x 5-9  $\mu$ , clavate, granular. Gill trama of small cells. Pileus trama vesiculose. Pileus cuticle not greatly differentiated, the surface hyphae dry, repent, bearing more or less erect, tangled hyphae (trichodermium); no pileocystidia. Caulocystidia none. Clamp connections none.

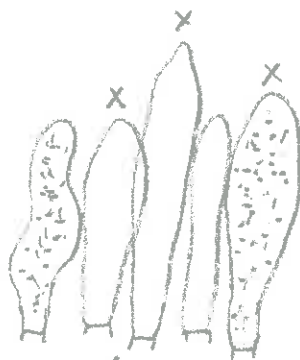
The pileus and gill trama pale brownish in KOH; and reddish to reddish brown in Melzer's reagent.

Burlingham (1908) says spores white.

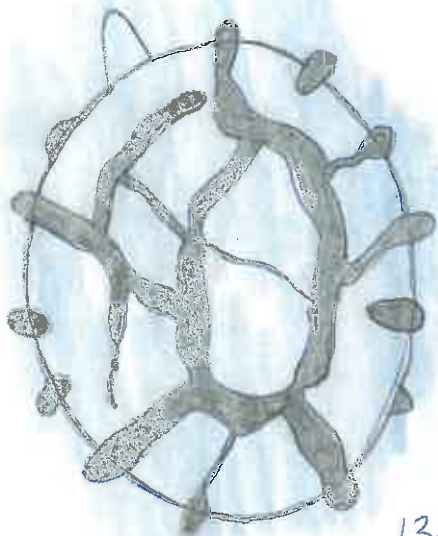
*Saccorhynchus glycosmus* Fr.  
Newfane, Vt., Burlington, Sept. 1935



♂ - x 1000



♀ - x 1000



1354

Spore - x 8000

Bigelow - 4767

*glycissmus*  
LACTARIUS ~~REACTANS~~ sp. nov.

Solitary under conifers, State Game Preserve, near Guerette, Aroostock County, Maine, September 4, 1956 (in Herb. MICH).

Notes by Bigelow

Pileus 3 cm broad, broadly infundibuliform, "salmon buff," azonate, pubescent in the depression, canescent on the elevated and slightly arched margin, viscid. Context thin, pale ~~4~~ salmon buff, odor fragrant, taste mild. Latex white, unchanging, not staining, taste mild.

Lamellae decurrent, close, narrow (2 mm), not forked, "salmon buff," edges even and straight.

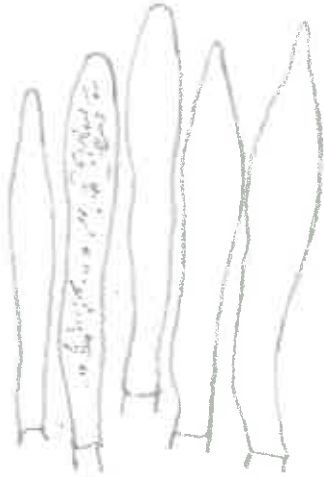
Stipe 3.5 cm long, 9 mm thick, "pale salmon color," apex slightly enlarged and tapering gradually downward, pruinose at apex, glabrous below, solid-stuffed then hollow, pale salmon buff.

Notes by Hesler

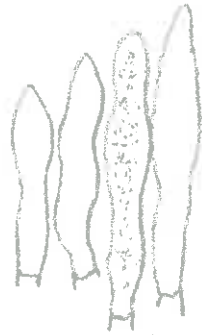
Spores 7-9 x (5.5)6-7  $\mu$ , ellipsoid, warts 0.3-0.6  $\mu$  high, bands forming only a partial or no reticulum. Basidia 33-38 x 6-8  $\mu$ , 4-spored. Pleurocystidia 45-56 x 6-9  $\mu$ , ventricose to more or less clavate, apices tapering or rounded, pseudocystidia filamentous; cheilocystidia 24-38 x 4-6  $\mu$ , similar to pleurocystidia. Gill trama of undulating, subparallel hyphae. Pileus cuticle a thin ixocutis; hypodermium brownish. Stipe cuticle of repent, dry hyphae; rosettes present. Clamp connections none.

This is a thin-fleshed, bright colored (salmon-buff) species with a pleasing fragrance and a mild taste, white and unchanging latex, the cuticle of the pileus a thin ixocutis, the stipe dry.

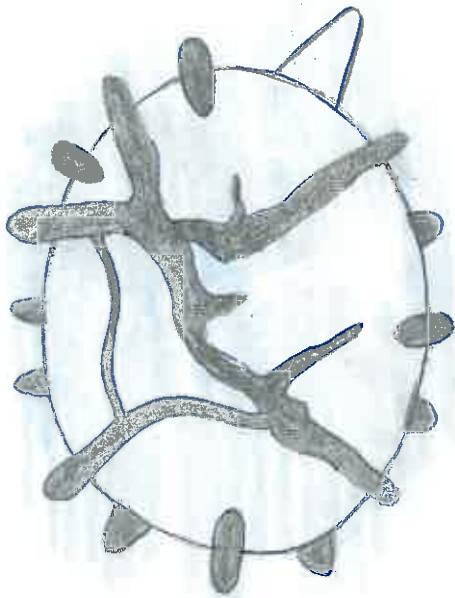
*Factarium <sup>glycosomus</sup> flagrans* sp. nov.  
Bigelow - 4767



Al - x 1000



Ch - x 1000



1154

Spore - x 8000

u  
Imshaug - 4942

LACTARIUS GLYCIOSMUS

L'Anse, Michigan, September 12, 1949

Notes by Hesler

Spores and other characters as in glyciosmus. No rosettes in stipe cortex.

Notes by Imshaug

Pileus 1-3 cm, depressed-umbilicate, purple-drab, fibrillose. Odor aromatic, pronounced. Latex scanty, white, unchanging.

Gills and stipe light buff.

W-K 5154

LACTARIUS GLYCIOSMUS

Mirror Lake, north of Anchorage, Alaska, deciduous and  
spruce woods, August 12, 1971.

Notes by W-K

Pileus 6-9 cm broad, subplane, margin inrolled, disc depressed, light pinkish tan, azonate or occasionally with narrow zones near the margin, dry, appressed-tomentose. Context flesh-color, thin, odor of coconut, taste slight of coconut, slowly slightly acrid. Latex white, unchanging, moderately tardily acrid, burning.

Lamellae adnate to subdecurrent, pale flesh, narrow, close.

Stipe 4-5 cm long, 10-15 mm thick, pale flesh, whitish pruinose overall, dry.

Spore deposit: cream colored.

Notes by Hesler

Spores 6.8(8.5) x 5-6.5(7)  $\mu$ , warts 0.2-0.5  $\mu$ , bands and branches forming a partial reticulum. Pleurocystidia none or rare and then 42-53 x 6-8(9)  $\mu$ , ventricose acuminate, inconspicuous; cheilocystidia none or rare and then subclavate-conic, 34-40 x 5-7  $\mu$ ; pseudocystidia filamentous, 1.5-2.5  $\mu$  broad, on both sides and edges. Pileus cuticle of dry, repent hyphae; subcuticular zone distinctly of very loosely interwoven hyphae. Stipe cuticle of dry, repent hyphae; rosettes none.

Keys out to L. glyciosmus.

*Abundant*  
*Sept 2*

W-K 5243

LACTARIUS GLYCIOSMUS

In deciduous and spruce woods, Anchorage, Alaska,

August 31, 1971

Notes by W-K

Pileus 6.5-9 cm broad, convex, margin inrolled, then plane or slightly depressed to sometimes shallowly infundibuliform, occasionally sub-papillate, flesh colored when dry, buttons with a slight vinaceous tinge, dry, appressed-fibrillose, sometimes (not always) zonate by indistinct narrow zones. Context pale buff, thin (6 mm); odor of coconut, taste tardily and very slightly acrid, also faintly bitter. Latex milky white, unchanging, taste as in the flesh.

Lamellae subdecurrent, buff becoming only slightly darker with age, close to crowded, narrow (3-4 mm), intervenose, irregularly forked.

Stipe 2-5(10) cm long, 10-15 mm thick, concolorous with or paler than the pileus, appressed-fibrillose to pruinose to near glabrous, more or less equal, dry, stuffed to hollow.

Spores in deposit: pale cream when fresh.

Notes by Hesler

Spores 6-8 x 5.5-6.5  $\mu$ , warts 0.2-0.4  $\mu$ , bands and branches forming a partial reticulum. Pleurocystidia none found; cheilocystidia 32-40 x 5-7  $\mu$ , subclavate- and more or less appendiculate. Pileus cuticle a dry trichodermium. Stipe cuticle dry, repent; rosettes present.



Mazzer - 6301

LACTARIUS GLYCIOSMUS

In mixed hemlock, white spruce, white pine, Chequamegon Nat. Forest,  
Taylor Co., Wisconsin, September 29, 1970, leg. S. J. Mazzer  
(labelled L. glyciosmus).

Note by Mazzer

Strong smell, when fresh, of Baker's coconut.

Notes by Hesler

Spores 6-8 x 5.5-6  $\mu$ . Other micro characters as in Tenn-23718.

Bigelow 11164

LACTARIUS

*Gyrocampa* (Fr.) Z.  
~~obscurus~~ sp. nov.

(see Card: Bigelow 10920)

Katahdin Lake Trail, Baxter State Park, Maine, August 20, 1962.

Spores "cream color" in deposit, 6-8(9) x 5.5-6.5(&)  $\mu$ ,  
ellipsoid, or subglobose, warts 0.3-0.6  $\mu$  high, bands  
branched, few isolated warts, no reticulum. Other micro  
characters as in Bigelow 10920.

Bigelow 11466 LACTARIUS ~~OBSCURUS~~ *glycisimus* (Fr.) Fr. sp. nov. (Card 10920)  
Baxter State Park, Maine, September 1, 1962.

Spores 6-8.5 x 5.5-6.5(7)  $\mu$ . Other micro characters  
as in Bigelow 10920.

Scattered under Populus trichocarpa, Olympic National Park, Washington,  
June 30, 1939.

Notes by Smith

Pileus 4-6 cm broad, broadly convex, becoming plane, glabrous, margin naked, slightly viscid when wet but soon dry, glabrous, azonate young, faintly zonate toward margin in age, color "ecru drab" to "pale ecru drab" in age, when young watery "light brownish drab" in places around the disc (violaceous brownish-gray). Context whitish, tinged purplish in stipe and near pellicle, hard and firm. Latex white, unchanging, and not staining gills greenish (over night), sharply acrid.

Lamellae adnate to slightly decurrent, close, narrow (- 3 mm broad), many forked near stipe, 4-5 tiers of lamellulae, "cartridge buff" young (yellowish) "light buff" or more dingy yellowish in age, not spotting.

Stipe 4-5 cm long, 12-15 mm thick, at apex, tapering toward base or nearly equal, solid, firm end hard, "pale drab gray" or paler above, more sordid downward, glaucous when young.

Spores yellowish in deposit, 7-9 x 6-7  $\mu$  \*, broadly ellipsoid to subglobose, with a broken reticulum of some magnitude as warts; basidia four-spored. Pleurocystidia and cheilocystidia not conspicuous, imbedded or only slightly projecting, scattered, 40-55 x 3-7  $\mu$ , some subfilamentous, some subfusoid. Cuticle of pileus a thick layer of hyaline, interwoven, narrow (2-3  $\mu$ ) nongelatinous hyphae.

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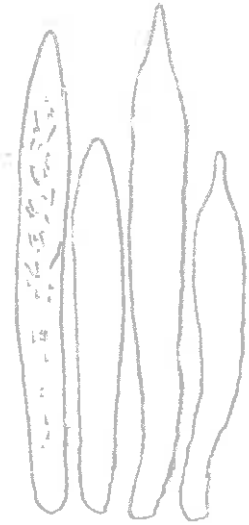
\*I found them slightly smaller (see next page) = LRH

Notes by Hesler

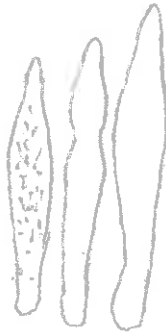
Spores 6-8 x 5-6  $\mu$ , warts 0.3-0.4  $\mu$ , bands with some branches, not forming a reticulum. Basidia 46-51 x 9-10  $\mu$ , 4-spored. Pleurocystidia 48-66 x 6-7  $\mu$ , scattered, not conspicuous, subclavate, with more or less a micro, granular-spangled; pseudocystidia filamentous; cheilocystidia 34-42 x 5-6(7)  $\mu$ , similar, scattered. Gill trama of short-celled, subparallel hyphae. Pileus trama vesiculose. Pileus cuticle surface hyphae colorless, subgelatinous, the terminal elements as erect-fibrils, or at times in tufts as pileocystidia; hypodermium none. Stipe cuticle of repent hyphae, bearing some quite similar to pileus, more or less erect hyphae; rosettes none observed. Clamp connections none. Pileus trama red-brown in Melzer's; gill trama pinkish.

Near glyciosmus.

*Factarium hubbardsii*  
*glycosmus*  
Im. 14688



Pl. x 1000



Ch. x 1000



Sm 14688 Lactarius *glycosmas*  
~~glycosmas~~

about x 1

18111 LACTARIUS GLYCIOSMUS

La Verendrye Park, Quebec, det. J. W. Groves as L.

hibbardae Pk; September 15, 1965.

Notes by Groves

Pileus 4-8 cm broad, convex, soon expanded and depressed-umbilicate, viscid, <sup>(cuticle is dry! - L.R.H.),</sup> minutely tomentose-squamulose, more so toward the margin, disc smooth. Context with an aromatic odor. Latex rather watery-white, unchanging, slowly acrid.

Lamellae close to crowded, yellowish flesh color.

Stipe 2.5-3 cm long, 8-14 mm thick, glabrous, almost concolorous with the gills, apex paler.

Spores 6-8 x 5-6  $\mu$ , reticulate with heavy band, several free ends, some isolated warts.

Notes by Hesler

(5.5)6-8  
Spores ~~5-5.5~~ x 5-5.5(6)  $\mu$ , ellipsoid, warts 0.2  $\mu$  or less high, bands (narrow and broad) forming a reticulum. Basidia 33-36 x 6-8  $\mu$ , 2-4-spored. Pleurocystidia 38-56 x 5-7  $\mu$ , clavate, projecting, conspicuous, widely scattered, granular-spangled; cheilocystidia 30-44 x 5-6  $\mu$ , similar. Gill trama of subparallel hyphae. Pileus trama vesiculose. Cuticle a zone of interwoven hyphae, the surface bearing numerous pyramidal fascicles of pileocystidia, 26-42 x 3-7  $\mu$ , clavate. Clamps none.

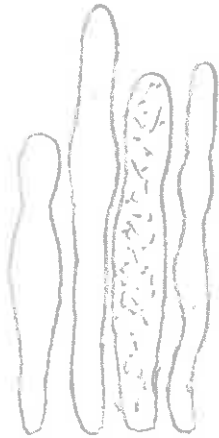


18111 Lactarius Glyciosmus

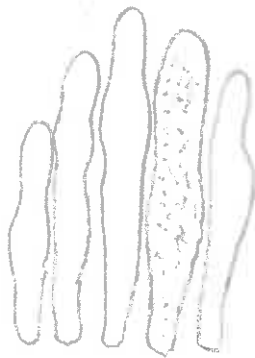
Groves called it L. hibbardae, but its aromatic odor, azonate pileus, and glabrous stipe more strongly suggest L. glyciosmus.

*Sactarius glycosmus*

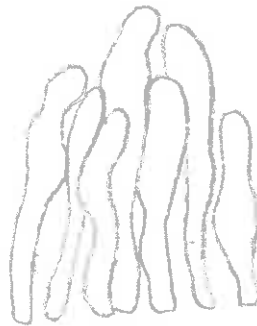
18111



Pl. - x 1000



Ch. - x 1000



Pileo - fascicle  
- x 1000

23403

LACTARIUS GLYCIOSMUS

From Idaho, leg. Petersen, det. A. H. Smith, Sept. 13, 1966

Spores 7-8 x 5.5-6.5 $\mu$ , otherwise as in Burl. coll. (Newfane, Sept. 1935). Basidia 38-43 x 8-9 $\mu$ , 4-spored. Pleurocystidia 40-62 x 6-9 $\mu$ , clavate, ventricose, granular, more common near edges; cheilocystidia 28-50 x 6-10 $\mu$ , clavate, granular. Gill trama of short-celled, narrow, subparallel hyphae. Cuticle as in Burl. Newfane Coll.

23680

LACTARIUS GLYCIOSMUS

Priest Lake, Idaho, leg-det. Smith, Oct. 1, 1956

Spores as usual. Pleurocystidia as usual, but abundant (in Burlingham coll., ~~they~~ they are rare except near edges).

23718

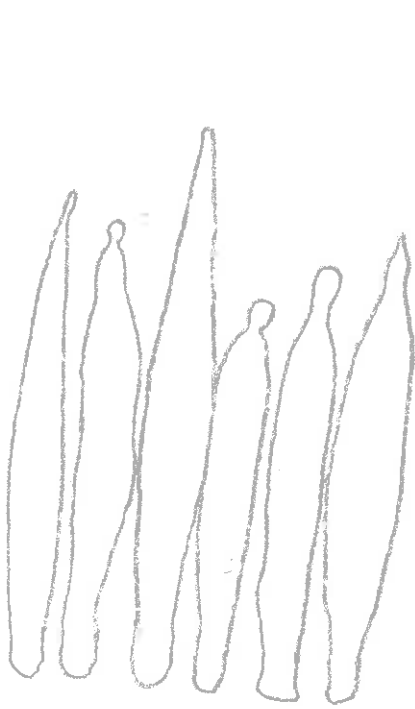
LACTARIUS GLYCIOSMUS

Hemlock-Thuja bog, Priest Lake, Idaho, leg. Petersen,  
det. A.H. Smith, September 11, 1966.

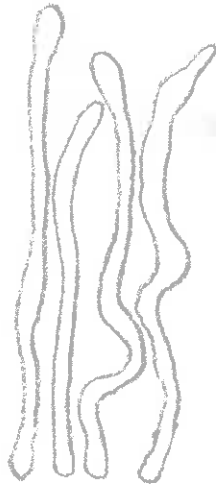
Spores 7-8.5 x 5.5-7  $\mu$ , ellipsoid to subglobose,  
warts 0.2-0.3 (0.6)  $\mu$  high, with broad bands and fine  
lines forming more or less of a reticulum. Pleuro-  
cystidia 52-74 x 7-9  $\mu$ , fusoid-acuminate, ventricose,  
subclavate, apices tapering, acute or capitate, granular;  
pseudocystidia ~~52-63~~ <sup>broad,</sup> 3-5  $\mu$ , filamentous, oily-refractive;  
cheilocystidia 35-50 x 5-7  $\mu$ , similar. Pileus cuticle  
of dry, colorless, more or less repent to erect hyphae.  
Stipe cuticle dry; rosettes present.

*Factaricus glycosmus* (Fr.) Fr.

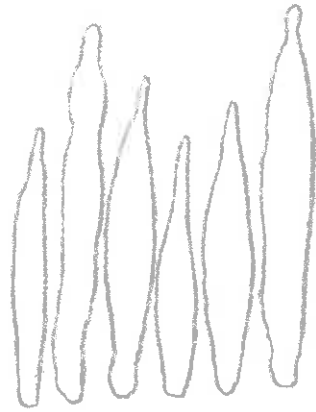
Temu - 23718



R - x 1000



Pseudo -  
x 1000



Ch - x 1000

Sm-33340

LACTARIUS GLYCIOSMUS

PHOTO

Cespitose-gregarious, in sphagnum bog, Tahquamenon State Park,  
Michigan, September 5, 1949

Notes by Smith

Pileus 3-7 cm broad, when young with a decurved inrolled margin and a sharp central conic papilla in a shallow depression, in age the margin spreading or elevated and either entire or wavy and lobed; surface dry and faintly fibrillose-scaly, at times indistinctly zoned, "light drab" and hoary to unpolished young, in age "cinnamon drab" to "wood brown," over disc nearly naked, occasionally with spots or obscure zones. Context very brittle, "pale vinaceous fawn," odor sweetish-aromatic, taste sharply acrid. Latex white, unchanging, not staining, acrid.

Lamellae short-decurrent, close, narrow, "tulleul buff," becoming "pinkish buff" or darker in age, not spotted.

Stipe 4-8 cm long, 8-15 mm thick, more or less "pale vinaceous fawn," with a hoary coating, naked and duller in age, equal, dry, soon hollow.

Spore deposit white, 6.5-8 x 5.5-7  $\mu$ , broadly ellipsoid to subglobose, reticulate, or reticulum irregular and broken. Basidia four-spored. Pleurocystidia absent or present only near gill edge, cylindrical to narrowly clavate, 45-54 x 6-8  $\mu$ , some fusoid pointed ones also present. Cuticle of pileus a thick layer of interwoven nongelatinous, narrow hyaline hyphae.

Observations: This should be compared with Sm-16812 on which no odor was noted. They are both sharply acrid.

(Note: Sm-16812 collection not found).

Notes by Hesler

Spores 6-8 x 5-6.5  $\mu$ , warts 0.2-0.4  $\mu$  high, bands and branches forming a partial reticulum. Basidia 25-33(38) x 6-8  $\mu$ , (2)4-spored. Pleurocystidia absent in some sections, but when present they are more numerous near the gill-edge and then 40-62(74) x 5-9  $\mu$ , ~~clavate~~ clavate to ventricose-acuminate; pseudocystidia filamentous, 3-5  $\mu$  broad; cheilocystidia 32-44 x 5-7  $\mu$ , similar to pleurocystidia. Pileus<sup>m</sup> cuticle of dry, hyphae repent or some more or less erect, at times in fascicles. Stipe cuticle of dry repent hyphae; rosettes present. Clamp connections none.



TENN- 35329  
Bigelow - 10920

*glycosmus* (Fr.) Fr.  
LACTARIUS ~~OBSCURUS~~ sp. nov.

Gregarious in grass, under aspen, Baxter State Park, Maine, August 9, 1962

Notes by Bigelow

Pileus 2-3.5(5) cm broad, convex at first, "vinaceous buff" to "avellaneous," not striate, becoming plane, usually umbilicate, margin sometimes incurved but becoming decurved, finally arched and elevated, surface moist, azonate appearing glabrous on disc, hoary at margin, hoary over all with loss of moisture, finely matted fibrillose under a lens. Context whitish, thin, pliant; odor sweet and pleasant, taste mild; latex white, unchanging, not staining, taste mild.

Lamellae short decurrent, "light buff" to "pale ochraceous buff," or "pinkish buff," close, narrow (1.5-3 mm) forked, edges fimbriate.

Stipe 2-3(4.5) cm x 3-8 mm, equal or apex enlarged and tapering downward, slightly pruinose at apex, glabrous below, concolor with cap, or nearly so with gills but paler.

Spore print "cream color."

Notes by Hesler

Spores "cream color" in deposit, 6-8 x ~~5.5-6.5~~ 5.5-6.5(7)  $\mu$ , ellipsoid, subglobose, warts 0.2-0.5  $\mu$  high, some isolated, with bands and branches, forming a partial or no reticulum. Basidia 36-40 x 7-9  $\mu$ , (2)4-spored. Pleurocystidia 42-66 x 6-7  $\mu$ , subcylindric or subventricose, granular-spangled, rather widely scattered; cheilocystidia 30-50 x 4-6  $\mu$ , subcylindric to subventricose. Gill trama of short-celled, interwoven hyphae. Pileus trama vesiculose. Pileus cuticle of repent, more or less interwoven hyphae, some cells becoming inflated, surface bearing terminal

Tenn - 35329  
Bigelow - 10920

*glycosmus*  
L. ~~obscurus~~ - page 2

elements as cylindric, clavate, or ventricose, pileocystidia, 20-45 x 3-8  $\mu$ , scattered and often repent, or occasionally in tufts; rosettes in lower portion of the pileus-flesh. Stipe cuticle repent; rosettes not found. Clamp connections none.

Near L.  $\nabla$  subisabellinus which is pale-isabelline, has adnate gills which are cream-colored, slightly larger spores with much longer warts, and a different cuticle of the pileus (cellular). The pileus cuticle structure, spore-ornamentation and cream-colored spores, and colors of pileus separate it from L. subdulcis. Near subfragrans which has white spore-deposits.

Same as Bigelow-11466.

*Bactarius ~~obscurus~~ sp. nov. glycosmus*

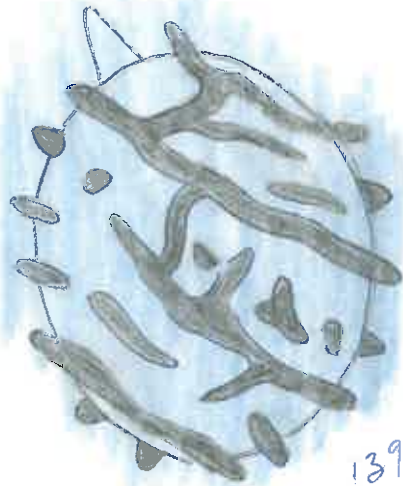
Biglow - 10920  
(Tenn - 35329)



Sp - x 1000

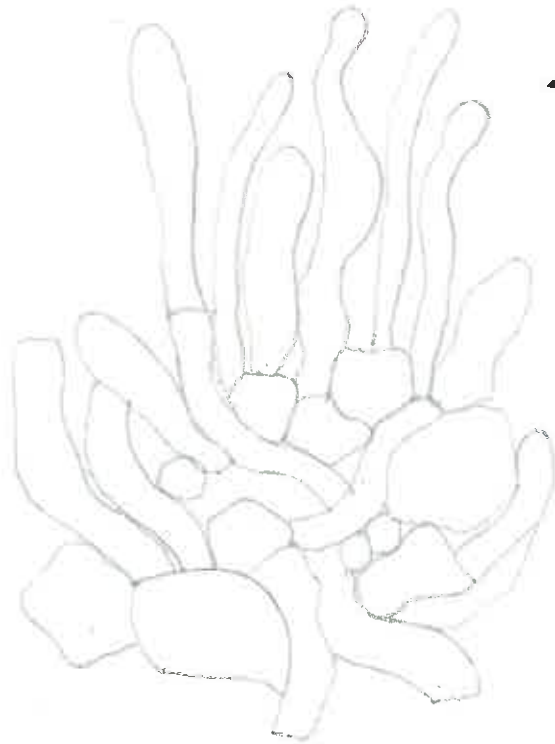


Ch - x 1000



Spore - x 8000

1394



Pilus - cuticle  
x 1000

35371

LACTARIUS GLYCIOSMUS

M.G. 13638

(Labelled: mammosus)

Norway, *Seq. Maas G.*, Sept 1, 1961.

Notes by Bas

Pileus up to 75 mm diameter, convex, then depressed in centre, without or with small acute umbo, densely woolly-felted, reddish-brownish grey with more or less conspicuous narrow darker brown zones, red-brown colour more pronounced towards centre, centre ruddy brown. Flesh pallid, dingy yellow flesh colour. Latex white, turning somewhat yellowish. Odour of coconut. Taste slightly acrid?

Stipe 55-70 x 12-17 mm, becoming hollow, cylindrical, base somewhat narrowed, finely felted, especially at the apex, somewhat rugulose, greyish flesh coloured, paler zone at apex, whitish cottony at the base.

Gills slightly decurrent, crowded, fairly thin, sometimes furcate, up to 5 mm broad, flesh coloured yellow, smooth edge.

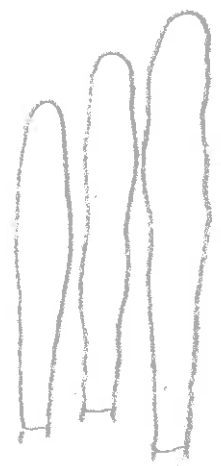
Notes by Hesler

Spores (5.5)6-8.5(9) x 5-6  $\mu$ , warts 0.2-0.4  $\mu$ , bands and branches forming a partial reticulum. Pleurocystidia 43-58 x 7-8  $\mu$ , sub-cylindric to subventricose, scattered; pseudocystidia 2-4  $\mu$  broad; cheilocystidia 30-37(43) x 5-7  $\mu$ , similar. Pileus cuticle a trichodermium with hyphal tufts. Stipe cuticle a trichodermium; rosettes present.

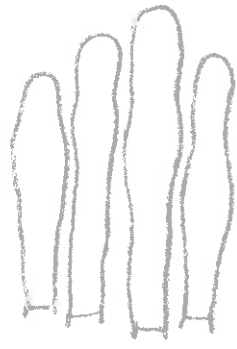
Odor typical of glyciosmus.

*Factarium glycosmus*

Maas 8 - 13638 (Tem <sup>35371</sup> ~~3537~~)



Gl x 1000



ch x 1000

Sm - 38417

LACTARIUS GLYCIOSMUS

Top white

Gregarious on wet sand under jack pine, Whitefish Point,  
Tahquamenon, Michigan, September 7, 1951

Notes by Smith

Pileus 2-4 cm broad, plane with a shallow umbilicus or broadly vase-shaped surface dry and dull brown (grayer than snuff brown, and with more yellow than wood brown), cuticle checked in age and then surface appearing diffracted-scaly at least near margin. Context thin, fragile; odor fragrant as in glyciosmus, taste tardily acrid. Latex white, unchanging, not staining the gills.

Gills close, broadly adnate, broad, "light pinkish cinnamon" to "vinaceous buff" darker in age, not forked or only rarely so.

Stipe 2-3 cm x 5-8 mm, equal or enlarged either way, unpolished, more or less concolor with gills, paler within, surface unspotted.

Spores - white in mass.

Notes by Hesler

white,

Spores  $6-8 \times 5-6 \mu$ , warts 0.2-0.4. Other macro characters as in Tenn-23718 and others.

Sm - 38636

LACTARIUS GLYCIOSMUS

In sphagnum bog, Tahquamenon State Park, Michigan, September 9,  
1951.

Smith says: CARD - 33340 (which is L. glyciosmus)

All micro characters, and macro appearance indicate  
L. glyciosmus.

Sm - 38778

LACTARIUS GLYCIOSMUS (Fr) Fr.

Tahquamenon State Park, Michigan, Smith, Sept. 13, 1951

(Smith says see: Card 38417)

Micro characters **agree** with Sm-38417.



Sm-50815

LACTARIUS GLYCIOSMUS

Tahquamenon, in bog, Michigan, October 5, 1955

Notes by Smith

Pileus more or less bone brown. Odor of glyciosmus, taste faintly acrid. Latex white, unchanging. Gills pale buff to cinnamon buff.

Spores white.

Notes by Hesler

Spores and other micro features as in glyciosmus.

Sm - 58214

LACTARIUS GLYCIOSMUS

Under spruce, Culhane Lake, Michigan, September 16, 1957

Notes by Smith

Pileus dry, 5 cm broad, unpolished, purple-umber, zonate, grayish appressed-fibrillose near margin. Odor fragrant as in glyciosmus. Latex milk-white, acrid, not staining.

Lamellae flushed pinkish buff.

Stipe pallid, flushed pinkish buff.

Notes by Hesler

Spores (5.5)6-8(8.5) x 4.5-6  $\mu$ . Otherwise as in type. No rosettes found in trama of pileus or stipe.

The odor, and larger spores suggest glyciosmus rather than hibbardae.

Sm-76135

LACTARIUS <sup>*glycosmus*</sup> ~~SUBFRAGRANS~~ sp. nov.

Coolin, Idaho, A. H. Smith (date? 1968?)

Notes by Smith

Pileus dry, "tilleul buff," fragile; odor more or less fragrant.

Lamellae crowded, narrow, decurrent, pale yellowish.

Stipe dry, pallid.

Spores in deposit white.

Notes by Hesler

Spores 6-8.5 x 5.5-6.5  $\mu$ , warts 0.2-0.5  $\mu$ , otherwise as in Sm-76914. Pleurocystidia and cheilocystidia as in Sm-76914, but more rare. Pileus cuticle of dry repent hyphae.

Sm-76216

*glyciosmus*  
LACTARIUS ~~SUBFRAGRANS~~ sp. nov.

Under alder, Coolin, Idaho, September 11, 1968 (labelled

L. glyciosmus)

Notes by Hesler

Spores 6-8.5 x 5.5-6.5(7)  $\mu$ , warts 0.2-0.5  $\mu$ , bands and branches form a partial reticulum. Pleurocystidia, cheilocystidia, and pileus cuticle as in Sm-76914.

Sm-76914

LACTARIUS ~~SUBFRAGRANS~~ *glycosmus* sp. nov.

Under alder, Coolin, Idaho, October 4, 1968

Notes by Smith

Pileus 4-9 cm broad, plano-depressed becoming infundibuliform, surface hoary at first with dingy vinaceous buff undertone, soon fading out to whitish, and azonate. Context noticeably thin, fragile, odor faintly fragrant, taste mild,  $\text{FeSO}_4$  - 0. Latex creamy white and unchanging.

Lamellae crowded, narrow, decurrent, near cinnamon-buff or dingy pale orange-cinnamon, becoming paler (but near pinkish buff) in age, not spotting.

Stipe 3-6 cm long, 5-11 mm thick equal, hollow, fragile, naked, (or hoary like pileus young) dry, base sparsely white strigose.

Notes by Hesler

Spores white in deposit, 6.5-8.5 x 5.5-6.5/<sup>(7)</sup> $\mu$  often slender-ellipsoid, warts 0.2-0.6  $\mu$  high, bands and branches forming a partial reticulum. Pleurocystidia 38-57 x 7-8  $\mu$ , ventricose, often acuminate, scattered and sometimes inconspicuous; cheilocystidia 32-38 x 5-7  $\mu$ , similar, scattered, conspicuous when present. Pileus cuticle not greatly differentiated, of dry, repent hyphae; hypodermium none. Stipe cuticle of dry, repent hyphae; rosettes none.

*Sactarium subfragrans* <sup>glycissimus</sup> sp. nov.

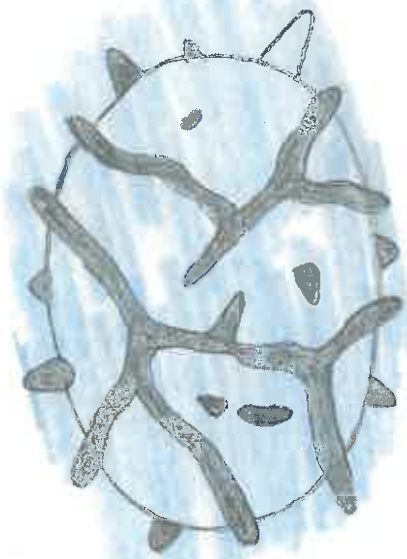
Sm-76914 - ~~Sp.~~



As  $\times 1000$



Ch  $\times 1000$



140 $\mu$

Spore  $\times 8000$

Sm - 80510

LACTARIUS ØY GLYCIOSMUS

In wet soil, swamp, New Castle, England, September 19, 1971

Notes by Smith

Pileus grayish-glaucous. Latex whey-like, mild. Gills pale cinnamon tawny, close, narrow.

Notes by Hesler

Spores 6-8 x 5-6  $\mu$ , warts 0.2-0.4  $\mu$ , bands and branches forming a partial reticulum. Pleurocystidia 48-63 x 6-8  $\mu$ , subcylindric, scattered; cheilocystidia 33-44 x 5-7  $\mu$ , similar, rather abundant; pseudocystidia numerous, filamentous, 2-4  $\mu$  broad. Pileus cuticle of dry repent hyphae, some hyphae more or less erect.