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# Lactarius Notebook 17

L. R. Hesler

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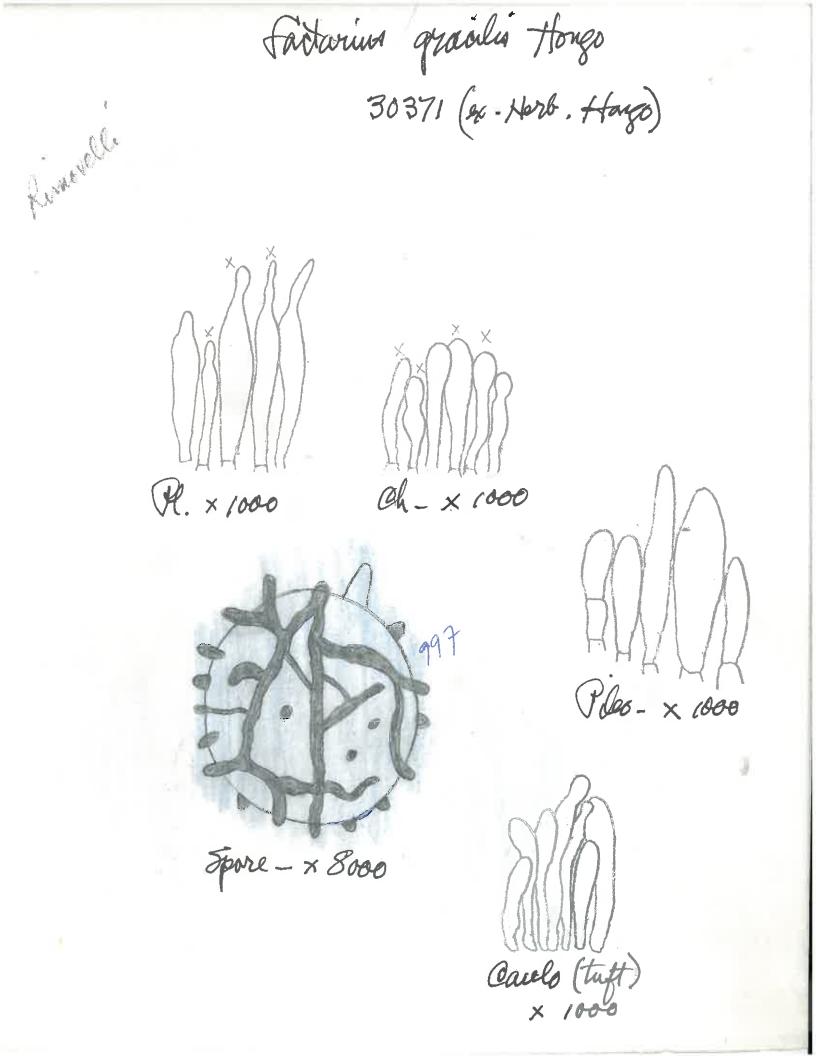
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# 30371 LACTARIUS GRACILIS Hongo

Under Abies, Otsu, Japan, May 31, 1966.

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Spores in deposit cream colored,  $(6)7-9 \ge (5.5)6-8(9) \mu$ , ellipsoid to subglobose, watts 0.3-0.6  $\mu$  high, with broad and narrow bands forming a partial reticulum. Basidia 36-40  $\ge 8-10 \mu$ , (2)4-spored. Pleurocystidia 34-57  $\ge 5-10 \mu$ , clavate to ventricose, scattered, inconspicuous; pseudocystidia filamentous; cheilocystidia 24-34  $\ge 3-7 \mu$ , clavate or subcylindric, at times slightly capitate, scattered. Gill trama of more or less interwoven hyphae. Pileus trama vesiculose. Pileus cuticle of repent hyphae, not differentiated except for scattered hyphal mounds; with scattered pileocystidia, 30-52  $\ge 6-15 \mu$ , ventricose to more or less clavate. Stipe cuticle of repent hyphae; caulo\$cystidia 26-48  $\ge 4-8 \mu$ , clavate to cylindric, in tufts on apical portion; rosettes none. Clamp connections none.



Sastarius gracilis Hongo 30371 1673 Pileus: cuticle-mound of hyphae × 1000

#### LACTARIUS GRACILIS Hongo

Jour. Japanese Bot. 32:144. 1957

ILLUSTRATION:

Jour. Jap. Bot. 32, fig. 2, g-h.

Pileus 1-2(2.5) cm broad, obscurely convex, then plano-depressed, acutely papillate, dry, azonate, minutely granulose-subvelutinous, center brown, marginal area dilute-brown to subavellaneous, margin at first involute and barbate. Context thin, brown, odorless. Latex white, unchanging, staining the lamellae sordid, taste mild.

Lamellae adnate-decurrent, pale flesh-colored, becoming sordid where bruised, close to subdistant, often forked, medium narrow, lamellulae present.

Stipe 2-5(7) cm long, 2-3(6) mm thick, reddish-brown, equal or subattenuate toward the apex, hollow, whitish pruinose below, base strigose.

Spores in deposit cream colored, 7-7.75-6.75  $\mu$  (excl. orn.), subglobose, warty and reticulate, amyloid. Basidia 36-46 x 7.5-11  $\mu$ , 4-spored. Cheilocystidia 25-28 x 6.5-9.5  $\mu$ , thin-walled, hyaline, clavate, sparse, rather difficult to demonstrate.

<u>HABITAT</u>: Gregarious or scattered, among mosses or fallen leaves in woods, Otsu, May 18 and 25, 1953; May 14 and June 10, 1954; May 18, 1955 (Type); June 19-20, 1956. Spring to summer. The shaggy edge of the cap, the slender stem, and the white, mild milk are the distinguishing characters of this plant. Rather componen. 35240 In pine woods, Oak Ridge, leg. Dick Martin, October 31, 1970

Pileus 4-7 cm broad, plano-convex, near "olive-brown," viscid, glabrous, azonate, margin even. Context pallid or whitish, rather firm but pliable; odor alcaline, taste slightly acrid. Latex white, unchanging, not staining, slightly burning-acrid.

Lamellae subdecurrent, pallid then "cinnamon buff" rather close, medium narrow, few forking behind, lamellulae numerous.

Stipe 4-8 cm long, 8-12 mm thick, concolorous with the pileus, but paler, equal, glabrous, more or less spongy, pliable, not spotted.

Spores 7-9.5 x 6-7.5(8) μ, warts 0.2-0.5 μ, bands and branches forming a partial reticulum. Pleurocystidia 52-76 x 5-10 μ, fusoidventricose, acuminate; cheilocystidia 30-52 x 4-6 μ, similar. Pileus or Auto-Montanata Stipe cuticle a zone of slender, vertically oriented, colorless, dry hyphae; rosettes present.

Cf. closely with where collections of appalachianensis.

Near <u>L. atrofuscus</u> but has an even margin, alcaline odor, and shorter  $(0.2-0.5 \mu)$  warts. Near <u>subumbrinus</u> but has an alcaline odor, and shorter warts.

N. Y. State Cab. Ann. Rept. 23:120. 1873

Pileus 1.5-516 3.5 cm broad, convex, somewhat papillate-umbonate, expanded-depressed, "drab," disc often "benzo brown," azonate, dry, tomentose-squamulose, margin incurved, even or slightly striate. Flesh thin, white; odor mild, taste mild. Peck described the taste as slightly acrid (in his originaldescription). Latex white, unchanging, not abundant, slowly or promptly acrid. Lamellae decurrent, pallid then "chamois," "warm buff," to "pinkish buff," nearly subdistant, medium broad, many short, rarely forked. Stipe 2-3 cm x 3-5 mm, pallid grayish, glabrous, base white-pubescent, equal or tapering upward, stuffed then hollow,dry.

Spores 6.5-8.5 x 5.5-7  $\mu$ , ellipsoid, reticulate-verrucose, warts .5-.8  $\mu$  high, white in mass (pale cream in No. 22695 and in No. \_\_\_\_\_). Pleurocystidia aciculate to fusoid, 50-78 x 5-7  $\mu$ ; cheilocystidia few, 28-34 x 3-6  $\mu$ , fusoid, cylindric, rarely ventricose. Gill-trama vesiculose with hyphae. Subhymenium of small cells, the zone fairly distinct. Epicutis of repent hyphae, with scattered columns of hyphae (tomentose-squamules). Clamps none.

Habitat and Distribution - Cn soil and decaying logs, in conifer and deciduous woods (No. 13048 in sphagnum bog), Tennessee, North Carolina, and Florida, July-October.

Reported in France (J. Lenge 1934:7):

Floodwood, N. Y., August.

#### 2nd Type

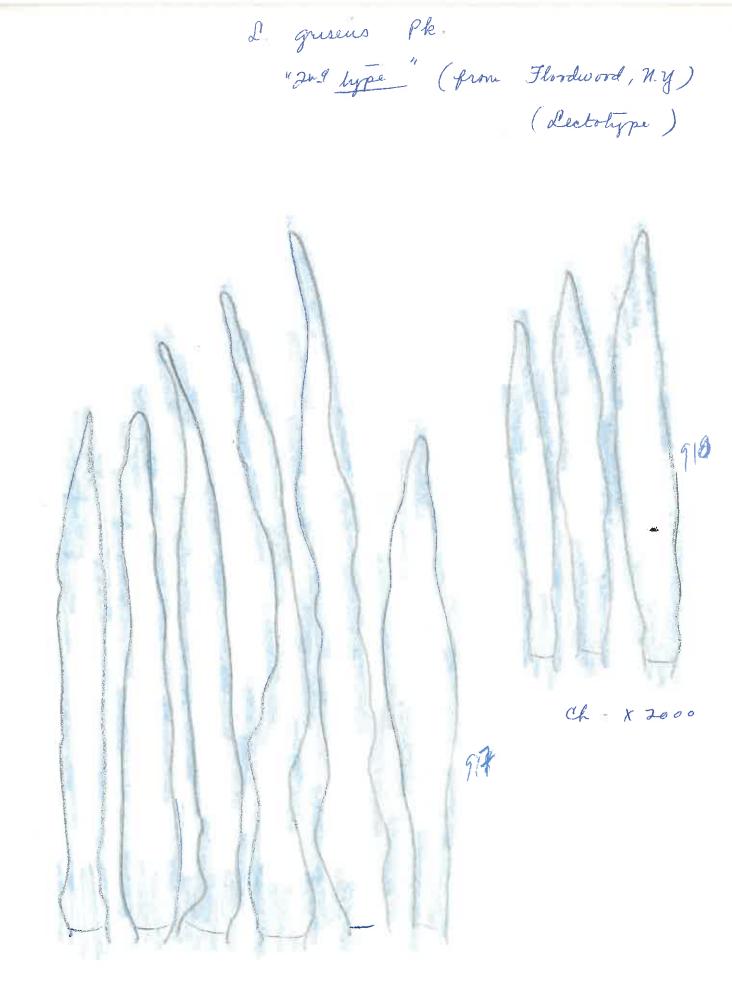
Spores 7-8.5 x 5.5-7  $\mu$ , ellipsoid to more or less subglobose, warts 0.4-1.0  $\mu$  high, with bands which often have free ends, more rarely reticulate. Basidia 26-30 x 6-7  $\mu$ , 4-spored. Pleurocystidia 58-90(102) x h-8  $\mu$ , aciculate to ventricose, apices tapering, at times more or less constricted, granular-spangled; cheilocystidia 42-55 x 5-7  $\mu$  similar. Gill trama cellular. Pileus trama vesiculose. Pileus cuticle of repent hyphae, with scattered to numerous, more or less pyramidal tufts of hyphae (scales). Stipe cuticle of repent hyphae, bearing widely scattered tufts, as in pileus; caulocystidia 47-62 x 3-5  $\mu$ , ventricose to aciculate, widely scattered; rosettes not found. Clamp connections none.

A note, writte n and signed by H. D. House, accompanies the specimens, states: "Peck gives "Adirondack Mts." as 2nd locality in original description. These Floodwood specimens were the only Adirondack ones mounted and may be regarded therefore as 2nd Type."

In Peck's original description he gives localities as Sandlake (Rensselaer Co., near Albany) and Adirondack Mts. August and September. I have not seen the Sandlake collection.

A lectotype should be selected!

Fætarius grisens PK. "2nd Fipe (from Foodwood, M.Y.) (Feototype) from Oh - × 1000 Pl- × 1000 910 Caulo - x 1000 Spac - × 8000



Pl - X 2000

Sm - 492

7th Lake, New York, August 24, 1934.

All characters as in the type.

#### N. J. Smith - 1421 LACTARIUS GRISEUS

Huron Mt. Club, Marquette Co., Michigan, August 12, 1968

# Notes by Ammirati

Pileus "cinnamon brown" to "Prout's brown," odor and taste mild.

# Notes by Hesler

No notes on latex. Seems to be L. griseus, acc. to micro characters.

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#### N. J. Smith - 1423 LACTARIUS GRISEUS

Fisher Creek, Marquette Co., Michigan, August 12, 1968

# Notes by N. Smith

Pileus depressed, papillate or not, fibrillose-scaly, scales "ochraceous tawny" to "Dresden brown" or "Mummy brown." Iamellae subdecurrent, "light ochraceous buff." Stipe dry, concolor. Latex white, sparse, mild.

#### Notes by Hesler

Micro characters as in Type. Rosettes abundant in lower pileuscontext. N. J. Smith - 1487 LACTARIUS GRISEUS On wood, Marquette County, Michigan, August 22, 1968

# Notes by N. J. S.

Pileus fibrillose, with slightly raised (near avellaneous) scales. Latex white, unchanging, taste slightly of radish. Stipe light gray brown.

# Notes by Hesler

Micro characters as in Type. Rosettes in lower portion of pileus trama.

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N. J. Sm-1644

# LACTARIUS GRISEUS

**4**5

Huron Mts., Marquette Co., Michigan, August 29, 1968.

Micro characters as in Type. Rosettes in stipe.

M Sm-1680

Marquette Co., Michigan, August 29, 1968.

Spores  $6.5-8.5 \ge 5.5-7 \mu$ , warts  $0.4-0.8 \mu$  high, reticulum none or incomplete. Pseudocystidia numerous, filamentous. Otherwise as in Type.

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# N 5m-1737

# LACTARIUS GRISEUS

On old log, Huron, Michigan, August 29, 1968.

Smith says: spores in deposit pale buff.

Spore warts 0.4-1.0 µ high. Pseudocystidia abundant. Otherwise as in Type.

**4**66

# Isaacs - 2132 LACTARIUS GRISEUS

On mossy soil, near brook, Rockland County, New York, June 10, 1963. (Labelled L. griseus, but no notes.)

Spores and other micro characters indicate griseus. It has to be assumed that the latex was white and acrid.

**4**5

#### Ammirati - 2229 LACTARIUS GRISEUS

On conifer log, Huron Mt. Club, Marquette Co., Michigan, August 12, 1968

# Notes by Ammirati

Cap up to 1.5 cm, depressed, ground color whitish, densely gray-brown fibrillose-scaly, with reddish to tawny tints. Context whitish, unchanging; odor none. Latex white, taste mild.

Lamellae decurrent, subdistant.

Stipe 2-3 cm x 1.5-3  $\notin$  mm, light buff to dull white, tinged tawny or grayish, finely pruinose, base slightly enlarged.

# Notes by Hesler

Spores 7-8.5 x 5.5-7  $\mu$ . Other micro characters as in the Type.  $\_$ 

# Ammirati - 2332 LACTARIUS GRISEUS

On sphagnum, Huron Mt. Club, Marquette Co., Michigan, August 19, 1968

#### Notes by Ammirati

Pileus 2.5 cm, fibrillose to scaly, these gray-brown to buff, ground color whitish to dull cream. Odor and taste mild. Latex slight and watery, not staining. Lamellae deep cream to light, ochraceous buff, close. Stipe hollow, whitish above and at base, elsewhere pale ¢graybrown.

Spore deposit: pale cream buff.

#### Notes by Hesler

Micro characters as in Type.

Habitat unusual! Possibly attached to buried wood.

#### Ammirati - 3483 IACTAN

#### LACTARIUS GRISEUS

Silver River, Baraga Co., Michigan, more or less scattered on conifer logs, August 4, 1967 (Labelled L. griseus; no notes.)

# Notes by Hesler

Spores 7-9 x 5.5-6.5(7)  $\mu$ . Pleurocystidia 68-87 x 5-8  $\mu$ , ventricoseacuminate; cheilocystidia 38-47 x 5-7  $\mu$ , similar. Pileus cuticle bearing tufts or columns of erect hyphae (scales); rosettes in lower trama.

# Thiers - 4008 LACTARIUS GRISEUS

In humus or on logs, UMBS, Michigan, August 13, 1956.

All characters as in type and Sm-10648. A few rosette cells in outer cortex of stipe. None found in Sm-10648.

**4**5

Spores 6-8.5 x 5.5-7  $\mu$ . Pleurocystidia abundant. Otherwise usual.

8972 LACTARIUS GRISEUS Indian Gap/Chimneys Trail, July 26, 1936.

Spores 6-8.5 x 5.5-7  $\mu$ . Otherwise usual.

On soil, Elkmont, August 9, 1936.

Spores 6-9 x 6-7.5  $\mu$ . Otherwise usual.

-

9162

9348

On soil and rotting wood, Indian Creek, August 23, 1936.

4

Spores 5.5-8.5 x 5.5-7  $\mu_{0}$  warts 0.4-1.2  $\mu$  high. Otherwise usual.

Swain Co., N.C., September 7, 1936.

Spores 7-9 x 5.5-7  $\mu$ . Otherwise typical.

On decayed log, Sevier Co., Tenn., October 4, 1936.

Spores 6-8(8.5) x 5.5-6.5(7)  $\mu$ . Otherwise usual.

445

On soil, Newfound Gap, Tenn., August 18, 1935.

Pileus 2-4.0 cm broad, floccose-tomentose and squamulose, margin distinctly striate; odor mild. Latex white, unchanging, mild.

Gills adnate, close.

Stipe hollow, 1.5-3.0 cm long, 2-4 mm thick.

Spores 6-8.5 x 5.5-7 µ.

Agrees with <u>griseus</u> Pk. except margin is striate and milk not slowly acrid; spores **amal/Mar** agree with <u>griseus</u>.

On decaying wood, Tremont, Tenn., September 11, 1934.

Spores 7-9 x 5.5-7.5  $\mu$ ; pleurocystidia 52-76 x  $\mu$ -9  $\mu$ , aciculate to subfusoid, apices tapering, scattered, conspicuous, granular-spangled; cheilocystidia similar, smaller.

In swamp, Ontario, August 26, 1936, kg. Jackson

Spores 6-8.5 x 5.5-7 µ. Otherwise usual.

#### Bigelow - 10538

LACTARIUS GRISEUS Pk.

Scattered on mossy conifer stump, Katahdin Stream Campground, Baxter State Park, Maine, July 26, 1962 (in Win. Man. Nork)

#### Notes by Bigelow

Pileus 1-2 cm broad, plane, umbilicate, margin narrowly decurved and inrolled at first, finally elevated and then infundibuliform, surface velvety over all, becoming diffracted-scaly about umbelicus, "benzo brown" young, margin soon paler ("light ochraceous buff"), disc paler to "wood brown" or "drab," flesh white thin, brittle, taste acrid, odor rather strong fungoid; latex white, unchanging.

Lamellae decurrent, close, narrow to moderately broad (2.5 mm), forked, white then darkening to "light buff," "cream buff," edges even.

Stipe 2-4 cm long, 2-5 mm thick at apex, base enlarged, stuffed, often curved near base, glabrous, concolor with gills, drab tinged after bruising.

#### Notes by Hesler

Spores 7-8.5 x 5.5-7  $\mu$ , warts 0.5-1.0  $\mu$ , bands broken and continuous, few lines, no reticulum. Pleurocystidia 48-86 x 5-8  $\mu$ , aciculate to ventricose; cheilocystidia 40-52 x 5-7  $\mu$ , fusoid to subfusoid. Cuticle of pileus with tufts of hyphae (scales). Rosettes in stipe. Bigelow - 10581 LACTARIUS GRISEUS

(see Card: 10538). Penobscott Co., Maine, July 27, 1962, (Mars. Korb.)

Spores 7-8.5 x 5.5-7  $\mu$ , warts 0.5-0.8  $\mu$ , bands forming no reticulum to partial, or at times complete. Basidia 37-42 x 8-9  $\mu$ , 4-spored. Pleurocystidia 60-82 x 6-9  $\mu$ ; cheilocystidia 34-40 x 5-7  $\mu$ . Cuticle of stipe bearing tufts of hyphae (scales). Sm-10648

#### LACTARIUS GRISEUS

Indian Camp Creek, GSMNP, Tenn., August 30, 1938.

All characters as in type. No rosettes found in stipe cortex; a few found in Thiers - 4008.

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Bigelow 10978 LACTARIUS GRISEUS Pk.

# (see <u>Card</u>: 10538)

Trout Mt., Piscataquis County, Maine, August 12, 1962. (in Herb. Mana)

Spores and other characters agree with the type. Rosettes are rare and inconspicuous in the stipe. Bigelow 11365 LAG

**4**66

Near Norcross, Penobscot County, Maine, August 29, 1962. (in Nerb. Man.)

Spores and other micro characters as in Type.

#### LACTARIUS GRISEUS Pk.

11655

In sphagnum bog, Ontario, August 19, 1936, lag. A.H. Smith

Spores 7-9 x 5.5-7.5  $\mu$ . Otherwise usual.

Bigelow 12933 LACTARIUS GRISEUS pk. (Card: 10538) Lake Mansfield, Vermont, July 20, 1964 (in Herb. Man.)

This agrees microscopically with the Type/

13048 LACTARIUS GRISEUS Pk.

In sphagnum bog, Shady Valley, Tenn., October 13, 1940.

**4**5

Spores 7-9 x 5.5-7.5 µ. Otherwise usual.

Bigelow - 13193 LACTARIUS GRISEUS (Card:10538) On mossy, conifer log, Stoweg Vt., July 31, 1964 (in Nerb. Man.)

Micro characters as in the Type.

Bigelow - 13695 IACTARIUS GRISEUS (Card: 10538) Under pine, Stowe, Vermont, August 30, 1964 (in Herb. Man.)

**....** 

Micro characters as in the Type.

Bigelow - 13799 IACTARIUS GRISEUS (Card: 10538) Lamoille Co., Vermont, September 1, 1964, in North. Man.

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Micro characters as in Type.

14473LACTARIUS GRISEUS Pk.PHOTO<br/>(color)In humus, deciduous woods, Mt. Lake, Va., July 30, 1958.

#### Notes by Milliken

Pileus 1-2.5 cm, "deep grayish olive" when young, paler at maturity, floccose-scaly.

Lamellae subdecurrent, creamy white, close.

Stipe 1.5-2.7 cm long, 3 mm thick, concolor but paler.

Spore deposit whitish to pale cream.

#### Notes by Hesler

46

Spores 6-8.5 x 5.5-7 µ. Otherwise typical.



14473 - Factarius griseus PK

# 17057 LACTARIUS GRISEUS Pk.

Under hemlock, Indian Creek, July 8, 1945.

Spores 5.5-8(8.5) x 5.5-7  $\mu$ . Otherwise usual.

20997 LACTARIUS GRISEUS Pk. log. Sharp, Maywood G. (dalbooke M.C., Aug 16, 1953) Pileus 1.5-3.5 cm broad, convex, somewhat papillate-umbonate, expanded-depressed, "drab," disk often "benzo brown," azonate, dry, tomentosesquamulose, margin incurved, even or obscurely striate. Context thin, white; and taste mild. Latex white, unchanging, not abundant, slowly or sometimes promptly acrid.

Lamellae decurrent, pallid then "chamois," "warm buff," to "pinkish buff," rather close, narrow to medium-broad, many short, rarely forked.

Stipe 2-3 cm long, 3-5 mm thick, pallid grayish, glabrous, base white-pubescent, equal or tapering upward, stuffed then hollow, dry.

Spores white in mass (pale cream in No. 22695), ellipsoid, warts .5-.8  $\mu$  high. Pleurocystidia aciculate to fusoid, 50-78 x 6-7  $\mu$ ; cheilocystidia few, 30-34 x 5-6  $\mu$ , fusoid, rarely ventricose. Cuticle of repent hyphae, with scattered columns of hyphae (tomentose-squamules).

On mossy soil, hemlock-rhododendron forest, Highlands, N.C., August 21, 1955.

46

Spores 6.5-9 x 5.5-7  $\mu$ . Otherwise usual.

22053 LACTARIUS GRISEUS Highlands, N.C., August 22, 1955.

Spores 6-8.5 x 5.5-7  $\mu$ . Otherwise usual.

22330 LACTARIUS GRISEUS Highlands, N.C., July 22, 1956.

Spores pale cream (B) in deposit, 6-8.5(9) x 5.5-7  $\mu$ . Otherwise usual.



22330 - Lactarius griseus PK.

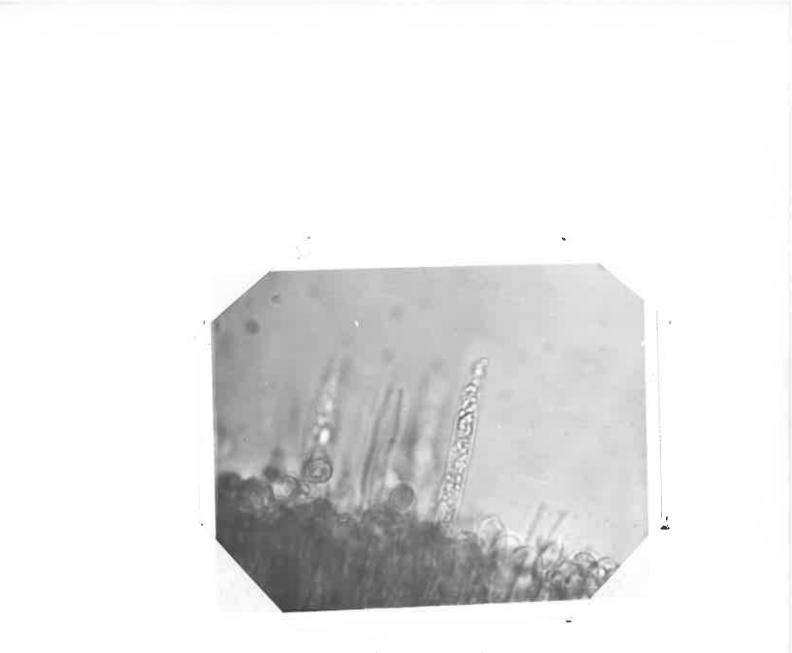


Fig. 10. - Lactarius griseus Pk. (No. 22330) Section through a lamella showing pleurocystidia. X 1250



Fig. 11. - Lactarius griseus Pk. (No. 22330) Repent cuticle, section near the margin, glabrous. X 1250

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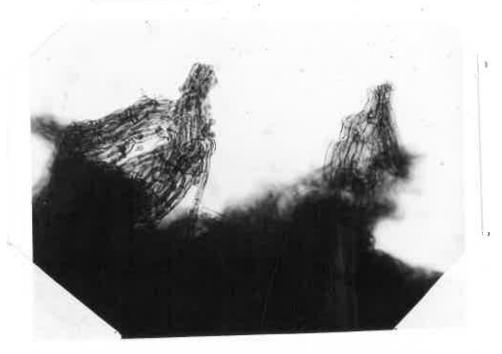


Fig. 12. - Same as above, except section through the scaly disk showing two scales, X 275



Fig. 11. - Lactarius griseus Pk. (No. 22330) Repent cuticle, near the margin, glabrous. X 1250

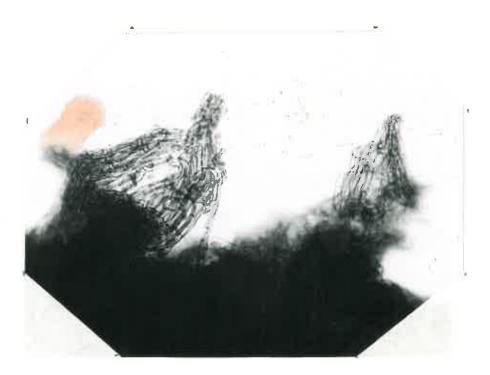


Fig. 12. - Same as above, except section through the scaly disk showing two scales. X 275

# 22695 LACTARIUS GRISEUS Pk.

On deciduous log, Cades Cove, October 9, 1957.

Spores in deposit: B. Otherwise usual.

- 22

Whiteside, Highlands, N.C., August 16, 1958.

Spores in deposit: B, 6-8.5 x (5)5.5-7  $\mu$ . Otherwise usual.

# 24507LACTARIUS GRISEUS Pk.On mossy hemlock log, Cades Cove, August 23, 1961.

Spores 6-8.5 x 5.5-7  $\mu$ . Otherwise usual.

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# 24507 - Lactarius gruseus Dr - × 1

On soil-humus, Cades Cove, August 29, 1961.

Spores  $6-8.5 \times 5.5-7 \mu$ . Otherwise usual.



On mossy hemlock log, Cades Cove, August 31, 1963.

Spores 6-8(8.5) x 5.5-7  $\mu$ . Otherwise usual.



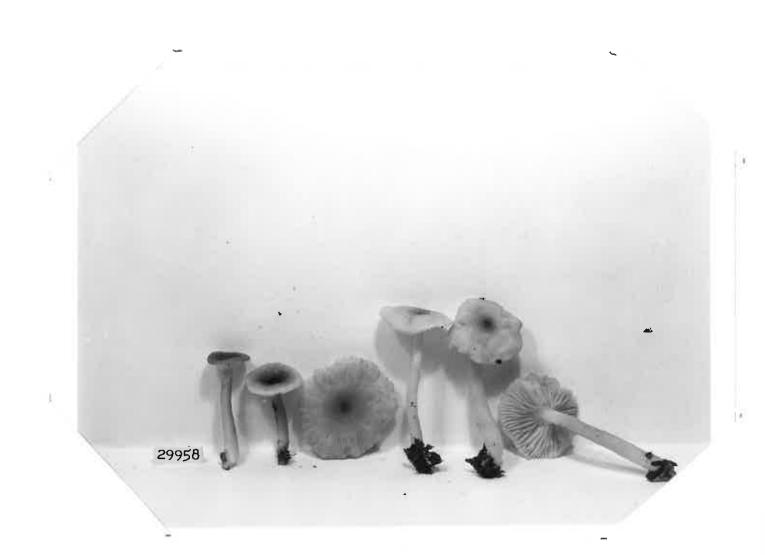
25786 - Leitarius grizeus PK. - × 1

On duff, pine woods, Toxaway Gorge, N.C., August 2, 1961.

Spores 5.5-8(8.5) x 5.5-6.5 µ. Otherwise usual.

On soil, deciduous woods, Coweeta Lab., N.C., August 28, 1967.

Spores 6.5-9 x 5.5-7 µ. Otherwise usual.



29958 - Factarius griseus

on decaying wood, Cades Cove, Tenn., GSMNP, Aug. 12, 1969

Spors in deposit: "cream color" to "light buff". Otherwise typical. in pine humus (needles and wood), Cades Cove, Aug. 25, 1970

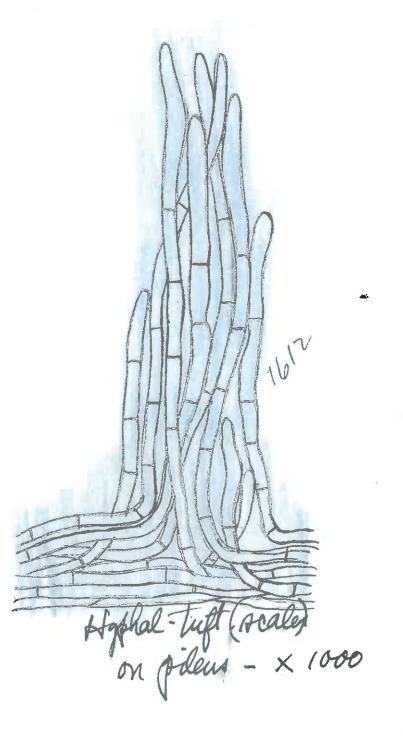
Spores in deposit: "light buff". Otherwise typical.

### Sm - 75082

On old log, Sharon Hollow, Michigan, September 2, 1967.

All characters as in type. Stipe and pileus outer cortex (both) with a few rosettes of cells.

Factorius griseus Em - 75082



Sugar Island, Michigan, July 30, 1968.

Sm-77217

Spores 5.5-8 x 5-6  $\mu$ , warts 0.3-0.6  $\mu$  high, bands scarcely forming a complete reticulum. Otherwise as in the Type.

### Sm-77889

#### LACTARIUS GRISEUS

Chippewa Co., Michigan, August 13, 1969

## Notes by Smith

Taste mild.

## Notes by Hesler

Spores 6-9 x 5-7(7.5)  $\mu$ . Pleurocystidia rather rare. Otherwise usual.

30372 LACTARIUS HATSUDAKE Tanaka In young pine forest (<u>Pinus densiflora</u>), Otsu, Japan, November 17, 1962 (ex-Herb. Hongo).

Spores 7-9 x 6-7  $\mu$ , ellipsoid, warts very short, with broad and narrow bands forming a slight reticulum. Basidia 38-42 x 8-10  $\mu$ , 4-spored. Pleurocystidia, cheilocystidia, pileocystidia, and caulocystidia none. Cuticle a gelatinous zone, 130-180  $\mu$  thick. Gill trama of irregular cells. Pileus trama vesiculose. Clamp connections none.

Described in : Bot. Mag. Tokyo 4:393. 1890.

fastarius Ratsudake Janaka 30372 (ex. Herb. Hongo) Spore - × 8000