



November 2013

Gymnopilus Notebook 4

L. R. Hesler

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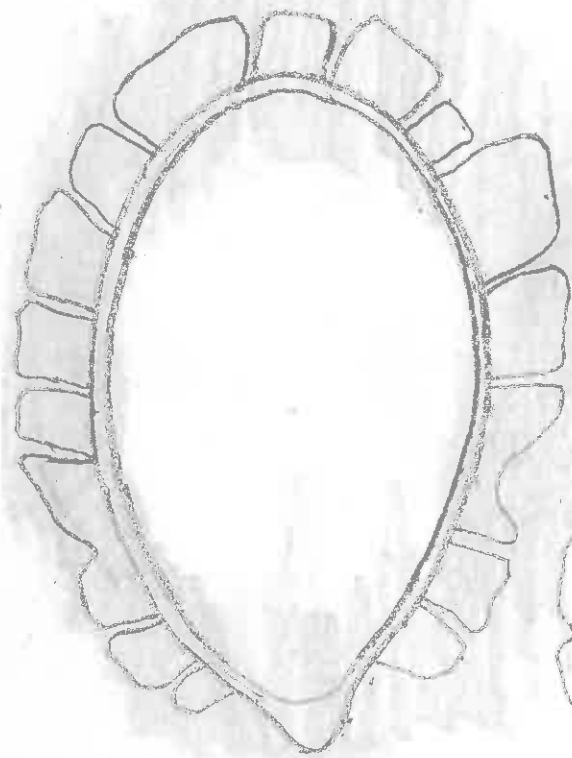
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Gymnopilus imperialis (Speg.) Singer

Spegazzini - 21865

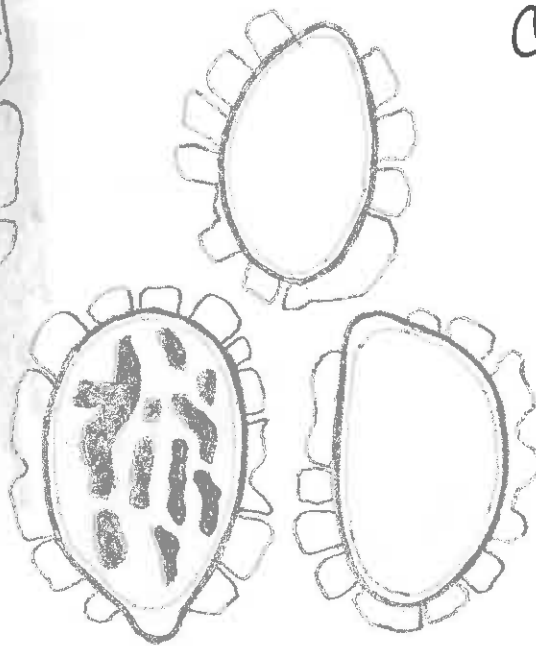
(Type of *Pholista imperialis* Speg.)



Spore - x 8000



Ch - x 1000



Spores - x 4000

Spegazzini - 21865 GYMNOPIIUS IMPERIALIS (Speg.) Singer

Brazil, Apiahy, April, 1888, leg. J. Puiggari

Type of Pholiota imperialis Speg.

Spores 8-10 x 6.5-8 μ , ellipsoid, subvoid, inequilateral, ferruginous, dextrinoid, with large, conspicuous, colorless flange-like ridge-like, or blunt warts (in face view these resemble broken ridges, or reticulations) (suggesting the perisporic ornamentations of certain ferns), ornamentations 1-1.5 μ high, apiculate. Basidia 23-28 x 6-7 μ , 4-spored. Pleurocystidia not found (absent?); cheilocystidia 28-36 x 6-9 μ , ventricose or flask-shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 4-7 μ broad; subhymenium not distinctive. Pileus trama of interwoven hyphae, 5-14 μ broad. Cuticle of repent hyphae, 5-14 μ broad. Cuticle of repent hyphae, bearing bundles of brownish, incrustated hyphae (scales). Clamp connections present.

The dried material shows scales on the pileus, and a membranous, apical, persistent annulus.

AGARICUS JUNONIUS Fr.

Syst. Myc. 1:244. 1821

Pileus solitary, obtuse, plane, fleshy, glabrous, dry, 2 unc. (5 cm ?). Lamellae adnate, luteo-fulvous, close, broad. Stipe 4 cm long, 8 mm thick, equal, subeccentric, solid, smooth, apex furfuraceous, yellowish. Annulus inferior, reflexed.

Further, in Hymen. Eur., p. 223.

Spores ferruginous. (*Pileus*) simple, small, yellow (luteus)

Rea, Brit. Basidiomycetes, p. 116

Pileus 4-8 cm, rich yellow or tawny yellow. Stipe 4-9 cm, 6-14 mm; ring membranous. Context pale yellow, compact. Spores 8-10 x 6-7 μ . Lamellae crowded, broad.

GYMNOPIIUS LATERITIUS (Pat.) Murr.

(Naucoria lateritia Pat.)

No. 1681, Martinique, coll. by Duss, on dead wood, about 1899, (from Farlow Herbarium.) (Murrill, NAF. 10:214, says Guadeloupe is the type locality).

NOT THE TYPE

Spores 8-10 x 4.5-5.5(5.8) μ , ellipsoid in face view, inequilateral in profile, verrucose, ferruginous in KOH, yellowish brown in Melzer's reagent. Basidia 24-28 x 6-7 μ , 4-spored. Pleurocystidia and cheilocystidia not found (colorless, clavate, sterile structures were found collapsed against the gill-edge). Gill trama subparallel, hyphae 3-5 μ broad. Subhymenium not distinctive. Pileus trama radial. Cuticle of 5-6 layers of brown, repent hyphae. Pileocystidia and caulocystidia none. Clamp connections present.

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Tenn-21453

GYMNOPIIUS LEPIDOTUS sp. nov.

Type

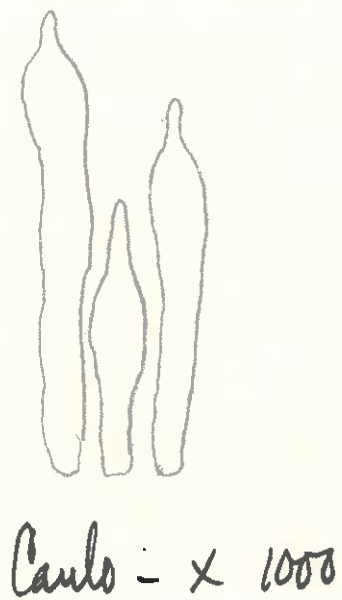
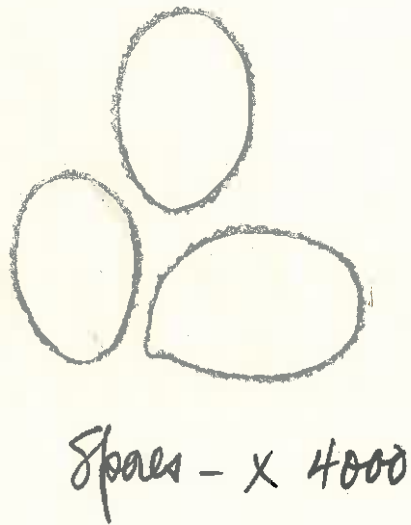
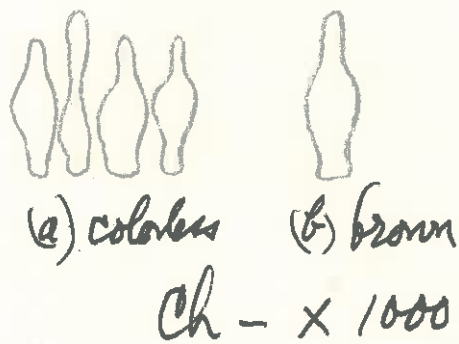
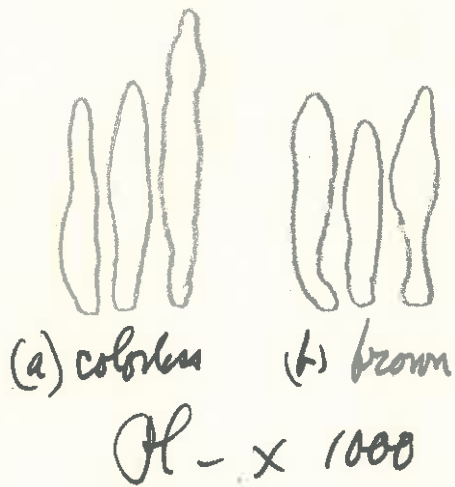
Pileus ⁴⁻⁸ ~~3-4~~ mm, convex, expanding-convex, "antimony yellow", fibrillose-scaly, scales tufted-erect, dry, margin even. Context thick, firm, pale-yellow; odor mild, taste promptly bitter.

Lamellae adnate to rounded-adnate, zinc-orange, broad, many lamellulae numerous, close, edges fimbriate.

Stipe 2-4 cm long, 2-4 mm thick, dingy or pallid, apex pruinose, elsewhere glabrous, equal or slightly enlarged at apex, solid. Veil webby, yellowish; annulus fugacious.

Spores 5.5-7(7.5) x 4.5-5 μ , ellipsoid to ovoid in face view, inequilateral in profile, verruculose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 21-26 x 5-6 μ , 2-4-spored. Pleurocystidia 28-40 x 5-6 μ , colorless, obclavate, subventricose, rare, inconspicuous; basidioles 24-28 x 5-6 μ , brown, flask-shaped; cheilocystidia 18-23 x 4-7 μ , ventrical or flask-shaped, colorless or brown, non-capitate. Gill trama parallel, hyphae 5-8 μ broad. Pileus trama radial. Cuticle not sharply differentiated, the surface bearing a turf of tangled, brown hyphae. Pileocystidia none. Clamp connections present. Caulocystidia 35-60 x 7-8 μ , cylindric-clavate or ventricose. A yellow pigment is dissolved out in KOH. ~~Cystidia and the pleurocystidia and cheilocystidia are not capitate.~~ It is related to G. hispidus in which the pileus is umbilicate to infundibuliform, and the spores larger (7.5-9 x 5.5-6 μ); to aureobrunneus in which the cuticle of the pileus is a distinct, thick, brown zone of repent hyphae, the surface of the pileus is appressed-fibrillose (not scaly), and a much more robust stipe; and to hispidellus in which the spores are non-dextrinoid, and the pleurocystidia clavate and mucronate or appendiculate.

~~Gymnopleus~~
Gymnopleus aureobrunneus (B. & C.) Murr.
lepidotus sp. nov.
Tenn-21453 - Type



AGARICUS LIQUIRITIAE Fr., *Epicr. Myc.*, p. 190. 1838.

(Translation from Fries)

Pileus 1-3 in. broad, yellow to orange-fulvous, convex-plane, subumbonate, glabrous, moist, margin becoming striatulate. Context slightly yellow; odor acidulus.

Lamellae adnate to rounded, close, yellow then fulvous-cinnamon.

Stipe 5 cm x 4-6 cm, lacking pruina and cortina, base enlarged, villose, yellow-fulvous within.

FLAMMULA LIQUIRITIAE (Pers.)

Fungi Suecici, Nils Suber, Nov. 11, 1951 (Stockholm)

Spores 7-8.5(9.5-10) x (4)4.5-5(5.5) μ , ellipsoid to sub-
ovoid in face view, slightly inequilateral in profile, verru-
dextrinoid
culose, ferruginous in KOH, (red brown in Melzer's reagent).
Basidia 22-26 x 4-5 μ , 4-spored. Pleurocystidia 24-30 x 5-7 μ ,
ventricose, obscurely subcapitate, scattered, inconspicuous;
cheilocystidia 23-40 x 3-7 μ , flask shaped, mostly more or
less capitate, some not capitate, conspicuous. Gill trama of
subparallel to slightly interwoven hyphae, 5-8 μ broad; sub-
hymenium of slender, interwoven hyphae. Pileus trama of
radial hyphae. Cuticle of repent, brown, obscurely incrustated
hyphae. Pileocystidia none (Harding reports them). Caulo-
cystidia 24-48 x 3-7 μ , more or less similar to cheilocystidia.
Clamp connections present.

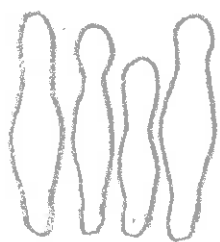
*Yellow pigment, soluble in KOH,
present in gill trama.*

Flammula liquoritiae

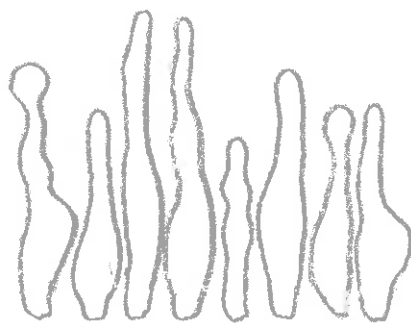
Fungi Suecici

11. 11. 51.

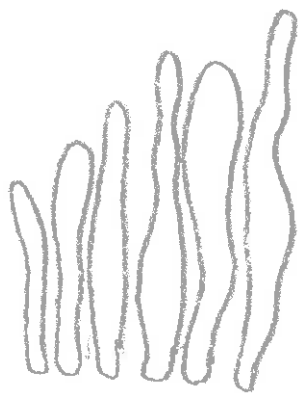
Nils Söder (Stockholm)



Pl - x 1000



Ch - x 1000



Caulo - x 1000

Agaricales

Miller-85 GYMNOPIIUS SARINEUS (?) ~~NA~~ ~~NA~~ ~~NA~~

On extremely rotten log, in hemlock-hardwood stand, Fox Forest, Hillsboro, N. H., leg. O. K. Miller, June 27, 1959.

Notes by Miller

Pileus 3.5-5 cm broad, fibrillose, yellow-brown with dark-brown fibrils, more numerous at center, margin becoming dark-brown at maturity.

Hymenium yellow-brown.

Stipe 3.5-4 cm long, 5-8 mm thick, varying in color from yellow-brown to tan.

Notes by Hesler

Lamellae rather broad, close, whitish fimbriate.

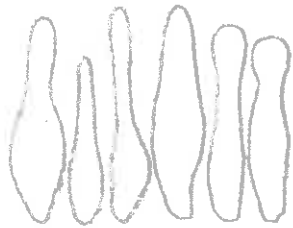
Spores 7-8.5(9) x 4-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 20-24 x 6-7 μ , 4-spored. Pleurocystidia 22-28 x 4-7 μ , flask-shaped, or ventricose, subcapitate or non-capitate; ocheilocystidia 17-32 x 3-5 μ , flask-shaped to ventricose, capitate or non-capitate. Gill trama of subparallel hyphae, 3-8 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle a zone of brownish, repent hyphae, not distinct from trama, bearing numerous brown fibrils and pileocystidia, 47-105 x 7-14 μ , ventricose, brown, at times incrustated. Caulocystidia 28-43 x 4-7 μ ,

Liquiditate
G. sapineus - 2
(Miller-85)

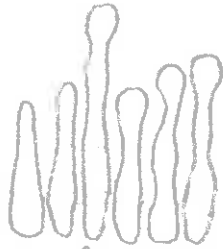
cylindric, capitate, gregarious or in loose tufts. Clamp connections present.

The brown pileocystidia are distinctive — might be sp. nov. — possibly near earlei and tenuis.

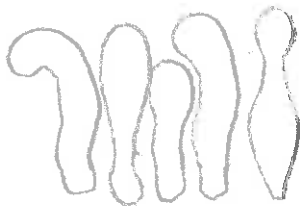
~~Gymnosporium japonicus (?)~~
Miller - 85 *liquiritiae*



Sp - x 1000



Ch - x 1000



Basidiospores -
x 1000



Ped - x 1000



Caulo -
x 1000
(tufts)

Miller-89

GYMNOPIIUS ^{leguminosae} ~~SAPINEUS (?)~~

On buried root (?), under hemlock-hardwood, Fox Forest,
N. H., June 27, 1959.

(cf. Miller-85)

Notes by Miller

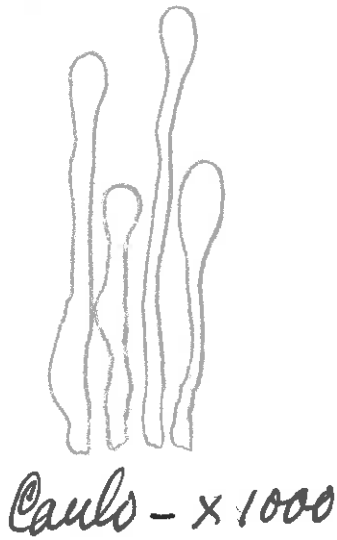
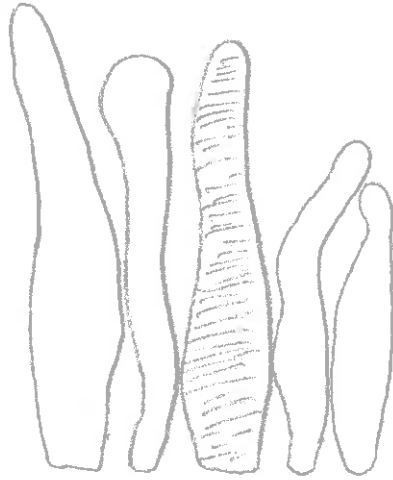
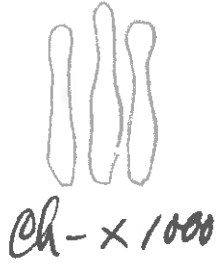
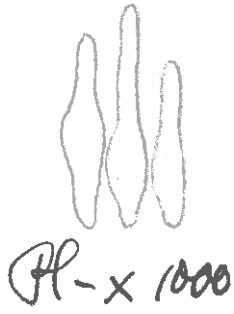
Pileus 3-4 cm broad, cinnamon, with darker cinnamon squamules. Gills yellow, with reddish blotches. Stipe 3.5 cm long, 5-8 mm thick, light yellowish above, darker reddish below.

Notes by Hesler

Spores (6)7-8(8.5) x (3.5)4.505 μ , ellipsoid, inequilateral, ferruginous, dextrinoid, no germ pore. Pleurocystidia 22-30 x 5-6 μ , flask-shaped, non-capitate; cheilocystidia 20-25 x 3.5-4 μ , flask-shaped, subcapitate, or non-capitate. Gill trama of subparallel hyphae, 4-7 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle fibrillose, with brown, at times incrustated, pileocystidia, 38-60 x 7-13 μ , ventricose, or more or less cylindric.

Cf. Miller-85.

Gymnopus saponosus (?)
Miller - 89 *liquiritiae*



Barrows-618

GYMNOPIIUS LIQUIRITIAE

Probably on buried wood, under spruce, near Santa Fe, New Mexico, September 1957.

Notes by Barrows

Cap 2.5-7.5 cm broad, orange. Context thin; taste bitter. Gills bright rusty orange. Stipe paler than gills, thin, crooked.

Notes by Hesler

Spores 7.5-9 x 4.5-5.5 μ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid. Pleurocystidia 23-26 x 5-6 μ , ventricose; cheilocystidia 28-37 x 4-8 μ , flask-shaped, mostly capitate, some subcapitate or non-capitate. Gill trama of subparallel hyphae, 4-8 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle a brown zone of repent hyphae. Pileocystidia none. Caulocystidia more or less cylindrical to subflask-shaped, capitate.

Identification assumes no veil.

Bartelli-215

GYMNOPIIUS LIQUIRITIAE

Coll. in Michigan. (?) September 11, 1960

Spores 7.5-9(9.5) x 4.5-5 μ , ferruginous, dextrinoid. Pleurocystidia 26-30 x 6-7 μ , flask-shaped to ventricose; cheilocystidia 28-36 x 4-7 μ , flask-shaped or subcylindric, capitate, or more rarely non-capitate. Gill trama of subparallel hyphae, 5-12 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle not or only slightly differentiated, hyphae repent, brown, sometimes incrustated, with colorless or brownish pileocystidia in mounds, 26-48 x 4-6 μ , clavate. Caulocystidia 27-55 x 2.5-5 μ , cylindric, capitate.

Identification assumes no veil.

Marsden-405

GYMNOPIIUS LIQUIRITIAE

On hardwood, Tonawanda, N. Y., Sept. 13, 1958

Caps show small brown dot-like mounds under lens.

Spores 7-8.5 x 4.5-5 μ , ferruginous in KOH, dextrinoid at once. Pleurocystidia 25-30 x 5-7 μ , ventricose; cheilocystidia 28-38 x 3-6 μ , flask-shaped, capitate. Cuticle repent, with mounds of brown hyphae. Caulocystidia slender flask-shaped, capitate or clavate-cylindric.

Sipe-1023

GYMNOPIIUS LIQUIRITIAE

Under fir, near Eugene, Oregon, November 3, 1947

Notes by Sipe

Pileus ferruginous, smooth, plane.

Lamellae decurrent.

Stipe dingy white to reddish, fibrillose.

Notes by Hesler

Spores 7-8.5 x 4.5-5 μ , ellipsoid, inequilateral, ferruginous, dextrinoid, verruculose, no germ pore.

Basidia 23-27 x 6-7 μ , 4-spored. Pleurocystidia 23-28 x 6-7 μ , ventricose; cheilocystidia 22-37 x 4-5 μ , slender flask-shaped, capitate. Cuticle of dark-brown, repent hyphae, bearing mounds of brown, incrustated hyphae. Clamp connections present. Pileocystidia brown, cylindric, clavate, or ventricose. Caulocystidia 27-45 x 2-4 μ , filamentous, capitate, gregarious or in small tufts.

Barrows-1046

GYMNOPIIUS LIQUIRITIAE

On very rotten wood, Jemez Mts., New Mexico, August 1959.

Notes by Barrows

Cap orange. Gills orange-yellow, with rusty spots.
Ring none.

Notes by Hesler

Spores 7.5-9.5 x 4.5-5.5 μ , ferruginous, dextrinoid.
Pleurocystidia, cheilocystidia, and other characters typical.

Bigelow-3009

GYMNOPILUS

requiritiae

On decayed birch, near Sinclair, Maine, July 4, 1956.

Notes by Bigelow

Pileus and gills orange-yellow. Stipe paler; no veil.

Notes by Hesler

Spores 7-8.5 x 4.5-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 25-30 x 6-7 μ , 4-spored. Pleurocystidia 23-27 x 6-8 μ , ventricose; cheilocystidia 23-28 x 4-6 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 3-5 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle fibrillose, but not scaly. Pileocystidia none. Caulocystidia 30-54 x 3-5 μ , cylindrical, capitate or subcapitate, scattered or mostly in tufts.

Near picreus which is rufous, and has slightly larger spores, and has clusters of clavate pileocystidia; near subpenetrans which lacks caulocystidia.

Additional notes on macroscopic characters desirable.

Bigelow-3277

GYMNOPILUS liquiritiae

On conifer log, near Guerette, Maine, July 16, 1956.

Spores 7-9 x 5-6 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid. Basidia 24-28 x 6-7 μ , 4-spored. Pleurocystidia 22-25 x 4-5 μ , ventricose; cheilocystidia 22-40 x 3-7 μ , ventricose, sometimes slender-ventricose to more or less flask-shaped or subclavate, capitate. Gill trama of subparallel hyphae, 3-6 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle a ferruginous zone of more or less incrustated hyphae, bearing epicuticular hyphae. Clamp connections present. Pileocystidia and caulocystidia none.

(I found no veil. - LRH)

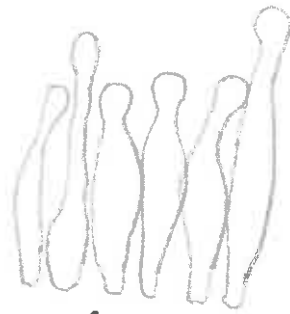
Need notes! May be liquiritiae but I found no caulocystidia.

Gymnopus liquoritiae

Bigelow - 3277



Sp - x 1000



ch - x 1000

Solheim-4368

GYMNOPIIUS LIQUIRITIAE

On rotting conifer wood, Laramie Mts., Wyo., Aug. 21, 1955.

Spores 7-8.5(9) x 4.5-5.5 μ , ellipsoid, inequilateral, ferruginous, dextrinoid. Pleurocystidia ventricose; cheilocystidia flask-shaped, capitate. Pileocystidia none. Caulocystidia in tufts, cylindric to flask-shaped, capitate.

Solheim-4968

GYMNOPIIUS

liquiritiae

On rotting wood, Targhee Nat'l. Forest, Tremont Co., Idaho,
7000 ft., July 11, 1957.

(No notes with collections)

Spores 7-8.5(9-9.5) x 4.5-5.5 μ , ellipsoid, slightly inequilateral, ferruginous, dextrinoid. Basidia 23-26 x 5-6 μ , 4-spored. Pleurocystidia 23-27 x 6-7 μ , ventricose; cheilocystidia 24-32 x 4-7 μ , flask-shaped, capitate, some with brown contents. Gill trama of subparallel hyphae, 3-7 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle repent, of brown hyphae. Caulocystidia 18-46 x 2.5-6 μ , filamentous, subventricose, capitate, in heavy tufts.

Without notes, I am uncertain. If a veil was present, it is near penetrans.

Solheim-4969

GYMNOPIIUS

liquiritiae

On conifer wood, Targhee Nat'l Forest, Idaho, July 11, 1957

Appears to be same as Solheim-4968, but there are no notes.

Solheim-5122

GYMNOPILUS leguminalis

On rotting conifer wood, Grand Teton Nat'l. Park, Wyo.,
July 20, 1957.

(No notes).

Appears to be same as Solheim-4968.

Solheim-5184

GYMNOPIIUS

leguminalis

On rotting conifer wood, Grand Teton Nat'l. Park, Wyo.,
July 25, 1957.

(No notes with collection)

Same as Solheim 4968.

Spores 7-8.5 x (4)4.5-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 24-28 x 5-6 μ , 4-spored. Pleurocystidia 23-28 x 5-6 μ , ventricose; cheilocystidia 27-36 x 5-7 μ , flask-shaped, capitate. Caulocystidia in heavy tufts, flask-shaped, capitate (as in Solheim-4968).

Solheim-5219

GYMNOPIIUS

leguminosae

On rotting conifer wood, Grand Teton Nat'l. Park, Wyo.,
July 27, 1957.

(No notes with collection)

This appears to be same as Solheim-4968.

Solheim-5946

GYMNOPIIUS

Liquidaria

On rotting conifer wood, Laramie Mts., Albany Co., Wyo.,
July 29, 1961.

(No notes with collections)

Same as Solheim-4968.

Tenn-9039

GYMNOPIIUS LIQUIRITIAE

On fallen pine limb, near Chattanooga, December 28, 1956.

Pileus 1.5-3 cm broad, convex then plane, not viscid, hygrophanous, "ochraceous orange" when dry, "sudan brown" when wet, glabrous, minutely rivulose under lens, margin even. Context pallid or whitish, with a tinge of yellow; odor mild, taste bitter.

Lamellae adnate-decurrent, then adnexed, close, rather broad, ventricose, "ochraceous buff" when young, "ochraceous orange" at maturity, at times reddish-brown spotted, edges nearly even.

Stipe 4-6 cm x 5-8 mm, pallid to pale orange, shining, glabrous, sub-glabrous, tapering downward, hollow. Veil none.

in deposit: "raw sienna" to "antique brown",

Spores 7.5-9 (10-10.5) x 4.5-5(6) μ , ellipsoid, inequilateral, verrucose, ferruginous in 2% KOH, red-brown (dextrinoid) in Melzer's reagent. Basidia 23-26 x 5-6 μ , 4-spored. Pleurocystidia 22-28 x 5-7 μ , ventricose, inconspicuous, scattered; cheilocystidia 26-36 x 3-6 μ , flask shaped, capitate. Gill trama of subparallel or slightly interwoven hyphae, 5-12 μ broad. Pileus trama radial. Cuticle of repent hyphae. Pileocystidia none. Caulocystidia 32-42 x 7-12 μ , fusoid to flask shaped, more rarely clavate or irregular. Clamp connections present.

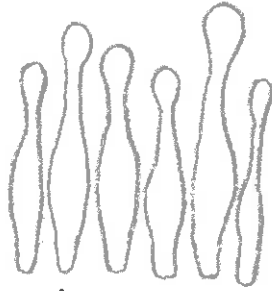
The red (dextrinoid) spores in Melzer's reagent indicate G. liquiritiae despite the unusual caulocystidia.

Gymnopilus liquoritiae

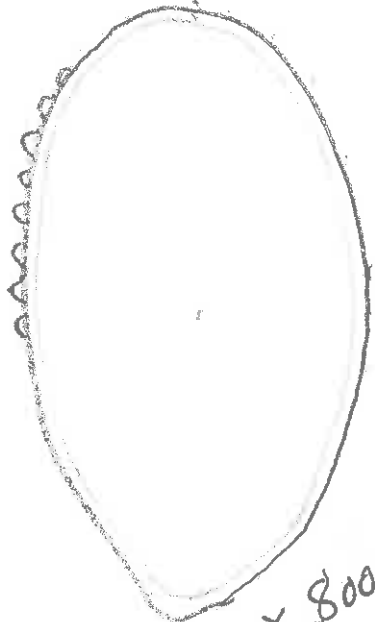
Teru - 9039



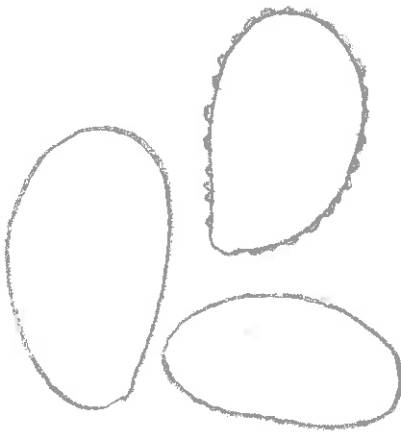
Gl. x 1000



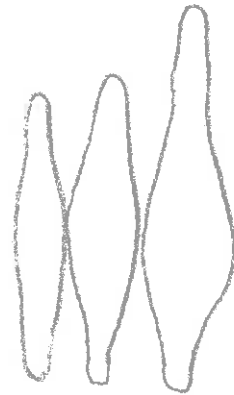
Ch. x 1000



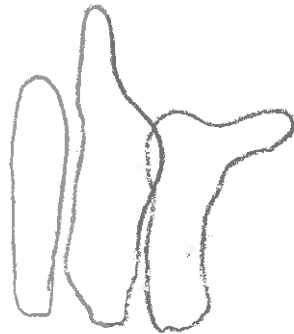
x 8000



Spores - x 4000



Usual-type



Rare-type

Caulo - x 1000

Potter-9057

GYMNOPIIUS LIQUIRITIAE

On hardwood log, Ithaca, Michigan, September 21, 1949.

(No notes)

Spores 7.5-9 x 5-5.5 μ , ellipsoid, inequilateral, ferruginous, dextrinoid. Basidia 27-32 x 6-7 μ , 4-spored. Pleurocystidia 24-29 x 5-6 μ , ventricose; cheilocystidia 26-32 x 5-7 μ , flask-shaped or subventricose, capitate or subcapitate. Gill trama of subparallel hyphae, 4-9 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle repent. Pileocystidia 18-40 x 1-2 μ , filamentous, scattered. Caulocystidia flask-shaped, capitate, scattered or in loose tufts.

There are no notes. On the assumption there was no veil, and other characters in agreement, I would call this liquiritiae.

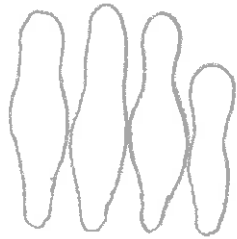
TENN-9598

GYMNOPIIUS LIQUIRITIAE

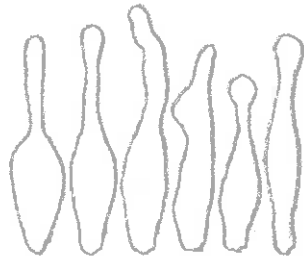
On soil and hemlock bridge-timber, Greenbrier, Oct. 18, 1936

Spores 7.5-9 x 4.5-5.5(6) μ , ellipsoid, verrucose to verruculose, slightly inequilateral, ferruginous in 2% KOH, reddish brown in Melzer's reagent. Basidia 22-26 x 5-6(7) μ , 4-spored. Pleurocystidia 22-28 x 5-8 μ , ventricose, scattered, inconspicuous; cheilocystidia 23-32 x 4-7 μ , flask shaped, subcapitate, capitate or equal (non-capitate). Gill trama of subparallel hyphae, 5-11 μ broad; subhymenium of slender hyphae. Pileus trama radial. Cuticle of repent hyphae. Clamp connections present. Caulocystidia and pileocystidia not found.

Gymnopilus liquoritiae
Tenn - 9598



Pl. x 1000



Ch. x 1000

10161

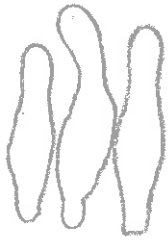
GYMNOPIIUS LIQUIRITIAE

On sandy soil and on pine chips, Highlands, N.C., Aug. 16, 1936

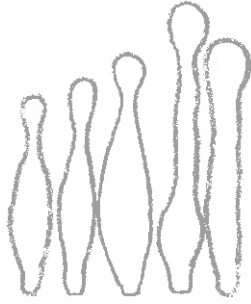
Spores (6.5)7-9.5 x 4.5-5.5 μ , ellipsoid, inequilateral, verrucose, no germ pore, dextrinoid ("Nopal red" to "Pompeian red" in Melzer's reagent.), ferruginous in KOH. Pleurocystidia 23-30 x 5-6 μ , ventricose; cheilocystidia 26-38 x 4-7 μ , flask shaped, capitate, at times extending up the sides 100-150 μ . Caulocystidia 30-43~~3~~5-7 μ , similar to cheilocystidia. Cuticular hyphae repent, brown, incrusted.

Gymnophus liquoritiae

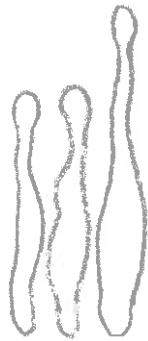
Tenn - 10161



Fl - x 1000



Ch - x 1000



Caulo - x 1000

10703

GYMNOPIIUS LIQUIRITIAE

On cypress log, Camden, July 23, 1937

Spores 7-9(9.5) x 4.5-5.2 μ , verrucose, dextrinoid (after eight minutes). Pleurocystidia ventricose; cheilocystidia flask-shaped, capitate. **Caulocystidia** similar to cheilocystidia.

Tenn. 17265

GYMNOPIIUS LIQUIRITIAE (Fr.) Karst.

On decaying pine limbs, New Hopewell, Knox Co., Tenn., Nov.
29, 1945

Pileus 2-6 cm broad, convex, "ochraceous buff" to "ochraceous tawny," moist, not viscid, glabrous. Context pale orange, medium on disc, thin on margin; odor suggestive of raw potatoes, taste somewhat bitter.

Lamellae adnate to emarginate, broad (up to 8 mm), crowded, "ochraceous orange" to "ochraceous tawny," edges whitish fimbriate.

Stipe 3-6 cm x 4-8 ,,, dry, silky-striate, concolor to pileus or paler, tapering downward, hollow.

Spores 7-9(10) x 4.5-5.5(6) μ , ellipsoidal, verruculose, ochraceous tawny in mass, dark-red (dextrinoid) in Melzer's. Pleurocystidia ventricose; cheilocystidia flask-shaped to sub-cylindric-capitate, 20-40 x 3-4(6.5) μ . Pileocystidia in mounds of cylindric-clavate brown elements, 32-54 x 4-6 μ .

Gymnophilus liquoritiae
Term - 17265



Piles - x 1000
(in brown mounds)

17776

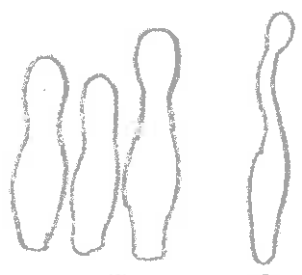
GYMNOPIIUS LIQUIRITIAE

On pine chips, New ~~Hopewell~~, Nov. 10, 1946

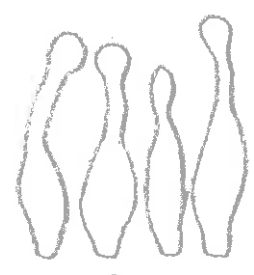
Spores 7.5-9(11) x 4.5-5(5.5) μ , ellipsoid, rarely subovoid, inequilateral in profile, no germ pore, verruculose to verrucose, ferruginous in KOH, dextrinoid (red-brown in Melzer's). Basidia 26-29 x 6-7 μ , 4-spored. Pleurocystidia 22-26 x 5-7 μ , scattered, ventricose, rarely flask shaped and similar to cheilocystidia; cheilocystidia 24-30 x 5-7 μ , flask shaped, capitate. Gill trama slightly interwoven, hyphae 5-12 μ broad; subhymenium of narrow hyphae. Pileus trama radial. Cuticle of repent hyphae. Pileocystidia not found. Caulocystidia similar to cheilocystidia, 25-38 x 3-6 μ , rarely filamentous-clavate. Clamp connections present.

Gymnopilus liquoritiae

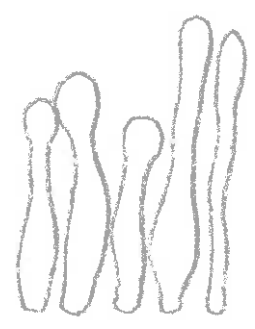
Tenn - 17776



Pl - x 1000
(usual) Pl
(rare)



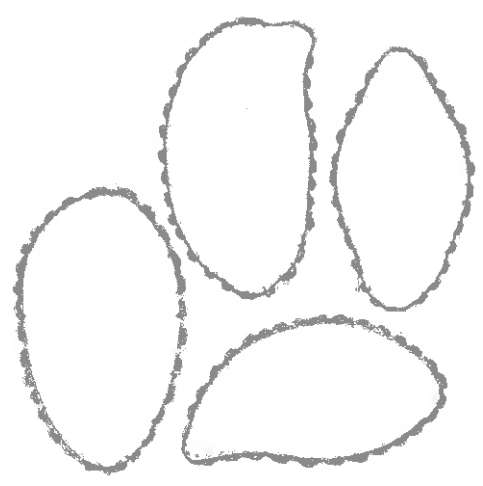
Ch - x 1000



Caulo
x 1000
(usual)



Caulo
(rare)



Spores - x 4000

Sm-18886

GYMNOPIIUS LIQUIRITIAE

CARD
Stereo-Photo
(neither found)

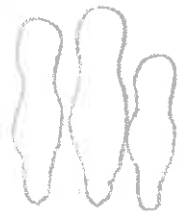
On aspen, Mud Lake, Michigan, September 10, 1943

Spores 7.5-10.5 x 4.5-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no germ pore. Basidia 24-27 x 6-7 μ , 4-spored. Pleurocystidia 22-25 x 6-7 μ , ventricose; basidioles 16-20 x 5-7 μ , brown, rare; cheilocystidia 23-42 x 4-9 μ , flask-shaped or ventricose, capitate, sometimes crooked. Gill trama of subparallel hyphae, 5-11 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae. Clamp connections present. Pileocystidia none. Caulocystidia 18-44 x 3-5 μ , cylindric, flask-shaped, capitate.

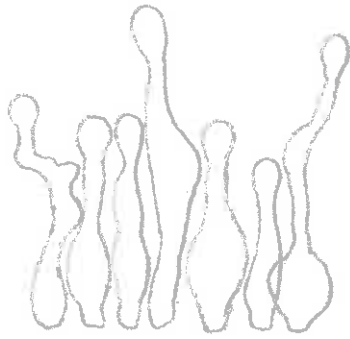
If veil was present, it might then be penetrans, or *sapineus*.
Get notes, if possible.

Gymnopilus liquoritiae (?)

Sm - 18886



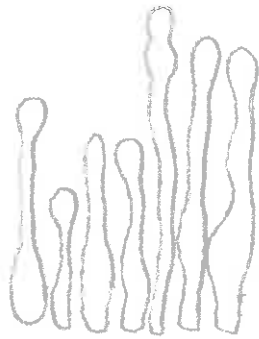
Cl - x 1000



Ch - x 1000



Basidiolae -
x 1000



Caules - x 1000

On chips and sawdust, Claxton School, Anderson County, Nov. 4, 1951

Pileus 4-8 cm broad, hemisphere convex when young, finally expanded-wavy, at times obtusely umbonate, moist, not viscid, slightly hygrophanous, glabrous, "cream buff" with disc tawny when young, finally "zinc orange" to "Kaiser brown," margin even. Context pale orange yellow, thin, pliant; odor slight, taste bitter.

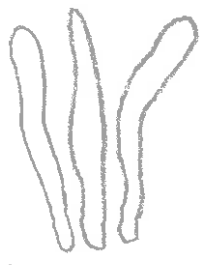
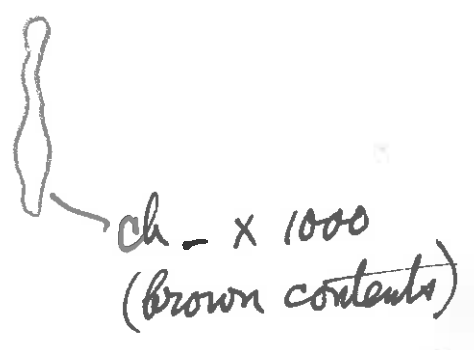
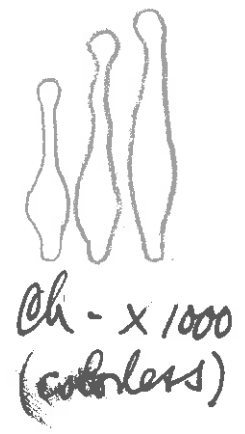
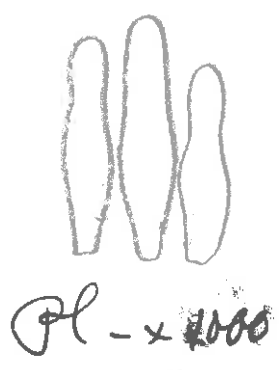
Lamellae adnate to rounded-adnate, seceding, "light orange yellow" at first, finally "raw sienna" to "zinc orange," broad, subdistant, edges minutely fimbriate.

Stipe 3-7 cm x 6-10 mm, dingy orange, scattered-fibrillose, apex white-flocculose, usually tapering downward, moist, hollow. Cortina none.

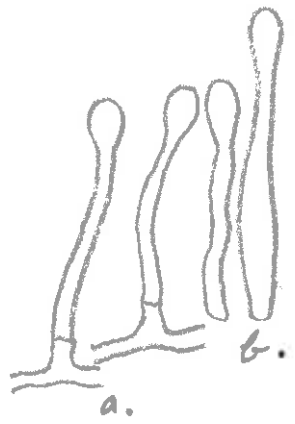
Spores 7-9.5 x 4.5-5.5 μ , ellipsoid, verruculose, red-brown in Melzer's Basidia 24-28 x 5-6 μ , 4-spored. Pleurocystidia 26-33 x 6-7 μ , ventricose; cheilocystidia 23-32 x 4-6 μ , flask-shaped, colorless, capitate or subcapitate; occasional ones with brown contents, colorless type sometimes extending up the side of the gill 7 $\frac{1}{2}$ μ or less. Gill trama subparallel, 4-12(15) μ broad. Pileus trama radial. Cuticle of repent hyphae, bearing scattered, brown mounds of compact pileocystidia, 20-32 x 4-5 μ , clavate to subventricose. Caulocystidia: ^{a)} 28-34 x 4-5 μ , as terminal elements of aerial hyphae, filamentous-capitate; ^{b)} 30-40 x 4-5 μ , arising from the cuticular hyphae, filamentous or ventricose, capitate. Clamp connections present.

Gymnophilus liquoritiae

Term - 20216



Pileo - x 1000
(in mounds)



a) Caulo, terminal elements on
± aerial hyphae - x 1000

b) Caulo, arising from cuticular
hyphae - x 1000

Tenn. 26089

GYMNOPIIUS LIQUIRITIAE

On decaying log, Cades Cove, GSMNP, Oct. 2, 1963

Notes by Sharp

Pileus 2.5-5 cm broad, convex, marginal portion cinnamon-brown, central region purple-brown, surface uneven (dried caps appear flat-squamulose, under lens). Context tawny-yellow.

Lamellae attached, seceding, medium broad, close.

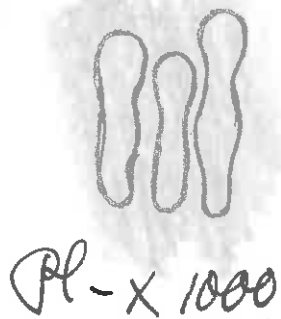
Stipe 1-2 cm long, 2-5 mm thick, usually eccentric, slightly enlarged below, yellow scurfy-tomentose at apex, striate-fibrillose, base slightly tomentose.

Notes by Hesler

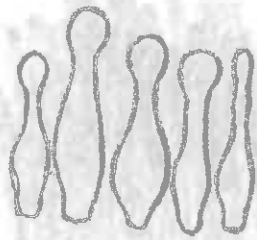
Spores in deposit: "raw sáenna" to "antique brown," 7-9 x 4-5 μ , ellipsoid, inequilateral, verruculose, germ pore none, strongly dextrinoid. Basidia 20-24 x 5-6 μ , 4-spored. Pleurocystidia 20-30 x 4-6 μ , subcylindric or sub-ventricose; cheilocystidia 20-28 x 3-8 μ , flask-shaped, neck slender, capitate. Gill trama subparallel, hyphae 5-9 μ broad; subhymenium of narrow hyphae. Cuticle repent. Pileocystidia in mounds or tufts, 30-47 x 3-6 μ , filamentous to ventricose. Clamps present. Caulocystidia 27-45 x 4-7 μ , filamentous to slender flask shaped, capitate, often brown. Pileus trama radial.

Gymnopilus liquiritiae

Teru - 26089



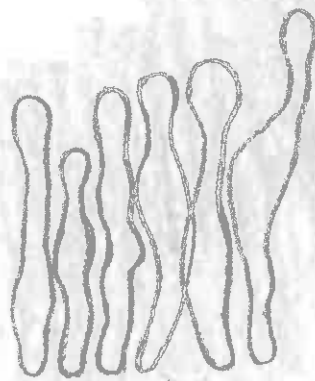
Pl - x 1000



Ch - x 1000



Pileo - x 1000



Caulo - x 1000

Deegan H-20

GYMNOFILUS LIQUIRITIAE

New York state, leg. H. B. Deegan.

Spores (6)6.5-8.5 x (4)4.5-5 μ . Veil seems to be absent.

Deegan H-29

GYMNOPIIUS LIQUIRITIAE

New York (no other data)

Spores 7-8.5 x 4.5-5 u. No evidence of a veil.

Deegan - 29A

GYMNOPIIUS LIQUIRITIAE

New York (no other data).

Spores 7-8.5 x 4.5-5 μ .

Deegan -30

GYMNOPIIUS LIQUIRITIAE

New York (no other data).

Spores 7-8.5 x 4.5-5 μ .

Deegan - 43

GYMNOPIIUS LIQUIRITIAE

New York (no other data).

Spores 7-8.5 x 4.5-5 μ .

Sundberg - 180

GYMNOPIIUS LIQUIRITIAE (?)

On wood, Napa Valley State Park, Napa Co., Calif., Dec. 13, 1964, leg.

W. J. Sundberg.

Spores 7-9 x 4.5-5.5 μ , dextrinoid. (Identification makes certain assumptions; notes needed.)

Harding - 411

GYMNOPIIUS LIQUIRITIAE

On fallen, decaying stick, Whitmore Lake, Mich., Sept. 13, 1950.

Spores 7-8.5 x 4.5-5 μ .

Harding - 423

GYMNOPIIUS LIQUIRITIAE

On decorticated red maple log, Dixboro, Mich., Sept. 27, 1950.

Spores 7-8 x 4.5-5 μ .

Harding - 434

GYMNOPIIUS LIQUIRITIAE

On decorticated red maple log, Dixboro, Mich., Oct. 11, 1950.

Spores 7-8.5 x 4.5-5 μ .

Thiers - 953

GYMNOPIIUS LIQUIRITIAE

On pine cones and decaying wood, Upper Bidwell Park, Butte Co., Calif.,
leg. D. T. Kowalski, Dec. 5, 1964 (ex Thiers herb.)

Notes by Kowalski

Pileus brown; stipe yellow-brown; gills adnate to free, yellow-brown.
(Veil remnants present?)

Notes by Hesler

Spores 7-8.5 x 4.5-5 μ , dextrinoid. Pleurocystidia ventricose;
cheilocystidia flask-shaped, capitate; caulocystidia similar to
cheilocystidia.

Comment: Although notes by Kowalski say veil remnants present, I
found none. Thus, I call it liquiritiae.

Thiers - 5313

GYMNOPIIUS LIQUIRITIAE

Solitary on hardwood log, near Micanopy, Fla., Aug. 19, 1958.

Cap glabrous.

Spores 7-8.5 x 4.5-5 μ , dextrinoid after 30 min. Pleurocystidia ventricose, 24-28 x 6-7 μ ; cheilocystidia 18-24 x 6-7 μ , flask-shaped, capitate to non-capitate. Pileocystidia 24-35 x 3-5 μ , scattered, cylindric, flask-shaped, at times \dagger capitate. Caulocystidia 24-28 x 3-5 μ , cylindric or flask-shaped, \dagger capitate.

Thiers - 9560 GYMNOPIIUS LIQUIRITIAE (Fr.) Karst

Gregarious on logs, Jackson State Forest, near Mendocino, Calif., Nov. 23, 1962.

Spores 7-9 x 4.5 - 5.5(6) μ , dextrinoid. No veil.

Thiers 9809

GYMNOPIIUS LIQUIRITIAE

Gregarious to subcespitose on logs, near Mendocino, Calif., Dec. 20, 1962.

Spores 6-8.5 x 4.5 - 5 μ , dextrinoid. Veil none.

Thiers - 9839

GYMNOPIIUS LIQUIRITIAE

Gregarious on hardwood log, Alpine Lake, Marin Co., Calif., Dec. 26, 1962.

Spores 7.5 - 9(10) x 4.5 - 5.5 μ , dextrinoid. Veil none.

Thiers - 10905

GYMNOPIIUS LIQUIRITIAE (?)

On logs, Phoenix Lake, Marin Co., Calif., Nov. 30, 1963.

Spores 7-8.5(9) x 4.5-5.5 μ , dextrinoid. Pleurocystidia 27-31 x 6-8 μ , ventricose; cheilocystidia 30-43 x 4-7 μ , flask-shaped, capitate. Gill trama subparallel, hyphae 5-12 μ broad. Pileus trama radial. Caulocystidia similar to cheilocystidia in tufts.

(In the absence of notes, certain assumptions were made.)

Thiers - 11189

GYMNOPIIUS LIQUIRITIAE (?)

On hardwood log, San Mateo Co., Calif., Dec. 22, 1963.

Spores 7-9 x 4.5-5.5 μ , dextrinoid. Veil (presence or absence)
and taste need to be known.

Smith - 15226

GYMNOPIIUS LIQUIRITIAE

Ann Arbor, Mich., Aug. 31, 1940.

Spores 7-8.5 x 4.5-5 μ .

Thiers - 18044

GYMNOPIIUS LIQUIRITIAE

Solitary, on log, Santa Cruz Co., Calif., Dec. 9, 1966.

Spores 7-9 x 4.5 - 5.5 μ , dextrinoid. (I assume a veil was absent.)

Thiers - 18227

GYMNOPIIUS LIQUIRITIAE

Gregarious on conifer logs, Shasta Lake, Shasta Co., Calif., Dec. 24, 1966.

Spores 7-8.5 x 4.5 - 5.5 μ , dextrinoid.

Thiers - 18424

GYMNOPIIUS LIQUIRITIAE

Gregarious on conifer log, Mendocino, Calif., Jan. 8, 1967.

Spores 7-8.5 x 4.5 - 5.5 μ , dextrinoid.

SM - 37046

GYMNOPIIUS LIQUIRITIAE

On conifer wood, Fahquamenon, Mich., July 23, 1951.

Spores 7-8.5 x 4-5 μ , dextrinoid. Pileus glabrous, veil none.

Sm-39114

GYMNOPIIUS liquiritiae

On hardwood, Tahquamenon State Park, Michigan, July 2, 1952

Notes by Smith

Pileus disc orange-brown, margin warm-buff, thinly fibrillose. Taste bitter.

No annular remains on stipe.

Notes by Hesler

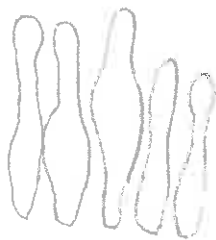
Spores 6-8(8.5) x 4-4.5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid. Basidia 23-27 x 5-6 μ , 4-spored. Pleurocystidia 24-31 x 5-6 μ , ventricose; cheilocystidia 20-29 x 4-7 μ , flask-shaped, non-capitate or subcapitate. Gill trama of subparallel hyphae, 3-5 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent hyphae, bearing brown, incrusted hyphae, the brown terminal elements as pileocystidia, 23-60 x 7-10 μ , clavate, ventricose, cylindric. Caulocystidia 38-45 x 4-8 μ , colorless or brown, flask-shaped, cylindric, scattered or in tufts. Clamp connections present.

Gymnopilus liquoritiae

Sm - 39114



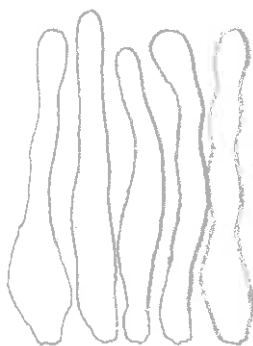
Gl - x 1000



ch - x 1000



Piles - x 1000



Caulo - x 1000

Sm-49559

GYMNOPIIUS

Liquidariae

On conifer log, under sphagnum, Stutzmansville Bog, Emmet Co., Mich., leg. Sharp, Smith, et al., June 19, 1955.

Notes by Smith

Pileus ochraceous orange or darker, glabrous. Context taste bitter, odor fragrant.

Lamellae adnate, seceding, yellow then rusty, broad, close.

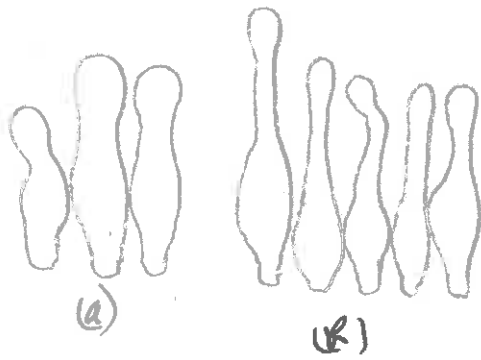
Stipe naked, pale-yellow. No veil.

Notes by Hesler

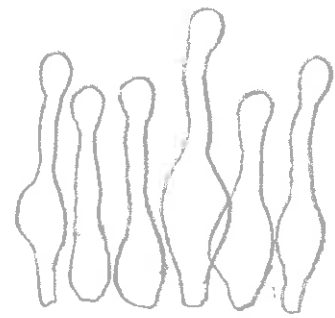
Spores 7-9 x (4)4.5-5.5(6) μ , ellipsoid in face view, inequilateral in profile, verruculose, no germ pore, ferruginous in KOH, dextrinoid at once in Melzer's reagent. Basidia 24-27 x 6-7 μ , 4-spored. Pleurocystidia scattered, of two general types: (a) ventricose, 21-30 x 6-8 μ ; (b) flask-shaped and subcapitate or non-capitate, 27-36 x 5-7 μ ; cheilocystidia 27-39 x 5-9 μ , flask-shaped capitate or subcapitate. Gill trama of subparallel hyphae, 5-15 μ broad; subhymenium of much more narrow hyphae. Pileus trama of radial hyphae. Cuticle of brown, repent hyphae, with bundles of incrustated, brown hyphae (forming small scales. Smith says glabrous). Clamp connections present. Caulocystidia 17-40 x 4-8 μ , clavate, ventricose, flask-shaped and, at times, capitate or subcapitate, in tufts or in a turf.

Gymnopus liquoritiae

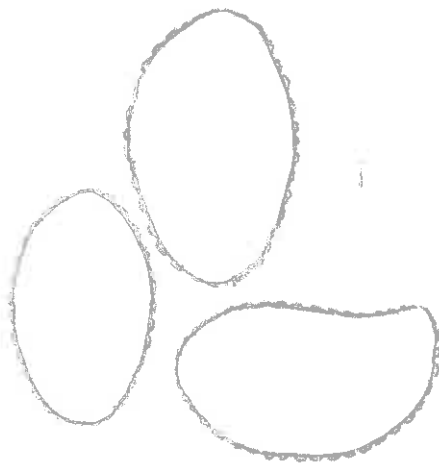
DM - 49559



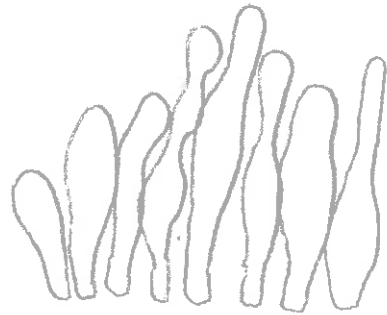
Pl - x 1000



Ch - x 1000



Spores - x 4000



Caulo - x 1000

Sm-55105

GYMNOPIIUS LIQUIRITIAE

PHOTO

On conifer log, Priest Lake, Idaho, Oct. 20, 1956

Notes by Smith

Pileus dingy orange, margin crenate. Odor none, taste bitter.

Lamellae adnexed, yellowish then rusty brown, stained rusty on edges in age, broad, close.

Stipe dark-brown below, orange-buff above, naked. Veil none.

Notes by Hesler

Spores (6.5)7.5-8.5(9) x 4.5-5.5(6) μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, slowly dextrinoid even after 30 minutes. Basidia 22-25 x 5-6 μ , 4-spored. Pleurocystidia 22-27 x 5-6 μ , ventricose; cheilocystidia 22-35 x 5-9 μ , flask-shaped, capitate or subcapitate, rarely non-capitate. Gill trama of subparallel hyphae; subhymenium not distinctive. Pileus trama of loosely interwoven hyphae. Cuticle of brown, more or less repent hyphae, with pileocystidia 32-76 x 15-20 μ , clavate, to somewhat clavate-vesiculose, brown, erect or repent. Caulocystidia 20-66 x 2-3 μ (head 3-6 μ), filamentous-capitate, forming a turf.

Sm-61266

GYMNOPIILUS ~~MA~~ ~~MA~~ ~~MA~~

Liquidaria

On conifer log, Pike Lake, Michigan, August 10, 1959

Notes by Smith

Pileus 3-5 cm broad, glabrous in age, hygrophanous, ochraceous, fading to paler yellow, margin incurved and tomentulose. FeSO_4 - nothing.

Stipe pale-yellow, pruinose above (when young), naked in age, not darkening.

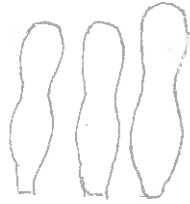
Notes by Hesler

Spores 6-8.5 x 4-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid at once, no pore. Basidia 23-26 x 6-7 μ , 4-spored. Pleurocystidia 23-27 x 5-6 μ , ventricose; cheilocystidia 24-33 x 5-7 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 3-5 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of repent hyphae, with some pale epicuticular incrustated hyphae; pileocystidia 34-72 x 0.7-1.0 μ , filamentous, erect, colorless, scattered. Caulocystidia 28-46 x 3-5 μ , filamentous, capitate. Clamp connections present.

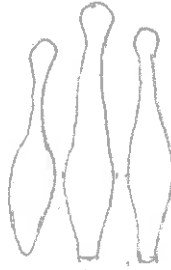
Near picreus but bright color; no notes on veil, ~~MA~~ ~~MA~~ ~~MA~~.
evidence indicates it is absent.

Gymnopilus lequiritiae

Jm-61266



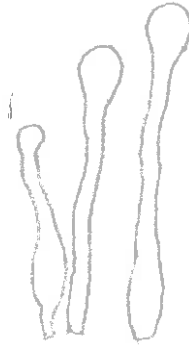
Gl - x 1000



ch - x 1000



Pileo - x 1000



Caulo - x 1000

Sm-62388

GYMNOPIIUS LIQUIRITIAE

On oak, Proud Lake, October 2, 1959

Notes by Smith

Pileus verona brown when young, becoming orange.
No veil.

Notes by Hesler

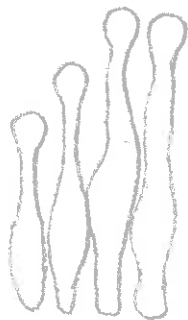
Spores 7.5-10 x 4.5-5.5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no pore. Basidia 23-27 x 6-7 μ , 4-spored. Pleurocystidia 22-28 x 5-6 μ , ventricose; cheilocystidia 26-40 x 4-6 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 5-11 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle fibrillose, with colorless, clavate or cylindric pileocystidia, 30-55 x 4-6 μ . Caulocystidia 24-38 x 2.5-7 μ , filamentous or flask-shaped, capitate or subcapitate, scattered, in tufts, or as a turf. Clamp connections present.

Gymnopilus liquiritiae

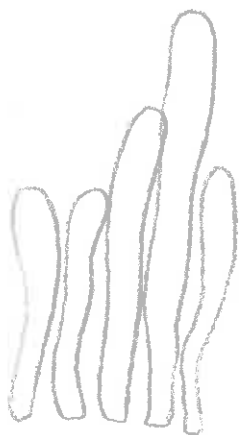
Sm-62388



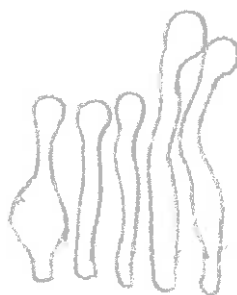
Pl ~~Ch~~ - 7000



Ch - x 1000



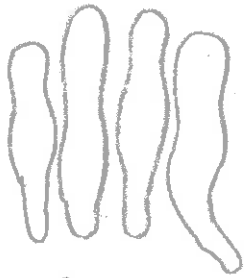
Pileo - x 1000



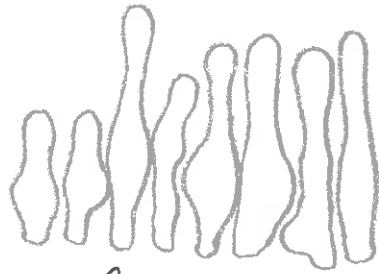
Concho - x 1000

Gymnopilus liquoritiae

Sm - 64743



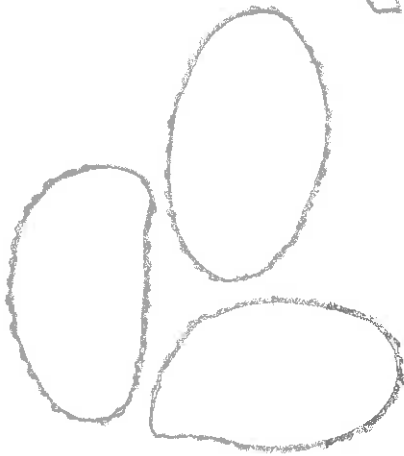
Sp - x 1000



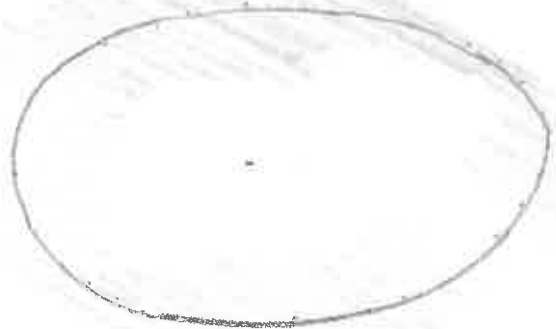
Ch - x 1000



Caulo - x 1000



Spores - x 4000



Sm-64743

GYMNOPIIUS

Lignitiae
Michigan,

On conifer duff and sticks, Mud Lake Bog, October 23, 1961

Notes by Smith

Pileus 2.5-6 cm broad, convex with an incurved margin expanding to plane or margin recurved slightly, surface glabrous, moist and hygrophanous, watery "cinnamon rufous" with yellow margin, fading to "antimony yellow" over all. Context thin, fairly pliant, pale yellow; odor none, taste slowly bitterish, in KOH instantly dark red brown, $FeSO_4$ -0.

Lamellae close, narrow to moderately broad, adnate to subdecurrent, broadest near stipe, pale yellowish (young), becoming rusty-orange from spores in age, not spotted, breaking transversely readily.

Stipe 3-6 cm long, 2-5 mm thick, equal, solid, fibrous, yellowish near apex, dingy rusty orange near base, hoary-unpolished at first, naked in age, Cortex yellow but not darkening in base. Veil none.

Notes by Hesler

Spores (6)7-9 x (4)4.5-5.5 μ , ellipsoid in face view, inequilateral in profile, verruculose, no germ pore, ferruginous in KOH, dextrinoid at once. Basidia 25-28 x 6-7 μ , 4-spored. Pleurocystidia 25-33 x 6-8 μ , ventricose; cheilocystidia 17-32 x 4-8 μ , flask-shaped, ventricose, subcapitate or noncapitate. Gill trama of irregularly subparallel hyphae, 5-12 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of brown repent

Yellow pigment, soluble in KOH, present in gill trama.

Sm-68031

GYMNOPIIUS LIQUIRITIAE

On conifer wood, Priest River, Idaho, June 30, 1964

Notes by Smith

Pileus shining, glabrescent.

Veil none.

Notes by Hesler

Spores 7.5-9.5 x 4.5-5.3 μ , ellipsoid, inequilateral, verrucose, ferruginous, promptly dextrinoid. Basidia 24-28 x 6-7 μ , 4-spored. Pleurocystidia 23-33 x 5-6 μ , 27-42 x 5-6 μ , ventricose, scattered; cheilocystidia ~~12-15 x 4-5 μ~~ slender-flask-shaped, capitate. Basidioles 24-27 x 4-6 μ , ventricose to cylindrical, few, brown. Gill trama of subparallel hyphae, 4-8 μ broad; subhymenium not distinctive. Pileus trama more or less interwoven. Cuticle a repeat brown zone, with occasional brown, erect pileocystidia, 33-44 x 3-6 μ , filamentous to cylindrical. Caulocystidia 36-68 x 3-6 μ , slender-flask-shaped to filamentous, capitate.

Sm-68314

GYMNOPIIUS LIQUIRITIAE

On conifer logs, Priest Lake, Idaho, August 10, 1964

Notes by Smith

Pileus wet and shining.

Veil none. Otherwise like G. sapineus.

Notes by Hesler

Spores 7-9.5 x 4-5 μ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid at once. Pleurocystidia ventricose, 25-32 x 5-6 μ ; basidioles rare, brown, ventricose to cylindrical; cheilocystidia 20-38 x 4-5 μ , slender flask-shaped, capitate. Gill trama of subparallel hyphae, 5-12 μ broad; subhymenium not distinctive. Pileus trama slightly interwoven. Cuticle a brown repent zone. Pileocystidia none. Caulocystidia 20-44 x 3-8 μ , flask-shaped, filamentous, capitate.

Sm-
71447

GYMNOPIIUS LIQUIRITIAE (near geminellus ?)

Attached to wood, Gainesville, Florida, leg. Fawcett, from
Burlingham to Kauffman, 1907 (?)

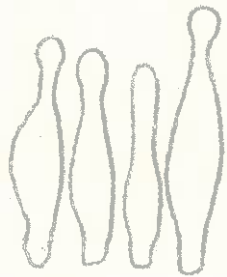
Spores 6.5-8(9) x 4-4.5(5) μ , ellipsoid, subvoid,
inequilateral, verruculose, no germ pore. Basidia 23-26 x
4-5 μ , 2-4-spored. Pleurocystidia 27-35 x 5-8 μ , ventricose,
capitate; cheilocystidia 18-30 x 4-7 μ , similar. Gill
trama subparallel, hyphae 4-7 μ broad. Pileus trama radial.
Cuticle of brown, repent hyphae. Pileocystidia none.
Clamp connections present. Caulocystidia none.

Kauffman says gills yellowish at first.

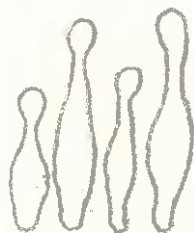
Near geminellus, but notes inadequate.

Gymnospilus lequiritiae?

SM-71447



Pl - x 1000



Ch - x 1000

Sm-73040 GYMNOPIIUS LIQUIRITIAE (slender form)

On aspen log ?, Gun Lake, Barry Co., Michigan, Aug. 10, 1966

Notes by Smith

Pileus 1-1.5 cm broad, ochre-yellow, rusty-brown in KOH, olive in FeSO_4 . Context bitter.

Lamellae paler than cap, staining rusty.

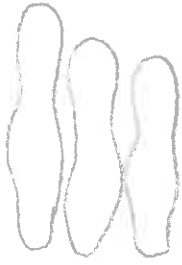
Stipe 1-1.5 cm long, 1-2 mm thick, pallid-yellow, scarcely fibrillose. Veil none.

Notes by Hesler

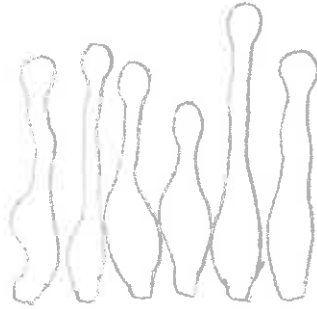
Spores 7.5-9.5 x 4.5-5 μ , ellipsoid, inequilateral, verrucose, ferruginous in KOH, dextrinoid at once, no germ pore. Basidia 24-29 x 6-7 μ , 4-spored. Pleurocystidia 25-32 x 6-7 μ , ventricose; cheilocystidia 25-40 x 5-7 μ , flask-shaped, capitate, sometimes extending up the sides 150 μ . Gill trama of subparallel hyphae, 3-8 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle of ^epent hyphae, bearing brown, incrustated epicuticular hyphae, and scattered mounds of brown, incrustated hyphae. No pileocystidia found. Caulocystidia in tufts, similar to cheilocystidia, 27-46 x 3-7 μ . Clamp connections present.

Gymnopilus liquoritiae (slender form)

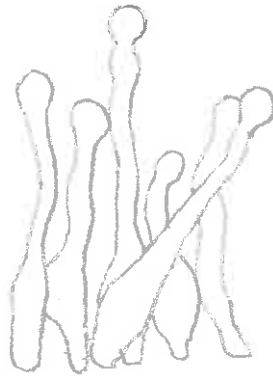
Sm - 73040



Sp - x 1000



Ch - x 1000



Caulo - x 1000

Sm-73250

GYMNOPIIUS LIQUIRITIAE

On elm log, Whitmore Lake, Mich., Aug. 26, 1966 (labelled doubtfully liquiritiae by Smith)

Spores 6.5-8.5 x 4-5 μ , ellipsoid, verruculose, dextrinoid at once. Pleurocystidia, cheilocystidia, and caulocystidia as usual. Pileocystidia: (1) mounds of brown hyphae, the terminal elements cystidioid; (2) densely scattered, filamentous, or flask-shaped and capitate, colorless.

Sm-73444

GYMNOPIIUS LIQUIRITIAE

On conifer log, Priest Lake, Idaho, leg. Ken Harrison,
Sept. 17, 1966 (Smith says: check liquiritiae).

Notes by Smith

Cap bay-brown, moist, fulvous faded. Gills dull yellow, broad, close. Stipe streaked with gray fibrils, very dark red-brown.

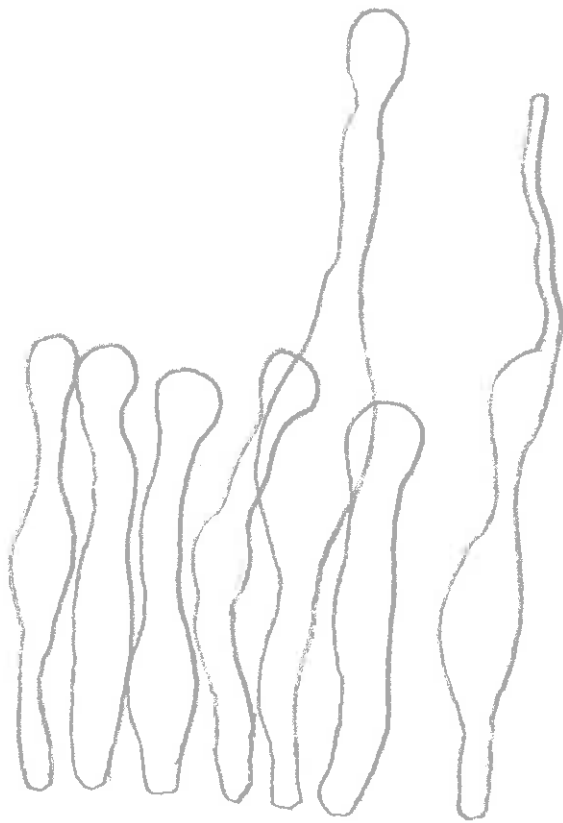
Notes by Hesler

Spores 7.5-9 x 4.5-5.5 μ , ellipsoid, few subovoid, slowly dextrinoid. Pleurocystidia 23-26 x 5-7 μ , ventricose; cheilocystidia 30-40 x 4-7 μ , flask-shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 6-14 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent hyphae, with scattered mounds of brown, incrustated hyphae, the terminal elements as clavate pileocystidia. Caulocystidia 48-105 x 7-15 μ , ventricose to cylindric, capitate, in a dense turf.

Spores not so strikingly ovoid as in picreus; also gills seem too broad for picreus.

Gymnopilus liquiritiae

Sm - 73444



Caulo - x 1000

Wehmeyer-74239 GYMNOPIIUS LIQUIRITIAE

On decayed conifer wood, Ledgewood, Michigan, August 2, 1959.

Notes by Wehmeyer

Pileus 1.5-3 cm broad, shiny yellow-brown, plane, margin incurved. Gills adnate, light-yellow-brown, close. Stipe 2 cm long, somewhat fibrous-striate, pale-yellow-tan.

Notes by Hesler

Spores 7-9 x 4.5-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid. Pleurocystidia ventricose, 23-25 x 5-6 μ , cheilocystidia 20-30 x 3-7 μ , flask-shaped, capitate, or more rarely subcapitate. Gillstroma of subparallel hyphae, 5-9 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent brown hyphae. Clamps present. Caulocystidia 34-50 x 4-6 μ , filamentous, capitate.

Identification assumes no veil; I saw no evidence of a veil.

Sm-74242

GYMNOPILUS LIQUIRITIAE

Mich.

On wood, George Reserve, Sept. 26, 1965

Spores ellipsoid, dextrinoid. Pileocystidia not found. (Labelled G. picreus, but lacks the two kinds of pileocystidia found in that species).

Baxter-74243

GYMNOPIIUS LIQUIRITIAE

CARD
(C.H.K.)

Coll. D. V. Baxter, det. Harding, Wayne, Mich., July 10, 1920

Spores 7-9 x 4.5-5 μ , ferruginous in KOH, slowly dextrinoid (fully so after 30 minutes), verruculose. Pleurocystidia and cheilocystidia as usual. Caulocystidia flask-shaped and capitate, or cylindric and more or less capitate, often in pyramidal tufts. Cuticle bearing mounds of brown hyphae.

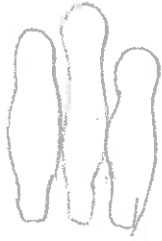
74244
Deegan-~~74244~~ GYMNOPIIUS LIQUIRITIAE

On logs, leg. H. B. Deegan, det. Harding, New York ?,
August 14, 1949.

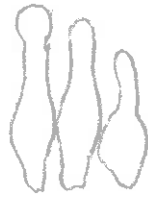
Spores 7-8.5(9) x 4-5 μ , 1/2 dextrinoid at once, all dextrinoid after 20 minutes. Pleurocystidia and cheilocystidia as usual. Pileocystidia 18-32 x 2-4 μ , sub-flask-shaped to subcylindric, scattered, colorless; also some mounds of brown hyphae. Caulocystidia more or less a turf, cylindric to subflask-shaped, colorless, capitate, 30-52 x 4-7 μ .

Gymnosporium liquoritiae

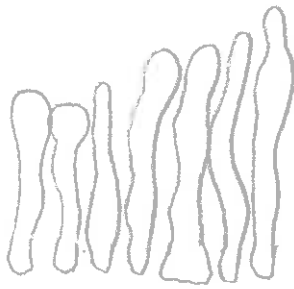
Thun - 5313



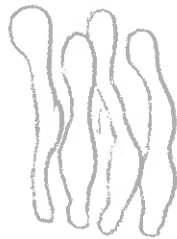
PL x 1000



Ch - x 1000



Fileo - x 1000



Caulo - x 1000

Thiers - 11815

Luteocarpus
GYMNOPIIUS ~~GAROLUSPEUS~~ sp. nov. ~~NOTES TABLE~~ NOTES

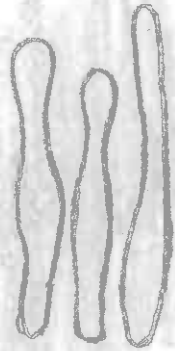
Solitary to scattered, on conifer logs, Alpine Lake, Marin Co., Calif.;
Nov. 30, 1964.

Spores 7-8(8.5) x 4-4.5 μ , ellipsoid, inequilateral, verruculose-wrinkled, ferruginous, dextrinoid, no germ pore. Basidia 25-29 x 5-6 μ , 4-spored. Pleurocystidia 34-44 x 5-6 μ , flask-shaped to ventricose, with a long neck, capitate or non-capitate; cheilocystidia 26-48 x 5-8 μ , similar. Gill trama of subparallel hyphae, 3-6 μ broad; subhymenium not distinctive. Pileus trama radial. Cuticle of repent hyphae, with some surface, repent or suberect brown, incrustated hyphae. Clamp connections present. Pileocystidia none. Caulocystidia 38-47 x 5-7 μ , similar to cheilocystidia, in tufts or in a palisade.

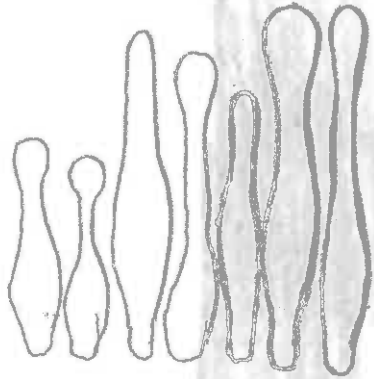
~~Until I see notes, I am uncertain. It might be any one of 2 or 3 species, depending on characters such as taste and veil.~~

Gymnopilus luteocarymus
cardulatus sp. nov.

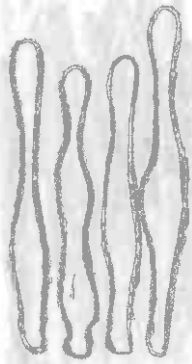
Chien - 11815 - Type.



Sp. x 1000



Ch - x 1000



Caulo - x 1000

AGARICUS LUTEFOLIUS Pk.

[*Gymnopilus luteofolius* (Pk.) Sing.]

On dead wood of deciduous trees, Forestburgh, New York, leg. C. H. Peck, September, 1874, as Pholiota.

TYPE

Spores 6-8.5 x 4-4.5 μ , ellipsoid, obscurely inequilateral, verruculose, no germ pore, yellowish brown in KOH, dextrinoid at once in Melzer's reagent. Basidia 20-25 x 4-5 μ , 4-spored. Pleurocystidia 23-26 x 5-8 μ , ventricose, inconspicuous; cheilocystidia 20-27 x 4-5 μ , flask-shaped, capitate. Gill trama of subparallel hyphae; subhymenium not distinctive. Pileus trama of interwoven hyphae. Cuticle of repent hyphae, bearing tufts of pale hyphae the terminal element as pileocystidia, 50-100 x 9-17 μ , clavate, cylindric, or flask-shaped. Caulocystidia 33-45 x 5-9 μ , ventricose to more or less cylindric, in tufts, pale. Clamp connentions present. Yellow pigment, soluble in KOH, present in gill trama.

AGARICUS LUTEIFOLIUS Pk.

[*Gymnopilus luteifolius* (Pk.) Sing.]

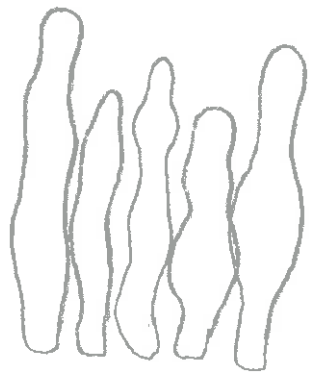
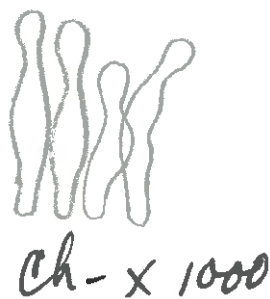
On dead wood of deciduous trees, Forestburgh, New York, leg. C. H. Peck, September, 1874, as Pholiota.

TYPE

Spores 6-8.5 x 4-4.5 μ , ellipsoid, obscurely inequilateral, verruculose, no germ pore, yellowish brown in KOH, dextrinoid at once in Nelsner's reagent. Basidia 20-25 x 4-5 μ , 4-spored. Pleurocystidia 23-26 x 5-8 μ , ventricose, inconspicuous; cheilocystidia 20-27 x 4-5 μ , flask-shaped, capitate. Gill trama of subparallel hyphae; subhymenium not distinctive. Pileus trama of interwoven hyphae. Cuticle of repent hyphae, bearing tufts of pale hyphae the terminal element as pileocystidia, 50-100 x 9-17 μ , clavate, cylindrical, or flask-shaped. Caulocystidia 33-45 x 5-9 μ , ventricose to more or less cylindrical, in tufts, pale. Clamp connections present. Yellow pigment, soluble in KOH, present in gill trama.

Agaricus luteofolius Fr.

Type (*Gymnopilus luteofolius*)



(forming scales,
as terminal elements)

Barrows-92

GYMNOPIILUS LUTEOFOLIUS

On rotten conifer, ^{New Mexico,} August 1955 (labelled G. sapineus).
^

Notes by Barrows

Pileus up to 12.5 cm broad, tan to yellowish, becoming areolate, 2-6 scales each areola, scales fibrillose, brown, more dense at the center. Context thin on margin, thick on disc, pale yellow; odor none, taste slightly acrid.

Lamellae adnate, yellow when young, then bright yellow-rust, broad, close, thick, unequal.

Stipe nearly 7.5 cm long, 20 mm thick, fibrillose-striate, fibrils rust-color. Veil arachnoid, fugacious, no ring.

Notes by Hesler

Spores ferruginous in deposit, 6-8.5 x 4-4.5 μ , ellipsoid, slightly inequilateral, verruculose, yellowish brown in KOH, dextrinoid at once, no germ pore. Basidia 22-25 x 4-5 μ , 4-spored. Pleurocystidia 18-24 x 5-6 μ , ventricose to flask-shaped, scattered, inconspicuous; cheilocystidia 23-28 x 4-5 μ , ventricose-flask-shaped, subcapitate or non-capitate, not numerous. Gill trama of subparallel hyphae, 5-10 μ broad; subhymenium not distinctive. Pileus trama of broad (5-25 μ), colorless, very loosely arranged hyphae. Cuticle pale, repent, scarcely differentiated from the trama, with scattered lactifers; with bundles of

brown hyphae (scales). Pileocystidia and caulocystidia none.

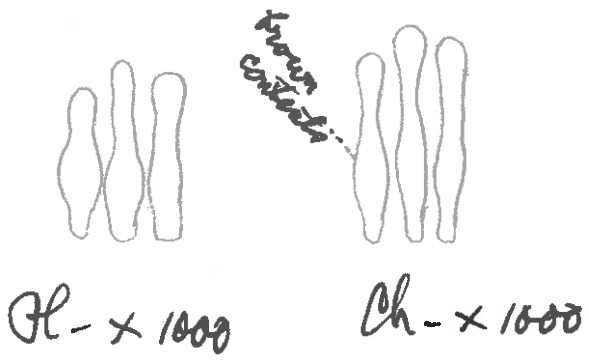
The yellow young lamellae suggest luteofolius despite lack of caulocystidia.

This is not G. sapineus: The pileus too pale, gills broad, stipe dark, spores too narrow, pileus trama very loose, cuticle lacks brown epicuticular hyphae, veil none, cheilocystidia distinctly capitate.

L

Gymnopilus luteofolius var. ~~luteofolius~~

Barrows - 92



Barrows-144

GYMNOPIIUS LUTEOFOLIUS

On rotten conifer, near Santa Fe, New Mexico, August 1955

Notes by Barrows

Pileus up to 5 cm broad, rufous brown, cracked, areolate-scaly. Context almost white — yellowish flesh tint, thick only on disc; odor not distinctive, taste very bitter.

Lamellae at first yellow to yellowish, burnt sienna, then becoming more red when dried.

Stipe yellowish brown, irregularly striate, tough, yellow within.

Notes by Hesler

Spores (5.5)6-8.5 x 4-5 μ , dextrinoid at first. Yellow pigment, soluble in KOH, present in gill trama. Veil fugacious.

Thiers - 233

GYMNOPIIUS LUTEOFOLIUS

(Smith 35829) On saw-dust, Brutus, Mich., leg. A. H. Smith, Sept. 15, 1950.

Spores 6-8 (8.5) x 4-4.5 (5) μ , dextrinoid.

Sipe-1010 GYMNOPIIUS LUTEOFOLIUS ~~var. LUTEOFOLIUS~~

On fir logs, near Eugene, Oregon, November 3, 1947.

Notes by Sipe

Pileus 5-9 cm broad, convex, Morocco red, paler to orange-tinted in age, ^(scales) ~~viscid~~, ^{becoming slightly areolate,} with ~~many~~ minute, pale brown tufts in young basidiocarps. Context reddish, firm.

Lamellae sinuate, yellow, close or crowded, medium narrow.

Stipe 4-6 cm long, 8-14 mm thick, concolorous, with whitish silkiness, reddish internally, stuffed to hollow. Veil forming an evanescent annulus, leaving a fibrillose, superior zone.

Notes by Hesler

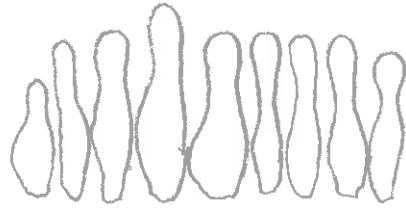
Spores 6-8.5 x 3.5-4.5 μ , ellipsoid, inequilateral, verruculose, ferruginous, dextrinoid, no germ pore. Basidia 22-25 x 5-6 μ , 4-spored. Pleurocystidia 18-22 x 4-5 μ , ventricose; cheilocystidia 15-26 x 3-7 μ , flask-shaped, or ventricose, non-capitate, more rarely subcapitate. Gill trama of subparallel hyphae, 3-6 μ broad; subhymenium no distinctive. Pileus trama radial. Cuticle a dingy pallid brown zone of repent hyphae, with mounds of hyphal tufts, the terminal elements cylindrical-clavate-pileocystidia (not viscid!). Caulocystidia none. Clamp connections none.

Gymnophilus luteofolius var. ~~*luteofolius*~~

SiPe - 1010



Pl - x 1000



Ch - x 1000

Sipe-1016 GYMNOPIIUS LUTEOFOLIUS ~~var. LUTEOFOLIUS~~

On logs, near Swiss Home, Eugene, Oregon, October 27, 1947.

Notes by Sipe

Pileus 4-7 cm, convex, ferruginous to "Hays russet," ^{not areolate,} minutely floccose (fibrillose scales evident !) especially on the center. Flesh thin, viscid.

Gills "antimony yellow," sinuate, broad.

Stipe reddish, hollow.

Notes by Hesler

Spores 6-8.5 x 4-5 μ , dextrinoid. ^{Caulocystidia none.} Other characters as in Sipe-1010.

Tenn-1108

GYMNOPIIUS luteofolius (Pk.) Sing.

Elk River, Idaho, leg. A.S. Rhoads, det. J.R. Weir (as Pholiota aegerita), June 20, 1920

Spores 6-8 x 4-4.5 μ , ellipsoid in face view, slightly inequilateral in profile, verruculose, no germ-pore. Basidia 26-31 x 5-6 μ , 4-spored. Pleurocystidia 25-28 x 6-7 μ , ventricose, scattered, inconspicuous; cheilocystidia 27-43 x 4.5-5 μ , ventricose, with a slender neck and subcapitate, scattered. Gill trama slightly interwoven, hyphae 5-10 μ broad. Pileus trama radial and somewhat vesiculose. Cuticle, a sharply differentiated zone (90-110 μ thick) of slender, colorless hyphae, bearing mounds of hyphae (scales). Clamp connections none. Pileus and gill trama yellowish in KOH, hymenium reddish in KOH; reddish brown in Melzer's reagent.

This was determined by Weir as Pholiota aegerita, but it is a Gymnopilus.

Gymnosporium luteofolius

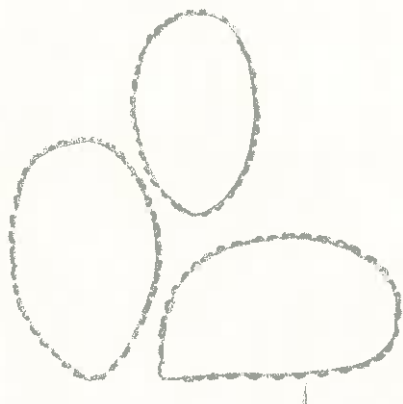
Tenn - 1108



Sp - x 1000



Ch - x 1000



Spores - x 4000

Barrows-1133

GYMNOPIIUS LUTEOFOLIUS

On conifer log, Hyde Park (8000 ft.), New Mexico, August 1959

Notes by Barrows

Cap 2.5-4.5 cm broad, orange yellow to pink, areolate, each areola with 2-5 fibrillose, brown, scales. Taste very bitter. Gills yellow, emarginate. Ring yellow, fibrillose, but the basidiocarps show a yellow, membranous, persistent annulus. Stipe hollow.

Notes by Hesler

Spores 7-8.5 x 4-5(5.5) μ , dextrinoid, ferruginous. Pleurocystidia ventricose; cheilocystidia flask-shaped, non-capitate. Cuticle bearing brown, hyphal tufts (scales). Pileus trama interwoven. Caulocystidia none. Pileocystidia forming mounds, clavate 28-43 x 6-8 μ .

Barrows-1143A

GYMNOPILUS LUTEOFOLIUS

On rotten conifer, Glorietta Mt., New Mexico, August 1959.

Notes by Barrows

Pileus red, areolate, each areola bearing fibrillose scales, resembling Tricholoma rutilans, vinaceous red, taste bitter. Context vinaceous. Gills yellow, rusty spotted. Stipe whitish-pinkish.

Notes by Hesler

Basidiocarps mostly buttons, the veil is ample, conspicuous, membranous, persistent.

Spores 6-8 x 4-4.5 μ . Pleurocystidia ventricose; cheilocystidia ventricose, non-capitate to subcapitate. Caulocystidia none.

Holt-1332

GYMNOPIIUS LUTEOFOLIUS

(No collection data)

Spores 6-8 x 3.5-4.8 μ . Pileus areolate, fibrillose-scaly; veil fibrillose, fugacious.

Barrows-1438

GYMNOPIIUS LUTEOFOLIUS

On dead wood, Jemez Mts., New Mexico, August 1963.

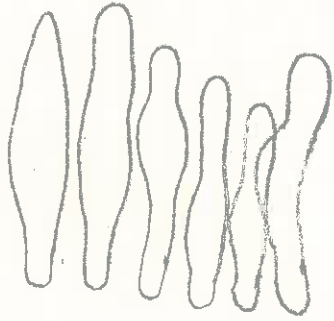
Notes by Barrows

Cap light rusty orange, broken into areolae, each with fibrillose scales. Odor fruity, taste bitter. Gills adnate, bright orange. Stipe buff.

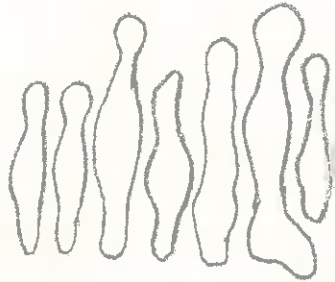
Notes by Hesler

Spores 6-8 x 3.5-4.5(5) μ , ellipsoid, inequilateral, ferruginous in KOH, dextrinoid, verruculose. Pleurocystidia 25-32 x 5-6 μ , ventricose; cheilocystidia 20-32 x 4-6 μ , flask-shaped or ventricose, capitate. Gill trama of subparallel hyphae, 3-6(12) μ broad. Pileus trama interwoven. Cuticle not sharply differentiated, surface bearing fascicles of pallid-brownish hyphae, the terminal elements as pileocystidia, 44-53 x 5-14 μ , clavate to ventricose. Caulocystidia none.

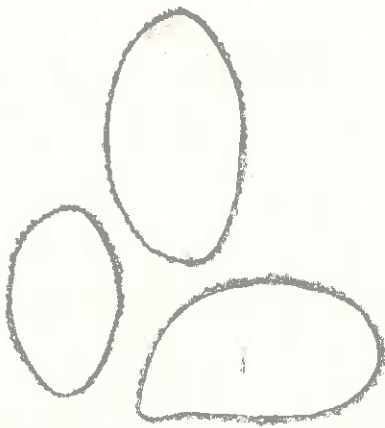
Gymnopilus luteofolius var. ~~*luteofolius*~~
Sm (Barrows) - 1438



Bl - x 1000



Ch - x 1000



Spores - x 4000



Pileo - x 1000

Kelly-1468

GYMNOPIIUS LUTEOFOLIUS (?)

Ontario, Canada, leg. & det. L. C. C. Krieger as Pholiota
aegerita, 1921 (August or September).

(Material is badly weathered; the spores seem to be those of G. luteofolius, but I am not satisfied with my study of it. * LRH).

Barrows-2031

GYMNOPIIUS LUTEOFOLIUS

On rotten conifer, Glorietta Baldy Road, leg. Barrows,
New Mexico, August 1961.

Notes by Barrows

Pileus 2.5-5(6) cm broad, soon becoming areolate,
2-6 scales on each areola, light rusty with darker brownish
scales (scales fibrillose, fascicled, rather numerous).
Context bitter.

Lamellae bright rusty orange.

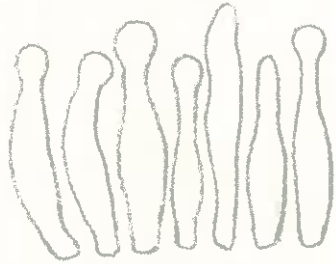
Stipe brownish orange, somewhat striate. Veil arachnoid,
white or whitish to pale yellow, fugacious.

Notes by Hesler

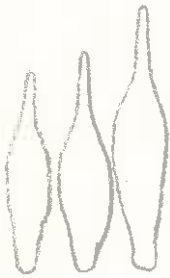
Spores 6.5-8.5 x 4-5 μ , ellipsoid to subvoid in face
view, inequilateral in profile, verruculose, no germ pore,
ferruginous in KOH, dextrinoid. Basidia 27-30 x 5-6 μ ,
2-4-spored. Pleurocystidia 26-35 x 4-7 μ , ventricose;
cheilocystidia 24-35 x 4-7 μ , ventricose, usually capitate
or subcapitate. Gill trama subparallel, hyphae 5-15 μ
broad; subhymenium not distinctive. Pileus trama loosely
interwoven, hyphae 6-12 μ broad. Cuticle not sharply
differentiated, bearing tufts, or fascicles, of brownish,
septate hyphae, 6-11 μ broad — the scales. Clamp connections
present. Caulocystidia 23-33 x 4-8 μ , ventricose and often
more or less capitate, at times clavate, in tufts or more
rarely in palisades. Yellow pigment in KOH.

Gymnopilus luteofolius

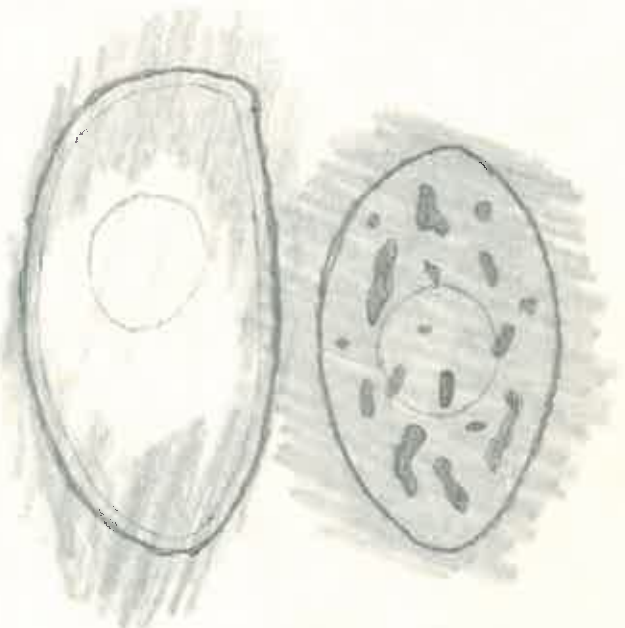
Sm - 2031



gh - x 1000



Sp - x 1000

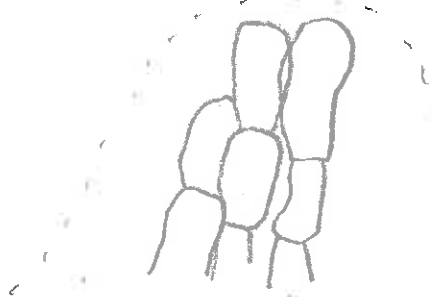


Spores - x 8000

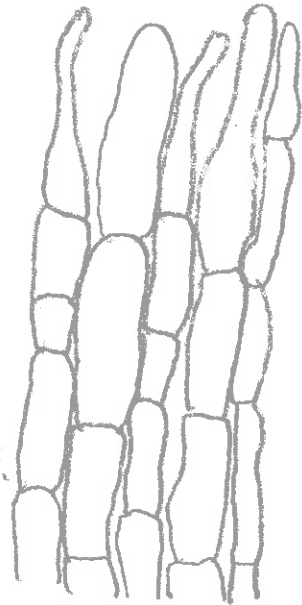
Gymnopilus luteofolius

Barrows - 2031

more
next pg.



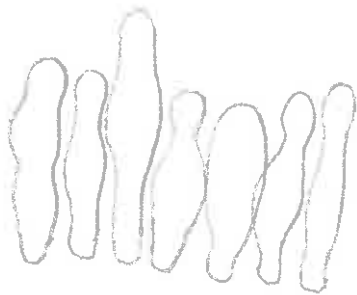
Caulo - mound
brown cells in
chains - x 1000



Fibulose - scale on cap - x 1000

Gymnopilus luteofolius

Sm - 2031



Caule - x 1000

Barrows-3083

GYMNOPIIUS LUTEOFOLIUS

On old log, Santa Clara Canyon, New Mexico, July 23, 1966

Notes by Barrows

Cap rusty buff, areolate, each areola with 2-5 fibrillose scales. Taste very bitter. Gill ochre yellow at first becoming bright rusty cinnamon. Stipe yellowish rusty. Veil fugacious.

Notes by Hesler

Spores 6.5-8.5 x 4-4.5(5) μ , ellipsoid, inequilateral, ferruginous, dextrinoid, after 30 minutes, verruculose, no germ pore. Other characters typical.

Barrows-3091

GYMNOPIIUS LUTEOFOLIUS

On dead conifer, Santa Clara Canyon, New Mexico, July 1966

Notes by Barrows

Cap shades of ochre to rust, very areolate, each areola with 1-5 fibrillose scales, paler between cracks. Taste bitter. Gills bright yellow orange rust. Ring none.

Notes by Hesler

Spores 7-8.5 x 4-5 μ , verruculose, ellipsoid, inequilateral, ferruginous in KOH, dextrinoid. Other characters as usual (Barrows says "ring none," but apparently a veil was present in the buttons and was deciduous.)

Bartelli-2427

GYMNOPIIUS LUTEOFOLIUS

All Notes by Hesler

Pileus areolate, each areola with 2-5 fibrillose scales, buff-yellowish, 4-8 cm broad. Lamellae broad, close. Ring persistent.

Spores 6-8 x 3.7-4.5 μ , verruculose, ferruginous, dextrinoid.

Sm-6106

GYMNOPIIUS LUTEOFOLIUS var. ~~_____~~

On Thuja log, Lemon Creek, July 22, 1966.

Notes (by Smith ?)

Pileus 5-6 cm broad, convex, "cameo-brown" or "pecan brown," conspicuously brown, fibrillose-scaly (dried caps show pinkish vinaceous tints), *becoming areolate, 2-several scales each areola.*

Lamellae light ochraceous, "Mars yellow," edges white, extending as lines down the stipe.

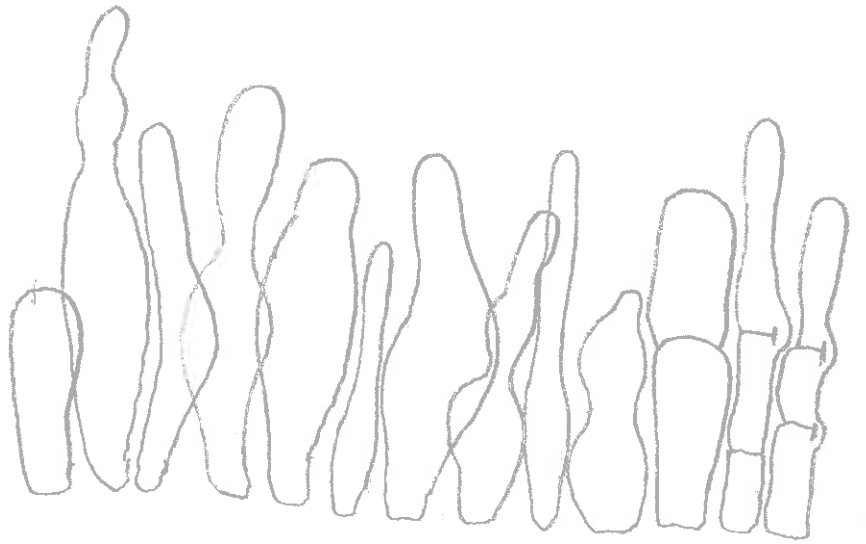
Stipe 5 cm long, 10 mm thick. Veil remnants as a submembranous annulus.

Notes by Hesler

Spores (5.5)6-7.5(8.5) x 3.5-4.5(5) μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no/germ pore. Basidia 25-28 x 4.5-6 μ , 4-spored. Pleurocystidia 25-29 x 4-6 μ , ventricose; cheilocystidia 24-32 x 3-5 μ , flask-shaped or ventricose, subcapitate or non-capitate. Gill trama of subparallel hyphae, 4-8 μ broad; subhymenium not distinctive. Pileus trama of loosely interwoven hyphae, colorless, broad (7-20 μ broad). Cuticle a zone of brown, repent hyphae, bearing more or less conic bundles of pale brown hyphae — scales. Pileocystidia none, or as cylindric, terminal elements on the hyphae bundles. Caulocystidia 26-63 x 5-15 μ , variable: clavate, ventricose, flask-shaped, often septate and clamp connections at partitions — all forming a turf.

Gymnopilus luteofolius var.

Sm-6106



Caulis - x 1000

Tenn-14755

GYMNOPIIUS LUTEFOLIUS (Pk.)

On sawdust pile, Claxton's School, Anderson Co., Tenn.,
det. A. H. Smith, October 6, 1942

Pileus 2-4 cm broad, caespitose, convex, broadly umbonate, disc scaly, scales erect and composed of strigose-twisted hairs, rimose, elsewhere fibrillose, "ochraceous-buff," tips of scales dark brown, hygrophanous but not at all viscid, margin even. Context thick over disc, thin on margin, "warm buff"; odor slightly pungent (sub-alkaline), taste slightly bitter.

Lamellae adnate, adnexed to adnate-decurrent, "ochraceous buff," broad, narrowed either way, close, edges minutely rough.

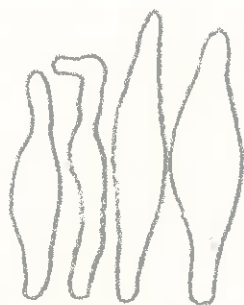
Stipe 4-5 ^{long} cm. ^{thick} x 7-10 mm fibrillose-striate and rimose, undulating, equal, not at all scaly, dry, shining, pallid-ochre (~~not matched~~), solid. Veil cortinate, leaving a slight apical fibrillose ring.

Spores (5.5)6-8 x 4.5-5.5 μ , ellipsoid to subovoid in face view, slightly inequilateral in profile, ^{slightly dextrinoid,} verruculose, [^]no germ-pore. Basidia 24-28 x 6-7 μ , 4-spored. Pleurocystidia: (a) colorless, 30-38 x 5-10 μ , fusoid to subventricose, (b) brown, 21-30 x 5-8 μ , clavate, or more frequently ventricose and the apices acute, buried; cheilocystidia 23-28 x 4-7 μ , ventricose to flask-shaped. Gill trama more or less parallel, hyphae 5-12 μ broad, rather frequently septate. Pileus trama interwoven. Cuticle not sharply differentiated, the surface bearing tufts of brown, incrustated hyphae (scales). Clamp connections present. Caulocystidia none. Pileus and gill trama pale yellowish brown in KOH; reddish brown in Melzer's reagent. In KOH, a yellowish pigment is dissolved. *Reticular in stipe apex.*

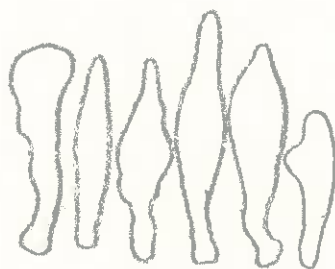
Smith says color too pale, but cystidia right; that Harding thought it a synonym of G. aeruginosus, but Smith not sure!

Gymnopilus luteofolius (Pk.)

Tenn - 14755

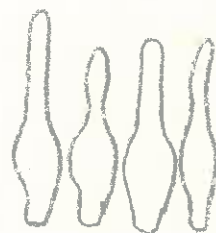


colorless

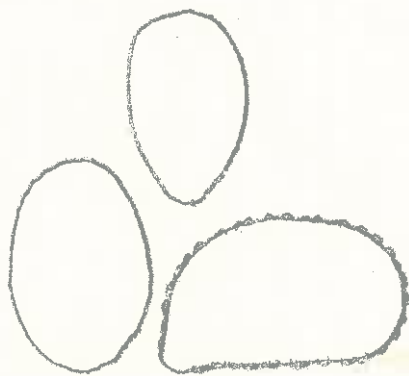


brown

Sp - x 1000



Ch - x 1000



Spores - x 4000

On sawdust pile, near Bakersville, North Carolina; Coll. & Det. LRH,
June 28, 1955

Pileus 2-4 cm broad, hemispheric-convex, finally expanding-convex, not viscid, somewhat hygrophanous, "mustard yellow" when dry, watery olive brown when wet, with numerous, "clay color" to "tawny olive" floccose scales, the scales erect on disk, flattened elsewhere, margin even, at first appendiculate. Context firm, yellow, reddish brown in 15% KOH; odor slight, taste slightly bitter.

Lamellae adnate with a decurrent line, becoming sinuate, "Honey yellow" when young, "moss yellow" at maturity, medium broad behind, narrowed in front, close, edges fimbriate.

Stipe 3-5 cm x 4-8 mm, bases connate, pale or dingy yellow, not scaly, appressed-fibrillose-rimose, striate, often reticulated, equal or ventricose, dry, stuffed. Veil webby, yellow, fugaceous, forming a webby, fugaceous annulus.

Spores "amber brown" in deposit, 5.5-7.5 (8) x 4-4.5 μ , ellipsoid in face view, slightly inequilateral in profile, verrucose, no germ pore, slightly dextrinoid. Basidia 23-27 x 5-6 μ , (2)4-spored. Pleurocystidia of two kinds: (a) colorless, more or less fusoid-clavate, 24-38 x 4-7 μ , (b) brown, 17-32 x 5-7 μ , ventricose, clavate, fusoid-clavate; cheilocystidia of two kinds: (a) colorless 15-24 x 3-5 μ , flask-shaped, fusoid-ventricose, not capitate, (b) brown, clavate, ventricose, fusoid-clavate, 20-26 x 5-6 μ . Gill trama of subparallel hyphae, 4-10 μ broad; subhymenium not distinctive. Pileus trama interwoven. Cuticle of repent hyphae, not differentiated

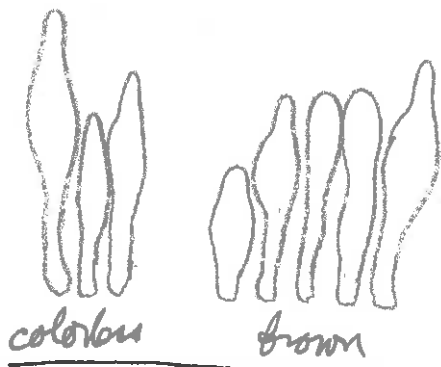
from trama, bearing tufts of brownish hyphae forming scales.

Clamp connections present. Caulocystidia in tufts, 20-30 x 3-10 μ , some brown, mostly colorless, clavate, fusoid, ventricose.

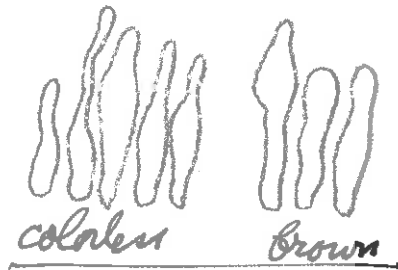
Lactifers present in trama of gills and pileus, and stained red in 2% KOH.

Gymnopilus luteofolius

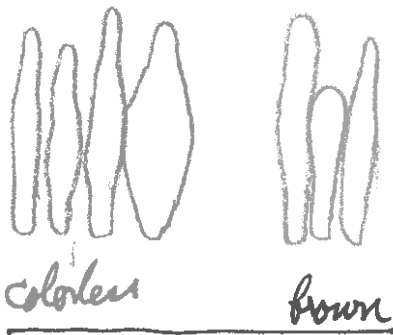
Teu-21810



Fl - x 1000



Ch - x 1000



Caulo - x 1000

Tenn-22130

GYMNOPIIUS LUTEOFOLIUS (Pk.) Singer

PHOTO

On sawdust, New Hopewell, Oct. 2, 1955

Pileus cespitose, 3-8 cm broad, conic-convex, then plano-convex, at times broadly umbonate, hygrophanous, not viscid, densely pointed-scaly, scaly-fibrillose in button-stage, scales, rigid-erect when mature, buttons reddish brown from dense scales, finally, as pileus expands, yellow between reddish brown to tawny scales, margin even. Context thick on disc, thin on margin, yellow, reddish next to cuticle; odor slightly sub-alkaline; taste bitter.

Lamellae adnexed to sub-emarginate, pallid at first, soon yellow, finally ochraceous orange, close to nearly subdistant, medium broad, edges fimbriate.

Stipe 5-7 cm x 6-8 mm, dingy tawny, pale yellow within, fibrillose-striate, rimose, not scaly, equal or enlarged downward or subfusoid, dry, hollow. Veil webby, yellow, leaving a slight superior, fugaceous, fibrillose-cortinate annulus.

Spores 6-8 x 4-4.5 μ , ellipsoid in face view, slightly inequilateral in profile, ~~slightly dextrinoid~~, verrucose, no germ pore. Basidia 22-26 x 5-6 μ , 2-4-spored. Pleurocystidia: (a) colorless (none found), (b) brown (basidioles?), 20-27 x 4-6 μ , clavate, subventricose, apices rounded, more rarely tapering; cheilocystidia: (a) colorless, 20-30 x 3-6 μ , flask-shaped,

(Jenq. - 22130)

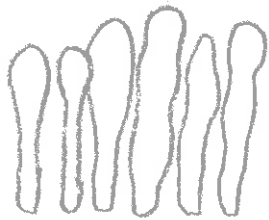
neck slender, more or less capitate, (b) brown (basidioles?), 20-25 x 4-6 μ , ventricose, clavate. Gill trama of subparallel hyphae, 5-12 μ broad; subhymenium not distinctive. Pileus trama loosely interwoven. Cuticle of repent hyphae, not distinctive from trama, bearing bundles of brown, incrustated, erect hyphae, forming fibrillose scales, the terminal elements of clavate-cylindric pileocystidia. Clamp connections present. Caulocystidia rare, clavate, scattered, 18-27 x 2-5 μ , colorless.

Sections in 2% KOH yield a greenish yellow pigment.

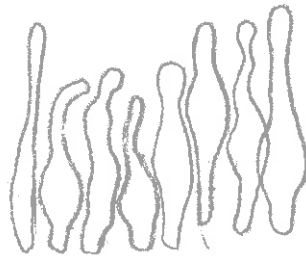
Smith studied this and in a note stated: G. luteifolius O.K. Harding thought this was a synonym of G. aeruginosus but I am not sure he is correct (April 6, 1956).

Gymnospilus luteifolius (Pk.) Sing.

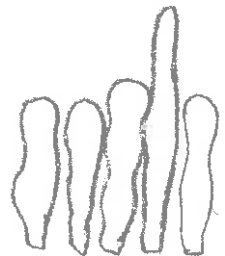
Teru - 22/30



As (brown) - x1000



Ch. (colorless)
- x1000



Ch. (brown)
- x1000



Caulo - x1000
(as terminal elements
on uplifted hyphae)
incrusted.



22130 - *Pholiotia luteofolia* (OK.)
Gymnopilus



22130 - *Pholiota luteofolia* PK.



22130 - *Gymnopilus luteofolius* (Pk.) Singer

Cooke-22240

GYMNOPIIUS LUTEOFOLIUS

In Ponderosa pine zone, Idaho, Idaho County, November 1, 1947

Notes by Cooke
(Get notes from Cooke)

Spores 7-8 x 4-4.5 μ , ellipsoid, inequilateral, verruculose, pale-ferruginous in KOH, dextrinoid. Basidia 23-28 x 5-6 μ , 4-spored. Pleurocystidia 25-30 x 6-7 μ , ventricose; cheilocystidia 20-36 x 3-11 μ , flask-shaped, capitate. Gill trama of subparallel hyphae, 4-6 μ broad. Pileus trama interwoven. Cuticle of radial hyphae and more closely compact than trama, bearing conic or pyramidal tufts (bundles) of pale fuscous hyphae (scales). Clamp connections present. Pileocystidia and caulocystidia none.

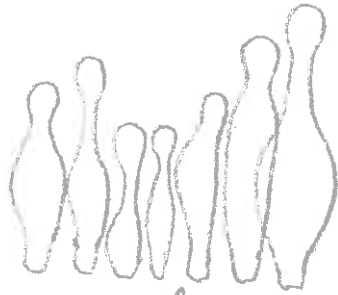
Veil ~~membranous~~ fugacious, cottony cortinate (notes by Cooke),
gills brown, stipe purple.

Gymnopus luteofolius ~~Wats.~~ ~~Wats. & Peck~~

Cooke - 22240



Pl. - x 1000



Ch. - x 1000

Cooke-33125

GYMNOPIIUS LUTEOFOLIUS

On wood, in sawdust, Scioto County, Ohio, November 4, 1961

Notes by Cooke

Pileus up to 7 cm broad, yellow-brown, becoming areolate, 2-6 scales on each areola, minutely scaly, densely so on disc when young, convex, connate.

Lamellae decurrent or with a decurrent tooth, yellow brown.

Stipe 7 cm long, 20 mm thick, striate; cortina arachnoid, yellowish.

Notes by Hesler

Spores 6-8 x 4-4.5 μ , ellipsoid, inequilateral, verruculose, dextrinoid only after 40 minutes, no germ pore, dextrinoid. Basidia 24-26 x 5-6 μ , 4-spored. Pleurocystidia 25-30 x 5-10 μ , clavate, usually the apex acute, a few ventricose, colorless or with a brown pigment, numerous; cheilocystidia 20-24 x 5-7 μ , bottle-shaped or ventricose, or subfusoid. Gill trama subparallel to parallel, hyphae 3-7 μ yellow in KOH. Subhymenium not distinctive. Pileus trama interwoven. Cuticle a trichodermium of brown, incrustated hyphae (5)8-12 μ broad. Clamp connections present. Caulocystidia none (both young and mature basidiocarps examined).

In 2% KOH, the tissues exude a yellowish-green pigment.

Sm-74235

GYMNOPIIUS LUTEOFOLIUS (?)

Leg. E. A. Smith, Cisco, Texas, det. Harding (1932-1935 ?)

Spores 7-8.5(10) x 4.5-5(5.5) μ , ferruginous in KOH, slightly reddish-brown at once, not dextrinoid even when NH_4OH is used, nor when left in Melzer's for 5 hours.

The non-dextrinoid spores are puzzling, and I doubt that it is luteofolius. Without notes I hesitate to put a name on it.

74240

Luteofolius

Barrows- ^ GYMNOPIIUS (~~LUTEOPOLIUS var. LUTEOPOLIUS ?~~)

(no data; labelled sapineus)

Pileus more or less fibrillose scaly, areolate.
Lamellae broad to very broad.

Spores 6-8.5 x 4-5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid. Basidia 22-26 x 5-6 μ , 4-spored. Pleurocystidia ventricose; cheilocystidia 22-27 x 5-6 μ , flask-shaped, non-capitate. Gill trama of subparallel hyphae, 5-14 μ broad; subhymenium not distinctive. Pileus trama very loosely interwoven. Cuticle of dingy repent hyphae, with bundles of brown hyphae (scales). Clamps present. Caulocystidia not found.

The loosely interwoven pileus trama, and the non-capitate cheilocystidia exclude it from sapineus. It keys out to sapineus, but it is closer to luteofolius ~~var.~~ luteofolius. Without collection data and notes, I hesitate to name it.

Sm-74248

GYMNOPIIUS LUTEOFOLIUS

On decaying oak stump, Seminole County, Florida, August 14,
1954. (Labelled Paxillus).

Spores 6-8 x 4-4.5 μ , ellipsoid, slightly inequi-
lateral, verruculose, ferruginous in KOH, dextrinoid
(1/3 at once, most all after 20 minutes), the red coloration
developing gradually. Pleurocystidia and cheilocystidia
collapsed. Gill trama of subparallel hyphae, 6-18 μ broad;
subhymenium not distinctive. Pileus trama interwoven,
more or less loosely. Cuticle of repent hyphae, bearing
tufts (scales) of brownish, more or less incrustated hyphae.
Clamp connections present. Caulocystidia none.

Sm-47489

GYMNOPIIUS LUTEOFOLIUS

On cottonwood, MRNP, Wash., Sept. 14, 1964

Smith states that there were no green stains or spots.

Spores 6-8(10) x 3.5-4.5 μ , dextrinoid at once.

Pileus areolate, each areola with 3-8 fibrillose scales. Veil arachnoid, fugacious.

Potter-13815 GYMNOPIIUS LUTEOFOLIUS ~~W.A. BULLARD~~

On old sawdust pile, Ashley, Michigan, November 1, 1961

Notes by Hesler

Spores (5.5)6-8.5 x (3.5)4-4.5 μ , ellipsoid, inequilateral, verruculose, ferruginous in KOH, dextrinoid, no pore. Pleurocystidia 23-27 x 4-6 μ , ventricose; cheilocystidia 22-26 x 5-6 μ , flask-shaped, non-capitate, more rarely subcapitate. Gill trama of subparallel hyphae, 3-6 μ broad; subhymenium not distinctive. Pileus trama of loosely interwoven hyphae. Cuticle of repent, brown hyphae, with bundles of brown, incrustated hyphae (the fibrillose scales). Pileocystidia brown, clavate, often in mounds. Clamp connections none. Caulocystidia none.

Notes by Potter

Pileus with rusty, fibrillose scales, more or less areolate. Context pallid, with a slight tendency to turn rusty; odor mild, taste somewhat bitter. Gills broad, rather close.

Veil yellowish, peronate below, forming an adpressed annulus.

This has two types of cheilocystidia suggestive of G. earlei (non-capitate and subcapitate), but has a mild taste; G. dryophilus has different scales, non-dextrinoid spores, and clamp connections; in G. praefloccosus the spores are 7-9.5 x 4-5.5 μ , non-dextrinoid.

Sm-20525

GYMNOPIIUS LUTEOFOLIUS (f. TENUIS)

On basswood log, Ann Arbor, Michigan, September 12, 1945

Spores 6-8.5 x 4-4.5 μ , dextrinoid at once.

Pileus areolae not as distinct as usual, fibrillose-scaly. Context thinner than usual. Stipe hollow.

This is interpreted as a thin form of luteofolius.

GYMNOPIIUS LUTEOVIRIDIS Thiers

Gregarious to cespitose on oak stump, near Bryan, Texas, May 22, 1953 (Thiers - 1894).

TYPE

Spores 5.5 -7 x 4-5(5.5)u, ellipsoid in face view, obscurely inequilateral in profile, wrinkled-rough, ornamentation 0.04 - 0.06 u high, wall blackish in Melzer's reagent and cotton blue, cyanophilus, ferruginous in KOH, non-dextrinoid, no germ pore. Basidia 16-26 x 6-7 u, 4-spored. Pleurocystidia 22-32 x 5-7 u, ventricose, with or without a neck, non-capitate, apex at times conical; basidioles 22-30 x 6-10 u, flask-shaped or ventricose, with brown contents; cheilocystidia 20-24 x 4-6 u, flask-shaped or ventricose. Gill trama of subparallel hyphae, 5-9 u broad, subhymenium not distinctive. Pileus trama radial. Cuticles of repent-hyphae, bearing scattered, erect clusters of brown hyphae (scales). Pileocystidia and caulocystidia none. Clamp connections present.

GYMNOFILUS LUTEOVIRIDIS Thiers

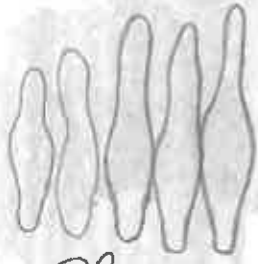
Gregarious to caespitose on oak stump, near Bryan, Texas,
May 22, 1953 (Thiers = 1894).

TYPE

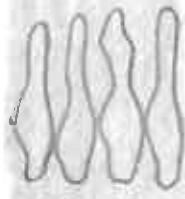
Spores 5.5 - 7 x 4-5(5.5)u, ellipsoid in face view, obscurely inequilateral in profile, wrinkled-rough, ornamentation 0.04 - 0.06 u high, wall blackish in Melzer's reagent and cotton blue, cyanophilus, ferruginous in KOH, non-dextrinoid, no germ pore. Basidia 16-26 x 6-7 u, 4-spored. Pleurocystidia 22-32 x 5-7 u, ventricose, with or without a neck, non-capitate, apex at times conical; basidioles 22-30 x 6-10 u, flask-shaped ~~or~~ ventricose, with brown contents; cheilocystidia 20-24 x 4-6 u, flask-shaped or ventricose. Gill trama of subparallel hyphae, 5-9 u broad, subhymenium not distinctive. Pileus trama radial. Cuticle ^{le} of repent-hyphae, bearing scattered, erect clusters of brown hyphae (scaled). Pileocystidia and caulocystidia none. Clamp connections present.

Gymnopus lateovireidis Thiers

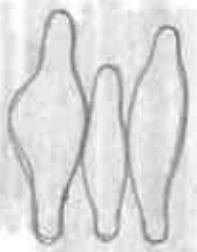
Type



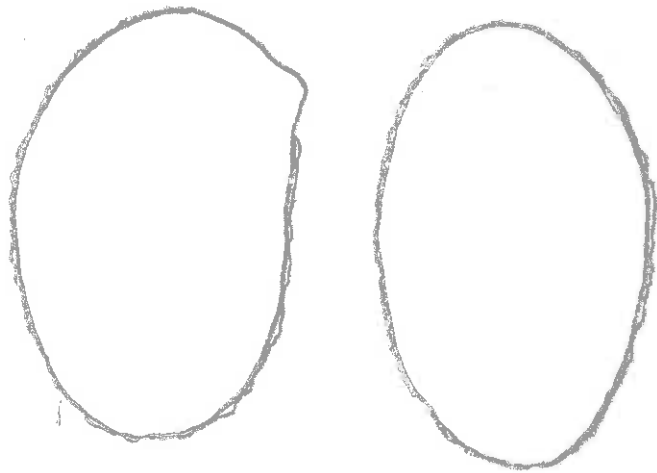
Pl - x 1000



Ch - x 1000



Basidioles - x 1000



Spores - x 8000

Sm-71811

GYMNOPIIUS LUTESCENS sp. nov.

On hardwood, Hulburt, Mich., July 19, 1965.

Notes by Smith

Pileus 4-6 cm broad, convex becoming broadly convex, the margin inrolled, surface dry and appressed-fibrillose, evenly "pale orange yellow" fresh, buttons "light buff" to "warm buff" from a superficial coating of appressed fibrils, becoming orange where bruised or cut; context firm, pale yellow becoming brighter (sulphur) when cut, FeSO_4 pale olive, KOH pale cinnamon. Taste very bitter, odor none.

Lamellae close, broad, adnexed, thin, edges wavy, when young pale yellow, becoming rusty-yellow and finally bright tawny.

Stipe 4-9 cm long, 8-12 mm thick at apex, enlarged downward to a bulb and tapered below that, concolorous with pileus, where handled soon rusty orange to orange-brown around base, becoming stuffed-hollow. Veil yellow, fibrillose, leaving a fibrillose ring.

Notes by Hesler

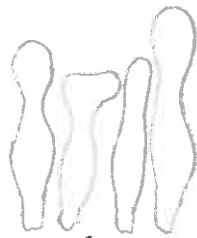
Spores in deposit orange-tawny, 7-8.5 x (4.5)5-5.5 μ , ellipsoid, often rather broadly so, slightly inequilateral, ferruginous, dextrinoid at once, no pore. Basidia 25-30 x 6-7 μ , 4-spored. Pleurocystidia 20-26 x 6-7 μ , ventricose; cheilocystidia 20-30 x 4-6 μ , ventricose, subcapitate. Gill trama of subparallel hyphae, 4-8 μ broad; subhymenium not distinctive. Pileus trama interwoven. Cuticle of repent hyphae, with some superficial veil-fibrils. Clamp connections present. Caulocystidia 20-50 x 5-8 μ , cylindric-clavate, in tufts.

Gymnopilus lutescens sp. nov.

Sm - 71811



Sp - x 1000



ch - x 1000

GYMNOPIIUS LUTEUS (Pk.)

On decaying wood and trunks of trees in woods, North Elba,
August 1897, as Pholiota lutea Pk.

TYPE of Pholiota lutea Pk.

Spores 6-9 x 4-5(5.5) μ , ellipsoid, slightly inequilateral, verruculose, no germ pore, ferruginous in KOH, dextrinoid at once. Basidia 22-25 x 5-6 μ , 4-spored. Pleurocystidia 26-31 x 4-7 μ , ventricose, scattered, inconspicuous; cheilocystidia 24-32 x 4-6 μ , ventricose to flask-shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 3-5 μ broad; subhymenium not distinctive.

Pileus trama of radial hyphae. Cuticle a zone of dark brown, repent hyphae, with some mounds of brown, narrow (3-5 μ) hyphae on the disc (the scales). Caulocystidia none. Clamp connections present.

Yellowish brown to amber pigment, soluble in both 2% + 15% KOH, present in gill trama.
Harding says G. validipes is same; type of luteus is much darker, spores smaller (in validipes type, spores are 7.5-10 x 4.5-5(5.5) μ).

Also G. spectabilis: collections of this vary in color (dried), some resemble closely, others darker (older and/or poorly dried). G. magnus: closely resembles luteus-type (cf. micro-characters).

GYMNOPIIUS LUTEUS (Pk.)

On decaying wood and trunks of trees in woods, North Elba,
August 1897, as Pholiota lutea Pk.

TYPE of Pholiota lutea Pk.

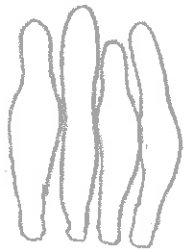
Spores 6-9 x 4-5(5.5) μ , ellipsoid, slightly inequilateral, verruculose, no germ pore, ferruginous in KOH, dextrinoid at once. Basidia 22-25 x 5-6 μ , 4-spored. Pleurocystidia 26-31 x 4-7 μ , ventricose, scattered, inconspicuous; cheilocystidia 24-32 x 4-6 μ , ventricose to flask-shaped, capitate or subcapitate. Gill trama of subparallel hyphae, 3-5 μ broad; subhymenium not distinctive. Pileus trama of radial hyphae. Cuticle a zone of dark brown, repent hyphae, with some mounds of brown, narrow (3-5 μ) hyphae on the disc (the scales). Caulocystidia none. Clamp connections present.

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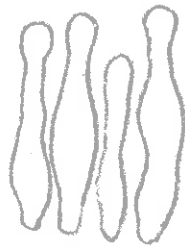
Also G. spectabilis: collections of this vary in color (dried), some resemble closely, others darker (older and/or poorly dried). G. magnus: closely resembles luteus-type (cf. micro-characters).

Pholiota lutea PK.

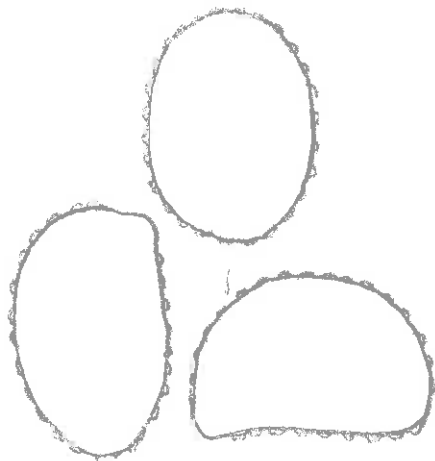
Type (= *Gymnopilus luteus*)



Ph. x 1000



Ch. x 1000



Spores - x 4000

Gymnopilus luteus (Pk.)

Sm-68796

~~PHOLIOTA LUTEA Pk.~~

On fallen, decorticated log, Elkmont, Tenn., C.H. Kauffman,
Sept. 15, 1916

(Notes by Kauffman)

Pileus up to 7 cm broad, at first obtusely campanulate, then expanded, "warm buff" to "antimony yellow," appressed floccose-fibrillose, margin even, at first inrolled. Context firm, compact, thick (except at the margin), "pale lemon yellow"; odor sub-spicy, taste very bitter in all parts.

Lamellae adnexed, rather close, pale yellowish at first, then ferruginous, thin, edges becoming uneven.

Stipe 4-5 cm x 8-16 mm, caespitose, concolorous, becoming ferruginous yellowish in age or on handling, "apricot yellow" within, solid, subventricose or incrassate above, base fibrillose, glabrescent. Veil copious, silky fibrillose to submembranous, concolorous.

Notes by Heister

Spores 7-8.5 x 4.5-5.5 μ , ellipsoid, verruculose, ^{ferruginous in KOH} germ-pore ^{a few dextrinoid at first, ^} none. Pleurocystidia clavate, brown, buried; cheilocystidia none found.

The basidiocarp (dried) is very hard, and entirely unsatisfactory for microscopic study.

~~This apparently is a form of Pholiota spectabilis (= Gymnopilus),
as Harding says.~~