



University of Tennessee, Knoxville
**TRACE: Tennessee Research and Creative
Exchange**

L. R. Hesler's Mushroom Notebooks

University of Tennessee Herbarium

November 2013

Chamaeota Clitopilus Notebook 1

L. R. Hesler

Follow this and additional works at: https://trace.tennessee.edu/utk_hesler

Recommended Citation

Hesler, L. R., "Chamaeota Clitopilus Notebook 1" (2013). *L. R. Hesler's Mushroom Notebooks*.
https://trace.tennessee.edu/utk_hesler/18

This Chamaeota Clitopilus is brought to you for free and open access by the University of Tennessee Herbarium at TRACE: Tennessee Research and Creative Exchange. It has been accepted for inclusion in L. R. Hesler's Mushroom Notebooks by an authorized administrator of TRACE: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

Clitopilus

Beardslee, H. C. 1905. The rosy-spored agarics or
Rhodosporae. Jour. Mycology 11:109-110.
Pls. 76 &77(good). Key to species of
Clitopilus with comments.

SOUTHEASTERN SPECIES OF CLITOPILUS

abortivus B. & C. (see RHODOPHYLLUS)

entoloma Murrill (see RHODOPHYLLUS)

floridanus Murrill (see RHODOPHYLLUS)

hobsonii
minimus Murrill

murinus (Murrill)

novaboracensis Pk.

novaboracensis var. candidus Pk.

novaboracensis var. subviolaceus Pk.

novaboracensis var. umbilicatus Pk.

novaboracensis forma A

nyssicola Murrill (*Finger placenteris* on Crepidotus)

orcella Fr.

prunulus Fr.

roseiavellaneus Murrill

septicoides (= Pleurotus viticola Murr.)

subvilis Pk.

No. 3602

No. 13850

No. 13851

No. 15802

No. 17114

No. 17179

No. 21478

No. 21592

No. 21875

No. 22048

No. 22239 (Smith and I are not sure of the genus)

Chamaeota

mammillata (Longyear) Merrill

pusilla Pat.

CHAMAEOTA MAMMILLATA (Longyear) Murrill

N. A. Flora 10:139. 1917

(from Murrill: Mycologia 35:428-429. 1943)

"Pileus convex to nearly plane, not umbonate, cespitose, about 5 cm. broad; surface dry, scabrous, especially in the center, neither rugose nor striate, colored a beautiful yellow with an orange tint; context very thin, pale yellowish; lamellae free, ventricose, crowded, pale rose-pink; spores salmon-colored in mass, subglobose, smooth, 6-7 μ ; stipe slender, tapering upward, white with a faint yellowish tint, about 5 cm. long; annulus median, fixed, persistent, ample, pale-yellow.

"Previously known only from Michigan. The specimens above described, which are deposited in the herbarium at Gainesville, were collected by the author on dead wood in deciduous woods at Lynchburg, Va., Sept. 3, 1926. These notes on the fresh specimens will be seen to differ in several particulars from descriptions previously published of this interesting species. In 1938 four collections were made of it on dead hardwood near Gainesville, Fla."

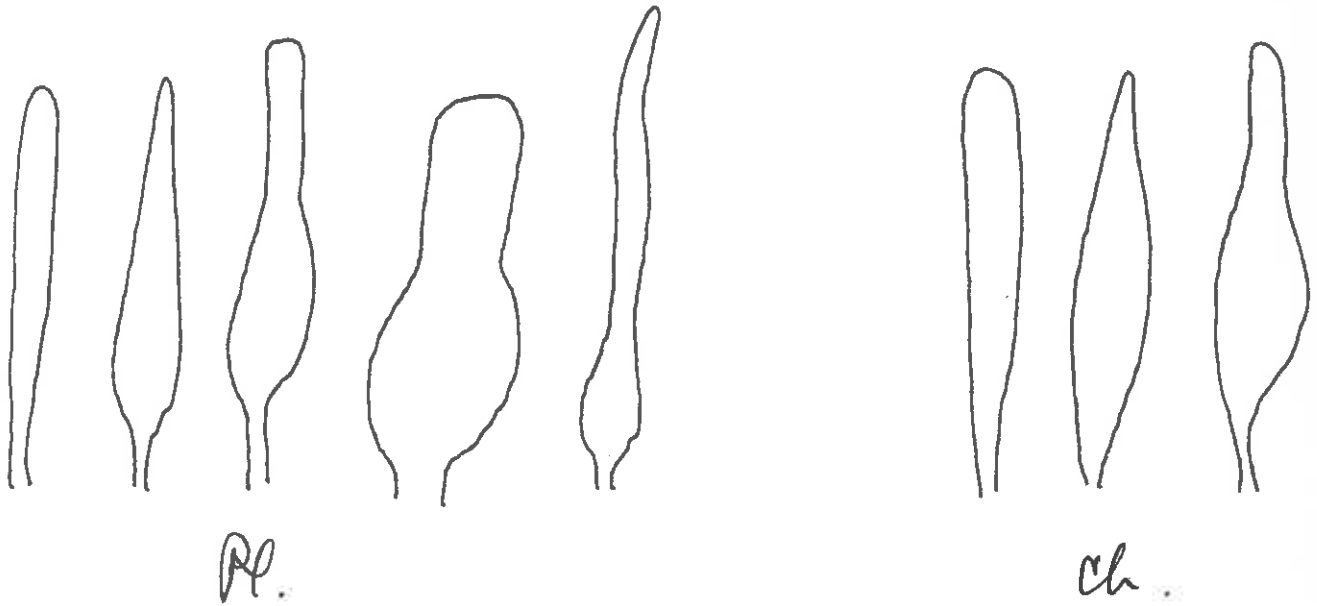
Habitat and Distribution. - On hardwood sticks, branches, and logs, Virginia and Florida, July-October.

Discussion. - Kauffman & Murrill (N.A.F. 10:139) say the pileus is umbonate; Murrill's material from Florida is not umbonate.

(Notes on Murrill's No. F18026 (Florida))

Spores 5-6.5 x 4.5-5.5 μ , subglobose to ovoid, smooth, reddish-brown in Melzer's reagent. Pleurocystidia

33-50 x 8-16 μ , ventricose, clavate, cylindric; cheilocystidia
28-43 x 6-12 μ , ventricose, clavate, cylindric. Epicutis
of appressed, brown hyphae.



CHAMAEOETA SPHAEROSPORA (Pk.) Kauff.

Agar. Mich. 1:534. 1918

Annularia sphaerospora Pk. Torrey Bot. Club Bul. 33:216.

1906

(from Peck)

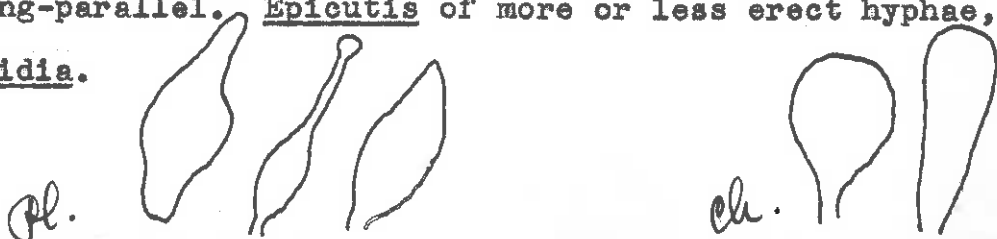
"Pileus fleshy but thin, conic or subcampanulate, becoming expanded, umbonate, silky-fibrillose, yellow, fading to whitish either wholly or in part, umbo brownish; lamellae thin, close, free, whitish or cream-colored when young, flesh-colored when mature; stem equal or slightly tapering upward, solid, fibrous, substrate, whitish, annulate, the white collar sometimes near the middle, sometimes near the base of the stem; spores globose or subglobose, 5-6 μ in diameter.

"Pileus 3-6 cm. broad; stem 3-8 cm. long, 4-8 mm. thick."

Habitat and Distribution. - On decaying wood of elm, Michigan, August.

Notes on Type

Spores 4.5-5.7 x 4.5-5 μ , globose to subglobose, smooth, reddish-brown in Melzer's reagent. Pleurocystidia 36-51 x 15-24 μ , clavate to pyriform or vesiculose (observed only in very thin sections); cheilocystidia ventricose to fusoid, at times capitate, 30-45 x 10-15 μ . Gill trama undulating-parallel. Epicutis of more or less erect hyphae, - pilocystidia.



~~Cham~~
Chamaecota fusilla Pat.

(Murrill, Fla. Bul. 478: 27, says this
is Ch. mammillata)

Hab + Distr. - Beardslee (Mycol. 26: 254)
reports this sp from Fla.

Pileus 1.5-3.5 cm. broad, campanulate, prominently umbonate, orange-brown, fibrillose or fibrillose-squamulose, the fibrils dingy white to buff, dry, even, umbo chestnut-brown. Flesh concolor (orange-brown), thin. Lamellae free, ventricose, rounded behind, orange (fresh) becoming red ("Pompeian red") on drying, edges even. Stipe 3-6 cm. x 1-2.5 mm., whitish or tinged orange, equal with a slightly bulbous base, white silky-fibrillose, striate, hollow, reddish within. Annulus apical, subpersistent, submembranous, white, tinged orange.

Spores 8-9 (10) x 4-5 μ , elliptical-ovate to pip-shaped, smooth, "grenadine pink" in mass, pinkish-brown under 'scope, reddish-brown in Melzer's reagent, no germ-pore. Pleurocystidia none; cheilocystidia few, clavate, 23-27 x 6-8 μ . Epicutis fibrillose, more or less appressed, with an occasional erect hypha.

Habitat and Distribution. - On soil, in woods, Tennessee, August.

This should be collected again and spore-print prepared. There is some possibility that the spores are not pink but were stained by the lamellae in making the print. The cap should be suspended above the paper in making the print.

CLITOPILUS HOBSONII (Berk.) P. D. Orton

Trans. Brit. Myc. Soc. 43:2:174. 1960.

Agaricus (Pleurotus) hobsonii Berk., Outlines Brit. Fungi,
p. 138. 1860.

Pleurotus hobsonii (Berk.) Sacc., Syll. Fung. 5:382. 1887.

Crepidotus subversutus Pk. apud Reid, History of Pasadena,
p. 621. 1895. (nom. nud.) (see Singer, Agar., p. 675.
1962.)

(Description of macroscopic characters adapted from Orton.)

Pileus 5-18 (30) mm broad, orbicular or slightly reniform, pure white then sometimes pale greyish in outer part, villose-tomentose, margin even. Context thin, white; odor strong, mealy (when cut), taste mealy.

Lamellae meeting at an eccentric point, white, then dirty cream or greyish, finally creamy-pinkish, usually rather crowded, edges even or minutely flocculose.

Stipe usually absent, sometimes excentric or lateral, 0.5-2 mm x 0.5-1 mm, white, pubescent-tomentose.

Spores 7.5-9 x 5-5.5 μ , ellipsoid, faintly angular in end view, occasionally with a faint longitudinal ridge, pure pink in deposits* colorless under microscope. Basidia 20-24 x 5-6 μ , 4-spored. Pleurocystidia and cheilocystidia none. Gill trama subparallel, noticeably undulating. Pileus

* Orton (1960) says the spores are pure pink in deposits.

trama interwoven. Cuticle a cutis bearing numerous, more or less erect, tangled, slender, colorless hyphae forming a trichodermium. Clamp connections none.

Habit, Habitat, and Distribution - On decaying wood and herbaceous stems, Europe, England; California.

Material Studied - CALIFORNIA: Peck's Crepidotus subversutus nom. nud., collected by A. J. McClatchie.

Observations - the description of microscopic characters above is based on a study of the type.

The spores of Peck's species clearly place it in Clitopilus. C. hobsonii was first described by Berkeley as Agaricus (Pleurotus) hobsonii in 1860. During the subsequent century several synonyms appeared. In 1960, Orton transferred it to Clitopilus.

The spores, as described above, show only faint ridges; in Orton's description of the spores he says the spores are ellipsoid-amygdaliform, with 7-12 longitudinal ribs. He also says that in Clitopilus pinsitus (Fr.) Joss. the spores have less marked longitudinal ribs. On this ground, it is possible that Peck's subversutus really is pinsitus, although Singer (1962:675) lists C. subversutus as a synonym of Clitopilus hobsonii.

CLITOPILUS HOBSONII (Berk.) P. D. Orton

Trans. Brit. Myc. Soc. 43:2:174. 1960

Agaricus (Pleurotus) hobsonii Berk., Outlines Brit. Fungi, p. 138.
1860.

Crepidotus subversutus Pk. apud Reid, History of Pasadena, p. 621.
1895. (nom. nud.)

(Description of macroscopic characters adapted from Orton)

Pileus 5-18 (30) mm. broad, orbicular or slightly reniform, pure white then sometimes pale greyish in outer part, villose-tomentose, margin even. Context white, thin; odor strong, mealy (when cut), taste mealy.

Lamellae meeting at an eccentric point, white, then dirty cream or greyish, finally creamy-pinkish, usually rather crowded, edges even or minutely flocculose.

Stipe usually absent, sometimes excentric or lateral, 0.5-2 mm. x 0.5-1 mm., white, pubescent-tomentose.

Spores 7.5-9 x 5-5.5 μ , ellipsoid, faintly angular in end-view, occasionally with faint longitudinal ridges, colorless under 'scope. Basidia 20-24 x 5-6 μ , 4-spored. Pleurocystidia and cheilocystidia none. Gill trama subparallel, noticeably undulating. Pileus trama interwoven. Cuticle a cutis bearing numerous, more or less erect, tangled, slender, colorless hyphae forming a trichodermium. Clamp connections none.

Habit, habitat, and distribution. - On decaying wood and herbaceous stems, Europe, England; California.

Material studied. - CALIFORNIA: Peck's Crepidotus subversutus nom. nud., collected by A. J. McClatchie.

Observations. - The description of microscopic characters above is based on a study of the type.

The spores of Peck's species clearly place it in Clitopilus. This fungus was first described by Berkeley as Agaricus (Pleurotus) hobsonii, in 1860. During the subsequent century several synonyms appeared. In 1960, Orton transferred it to Clitopilus.

The spores, as described above, show only faint ridges; in Orton's description of the spores he says the spores are ellipsoid-amygdaliform, with 7-12 longitudinal ribs. He also says that in Clitopilus pinsitus (Fr.) Joss. the spores have less marked longitudinal ribs. On this ground, it is possible that Peck's versutus really is pinsitus.

CLITOPILUS MINIMUS Murrill

Lloydia 5:144. 1942

Photocycbe?

"Pileus irregularly circular, deeply depressed, gregarious, 1-2 cm. broad; surface glabrous, white, margin incurved, undulate to crisped; context very thin, white, odor strongly farinaceous, taste slightly astringent, sometimes bitter; lamellae adnate or adnexed, some with decurrent tooth, narrow, rather close, thin, entire, inserted, clear-white when young; spores ovoid or ellipsoid, smooth, granular, pale-roseous, about $6 \times 4 \mu$; stipe central, sometimes eccentric, smooth, white, glabrous, irregular, subcartilaginous, $5-10 \times 1-3$ mm.

"Type collected by W. A. Murrill on a lawn in Gainesville, Sept. 12, 1941 (F 19980)."

Notes on Type

Spores $6-7 \times 3-4 \mu$, ovoid to sub-pipshaped, smooth or faintly wrinkled. Pleurocystidia and cheilocystidia none. Gill trama undulating-parallel.

Discussion. - Singer (p. 606) says Pleuropus minimus Murrill is a synonym of Omphalina acyphoides = Clitopilus acyphoides (Fr.) Singer.

CLITOPILUS NOVA^eBORACENSIS (Pk.) Sacc.
Syll. Fung. 5:702. 1887

Phototype 1

Pileus 3-7 cm. broad, convex, then plane, at times depressed, concentrically rivulose, more or less zonate (at least toward margin), tomentose-silky becoming pruinose, dingy-white often tinged ashy, not viscid, margin even. Flesh moderately thin, flaccid, white or dingy-white; odor farinaceous, distinctly so when fresh and moist; taste farinaceous at first, then soon very bitter. Lamellae deeply decurrent, crowded, narrow, brownish-ashy to "drab," linear, many short, frequently forked, edges entire. Stipe 3-5 cm. x 2-7 (10) mm., flexible, stuffed then hollow, brownish but covered with a white pruinosity or tomentum, whitish strigose at base, base bulbous or subbulbous, central or rarely eccentric.

to "vinaceous buff"

Spores ovoid, 4.75-6 x 3-4.5 μ , many obscurely angular and obscurely warty, apiculate; color in mass: "pinkish cinnamon." Basidia 25-30 x 5-6 μ , 4-spored. Pleurocystidia and cheilocystidia none. Trama of interwoven hyphae.

Habitat and Distribution. On humus, in deciduous woods, Tennessee, North Carolina, and Georgia, August-October.

Notes on Type

Spores 4.8-5.7 x 3.8-4.6 μ , ovoid to short-ellipsoid, often obscurely warty and obscurely angular. Pleurocystidia and cheilocystidia none. Gill trama slightly interwoven.

My Nos. 5381, 9574, 14408, 19677, 22073, and 22163 agree with the Type.

Habitat and Distribution. - In humus, at times in fairy rings, 8-12 ft. diam., deciduous woods, Tennessee and North Carolina, July-October.

Discussion. - Descriptions ^{do}~~do~~ not mention the bluish to violet tint (see var. subviolaceus (Pk.))



22163 - *Clitopilus novaboracensis* (Fr.) Aacc.

22073 - *Clitopilus noraboracensis* (Fr.)

CLITOPILUS NOVABORACENSIS var. CANDIDUS Pk.

The dried carpophores of the Type are paler than those of *C. novaboracensis*; probably *C. n. candidus* is white when fresh. I have not collected it, and have not yet, January, 1957, seen the original description.

Notes on Type

Spores 4.7-5.8 x 3.7-5 μ , ovoid, some obscurely angular, some obscurely warty. Pleurocystidia and cheilocystidia none. Gill trama interwoven.

CLITOPILUS NOVABORACENSIS (Pk.) Sacc. var. SUBVIOLACEUS Pk.

Pileus 3-7 cm. broad, convex, then plane and slightly depressed, at times sub-umbonate, at times concentrically rivulose, sub-zonate to zonate (at least toward margin), tomentose-silky, tips of fibrils often blackish, becoming pruinose, bluish in youth, then "purplish gray," "dark mouse-gray," to "deep violet gray," not viscid. Flesh moderately thin, flaccid, white or ashy; odor farinaceous, rarely mildly-alkaline; taste farinaceous at first, soon very bitter. Lamellae rather deeply decurrent, crowded, narrow, ashy to smoky-brown or "drab," finally flesh-colored, linear, many short, frequently forked, edges entire. Stipe 2-5 (7) cm. x 2-7 (10) mm., dingy to dark brown, with a white pruinosity or tomentum, whitish strigose at base, base bulbous or subbulbous, central or rarely eccentric, solid or stuffed then hollow.

Spores ovoid to subglobose, 4.5-6 x 3.5-4.5 μ , faintly angular, obscurely warty (under oil immersion), rough-wrinkled in No. 13850, apiculate; color in mass: "pinkish cinnamon," "pinkish buff," or "avellaneous." Pleurocystidia and cheilocystidia none. Basidia 25-30 x 5-6 μ , 4-spored. Gill-trama of interwoven hyphae, 3-6 μ diameter.

Habitat and Distribution. - On humus, in deciduous woods, Tennessee and North Carolina, July.

(more, next page)

Clitopilus novaboracensis (Pk.) Sacc. var.
subviolaceus Pk. - 2

Discussion. - The type of C. sphaerosporus Pk. is identical with C. novaboracensis var. subviolaceus Pk. U.T. collections Nos. 5356, 9277, 9408, 10200, 13850, 13857, 16315, 21419, 21933, and 22426 agree with the Type.

Notes on Type (C. novaboracensis var. subviolaceus Pk.)

Spores 4.6-5.8 x 3.2-4.8 μ , some obscurely angular and obscurely warty. Pleurocystidia and cheilocystidia none. Gill-trama slightly interwoven.



21875 - *Clitopilus novaboracensis* var.
subviolaceus PK.



21933 - *Clitopilus noraboracensis* ~~Fr.~~
var. *subviolaceus* Fr.



16315 - *Clitopilus novaboracensis* ~~PK~~.
var. *subviolaceus* PK.



5356 - *Clitopilus novaboracensis* F.
var. *subviolaceus* F.

Rhodocybe?

CLITOPILUS NOVABORACENSIS var. UMBILICATUS Pk.

Pileus 2-4 (5) cm. broad, convex, expanding nearly plane, umbilicate, whitish or ashy, fibrillose, glabrescent, at times obscurely zonate on marginal portion, even. Flesh pallid, thin, pliant; odor farinaceous, taste farinaceous becoming bitter. Lamellae decurrent, narrow, close to crowded, pallid becoming flesh colored, edges even. Stipe 3-5 cm. x 3-6 mm., ashy-white, tomentose, the tomentum appressed above, base white-mycelioid, solid or spongy.

Spores 4.8-6 x 4-5 μ , ovoid, some obscurely angular, some obscurely warty. Pleurocystidia and cheilocystidia none. Gill trama interwoven.

Habitat and Distribution. - On humus and soil, in mixed and in conifer woods (hemlock), North Carolina, August-September.

Observations. - The spores of No. 22044 and those of the Type average slightly larger than for the species.

Notes on Type

Spores 4.5-6 x 3.8-4 (5) μ , ovoid, some obscurely angular, some obscurely warty. Pleurocystidia and cheilocystidia none. Gill trama interwoven.

Coloring of carpophores and microscopic characters of my No. 22044 agree with the Type.



22044 - *Clitopilus novaboracensis* ~~PK.~~
var. *umbilicatus* PK.

CLITOPILUS NOVABORACENSIS (Pk.) Sacc. forma A

Pileus 3-7 cm. diam., plane or slightly convex and then slightly umbonate, densely fibrillose when young, then with many scaly points (squamulose-punctate), "dark mouse gray" when young, paler at maturity (gray-brown, not matched), disk black, not hygrophanous, dry, margin even. Flesh thick on disk, thin elsewhere, white; odor mild to slightly alkaline, taste bitter. Lamellae decurrent, pale yellowish-white to "pinkish buff" at maturity (white when young), forked, narrow, close to crowded, arcuate. Stipe 3-5 (7) cm. x 4-10 mm., concolor, apex with a white zone, rivulose, enlarged downward, solid, dry.

Spores 5-6 x 3.5-4.5 μ , short-elliptic or slightly angular, apiculate, smooth to slightly wrinkled, "pinkish buff" in mass. Pleurocystidia and cheilocystidia none. Gill trama interwoven.

Habitat and Distribution. - In humus, frondose-conifer woods, Tennessee, July.

Discussion. - Differs from the usual species in its mild to alkaline odor, and its wrinkled-rough spores.

CLITOPILUS ORCELLUS (Fr.) Qué1.

Champ. Jura Vosg., p. 87. 1872

Pileus 3-9 cm. broad, hemispheric becoming convex, expanding, broadly and obtusely umbonate or slightly depressed, viscid, white or chalky-white, at times becoming pale smoky-white, more or less silky, margin even. Flesh thick on disk, thin on margin, white; odor and taste farinaceous. Lamellae decurrent, white, finally "pinkish buff," or "light ochraceous buff," to "pale cinnamon pink," rather narrow, linear, close or crowded, edges even. Stipe 2-8 cm. x 5-8 mm., white, more or less equal, at times curved, flocculose to matted-silky, not viscid, solid.

Spores 8-11 (13) x 4.5-6 μ , fusoidal to ovoid-ellipsoidal, at times sub-angular, one or both ends pointed, longitudinally furrowed (not always distinct in dried material), smooth, "wood brown" in mass. Pleurocystidia and cheilocystidia none. Gill trama undulating-parallel.

Habitat and Distribution. - In humus, deciduous woods, Tennessee, North Carolina, Georgia, and Alabama, July-October.

Discussion. - Lange says C. orcella hardly anything but a small, submembranaceous form of C. prunulus. Singer says it is a synonym of C. prunulus.

20460 - *Clitopilus oreella* Fr.



23447 - *Clitopilus orcellus* (Fr.) Quel.



21864 - *Clitopilus orcella* Fr.



21856 - *Clitopilus orcella* Fr.



20457 - *Clitopilus orcella* Fr.

CLITOPILUS PRUNULUS Qué1.

Champ. Jura Vosg., p. 87. 1872

Pileus 2-6 cm. broad, convex, white, velvety-pruinose, dry, margin even. Flesh white, thick on disk, thin on margin; odor and taste farinaceous. Lamellae decurrent, white to creamy-white, finally flesh-tinted, subdistant, some short, none forked, medium narrow, edges slightly fimbriate. Stipe 2-5 cm. x 3-7 mm., glabrous, somewhat tapering downward or ventricose, dry, solid.

Spores 8-11 x 4.5-6 μ , subfusiform, both ends pointed, longitudinally furrowed, smooth, color in mass:

Pleurocystidia and cheilocystidia none. Pilocystidia 40-64 x 3-4 μ , slender, hyphoid, more or less erect. Gill trama interwoven.

Habitat and Distribution. - On soil, mixed woods, Tennessee and Alabama, July-August.

Discussion. - This seems to be the same as C. orcellus. Singer says (in his Key, p. 607) that the spores have 6 furrows, and have (5)-6-(7) angles when seen from the end.

29964

CLITOPILUS PRUNULUS (FR.) KUMMER

PHOTO

Soil, woods, Indian Creek, September 5, 1967

Occasionally, pileus obscurely zonate.

CLITOPILUS ROSEIAVELLANEUS Murrill

Mycologia 30:367-368. 1939

Rhodocybe

"Hymenophores dull rosy-avellaneous throughout, paler on the hymenium and within, brownish when bruised, gregarious; pileus convex, not fully expanding, about 5 cm. or less broad; surface smooth, glabrous; context fragrant, farinaceous, not bitter; lamellae adnate to short-decurrent, medium distant; spores ovoid, smooth, pale-pink, 8-9 x 5-6 μ ; stipe smooth, glabrous, bulbous, solid, about 6 cm. long and scarcely 1 cm. thick.

"Type collected by W. A. Murrill under live-oaks in Gainesville, Fla., Aug. 12, 1937 (No. 16032). Also collected by me near the type locality under a live-oak, Aug. 7, 1937 (No. 16022). Probably nearest to Pleuropus abortivus."

Notes on Type (UT No. 21122)

Spores 8-9 x 5-6.5 (7) μ , ovoid to slightly elliptic, smooth or wrinkled-rough. Pleurocystidia and cheilocystidia none. Gill trama subparallel.

Singer places this in Rhodocybe.

CLITOPILUS SEPTICOIDES (Henn.) Singer

(See: Agar., p. 606. 1949)

Fleurotus septicoides Henn.

Geopetalum viticola Murr. Torr. Bot. Club Bul. 67:235. 1940

Fleurotus viticola Murr. Torr. Bot. Club Bul. 67:235. 1940

(Coker: E. M. Sci. Soc. Jour. 60:92. 1944)

"Cap laterally, but soon appearing excentrically, sessile, usually becoming more or less resupinate and attached by very delicate pure white fibers, 2-5 (7) mm. broad, white with a faint fawn tint, very delicately lanate (or becoming glabrate) except on the pulverulent margin, faintly or distinctly striate both when fresh and when dry. Flesh very thin, soft, white, homogeneous, not gelatinous.

"Gills white, broad, 0.6-0.8 mm., moderately close to subdistant, not veined, creamy buff when dry.

"Spores (of No. 5924) white, ovate to pip-shaped with distinct longitudinal ridges 4.2-5.4 x 6-8.2 μ . Basidia about 6.5 μ thick, 4-spored. Cystidia lacking."

Habitat and Distribution. - On dead grape vine bark, North Carolina and Florida, October and December.

CLITOPILUS SPHAEROSPORUS Pk.

Torrey Bot. Club Bul. 31:179. 1904

Notes on Type

Spores 5-6 x 4.5-5 μ , globose to subglobose or ovoid, at times short-ellipsoid, obscurely angular and obscurely warty (observed under high-power oil lens), reddish-brown in Melzer's reagent. Fleurocystidia and cheilocystidia none. Gill-trama somewhat interwoven. Epicutis of interwoven hyphae, some more or less erect.

This seems to be the same as C. novaboracensis var. subviolaceus Pk.

CLITOPILUS No. 3602

Pileus 3 cm. broad, convex, whitish with a buff tint, not hygrophanous, minutely fibrillose, margin even. Flesh white, medium thick; odor strong, taste acrid. Lamellae adnate-decurrent, crowded, narrow, pale buff. Stipe 4 cm. x 3 mm., dingy, equal.

^{4.5}
Spores 4-6 x 3-4 μ (Peck); ~~4 x 2-3 μ (Haurmann).~~ *, ellipsoid, striate, faintly angular, smooth.*

Habitat and Distribution. - On soil, pine woods, Tennessee, July.

CLITOPILUS No. 13851

Pileus 2-3 cm. broad, slightly convex to nearly plane, slightly depressed, hygrophanous, "pinkish cinnamon" (moist), whitish to "pale pinkish buff" (dry), appressed fibrillose, margin even. Flesh thin, concolor, fragile; odor and taste mild. Lamellae adnate to subdecurrent, arcuate, concolor to pileus. Stipe 2-4 cm. x 2-3 (4) mm., equal, tubular, glabrous.

Spores 5-7 x 3.3-3.8 μ , elliptical or ovoid, at times *faulty grooved longitudinally,* pip-shaped, ^{smooth,} "pale cinnamon pink" in mass. Pleurocystidia and cheilocystidia none. Gill-trama subparallel.

Habitat and Distribution. - In humus, mixed woods, Tennessee, July.

Discussion. - Smith does not know it. Near C. Underwoodii Pk.? (S. J. Smith, Albany, could not locate the Type. - Letter, February 28, 1957)

CLITOPILUS No. 15802

Rhodocycla?

Pileus 2.5-5.5 cm. broad, convex, soon plane, finally upturned and wavy, slightly umbonate, white, with conspicuous tawny tomentum, viscid, faintly zonate, margin even, at first white tomentose, incurved. Flesh watery white, medium thick (4 mm.) at disk, thin at margin; odor slight, taste acrid. Lamellae emarginate and uncinata, at times subdecurrent, seceding, "avellaneous," crowded, medium broad, linear, many short. Stipe 3-5 cm. x 3-8 mm., pallid, moist (not viscid), white appressed-silky, base strigose, solid.

Spores short-elliptic to subglobose, 4-6 x 3.5-4.5 μ , rough (spore-print failed). Pleurocystidia and cheilocystidia few, scattered, inconspicuous, 32-40 x 6.5-8 μ , clavate-appendiculate. Trama of gills of subparallel hyphae, 11-20 μ broad.

Habitat and Distribution. - In humus, under rhododendron, Tennessee, August.

Discussion. - This has the appearance of a Clitopilus, perhaps near C. novaboracensis Pk., but it is viscid and has rough, spinulose spores. Smith (letter, November 27, 1943) says: "This will be a tough one to get."

CLITOPILUS No. 17114

near *trivittata*
subvittata?

Pileus 1.5-3 cm. broad, flat-depressed, at first "violet gray," finally grayish-brown, finally zoned, even. Flesh grayish, rather thin, pliant-tough; odor farinaceous, taste bitter. Lamellae decurrent, narrow, subdistant to nearly close, dingy buff, edges even. Stipe 2-4 cm. x 3-5 mm., grayish-brown, tomentose to fibrillose to glabrescent, solid, equal.

Spores 4.8-6 x 3.5-4.5 μ , ellipsoid, not angular, smooth, non-amyloid, in mass: pale "vinaceous buff." Pleurocystidia and cheilocystidia none. Epicutis interwoven.

grooved?

Habitat and Distribution. - On humus, in deciduous woods, Tennessee, July.

CLITOPILUS No. 21478

Rhodocybe

Pileus 8 cm. broad, depressed, dry, not hygrophanous, near "drab" (not matched), short-tomentose, margin even, wavy. Flesh thick on disk, thin on margin, white; odor mild, taste bitter. Lamellae short-decurrent, close, pale cream, narrow, thin, edges even. Stipe 4 cm. x 8 mm., concolor, glabrous except white-mycelioid base, dry, equal, spongy.

Spores 5-6.5 x 3.5-5 μ , subglobose, somewhat angular, rough, "light vinaceous cinnamon" in mass. Pleurocystidia and cheilocystidia none. Gill trama interwoven.

Habitat and Distribution. - On soil, deciduous woods, Tennessee, August.

CLITOPILUS No. 21592

noctibracensis
not *subviolaceus*

Rhodiophora?

Pileus 1.5-3.5 cm. broad, convex, finally convex-expanding depressed to sub-umbilicate, not viscid, hygrophanous, glabrous, grayish ("pale drab-gray") and shining when dry, "buffy brown" when wet, margin faintly striate when wet. Flesh whitish, soft, thin to medium thick, pliant; odor and taste slightly of cucumber or fresh grass (resembling that of Mycena epipterygia). Lamellae adnate-decurrent, close, rather broad, white at first, finally "avellaneous" to "tilleul-buff," many short, edges fimbriate. Stipe 2-3 cm. x 2-3 mm. (5-6 mm. when compressed), dingy brown, apex white-fibrillose, glabrous below, base white-mycelioid, white rhizoids more or less conspicuous, solid with a white pith, finally hollow, equal, at times compressed.

Spores 5.5-6.5 (7) x 4.5-5.5 μ , short-ellipsoid to ovoid, usually obliquely apiculate, smooth, non-amyloid, color in mass: "avellaneous." Pleurocystidia and cheilocystidia none. Gill trama subparallel.

Habitat and Distribution. - On soil, in pine woods, Georgia, December.

Discussion. - Close to C. unitinctus (Pk.) Sacc.; S. J. Smith (letter, Feb 28, 57) could not locate the type.



21592 - *Clitopilus*

Clitopilus No 22048

CLITOCYBE RIVULOSA var. ANGUSTIFOLIA Kauff.

Michigan Acad. Sci., Arts, & Letters 8:199. 1927

~~14~~
3

Pileus 3-6 cm. broad, convex, soon plane, disk depressed to umbilicate, scarcely hygrophanous, glabrous, "pinkish buff" to tan, more or less concentrically rimulose, margin incurved, even. Flesh white, thick on disk, thin elsewhere, flaccid; odor slight, taste farinaceous-bitter. Lamellae decurrent, crowded, narrow (1-2 mm. broad), narrowed both ends, "cinnamon buff," edges even. Stipe 1.5-3 cm. x 2-4 mm., pallid, strigose, stuffed to hollow, equal or tapering downward, base at times sub-bulbous.

Spores 3.5-4.5 x 2-3 μ , ellipsoid to pip-shaped, smooth, white in mass. Pleurocystidia and cheilocystidia none.

Kauffman says taste mild.

Habitat and Distribution. - On soil and humus, in deciduous woods, North Carolina, August.



22048 - ~~Clitocybe furulosa var. angustifolia~~ Kauff.
Clitopilus (near Clitocybe norabracensis)

? CLITOPILUS NO. 22239 ?

Rhodocybe?
dry Lepiota luscina
or other Lepiota

Pileus 8-20 mm. broad, convex-plane, disk depressed, somewhat hygrophanous, matted-fibrillose, ashy white when fresh, grayish to pale grayish brown and shining when dry, obscurely zoned, margin even. Flesh pallid, watery-brown when wet, medium thick on disk, thin on margin; odor farinaceous, taste strong, unpleasant. Lamellae adnate to adnexed, rather close, medium broad, near avellaneous (not matched), few forking, many short, edges even. Stipe 1-2 cm. x 4-7 mm. (apex), tapering downward, dingy grayish, white appressed fibrillose, solid.

Spores more or less ellipsoid, slightly angular, ^{5.5} 4-~~5~~ x 2.7-3.2 μ , color in mass: "light brownish olive." Pl. + ch.
none. Gill-trama undulating-parallel.

Habitat and Distribution. - On soil in pine woods, Tennessee, November.

Discussion. - When collected, it appeared to be a Collybia or Clitocybe, but spores suggest Clitopilus. It lacks decurrent gills of C. novaboracensis Pk. It was forming an arc of fairy-ring - 5 ft. diam.

Smith says (5-16-56): "This is one 'for the birds.' The only genus I can suggest is Rhodopaxillus, but the color of the spore deposit is more like Ripartites. I am going to work on this because of the interesting spores."

23492

Clitopilus
on trunk of living dogwood
Pisgah Forest, October 5, 1959

Pileus 2-4 cm., convex, more or less broadly umbonate, many carpophores aborted, "pallid mouse gray," densely fibrillose, dry, even. Flesh pallid, thick; odor and taste farinaceous. Lamellae decurrent, at first whitish then grayish with a pinkish tint, close, narrow to medium broad, thin, edges rough. Stipe 3-6 cm. x 6-8 mm., dingy grayish, appressed silky-fibrillose, equal, base curved and strigose-mycelioid, solid.

CLITOPILUS 24891

Pileus 6-12 cm., flabelliform, white, appressed-fibrillose, neither hygrophanous nor viscid, margin even. Context white, soft; odor farinaceous, taste farinaceous becoming bitter.

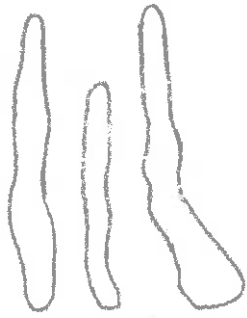
Lamellae decurrent, radiating from a lateral point, close, narrow, whitish then pinkish brown, finally "saya brown," edges even.

Stipe none; pileus laterally attached.

Spores 8-10.5 x 5.5-7 μ , fusiform, often with 2 furrows, 5-6-angles when seen in end view, smooth, colorless in 2% KOH, pale yellow in Melzer's. Pleurocystidia none; cheilocystidia 28-41 x 3-4 μ (up to 8 μ at base), cylindric or obclavate. Gill trama subparallel. Cuticle a cutis.

Observations. - This may be Clitopilus hobsonii (Berk. & Br.) Orton (= Pleurotus septicoides, Geopatelum viticola, Crepidotus subversutus, etc. - See Singer, 2nd ed., p. 675. Also Key: Lilloa 25:417.)

Clitopilus 24891



ch - x 1000

Rhodophyllus No. 22377

(See Nolanea)

26046

CLITOPILUS

PHOTO

Under pine, Cades Cove, Sept. 15, 1963.

Pileus white, with dilute buff tints and watery spots, not hygrophanous, matted-fibrillose, margin strongly ribbed-striate. Context white; odor pungent, taste astringent then bitter.

Lamellae decurrent, yellowish (cream), close narrow.

Stipe white, tapering up or down, solid.



26046 - *Ottophilus*

29362

CLITOPILUS

~~XXXXXXXXXX~~

on lawn, Ron Petersen, Aug. 26, 1966

Pileus 3-7 cm broad, convex, expanding tinged "pinkish buff," minutely matted-fibrillose, not viscid, even. Context white; odor mild, taste fungoid, faintly bitter-farinaceous.

Lamellae decurrent, white then pallid-pinkish, close, finally broad.

Stipe 2.5-4 cm x 5-14 mm, pallid, matted-fibrillose, equal or tapering downward, hollow, more or less eccentric.

Spores 6-8 x 4.5-6 μ , ellipsoid, longitudinal striations none (?).

~~2~~³9742

CLITOPILUS

Under pine, Cades Cove, September 25, 1974

Pileus 2.5-3 cm broad, expanding-convex, white then darkening slightly to smoky-grayish, dry, even. Context white; odor of ranch meal, taste unpleasant.

Lamellae decurrent, white then ivory-yellowish, rather close, narrow, lamellulae numerous.

Stipe 1.5-2 cm long, 3-4 mm thick, white, minutely fibrillose, equal above the sub-bulbous base, firm, solid.

30079

CLITOPILUS

Cherokee National Forest, Erwin, Sept. 6, 1973.

Pileus caespitose, 3-8 cm. broad, whitish but with a definite dull gray-buff tint, center smoky and with minute fibrillose, dark scales, younger caps appressed ashy-gray fibrillose, margin at times ribbed. Context white; odor slightly pungent, taste sub-nauseous (a bitter after-taste). Gills short-decurrent, "pinkish buff", crowded, narrow, none forked, lamellulae scattered. Stipe white, scattered-fibrillose, base smoky, spongy-hollow. Spores 4.5-5 x 3-3.5 μ .

This suggests C. caespitosus PK., but that species is shining white, taste mild.

30318

CLITOPILUS

On humus, near Newport, leg. Fred Norris, July 21, 1968.

Pileus shining-white but with a faint grey tinge, disc slightly depressed. Context white, pliant; odor mild, taste bitter.

Lamellae decurrent, close, narrow, white, then cream.

Stipe white, tinged grey, base mycelioid.