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Clitocybe Notebook 1

L. R. Hesler

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CLITOCYBE

Some Literature

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- Bigelow, H. E. New species and varieties of *Clitocybe* from
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Clitocybe: spores non-amyloid, smooth, usually white;
lamellae broadly adnate to decurrent; stipe fleshy; veil
none.

Laccaria: spores non-amyloid, typically globose to sub-
globose and echinulate or oblong and smooth, usually white;
lamellae rather thick and waxy, adnate or emarginate to
short-decurrent; stipe tough and fibrous; veil none.

Lyophyllum: spores non-amyloid, smooth, white; basidia with
dark granules in ferric aceto-carmines; in many the flesh
blackens when bruised; stipe slender and brittle or thick
and fleshy; veil none.

Leucopaxillus: spores amyloid, smooth or rough, white;
lamellae sinuate to decurrent; stipe fleshy, base often
with copious, white mycelium; veil none.

Key to the Genus Clitocybe
in Northeastern North America

June, 1961

Howard E. Bigelow
Department of Botany
University of Massachusetts
Amherst

Key to the Subgenera of Clitocybe

1. Spores amyloid, or dextrinoid 2
1. Spores not as above 4
 2. Spores dextrinoid Hygrophoropsis, p. 2
 2. Spores amyloid 3
3. Pileus fleshy, not hygrophanous Aspropaxilli, p. 2
3. Pileus thin, hygrophanous Cyathiformes, p. 3
 4. Carpophores yellow to orange, lamellae luminescent,
cespitose on logs and stumps Monodelpha, p. 2
 4. Not as above Clitocybe, p. 4

Subgenus Monadelpha

- A single species occurring in northeastern North America
. C. illudens (Schw.) Sacc.

Subgenus Hygrophoropsis

Key to species

1. Pileus hygrophanous, lamellae white to buff
. C. insipida Big.
1. Pileus dry, lamellae orange C. aurantiaca (Fr.) Studer

Subgenus Aspropaxilli

Key to species

1. Pileus white, lamellae pale buff and contrasting with the pileus .
. C. candida Bres.
1. Pileus pale buff or pale gray, lamellae more or less concolorous
with the pileus 2
2. Stipe darkening with bruising, lamellae adnexed with a
decurrent tooth . . . C. septentrionalis (Singer & Smith) Big.
2. Stipe not darkening, lamellae moderately decurrent to long
decurrent C. gigantea (Fr.) Quel.

Subgenus Cyathiformes

Key to species

1. Hyphae of pileus with clamp connections 2
1. Hyphae of pileus without clamp connections 4
 2. Pileus virgate to fibrillose-punctate
. C. ectypoides (Pk.) Sacc.
 2. Pileus hoary-canescens or glabrous 3
3. Lamellae close, whitish C. compressipes (Pk.) Sacc.
3. Lamellae subdistant to distant, yellowish
. C. felleoides Kauff.
4. Lamellae dichotomously forked, whitish to cream color, edges
obtuse C. umbonata (Fr.) Konrad
4. Lamellae not as above 5
5. Pileus dark brown fading to grayish-brown, lamellae long decurrent,
moderately broad C. cyathiformis (Fr.) Kummer
5. Pileus light brown fading to buff, lamellae short decurrent, narrow
. C. expallens (Fr.) Kummer

Subgenus Clitocybe

Key to sections

1. Spores roughened 2
1. Spores smooth 3
 2. Pileus large, more than 4 cm. broad, flesh thin to moderately thick Lepistae, p. 10
 2. Pileus small, up to 3 cm. broad, flesh very thin
. Umbilicatae, p. 15
3. Hyphae of carpophore lacking clamp connections 4
3. Hyphae of carpophore with clamp connections 7
 4. Pileus large, averaging 5 cm. or more in diameter, flesh moderately thick Disciformes, p. 6
 4. Pileus small, averaging 2 cm. or less in diameter, flesh very thin 5
5. Pileus and lamellae colors sordid and dull (grayish, grayish-brown, brown) Umbilicatae, p. 15
5. Not as above 6
 6. Carpophore white Scyphoidae, p. 10
 6. Not as above Omphalinae, p. 10
7. Cuticle of pileus with vesiculose elements Bulluliferae, p. 10
7. Not as above 8
 8. Pileus large, often fleshy, convex to plane, never deeply depressed or hygrophanous, colors dull (shades of light gray or brown, glaucous) or white Disciformes, p. 6
 8. Not as above 9

- 9. Lamellae gray to grayish brown 10
- 9. Lamellae white to pale buff, yellowish or pinkish 11
 - 10. Stipe brittle or cartilaginous, pileus hygrophanous or
not hygrophanous, 0.5-2(-4) cm. broad . . Umbilicatae, p. 15
 - 10. Stipe fibrous, pileus hygrophanous, (1-)2-5(-8) cm. broad
. Hygrophanae, p. 14
- 11. Pileus not hygrophanous, usually deeply depressed when expanded,
stipe fibrous or fibrous-fleshy Infundibuliformes, p. 8
- 11. Not as above 12
 - 12. Pileus white, whitish, pale buff, yellowish, pinkish, stipe
fibrous or fibrous-fleshy Candicantes, p. 11
 - 12. Pileus gray, grayish brown, dark brown, blackish brown,
stipe brittle or cartilaginous Umbilicatae, p. 15

Section Disciformes

Key to species

1. Clamp connections absent on hyphae of carpophore 2
1. Clamp connections present on hyphae of carpophore 4
2. Spores irregular, cylindrical to subfusiform
- C. piperata Smith
2. Spores elliptical 3
3. Pileus white or whitish, lamellae broad
- C. highlandensis Hesler & Smith
3. Pileus grayish to buff, lamellae narrow . . C. harperi Murrill
4. Spores elliptic-oblong to subfusiform
- C. inornata (Fr.) Gillet
4. Spores globose or elliptical 5
5. Spores globose C. virgata Smith
5. Spores elliptical 6
6. Odor distinct, farinaceous or of anise 7
6. Odor absent or not as above 8
7. Odor farinaceous, spore deposit white
- C. aromatica (Murr.) Big. (C.N.)
7. Odor of anise, spore deposit pinkish buff
- C. odora (Fr.) Kummer
8. Pileus white or whitish 9
8. Pileus avellaneous, gray, pinkish tan, alutaceous . . 11
9. Spores 4-5 μ long, odor fragrant and pungent (not anise). . .
- C. phyllophila (Fr.) Kummer
9. Spores larger, odor absent or disagreeable 10

10. Flesh thin, brittle, taste bitter or acrid
 C. pseudocandida Big. (ined.)
10. Flesh thick, soft, taste nauseous, disagreeable . . .
 C. robusta Peck
11. Pileus pinkish tan to alutaceous . . . C. subclavipes Murrill
11. Not as above 12
12. Pileus shades of brown when fresh, becoming dark gray
 in age or drying, lamellae yellowish to creamy
 C. clavipes (Fr.) Kummer
12. Not as above 13
13. Stipe 10-15 mm. thick, lamellae pale gray, darkening in age .
 C. alexandri (Gill.) Konrad
13. Stipe 6-10 mm. thick, lamellae whitish, creamy in age
 C. carolinensis Big. & Hesler

Section Infundibuliformes

Key to species

1. Spores averaging more than 6.5 μ in length 2
1. Spores averaging 6.5 μ or less in length 9
 2. Odor and taste strongly farinaceous 3
 2. Not as above 5
3. Spore deposit cream colored to pale yellow
. C. sinopica (F.) Kummer
3. Spore deposit white 4
 4. Pileus scaly C. subsocialis Peck
 4. Pileus fibrillose C. incisa Big.
5. Pileus shades of brown, stipe concolorous or darker than the
pileus 6
5. Pileus pinkish tan to flesh color, stipe pallid 7
 6. Spores lacrymoid C. squamulosa (F.) Kummer
 6. Spores elliptical C. squamulosoides Orton
7. Pileus 7-30 cm. broad, stipe 1-3 cm, thick
. C. gibba v. maxima (F.) Big. (C.N.)
7. Pileus 1.5-9 cm. broad, stipe 2-12 mm, thick 8
 8. Pileus deeply depressed . . C. gibba v. gibba (F.) Kummer
 8. Pileus plane or slightly depressed
. C. bresadoliana Singer
9. Pileus color bright: pinkish tan, reddish, reddish brown,
yellowish 10
9. Pileus color sordid, drab: grayish, grayish brown, vinaceous
brown, brown 14

10. Odor fragrant, of cinnamon, lamellae dichotomously
forked, pinkish C. olida (Quél.) Konrad
10. Not as above 11
11. Stipe whitish, arising from a soft, white sclerotial mass . . .
. C. rubella Big.
11. Not as above 12
12. Pileus yellowish . . . C. splendens (Fr.) Gillet ss Bres.
12. Not as above 13
13. Pileus 4-9 cm. broad, areolate or zonate, reddish brown
. C. gilvaoides Kauff.
13. Pileus up to 4 cm. broad, dull pinkish
. C. socialis (Fr.) Gillet
14. Odor and taste farinaceous, rhizoids few or absent . . 15
14. Odor and taste not as above, rhizoids numerous 16
15. Pileus dry, velvety to furfuraceous-scaly on disc
. C. trullaeformis (Fr.) Quel.
15. Pileus moist, concentrically rivulose . . . C. cyanolens Métrod
16. Pileus cuticle consisting of a turf of cystidioid and
cells, pigment brownish, in cell contents
. C. rhizoides Big. & Hesler
16. Not as above 17
17. Lamellae sordid buff, darkening to brownish
. C. radicellata Godey
17. Lamellae whitish C. verna Egelund

Section Bulluliferae

- A single species occurring in northeastern North America
. C. adirondackensis (Pk.) Sacc.

Section Lepistae

- A single species occurring in northeastern North America
. C. flaccida (Fr.) Kummer

Section Omphalinae

Key to species

1. Carpophore growing on conifer logs, C. luteophylla Big. & Hesl.
1. Not as above 2
 2. Pileus orange to reddish-orange . . . C. postii (Fr.) Big.
 2. Not as above 3
3. Pileus yellow to orangish-yellow, spore deposit pale orangish-
 yellow C. hudsonianus (Jenn.) Big.
3. Pileus brownish to buff, spore deposit white
 C. umbellifera (Fr.) Big.

Section Scyphoidae

Key to the species

1. Pileus 1-3 cm. broad, spores 7-10 μ long
 Clitocybe scyphoides (Fr.) Orton
1. Not as above 2
 2. Lamellae long decurrent, subdistant to distant; on sand
 HEB #2480
 2. Not as above 3
3. Pileus pale buff, margin even HEB #8941
3. Pileus shining white, margin striate AHS #18321

Section Candicantes

Key to Species

1. Species to lignicolous 2
1. Species terrestrial 5
 2. Pileus broadly convex to plane, slightly depressed at times, not hygrophanous, lamellae adnate to short decurrent, solitary or scattered 3
 2. Pileus plane-depressed to infundibuliform, hygrophanous, lamellae moderately decurrent to long decurrent, gregarious to caespitose 4
3. Flesh thin, pileus surface hoary at first, glabrescent C. truncicola (Pk.) Sacc.
3. Flesh thick, pileus surface opaque, matted-fibrillose C. lignatilis (Fr.) Karst.
 4. Base of stipe glabrous or tomentose, margin of pileus striate, taste of flesh not distinctive C. leptoloma (Pk.) Peck
 4. Base of stipe strigose, margin of pileus even, taste bitter C. eccentrica Peck
5. Spore deposit pale pinkish buff, pale vinaceous buff, pinkish buff, vinaceous buff, pale pinkish cinnamon 6
 6. Pileus 1-2.5 cm. broad, on lichens . . . C. brevipes Big.
 6. Not as above 7
7. Odor fragrant and pungent (not anise!), lamellae broad C. phyllophila (of section Disciformes)
7. Not as above 8
 8. Under hardwoods C. leptoloma (Pk.) Peck
 8. Under conifers 9

5? →

9. Stipe 3-6 mm. thick at apex
 C. subcanescens Big. var. sub canescens
9. Stipe 9-20 mm. thick at apex
 C. subcanescens var. robusta Big.
10. Pileus watery and glaucous (bluish green to grayish
 green), hygrophanous, pallid faded . . C. aeruginosa Big.
10. Not as above 11
11. Odor fragrant and spicy or of anise 12
11. Not as above 14
12. Spores subglobose, less than 6 μ long
 C. obsoleta (Fr.) Quel.
12. Spores elliptical, more than 6 μ long 13
13. Spores 7-10 μ long AHS # 44776
13. Spores 6-7(-8) μ long C. fragrans (Fr.) Kummer
14. Species growing in grassy habitats (lawns and parks,
 meadows, margins of woods, etc.) 15
14. Not as above 16
15. Pileus pallid or grayish, opaque . . C. dealbata (Fr.) Kummer
15. Pileus incarnate to brownish, canescent and ribulose
 C. rivulosa (Fr.) Kummer
16. Odor and/or taste farinaceous 17
16. Not as above 19
17. Pileus dry, putty colored, spores 6-9 x 4.5-5.5 μ
 C. fellea Pk.
17. Pileus hygrophanous, spores not larger than 7 x 3.5 μ . . 18
18. Pileus whitish C. albidula Peck
18. Pileus pale buff to straw color . . . C. brumalis forma

- 19. Species growing under hardwoods 20
- 19. Species growing under conifers 22
 - 20. Pileus heavily canescent, fruiting in fall
. C. candicans (Fr.) Kummer
 - 20. Pileus glabrous or only slightly canescent at margin. 21
- 21. Pileus whitish, orbicular, at most slightly depressed in
age C. regularis Peck
- 21. Pileus watery buff, plane-depressed to infundibuliform when
expanded C. leptoloma (Pk.) Peck
- 22. Pileus yellowish to butterscotch, lubricous, pigment
distinctly in cuticular hyphae in KOH
. C. flavidella (Pk.) Sacc.
- 22. Not as above 23
- 23. Spores 3-4(-5) μ long, cream color to ivory in mass
. C. diatreta (Fr.) Kummer
- 23. Spores 4-6.5 μ long, white in mass 24
 - 24. Lamellae moderately decurrent to long decurrent,
habit slender, pileus 1-2.5 cm., ground color drab to
vinaceous buff C. tenuissima Romag.
 - 24. Lamellae adnate to short decurrent, habit more robust
than above, pileus (1-)2-5 cm., ground color pale
yellowish C. candicans (Fr.) Kummer

Section Hygrophanæ

Key to Species

1. Odor farinaceous 2
1. Not as above 6
 2. Spores 7-10 μ long C. cokeri Mesler
 2. Spores less than 7 μ long 3
3. On rotten conifer logs HEB # 8748
3. Not as above 4
 4. Under oak, pileus gray canescent at first
. C. michiganensis Smith
 4. Under conifers, pileus glabrous or white canescent 5
5. Spores 3.5-5.5 x 2.5-3.5 μ , pileus watery gray-brown
. C. subditopoda Peck
5. Spores 5-6 x 3-3.5 μ , pileus butterscotch color moist
. C. pinophila (Pk.) Sacc.
6. Pileus deeply depressed 7
6. Not as above 8
7. Spores 5-6 μ long, lamellae short decurrent. AHS # 42852
7. Spores 6-8 μ long, lamellae long decurrent
. C. concava (Fr.) Gillet
8. Odor and taste disagreeable, lamellae buff darkening to
brown C. subnitens Big.
8. Not as above 9
9. Pileus gray-brown moist C. .dicolor (Secr.) Murr.
9. Pileus pale olivaceous-buff moist HEB # 7893

Section Umbilicatae

Key to Species

1. Spores ornamented 2
1. Spores smooth 3
 2. Spores nodulose C. asterospora (J. Lange) Moser
 2. Spores echinulate C. leucophylla (Fr.) M. Lange
3. Species growing on sphagnum 4
3. Species growing on some other substrate 7
 4. Pileus virgate C. icmadophila (Fr.) Big.
 4. Pileus scaly 5
5. Pileus dark brown, occurring in the fall
. C. gerardiana Peck var. fusca Big.
5. Pileus gray brown, occurring in the spring 6
 6. Gills subdistant to distant
. C. gerardiana Peck var. gerardiana
 6. Gills close C. philonotis (ss. Favre)
7. Species growing on logs or stumps 8
7. Species growing on humus, naked soil or sand, mosses or
lichens 15
 8. Cheilocystidia present C. pallescens Big.
 8. Cheilocystidia absent 9
9. Odor strongly farinaceous AHS # 32252
9. Not as above 10
 10. Pileus large, 2-8 cm., lamellae yellow
. C. strombodes (Berk. & Mont.) Singer
 10. Not as above 11
11. Spores up to 6 μ long 12
11. Spores more than 6 μ long 13

12. Pileus dark brown, gills moderately broad and sub-
distant C. imaiana Singer
12. Pileus smoky gray, gills narrow and crowded
. C. subfumosa Big.
13. Pilocystidia present. C. subclavata (Pk.) Big. & Hesler
13. Pilocystidia absent 14
14. Pileus pale watery gray, gills very narrow and
distant C. distantifolia Big.
14. Pileus gray brown, gills narrow, close to subdistant
. C. epichysium (Fr.) Big.
15. Hyphae of pileus lacking clamp connections 16
15. Hyphae of pileus with clamp connections 17
16. Spores 7-9 μ long C. umbratilis (ss. Bres.) (C. N.)
16. Spores 6-7.5 μ long Hesler # 5101
17. Hyphae of pileus lacking encrusted pigments 18
17. Hyphae of pileus with encrusted pigments 20
18. Spores elliptical. C. avellaneifolia Big. ined.
18. Spores subglobose or globose 19
19. Spores 5-6 μ in diameter. C. cyathella (Favre & Sweers) (C. N.)
19. Spores 6.5-8.5 μ in diameter . . C. galericolor (Romag.) (C. N.)
20. Pileus viscid, cuticular hyphae gelatinous
. C. barbularum (Romag.) Orton
20. Pileus surface not as above 21
21. Pileus large, 1-2-4 cm. broad 22
21. Pileus small, up to 1.5 cm. broad 23
22. Pileus blackish brown, gills gray-brown
. C. icmadophila (Fr.) Big.

22. Pileus reddish brown or ochraceous brown, gills
whitish to pale vinaceous buff. C. pyxidata (Fr.) Singer
23. Stipe blackening from the base upward C. rancida Big.
23. Not as above 24
24. Stipe pubescent C. velutina (Quel.) (C. N.)
24. Stipe glabrous or faintly pruinose 25
25. Spores up to 7 μ long. C. rustica (ss. J. Lange) (C. N.)
25. Spores more than 7 μ long 26
26. Pileus squamulose. C. lundellii (Pilát & Nannf.) (C. N.)
26. Pileus glabrous 27
27. Gills gray (darkest part of carpophore when faded or dry)
. C. griseopallida (Desm.) Singer
27. Gills faintly drab tinged (+ concolorous with rest of carpo-
phore after fading or drying)
. C. hohensis (Smith) Big. & Hesler

Key to Clitocybe Species of Southeastern United States

(Including Laccaria, Leucopaxillus, Lyophyllum, and Monadelphus)

1. Spores globose, echinulate..... 2
Spores ellipsoidal, ovoidal, or pip-shaped, or if globose
then not echinulate..... 7
2. Pileus 5-10 cm. broad..... 3
Pileus 2-5 cm. broad..... 4
3. Lamellae purplish..... 1. L. ochropurpurea (Berk.) Fr.
Lamellae flesh-colored..... 2. L. laccata var. proxima Boul.
4. Lamellae flesh-colored..... 5
Lamellae pallid or deep violet..... 6
5. Margin of pileus even..... 3. L. laccata
Margin of pileus striatulate... 4. L. laccata var. striatula Fr.
6. Lamellae pallid..... 5. L. laccata var. pallidifolia Fr.
Lamellae deep violet..... 6. L. laccata var. ametigatina Solt.
7. Pileus not hygrophanous..... 8
Pileus hygrophanous..... 9
8. Pileus large, often up to 15-20 cm. broad; lamellae separable
from pileus..... 9
Pileus smaller; lamellae not paxilloid..... 10
9. Stipe bulbous; spores 4-6 (7) x 2.5-3.5 μ
..... 7. Leucopaxillus giganteus (Fr.) Singer
Stipe equal; spores 6-7.5 x 4.5-5 μ
..... 8. Leucopaxillus tricolor (Fr.) Murrer
10. Sporophores caespitose..... 11
Sporophores not caespitose..... 21
11. Pileus scaly..... 9. C. tabescens Bres.
Pileus not scaly, at times fibrillose or tomentose..... 12
12. Pileus, lamellae, and stipe reddish-orange..... 13
Sporophore not so colored..... 14
13. Spores spherical-ovoid, 4.5-5.5 μ 10. C. illudens (Schw.) Sacc.
Spores ellipsoidal-ovoid, 7-9 x 5 μ 11. C. subilludens Murr.
14. Pileus white or creamy-white..... 15
Pileus neither white nor creamy-white..... 17

15. Pileus deeply infundibuliform.....12. C. floridana Murr.
Pileus convex, plane, or concave from upturned margin..... 16
16. Lamellae white.....13. C. cerussata Fr.
Lamellae yellowish to pale rosy isabelline.....
.....14. C. subeccentrica Murr.
17. Pileus grayish-brown..... 18
Pileus not so colored..... 19
18. Spores globose to subglobose, rough.....
.....15. C. conglobata Vitt. (= Lyophyllum conglobatum)
Spores short ellipsoidal, smooth.16. C. tumulosa (Kalchauer) Sacc.
19. Pileus pale-fulvous to ochraceous-fulvous; spores ovoid,
smooth..... 20
Pileus, lamellae, and stipe yellow.....17. C. luteiceps Murr.
20. Stipe with large, reflexed scales; spores about 7 x 5 μ
.....18. C. Watsonii Murr.
Stipe not scaly; spores about 3 x 2 μ19. C. australis Murr.
21. Pileus convex or depressed, not infundibuliform..... 22
Pileus deeply depressed, at length infundibuliform..... 14
22. Pileus pallid, grayish, fuscous or drab..... 23
Pileus not of these colors..... 29
23. Lamellae and stipe violet.....20. C. Cortinarioides Murr.
Lamellae and stipe not violet..... 24
24. Pileus, lamellae, and stipe blackish when rubbed; taste
strong, farinaceous.....21. C. subnigricans Murr.
Pileus and other parts unchanging..... 25
25. Spores ellipsoidal; flesh mild or unpleasant but not bitter.. 26
Spores globose, about 4 μ ; flesh very bitter.....
.....22. C. alachuana Murr.
26. Stipe grayish-brown or drab..... 27
Stipe white..... 28
27. Stipe clavate at base.....23. C. clavipes (Fr.) Quel.
Stipe tapering downward.....24. C. media Pk.
28. Stipe with clavate base; pileus rosy-avellaneous; lamellae
white, unchanging; odor fragrant, taste mild.....
.....25. C. Westii Murr.
Stipe equal; pileus pale olive-brown; lamellae white,
becoming blackish where wounded; odor alkaline, taste
unpleasant.....26. C. No. 20267
29. Pileus black; lamellae and stipe white.27. C. concaviformis Murr.
Pileus not black..... 30

30. Pileus white or whitish, or light buff or pale yellowish..... 31
 Pileus not of these colors..... 39
31. Odor farinaceous or fragrant..... 32
 Odor mild or none..... 34
32. Taste bitter..... 33
 Taste not bitter..... 28. *G. dealbata* (Sow.) Gill.
33. Lamellae white, crowded..... 29. *G. subfollia* Murr.
 Lamellae "cartilage buff" to "ivory yellow,"
 nearly distant..... 30. *G. No. 12903*
34. Taste mild..... 35
 Taste bitter or farinaceous, or becoming so..... 37
35. Pileus not hygrophanous..... 31. *G. subtruncicola* Murr.
 Pileus hygrophanous..... 36
36. Spores 4-5 (6) μ long.....
 32. *G. candidans* Fr. (*G. setisoda* (Schw.) Sacc.)
 Spores 6.5-8 μ long..... 33. *G. rotundiora* (Fr.) Quel.
37. Spores about 8 x 4 μ 34. *G. mraefolia* Murr.
 Spores shorter..... 38
38. Taste bitter; lamellae crowded..... 35. *G. rosealbida* Murr.
 Taste mealy; lamellae distant..... 36. *G. rivulosa* Quel.
39. Pileus wood-brown, avellaneous, or brick-red..... 40
 Pileus not of these colors..... 41
40. Pileus brick-red; spores 3-4 x 2.5-3 μ 37. *G. hamplana* Murr.
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= *hydropomma*
(Fr.) Kummer

CLITOCYBE ADIRONDACKENSIS (Pk.) Sacc.

Syll. Fung. 5:180. 1887

Agaricus adirondackensis Pk. New York State Cab. Ann.
Rept. 23:77. 1872

Pileus 2-4.5 cm. broad, "pale olive-buff" to near umber at first, then buff, fading to whitish, hygrophanous, glabrous or minutely scaly, depressed, finally infundibuliform, margin in-rolled, then becoming elevated, margin even, rarely slightly striate. Flesh thin, pliant, concolor to white; odor mild to strong (oily-fishy), taste farinaceous. Lamellae decurrent, narrow, close or crowded, few forked, white to pale cream, edges even. Stipe 1.5-5 cm. x 2-6 mm., whitish, slightly silky or fibrillose, hollow, base white mycelioid, equal or enlarged above and below.

Spores 4-6 x 2.5-3.5⁽⁴⁾ μ , ellipsoid to pyriform, nonamyloid, white in mass, becoming creamy when stored. Pleurocystidia none; cheilocystidia rare, filamentous, up to 60 x 1.5-3 μ (Bigelow). Gill-trama floccose, of irregular hyphae. Clamp connections prominent.

Habitat and Distribution. - On humus, in mixed woods, Tennessee and North Carolina, and Florida, June-December.

Discussion. - One collection (No. 14031) exhibited a fairy ring about 10 feet in diameter.

The cuticle should be re-examined. Howard Bigelow (University of Michigan) finds globose cells scattered on surface (See Mycologia 47:902).

Clitocybe densifolia

on lawn, Knoxville, leg. A. J. Sharp, October 9, 1975

Pileus 5-7 cm, irregularly-depressed, wavy, whitish to ivory with a tinge of grayish, disc faintly smoky, not hygrophanous, glabrous, margin radiately-ribbed. Context white, firm; odor of mice, taste musty.

Lamellae adnexed, "pale ochraceous salmon", crowded, narrow, lamellulae scattered.

Stipe 6 cm long, 11-16 mm thick, white above, dingy watery brownish below, equal, solid, more or less striate.

Spores in deposit: vinaceous buff.

Clitocybe harperi Murr.

Excluded by Bigelow + Smith: in

Brittonia 21: 175. 1969

because of inadequate description from
fresh material.

HYGROPHORUS HUDSONIANUS Jennings

Bigelow 5313 (U-T 23580), atop of Mt. Albert, Quebec, July 8, 1957.

Spores 7-8 (9) x 3.5-5 μ , ellipsoid to sub-pipshaped, smooth, very pale yellowish in Melzer's reagent. Basidia 38-54 x 6-7 μ , 2- and 4-spored. Pleurocystidia and cheilocystidia none. Gill-trama interwoven, hyphae 3-6 μ broad. Cuticle of colorless, more or less appressed hyphae. Clamp connections none.

~~Clitocybe~~ ~~Cantharellus~~

Hygrophorus hudsonianus Jennings, Mem. Carnegie Mus. pt. III
(Botany), 12: 2. 1936.

(Notes by Bigelow)

Pileus: 8-23 mm. broad, convex at first, disc soon becoming shallowly depressed, margin crenate and faintly pellucid-striate at times, expanding to broadly convex, finally plane or rarely broadly infundibuliform, surface glabrous or with white pubescence about the disc, somewhat waxy-appearing at times, hygrophanous, color bright orange-yellow when moist (O 18-120, OGY 18-120) fading very slowly to whitish (O 19-60); flesh thin, rather brittle and cartilaginous, concolorous with the surface of pileus and fading in a similar manner, odor and taste not distinctive.

Lamellae: adnate at first, soon becoming short decurrent, finally moderately decurrent, subdistant, broad (3-4 mm.), waxy-appearing, near concolorous with the moist pileus but not fading, edges even.

Stipe: 1.5-2 cm. long, 1.5-3 mm. broad, usually equal, base with a small amount of white tomentum, fistulose, often curved, surface white pubescent, pallid or pale orange-yellow (OGY 18-60, O 19-60) beneath the pubescence.

Spores: 6-8(-9) x 4-5.5(-6) μ , usually elliptical or obovate, rarely oblong or subglobose, smooth, not amyloid, pale orange-yellow in mass (nearest OGY 19-120); basidia 29-52 x 5.5-7(-8) μ , usually 4-spored, rarely 2-spored, sterigmata 5-6.5 μ long; cystidia: caulocystidia present, 60-130 μ long, 5-8 μ in diameter, hyaline, walls thin and smooth; pileus tissue: \pm homogeneous, hyphae usually cylindrical, 2-8 μ in diameter, hyaline in KOH, clamp connections absent; gill trama interwoven, hyphae cylindrical, 2-5 μ in diameter.

Oregarious to subcespitose, on tundra. July and August.

Material examined: Mt. Albert, Gaspé Parc, Quebec, Bigelow 5306, 5307, 5308, 5310, 5311, 5312, 5313, 5314, 6160; Whiteface Mt., New York, S. J. Smith.

HYGROPHORUS HUDSONIANUS Jennings = *Clitocybe*
Carnegie Museum Mem. 12(III):2. 1936

Pileus 0.5-3.0 cm. broad, plane or centrally and marginally depressed, dull corn yellow, fading to a pale yellow when dry, glabrous but not shining, viscid and rubbery-cartilaginous when moist.

Lamellae sub-arcuate, strongly decurrent, distant, intervenose, wide, thick, waxy, when dry not fading so much as does the pileus.

Stipe about 1-2.5 cm. long, 1.5-2 mm. thick, when dry pale yellow to almost white, dull, straight or curving upwards, cartilaginous, hollow, minutely powdery puberulent, slightly enlarged and matted with white cobwebby mycelium at the base.

Spores 5-8 x 4-5 μ , ellipsoid, smooth, hyaline, rather thin-walled.

Habit, habitat, and distribution. - On moss, Canada, 1930.

Material studied. - CANADA: Sutton (type); Bigelow 5313.

Observations. - Jennings (1936) states: "When moistened the fungus quickly revives and becomes cartilaginous and viscid, soon taking on a dark umber color which is retained when the fungus is again dried. The plants arise from the brown peaty portions of tufts of the moss Dicranum fuscescens. The species

seems nearest to Hygrophorus nitidus Berkeley & Curtis (Hydrocybe nitida Murrill), but it differs from the latter species in having a plane or depressed pileus and a puberulent stem."

Judging from the portion of the type which we examined, the stature of the species is almost identical with that of H. ceraceus. Its consistency, however, is much firmer. The puberulence of the stipe is very conspicuous under a lens, and under a microscope is found to be caused by numerous projecting undulating hyphae up to 150 μ long and 8-10 μ thick. The pileus-trama is perfectly homogeneous and the hyphae measure 6-8 μ broad. No lactifers were seen. The gill-trama is very intricately interwoven. Its hyphae measure 3-6 μ in diameter. No cystidia were seen on the sides and edges of the lamellae. The basidia are four-spored and measure 38-44 x 6-7 μ . The spores are smooth, not amyloid, and measure 7-8 x 3.5-5 μ . The iodine reaction of the flesh of the pileus, gill-trama and hymenium is yellowish brown.

We are inclined to regard the viscosity mentioned by Jennings as a false viscosity caused by the somewhat resinous feel of the dried specimens. At least we were unable to demonstrate any gelatinizing layers of tissue in our mounts. The dried specimens have the unpolished appearance of members of the H. pratensis series, but are even firmer in their consistency. We have not, of course, seen fresh material.

HYGROPHORUS HUDSONIANUS Jennings

Bigelow 5313 (U-T 23580), atop of Mt. Albert, Quebec, July 8, 1957.

Spores 7-8 (9) x 3.5-5 μ , ellipsoid to sub-pipshaped, smooth, very pale yellowish in Melzer's reagent. Basidia 38-54 x 6-7 μ , 2- and 4-spored. Fleurocystidia and cheilocystidia none. Gill-trama interwoven, hyphae 3-6 μ broad. Cuticle of colorless, more or less appressed hyphae. Clamp connections none.



23580 - *Clitocybe*
~~*Hypophorus*~~ *rudromanus* (Jennings) Bigelow

Photo by H. E. Bigelow (x 2)

30228

CLITOCYBE Hydrogramma (Fr.) Kummer

In humus, hemlock woods, Roaring Fork, leg. Ron Petersen,
July 17, 1968

Pileus whitish with a grey tinge, depressed to subinfundibuliform, perforation at disc, glabrous, hygrophanous, margin even (wet or dry). Context white; odor and taste mild.

Lamellae decurrent, pale cream, narrow, close, many lamellulae.

Stipe white, equal, hollow, the tubule continuous with pileus-perforation.

30402

CLITOCYBE Hydrogramma (Fr.) Kummer

On soil, pine woods, Cades Cove, October 9, 1968

Pileus 1.5-4 cm broad, convex, deeply depressed, slightly hygrophanous, at first white, becoming "pale ochraceousbuff," slightly white fibrillose, margin even. Context white; odor subalacaline, taste unpleasant, subnauseous.

Lamellae decurrent, close, narrow to medium broad, white then near "pinkish buff", lamellulae numerous.

Stipe 1-2 cm long, 3-6 mm thick, concolorous, subbulbous, humus matted about base, solid, equal.

Spores white in deposit.

35129

Hydrogroma (Fr.) Kummel
CLITOCYBE

PHOTO

On humus, deciduous woods, Indian Creek, August 7, 1969.

Pileus 3-7 cm broad, convex, depressed-umbilicate, hygrophanous, whitish (dry), olive-grayish when wet (not matched), glabrous, margin crimped, becoming radially split. Context very thin, pallid; odor strongly astringent-fungoid, taste slightly unpleasant, astringent.

Lamellae decurrent, crowded, narrow, at first whitish, then "light buff," many forking, lamellulae numerous.

Stipe 3-4 cm long, 3-6 mm thick, tapering downward slightly, whitish then concolorous, tough, hollow-stuffed, base binding fallen leaves together.

Spore deposit white.

Cf. adirondackensis.

35149

CLITOCYBE Hydrogramma (Fr.) Kummer

In deciduous woods, Mt. LeConte, July 31, 1969.

Pileus pale gray-brown to pale olive buff, zonate when wet, azonate when dry, deep depressed or infundibuliform, hygrophanous. Context thin; taste slightly bitterish, odor slightly sub-astringent. Lamellae decurrent, white, soon pale cream, very narrow, crowded. Stipe concolor or paler, hollow.

Spores white.

CLITOCYBE IMAIANA Singer

Ann. Mycol. 41:44. 1943

Pileus 1-4 cm. broad, umbilicate-depressed, almost infundibuliform, hygrophanous, dry, "hair brown" to "chaetura drab," striate to umbilicus, glabrous. Flesh thin, concolor; odor alkaline pungent, taste unpleasant. Lamellae decurrent, arcuate, smoke-drab (not matched), scarcely close, medium broad, tapering either end, edges even. Stipe 1.5-2 cm. x 2-3 mm., concolor to pileus, dry, glabrous, tough, base white-mycelioid, hollow.

Spores 4.5-5 x 2.5-3.5 μ , ellipsoid, smooth, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Stipe hollow, cortex of interwoven hyphae, rind not clearly differentiated.

Habitat and Distribution. - On hemlock stump, Tennessee, April.

CLITOCYBE ILLUDENS (Schw.) Sacc.

Syll. Fung. 5:162. 1887

Monadelphus illudens (Schw.) Earle, N. Y. Bot. Garden Bul.
5:432. 1909

Pileus 8-20 (30) cm. broad, dry, at first convex, then expanded-depressed, slightly umbonate, glabrous, "orange," "zinc orange," "ochraceous orange," to "ochraceous buff," at times obscurely striatulate. Flesh thin, pliant, pallid, yellow, or orange; odor and taste disagreeable, strong. Lamellae decurrent, "orange," close, narrow, narrowed in front, many short, some forking behind. Stipe 10-15 (22) cm. x 15-20 mm., glabrous or slightly fibrillose, dry, tapering below, bases connate, "capucine buff," darker at base, solid, "orange" within.

Spores spherical-ovoidal, 4.5-5.5 μ , or 4-5 x 3.5-4.5 μ , "ivory yellow" to nearly white in mass, non-amyloid. Gill trama of subparallel hyphae, clamp connections prominent. Pleurocystidia none; cheilocystidia clavate to subventricose, 30-44 x 4.5-5.5 μ , at times with a slender neck (see Smith, Mushrooms, p. 370).

Habitat and Distribution. - On or around stumps and trees, Tennessee, Kentucky, North Carolina, and Florida, May-October.

Discussion. - Caespitose in clumps of 20-50 sporophores, No. 20915 forming an arc of "fairy ring," about 15 feet in diameter. Gills, cuticle, and flesh of pileus green in 5% KOH.

Observations. - Caespitose in clumps of 20-50 sporophores, No. 20915 forming an arc of "fairy ring," about 15 feet in diameter. Gills, cuticle, and flesh of pileus green in 5 per cent KOH.

18849

CLITOCYBE NUDA (Fr.) Big. & Sm.

PHOTO

On compost (leaves) - Kneberg's, West Knoxville, November 27, 1948

Pileus 6-16 cm broad, convex and margin inrolled, soon expanding, glabrous, disk innately silky, disk "cinnamon drab" to "brownish drab", marginal half "dark vinaceous-gray", margin even, becoming wavy. Context "light vinaceous-gray", finally pallid, thick and firm; odor and taste slightly fungoid.

Lamellae adnate, soon emarginate, crowded, medium broad, at first "light vinaceous-gray", finally "pale brownish vinaceous", separable from pileus, edges even.

Stipe 5-9 cm long, 18-32 mm thick, base usually bulbous, bulb up to 6 cm diam., concolor to pileus, silky, solid.

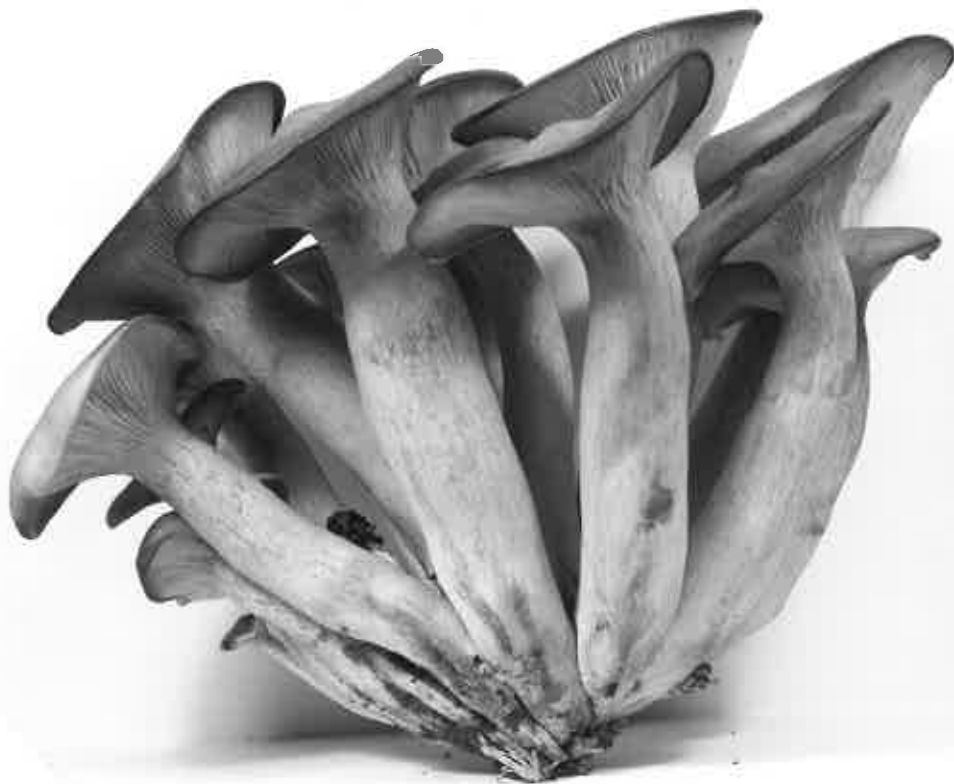
Spores (6)7-8 x (3.8) 4.5-4.8 μ , ellipsoidal, in mass: "pale ochraceous-salmon" to "light vinaceous cinnamon" (Bigelow reports spores 6-7.5 x 3.5-4.5 μ , verruculose). Cystidia none.



3606 - *Clitocybe illudens* Schw.



20915 - *Clitocybe illudens* Schw.



21559 - *Clitocybe illudens* (Achw.) Sacc.



21559 - *Clitocybe illudens* (Ach.) Sacc.



Clitocybe illudens (Achweinitz) Reccoardo

$\frac{3}{4}$ natural size

21559 - *Clitocybe illudens* (Schw.) Race.



21559 - *Clitocybe illudens* (Schw.) Sacc.

CLITOCYBE INORNATA (Fr.) Gillet
Les Hymenomycetes, p. 155. 1874

Fileus 4-10 cm., plane-convex, finally plane and undulate, hygrophanous, "pale olive buff" to ashy-white, matted-fibrillose, viscid, even, often with a depressed zone around disk. Flesh ashy, thin, pliant; odor and taste slight. Lamellae narrowly emarginate or rounded-adnate, crowded, narrow (5-6 mm.), tapering either way, pale buffy-brown (not matched), even. Stipe 3-6 cm. x 10-15 mm., bulbous, bulb 2 cm. diam., dingy, not viscid, minutely rivulose, base white mycelioid, stuffed to hollow.

Spores ellipsoidal (subfusiform?), 8-10 x 3.5-4 μ , smooth, white in mass.

Habitat and Distribution. - In deep humus and on soil, in deciduous woods, North Carolina and Tennessee, August-September.

Discussion. - Smith says the colors of my No. 19343 are pale.



19343- *Clitocybe inornata* (Fr.) Gillet

sp. nov.
~~CLITOCYBE LEPTOLOMA (Pk.) Pk.~~

New York State Mus. Bull. 157:68. 1912

Clitocybe subbulbipes Murr. N. A. Flora 9:404. 1916.

Pileus 1-3 (5) cm. broad, convex, expanding, finally depressed, hygrophanous, "pinkish buff" when wet, whitish when dry, disk "pinkish cinnamon," glabrous, margin even (dry), obscurely striate (wet). Flesh thin, whitish, pliant, odor and taste mild or slight. Lamellae decurrent, white becoming "pinkish buff," close, narrow, many short, edges even. Stipe 3-7 cm. x 3-8 mm., equal or enlarged at apex, pale buff, dry, silky, hollow.

Spores 4-4.5 x 2-2.5 μ , ellipsoid, smooth, white in mass, non-amyloid. Pleurocystidia and cheilocystidia none.

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

Discussion. - Bigelow has found this in Michigan, Massachusetts, and Quebec.



21886 - *Clitocybe leptoloma* (Pk.) Pk.
sp. nov.

CLITOCYBE LUTEICEPS Murrill

Florida Acad. Sci. Proc. 7:108. 1945

"Pileus convex to plane with a slight central depression, 8 cm. broad; surface moist, dull, smooth, glabrous, uniformly luteous, margin subundulate, slightly striate over the lamellae, fertile, straight at maturity, concolorous; context thin, dull-yellowish, unchanging, with anise odor and mild taste; lamellae pallid, inserted, crowded, narrow, broadest behind and slightly decurrent, edges entire and luteiflavous; spores ovoid or ellipsoid, smooth, hyaline, 1-guttulate, about 7-8 x 4-5 μ ; cystidia none; stipe short, strongly tapering downward, slightly roughened with short ridges and pits, dull, luteous, 2 x 1.5-2 cm.

"Type collected by W. A. Murrill in leaf-mold under a laurel-oak in a virgin high hammock at Gainesville, Fla., Oct. 9, 1943 (F 20029). A beautiful species, unusual in color both on the cap and on the edges of the gills. On drying the cap becomes shining reddish-fulvous, while the stem does not change. At first sight I thought of Flammula."

CLITOCYBE LUTEOPHYLLA Bigelow + *Healer*
(in ed.)

Pileus 1-3.5 cm. broad, convex-expanding, depressed (sub-umbilicate), at first "isabella color," finally yellow (near "honey yellow"), at first densely fibrillose-tomentose, fibrils dark, finally fibrils less dense after cap-expansion, tips of fibrils often recurved, moist (not viscid), margin incurved, even (dry), slightly striate (when wet). Flesh thin, "mustard yellow," moist; odor and taste mild. Lamellae adnate to sub-decurrent, "apricot yellow" to "mustard yellow," not broad, subdistant, intervenose many short, edges obtuse, even; trama of interwoven hyphae, 8-12 μ diam. Stipe 1-2 cm. x 2-4 mm., 5-7 mm. at base, "mustard yellow," tapering upward, moist, glabrous, hollow.

Spores 10-14 x 5-6.5 μ , ellipsoid, smooth, white in mass, non-amyloid. Pleurocystidia clavate-cylindrical, at times apex drawn to a long point, 42-96 x 4-10 μ , protruding portion slender; cheilocystidia similar, smaller, not always conspicuous. Basidia 50-64 x 7-8 μ . Stipe hollow, non-marasmioid.

Habitat and Distribution. - On spruce log, Tennessee, North Carolina, and South Carolina, July-August.

This was Conophiala chrysophylla.

Did Smith
publish a revised
description of this?
or

CLITOCYBE MEDIA Pk.

New York State Mus. Ann. Rept. 42:114(18). 1889

Illustrations:

Peck, N. Y. State Mus. Ann. Rept. 42, pl. 1, 1889; Peck,

N. Y. State Mus. Ann. Rept. 48, pl. 23. 1895 (?)

Deser. from Coker + Beardlee

"Cap about 5-8.5 cm. wide, gibbous or nearly plane at maturity, smooth, dull and with appearance of leather, slightly viscid when damp, margin incurved then expanded, often irregular; color brownish-gray all over, between smoke-gray and drab of Ridgway. Flesh white, soft and spongy, gradually thickening toward the stem, tasteless and odorless.

"Gills distant to sub-distant, slightly decurrent or adnate, 5-6 mm. wide, ventricose, veined, none branched, pallid and more or less tinted with the cap color.

"Stem 2.5-5 cm. long, 1-2 cm. thick in center, tapering downward, often flattened, color of the cap or lighter, smooth or pruinose above, flesh solid and like that of the cap.

"Spores (of No. 2992) white, smooth, elliptic, 4-5 x 6-7 μ , with a large oil drop.

"The cap margin is at times marked by darker spots in a row as in Tricholoma russula. The species is new to the South, having been reported only from New York and Wisconsin.

"For illustrations see Hard, Mushrooms, fig. 64. 1908;
Peck, Rept. N. Y. St. Mus. 42: pl. 1, figs. 9-12. 1889;
48: pl. 23, figs. 1-7. 1896."

Habitat and Distribution. - On soil, deciduous woods,
North Carolina, March.

Observations. - This species differs from C. clavipes
in its lack of a bulbous stipe, and broader and more distant
lamellae.

22232

CLITOCYBE METACHROA (Fr.) Kummer

Führer in die Pilzkunde, p. 120. 1871

Pileus 1-3 cm. broad, convex, then plane or depressed, hygrophanous, whitish or pale tawny (dry), watery-brown (wet), glabrous, margin even. Flesh thin, concolor; odor and taste mild. Lamellae subdecurrent, close, narrow, whitish, more or less intervenose, edges even. Stipe 1.5-3 cm. x 2-4 mm., glabrous or slightly silky, pallid to pale-brown, equal, often compressed, hollow.

Spores 5.5-7 x 2.5-3.5 μ . Clamps present.

Habitat and Distribution. - On soil, pine woods, Georgia, November. Near Chatsworth, Ga., coll. by L. R. Hesler, Nov. 27, 1955.



22232 - *Clitocybe metachroa* (Fr.) Kummer

24633

CLITOCYBE ~~strobilifera~~ morhofferi PK

on lawn, Timberlake Rd. Dec. 23-'61

Pileus 1-3 cm., depressed, hygrophane, white when dry, watery gray-brown when wet, glabrous, even (wet or dry). Context white; odor slight, taste alkaline-bitterish.

Lamellae adnate-decurrent, seceding, white then with a pale cream tint, close, narrow.

Stipe 1.5-2.5 cm. x 4-8 mm., more or less compressed, broader above, tapering downward, sparsely silky, stuffed, pallid, base dingy brownish.

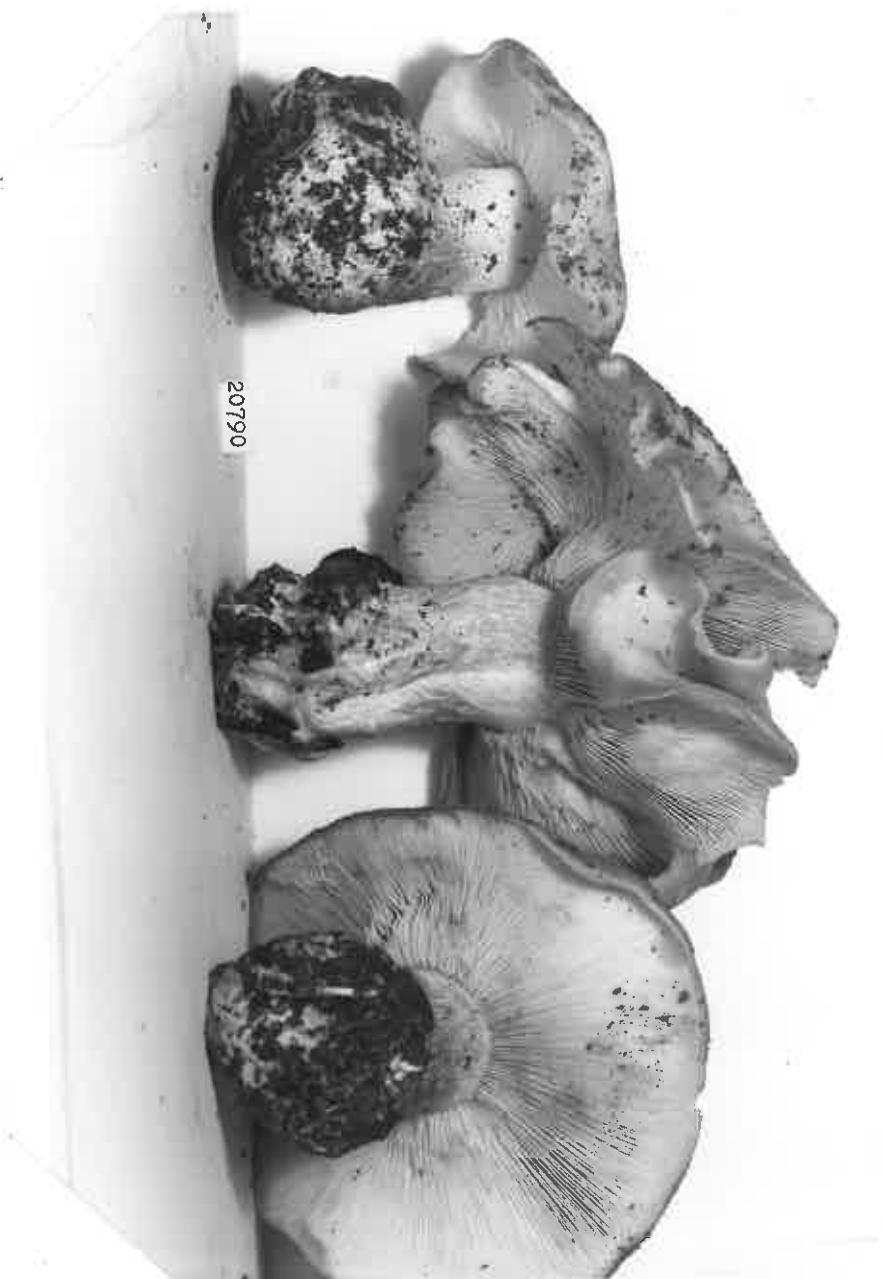
Spores white in mass.



Clitocybe nuda



18849 - ~~Gepiota~~
~~Hypholoma personatum (Fr.) W. G. Smith~~
 Clitocybe nuda (Fr.) Big. & Sm.



Clitocybe nuda



20790 - *Tricholoma personatum* (Fr.) W. G. Smith
~~Lepista~~
Clitocybe nuda (Fr.) Big. + Sm. (?)



23516

Clitocybe nuda



23516 - ~~Lepista personata (Fr.) W. G. Smith~~
Clitocybe nuda (Fr.) Big. + Sm.



Clitocybe nuda

23560



23560 — *Lepista personata* (Fr.) W.B. Smith
Clitocybe nudata (Fr.) Big. & Sm.

Odora
CLITOCYBE ~~AERUGINOSA~~ Bigelow
~~Mycologia 50:37. 1958~~

Pileus (1) 4-8 cm. broad, expanded-wavy, somewhat depressed, not viscid, not hygrophanous, "mineral gray," fading to olive-gray, at times more or less zonate, the darker zones with greenish, glaucous up-turned fibrillose hairs, glabrescent, margin even to substriate. Flesh thin, pliant, white grayish-olive next to cuticle; odor and taste mild. Lamellae adnate-decurrent, close or crowded, narrow, pallid, whitish with a cream tint, at times "pale olive buff," edges even to serrulate. Stipe ^{1.5} 2-5 cm. x (2) 9-12 mm., dingy, appressed fibrillose, base curved, dry, hollow.

Spores 6-8 x 3.5-4.5 μ , ellipsoidal, smooth, white in mass. Pleurocystidia none; cheilocystidia clavate, 20-25 x 7-8 μ .

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

Discussion. - This is one of the most striking of the Clitocybes, because of green hairs on a zonate, gray background. Bigelow (notes) says that C. odora differs by a distinctive anise odor and a pinkish buff spore deposit.



20523- *Clitocybe odora* (Fr.) Kummer
(see descriptive notes, No. 20515)

Clitocybe

~~EPHISTA~~ PANAEOLIFORMIS (Murrill) Big. & Sm.

~~Mycologia 35:429. 1943~~

Brittonia 21: 151. 1969

"Pileus convex to subexpanded, often gibbous, gregarious, 5-8 cm. broad; surface dry, smooth, uniformly dark avellaneous, with minute concolorous tufts of fibrils more persistent on the disk, margin incurved, sterile, even, entire to undulate or at times lobed; context thick, soft, whitish, unchanging, sweet and nutty with anise odor; lamellae sinuate, crowded, rather narrow, broadest behind, inserted, white to pale pink, entire to undulate or notched; spores ellipsoid, smooth, 1-guttulate, dull pink in mass, $6-7 \times 3-4 \mu$; cystidia none; stipe solid, fleshy, equal or enlarged below, smooth, glabrous, mild-white, unchanging, $3-4 \times 1-1.5$ cm."

Habitat and Distribution. - In leaf-mold, Florida, October.

Notes on Type

Spores $5.5-7 \times 3-4 \mu$, ellipsoid, minutely but distinctly warty, pale yellow in Melzer's. Pleurocystidia and cheilocystidia none. Gill-trama subparallel, narrow hyphae. Epicutis of subparallel, narrow ($2-4 \mu$), compact hyphae; surface with tufts of more or less erect, colorless hyphae, $2-4 \mu$ broad.

CLITOCYBE PAROPSIS Fr.

Pileus 10-15 mm. diam., convex, "saya brown" to "verona brown," dry, matted-fibrillose, margin even, incurved. Flesh white, soft, thin on margin, thick on disk; odor farinaceous, taste unpleasant, not farinaceous. Lamellae adnate-decurrent, white, then cream color, moderately broad, rather close, edges even. Stipe 2-4 cm. x 3-5 mm., dry, dingy-brownish, fibrillose-reticulate, equal or enlarged downward, stuffed-solid.

Spores "5-6 x 2.5-3 (3.5) μ , subovate" (Kauffman).

Habitat and Distribution. - In humus, under rhododendron, Sevier County, Tennessee, March, No. 17434.

Discussion. - Smith identified our one collection and stated that it was not typical.

CLITOCYBE PELTIGERINA (Pk.) Sacc.

Syll. Fung. 5:184. 1887

(Agar. Mich. p. 744)

"Pileus 4-10 mm. broad, small, subexpanded, umbilicate, hygrophanous, grayish-brown and striatulate when moist, whitish to pale gray when dry, glabrous. Gills decurrent, distant, narrow, somewhat forked and intervenose, grayish-brown, thickish, pruinose. Stem 1-2 cm. long, 1.5 mm. thick, equal, solid, elastic, pallid or tinged grayish-brown, pruinose below, base minutely tomentose. Spores elliptical-ovate, pointed-apiculate, 8-10 x 4-5.5 micr., smooth, white; basidia 4-spored; cystidia none. Odor and taste none."

Habitat and Distribution. - On Peltigera, Tennessee, June.

CLITOCYBE PERALBIDA Murrill

Mycologia 35:529. 1943

"Pileus regular, convex, to infundibuliform or depressed, gregarious, about 2 cm. broad; surface dry, smooth, milk-white, unchanging, finely pruinose, margin even, entire, incurved; context thin, white, odorless, sweet, becoming bitter and mawkish; lamellae tapering behind, narrow, distant, inserted, denticulate, white, yellowish when dry; spores ellipsoid, smooth, hyaline, $4-6 \times 2-4 \mu$; stipe equal, smooth, glabrous, white, unchanging, $2-3 \times 0.25-0.3$ cm.

"Type collected by West and Murrill on dead hardwood in Kelley's Hammock, ten miles northwest of Gainesville, Fla., July 19, 1938 (F 17911). A beautiful white species, looking like dainty fairy cups set out on a log. In dried specimens the white teeth stand out conspicuously along the edges of the yellowed gills."

Discussion. - "According to Singer, 'Epicutis of repent, strongly diverticulate (up to almost 4μ high), thin hyphae. Some cystidioid bodies reach the epicutis. Hyphae of context with thin or moderately thickened walls, non-amyloid, with clamp connections. Gill-trama regular, of thin hyphae; cheilocystidia versiform, not striking, rather scattered, irregularly basidiomorphous or filamentous; edge of lamella subhomomorphous; cystidia well-developed, long-clavate, with a slightly thickened wall, arising from the trama, smooth, hyaline, $45-55 \times 6.8-8 \mu$; basidia 4-spored, $25-37 \times 6.7-7.5 \mu$; spores smooth, hyaline, guttulate, non-amyloid, $6.7-7.5 \times 3.5-4.3 \mu$.' "

CLITOCYBE PHYLLOPHILA (Fr.) Kummer

Die Führer in die Pilzkunde, p. 122. 1871

(N.A.F. 9:402. 1916)

"Pileus fleshy, convex or plane, becoming depressed or umbilicate, obtuse, solitary or cespitose, 4-7 cm. broad; surface smooth, dry, white, silvery on the margin because of the silky veil: lamellae moderately broad, subdistant, adnate or slightly decurrent, white, becoming yellowish-ochraceous: spores ellipsoid, 6-8 x 3-5 μ ; stipe equal, stuffed or hollow, tough, downy and incurved at the base, spongy within, white, sometimes eccentric, 5-7 cm. long, 5-8 mm. thick."

Habitat and Distribution. - On soil, North Carolina

CLITOCYBE PINOPHILA (Pk.) Sacc.

Syll. Fung. 5:183. 1887

(Peck's description, N. Y. State Bul. 157:63. 1912)

"Pileus fleshy, thin, convex becoming umbilicate or centrally depressed, glabrous, pale tan color when moist, paler when dry, odor and taste farinaceous; lamellae moderately close, subarcuate, adnate or slightly decurrent, whitish; stem equal, glabrous or slightly pruinous, colored like the pileus; spores broadly ellipsoid or subglobose, 5-6 x 4-5 μ .

"Pileus about 2.5 cm. broad; stem 2.5-5 cm. long, 2-4 mm. thick.

"Gregarious. Under or near pine trees. Not common. Albany, Essex and Warren counties. July and August.

"Sometimes the pileus becomes striate on the margin in drying."

Habitat and Distribution. - On soil, under pine, Tennessee and North Carolina, December.

Discussion. - A fragrant form, with odor of anise, spores 3.7-4.5 x 2-3 μ , is reported from North Carolina by Coker (Elisha Mitch. Sci. Soc. Jour. 45:172. 1929).

No. 10095: Bigelow says spores are 4.5-^{6.5}~~8~~ x 3-4 μ , ellipsoid, not amyloid. ↑ Clamps present. ↑

Spores slightly larger in the type

Not sure without notes.

CLITOCYBE PRAEFELLEA Murrill

Lloydia 8:273. 1945

"Pileus convex to very slightly depressed, solitary, about 4 cm. broad; surface smooth, glabrous, milk-white, unchanged, margin even, entire; context soft, white, unchanging, 5-7 mm. thick near the center, odorless, very bitter at once; lamellae adnate with decurrent tooth, inserted, close, 5-7 mm. broad behind, narrow in front, entire, white, unchanging, dirty-pallid when dry; spores ellipsoid, smooth, 1-guttulate, about $8 \times 4 \mu$; cystidia none; basidia 4-spored; stipe bulbous, solid, smooth, glabrous, white, unchanging, about 5-6 x 1 cm.; bulb ovoid, white, 1.5-1.8 cm. thick."

Habitat and Distribution. - On lawn, Florida, January.

Altoe
EPISTA PRAEMAGNA (Murr.) Singer Big. & Sm.
Brittonia 21: 164. 1969.

Melanoleuca praemagna Murr., N.A.F. 10:12. 1914

"Pileus large and fleshy, convex to plane, becoming deeply fissured with age or on drying, gregarious, reaching 12-20 cm. broad; surface dry, smooth, glabrous, white, margin involute and minutely downy when young, becoming expanded and glabrous; context thick, white; lamellae sinuate-adnexed, often with a decurrent tooth, broad, ventricose, crowded, white, becoming dirty-yellowish or brownish on drying; spores ellipsoid, smooth, hyaline, pure-white in mass, 6-7 x 3-4 μ ; stipe very short, thick and bulbous, smooth, glabrous, white, reaching 5-6 cm. long and 4-5 cm. thick, the bulb being nearly twice this thickness."

Habitat and Distribution. - On soil, oak woods, Tennessee, October. (See: Torrey 16:193-194. 1916. This vol. not in U.T. Lib.)
See also Rhydia 5:109. 1942

Notes on No. 6619

Spores 4.5-6 x 3.5-4.5 μ , smooth or slightly rough, ellipsoid, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama interwoven. Epicutis of interwoven hyphae, 3-7 μ broad. Lamellae rather narrow.

CLITOCYBE RAPPIANA Murrill

Florida Acad. Sci. Proc. 7:108. 1945

(Leucopaxillus gracillimus S. & S. ?)

"Pileus convex to expanded, gregarious, 5-8 cm. broad; surface dry, minutely tomentose, not becoming glabrous, uniformly lateritious or with a small ^aby disk; margin even, subentire, fertile, uplifted in age; context thick; milk-white, unchanging, reddish under the cuticle, odor slightly farinaceous, taste somewhat farinaceous, becoming slightly astringent, scarcely bitter; lamellae short-decurrent, arcuate, narrow, exceedingly close, 3 to a mm., several times inserted, many forked near the base, entire, pure-white, unchanging, stramineous when dried; spores broadly ovoid, smooth, hyaline, uniguttulate, 3-4 x 2.5-3 μ ; cystidia none; stipe curved, equal, glabrous, milk-white, unchanging, 4-5 x 0.5-0.7 cm.

"Type collected by W. A. Murrill on the ground under hardwood trees in a high hammock near Hunter's Station, west of Gainesville, Fla., August 10, 1938 (F 18028). A very beautiful species, suggesting C. inversa (Scop.) Quél. but having white flesh and white, unchanging gills. Mr. S. Rapp, of Sanford, Fla., was with us, collecting lichens, so I named this handsome novelty in his honor."

Discussion. - See No. 21116, type. Singer and Smith (Mycologia 39: 735-736. 1947) state that it appears that C. Rappiana, though not identical with the type form of Leucopaxillus gracillimus, is too similar to warrant its being maintained as an autonomous species. They hesitate to transfer the name to Leucopaxillus until studies of fresh material have clarified its status.

CLITOCYBE REGULARIS Pk.

New York State Mus. Bul. 10: 948. 1902

Pileus 1.5-4 cm. broad, pliant, orbicular, plane, disk depressed to umbilicate, white, disk at times pale buff, shining, appressed-tomentose or satiny, hygrophanous, at times lubricous, margin even or at times striatulate when wet. Flesh thin, pliant; odor none, taste mild. Lamellae decurrent, whitish, then cream, narrow, close or crowded, many short, edges even. Stipe 1.5-4 cm. x 2-5 mm., whitish, silky-striate, equal, base thickened, spongy to hollow.

Spores 3-5(6) x 2-2.5(3) μ , ellipsoid, smooth, white in mass, non-amyloid. Pleurocystidia and cheilocystidia not distinguished. Epicutis of repent hyphae.

Habitat and Distribution. - On soil, in pine and deciduous woods, North Carolina and Tennessee, July-September.

Discussion. - Our collections are without odor. Kauffman (1927:198) reports odor and taste of anise. Scattered or forming arcs of fairy rings. Bigelow thinks 12193 is a form of C. regularis. Also he det. No. 10717 as C. regularis.



12193 - *Clitocybe regularis* Fr.

CLITOCYBE RHIZOIDES sp. nov.

Pileus 1-4 cm. broad, convex, becoming expanded, more or less depressed, margin even, decurved and remaining so, grayish-brown ("drab," "buffy brown," "olive-brown," "bister"), whitish when covered by leaves, disk often blackish, at times glaucous, usually innately fibrillose, often shining, rarely subzonate, not viscid, not hygrophanous. Flesh white (when dry), dark (when wet), rather thin, scissile. Odor slight only when crushed (odor suggestive of grass or ripe apples); taste bitter. Lamellae adnate to adnate-subdecurrent, ~~white~~, in age becoming buff, linear, up to 2-3 mm. broad, close to subdistant, occasionally forked, many short, edges even, spuriously separable from pileus. Stipe 3-5 cm. x 2-6 mm., concolor or paler, equal or tapering downward, sometimes compressed, whitish fibrillose or pruinose, apex with white dots or squamules, glabrescent, not viscid, white within, stuffed then hollow, base always with conspicuous white rhizoids which bind a clump of earth when pulled up.

Spores variable in size (many immature) (4.5) 5-7.5 x 3.5-4.5 μ , elliptical, apiculate, white in mass, smooth, non-amyloid. Basidia 22-30 x 5-7 μ , 2-4 spored. Pleurocystidia and cheilocystidia none. Gill-trama of sub-parallel hyphae, 5-9 μ diam.

(more, next page)

Habitat and Distribution. - On soil, pine woods, Knox and Anderson Counties, Tennessee, January-March. (Type: No. 18894)

Discussion. - Sporophores scattered to gregarious, at times 2 or 3 in a cluster.

In No. 19603, the pileus is pallid with white, appressed fibrils. Smith says he does not know it. Murrill (letter) thinks it is in the group with his C. hiemalis (C. brumalis; see N.A.F. 9:406. 1916), and if not a form of that species, it must be new.

18894 - *Clitocybe rhizoides* sp. nov. - Type ^{right}.



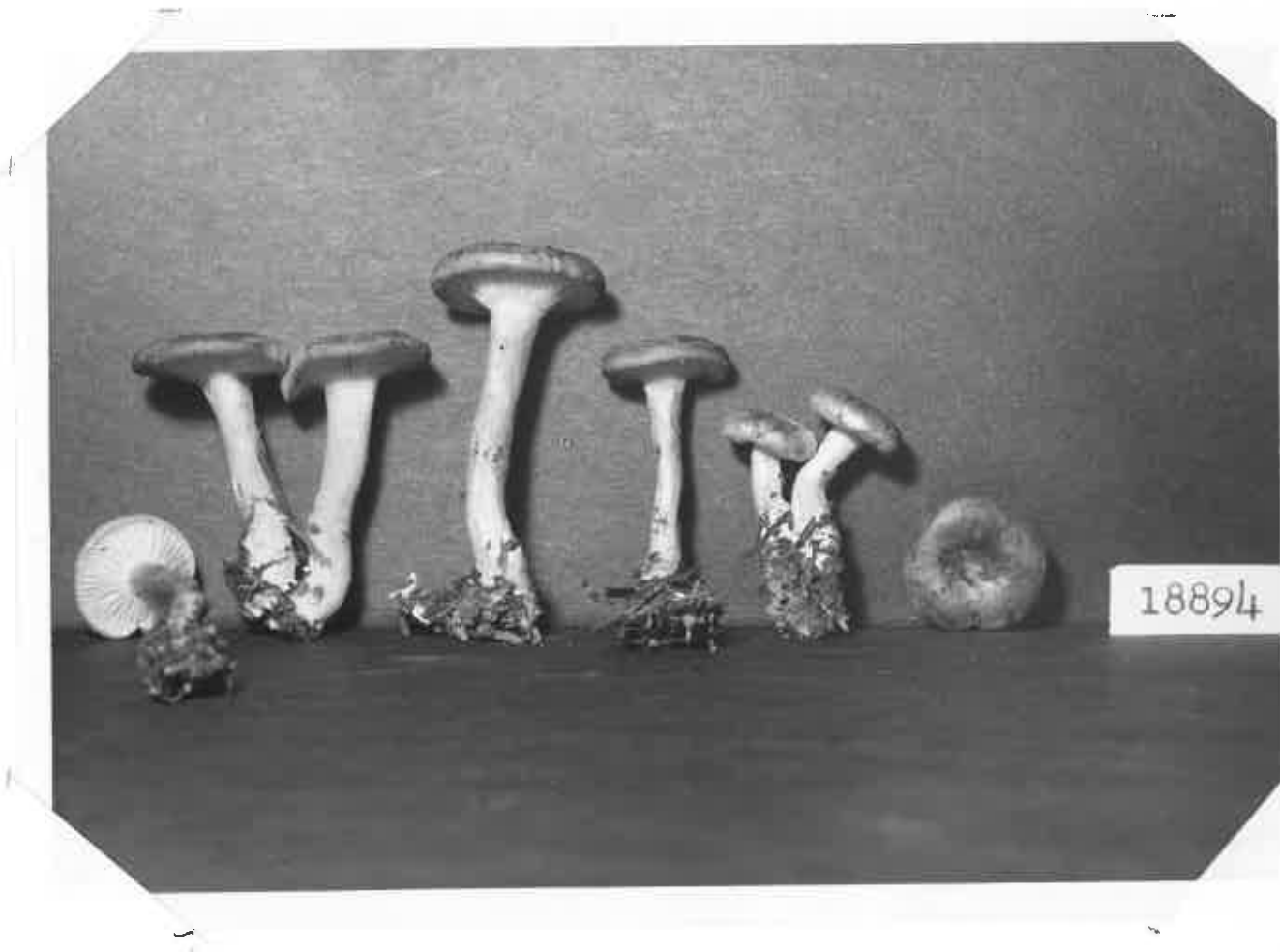
19603 - *Clitocybe rhizoides* sp. nov.
x 1½



18894 - *Clitocybe rhizoides* sp. nov.



22563 - *Clitocybe rhizoides*



18894 - *Clitocybe rhizoides* sp. nov.



10153 - *Clitocybe rhizoides* sp. nov.



21638 - *Clitocybe rhizoides*

CLITOCYBE RIVULOSA (Fr.) Kummer

Die Führer in die Pilzkunde, p. 122. 1871

Pileus 1-5 cm. broad, convex, expanding, disk at times depressed, hygrophanous, watery-grayish-brown (near "olive buff") or "pale cinnamon pink" when wet, white to "pale pinkish cinnamon," when dry, glabrous or with a hoariness which shows only when dry, at times zonate when wet, azonate when dry, rivulose (under lens), margin even (dry), obscurely striatulate (wet), at first incurved. Flesh thick on disk, thin on margin, pliant, white; odor and taste mild. Lamellae adnate-decurrent, narrow to medium broad, close, ventricose, white then vinaceous buff, finally "pinkish buff," moderately thin, many short, some forking, venose at cap, edges even. Stipe 1.5-5 cm. x 2-8 mm., often compressed or fluted upward, tapering downward, base more or less curved, slightly enlarged and white-tomentose, elsewhere minutely silky then glabrous, dingy below, "pale cinnamon pink" to pallid above, minutely striate (under lens), solid to spongy finally hollow.

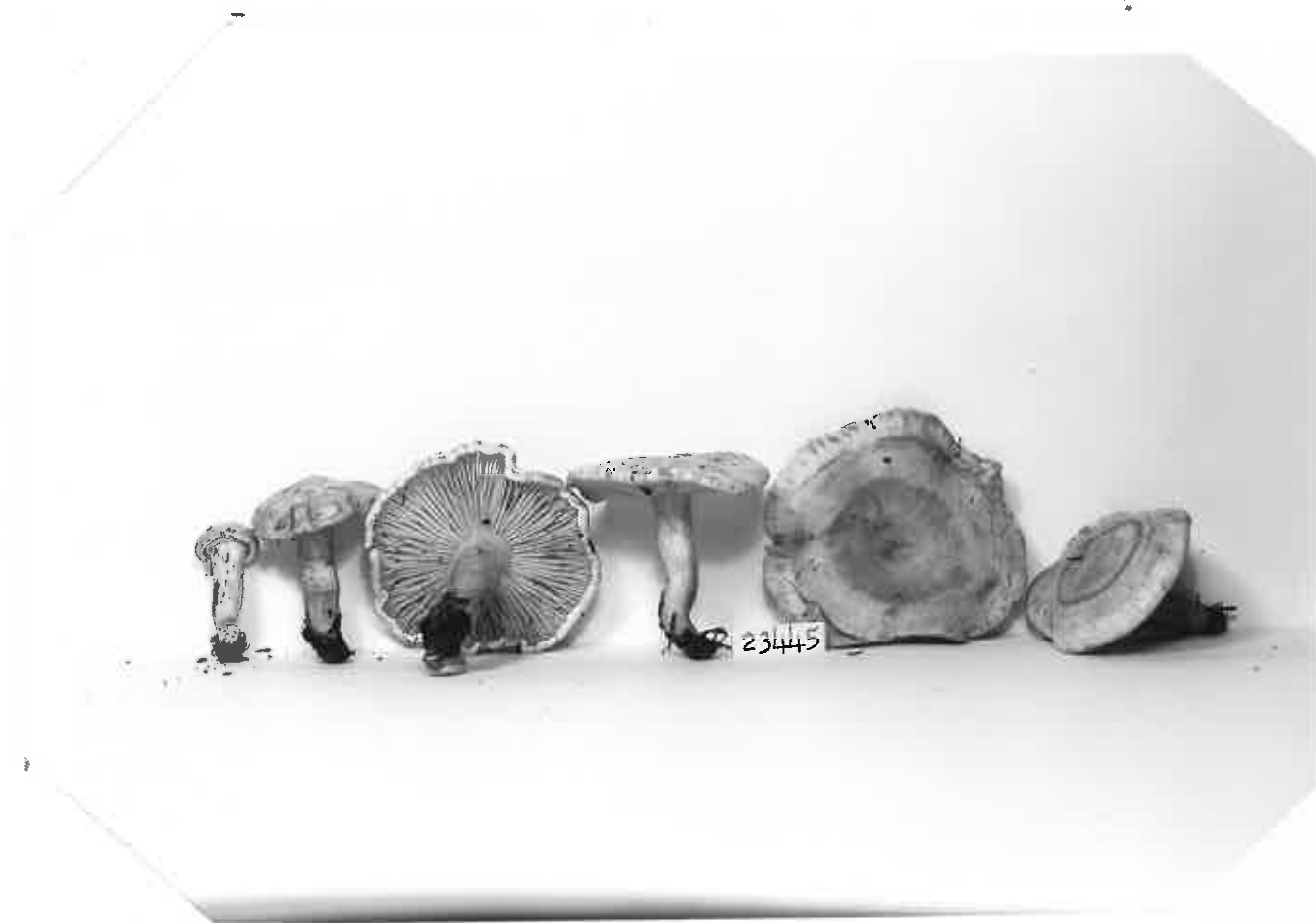
Spores 3.2-4.5 x 2-3.5 μ , ellipsoidal, smooth, yellowish in Melzer's reagent, white in mass. Pleurocystidia and cheilocystidia not differentiated. Cuticle of interwoven pale-brown hyphae.

Habitat and Distribution. - On soil, in pine woods, Tennessee, North Carolina, September-January.

Discussion. - Bigelow studied No. 21095 and feels that it is a slight variant of C. rivulosa. See also No. 23445.



23445 - *Clitocybe rivulosa* (Fr.) Kummer



23445 - *Clitocybe rivulosa* (Fr.) Kummer

CLITOCYBE ROBUSTA Pk.

New York State Mus. Rept. 49:17. 1896

Pileus 5-10 cm. broad, convex, expanding convex or at times plane, white, lubricous-viscid when wet, appressed-fibrillose, margin obscurely ridged. Flesh white, thick on disk, abruptly thin on margin; odor mild or slight, taste strong-fungoid. Lamellae adnate-decurrent, "ivory-yellow" from the beginning, crowded, medium broad, many short, edges even. Stipe 4-6 cm. x 13-20 mm., white, appressed-fibrillose, rivulose-reticulate (like Russula), base slightly enlarged to sub-bulbous, solid.

Spores 4.5-6 x 3.5-4 μ , ellipsoid, smooth, yellowish in Melzer's reagent, spore-print failed.

Habitat and Distribution. - On soil, under spruce, Newfound Gap, October 6, 1959.



23436 - *Clitocybe robusta* Pl. - $\times \frac{2}{3}$

Clitocybe saeva (Fr.) Big. & Sm.
~~LEPISTA PERSONATA (Fr.) W. G. Smith~~

Tricholoma personatum (Fr.) Kummer, Der Führer in die
Pilzk., p. 132. 1871

Illustration:

Plate

Pileus 6-16 cm., moist, not hygrophanous, convex and margin inrolled, soon expanding, glabrous, disk innately silky, disk "tilleul-buff," "vinaceous buff," "cinnamon drab" or "brownish drab," marginal half usually "dark vinaceous-gray," cuticle separable part way, margin even, becoming wavy. Flesh "light vinaceous-gray," finally pallid, thick and firm; odor and taste slightly fungoid. Lamellae rounded-adnate, soon emarginate, crowded, medium broad, at first "cartridge buff" to "light vinaceous-gray," finally ~~"pale brownish vinaceous," "light vinaceous gray," finally~~ "pale brownish vinaceous," "light vinaceous-gray" to "vinaceous buff," separable from pileus, edges even. Stipe 5-9 cm. x 18-32 mm., base usually bulbous, bulb up to 6 cm. diam., concolor to pileus (variable: pallid to "pallid brownish drab" to "pale ecru-drab"), silky-fibrillose, often reticulate under lens (like *Russula*), solid.

Spores ~~5.5-7 x 3.5-4 μ , (6) 7-8 x (3.8) 4.5-4.8 μ~~ , ellipsoidal, smooth, ^{or faintly rough,} color in mass: ^{"cinnamon buff,"} "vinaceous buff," "pale ochraceous-salmon," "light pinkish cinnamon," to "avellaneous," Pleurocystidia and cheilocystidia none.

^{non-amyloid (yellowish in Melzer's).}

Habitat and Distribution. - On soil and compost, Tennessee,
and Florida, October-January. *tennesiana,*

Observations. - Lange (p. 63) states that the gills are pallid, never violet or lilac; Rea (p. 237) says the gills are whitish, becoming discolored.

On Jan. 28, 1962, a fairy-ring of some 60-70 carpophores, about 8 ft. in diameter, was observed under an Abelia shrub on the Strong Hall yard.

35203

CLITOCYBE

semilis (Fr.) ~~Gae~~ Gillet

Indian Creek, August 7, 1969.

Pileus olive-brown, appressed-fibrillose, depressed.
Context white; odor of raw irish potato, taste
subfarinaceous. Lamellae decurrent, subdistant, narrow,
white. Stipe pallid, solid.

Spore deposit failed.

CLITOCYBE SINOPICA (Fr.) Kummer

Der Führer in die Pilzkunde, p. 123. 1871

Pileus 1.5-4 cm. broad, convex, depressed to umbilicate, dry, minutely fibrillose-scaly, glabrescent, "cacao brown" to "vinaceous russet," even, at times crenate. Flesh firm, white, thin; odor and taste farinaceous. Lamellae adnate to slightly emarginate, or at times subdecurrent, arcuate, narrow, crowded or close, many short (of 5 ranks), white, becoming creamy, edges even. Stipe 2-4 cm. x 3-7 mm., brownish, more or less fibrillose, paler than pileus, apex paler, stuffed, equal or attenuated downward, at times compressed, dry.

Spores 7-9 x 4.5-6 μ , ellipsoidal to sub-pip-shaped, smooth, yellowish in Melzer's reagent, white in mass.

Habitat and Distribution. - On soil, in mixed woods, Tennessee, North Carolina, and South Carolina, April-August.

Discussion. - Bigelow studied No. 4093, found the spores 6.5-9 x 4-5 μ , not amyloid, clamps present. He also identified No. 21506.

CLITOCYBE SINOPICOIDES Pk.

New York State Mus. Bul. 157:80. 1912

Illustration:

Coker & Beardslee, Elisha Mitch. Sci. Soc. Jour. 38,
pl. 23. 1922

"Cap up to 5 cm. broad, usually about 3-4.5 cm., depressed in center, or almost plane, sometimes approaching infundibuliform; surface when young minutely pruinose-tomentose, the margin more distinctly tomentose, dry and chestnut red, becoming more or less squamulose and sometimes rivulose when old and fading to ochraceous-buff or even lighter, often with darker dots, margin usually irregular and very wavy, inrolled when quite young. Flesh white, soft, flexible, very thin, about 1 mm. thick half way to margin, much thicker over the stem; taste mild and slightly earthy, not farinaceous.

"Gills very decurrent, white, changing to creamy and drying when mature to ochraceous buff, close or moderately so, very thin and narrow, only 1.5 mm. wide in center, many short, some forked, in large plants their sides sometimes veined.

"Stem color of cap or lighter, smooth, tapering slightly downward, firm at surface and stuffed with soft, dense, white material like the cap flesh, tough or rather brittle, about 2-3 cm. long and 2-5 mm. thick, attached firmly to the ground with white mycelium. When mature the entire plant dries to a pretty ochraceous-buff.

"Spores white, smooth, pip-shaped, $3.4-4.6 \times 4.2-7.4 \mu$.

"In humus or grass or on rotten wood, in woods and groves.

"We have examined Peck's type of C. sinopicoides and cannot distinguish it from our plants. The caps distinctly show the squamulose center and the spores are exactly the same except that a few of the former are a little longer ($3.2-3.8 \times 7-8.5 \mu$). In the presence of squamules and cracks on the cap in age the present species is like C. sinopica, but a European plant of that species from Bresadola has distinctly larger spores, $3.8-5.5 \times 7-9.3 \mu$ and differs further in far less crowded gills and smoother cap. This is almost certainly the plant listed by Schweinitz as C. gilva, but according to Ricken that species has spherical, spiny spores. The present species is doubtfully distinct from C. infundibuliformis, which see for discussion."

Habitat and Distribution. - On soil, at times among moss, in deciduous and conifer woods, Tennessee and North Carolina, April-October.

Observations. - Peck (Bul 157:80) gives spores $6-8 \times 3-4 \mu$ + flesh odor & taste farinaceous.

CLITOCYBE SQUAMULOSA (Fr.) Kummer

Der Führer in die Pilzkunde, p. 123. 1872

Pileus 5 cm. broad, expanded-convex, disk depressed, near "clay color," glabrous, dry, not hygrophanous, margin even. Flesh white, soft, thick on disk; odor slight or none, taste unpleasant, sub-astringent, fungoid. Lamellae decurrent, medium-close, "light buff," rather narrow, broadest behind, narrowed in front, edges even. Stipe 4 cm. x 6 mm., dingy buff, slightly enlarged downward, solid.

- Spores $(5.5 \times 4 \mu)$ (spore-print failed), ellipsoid.

Pleurocystidia and cheilocystidia none.

Habitat and Distribution. - On soil under pine, Tennessee, April.

Discussion. - Bigelow studied Nos. 10450 and 21317, found spores lacrymoid, 5-8 (9) x 2.5-4.5 μ , not amyloid. Clamps present. Says it is variable. It has darker, more brownish colors than C. gibba, which is under hardwoods and usually infundibuliform.



12306 - *Clitocybe squamulosa* (Fr.) Kummer



21317 - *Clitocybe squamulosa* (Fr.) Kummer



21317- *Clitocybe squamulosa* (Fr.) Kummer

29971

CLITOCYBE SQUAMULOSA

Photo

Crib gap, Cades Cove, Ron Petersen, June 12, 1968.

Notes by Petersen

Pileus "honey yellow" or "chamois", disc "buckthorn brown."
Odor moderately ^{of} chloride; taste faintly and slowly farinaceous.
Lamellae "warm buff" when young and fresh, staining "Naples
yellow" or "mustard yellow" in age.

Stipe concolorous with the pileus.

29972

CLITOCYBE (SQUAMULOSA)?

PHOTO

In deep needles, pine woods, Coweeta Lab, N.C., June 19, 1968.

Pileus 3-9 cm broad, depressed, "ochraceous buff", hygrophanous, darker when wet, margin conspicuously crenate-crimped to plicate. Context thin, lax; odor fungoid, taste bitter.

Lamellae decurrent, white then buff, crowded, narrow.

Stipe 6-10 cm long, 6-12 mm thick, concolorous with pileus, bases often connate, bulbous.



Clitocybe squamulosa

CLITOCYBE STROMBODES (Berk. & Mont.) Singer

Lilloa 22:189. 1951

Pileus 1-12 cm. broad, flat with a decurved and inrolled margin when young, disk soon depressed, in age deeply depressed, the margin usually remaining decurved, dry, covered by a coating of grayish fibrils, more or less virgate, soon breaking up into small appressed scales or fibrillose patches, evenly "clove brown" when young, becoming "dark olive buff" or paler toward the margin and "colonial buff" beneath the grayish appressed fibrillose patches, margin somewhat wrinkled, not striate. Flesh thin, pliant, pale yellowish to grayish; odor fungoid, taste mild. Lamellae long decurrent, narrow to medium broad, subdistant (20-25 reach the stipe), 2-3 tiers of short individuals, "mustard yellow," becoming paler but never white, often venose at cap, edges even. Stipe 4-9 cm. long, 3-7 mm. thick, equal or slightly enlarged above, hollow, sub-cartilaginous, glabrous, whitish or somewhat yellowish above, base scarcely mycelioid.

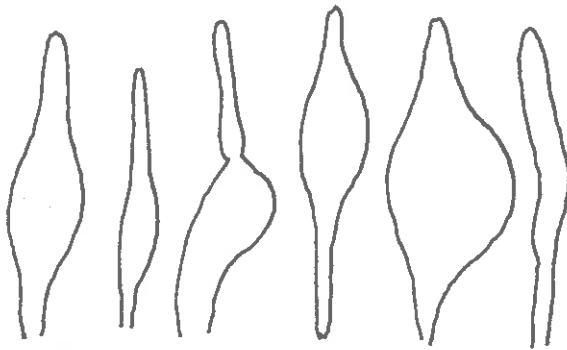
Spores (6) 7-10 x 4-6 μ , ovoid to ellipsoid, white in mass, pseudo-amyloid, yellowish in Melzer's reagent. Basidia four-spored, 30 x 7 μ . Pleurocystidia 30-45 x 6-15 μ , cylindric to ventricose, not present in all collections nor in all sections; cheilocystidia clavate, 24-28 x 5-7 μ , not always present. Gill-trama homogeneous, subparallel or slightly

(more, next page)

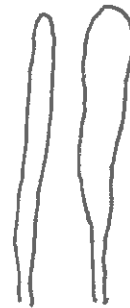
interwoven, yellow in iodine. Pileus-trama homogeneous, yellow in iodine.

Habitat and Distribution. - Gregarious on oak and other deciduous logs, Tennessee, North Carolina, South Carolina, Georgia, Alabama, and Florida, June-August.

Discussion. - Singer calls this Clitocybe strombodes (Berk. & Mont.) Singer.



sp.



ch.



21853 - *Imphalia strobiloides* (Berk. + Mont.) ^{Singer}
~~Clitocybe~~ ~~Rehm~~

CLITOCYBE SUBCLAVATA (Pk.) Bigelow & Hesler

Elisha Mitch. Sci. Soc. Jour.

1960

Omphalia subclavata Pk. Torrey Bot. Club Bull. 27:612. 1900.

Pileus 3-8 mm. broad, tubaeform, deeply umbilicate, glabrous, grayish to grayish-brown (not matched). Flesh thin, pallid. Lamellae long-decurrent, narrow to medium-broad, distant or subdistant, yellow, edges even. Stipe 2-2.5 cm. x 0.5-1 mm., white, pruinose, base subtomentose, hollow.

Spores 6-7.5 x 3.5-4.5 μ , ellipsoid to subpip-shaped, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama slightly interwoven to subparallel. Epicutis of appressed hyphae. Stipe hollow, cortex thick-walled, rind not well-defined, surface bearing hyphoid caulocystidia.

Habitat and Distribution. - On fallen oak twigs and acorns, Tennessee, June.

Notes on Type

Spores 6-7.5 (8) x 3.5-5 μ , ellipsoid to subpip-shaped, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama slightly interwoven to subparallel. Epicutis of appressed hyphae. Lamellae narrow to medium broad.

No. 3843 agrees with the type of O. subclavata Pk.

subconcolor PK.

CLITOCYBE No. 17160
^

Pileus 10-27 mm., convex becoming expanded and depressed, subumbilicate, hygrophanous, not viscid, whitish (dry), near "snuff brown" (wet), canescent, margin even (dry), slightly striate, when wet or in age. Flesh thin, pliant, concolor; odor and taste mild. Lamellae adnate becoming adnate-decurrent, pallid at first, finally near "buffy brown" (not matched), close, narrow, linear, many short, edge entire. Stipe 3-5 cm. x 2-4 mm., dingy, striate, base white-mycelioid, hollow, flexuous, equal.

Spores 6.5-8 x 3-3.5 μ , ellipsoidal, smooth, white in mass. Pleurocystidia and cheilocystidia none.

Habitat and Distribution. - In humus, in woods, under spruce and rhododendron, North Carolina, July-September.

Discussion. - Bigelow says it is the same as Kauffman No. 2374, an unpublished species which Bigelow has in his manuscript; that it is near C. michiganensis Smith but does not have the farinaceous odor and taste or as small spores.



22170 - ~~Lepista caespitosa (Pers.) Singer~~
Clitocybe subconnexa Murr.



19285 - *Sepista caespitosa* (Bras.) Singer
Clitocybe subconnexa Murr.

35927

CLITOCYBE subconnexa Murr.

Broome's, Knoxville, October 2, 1971

Pileus and stipe white to "ivory." Odor and taste slightly
pungent. Spores "vinaceous buff."

Near C. demissifolia?

39733

CLITOCYBE SUBCONNEXA Murr.

Roaring Fork, GSMNP, leg. Joe Restivo, Sept. 17, 1974

Pileus cespitose, 2-3.5 cm broad, white to dull white, at times very obscurely zonate, silky-appressed, viscid, even. Context white; odor and taste fungoid with a slight acrid after-taste.

Lamellae adnate, white then pale cream, crowded, narrow, forked at base, lamellulae abundant.

Stipe 3-4.5 cm long, 5-8 mm thick, white, equal, hollow-stuffed. Veil not seen.

Spores in deposit: "vinaceous buff," ellipsoid, probably rough, 4.5-5.5 x 3-3.5 μ .

CLITOCYBE SUBCYATHIFORMIS Pk.

New York State Mus. Bul. 122:136. 1908

Pileus 2-4 cm. broad, flat-convex, finally plane, margin more or less upturned and wavy, at times concave, rarely umbilicate, not hygrophanous, white or grayish-white (dry), dingy whitish or watery whitish to pale grayish-brown (wet) (color not matched), moist, not viscid, glabrous, margin faintly striatulate (wet). Flesh concolor to surface, moist, pliant, medium thick on disk, thin on margin; odor and taste none or mild. Lamellae decurrent, close, thin, narrow, white, many short, occasionally forked, somewhat arcuate, narrowed either end, easily separable from pileus, edges even. Stipe 3-6 cm. x 4-8 mm., concolor to pileus, moist, pliant, equal, at times compressed, longitudinally striate and easily splitting, tubular, glabrous except mycelioid-hirsute base, humus adhering to base.

Spores 6-8 x 3-3.5 (4) μ , ellipsoidal, smooth.

Habitat and Distribution. - On mossy soil, pine woods, singly or in two's or three's by connate base, Tennessee, December.

Discussion. - Bigelow studied No. 10961, says the habitat is wrong, but that this is not very unusual. He seems to have some doubts! Yes, I did

CLITOCYBE SUBDITOPODA Pk.

New York State Mus. Ann. Rept. 42:114 (18). 1889

Pileus 1.5-4.5 cm. broad, convex, disk slightly depressed, expanding, hygrophanous, "mouse gray" or "olive brown" when wet, ashy-white when dry, viscid, glabrous, margin striate (wet or dry). Flesh concolor, thin, fragile; odor and taste mild or somewhat farinaceous. Lamellae rounded-adnate, usually with a decurrent tooth, close or crowded, broad, many short, "deep olive buff," edges even. Stipe 3-5 cm. x 3-5 mm., moist, glabrous, concolor, equal, hollow.

Spores 3-4 or 4.5-5.5 x 2-3.5 μ , ellipsoid, smooth, yellowish in Melzer's reagent, white in mass. Pleurocystidia and cheilocystidia none.

Habitat and Distribution. - Scattered or gregarious, on soil, in pine woods, Georgia, November; Tennessee and North Carolina, June-January.

Discussion. - This species differs from C. ditopa which has narrow gills.



22562 - *Clitocybe subditopoda* Pk. - x 1

25011

CLITOCYBE SUBDITOPODA Pk.

Photo

Pileus hygrophanous, whitish when dry, "drab" to "hair brown" when wet, lubricous to sub-viscid, striatulate. Context drab; odor farinaceous, taste farinaceous then bitter.

Lamellae adnate with a decurrent tooth, ashy then darker, near "drab" (not matched).

Stipe waxy, fragile, concolorous.

Spore print failed.

Forming a fairy-ring some 6 ft. in diameter.



25011 - *Clitocybe subditopoda* Pk.

CLITOCYBE SUBECCENTRICA Murrill

Torrey Bot. Club Bul. 67:233. 1940

"Pileus subcircular, convex to expanded, umbilicate, gregarious to cespitose, 1.5-2.5 cm. broad; surface dry, smooth, glabrous, uniformly white, unchanging, margin incurved, even, entire to undulate; context thin, white; odorless, fleshy, not reviving; lamellae decurrent, inserted, narrow, crowded, entire, yellowish or pale-rosy-isabelline; spores pip-shaped, smooth, hyaline, about $6 \times 4 \mu$; sterile cells few, subcylindric, smooth, hyaline, about $15 \times 7 \mu$; stipe equal, eccentric, smooth, subglabrous, white, whitish-mycelioid at the base, $1.2-1.7 \times 0.1-0.2$ cm."

Habitat and Distribution. - On dead hardwood, in beech woods, Florida, July.

CLITOCYBE SUBFELLEA Murrill

Mycologia 43:235. 1951

"Pileus convex to expanded with broad umbo, scattered, about 5 cm. broad; surface smooth, glabrous, white or slightly yellow, margin at first incurved, undulate or somewhat lobed, even, concolorous; context to 4 mm. thick, white, unchanging, bitter, with anise odor; lamellae arched, 4 mm. broad, crowded, inserted, decurrent, entire, thin, white, unchanging, not fimbriate; spores ovoid, smooth, hyaline, obliquely apiculate, uniguttulate, about 5-6 x 2.5-3 μ ; stipe solid, firm, slightly enlarged above and below, smooth, white, glabrous, about 5 x 0.4-0.5 cm.

"Type collected by G. F. Weber in mixed woods on the shore of Lake Rosa, Putnam County, Fla., October 13, 1947 (F 19337). Locally plentiful then but not found elsewhere."

CLITOCYBE SUBILLUDENS Murrill

Florida Acad. Sci. Jour. 8:198. 1945

Monadelphus subilludens Murr., Florida Acad. Sci. Jour.
8:180-181, 1945

"Pileus convex to subexpanded, centrally depressed to infundibuliform, cespitose, up to 15 cm. broad; surface glabrous, smooth or slightly rugose, ferruginous or latericicous, margin even, undulate or lobed; context 1 cm. thick, flavous, unchanging, with strong unpleasant odor and slightly astringent taste; lamellae long-decurrent, several times inserted, distant behind and crowded toward the margin, 7-15 mm. broad, luteous to orange when young, latericicous with age, entire; spores elongate, ovoid or ellipsoid, smooth, white, 1-2-guttulate, about 7-9 x 5 μ ; cystidia none; stipe short, solid, subequal, often eccentric, firm, glabrous, marked with fine longitudinal lines, luteous, avellaneous with age, 3-6 x 1.5-2.5 cm."

Habitat and Distribution. - On Phoenix canariensis,
Florida, April.

CLITOCYBE SUBMEDIA Murrill

Florida Acad. Sci. Proc. 7:108-109. 1945

"Pileus infundibuliform, solitary, 4.5 cm. broad; surface dry, glabrous, avellaneous, fuliginous at the center, margin widely striate and split; context very thin, pallid, odorless; lamellae short-decurrent, inserted, distant, medium broad, pallid, entire; spores globose, smooth, hyaline, about 5 μ ; cystidia none; stipe equal, smooth, glabrous, avellaneous, white at the apex, 3 x 0.4 cm."

Habitat and Distribution. - On soil, Florida, August.

CLITOCYBE SUBPINOPHILA Murrill

Torrey Bot. Club Bul. 66:156-157. 1939

"Pileus broadly convex, solitary, 4-5 cm. broad; surface dry, smooth, glabrous, uniformly rosy-isabelline, margin paler, even, slightly lobed; context very thin, white, odorless; lamellae short-decurrent, narrow, crowded, inserted, entire, white, unchanging; spores broadly ovoid, tapering at one end, apiculate, smooth, hyaline, about $5 \times 3 \mu$; cystidia none; stipe equal, flexuous, smooth, glabrous, white, unchanging, 4×0.4 cm."

Habitat and Distribution. - On soil, under hard-wood trees, Florida, September.

21862

subpulchella sp. nov. (in ed. Bigelow)
CLITOCYBE ~~n. sp. (No. 21862)~~

Photo

Pileus 1-3.5 cm. broad, convex, at maturity depressed, hygrophanous, viscid-lubricous, glabrous, "dusky drab" in youth, then "light brownish drab," finally "drab" or pale brownish gray, whitish when dry, striate. Flesh thin, concolor, rather waxy; odor and taste farinaceous. Lamellae adnate then adnate-subdecurrent, "dusky drab" when young, then "light brownish drab," finally pale brownish gray, medium close, broad, ventricose, tapering both ways, waxy, edges even. Stipe 3-4 cm. x 3-4 mm., violaceous above, pale grayish brown below, white-silky above, glabrous below, equal above the tapering base, hollow, moist to waxy.

Spores 4-5 x 2-3 μ , ellipsoid, smooth, white in mass, pseudo-amyloid. Pleurocystidia and cheilocystidia none.

Habitat and Distribution. - On humus, in white pine woods, forming arc of fairy ring, 10 ft. diam., North Carolina, July-October.

Discussion. - Seems to be the same as No. 22300 + 23455



21862. *Clitocybe subpulchella* sp. nov. Bigelow



23455 - *Clitocybe subpulchella* sp. nov.
(Same as No. 21862) (in ed. Bigelow)
Type!

CLITOCYBE SUBTRUNCICOLA Murrill

Torrey Bot. Club Bul. 66:157. 1939

"Pileus convex to slightly depressed, gregarious, 2-3 cm. broad; surface dry, smooth, glabrous, milk-white, unchanging, margin even, entire; context white, mild, odorless; lamellae adnate with decurrent tooth, rather broad, inserted, close, entire, white, unchanging; spores ovoid, smooth, hyaline, about $3 \times 2 \mu$; cystidia none; stipe equal or tapering upward, tough, smooth, pruinose, white, unchanging, about $3 \times 0.2-0.4$ cm."

Habitat and Distribution. - On rotten oak log, Florida, October.

25792

CLITOCYBE

~~NO 25792~~

sudorifica *Pk.*

On lawn, under maple, Hesler's, Aug. 1, 1963.

Pileus disk depressed, whitish to pale buff, more or less appressed-fibrillose, hygrophanous, even. Context white; odor none; taste slightly astringent.

Lamellae decurrent, white, then pale buff, narrow, close.

Stipe white, appressed-fibrillose, somewhat striate, equal, finally hollow.

Spore-deposit: white or off-white; spores $3.8-5.3 \times 2.4-3 \mu$, pip-shaped or nearly ellipsoid, smooth, yellowish in Melzer's.

22671

sylvicola (in ed. Bigelow)
CLITOCYBE [^] sp. nov. - ~~No. 22671~~

Pileus 1-4 cm. broad, convex, becoming plane, hygrophanous, "buffy brown" when dry, dark reddish-brown (not matched) when wet, glabrous, margin even. Flesh concolor, medium thick; odor mild, taste slightly astringent. Lamellae adnate-short-decurrent, at first grayish or nearly caesius, finally fuscous with a whitish sheen, narrow, crowded, edges even or eroded, with a waxy appearance. Stipe 2.5-4 cm. x 3-6 mm., concolor, moist, fleshy, silky-glabrescent, base at times strigose, hollow, equal, at times curved.

Spores 3.5-4.5 x 2-2.5 μ , ellipsoid, smooth, white in mass, yellowish in Melzer's. Pleurocystidia and cheilocystidia none. Gill-trama interwoven. Epicutis of interwoven, brown hyphae.

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

Discussion. - Bigelow says it is probably a new species. The minute spores (3.5-4.5 x 2-2.5 μ) and darkening lamellae are distinctive. Clamps present.



22671 - *Clitocybe* ^{*sylvicola*} ~~sp.~~ ^{sp.} nov. (in ed. Bigelow)

CLITOCYBE TABESCENS (Fr.) Bres.

Pileus 2-6 cm. broad, convex, expanding plane to depressed, dry, becoming floccose-scaly, "honey yellow," disk darker, margin even, often becoming slightly recurved. Flesh white to dingy; odor and taste mild to slightly bitter. Lamellae subdecurrent, subdistant, tapering both ways, pallid becoming flesh-tinted, edges even or slightly fimbriate. Stipe 6-15 (20) cm. x 3-6 mm., tapering at base, fibrillose, glabrescent, pallid to brownish, finally hollow. Veil none.

Spores 7-8 x 5-6.5 μ , ellipsoid, smooth, white in mass, becoming pale cream after a few days, reddish-brown in Melzer's reagent. Pleurocystidia none; cheilocystidia 26-38 x 6-12 μ , variable: cylindric, ventricose to fusoid, at times subcapitate. Gill-trama divergent. Surface of pileus with more or less erect hyphae.

Habitat and Distribution. - On stumps, logs, roots of oak and other deciduous trees, Tennessee, North Carolina, Alabama, Louisiana, Florida, August-December.

Discussion. - Bigelow studied 19317, says spores are 6.5-8 x 4-5 μ , not amyloid, cheilocysts present, clamps none.



22555 - *Clitocybe tabescens* Bres.

(Photo by B. Fowey, Guiana)



19362 - *Clitocybe tabescens* Bres.

Clitopilus tardus Pk. var. tardus
~~LEPISTA SORDIDA (Fr.) Singer~~

Clitopilus tardus Pk. N. Y. State Mus. Ann. Rept. 54:167. 1901

Pileus 4-7 cm. broad, convex-expanding, slightly hygrophanous, "pinkish buff" when dry, margin paler, "wood brown" when wet, glabrous, slightly lubricous when wet, margin naked, even, extending slightly beyond lamellae. Flesh pallid, thick on disk, thin on margin; odor and taste mild. Lamellae rounded and slightly emarginate, "light vinaceous fawn" to "vinaceous buff" (young ones not observed), rather narrow to medium broad (up to 5 mm. broad), crowded, edges even. Stipe 3.5-5 cm. x 7-12 mm., more or less bulbous (bulb up to 24 mm. diam.), apex mealy, elsewhere glabrous, flesh watery brown, solid.

Spores 5.5-7 x 3.5-4 μ , ellipsoidal to slightly oblong, faintly rough-punctate or nearly smooth, buff color in mass (spore print thin), yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama undulating-subparallel. Epicutis of interwoven hyphae, 2-3 μ broad.

Habitat and Distribution. - On soil, in pine woods, January.

(more, next page)

Notes on Roumeguère

(Fungi Selecti Exsiccati, No. 5316)

Specimen borrowed from N. Y. Botanical Garden (January, 1958)

Spores 7-8 x 4-4.5 μ , ellipsoid, faintly rough. Very few found.

Notes on No. 890 (N. Y. Botanical Garden)

Collection by W. C. Coker, Chapel Hill, N. C., October 6, 1913

Spores 7-8 x 3.5-4.5 μ , ellipsoid, smooth or faintly rough. Pleurocystidia and cheilocystidia none. Epicutis of narrow, radial hyphae.

Notes on Type of Clitopilus tardus Pk.

Spores 5.5-7 x 3.5-4 μ , ellipsoid, smooth or faintly rough, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama subparallel.

Notes on Type of Clitopilus tardus pallidior Pk.

Spores 5.5-7.5 x 3-4 μ , ellipsoid, smooth or faintly rough, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama subparallel.

Macroscopically paler than the species (C. tardus); microscopically similar to the species.

14392

CLITOCYBE TARDA var. ALCALINA Bigelow & Smith

Cades Cove, in meadow (no trees near), Sept. 11, 1974

Pileus subcaespitose, 3-6 cm broad, plano-convex, hygrophanous, whitish to "pale vinaceous fawn" (dry), disc smoky, "pale vinaceous drab" (wet), glabrous, margin even or at times crenate (dry). Context white; odor mild or faintly sub-alkaline, taste fungoid then sub-bitter.

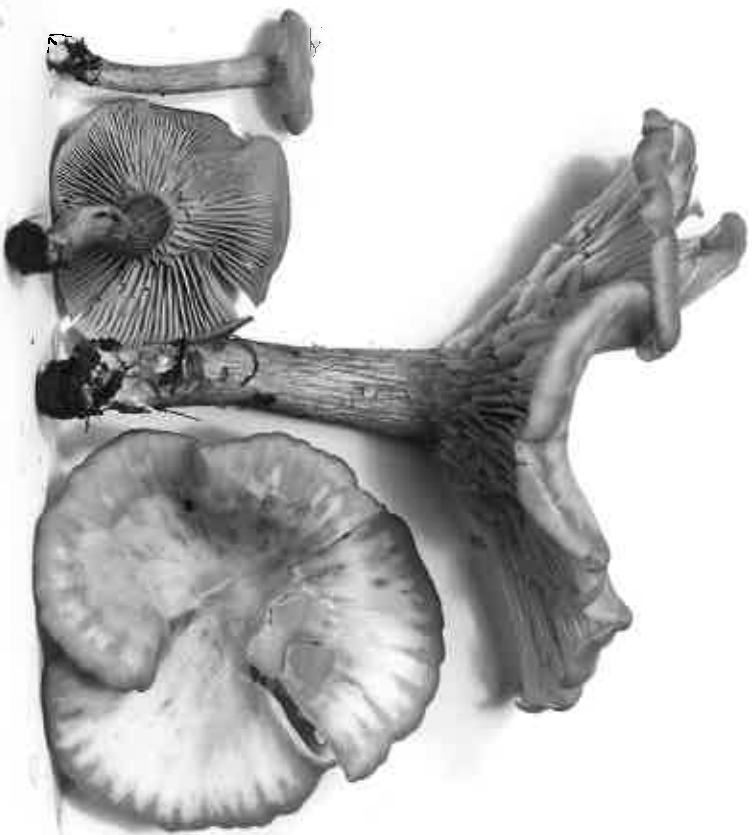
Lamellae adnate, white, finally "vinaceous buff," close, rather narrow, lamellulae of several ranks.

Stipe 4-6 cm long, 5-10 mm thick, smoky-brownish, equal, solid.

Spores in deposit: near "avellaneous," 4.5-5.5 x 3-3.5 μ , ellipsoid.



Clitocybe tarda



Clitocybe tarda



Clitocybe tarda

22475

CLITOCYBE TARDA var. ALCALINA Big. & Sm.

On lawn, Knoxville, November 7, 1956

Pileus 2-7 cm broad, convex, slightly and obtusely umbonate, depressed from upturned margin, hygrophanous, "pallid vinaceous drab" to "light vinaceous gray" when wet, chalky-white to dingy or smoky brownish and shining when dry, disk brownish, glabrous, margin incurved, naked, even. Context very thin and fragile, pale vinaceous gray; odor subalkaline, taste slightly bitter or acidulous, the taste persisting.

Lamellae adnate to adnexed or sinuate, close to nearly subdistant, medium broad, when young "pallid vinaceous-drab" to "pale brownish-drab", finally "vinaceous buff", edges even.

Stipe 1.5-4 cm long, 4-6 mm thick, pallid or dingy, equal, appressed-fibrillose, solid, cartilaginous.

Spores 6-8 x 3.5-4.5 μ , ellipsoid, many smooth, some very faintly roughened (observed under oil) some faintly angular, yellowish in Melzer's reagent; color in mass: "tilleul buff". Pleurocystidia and cheilocystidia none. Epicutis of pileus of interwoven hyphae. Gill-trama subparallel.

22991 CLITOCYBE TARDA VAR. ALCALINA Big. & Sm. PHOTO

(same as No. 23387)

Pileus 4-10 cm broad, convex, expanding, finally depressed from uplifted margin, hygrophanous, "pale pinkish buff" or dull ivory when dry, "pale vinaceous drab" to "drab gray" when wet, drying from the disk outward, glabrous, margin even, wavy to more or less plicate, easily splitting. Flesh very thin, white; odor rather strong, more or less alkaline, taste acidulous-alkaline, lingering. Lamellae adnate-subdecurrent, becoming emarginate or adnexed, whitish then "pale vinaceous drab" to "vinaceous buff," close, rather broad behind, narrowed in front, alternating short and long, edges even. Stipe 3-6 cm x 4-13 mm, dingy, some scattered fibrils, rimose-striate, equal or more often tapering downward, solid.

Spores 4.5-6(7) x 3.5-4.5 μ , ellipsoid, smooth, in mass: "vinaceous buff" to "light pinkish cinnamon."

Habitat and Distribution: On soil, under pine, Boarts', May 31, 1959.

26053

LEPISTA

PHOTO

Clitocybe tarda var. *alkalina* Big. & Sm.

on humus (compost heap), Boarts', Knoxville, July 31, 1964

Pileus 2-4 cm broad, obscurely conic, broadly umbonate, hygrophanous, "dark grayish lavender" when wet, fading to pallid when dry, drying from disc outward, disc whitish pruinose, margin even. Context concolorous; odor pungent, taste alkaline.

Lamellae adnate-subdecurrent, "grayish lavender" to "deep grayish lavender", close, narrow or medium broad.

Stipe 2-3.5 cm x 4-8 mm, pale grayish lavender, equal, apex minutely pruinose, elsewhere sparsely fibrillose or glabrous, striate, sqt-solid, finally hollow.

26311

Clitocybe tarda var. *alcalina* Big. & Sm.

LEPISTA

PHOTO

on old lawn, under walnut, Cades Cove, Aug. 20, 1964

Pileus 3-10 cm broad, hygrophanous, violaceous when wet, whitish when dry, silky, even. Context white, brittle; odor and taste \pm alkaline.

Lamellae adnate-decurrent, medium broad, not close, pallid violaceous, whitish at first!

Stipe dingy, rimose-fibrillose, firm.

Forming a fairy-ring 9 ft. diameter.

Chroogaster tarda var. alcalina Big. & Sm.

29968

~~LEPISTA~~

PHOTO

On lawn, Hesler's, Knox Co., June 3, 1968.

Pileus 3-6 cm broad, gregarious to subcespitose, hygrophanous, whitish when dry, dull watery gray when wet, drying from margin inward, glabrous, obscurely striate when wet. Context thin, pallid; odor slightly pungent, taste bitterish-acidulous.

Lamellae adnate to adnexed, grayish, rather narrow, close, lamellulae numerous, faces corrugated.

Stipe 3-5 cm long, 4-8 mm thick, pallid or dingy, glabrous, equal, solid.

Spore deposit: near "cream buff" but with an obscure pinkish tint (not a heavy deposit).

Clitocybe tarda var. *alkalina* Big & Sm.

35243

~~NERISTA (CLITOCYBE)~~

Tobler Road, Knox County, July 6, 1971

Pileus 3-4.5 cm broad, hygrophanous, pallid-violaceous when dry, "pale violet gray" when wet, even, glabrous but with a slight silky sheen. Context pallid with a faint violaceous tint; odor and taste alkaline.

Lamellae adnate to emarginate, "vinaceous gray," ~~close~~ close, medium broad, some forking behind, lamellulae ~~present~~ present.

Stipe 3-3.5 cm long, 7-12 mm thick, dingy "light vinaceous gray," soft.

Spores in deposit: "light pinkish cinnamon."

20412

CLITOCYBE TARDA var. TARDA

On sawdust, Howell's Nursery, Knoxville, May 31, 1952

Pileus 4-7 cm broad, hygrophanous, strongly tinged violaceous, "mummy brown" when young, finally buffy brown to fuscous-brown, tinted violaceous (not matched), convex but soon expanded-wavy and upturned-undulating, often contorted from pressure, glabrous, faintly striatulate when wet. Context thick on disk, thin on margin, pale violaceous, "pallid quaker drab"; odor and taste slightly alkaline.

Lamellae adnexed to subemarginate, often with a decurrent tooth, white when young, finally "light vinaceous drab", close, sub-ventricose, medium broad, narrowed in front, edges even.

Stipe 3-5 cm long, 7-12 mm thick, dingy brownish, reticulate (under lens) much as in *Russula*, equal, solid (interior "pallid quaker drab").

Spores ellipsoidal, 5.5-8 x 3.5-4.5 μ , faintly punctate-rough, "vinaceous buff" in mass. Pleurocystidia and cheilocystidia none.

29035

CLITOCYBE Tarda PK. var. tarda

In grass, under pecan tree, Winnsboro, S. C., May 28, 1966

Pileus convex then plane, tawny-violet, smooth. Context violet-tan; odor fungoid, taste sweet.

Lamellae decurrent, tawny-violet, 5 mm broad.

Stipe a bit darker brown than cap, with brown fibrils, equal.

Spores in mass salmon-pink.

CLITOCYBE TRULLAEFORMIS (Fr.) Qué1.

Pileus 2-4 cm. broad, convex, expanding, disk slightly depressed to umbilicate, blackish and minutely scaly, elsewhere grayish brown to grayish, margin whitish, not hygrophanous, margin even. Flesh white, brown next to cuticle; odor mild, taste pleasant, more or less farinaceous. Lamellae long-decurrent, white then "ivory yellow," close, forked and anastomosed, medium broad, edges even. Stipe 2.5-4 cm. x 3-4 mm., grayish, white fibrillose-striate, equal, or tapering downward slightly, dry, stuffed then hollow.

Spores 4-6.5 x 2.5-3.5 μ , ellipsoid, smooth, white in mass, non-amyloid. Pleurocystidia and cheilocystidia none.

Habitat and Distribution. - In deciduous and mixed woods, Tennessee, North Carolina, Virginia, and Alabama, July-August.

Discussion. - Bigelow finds clamps; and says that the cuticle has a turf of cystidial end cells.



21884 - *Clitocybe trullaeformis* (Fr.) Quél. - $\times \frac{7}{8}$

26303

CLITOCYBE trullaeformis (Fr.) Quel.

on soil, Mt. LeConte, Aug. 5, 1964

Pileus pale drab or near hair-brown (not matched), minutely fibrillose-scaly (under lens), disc blackish, even. Context white; odor mild, taste musty-farinaceous, unpleasant.

Lamellae deeply decurrent, white, then pale cream color, close, narrow.

Stipe concolor to pileus or paler, at times, obscurely fluted, glabrous, base white-mycelioid.

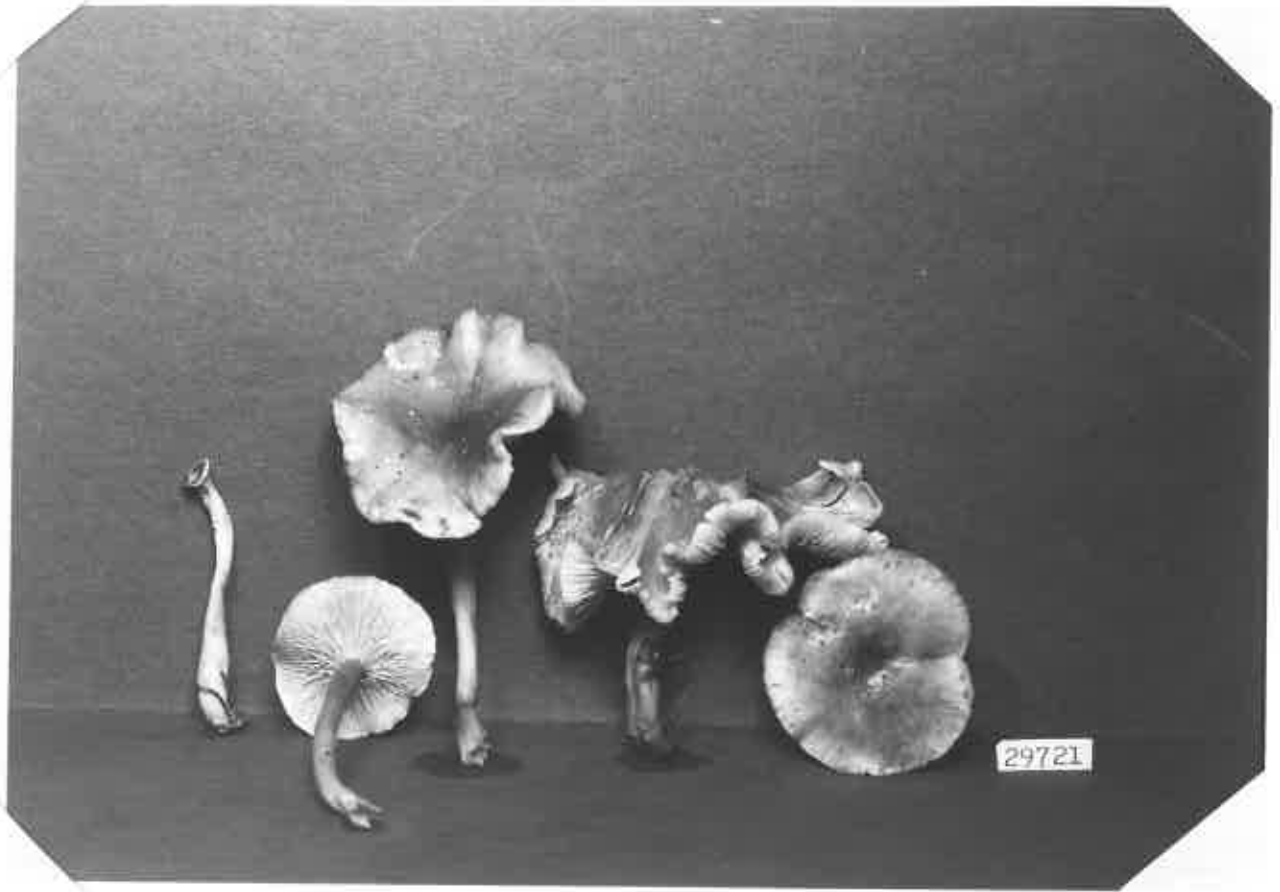
29721

trullaeformis (Fr.) Quel. PHOTO
CLITOCYBE

Pileus 2.5-4 cm broad, fumose, minutely scaly, margin wavy or plicate. Context thin; odor fungoid, taste farinaceous.

Lamellae whitish.

Stipe 3-5 cm long, 2-4 mm thick, pale fumose.



29721 - *Clitocybe trallaeformis* (Fr.) Quél.

29854

CLITOCYBE trullaeformis (Fr.) Quel.

On humus, pine woods, Coweeta, N. C., July 11, 1967

Pileus gray-fumose, umbilicate, margin wavy-plicate.

Context odor and taste farinaceous.

Lamellae decurrent, pale cream.

Stipe concolor.

Spore deposit: white.

Clitocybe ulmicola Bigelow sp. nov. - Type!
~~ulmicola~~

29208

On trunk, living elm, Cades Cove, July 20, 1966

Pileus 1-3.5 cm, umbilicate, white all over, or faintly grayish, striate to disc, minutely silky. Context white; odor and taste mild.

Lamellae decurrent, white then ivory, nearly subdistant, medium broad.

Stipe white, tough.

CLITOCYBE UMBRINICEPS Murrill

Florida Acad. Sci. Jour. 8:198. 1945

Monadelphus umbriniceps Murr., Florida Acad. Sci. Jour.
8:181. 1945

"Pileus convex to slightly depressed, gregarious or cespitose, 5-7 cm. broad; surface slightly viscid, smooth, glabrous, umbrinous, shining, margin even, entire to undulate or slightly lobed; context medium thick, white, unchanging, with pleasant odor and sweetish to slightly unpleasant taste; lamellae adnate, 5-7 mm. broad, inserted, close, entire, white, discolored on drying; spores ellipsoid, smooth, hyaline, not amyloid, 5-6 x 3-4 μ ; cystidia none; stipe equal above the enlarged base, solid, smooth, glabrous, white, unchanging, 3-5 x 1-1.5 cm."

Habitat and Distribution. - On lawn, Florida, January.

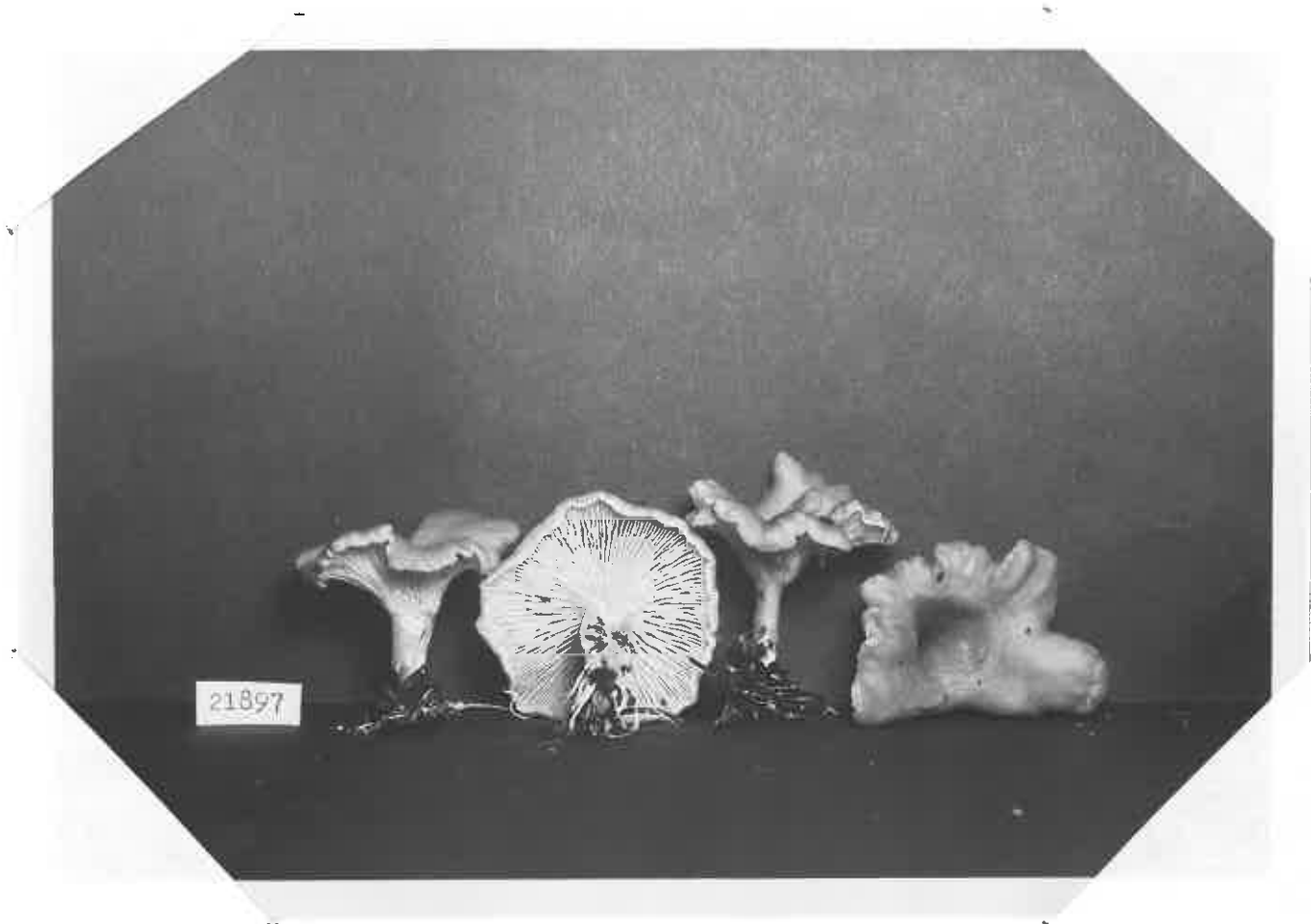
CLITOCYBE VERMICULARIS (Fr.) Qué1.

Champ. Jura et Vosges, p. 234. 1872

Pileus 2-4 cm. broad, convex-depressed, finally expanded-wavy, disk umbilicate, more or less glaucous, hygrophanous, near "warm buff" when dry, "snuff brown" when wet, promptly greenish in 15% KOH, drying irregularly after wetted, faintly rivulose (under lens) when wet, margin even, incurved, wavy. Flesh white, rather thin, pliant; odor and taste mild. Lamellae decurrent to adnate-decurrent, arcuate, white, close, narrow, more or less forking, many short, edges even. Stipe 2-3 cm. x 3-7 (10) mm., usually compressed, whitish or dingy buff, more or less glaucous, dry, stuffed to hollow, base with tuft of white rhizoids which bind needles.

Spores 3.8-4.5 x 2-2.5 μ , ellipsoid, smooth, non-amyloid, white in mass. Pleurocystidia and cheilocystidia none.

Habitat and Distribution. - On needle-bed, under red spruce, Newfound Gap, North Carolina, June.



21897 - *Clitocybe vermicularis* (Fr.) Quél.



21684 - *Clitocybe vermicularis* (Fr.) Quél.

CLITOCYBE VERNA Egelund apud Lundell

Svensk Bot. Tidskr. 31:190. 1937

Clitocybe rhizophora (Vel.) Jossierand

Pileus 2-4 cm. broad, plano-convex when young, becoming deeply depressed to nearly infundibuliform, glabrous, nearly viscid (wet), somewhat hygrophanous, margin elevated and wavy, and at times splitting, pale brownish (not matched, fresh), buff-colored after being dried. Flesh thin, pallid; taste slight (disagreeable), odor mild. Lamellae decurrent, close, narrow, whitish, later pale buff. Stipe 2.5-4.5 cm. x 3-5 mm., concolor to pileus, somewhat fibrillose, base with few white rhizomorphs.

Spores 5-7 x 2.5-3.5 μ (Smith: Amer. Mid. Nat. 32:680. 1944). Cystidia none.

Habitat and Distribution. - On humus, mixed woods, Tennessee, May.

CLITOCYBE WATSONII Murrill

Florida Acad. Sci. Proc. 7:127. 1945

Monadelphus Watsonii Murr., Florida Acad. Sci. Proc. 7:111. 1945

"Pileus convex, not fully expanding, cespitose, 5-6 cm. broad; surface dry, uniformly pale-fulvous, densely fibrillose, margin incurved, even, entire; context white, unchanging, mild, with odor of anise; lamellae decidedly decurrent, inserted, moderately broad, subdistant, entire, brownish when dry; spores ovoid, smooth, hyaline, uniguttulate, about $7 \times 5 \mu$; cystidia none; stipe tapering downward, tough, longitudinally striate, pallid, solid, decorated with large reflexed scales, about 10 x 1-2 cm."

Habitat and Distribution. - On soil, high hammock, Florida, December.

CLITOCYBE WESTII Murrill

Lloydia 7:303. 1944

"Pileus convex, gibbous, not fully expanding, solitary, 3 cm. broad; surface dry, smooth, glabrous, shining, rosy-avellaneous, margin even, entire, incurved; context firm, rather thick, white, slightly fragrant, mild; lamellae adnate with decurrent tooth, close, arcuate, inserted, rather narrow, thin, entire, white; spores ellipsoid, smooth, hyaline, uniguttulate, obliquely apiculate, about $6 \times 4 \mu$; stipe white, pruinose at the apex, striate below, with clavate base, $4 \times 0.6-0.8$ cm."

Habitat and Distribution. - On soil, in hammock, Florida, August.

Bigelow says: Clitocybe; need field characters

? LEPISTA LUSCINA (Fr.) Singer

Lepista panaeola (Fr.) Karst., Bidr. Finl. Nat. Folk,
p. 481. 1879

Tricholoma panaeolum (Fr.) Qué!., Champ. Jura Vosges
p. 45. 1872

(Mycologia 7:107)

"Pileus fleshy, convex to expanded, gibbous, sometimes eccentric, cespitose, 4-9 cm. broad; surface whitish-gray, grayish-variegated and dull-flesh-colored when young; context gray, odor strong, farinaceous-rancid, taste mild; lamellae mostly crowded, sometimes narrow and sometimes broad, easily separable from the hymenophore, sinuate-uncinate, sometimes decurrent, from whitish-gray to lurid-flesh-colored or rufescent; spores ellipsoid, slightly tuberculose, hylaine, dull-rosy in mass, $5.5-6 \times 3.5 \mu$; stipe solid, gray to grayish-fuscos within, subequal, fibrillose, subfurfuraceous at the apex, 2-6 cm. long, 5-13 mm. thick."

Habitat and Distribution. - On soil, in the open, near woods, and in deciduous woods, Florida, July-October.

Notes on U.T. No. 19623

(Coll. & det. W. A. Murrill, Florida)

Spores $5-6 \times 3.5-4.5 \mu$, ellipsoid, conspicuously warty, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama parallel, more or less undulating.

28986

Citricolbe? not found
LEPISTA

On soil, garage floor, Sharp's, Tobler Rd., May 21, 1966.

Pileus 22 mm broad, convex, broadly depressed, smoky blackish, minutely scaly, dry, even. Context grayish black.

Lamellae adnate, pinkish-avellaneous, medium broad, nearly subdistant.

Stipe 15-~~x~~ 3 mm. concolorous, solid.

Spores in deposit: avellaneous. Spores 5-7(7.5) x 4-5(5.5) μ , ellipsoid, yellow in Melzer's, very minutely rough in KOH, appearing more distinctly rough in Melzer's. Basidia 17-20 x 4-5 μ . Pleurocystidia and cheilocystidia none. Gill trama slightly interwoven, hyphae 2-5 μ broad. Pileus trama radial. Cuticle with dense conic mounds of erect hyphae, 60-100 x 2.5-3 μ .

7297

CLITOCYBE

On lawn, Hesler's, Knox Co., Knoxville, Tenn., October 24, 1970

Pileus 2.5-4 cm broad, plano-convex, disc subumbilicate, hygrophanous, "ivory yellow" when dry, grayish brown (not matched) when wet, glabrous, even. Context medium thin; odor mild, taste slightly pungent-sub-bitterish.

Lamellae subdecurrent, whitish then dingy ivory, medium close, medium broad, lamellulae numerous.

Stipe 3-3.5 cm x 4-6 mm, concolorous with cap, often compressed, hollow.

Spores in deposit - white.

24564

CLITOCYBE

Photo

on lawn, under pine
Herndon's, Lakemoor Hills, Nov. 15-'61

Pileus 2-5 cm. broad, gregarious or caespitose, convex, expanding-depressed, rarely sub-umbilicate, hygrophanous, whitish when dry, a dilute watery-brown when wet (color not matched), with closely-appressed white, silky fibrils, margin even, or at times ribbed. Context pallid (watery brown when wet), thin, pliant; odor and taste fungoid.

Lamellae decurrent, white, finally pale buff (not matched), close, moderately narrow, many short.

Stipe 2-4 cm. x 4-8 mm. (10-12 mm. when compressed), pallid, darker in age, more or less silky, equal or slightly enlarged upwards, often compressed, hollow.

Spores 4-4.5 x 2.5-3 μ , ellipsoid, smooth, non-amyloid, white in mass. Pleurocystidia and cheilocystidia none. Clamp connections absent or rare (an occasional one found on epicuticular hyphae).

Bigelow says near rivulosa.

CLITOCYBE (?) No. 25674

on rotten oak log, Metcalf Bottoms, July 9-63.

Cap metallic, olive-blackish, atomate, minutely black-scaly. Odor and taste mild.

Lamellae decurrent, gray-white when bright lemon-yellow, subdistant.

Stipe tinged yellow, with blackish fibrils.

Spore-print failed.

25800

CLITOCYBE ? LEUCOPAXILLUS ?

On soil, deciduous woods, near LeConte, Aug. 5, 1963.

Pileus 7-14 cm broad, dingy buff, tinged olive, disc white-fibrillose, elsewhere glabrous. Context white, firm; odor slight (unpleasant), taste acrid.

Lamellae adnate, close, narrow, ivory and remaining so.

Stipe 7-12 cm x 15-23 mm, somewhat enlarged below (up to 33 mm diameter), fibrillose-striate, firm.

28739

Armillaria
~~CLITOGYBE~~

On exposed roots, probably Rhododendron (Azalea) on Tulane campus,
New Orleans, Nov. 4, 1965, leg. A. L. Welden.

(Notes on dried material)

Pileus densely caespitose, dull buff, strongly fibrillose.

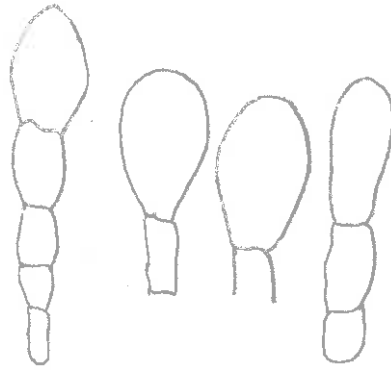
Lamellae adnate-decurrent, pallid, nearly subdistant.

Stipe fibrillose, darkening below. Veil none.

Spores 5.5-8 x 4.5-5(5.5) μ , ellipsoid, smooth, non-amyloid.
Pleurocystidia none; cheilocystidia 30-48 x 8-13 μ , septate, the
terminal cell ovoid, cylindric, or subfusoid. Gill trama divergent.
Pileus trama radial-interwoven. Cuticle not sharply differentiated,
the surface bearing a turf of long, septate, colorless, incrusting
hyphae, forming a trichodermium. Clamp connections none.

Clitocybe

76.28739



Ch - x 1000

29914

CLITOCYBE

In humus, deciduous woods, Norris Dam, July 30, 1967

Pileus pallid or "light buff" on margin, disc "cinnamon",
hygrophanous, even. Context white; odor slight, taste bitter.

Lamellae decurrent, white, close, narrow.

Stipe white, equal, solid.

Spore-print failed.

Bigelow says near gibba.

30011

CLITOCYBE

Soil, mixed woods, Indian Creek, September 5, 1967

Pileus hygrophanous, dingy olive-brown (wet), pallid (dry), subumbilicate, glabrous, even, context whitish; odor and taste fungoid.

Lamellae decurrent, near "Tilleul buff", subarcuate, close, medium broad.

Stipe white, fibrillose.

Spores 5.5-7.5 x 3.5-4 μ , ellipsoid, smooth, non-amyloid.

Bigelow says near subconnexa.

Resupinatus

~~GLITOGYDE~~

35743

On log, Morgan Co., A. J. Sharp, October 30, 1970

Pileus 2.5-6 cm broad, plano-convex, hygrophanous, when dry "pinkish buff," when wet "sage brown," ~~viscid~~ viscid, glabrous, striate about 1/3 way to center. Context whitish; odor mild, taste mild-becoming sub-bitter.

Lamellae adnate-decurrent, whitish then pale pinkish buff, broad, close, lamellulae numerous.

Stipe 2-3 cm x 7-10 mm, dingy brown, scattered-fibrillose, more or less curved, viscid (?), fibrous, base sub-bulbous, stuffed-solid, ^{*eccentric}, Annulus none.

Spore deposit: white, (pale cream after drying), 6-9 x 4-6 μ , very variable in any mount (slender-ellipsoid: 7 x 4 or 9 x ~~4~~ 5.5 μ ; short-ellipsoid: 6 x 5 μ), smooth, pale yellowish in Melzer's reagent.