November 2013

Conocybe Notebook 1

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KEY TO SECTIONS AND SUBSECTIONS OF CONOCYBE

1. Cheilocystidia ± fusoid-ventricose, (or at least not nine-pin shaped -- if truly capitule see next choice 2

1. Cheilocystidia nine-pin-shaped 14

2. Spores roughened (use oil immersion) . . . . Sec. Verrucispora (one species, - C. idahoensis known) — 1

2. Spores smooth. 3

3. Stipe annulate with a membranous annulus. . Sec. Pholiotella - 2

3. Veil present but stipe not with a membranous annulus. . . . . Sec. Naucorioides - 4

3. Veil absent or extremely rudimentary. . . . . Sec. Filiformes - 8

4. Veil present, sometimes leaving an annulus. . . . . Sec. Septentrionales - following 16

4. Veil absent or extremely rudimentary . . . Sec. Conocybe - 21

Conocybe idahoensis (Sm-44717)

Pileus 10 - 15 mm. broad, conic with a straight margin when young, expanding to campanulate or plano-umbonate, the umbo at times obsolete, surface glabrous, moist, hygrophanous, tawny over all or disc tawny and margin paler, striate when moist; odor and taste not recorded.

Lamellae close, moderately broad ascending adnate, ochraceous tawny when mature, edges even.

Stipe ± 2 cm. long and 1 mm. thick, equal, fragile, naked, honey color above, rusty brown below.

Spores 4.5 - 5 x 3.5 μ, broadly inequilateral in side view, broadly ovate in face view, dark rusty brown in KOH and minutely warty-roughened over all, apex in the form of a protruding hyaline pore (snoutlike); basidia 14 - 16 x 6 - 7 μ; hyaline in KOH, 4-spored; pleurocystidia none; cheilocystidia abundant, 16 - 22 x 8 - 11 μ, basal part ± globose, neck short and capitellum 5 - 6 μ in diam., (ninepin-shaped), content hyaline to smoky ochraceous; cuticle of pileus made up mostly of pilocystidia similar (often larger) similar to the cheilocystidia with or without smoky ochraceous contents, clavate-pedicellate cells present to fill out the hymeniform layer; caulocystidia similar to cheilocystidia; clamp connections readily demonstrated on hyphae of the stipe.

Habit, habitat and distribution: Gregarious on wet soil in a brushy area, Payette Lakes, Idaho, July 7, 1954, E. Kennedy, collector, (Sm-44717).

Conocybe idahoensis, cont.

Observations: I mistook this in the fresh condition for Galerina triscopa, but the ninepin-shaped cheilocystidia, hymeniform pileus cuticle and the apical pore of the spores place it in Conocybe where it is the first with roughened spores known to me.

CONOCYBE

SECTION PHOLIOTELLA

1. Spores 9-11 x 4.5-5 μ. . . . . 2. C. rugosa.? (Sm-33829)

1. Spores smaller 2

2. Growing on dung . . . . . 3. C. Sm-13856

2. Growing on soil and debris. . . . . 4. C. Sm-16537

Conocybe Sm-33829 (rugosa?)

Pileus (5) 10 - 25 mm. broad, obtuse becoming obtusely campanulate or finally plano-umbonate, margin recurved in some, surface glabrous and moist, "Mars brown" to "cinnamon brown", rugulose, hygrophanous and fading to clay color, drying pale to dark tawny, often striate on the margin before fading; flesh thin, concolorous with surface, odor and taste not distinctive.

Lamellae adnate becoming adnexed, at times seceding, crowded, narrow to moderately broad, yellowish pallid when young, ± clay color to tawny at maturity, edges finely while crenulate.

Stipe 2 - 4 cm. long, (1.5) 2 - 3 (4) mm. thick, equal or nearly so, pale ochraceous over all when young but soon darkening from the base upward, "sepia" to "mummy brown" at base in age, glabrous to silky or minutely floccose beneath the annulus, pruinose above; annulus membranous, persistent, striate above, pallid to cinnamon buff, matted-fibrillose below.

Spores 9 - 11 x 4.5 - 5 μ, narrowly ellipsoid with truncate apices from apical pore, smooth, rusty cinnamon in KOH; basidia 4-spored 20 - 24 x 7 - 8 μ, hyaline to pale yellow in KOH; pleurocystidia none; cheilocystidia scattered, 22 - 30 x 7 - 12 μ, fusoid-ventricose with subacute to obtuse apices, smooth, hyaline in KOH; gill

Conocybe Sm-33829 (rugosa?), cont.

trama of inflated somewhat interwoven hyphae, brownish-ochraceous in KOH; pileus trama of floccose-interwoven hyphae dingy rusty to yellow brown in KOH; cuticle a palisade of clavate-pedicellate to inflated cells, no pilocystidia present; clamp connections present.

Habit, habitat and distribution: On wet soil over a log, Burt Lake near mouth of Maple River, Sept. 16, 1949, Sm-33829, collected by D. E. Stuntz.

Observations: The long narrow spores, dark rusty brown color and rugulose pileus are distinctive. It may be too close to C. togularis to be maintained as a distinct species.

Conocybe finicola Watling
Sm-13856. Persoonia 6:335. 1971

Pileus 1-2.5 cm. broad, obtusely conic, the margin straight, expanding to broadly conic or with a flaring margin and disc obtusely umbonate, glabrous, moist, striatulate before fading, hygrophanous, "Russet" over all when moist, fading to "ochraceous tawny"; flesh thin, fragile, concolorous with surface, odor and taste mild.

Lamellae close (20-23 reach the stipe), narrow to moderately broad (3-4 mm.), broadest near the stipe, adnate (slightly ascending), color dull tawny("ochraceous tawny"), edges even.

Stipe 3-4 cm. long, 2-3 mm. thick, equal, hollow, apex near "cinnamon buff", base yellowish becoming bister, surface densely fibrillose-prunose above, appressed fibrillose over the remainder with buff fibrils, annulus median, membranous, buff color, striate above, at times evanescent.

Spores 7-9(10) x 4-4.5 μ, ellipsoid, smooth, bright tawny to bright rusty cinnamon in KOH, apex obscurely truncate from a small apical germ pore; basidia 4-spored, 13-19 x 6-7 μ, hyaline in KOH; pleurocystidia none; cheilocystidia scattered, 24-32 x 7-10 μ, fusoid-ventricose with narrow necks and acute apices, hyaline in KOH, thin-walled; gill trama ± interwoven; pileus trama of floccose-interwoven hyphae cinnamon color in KOH and darker as one progresses toward the hymeniform cuticle; cuticle an hymeniform layer of clavate to pear-shaped cells with ± thickened rusty cinnamon pedicils as revived in KOH; no clamp connections found on pileus, present on hyphae of stipe.

Conocybe Sm-13856. Cont.

Habit, habitat and distribution: Gregarious on dung (a manure pile) Lake Crescent, Wash. May 29, 1939, Sm-13856.

Observations: This is a characteristic Conocybe of the Pholiotella group easily distinguished by its habitat.

Conocybe Sm-16537.

Pileus 10-15 mm. broad, obtuse to convex when young, expanding to plane or with a low obscure umbo in age, viscid, margin faintly striatulate when moist, "russet" over all when young, nearly "ochraceous tawny" in age; flesh thin but rather firm, concolorous with cap surface, odor and taste not distinctive.

Lamellae crowded, narrow (± 2 mm) and slightly ventricose, free or rounded next to the stipe and attached by a segment, soon seceding, white at first but soon "ochraceous tawny", edges even or very minutely crenulate.

Stipe 3-4 cm. long, 2-2.5 mm. thick at apex, slightly and evenly enlarged downward, hollow, white to pale buff downward, fibrillose prunose above the annulus, thinly fibrillose below; annulus, superior, membranous, striate above and matted fibrillose underneath, often evanescent.

Spores 7-9 x 4-5 μ, elliptic to ovate in face view, mostly obscurely inequilateral in side view, smooth, reddish cinnamon in KOH, apical pore evident under high dry but apex not truncate; basidia 4-spored, 18-22 x 6-7 μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 24-32 x 5-8 μ, narrowly fusoid-ventricose with subacute to acute apices, hyaline in KOH, thin-walled, smooth; gill trama interwoven, pale ochraceous tawny to pallid in KOH; pileus trama flocoose and interwoven beneath the hymeniform cuticle, pale to dark rusty cinnamon in KOH; cuticle an hymeniform layer of clavate cells with rusty cinnamon walls in the pedicels, some filaments projecting as pilocystidia; clamp connections present.

Conocybe Sm-16537. Cont.

Habit, habitat and distribution: Scattered on the ground under Alnus and Rubus, Baker Lake, Wash. Sept. 1, 1941. Sm-16537.

Observations: The subacute cheilocystidia, terrestrial habit, russet colors when young, narrow gills, and slightly darkening stipe are characteristic among the small spored species.

CONOCYBE

SECTION NAUCORIOIDES

1. Spores 6.5-8.5 μ long. . . . . 5. C. Sm-40537

1. Spores 8-11(12) μ. 2

  2. Spores not appearing truncate under high-dry magnification. . . . . 6. C. Sm-44925

  2. Spores distinctly truncate. 3

3. Caulocystidia present as filamentose outgrowths. . . . . 7. C. Sm-14173

3. Caulocystidia narrowly ventricose below, necks elongated and apices ± capitate. . 8. C. Sm-34533

Conocybe Sm-40537.

Pileus 1-3.5 cm. broad, convex with a straight margin, expanding to plane or the margin uplifted, surface viscid, glabrous, striate when moist, hygrophanous, honey yellow fading to pinkish buff, margin at first dentate from white particles of the submembranous veil; flesh firm but brittle, honey color, odor and taste not distinctive.

Lamellae pallid to brownish, becoming ochraceous tawny, broad, close, depressed-adnate to adnate, seceding, edges even.

Stipe 3-5 cm. long, 2-3 mm. thick at apex, equal or slightly enlarged down ward, tubular, cartilaginous-firm, pallid at first and loosely coated with veil remnants, becoming dark brown to bister from base upward in age.

Spores 6.5-8.5 × 4.5-5 μ, ellipsoid, smooth tawny in KOH, ochraceous tawny in Melzer's sol., no apical pore visible; basidia 4-spored, 18-22 × 6-7 μ, hyaline in KOH; pleurocystidia none; cheilocystidia 20-30 × 6-12 μ, either clavate and 6-10 μ in diameter or fusoid ventricose and 8-12 μ, the neck usually short and apex obtuse to rounded, hyaline in KOH, thin-walled; gill trama parallel to somewhat interwoven, pallid cinnamon in KOH; pileus trama of flocoose-interwoven hyphae pale cinnamon in KOH; cuticle a palisade of clavate to vesiculose cells ± pallid buffy tan in color or nearly hyaline; clamp connections present.

Habit, habitat and distribution: Scattered on mud, Lower Tahoma Creek, Mt. Rainier National Park, Oct. 4, 1952. Sm-40537.

Conocybe Sm-40537. Cont.

Observations: In Sm-40615 the cap was ocher yellow the stipe 6-8 cm. long and 3-6 mm. thick. The lack of a germ pore is the most interesting feature of this Conocybe. The yellow pileus, and larger sizes separates it from other veiled species in which an annulus fails to form.

Conocybe Sm-44925

Pileus 15 - 25 mm. broad, obtuse to convex expanding to broadly convex or plane, surface glabrous, moist, hygrophanous, near ochraceous tawny moist, pinkish buff faded, odor and taste not recorded.

Lamellae broad, close, ochraceous tawny when mature, edges white-fimbriate (under a lens).

Stipe 2.5 - 3.5 cm. long, equal or slightly enlarged downward, fragile, pale honey color below, pallid above, silky-fibrillose over lower two-thirds (possibly a thin veil present), upper third pruinose-scabrous from the patches of cheilocystidia.

Spores 8 - 10 x 5 - 6 μ, elliptic in side view, ovate to elliptic in face view, smooth, rusty cinnamon in KOH, no germ pore visible hence apex not truncate; basidia 4-spored, 20 - 24 x 6.5 - 7.5 μ, hyaline or nearly so in KOH; pleurocystidia none; cheilocystidia 34 - 46 x 7 - 11 μ, subcylindric to fusoid-ventricose, smooth, thin-walled, hyaline, apices obtuse to subcapitate; gill trama interwoven, of inflated cells and lacking a distinct central strand; pileus trama of floccose hyphae, dark reddish cinnamon beneath the cuticle; cuticle a layer of cells 1 - 2 deep arranged in a staggered palisade, no pilocystidia found; caulocystidia in dense clusters, clavate to narrowly ventricose with broad obtuse apices, 36 - 50 x 9 - 12 x 7 - 10 μ, (the neck 7 - 10 μ in diam. and apex scarcely

broader), hyaline, thin-walled, occasionally with slight incrustations; clamp connections present.

Habit, habitat and distribution: Gregarious on wet soil and debris, under conifers and shrubs, Payette Lakes, Idaho, July 14, 1954, H. Bigelow (Sm-44925).

Observations: There is no sign of a germ pore in the apex of the spores but in smoothness and color in KOH they are typical of Conocybe. The stipe is more like that of Cortinarius acutus in silkiness and appearance. The spore color and hymeniform cuticle are the deciding characters which place the species in Conocybe where it stands out very distinctly.

Conocybe Sm-14173

Pileus 1 - 2 cm. broad, obtusely conic expanding to broadly conic, the margin straight at first, and decorated with white submembranous patches of the thin veil, veil remnants soon evanescent, surface glabrous, hygrophanous, "ochraceous tawny" to "buckthorn brown" moist, translucent striate, fading to yellow ("light buff" or "warm buff"); flesh thin, fragile, odor and taste mild.

Lamellae close to crowded, (20 - 23 reach the stipe), broad (2.5 - 3 mm), bluntly adnate and soon seceding, whitish when young, ochraceous tawny in age.

Stipe 4 - 5 cm. long, 1.5 - 2.5 mm. thick, equal to a somewhat swollen base, hollow, fragile, undulating, whitish above and dingy tawny below and darkening even more in age, white-scurfy above, glabrous below the faint zone left by the broken veil.

Spores 8 - 11 x 4 - 5.5 μ, narrowly subelliptic in side view, narrowly ovate to elliptic in face view, smooth, truncate from a small apical pore, yellowish in H_2O fresh rich ochraceous tawny to pale tawny in KOH; basidia 4-spored, 18 - 23 x 7 - 9 μ, pallid ochraceous (sections of hymenium) in KOH; pleurocystidia none; cheilocystidia 30 - 46 x 10 - 13 μ and fusoid-ventricose or somewhat ninepin-shaped, and with enlarged to subcapitate apices; gill trama typical for genus; pileus trama rusty cinnamon

Conocybe Sm-14173, cont.

in KOH, of interwoven floccose hyphae with incrusted pigment; cuticle a layer of globose and clavate cells somewhat staggered in arrangement (± 2 - 3 cells deep at times as in Psathyrella), the pedicels often colored, no pilocystidia seen; caulocystidia seen only as filamentose outgrowths which above become appressed to the stipe); clamp connections present.

Habit, habitat and distribution: Scattered on humus, Elwhat River, Olympic Mts., Wash., June 8, 1939, Sm-14173.

Observations: This is a member of the C. togularis group with medium-sized spores and a submembranous veil which does not form a true annulus. The material of the veil is more loosely interwoven than in the annulate group.

Conocybe Sm-34533

Pileus 15 - 20 mm. broad, obtuse to convex becoming broadly convex to plane or with the margin uplifted in age and a low umbo, surface glabrous, moist, hygrophanous, "buckthorn brown" fading to "warm buff" (yellow), margin at first with a cobwebby veil which soon ruptures and all traces soon vanishing; odor none, taste mild.

Lamellae close, 2 tiers of lamellulae, narrow, adnate, often dichotomously forked, near buckthorn brown, edges even but fimbriate.

Stipe 2.5 - 5.2 cm. long, 1.5 - 3 mm. thick, equal, pallid above, nearly as dark as the cap below, with a faint superior fibrillose zone from the broken veil, pruinose above, smooth or faintly fibrillose below.

Spores 10 - 12.5 x 4.5 - 5.5 μ, narrowly ovate in face view, narrowly subelliptic in side view, smooth, apex truncate from apical germ pore; basidia 4-spored, 22 - 28 x 7 - 9 μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, fusoid-ventricose with short necks and obtuse to subcapitate apices 26 - 34 x 9 - 12 μ, hyaline, thin-walled, smooth; gill trama typical for genus; pileus trama of floccose- interwoven hyphae pale ochraceous tawny near subhymenium and pallid near cuticle; cuticle a palisade of clavate-pedicellate cells with ochraceous pedicels, no pilocystidia seen; caulocystidia narrowly ventricose with elongated necks and capitate to subcapitate

Conocybe Sm-34533, cont.

apices 30 - 45 x 6 - 10 x 4 - 6 μ; clamp connections present.

Habit, Habitat and distribution: On soil, Pole Mt., Albany County, Wyoming, July 7, 1950, Sm-34533.

Observations: This is closest to 14173 but differs in its caulocystidia and cortinate veil and possibly by the slightly larger spores. The caulocystidia, however, seem to be the most distinctive character.

CONOCYBE

SECTION FILIFORMES

1. Spores 9 μ or more long (but see 2-spored C. pygmolaffinis also). 2

1. Spores typically under 9 μ 3

   2. Spores 10-14 x 7-9(11) μ. . . . 9. C. plumbeitincta

   2. Spores 9-11 x 5-5.5 μ . . . . . 10. C. ~~Sm-41179~~ flexipes Watling

3. Pileus 1-3(7) cm. broad; stipe 3-4 mm. thick, ... 11. C. pygmeoaffinis

3. Pilous typically 5-15 mm.; stipe 1-2 mm.. 4

   4. Cheilocystidia obtuse to subcapitate (see Sm-9609 also). 5

   4. Cheilocystidia acute to subacute. 6

5. Stipe soon greenish gray over basal part . 12. C. Sm-29

5. Stipe not as above--typically isobelline . 13. C. glabra

   6. Stipe white and unchanging. . . . . 14. C. Sm-44151

   6. Stipe darkening--especially at base in age. . . . 7

7. Cheilocystidia subacute. . . . . 15. C. Sm-42777

7. Cheilocystidia varying to obtuse . . . . 16. C. filipes

Conocybe plumbeitincta (Atk.)

Galerula plumbeitincta Atkinson, Proc.Amer.Phil.Soc. 57: 372. 1918.

Pileus 1-1.5 cm. broad, convex becoming campanulate, lubricous when young, striatulate, lead-colored.

Lamellae broadly adnate, subdistant, ventricose ochraceous tawny.

Stipe 3-5 cm. long, 2-3 mm. thick, white becoming lead-color, prunose above, substriate below, hollow.

Spores 10-14 x 7-9(11) μ broadly elliptic in side view, oval in face view, obscurely truncate from a small apical pore, smooth; basidia 4-spored; pleurocystidia present at least near edge, 30-44 x 8-12 μ, fusoid-ventricose hyaline in KOH, apices obtuse; cheilocystidia similar to the pleurocystidia but smaller, 25-35 x 6-12 μ, hyaline, thin-walled; gill trama with a somewhat interwoven central strand, subhymenium cellular; pileus trama with a cuticle of cell 30-44 x 15-25 μ, thin-walled or more-less thickened (but hyaline) in the pedicel, pilocystidia 40-6- x 8-12 μ, also present, neck in some with pallid thickened walls in narrow part, some pilocysts ventricose at base and filamentose-flexuous above, and some 50-150 x 8-12 μ and thin--walled.

Habit, habitat and distribution: On dung, Cascade Glen, Ann Arbor, Mich. June 9, 1906, C.H.Kauffman.

Observations: The fusoid-ventricose cystidia and lead--colored pilei along with the large spores are distinctive.

Conocybe Kleiopes Watling
No. 41179
Persoonia 6: 336. 1971

Pileus 5 - 15 mm. broad, obtusely conic when young, expanding to campanulate or plano-umbonate, surface glabrous, moist and hygrophanous, watery ochraceous tawny when fresh and then also translucent-striate, fading to pinkish buff; flesh very delicate, odor and taste not distinctive.

Lamellae close, moderately broad, adnate, seceding, pale buff becoming ochraceous tawny to near tawny, edges minutely fimbriate in age.

Stipe 5 - 7 cm. long, ± 1 - 1.5 mm. thick, equal, often flexuous, very fragile, pale buff above, pale ochraceous tawny below, with a thick cottony-membranous superior annulus, appressed fibrillose to glabrous below the annulus, pruinose to naked above; annulus pallid to pale buff, striate on upper surface, with a thick cottony margin (for such a slender carpophore).

Spores 9 - 11 x 5 - 5.5 μ, narrowly ovate to elliptic in face view, subelliptic to slightly ovate in side view, smooth, rusty cinnamon in KOH, truncate from an apical pore; basidia 4-spored, 20 - 24 x 6.5 - 8 μ, hyaline or nearly so in KOH; pleurocystidia none; cheilocystidia variable, 26 - 38 x 6 - 12 μ, generally ventricose near base and narrowed to an obtuse to capitate apex (not ninepin-shaped, however) some ventricose at base and with long equal necks 4 μ in diam. ending in an obtuse apex, hyaline, thin-walled; pileus trama

Conocybe Sm-41179, cont.

floccose-filamentose and pale tawny in KOH; cuticle a cellular layer of clavate-pedicellate and inflated cells ± 2 deep and not highly colored (pallid) in KOH, no pilocystidia present; clamp connections present.

Habit, habitat and distribution: On moss, decaying wood and detritus of herbaceous plants and shrubs on old avalanche, Green Lake, Mt. Rainier National Park, Wash., Oct. 19, 1952, Sm-41179.

Observations: This species has slightly larger spores than the other annulate Conocybes which inhabit such situations. This, in addition to the very slender stature distinguish it. It is well-named. It should be carefully compared with C. mycenoides; actually the two may be synonymous.

Conocybe pygmaeoaffinis (Sm-33-1127).

Pileus 1-3(7) cm. broad, obtusely conic to convex with a connivent margin, expanding to broadly conic to convex or nearly plane, surface moist at first densely pubescent (under a lens) from pilocystidia, soon naked, margin long remaining striate, even to rugose-reticulate, watery ochraceous to near ochraceous tawny moist, fading to pale pinkish buff (whitish), scarcely atomate when faded; flesh pale ochraceous, odor slightly foetid, taste not recorded.

Lamellae close, narrow, ascending adnate to nearly free, white becoming ochraceous tawny, edges even but faintly fimbriate.

Stipe 3-5 cm. long, 3-4 mm. thick, tubular to hollow, tissue lining the cavity ochraceous, cortex white, surface densely white pubescent from caulocystidia and white, base white mycelioid and somewhat bulbous.

Spores 7-9 × 4(9-10 × 5-5.5 μ) μ, obscurely inequilateral in side view, ovate to elliptic in face view, smooth, rich tawny-cinnamon in KOH, apex obscurely truncate from a small apical pore; basidia 2- and 4-spored, 18-20 × 5-6 μ, hyaline in KOH; pleurocystidia none; cheilocystidia 40-60 μ 7-9 μ, fusoid-ventricose with acute apices, hyaline in KOH, smooth, thin-walld or in some with a slight thickening in the narrowed apical part; gill trama ± interwoven and dingy ochraceous in KOH; pileus trama of floccose-interwoven hyphae darker tawny (in KOH) near

Conocybe pygmeoaffinis (Sm-33-1127). Cont.

near the subhymenium than near the cuticle; cuticle an hymeniform layer of staggered clavate hyaline cells (in KOH) with numerous pilocystidia interspersed, pilocystidia fusoid-ventricose with long narrow necks and subacute apices smooth but wall or neck often undulating; caulocystidia similar to pilocystidia or more elongated; clamp connections absent.

Habit, habitat and distribution: Gregarious on soil, Allen's woods near Brighton, Mich. Oct. 15, 1933. Sm-33-1127.

Observations: I could find no clamp connections but the inflated hyphae generally make their demonstration difficult. The abundant pilocystidia, fusoid cheilocystidia, small spores, and general firm consistency are distinctive.

Conocybe Sm-29.

Pileus 3-10 mm. broad, obtusely conic to expanded-umbonate, ochraceous tawny to "Sayal brown" or cinnamon brown, the disc usually more tawny, striate to disc, hygrophanous, fading to pinkish buff or a dingy tan; flesh exceedingly watery-fragile, odor and taste not distinctive.

Lamellae subdistant, narrow to moderately broad, adnate, soon seceding, ochraceous buff becoming cinnamon, edges even and concolorous with faces, becoming minutely crenulate.

Stipe 1-3 cm. long, very weak and fragile, watery white to greenish grey, especially below, faintly fibrillose, glabrescent, base often enlarged slightly at point of attachment.

Spores (6.5)7-9 x 4-4.5 μ, ellipsoid, smooth, with a small apical pore but apex only obscurely truncate, rusty cinnamon in KOH; basidia 4-spored, 18-20 x 8-9 μ, hyaline in KOH; pleurocystidia none; cheilocystidia (20)26-32 x (7)9-14 μ, fusoid-ventricose with obtuse to subcapitate apices, with a tendency toward the nine-pin-shaped type, thin walled, hyaline in KOH, smooth; gill trama typical for genus; pileus trama floccose--interwoven, rusty brown from incrusting pigment beneath the cuticle; cuticle a palisade of clavate to pyriform or vesiculose hyaline cells, some of which give off apical filaments up to 60 x 4μ as pilocystidia; caulocystidia about like the cheilocystidia but frequently much more elongated and contorted, apices obtuse to subcapitate; clamp connections present.

Conocybe Sm-29. Cont.

Habit, habitat and distribution: Scattered on humus, and moss, George Reserve, Pinckney, Mich. June 19, 1934. Sm-29.

Observations: The small spores, greenish gray stipe base, and the cheilocystidia which are intermediate between the nine-pin-shaped and fusoid types along with the dark brown pileus are distinctive. The pilocystidia are cells in the palisade layer which produce an apical filament--in Sm-42702. Check carefully on fresh material!

Conocybe glabra (Murrill)

Pileus up to 8 mm. broad, conic to campanulate, not expanding further, surface moist, not striate, entirely smooth and glabrous, uniformly dull-isabeline with a fulvous tint.

Lamellae adnate or adnexed, attenuate behind, very regular, not crowded, somewhat ventricose, dull-isabelline to fulvous, whitish on the edges.

Stipe 2.5 cm. long, 0.5 mm. thick, slender, equal, smooth, glabrous, concolorous paler and pruinose at apex.

12-14 + 6-8

Spores 7-9 x 4-5μ, ferriginous-tawny, smooth, truncate, ovoid to subelliptic, thick walled; basidia 4-spored, 20-25 x 7-9 μ; pleurocystidia none; cheilocystidia 36-45 x 9-12 μ, fusoid-ventricose with flexuous necks and obtuse to subcapitate apices, hyaline, thin-walled, smooth; gill trama with a filamentose central strand flanked by a cellular area on each side; pileus trama with an hymeniform cuticle but all cells collapsed and reviving poorly; clamp connections present.

Length form?

Habit, habitat and distribution: Solitary on soil on the side of a bank in the open, Lake Placid, New York. July 17-29, 1912. W.A.Murrill 99.

Observations: Murrill described the spores as 12-14 x 6-7 μ so either he got his data mixed or the specimen I studied which was labelled the type somehow got juggled with that of another species. At all events I am using my own data, as it is well known that Murrill was not careful about microscopic characters. I doubt if this species had pilocystidia.

Conocybe Sm-44151

Pileus 8 - 20 mm. broad, obtuse with a straight margin, expanding to broadly conic, "tawny" when mature, fading to whitish, slightly striate at first, hygrophanous, glabrous and naked; flesh very thin and fragile, taste and odor not distinctive.

Lamellae close, narrow to moderately broad, ascending adnate, seceding, white at first, in age rich tawny.

Stipe 2 - 4 cm. long, 1 - 1.5 mm. thick at apex, slightly enlarged downward, hollow, fragile, white over all and unchanging, glabrous but under a lens with a very fine pruinosity, not staining when bruised.

Spores 7 - 9 x 4.5 - 5 μ, obscurely inequilateral in side view, ovate in face view, smooth, rusty cinnamon in KOH, with a small apical pore but apex not truncate, (some spores up to 11 μ long and some with a lateral protuberance, some with a snout-like apex, but all of these types appearing abnormal); basidia 4-spored, 18 - 23 x 7 - 8 μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 34 - 48 x 6 - 9 μ at base, neck 2 - 3 μ and ending in an acute apex, hyaline in KOH, thin-walled or wall in narrowed neck slightly thickened, smooth; gill trama typical for genus; pileus trama of inflated hyphal cells ± hyaline in KOH; cuticle a palisade of clavate-pedicellate cells, hyaline in KOH, numerous pilocystidia 50 - 75 x 8 - 11 μ projecting, fusoid-ventricose with a narrow (± 3 μ) neck and acute apex, wall

Conocybe Sm-44151, cont.

often somewhat thickened in the neck, hyaline or with yellowish content; caulocystidia more irregular than cheilocystidia but essentially similar, some merely filamentous and obtuse at apex, some contorted; clamp connections absent.

Habit, habitat and distribution: Gregarious on moist earth, Payette Lakes, Idaho, June 25, 1954, Sm-44151.

Observations: The white, unchanging stipe, Alnicola-like cheilocystidia, and small spores are distinctive.

Conocybe Sm-42777. C. filipes.

Pileus 6 - 12 mm. broad, oval when young, expending to obtusely conic, surface glabrous, moist, hygrophanous, tawny to ochraceous tawny and with conspicuous translucent striations before fading to cinnamon buff; flesh very thin and soft, odor and taste none.

Lamellae close to subdistant, narrow to moderately broad, ascending-adnate ochraceous tawny mature, edges even.

Stipe 3 - 4 cm. long, ± 1 mm. thick, very fragile, pale ochraceous tawny (watery) downward, paler above, surface pubescent from caulocystidia; no veil present.

Spores 6.5 - 8 x 4 - 4.5 μ, obscurely inequilateral in side view, elliptic to narrowly ovate in face view, smooth, obscurely truncate from a small apical pore, rusty cinnamon in KOH; basidia 4-spored, 17 - 20 x 6.5 - 8 μ, hyaline in KOH; pleurocystidia none; cheilocystidia scattered, 50 - 70 x 9 - 14 μ, fusoid-ventricose with long necks and subacute apices, hyaline, smooth, thin-walled; gilltrama typical for genus; pileus trama floccose-interwoven, rusty brown in KOH; cuticle a palisade of clavate-pedicellate cells or many sessile and vesiculose, numerous pilocystidia 80 - 120 x 10 - 20 μ present and projecting, neck 6 - 8 μ in diam. and apices obtuse; caulocystidia similar to pilocystidia; clamp connections present but difficult to demonstrate.

Conocybe Sm-42777, cont.

Habit, habitat and distribution: Scattered on soil in a woods road, Colonial Point, Burt Lake, Michigan, Sept. 18, 1953, Sm-42777.

Observations: This fungus had the stature of C. cyanopes but the stipe was brownish below. I think it is the same as 9609.

Conocybe filipes (Atk.) Sm-9609

Pileus 6 - 12 mm. broad, obtusely conic with a straight margin, expanding to broadly conic, surface moist and delicately pruinose from projecting pilocystidia, finely translucent striate at maturity, opaque when young, hygrophanous, "russet" becoming "tawny" or "ochraceous tawny", fading to "cinnamon buff"; flesh concolorous with surface or slightly paler, fragile, odor and taste mild.

Lamellae close (20 - 25 reach the stipe), 3 tiers of lamellulae, broad, adnate, white at first, soon pale tawny, edges even and slightly fimbriate.

Stipe 2 - 3 cm. long, 1.5 mm. thick, equal, tubular, quite firm, whitish becoming pale tan or toward the base, somewhat fuscescent in age, densely pubescent from projecting caulocystidia.

Spores 7 - 9 x 4 - 4.5 μ, obscurely inequilateral in side view, ovate in face view, smooth, with a small apical pore but not appearing truncate, rusty cinnamon in KOH, tawny in H_2O fresh; basidia 4-spored, 20 - 25 x 8 - 9 μ, hyaline to ochraceous in KOH; pleurocystidia none seen; cheilocystidia prominent and fusoid-ventricose, 40 - 60 x 8 - 15 μ, hyaline, apices obtuse, thin-walled or in the neck slightly thickened; gill trama interwoven, subhymenium not distinctive, fulvous revived in KOH; pileus trama ochraceous-fulvous, of floccose interwoven hyphae; cuticle a palisade

Conocybe filipes (Atk.), cont.

of clavate to inflated cells with numerous large pilocystidia 100 - 120 x 10 - 20 μ interspersed, pilocystidia essentially fusoid-ventricose, thin-walled, and hyaline; caulocystidia similar to pilocystidia; clamp connections present.

Habit, habitat and distribution: Gregarious on an old road, Milford, Michigan, July 13, 1938, Sm-9609.

Observations: The small spores and prominent cystidia on cap, stipe and gill edges are outstanding.

CONOCYBE

SECTION SEPTENTRIONALES

1. Annulus typically absent; veil remnants adhering to cap margin . . . . . 17. C. Sm-13259 & 28916

1. Annulus typically present. 2

   2. Gills pallid at first -- Cheilocystidia fusoid to cylindric-capitate. . . . 18. C. Sm-13260 pirsquis Watling

   2. Gills yellow at first; cheilocystidia nine-pin-shaped 3

3. Pileus "sudan brown" . . . . . 19. C. Sm-41704

3. Pileus "chestnut brown". . . . . 20. C. septentrionalis (intermedia)

Conocybe Sm-13259.

Pileus 5-10 mm. broad, obtusely conic becoming convex or plane, glabrous except for scattered fibrillose veil remnants along the margin, "argus brown" when fresh, but soon "ochraceous tawny" from the margin inward, hygrophanous, fading to "cinnamon buff" or with more yellow, not striate at any stage; flesh thickish, rather firm, concolorous with surface, odor and taste mild.

Lamellae close (about 20 reach the stipe) broad (+1.5 mm.), oval in outline, depressed-adnate, ochraceous tawny from the beginning, edges even.

Stipe 2.5-3 cm. long, 1.5 mm. thick, equal, tubular, not especially fragile, near "Prouts brown" downward and "clay color" toward apex at first, coarsely fibrillose punctate or fibrillose--squamulose over all, in age the lower part merely fibrillose, apex pruinose, veil fibrillose and sordid buff.

Spores 8-9(10) x 4.5-5 μ, obscurely bean-shaped in side view, ovate to elliptic in face view, smooth, rusty cinnamon in KOH, apical pore minute and apex not truncate; basidia 4-spored, 28-34 x 7-8 μ, pale cinnamon ochraceous in KOH (especially sections of the hymenum); pleurocystidia none; cheilocystidia 25-32 x 7-11 x 3-5 μ, nine-pin-shaped with elongated narrow necks, hyaline in KOH; gill trama reddish cinnamon in KOH, interwoven; pileus trama dark reddish cinnamon in KOH, floccose and interwoven; cuticle of clavate cells with cinnamon pedicels, no pilocystidia seen; caulocystidia scattered, clavate to elongate and then with a capitellum; clamp connections present.

Conocybe Sm-13259. Cont.

Habit, habitat and distribution: Scattered on an old camp site, Clearwater River, Olympic Mts., Wash. May 9, 1939. Sm-13259.

Observations: The cap was "Carob brown" and gill "clay color" in Sm-13463. This species is close to one from Lower Tahoma.

Conocybe Sm-28916.

Pileus 1-2 cm. broad, convex with a straight margin, becoming plane or with a low obtuse umbo, surface viscid, glabrous, margin at first hung with membranous patches of the veil, striate when moist, color on disc near "argus brown" or with a "mummy brown" cast, margin duller than "amber brown", buttons "auburn" at first; flesh very soft and watery, concolorous with surface, odor and taste not distinctive.

Lamellae near "tawny olive" young, becoming pale to dark cinnamon brown, depressed adnate, ventricose and moderately broad, close, edges minutely serrate.

Stipe 3-5 cm. long, 2-3.5 mm. thick, equal, tubular, cortex watery brown, surface fibrillose to scabrous up to where the veil breaks or to apex, pale brownish above, near bister from the base up in age, at times somewhat fibrillose-striate.

Spores 7-9 × 4.5-5 μ, ovate in face view, mostly obscurely inequilateral in side view, bright tawny in KOH, smooth, apical pore scarcely discernible under high dry; basidia 4-spored; pleurocystidia none; cheilocystidia 24-28 × 5-9 μ, the neck narrow and ending in a capillilum 3-5 μ in diam., ventricose portion often irregular in outline; gill trama interwoven; pileus trama interwoven and homogeneous beneath the hymeniform cuticle of clavate cells with rusty brown thick-walled pedicils; clamp connections present.

Habit, habitat and distribution: Gregarious on rich humus, alder plot, S. West Entrance, Mt. Rainier National Park, Wash. July 10, 1948. Sm-28916.

Conocybe Sm-28916.

Observations: The dark brown pileus, fragile veil which does not form on annulus, non-truncate spores, capitate cheilocystidia and habitat on humus are distinctive.

pinguis Watling

Conocybe, Sm-13260.

Persoonia 6:338. 1971

Pileus 1.5-3.5 cm. broad, convex, becoming plane viscid when young, glabrous, "argus brown" over all at first, becoming "ochraceous tawny" on the margin and striatulate, fading to "light buff" more or less, or dingy tawny; flesh thin, concolorous with surface moderately brittle, odor & taste mild.

Lamellae crowded (± 30 reach stipe), narrow (3-4 mm. broad), depressed adnate, soon seceding, 2-3 tiers of lamellulae, "tilleul buff" becoming "ochraceous tawny"; edges thin even or slightly crenulate.

Stipe 7-9 cm. long, 3-4 mm. thick, equal or base slightly enlarged, tubular, whitish above, becoming darker (near "Dresden brown" below, at first densely fibrillose and with a pale buff fibrillose coating, fibrillose-squamulose above annulus also, fibrils evanescent and then the darker color visible; annulus thick, membranous, superior, striate above.

Spores 7-8.8 × 4-4.5μ, subellyptic in side view, narrowly ovate in face, smooth, apical pore distinct but apex not clearly truncate, cinnamon in KOH; basidia 4-spored, 18-20 × 7-8μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 34-45 × 7-9μ, narrowly ventricose (7-9μ) with capitate to subcapitate apices 5-7μ in diam. at times nearly cylindric-capitate, smooth, hyaline in KOH; gill trama somewhat interwoven, of inflated cells (10-40μ diam.) pale cinnamon in KOH; pileus trama deep rusty cinnamon (in KOH) beneath the hymeniform cuticle of pedicullate-clavate cells having pallid inflated portions and

Conocybe Sm-13260. Cont.

mostly pale cinnamon pedicles; clamp connections present.

Habit, habitat and distribution: Gregarious on old rotten Alnus or Acur logs, Clear Water River, Wash. May 9, 1939, Sm-13260.

Observations:

1948

Conocybe -brunnea Sm-41704.

Pileus 1-2.8 cm. broad, convex, expanding to nearly plane or with a slight obtuse umbo, surface glabrous, moist, hygrophanous, "Sudan brown" to near "cinnamon brown", fading to ochraceous buff", surface even; flesh thin, odor and taste not distinctive.

G1 - Lamellae crowded, ± horizontal, narrow to moderately broad, adnate-seceding, with a strong ochraceous tone (near "raw sienna"), edges even or nearly so.

Stipe 2.5-3 cm. long, 1.5-2.5 mm. thick, equal, brittle, pale yellow but base soon bister where handled, with a median or lower membranous annulus from the yellowish veil, fibrillose-scurfy above the ring.

Spores 6.5-7 × 4.5 μ, elliptic in side view, slightly bean-shaped in face view, rusty cinnamon in KOH, apical pore minute, apex not truncate; basidia 4-spored, 15-18 × 6-7 μ, sections of hymenium pale cinnamon in KOH and many basidioles with a pale dull cinnamon content; pleurocystidia none seen; cheilocystidia nine-pin-shaped, 20-28 × 9-11 × 4-5 μ, hyaline in KOH, thin-walled, smooth; gill trama interwoven and pale cinnamon in KOH; pileus trama cinnamon in KOH; cuticle a palisade of clavate cells with cinnamon-fulvous pedicels (in KOH), pilocystidia 25-33 × 4 × 5-6 μ also present (cylindric-capitate or slightly enlarged toward base); clamp connections present.

Habit, habitat and distribution: Scattered on hardwood logs, Tahquamenon Falls State Park, Mich. July 27, 1953, Sm-41704.

Conocybe Sm-41704. Cont.

Observations: Compare C. septentrionalis for pilocystidia and raw sienna gills. It apparently is the closest species. This (41704) may be only a form of it.

20 +82

Conocybe septentrionalis (Smith) Kühner, Persoonia 6: 315

Pholiota septintrionalis Smith, Mycologia

Pholiota intermedia Smith, Ann. Myc. 32: 479. 1934.

(Non Pholiota intermedia Singer 1928)

Pileus 1 - 2 cm. broad, obtusely conic expanding to nearly plane, glabrous, viscid, hygrophanous, "chestnut brown" or darker in button stages, "ochraceous tawny" at maturity and fading to dull buff, striate when moist, disc often somewhat rugose at maturity.

Lamellae close, narrow, adnate, ochraceous, edges white fimbriate.

Stipe 1 - 2 cm. long, 2 - 3 mm. in diam. buff color at first largely from the adhering colored veil remnants, loosely fibrillose above and below the annulus, darkening from base up in age and somewhat glabrescent; annulus membranous, median to inferior, striate above, annular material at times ~~leaning~~ tearing away from stipe and forming patches along the margin of the cap.

Spores 6 - 7.5 (8) x 4 - 4.5 µ, cinnamon brown in mass, rusty cinnamon in KOH, obscurely bean-shaped in side view, ovate to subelliptic in face view, smooth, apical pore present but apex not truncate; basidia 4-spored, 14 - 18 x 7 - 8 µ, hyaline in KOH or in sections of hymenium pallid cinnamon; pleurocystidia none but some cinnamon basidium-like bodies present in hymenium (as revived in KOH); cheilocystidia (18 - 26 (37) x 7 - 10 x 4 - 6 µ, ventricose with a narrow neck and a head 4 - 6 µ in diam. - hence nine pin-shaped, hyaline and smooth in KOH; gill trama of inflated interwoven

Pholiota septintrionalis Smith, cont.

hyphae pale cinnamon in KOH; pileus trama floccose, the hyphal cells inflated and pale cinnamon in KOH, much darker just beneath the cuticle; cuticle an hymeniform layer of clavate pedicellate cells, the walls of the pedicels somewhat thickened and deep rusty brown in KOH; clamp connections present.

Habit, habitat and distribution: Scattered on rotting wood and in rich humus near rotten logs, not uncommon in the Great Lakes Region, Summer and Fall.

Observations: Singer's Pholiotella may be valid after all - these spores are not "Conocybe spores".

CONOCYBE

SECTION CONOCYBE

1. Spores 11-13 μ or longer 2

1. Spores 8-11 μ. 12

1. Spores 6-9 μ 18

2. Stipe 3-5 mm. thick at apex and enlarged downward to a marginate bulb, whitish fibrils from a thin veil evident around rim of bulb . . . . . 21. C. Sm-21606

2. Not as above. 3

3. Pileus fuligineus young and lubricous to viscid . . . . . 22. C. siliginea Fr. (Sm-14)

3. Not as above -- pileus ochraceous to cinnamon brown. 4

4. Gills typically crisped and strongly intervenose . . . . . 23. C. Crispa

4. Not as above. 5

5. Spores 5-7 μ broad 6

5. Spores 7-10 μ broad. 9

6. Caulocystidia lacking a capitellum . . . . . 24. C. Sm-34620

6. At least some of the caulocystidia with a capitellum 7

7. Growing on clay soil; pileus more or less avellaneous faded . . . . . 25. C. Sm-23930

7. On dung or garden soil 8

8. Stipe pruinose over all under a lens . . . . . 26. C. Sm-12093

8. Stipe fibrillose-striate over lower half much as in Mycena polygramma. . . . . 27. C. Sm-6356

9. On dung. 10

9. Not as above 11

10. Stipe soon naked; pileus 15-25 mm. broad, ochraceous tawny to clay color. . . 28. C. Sm-13462

10. Stipe persistently pubescent and finally longitudinally striate; pileus russet to rich ochraceous tawny . . . . . 29. C. Sm-39233

11. On soil and debris of a stream out-wash; pileus russet when young. . . . . 30. C. Sm-45482

11. On lawns . . . . . 31. C. necantipus and C. lactea

12. Pileus yellow, fading to white; stipe white . . . . . 32. C. Sm-14257

12. Pileus not as above 13

13. Pileus "olive brown" to "mummy brown" fading to avellaneous . . . . . 33. C. Sm-52 capillaripes

13. Not as above 14

14. On or near dung 15

14. On humus and debris in the forest 16

15. Taste reminding one of a green gourd . . . . . 34. C. (Naucoria CA of Burke)

stercoraria Wallr.

15. Taste none . . . . . 35. C. Sm-13169

16. Growing on moss in the forest; pileus grayish when faded. . . . . 36. C. Sm-46588

16. Growing on needle beds or on soil and cap not grayish when faded 17

17. Cheilocystidia 8-11 μ in diam. . . . . 37. C. Sm-14109

17. Cheilocystidia 10-18 μ in diam. . . . . 38. C. Sm-19114

18. Stipe 4-10 mm. thick, base with a marginate bulb . . . . . 39. C. intrusus

18. Not as above. 19

19. Growing on freshly manured soil, garden soil, etc. 20

19. Not on dung or cultivated soil 21

20. Arising from a sclerotium; pileus margin inrolled at first . . . . . Agrocybe arvalis var. tuberigena

20. Not as above. . . . . 40. C. Sm-44

21. Habitat on moss and debris of the forest floor 22

21. Habitat typically lignicolous. 23

22. Pileus dull ochraceous tawny moist; stipe evenly pale ochraceous tawny over all; spores 7-9 x 5-5.5 μ . . . . . 41. C. Sm-46637

22. Pileus bister to mummy brown fresh; stipe whitish at first; spores 6-7 x 3.5 μ . . . . . 42. C. pilosella Sm-4180

23. Pilocystidia capitate . . . . . 43. C. Sm-31236

Pilocystidia not capitate--either filamentose or fusoid-ventricose. 24

24. Clamp connections present; pileus cinnamon brown . . . . . .44. C. Sm-25948

24. Clamp connections absent as far as determined; pileus "Bay" when young. . . 45. C. Sm-33-731

Conocybe Sm-21606

Pileus 2 - 3.5 cm. broad, obtusely conic when young margin straight to connivent, expanding to broadly conic, conic campanulate or plano-umbonate, hygrophanous, pale ochraceous tawny fading to "ochraceous buff" (yellow) very finely pubescent at first from projecting pilocystidia, becoming lubricous to subviscid, margin even or slightly sulcate; flesh thickish and firm; pallid, no odor or taste.

Lamellae close, ascending-adnate to nearly free, moderately broad or remaining narrow, pallid buff becoming pale tawny, edges even.

Stipe 5 - 7 cm. long, 3 - 5 mm. thick at apex, evenly enlarged downward to a bulbous (often marginate-bulbous) base, rim of bulb with whitish fibrils indicating a slight veil, typically twisted striate over upper two-thirds, very pallid buff above, brownish below, whitish at the base, hollow in age.

Spores 11 - 14 x 6 - 7.5 μ, in side view with a relative straight ventral line and dorsal line convex, ovate to obscurely angular-ovate in face view, truncate from a medium-sized apical pore, smooth bright rusty cinnamon in KOH; basidia 4-spored, 28 - 35 x 9 - 11 μ, pale dingy ochraceous in KOH; pleurocystidia none seen; cheilocystidia scattered, 18 - 24 x 7 - 10 x 4 - 5 μ, ninepin-shaped, hyaline, thin-walled, smooth; gill trama typical for genus; pileus trama floccose and interwoven, tawny to ochraceous

Conocybe Sm-21606, cont.

in KOH, or in age nearly pallid; cuticle a palisade of clavate to vesiculose hyaline cells with fusoid-ventricose to contorted pilocystidia with obtuse to subacute apices interspersed, pilocystidia 25 - 36 x 7 - 11 μ; caulocystidia clavate, 18 - 24 x 7 - 11 μ, hyaline, often in clusters; clamp connections present but rare.

Habit, habitat and distribution: Closely gregarious on a manure pile, Douglas Lake, Michigan (Camp Manitou), July 2, 1946, Sm-21606.

Observations: This is a fairly fleshy species reminding one of Conocybe intrusus (Pk.) Singer, but with much larger spores and more slender stipe.

= rickenii (acc. to Singer)

Conocybe siliginea Fr. (Sm-14)

Pileus 8 - 25 mm. broad, obtusely conic with a straight margin, expanding to obtusely campanulate, at times nearly plane and splitting radially, glabrous, lubricous to viscid but soon dry, subhygrophanous, "light grayish olive" to "smoke gray" at first, sometimes darker dull steel gray to fuligineous, umbo "buffy brown" in some, fading to "cinnamon buff" or "cream buff" shaded with gray; flesh firm, odor and taste none.

Lamellae close, narrow to in age moderately broad, equal, whitish gray then ochraceous tawny, edge whitish.

Stipe 3 - 7 cm. long, 1 - 2 mm. thick, equal, pallid gray fading out to merely pallid, longitudinally fibrous-striate over all when young, white pruinose-fibrous in age to nearly glabrous, striae disappearing in some.

Spores 12 - 16 x 7 - 9 μ, elliptic in side view or the ventral line straightened, oval in face view, smooth, truncate from a broad apical pore, tawny-cinnamon in KOH; basidia 2-spored, 20 - 22 x 8 - 10 μ (sterigmata up to 90 μ long), hyaline in KOH; pleurocystidia none; cheilocystidia ninepin-shaped, 17 - 22 x 8 - 11 x 2 - 2.5 x 4 - 5 μ (neck 2 - 2.5 μ thick, head 4 - 5 μ in diam.), smooth, hyaline in KOH; gill trama typical for the genus; pileus trama floccose-interwoven beneath a palisade layer of clavate-pedicellate cells forming the cuticle, a thin layer of gluten above the palisade and the palisade elements

Conocybe siliginea Fr. (Sm-14), cont.

readily collapsing; caulocystidia fusoid-ventricose to contorted mostly 15 - 22 x 6 - 9 μ, some proliferated at apex, no capitate cells seen; clamp connections present.

Habit, habitat and distribution: Densely gregarious on a new seeding of grass, Univ. of Mich. campus, June 12, 1934, Sm-14.

Observations: The gray pilei, collapsing cuticular cells, and the fascicles of misshapen caulocystidia are distinctive. No caulocystidia similar to the cheilocystidia were seen.

Conocybe crispa (Longyear)

Pileus 1 - 4 cm. across the base, up to 2 cm. high, nearly ellipsoid when young, expanding to broadly and obtusely conic, often with a flaring margin, in age often conic-campanulate, surface even to slightly wrinkled, colors generally whitish to pallid, the disc often pinkish buff to cinnamon buff, or ochraceous tawny, hygrophanous but not changing color much from moist to faded state, glabrous, subviscid to viscid when moist, atomate in age; flesh very soft and fragile, odor and taste none.

Lamellae close, adnexed to adnate, ascending, narrow, crisped and interveined - at times almost poroid, white becoming various shades of ochraceous tawny.

Stipe 4 - 10 cm. long, 2 - 5 mm. at apex, equal or enlarged downward, base slightly bulbous, hollow, fragile, pure white or tinged ochraceous, faintly striatulate at times.

Spores 12 - 16 x 7 - 9 μ, in side view subelliptic to obscurely inequilateral, in face view ovate, truncate from apical pore, smooth dark reddish cinnamon in KOH; basidia 4-spored, 20 -24 (34) x 10 - 12 μ, hyaline in KOH; <u>paraphyses coprinoid</u>; pleurocystidia none; cheilocystidia scattered 16 - 19 x 6 - 9 x 4 - 5 μ, ninepin-shaped, smooth, hyaline in KOH; gill trama interwoven, hyaline in KOH; pileus trama of floccose-interwoven hyphae, hyaline in KOH;

Conocybe crispa (Longyear), cont.

cuticle a palisade of clavate to vesiculose hyaline cells, scattered fusoid-ventricose pilocystidia scattered to rare, 24 - 38 x 5 - 8 (10) μ, apices acute to obtuse, generally fusoid-ventricose but some with corkscrew-like necks; caulocystidia <u>not</u> capitate mostly clavate to basidioid or filamentose, hyaline in KOH; clamp connections present but hard to demonstrate.

Habit, habitat and distribution: Gregarious on soil of a new grass seeding, U. of M. campus, July 7, 1934, Sm-58.

Observations: On the basis of basidia and paraphyses this species belongs in Bolbitius.

Conocybe Sm-34620.

Pileus 1.2-3.2 cm. across the base, 10-15 mm. high, obtusely conic with a straight margin becoming campanulate, surface naked and glabrous, hygrophanous, ochraceous tawny to rusty cinnamon moist, cinnamon buff to pinkish buff faded; flesh very thin and delicate, fragile, odor and taste not distinctive.

Lamellae close, narrow, ascending-adnate, 2-3 tiers of lamellulae, "buckthorn brown", edges even.

Stipe 2.5-4.5 cm. long, equal, fragile, concolorous with cap below and paler above, fibrillose-pruinose under a lens.

Spores 11-13(14) x 5.5-6.5(7) μ, obscurely inequilateral in side view to subelliptic, ovate in face view, smooth, rusty cinnamon in KOH, apex truncate from an apical pore; basidia 20-25 x 9-11 μ; 4-spored, hyaline in KOH; pleurocystidia none; cheilocystidia 16-20 x 8-11 x 4-5 μ nine-pin-shaped, hyaline in KOH, smooth, thin-walled; gill trama typical for genus; pileus trama of floccose-interwoven hyaphe pale ochraceous tawny near subhymenum and hyaline near cuticle; cuticle a palisade layer of pallid clavate cells with no pilocystidia present; caulocystidia ventricose at base and with a filamentose apical proliferation, none found with a capitellum; clamp connections rare and difficult to demonstrate.

Habit, habitat and distribution: On old cow dung, Pale Mt. Albany County, Wyoming, July 9, 1950. Sm-34620.

Observations: This species has a more glabrous stipe than Sm-6356, and no capitate elements were found on the stipe.

Conocybe Sm-34620. Cont.

The two are very close, however and should be carefully compared on the basis of more collections.

Conocybe Sm-23930

Pileus 1.5 - 3 cm. across the base, 1.5 - 2 cm. high, obtusely conic expanding to broadly conic, when young slightly viscid and near "sepia" on the disc, margin paler (near "avellaneous"), in age cinnamon tan with a wood brown (grayish) cast, margin somewhat sulcate, surface typically slightly ruguloso; flesh thin, fragile, no odor or taste.

Lamellae pale dull cinnamon becoming tawny, ascending-adnate, close, narrow, edges even.

Stipe 8 - 14 cm. long, 1.5 - 2 mm. thick, equal, slightly pruinose above, whitish but soon darkening from base up and becoming dark dingy cinnamon, the pruinosity more conspicuous in age, base slightly bulbous.

Spores 11 - 13 (15) x 5.5 - 6.5 (7) narrowly ellipsoid to narrowly and obscurely ovoid, smooth, truncate from an apical pore, rusty cinnamon in KOH; basidia 4- spored, 18 - 20 x 7 - 9 μ, hyaline in KOH, pleurocystidia none; cheilocystidia abundant, ninepin-shaped 15 - 20 x 7 - 10 x 5 - 7 μ, hyaline in KOH, smooth, thin-walled; gill trama typical for genus; pileus trama of floccose-interwoven hyphae; cuticle an irregular palisade of vesiculose and clavate cells intermixed, pilocystidia similar to the cheilocystidia scattered; caulocystidia similar to cheilocystidia; clamp connections present but difficult to demonstrate.

Conocybe Sm-23930, cont.

Habit, habitat and distribution: Scattered on clay soil in a park, Cherryville, Oregon, October 1, 1946, Sm-23930.

Observations: The habitat, long narrow spores, very long stipe which is pallid and then darkens, and both the pilocystidia and caulocystidia being similar to the cheilocystidia along with the dingy brown pileus which develops a grayish tone are distinctive. In Coll. 14651 there was a grayish tone to the faded cap; the stipes were white when young but soon changed to tawny from the base up, and at the base was an obscurely marginate bulb. In spite of the slight bulb these specimens clearly belong here the spores measured 10 - 13 x 5 - 6.5 μ. In Coll. 49234 the cap was dark ochraceous tawny the stipe and gills paler ochraceous tawny, and the two carpophores show no tinge of gray as dried. I think 49234 represents a distinct taxon which <u>never</u> has a whitish stipe and which has less sombre colors.

Conocybe Sm-12093.

Pileus 1-2 cm. broad across the base, conic with a streight margin, 10-15(20) mm. high, merely becoming broadly conic at maturtiy, glabrous and naked when young and moist, "tawny" and with close translucent striations, hygrophanous and fading to "light ochraceous buff", atomate when faded; flesh very thin and exceedingly fragile, odor and taste none.

Lamellae crowded (21-25 reach stipe), several tiers of lamellulae, narrow, (1-1.5-2 mm.), adnate, "tawny", edges even.

Stipe 7-10 cm. long, 1-2.5 mm. thick, equal, hollow, very fragile, pruinose over all under a lens, pale yellow ("warm buff") above and "ochraceous tawny" or darker and more dingy below.

Spores 12-14x6-6.5(7) μ,narrowly elliptic in side view, narrowly ovate to ovate in face view (slightly compressed in some), smooth, rich tawny in KOH, truncate from a broad apical pore; basidia 4-spored, 20-24 x 10-14 μ, hyaline in KOH or nearly so but sections of hymenium pale ochraceous; pleurocystidia none; cheilocystidia 14-20 x 9-13 μ, lower portion broadly ventricose, neck short and thin and capitellum 4-5 μ broad; gill trama typical for the genus; pileus trama floccose-interwoven, tawny to ochraceous tawny in KOH; cuticle a palisade of clavate cells with ochraceous walls (revived in KOH), only an occasional hairlike cell projecting from among them (3-4 μ in diam and 15-20 μ long); caulocystidia abundant and mostly nine-pin-shaped but some without the head and in some the head containing a highly refractive granule; clamp connections present.

Conocybe Sm-12093. Cont.

Habit, habitat and distribution: Scattered in an old garden plot, Kalaloch, Wash. Olympic Peninsula, April 29, 1939, Sm-12093.

Observations: The long narrow spores, lack of any gray cast to the pileus, yellow stipe before it darkens and preponderantly capitate caulocystidia of various shapes are the outstanding characters. The color of the pileus is that commonly found in the genus. In Sm-2522 the caps were slightly viscid moist, and the stipes 8-15 cm. long and 2-3 mm. thick. No pilocystidia were seen and the caulocystidia were similar in shape to the cheilocystidia but generally larger. These characters, however, do not appear to represent important differences.

Conocybe 6356-Smith.

Pileus 2-4.5 cm. across the base, 2-3 cm. high, obtusely conic with a straight margin, becoming broadly conic to conic--campanulate, surface glabrous, moist, evenly dark cinnamon and with translucent striations moist, hygrophanous and fading to dingy buff or grayish tan, atomate faded; flesh fragile, concolorou with pileus, odor and taste not distinctive.

Lamellae, narrow, ascending-adnate, close or in age subdistant, dingy tan becoming dark tawny to cinnamon-tawny, edges even.

Stipe 6-10 cm. long, 2-3 mm. thick, equal, strict, firm but fragile, pallid at first, in age toned reddish brown over all, striate over upper half, lower half fibrillose striate (about as in Hygrocybe polygrammus).

Spores 10-13 x 5-6.5 μ, ovoid to ellipsoid, smooth, apical pore fairly small and apex not conspicuously truncate, color rich cinnamon-tawny in KOH; basidia 4-spored, 18-22 x 8-9 μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, nine-pin-shaped, 14-19 x 7-11 x 4-5 μ, with scarcely any neck, hyaline in KOH, thin-walled; gill trama typical for genus (an interwoven central strand flanked by a layer of vesiculose or inflated cells on either side; pileus trama ochraceous brown and floccose-filamentous near subhymenum, paler near the cuticle of clavate to vesiculose cells which are thin-walled, hyaline and collapse readily; caulocystidia minute, ± filamentose to filamentose-capitate; clamp connections not demonstrated with certainty.

Conocybe 6356-Smith. Continued.

Habit, habitat, and distribution: On horse dung, Oak Hill Pond, Oakland County, Mich. June 17, 1937. Sm-6356.

Observations: This is a large dark cinnamon caprophilous species. I saw indications of clamp connections but nothing real convincing.

Conocybe Sm-13462

Pileus 15 - 25 mm. across the base, ± 1.5 cm. high, ellipsoid when young, expanding to obtusely conic and remaining so, at first minutely pubescent but soon naked, glabrous, when moist very faintly striatulate, "ochraceous tawny" when fresh and moist, but in age watery and near "buckthorn brown", hygrophanous and fading to "clay color"; flesh thin, fragile, concolorous with surface, odor and taste none.

Lamellae close to crowded (about 25 reach the stipe), narrow (± 2 mm.), several tiers of lamellulae, narrowly adnate and soon seceding, "pinkish buff" young, dingy tawny at maturity, edges even.

Stipe 6 - 7 cm. long, 2 - 2.5 mm. thick, equal, hollow, fragile but rigid, "pinkish buff" young, concolorous with pileus in age, at first faintly pubescent (like the cap) but soon naked.

Spores 14 - 18 x 9 - 10 μ ellipsoid, smooth, truncate from an apical pore, yellow under microscope in H_2O mounts of fresh material; basidia 4 - spored; pleurocystidia none; cheilocystidia ninpin-shaped, 14 - 18 x 8 - 10 x 4 - 5 μ, hyaline, thin-walled; cuticle of pileus a palisade of clavate to pear-shaped cells with narrow brownish filaments projecting from among them as pilocystidia.

Conocybe Sm-13462, cont.

Habit, habitat and distribution: Single on horse dung, Lake Quinault, Wash., May 17, 1939, Sm-13462.

Observations: The specimens in the box now labeled 13462 are not the species described here. Look for another collection of same number! Is this the same as Sm-39233?

Conocybe Sm-39233.

Pileus 2.5-8 cm. broad across the base and 2-3 cm. high obtusely conic with a straight margin, expanding to broadly conic, surface moist and hygrophanous, russet to rich ochraceous tawny, hygrophanous, and fading to cinnamon buff, margin faintly striate in moist mature caps; flesh very thin and fragile, odor and taste not distinctinctive.

Lamellae narrow, ascending-adnate, crowded, edges even, pallid buff becoming ochraceous tawny or darker.

Stipe 10-15 cm. long, 2.5-3.5 mm. thick, equal, fragile, ± "cinnamon buff", often more watery, faintly longitudinally striate, pubescent from projecting cystidia under a lens.

Spores 12-16 x 7-9 μ, broadly elliptic to slightly ovate in face view, in side view subelliptic, smooth, rusty cinnamon in KOH, truncate at apex but not conspicuously so, apical pore relatively small; basidia 20-23 x 10-14 μ, 4- spored, hyaline to yellowish in KOH; cheilocystidia 16-22 x 8-13 x 4-5.5 μ, nine-pin-shaped, hyaline in KOH, thin-walled; gill trama typical for genus, cinnamon pallid in KOH; pileus trama floccose and interwoven beneath a cuticle of clavate-pedicellate to inflated cells, with filaments 2.5-3.5 μ thick scattered among them as pilocystidia, their apices <u>not</u> capitate; caulocystidia scattered, crooked-filamentose with apices <u>not</u> capitate; clamp connections present.

Habit, habitat and distribution: On manure pile in woods, Pellston, Mich. July 23, 1952. Sm-39233.

Conocybe Sm-39233. Cont.

Observations: This is one of the large coprophilous darkly colored species with large spores, nine-pin-shaped cheilocystidia but pilocystidia and caulocystidia filamentose.

Conocybe Sm-45482

Pileus 1 - 2 cm. across the base, 12 - 18 mm. high, obtusely conic with a straight margin, surface glabrous, moist, hygrophanous, russet to rich tawny moist, fading to dull tan, becoming translucent-striate before fading, fragile, odor and taste none.

Lamellae close to crowded, narrow, ascending-adnate, dingy buff young, tawny-fulvous at maturity, edges even.

Stipe 3 - 6 (8) cm. long, 1 - 2.5 mm. thick, equal, fragile, delicate, pallid ochraceous and faintly pruinose above, base slightly darker and darkening considerably in age.

Spores 12 - 16 x 7 - 8.5 μ, ovate in face view, subelliptic to obscurely inequilateral in side view, tawny-cinnamon in KOH, <u>obscurely</u> truncate from a small lens-shaped pore; basidia (20) 24 - 34 x 10 - 14 μ, 2- and 4-spored, sterigmata very stout on 2-spored basidia, hyaline to yellow in KOH; pleurocystidia none; cheilocystidia 16 - 20 x 7 - 12 x 4 - 5 μ, hyaline to yellowish in KOH, ninepin-shaped; gill trama typical for the genus; pileus trama floccose-interwoven, the hyphae near the cuticle heavily incrusted with rusty brown pigment; cuticle of clavate-pedicellate cells with ochraceous brown pedicels and ochraceous walls in the enlarged part (in KOH), pilocystidia none; caulocystidia similar to cheilocystidia; clamp connections present.

Conocybe Sm-45482, cont.

Habit, habitat and distribution: Scattered to gregarious on the outwash of the spring flood, East Fork of Lake Fork Creek, Payette National Forest, Idaho, July 29, 1954, Sm-45482.

Observations: The broad spores with a relatively small apical pore and dark colors are typical of this subalpine Conocybe.

Conocybe lactea Lange. Sm-18307.

Pileus 10 - 25 mm. broad at base, 10 - 15 mm. high, obtusely conic with a straight margin, expanding to broadly conic, the margin flared at times, surface glabrous, moist, hygrophanous, creamy white or at times the disc darker and near cinnamon buff, margin sometimes faintly striate (when moist), whitish over all when faded or again the disc pinkish buff or slightly darker; flesh very thin and fragile; odor and taste not distinctive.

Lamellae very narrow, close, ascending-adnate, whitish becoming bright ochraceous tawny, edges even.

Stipe 4 - 8 (10) cm. long, 1.5 - 2 mm. thick at apex, equal or enlarged downward, white to whitish and unchanging, pruinose, very fragile.

Spores 12 - 16 x 7 - 9 μ, elliptic or nearly so in side view, ovate to elliptic in face view, smooth, dark rusty cinnamon in KOH, apical pore small but apex appearing truncate; basidia 2-spored, 20 - 24 x 10 - 12 μ, hyaline in KOH; pleurocystidia none; cheilocystidia 12 - 18 x 6 - 10 x 3 - 4.5 μ, capitellum very small, hyaline, thin-walled; gill trama typical for the genus; pileus trama floccose-interwoven, dingy ochraceous in KOH; cuticle a palisade layer of vesiculose to clavate cells nearly hyaline in KOH, no pilocystidia found; caulocystidia of the contorted-filamentose type - of various sizes; clamp connections present.

Conocybe lactea Lange. Sm-18307. Cont.

Habit, habitat and distribution: Densely gregarious on lawns, Saginaw Forest, Ann Arbor, Michigan, June 3, 1942. Sm-18307.

Observations: This is the commonest species of the genus in North America. It can be recognized by its pale color and habitat on lawns and in grassy places. The capitellum of the cheilocystidium is about the smallest in the genus.

Conocybe neoantipus (Atk.)

Galerula neoantipus Atkinson Proc.Amer.Phil.Soc. 57:371. 1918.

Pileus 1.5-2.5 cm. broad, campanulate-convex.

Lamellae as in C. antipus.

Stipe 3-7 cm. long.

Spores 11-14 x 6.5-8 μ, fulvous, smooth, apical pore small; pleurocystidia none; cheilocystidia 15-24 x 6-9(10) x 3-5 μ, lecythiform; pileus trama with an hymeniform cuticle (no other data obtainable from type).

Habit, habitat and distribution: On a newly seeded lawn, Middlebury, Vt. Aug. 1896. E.A.Burt collector.

Observations: There is really not enough data for the recognition of this species. From data on type and original description C. lactea and C. neoantipus are not distinct.

Conocybe Sm-14257

Pileus 10 - 15 mm. broad, obtusely conic with a flaring margin, expanding to broadly conic with a spreading margin, surface moist and translucent-striate, hygrophanous, "antimony yellow" fading to "tilleul buff" (pale yellow fading to white); flesh very thin and fragile, odor and taste not recorded.

Lamellae ascending adnate, seceding, narrow, close (15 - 16 reach stipe), very pale yellowish brown, edges even.

Stipe 4 - 5 cm. long, 1 mm. thick, equal, very fragile and delicate, whitish and pruinose ± over all, naked and dingy yellow in age.

Spores 9 - 11 x 5 - 6 μ, obscurely inequilateral to subelliptic in side view, narrowly elliptic to ovate in face view, smooth, with a relatively thin wall and an obscurely truncate apex from the small apical pore, very pale yellow in H_2O mounts fresh, pallid cinnamon mounted in KOH; basidia 4-spored, hyaline in KOH, 20 - 22 x 8 - 9 μ; pleurocystidia none; cheilocystidia abundant, 12 - 16 x 7 - 12 x 3 - 4 μ, capitellum small; gill trama not revived well; pileus cuticle of a palisade of clavate-pedicellate nearly hyaline cells; caulocystidia 10 - 16 x 8 - 10 x 3 - 4 μ, almost globose in ventricose part, hardly any neck, and a small capitellum; clamp connections present but difficult to demonstrate.

Conocybe Sm-14257

Pileus 10 - 15 mm. broad, obtusely conic with a flaring margin, expanding to broadly conic with a spreading margin, surface moist and translucent-striate, hygrophanous, "antimony yellow" fading to "tilleul buff" (pale yellow fading to white); flesh very thin and fragile, odor and taste not recorded.

Lamellae ascending adnate, seceding, narrow, close (15 - 16 reach stipe), very pale yellowish brown, edges even.

Stipe 4 - 5 cm. long, 1 mm. thick, equal, very fragile and delicate, whitish and pruinose ± over all, naked and dingy yellow in age.

Spores 9 - 11 x 5 - 6 μ, obscurely inequilateral to subelliptic in side view, narrowly elliptic to ovate in face view, smooth, with a relatively thin wall and an obscurely truncate apex from the small apical pore, <u>very pale yellow</u> in H_2O mounts fresh, pallid cinnamon mounted in KOH; basidia 4-spored, hyaline in KOH, 20 - 22 x 8 - 9 μ; pleurocystidia none; cheilocystidia abundant, 12 - 16 x 7 - 12 x 3 - 4 μ, capitellum small; gill trama not revived well; pileus cuticle of a palisade of clavate-pedicellate nearly hyaline cells; caulocystidia 10 - 16 x 8 - 10 x 3 - 4 μ, almost globose in ventricose part, hardly any neck, and a small capitellum; clamp connections present but difficult to demonstrate.

Conocybe Sm-14257, cont.

Habit, habitat and distribution: Scattered on soil, Elwha River, Olympic Mts., Wash., June 10, 1939, Sm-14257.

Observations: This is a truly pale yellow species with pale yellow spores fresh. The whitish stipe darkens to yellow below in age, but from the data available does not darken further.

Conocybe capillaripes Pk. (Sm-52)

Pileus 3-15 mm. broad, obtusely conic to convex, the margin straight at first, expanding to broadly conic or convex, subhygrophanous, surface moist and hoary at first, soon naked, near "olive brown" to "mummy brown" fading to "avellaneous" or near "wood brown", margin slightly striate, elmate when faded; flesh exceedingly fragile, odor and taste none.

Lamellae close, equal, moderately broad, narrowly adnate, pallid becoming dull ochraceous tawny, edges even.

Stipe 1.5-3 cm. long, 1(2) mm. thick or almost filiform, fragile, pale gray and striate at first or white fibrous-prunose, in age naked or nearly so and base becoming vinaceous brown or darker dull brown.

Spores 9-11 × 6-7 μ, ovate in both views, smooth, rich tawny in KOH, truncate from an apical pore; basidia 4-spored, 18-20 × 9-11 μ, clavate, hyaline in KOH; pleurocystidia none; cheilocystidia 15-20 × 7-9(10) × 4-5 μ, ventricose-capitate, the neck ± 1.5 μ thick (nine-pin shaped), hyaline in KOH, smooth, thin-walled; gill trama not reviving well; pileus trama floccose-interwoven and rusty brown in KOH; cuticle on hymeniform layer of clavate cells, interspersed through it are scattered filamentose pilacystidia, pigment incrusted hyphae give rise to cuticular layer; caulocystidia abundant near stipe apex, fusoid-ventricose to clavate but no capitate cells seen; clamp connections present.

Habit, habitat and distribution: Gregarious on a new seeding of grass U. of Mich. campus, July 5, 1935. Sm-52.

Conocybe capillaripes Pk. (Sm-52). Cont.

Observations: The dark brown pileus, slender stature, very fragile consistency, capitate cheilocystidia and fusoid caulocystidia are distinctive. It is much more fragile than C. siliginea siliginea.

Conocybe (Naucoria CA of Burke)

Pileus 2.5 - 5.5 cm. broad, obtusely conic expanding to plane or nearly so, glabrous, moist, hygrophanous, "ochraceous tawny" to "buckthorn brown" fading to "warm buff" and "antimony yellow", perfectly smooth, striatulate moist, in age when water-soaked near cinnamon brown; flesh thin and fragile, taste "strong, disagreeable, green gourdy" - Burke.

Lamellae close (± 32 reach stipe), narrow, adnate or finally with a tooth, dingy cream buff becoming clay color and drying dark tawny, edges even in age.

Stipe 3 - 5 cm. long, 2.5 - 3 mm. thick, with a flanged bulb at the base, tubular glabrous, smooth, longitudinally ridged, and pruinose on the ridges, pale yellowish (Cartridge buff) young, darkening from base up to dingy cinnamon (Sayal brown), base compactly white mycelioid.

Spores 9 - 12 x 5 - 6.5 μ, ellipsoid to slightly ovoid, smooth, truncate from an apical pore; basidia 4-spored, 17 - 20 x 8 - 10 μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 16 - 20 (22) x 8 - 11 x 3.5 - 5 μ, nine-pin-shaped, hyaline or with ochraceous to brown content in KOH, gill trama typical for the genus; pileus of floccose-interwoven hyphae; cuticle on hymeniform layer of clavate-pedicellate cells with ochraceous walls (pedicels often rusty) and with scattered narrowly ventricose capitate pilocystidia 30 - 40 x 7 - 9 x 3 - 5 μ, often with rusty

Conocybe (Naucoria CA of Burke), cont.

brown content (in KOH); caulocystidia similar to pilocystidia; clamp connections present.

Habit, habitat and distribution: Gregarious on open ground near a manure pile, October 31, 1942. Burke - (Naucoria CA).

Observations: This is one of the large-capped species which becomes fully expanded. Its characters in general appear routine for the coprophilous group except for the expanded cap and strong taste.

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stercoraria Watling

Conocybe [illegible]m-13169.

Persoonia 6: 334. 1971

Pileus 1.5-3.5 cm. broad, obtuse to convex, becoming plane, glabrous or the margin occasionally with a few veil fragments if annulus fails to form, surface moist, hygrophanous, "ochraceous tawny" to "buckthorn brown" and striatulate, fading to "light ochraceous buff" or "pinkish buff"; flesh concolorous with the surface, fragile, odor and taste none.

Lamellae close (19-22 reach stipe), narrow to moderately broad, (3-4 mm), 2-3 tiers of lamellulae, depressed-adnate and soon seceding, white when young, soon concolorous with moist pileus, edges even or becoming eroded.

Stipe 5-6 cm. long, 1.5-2 mm. thick, equal, tubular, fragile, near cinnamon buff to "buckthorn brown" above, near "bister" below, darker over all in age, faintly fibrillose-striate, glabrescent; annulus median, membranous, fragile, whitish, with a very broad often recurved margin, not striate, underside fluffy-cottony, very evanescent.

Spores 8-10(11) × 5-6 μ ellipsoid or nearly so, smooth, bright tawny in KOH, distinctly truncate (under high dry) from a broad apical pore; basidia 4-spored, 17-20 × 6-7.5 μ, hyaline in KOH; pleurocystidia none; cheilocystidia scattered, (28)30-37 × 7-10 μ ventricose with obtuse to capitate apices, hyaline, thin-walled, smooth; gill trama interwoven, pale ochraceous in KOH; pileus trama floccose-interwoven beneath an hymeniform cuticle of clavate cells with rusty brown pedicles which have

Conocybe Sm-13169. Cont.

somewhat thickened walls, or pedicels thin-walled and hyaline, clamp connections readily demonstrated on tissue of the stipe.

Habit, habitat and distribution: Scattered on horse dung, Hoh River, near Spruce, Olympic National Park, Wash. May 7, 1939. Sm-13169.

Observations: The slightly larger spores with a broader truncate apex, the paler color, and the capitate cheilocystidia are distinctive.

Conocybe Sm-46538

Pileus ± 10 mm. broad, obtusely conic and remaining so, the margin appressed to stipe at first, surface glabrous, moist, hygrophanous, dull watery ochraceous tawny moist, fading to pale grayish avellaneous; flesh very delicate and fragile, odor and taste not distinctive.

Lamellae ascending adnate, narrow, nearly subdistant at maturity, tawny to slightly darker rusty cinnamon, edges even.

Stipe 3 - 4 cm. long, about 1 mm. thick, equal, very fragile, apex faintly pruinose, remainder naked and shining, pallid to hyaline above, dingy brownish below.

Spores 8.5 - 11 x 4.5 - 5 μ, elliptic or nearly so in side view, narrowly ovate in face view, smooth, apex obscurely truncate from a small apical pore, deep rusty cinnamon in KOH; basidia 16 - 20 x 7 - 8 μ, 4-spored, hyaline in KOH; pleurocystidia none; cheilocystidia small, 14 - 18 x 6 - 9 x 3 - 4 μ, hyaline, thin-walled; gill trama typical for genus; pileus trama of floccose-interwoven hyphae near cinnamon buff in KOH; cuticle a palisade of clavate-pedicellate cells with hardly any color in KOH, hair-like pilocystidia scattered, yellowish in KOH, apices <u>not</u> capitate; caulocystidia clavate and resembling immature basidia (no capitate cells seen); clamp connections present but very difficult to demonstrate.

Conocybe Sm-46588, cont.

Habit, habitat and distribution: Scattered on moss, Papoose Creek, Seven Devils Mts., Idaho, Aug. 23, 1954, Bigelow and Smith 46588.

Observations: The grayish cast evident in faded specimens is retained on drying. It is very close to Sm-52 but has distinctly narrower spores and much different habitat. Sm-33-731 grows on decaying hardwoods and has much darker colors and a pubescent stipe at first.

Conocybe Sm-14109

Pileus 1 - 2.5 cm. broad across the base and 1.5 cm. high, obtusely conic and with a flaring margin, remaining unexpanded, glabrous, moist, hygrophanous, "cinnamon brown" or a little paler and fading to "pinkish buff", translucent striate moist; flesh thin, fragile, concolorous with surface, odor and taste mild.

Lamellae close (about 19 reach the stipe), narrow (1.5 - 2 mm.), ascending adnate, soon seceding, ochraceous tawny at maturity, edges even.

Stipe 4 - 6 cm. long, 1 - 1.5 mm. thick, equal or base with a slight rounded bulb or slightly narrowed above, tubular, very fragile, faintly pruinose over all, or so only at the apex in age, pale honey color above, concolorous with pileus at the base.

Spores 8 - 11 x 5 - 6 μ, narrowly elliptic in face view, in side view subelliptic to obscurely inequilateral, smooth, rusty-cinnamon in KOH, yellow in water mounts of fresh material, truncate at apex from a moderately broad pore; basidia 4- spored, 15 - 20 x 8 - 11 μ, hyaline in KOH; pleurocystidia none; cheilocystidia ninepin-shaped, 16 - 22 x 8 - 11 x 5 - 6 μ, scarcely any neck, smooth, hyaline, thin-walled; gill trama typical of the genus; pileus trama rusty cinnamon in KOH, floccose and interwoven; cuticle a palisade of clavate-pedicellate cells with rusty brown walls in the pedicels, no pilocystidia seen; caulocystidia present as short filaments and some with

Conocybe Sm-14109, cont.

capitate apices; presence of clamp connection uncertain.

Habit, habitat and distribution: Gregarious on conifer needles, Lake Crescent, Wash., June 6, 1939, H. E. Mix, (Sm-14109).

Observations: This is an ordinary-appearing Conocybe with medium-sized spores.

Conocybe Sm-19114

Pileus 1 - 3.5 cm. broad, obtusely conic with a straight margin, expanding to broadly conic, glabrous and naked at all stages, moist, hygrophanous, evenly "russet" when young, soon "ochraceous tawny" along the margin and faintly striatulate, fading to "cinnamon buff" or "pinkish buff", atomate when faded; flesh thin, fragile, concolorous with pileus, odor and taste none.

Lamellae close, narrow (2.5 - 3.5 mm.), ascending adnate, 2 tiers of lamellulae, edges even.

Stipe 3 - 5 cm. long, 1.5 - 2.5 mm. thick, equal, pallid honey color above and pruinose as well as longitudinally striate, appressed fibrillose lower down and sordid brown, gradually darkening to sordid dark reddish brown over all in age; no pseudorhiza present.

Spores 8 - 10 (11) x 4.5 - 5.5 μ, ellipsoid to ovoid, rusty cinnamon in KOH, smooth, apical pore medium-sized and apex truncate; basidia 4-spored, 18 - 22 x 8 - 9 μ, hyaline in KOH; pleurocystidia none; cheilocystidia abundant, ninepin-shaped, 25 - 35 x 10 - 18 x 6 - 11 μ, the neck very short, hyaline, thin-walled in KOH, smooth; gill trama typical for genus; pileus trama of floccose-interwoven hyphae dingy ochraceous tawny in KOH; cuticle a palisade of clavate to vesiculose cells and interspersed freely through it are pilocystidia similar to the cheilocystidia, or with a longer neck 3 - 3.5 μ in diam., and

Conocybe Sm-19114, cont.

some with ochraceous content as revived in KOH; caulocystidia similar to cheilocystidia or larger and fatter, rare to abundant; clamp connections none as far as could be determined.

Habit, habitat and distribution: Scattered on soil on a moist road bank, East Fork, Salmon River, Mt. Hood, Ore., Sept. 27, 1944, Sm-19114.

Observations: The small spores, the large cheilocystidia, and presence of pilocystidia and caulocystidia similar to them, and the russet naked pilei when young and fresh are distinctive.

In Thier's No. 42 from a recent burn in the upper French Creek area of the Medicine Bow National Forest in Wyoming the spores measured 9 - 11 × 5 - 6 μ but the pilocystidia, cheilocystidia and caulocystidia were typical. In age the stipe was smooth and shining. The taste was slightly farinaceous and the odor fungoid. These characters plus the habitat may indicate that we have here a distinct taxon but at present I doubt it.

Conocybe intrusa (Pk) Singer

Pileus 2.5-6 cm. broad, obtuse to convex when young, expanding to plane or with the disc slightly depressed, glabrous, whitish to dull clay color, at times ochraceous tawny to tawny, viscid when moist, even to radially wrinkled; flesh thin, whitish, odor and taste slightly of radish.

Lamellae rounded behind, adnexed to almost free, thin, close, moderately broad to narrow, whitish at first, soon creamy yellowish to tawny ochraceous, finally umber brown, edges slightly crenulate.

Stipe 3-6 cm. long, 4-10 mm. thick, equal or tapering, more or less abruptly bulbous, stuffed becoming hollow, whitish, even or striate above, minutely floccose at first, glabrescent.

Spores 6-8 x 4-5 μ, oval in face view, elliptic in side view to obscurely inequilateral, cinnamon in mass, rusty cinnamon in KOH, apex truncate from a moderately broad apical pore; basidia 23-26 x 6-7 μ, 4-spored; pleurocystidia none seen; cheilocystidia nine-pin-shaped. . . . . .

Conocybe intrusa (Pk) Singer Cont.

Habit, habitat and distribution: Solitary to cespitose, on soil in green houses, uncommon.

Observations:

Conocybe Sm-44

Pileus 4 - 10 mm. broad, broadly convex to plane, evenly "pale pinkish buff" when faded (colors when moist not obtainable), pruinose from cystidia, margin faintly sulcate; flesh rigid and very brittle.

Lamellae moderately close, adnate or slightly toothed, moderately broad, ochraceous tawny from the spores.

Stipe 1 - 2 cm. long, 1.5 mm. thick, equal, fragile, pale gray, covered by minute white-fibrous particles and often longitudinally striate, base somewhat cottony.

Spores 7 - 9 x 4.5 - 5.5 μ, ellipsoid to obscurely inequilateral in side view, oval in face view, smooth, rusty cinnamon in KOH, apical pore present but apex only obscurely truncate; basidia 4-spored, 20 - 24 x 6 - 8 μ, clavate, hyaline in KOH; pleurocystidia none; cheilocystidia ninepin-shaped, 15 - 20 x 7 - 9 (10) x 4 - 5 μ, hyaline in KOH; gill trama typical of the genus; pileus trama of floccose-interwoven hyphae tawny in KOH; cuticle a palisade of clavate-pedicellate cells hyaline to yellowish in KOH and interspersed among these are many ninepin-shaped pilocystidia 20 - 30 x 7 - 10 x 4 - 5 μ, the necks often elongated; caulocystidia similar to cheilocystidia; clamp connections present.

Habit, habitat and distribution: Gregarious on manured soil freshly seeded to grass, U. of M. campus, June 26, 1934, Sm-44.

Conocybe Sm-44, cont.

Observations: This is a broad-capped, short-stiped species which is extremely fragile, has small spores, abundant capitate pilocystidia, and a grayish stipe.

Conocybe Sm-46637

Pileus 6 - 12 mm. broad, obtusely conic expanding to convex, striate moist, surface glabrous, hygrophanous, dull ochraceous tawny moist, fading to cinnamon buff and with a grayish tone dried.

Lamellae broad, close, ascending-adnate at first, pallid brownish young, rusty cinnamon at maturity, edges even.

Stipe 2.5 - 3.5 cm. long, about 1 mm. thick, equal, fragile, pale ochraceous tawny over all, pruinose especially above, naked below.

Spores 7 - 9 x 5 - 5.5 μ, ovate in face view, broadly and obscurely inequilateral in side view, tawny cinnamon in KOH, smooth, truncate from an apical pore; basidia 4-spored, 12 - 16 x 9 - 10 μ, yellowish to hyaline in KOH; pleurocystidia none; cheilocystidia abundant, ninepin-shape, 18 - 23 x 9 - 12 x 6 - 7 μ, ventricose portion almost globose, hyaline and smooth in KOH; gill trama typical for genus; pileus trama of floccose-interwoven hyphae dark ochraceous tawny in KOH from incrusting material; cuticle a palisade of clavate-pedicellate cells with vesiculose elements intermingled and also rarely some pilocystidia similar to the cheilocystidia or less ventricose; caulocystidia similar to cheilocystidia; clamp connections present.

Habit, habitat and distribution: On moss, Papoose Creek, Seven Devils Mts., Idaho, August 23, 1934, Bigelow and Smith 46637.

Conocybe Sm-46637, cont.

Observations: The short fat spores separate this from 46588, but there are differences in the color of the stipe and size of the cheilocystidia as well.

Conocybe pilosella (Fr.) Kuhner - Sm-4180

Pileus 1 - 3 cm. broad, broadly convex with a curved-in margin, expanding to nearly plane, at first densely and finely pubescent but soon naked and glabrous, striate when moist, hygrophanous, "bister" to "mummy brown" on disc and near "snuff brown" over the margin, becoming paler before fading to avellaneous over marginal area and disc a dingy tan at times shaded with gray; odor and taste not recorded.

Lamellae crowded, narrow, adnate, whitish becoming dingy tawny-cinnamon, edges even.

Stipe 2 - 3 cm. long, ± 1.00 mm. thick, equal, whitish, pubescent, slightly brownish at base in age; no veil present.

Spores 6 - 6.5 (7) x 3.5 μ, obscurely inequilateral in side view, elliptic to oblong in face view, smooth, pale tawny in KOH, apical pore very minute and apex not truncate; basidia 4-spored, 20 - 22 x 6 - 7 μ, hyaline in KOH; pleurocystidia none seen; cheilocystidia abundant, ninepin-shaped, 18 - 23 x 9 - 12 x 4 - 5 μ, hyaline in KOH, thin-walled, smooth; gill trama typical for genus; pileus trama of floccose-interwoven hyphae pallid to tawny in KOH; cuticle a palisade of clavate cells with dingy brown pedicels and some cells filled with a pale bister content, pilo-cystidia present as contorted filaments mostly with capitate apices; caulocystidia ventricose at base with elongated neck

Conocybe pilosella (Fr.) Kuhner - Sm-4180, cont.

or neck produced into a crooked filament and in neither case capitate; clamp connections present.

Habit, habitat and distribution: Scattered on debris Lake Timagami, Ontario, August 26, 1936, Sm-4180.

Observations: The minute spores are distinctive along with the capitate cheilocystidia and pilocystidia and non-capitate caulocystidia. The colors, in addition, are very dingy brown for the genus.

Conocybe Sm-31236

Pileus 10 - 20 mm. broad, 8 - 12 mm. high, obtusely conic, in age the margin flaring and the umbo obtuse, surface moist and hygrophanous, dark tawny to "ochraceous tawny" moist, (margin paler than disc), fading on the disc or around it first to a "cinnamon buff", moist margin translucent-striate, surface ± hoary-pubescent at first, soon naked; flesh thin and fragile, odor and taste not distinctive.

Lamellae close, narrow, ascending-adnate, near cinnamon buff and becoming "ochraceous tawny or duller, edges even.

Stipe 1.5 - 2 cm. long, 1.5 - 2.5 mm. thick, equal above a small clavate basal bulb, fragile, watery honey color beneath a dense pruinose-pubescent coating at first, changing to dark honey color to dull tawny in age.

Spores 7 - 8 x 4 - 4.5 μ, obscurely inequilateral in side view, in face view narrowly elliptic to ovate, smooth, pale tawny in KOH, apical pore not evident (under high dry lens) and apex not appearing truncate; basidia 4-spored, 14 - 17 x 6 - 7 μ, hyaline in KOH; pleurocystidia none; cheilocystidia numerous, 15 - 20 x 6 - 10 x 4 - 5 μ, ninepin-shaped with a very thin, short neck, hyaline in KOH, thin-walled; gill trama typical for genus, ochraceous in KOH; pileus trama of floccose interwoven hyphae pale ochraceous

Conocybe Sm-31236, cont.

to pale tawny in KOH; cuticle a palisade of clavate-pedicellate and vesiculose cells in somewhat staggered arrangement, the walls pale ochraceous, pilocystidia present, capitate and gradually enlarged from the neck to the base, 20 - 26 x 5 - 7 x 4 - 5 μ, hyaline or dingy ochraceous in KOH; caulocystidia filamentose 20 - 35 x 4 - 4.5 (5) μ, often crooked, many nests of clavate cells 15 - 20 x 7 - 8 also present (none seen with sterigmata); clamp connections rare and difficult to demonstrate.

Habit, habitat and distribution: Scattered on an alder log, Lower Takoma Creek, Mt. Rainier National Park, Washington, September 14, 1948, Sm-31236.

Observations:

Conocybe Sm-25948

Pileus 1 - 2.5 cm. broad, obtusely conic with a straight margin when young, expanding to broadly conic or nearly convex, surface moist and hygrophanus, "cinnamon brown" or nearly so moist and then finely pubescent from projecting pilocystidia, naked in age and then usually pale tan; odor and taste not recorded.

Lamellae, adnate, crowded, narrow, edges even, when young pinkish buff, darker cinnamon to dull tan in age.

Stipe 2 - 4 (6) cm. long, 1 - 1.5 mm. thick, equal, fragile, pubescent like the pileus, dingy honey color over all or pallid above at first, darkening from base upward.

Spores 6 - 7 x 4 - 4.5 μ, elliptic in face view, elliptic to obscurely inequilateral in side view, smooth, tawny in KOH, apical pore present but minute; basidia 4-spored, 22 - 25 x 7 - 9 μ, yellowish in KOH (sections of hymenium); pleurocystidia none; cheilocystidia abundant 18 - 24 x 7 - 12 x 4 - 6 μ, ninepin-shaped, smooth, many yellowish in KOH; gill trama interwoven, rusty yellow brown in KOH; pileus trama rusty brown in KOH, of floccose interwoven hyphae; cuticle a palisade of clavate pedicellate cells slightly colored in KOH, <u>numerous</u> pilocystidia present, narrowly ventricose and apex often proliferated into a contorted filament, many with merely obtuse apices and many with dingy ochraceous content; caulocystidia in patches,

Conocybe Sm-25948, cont.

ventricose at base and with contorted apices; clamp connections present.

Habit, habitat and distribution: Scattered on very rotten wood, Harbor Springs, Michigan, July 23, 1947, Sm-25948.

Observations: There are no capitate pilocystidia, which separates it from Sm-4180 and the spores are broader.

Conocybe Sm-33-731.

Pileus 1-2 cm. broad, obtusely conic, expanding to broadly conic or with a flaring margin, surface glabrous (or minutely pruinose pubescent), moist, hygrophanous, "Bay" when young, fading slowly to tawny, striate to disc when moist; flesh thin, odor and taste not distinctive.

Lamellae very narrow, close, adnate, cinnamon, edges even and not fimbriate.

Stipe 2-4 cm. long, ± 2 mm. thick, whitish at first and pubescent, soon only white-fibrous, striate at apex, glabrescent below, cinnamon in age; no veil present (buttons observed).

Spores 7-9 × 4-4.5 μ, obscurely inequilateral in side view, ovate in face view to subelliptic, smooth, rusty cinnamon in KOH, apex with a small pore but not truncate; basidia four-spored, 20-24 × 7-9 μ, hyaline in KOH; pleurocystidia none; cheilocystidia scattered, 23-27 × 7-10 μ, nine-pin-shaped, hyaline in KOH, thin-walled; gill trama typical for genus; pileus trama with a cuticle of clavate to inflated nearly hyaline cells among which are interspersed filaments 3-5 μ in diam. as pilocystidia; clamp connections not found.

Habit, habitat and distribution: Scattered on a rotten hardwood log, Harbor Springs, Mich. Aug. 21, 1933. Sm-33-731.

Observations: Buttons were observed and there was no veil so C. septentrionalis is ruled out. The deep red-brown young pilei, pale cinnamon gills at the same stage, and whitish

Conocybe Sm-33-731.

pubescent stipe which darkens to cinnamon in age are distinctive.