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Conocybe Notebook 1

L. R. Hesler

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KEY TO SECTIONS AND SUBSECTIONS OF CONOCYBE

1. Cheilocystidie ± fusoid-ventricose, (or at least not nine-pin shaped -- if truly capitule see next choice) 2
1. Cheilocystidie 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. Nauoricoides — 4
 3. Veil absent or extremely rudimentary. . . . Sec. Filiformes — 8
 4. Veil present, sometimes leaving an annulus.
 Sec. Sententriionales — 16
 5. 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 trispora, 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.

July 10, 1952, young pileus, surface smooth.

July 10, 1952, pileus 2.5 cm. thick, thinning toward

center, becoming white towards center, thickening towards

margin, becoming yellowish brown, becoming yellowish brown

yellowish brown, becoming yellowish brown, becoming yellowish brown

CONOCYBE

SECTION PHOLIOTELLA

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

1. Spores smaller 2. C. rugosa? (Sm-33856) *fusicola* Waller

2. Growing on dung 3. C. rugosa? (Sm-16532)

2. Growing on soil and debris. 4. C. rugosa? (Sm-16532)

2 X

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-chloraceous 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.

Spores 3-4.5 \times 1-1.5 μ , smooth, slightly conical, smooth or finely wavy, pale yellow when young but deep darkening from the base upward. Spores of "young" stages all seem the same, suggesting the ability of extensively changing spore ultrastructure, consistent with my previous observations, particularly those where, probably in different localities, uniformly smooth spores.

Dimensions 3-4.5 \times 1-1.5 μ , apparently uniform with respect to size from initial stage, until late, though otherwise very variable. Basidiospores 3.5-4.5 \times 1-1.5 μ , rounded to pale yellow, smooth, sterigmateless, except apically where a slight swelling, 10-15 μ high. Basidiospores have a thin, indistinct, thin-walled, relatively smooth, irregular capillary gelatious

finicola Wallin

Gonocybe Sm-12856.

Personia 6:335. (97)

Pileus 1-2.5 cm. broad, obtusely conic, the margin straight, expanding to broadly conic or with a flaring margin and disc obtusely umboate, 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, ednate (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 \pm 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 clevate to pear-shaped cells with \pm thickened rusty cinnamon pedicels 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 (or 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.

Spores dark brown, dryish greyish tan, with a few tiny light brown ones.

The spores are thick-walled, smooth or slightly roughened, the surface of the spore wall appearing finely granular, yellowish tan, *Ascochyta*-brownish tan, 8-10 µ in diameter.

Cystidia, dark brown, thick-walled, rounded, pointed, some short, some long, 6-10 µ, pale yellowish brown, surface covered by thin fine granules, numerous. Basidiospores 6-8 µ long, 3-4 µ wide, brownish yellow, smooth, thin-walled, concolorous, with a few small dark brown spots.

Another spore of *Asterophora* affinis was seen, which may be *Asterophora* fuscipes Pers. It has a smooth, thin-walled spore 8-10 µ long, 4-5 µ wide, brownish yellow, smooth, thin-walled, with a few small dark brown spots. Cystidia, 6-8 µ long, 3-4 µ wide, yellowish tan, pointed, surface covered by thin fine granules, numerous. Basidiospores 6-8 µ long, 3-4 µ wide, brownish yellow, smooth, thin-walled, concolorous, with a few small dark brown spots.

4

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, conolorous with cap surface, odor and taste not distinctive.

Lamellae crowded, narrow (\pm 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 pruinose above the annulus, thinly fibrillose below; annulus, superior, membranous, striate above and matted fibrillose underneath, often evanescent.

Spores 7-9 \times 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 \times 6-7 μ , hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 24-32 \times 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 floccose and interwoven beneath the hymeniform cuticle, pale to dark rusty cinnamon in KOH; cuticle an hymeniform layer of elevate 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 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 downward, tubular, cartilaginous-firm, pallid at first end loosely coated with veil remnants, becoming dark brown to bister from base upward in age.

Spores 6.5-8.5 x 4.5-5.0, ellipsoid, smooth tawny in KOH, ochraceous tawny in Melzer's sol., no apical pore visible; basidia 4-spored, 18-22 x 6-7 μ , hyaline in KOH; pleurocystidie none; cheilocystidie 20-30 x 6-12 μ , either clavate and 6-10 μ in diameter, ^dfusoid 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 floccose-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 ^hTakoma Creek, Mt. Rainier National Park, Oct. 4, 1952. Sm-40537.

Conocybe Sm-40537. Cont.

Observations: In Sm-40615 the cap was ochre 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. Faint blue green staining, very pale, almost non-existent on stipe tip.

Additional notes for identification. The following additional details, possibly aiding identification, are the following: orange caps,

stipes 3-6 mm. long, 2-3 mm. thick at apex, apical setae numerous, scattered over cap, complete, overlapping annulus, yellowish, blackish and brownish purple pilei with whitish, bluishgreen edges, bluishgreen stem with blue base.

Spores 8-10 µ long, 5-6 µ wide, smooth, tan to yellowish, smooth or slightly roughened surface, yellowish pilei with whiteish, tanish, tanishyellowish stipes 3-6 mm. long, with blueish, blackish, and brownish purple pilei with whitish, bluishgreen edges, bluishgreen stem with blue base. Spores 8-10 µ long, 5-6 µ wide, smooth, tan to yellowish, smooth or slightly roughened surface, yellowish pilei with whiteish, tanish, tanishyellowish stipes 3-6 mm. long, with blueish, blackish, and brownish purple pilei with whitish, bluishgreen edges, bluishgreen stem with blue base. Spores 8-10 µ long, 5-6 µ wide, smooth, tan to yellowish, smooth or slightly roughened surface, yellowish pilei with whiteish, tanish, tanishyellowish stipes 3-6 mm. long, with blueish, blackish, and brownish purple pilei with whitish, bluishgreen edges, bluishgreen stem with blue base.

Spores, smooth, and shinybrownish. Spores 8-10 µ long, 5-6 µ wide, smooth, tan to yellowish, smooth or slightly roughened surface, yellowish pilei with whiteish, tanish, tanishyellowish stipes 3-6 mm. long, with blueish, blackish, and brownish purple pilei with whitish, bluishgreen edges, bluishgreen stem with blue base.

6.
DC.

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 fuscid-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

Conocybe Sm-44925, cont.

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 6 - 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

Gonocybe Sm-14173, cont.

in KOH, of interwoven floccose hyphae with incrusted pigment; cuticle a layer of globose and clavate cells somewhat staggered in arrangement (\pm 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, Elwha River, Olympic Mts., Wash., June 8, 1939, Sm-14173.

Observations: This is a member of the *G. 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.

S. 70

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, fuscoid-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.

Other 14173 = 34533 sp. found July 7, 1950, same place, same depth, same soil, on the same slope, with a thin layer of humus over the talus soil, grassy slopes, mostly sunny, south or sunny ridges above.

Spores 10 - 15.5 x 4.5 - 5.5 x 2.5 - 3.5 μ , smooth walls in the early hyphal conditions but with age, simple, with annulus often around young ones; basidia terminal, 20 - 30 x 3 - 5 x 2 μ , sterile at first, becoming yellowish brownish, becoming brownish, terminal sterile layer white, sterile and changes to yellowish brown, 20 - 30 x 3 - 5 μ , hyphae, pale yellow, mostly with some hyphae for power, others brownish tan brownish yellow pale yellowish brownish yellowish tan brownish and pale yellowish yellowish white a yellowish off-white yellowish white with some brownish yellowish, the yellowish yellow brownish brownish brownish yellowish with elongated points and replaced by irregular

Conocybe plumbeitincta (Atk.)

Galeruca 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, pruinose 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 , fuscoid-ventricose hyaline in KOH, apices obtuse; cheilocystidia similar to the pleurocystidia but smaller, 26-35 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, pileocystidia 40-60 x 8-12 μ , also present, neck in some with pallid thickened walls in narrow part, some pileocysts 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.E. Kauffman.

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

flexipes Wölfliq
Conocybe No-41179
Parasomia 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 \pm 2 deep and not highly colored (pallid) in KOH, no pilo-cystidia 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.

Spores 9 - 12 \times 5 - 7 μ , smooth or finely granular, dark olive, often becoming reddish brown in KOH, scarcely darker when dry, becoming brownish yellow in water, becoming pale yellow in 10% H₂O₂. Basidiocarps on moist mossy ground. Height 10-15 cm. x 5-7 mm. Spores 9-12 \times 5-7 μ . Basidiocarps many, dull brownish tan, conical, 10-15 cm. x 5-7 mm. x 2-3 mm. thick. Stem base solid, upper part hollow. Gills thin, pale tan, becoming yellowish tan, crowded, 10-12 mm. apart. Spores smooth, dark olive, becoming reddish brown in KOH, scarcely darker when dry, becoming pale yellow in water, becoming yellowish tan in 10% H₂O₂. Basidiocarps on moist mossy ground. Height 10-15 cm. x 5-7 mm. Spores 9-12 \times 5-7 μ .

(1)

Conocybe pygmaeaffinis (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 faecal, taste not recorded.

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

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 mycelial and somewhat bulbous.

Spores $7-9 \times 4(9-10 \times 5-5.5 \mu)$, 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 \times 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-walled or in some with a slight thickening in the narrowed apical part; gill trama \pm interwoven and dingy ochraceous in KOH; pileus trama of floccose-interwoven hyphae darker tawny (in KOH) near

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

near the subhymenium than near the cuticle; cuticle an hymeniform layer of staggered elevate hyaline cells (in KOH) with numerous pilocystidia interspersed, pilocystidia fuscid- 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.

Rabit, 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, fuscid 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 gray, 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 spicles, 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 clavete to pyriform or vesiculose hyaline cells, some of which give off apical filaments up to 60 x 4 μ as pilocystidia; oculocystidia about like the cheilocystidia but frequently much more elongated and contorted, spicles 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 cheilocystidie 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.

Notes for new name: Dark brown cap, not shiny, not glaucous, not glistening. Stipe approximately white, sometimes slightly yellowish, often with some brownish discoloration, especially at the base, which becomes brownish towards the top. Pileipellis thin, slightly yellowish, with yellowish rhizomorphs.

Other authority: I have seen the *Smilacina* name used on a single specimen with dark brown cap, indicated by its color, found at the Smilacina River, Jefferson, Mich. 13.2-14.2 mm. diameter. It had a yellowish gleba, pilei and stipe. Dark brown, becoming pale brownish-yellow at the base. The stipe base was yellowish with yellowish rhizomorphs. Filler and Smith New York 971, reporting this to be *C. pallens* C. & R. Johnson, var. *lutea* Murrill. This is also the same species as *Conocybe insueta* Bresadolae. The specimens in question correspond to this. As far as I can ascertain there is no such thing as a "yellowish" gleba, although there are many species with a pale or whitish gleba. I would like to know if this is true or if there is a "yellowish" gleba. There is also the *C. pallens* C. & R. Johnson which is described as having a pale yellowish pileus and a pale brownish stipe, which may be the same as this. Without consulting the names in the literature, it is impossible to say for sure.

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-isabelline 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.

Spores $7-9 \times 4-5 \mu$, ferruginous-tawny, smooth, truncate, ovoid to subelliptic, thick walled; basidie 4-spored, $20-25 \times 7-9 \mu$; pleurocystidia none; cheilocystidia $36-45 \times 9-12 \mu$, fuscid-ventricose with flexuous necks and obtuse to subcapitate apices, hyaline, thin-walled, smooth; gill trama with a filamentous 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.

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. Merrill 99.

Observations: Murrill described the spores as $12-14 \times 6-7 \mu$ 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 (\pm 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.

Measurements: Stipe 3-4.5 mm. thick with very fine transverse
ring markings, often broken.

Spores 7-9 x 4-5 μ , ellipsoid-pyramidal in
some view, white in dry state, smooth, velvety polished in HCl
white to light tanish grey then brownish brownish, becoming brownish
grey to tan in living and dried condition, pallid brownish, some
with a minute cap, but all with sparse hymenium supporting
obliquely rounded basipetal, 16-20 x 8-10 μ , hyphae in
HCl almost colourless, many thin-walled smooth, 2-4 μ in
diameter, others 2-4 μ in diameter in older parts.
Hymenium in HCl, colourless or tan, thin, numerous, with slightly
whitening, elliptic, open, base hyphal for gelous areas
bearing no hyphae, hyphal walls in hymenium 2-4 μ wide, a
gallantly wavy, elongated, thin-walled, hymenium in HCl,
immature whitish 20-25 x 5-6 x 2-3 μ becoming tanish
brownish, walls 2-4 μ in diameter 14-16 μ thick and with sparse, well

Conocybe Sm-42777. C. filipes.

Pileus 6 - 12 mm. broad, oval when young, expanding 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; gill trama 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. 16, 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.

Stipe 3-5 mm. thick, white, very fragile, pale yellowish. Basal portion brownish, below white, without pubescence from underneath; no well defined.

Spores 6.5-7.5 x 3-3.5 μ , oblongo-lanceolate in side view, slightly decurrent onto the stem, smooth, shiny surface. Spore walls with spored pore, thick outside, scarcely thicker toward center, 17-20 μ thick-thin, lighter in color, inconspicuous, very thin-walled, whitish, 20-21 x 3.5-3.8 μ . Basidiospores with long necks and columella absent, hyaline, smooth, unswollen; pale brown outside the gills; pale brown when cleaving, becoming pale yellowish and whitish; interior pale yellowish 10-12 μ x 1.5-2.5 μ smooth and granular, thick 6-8 μ at base, and quite sharply constricted at neck so appearing like a truncated pointed top, slightly irregular at bottom.

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 H₂O fresh; basidia 4-spored, 20 - 25 x 6 - 9 μ , hyaline to ochraceous in KOH; pleurocystidia none seen; cheilocystidia prominent and fuscid-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 $100 - 120 \times 10 - 20 \mu$ 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.

Spores 7-9 \times 4-5 μ , smooth, elliptic, apical, subacute, often elongated or broadly so, the excurrent pileal fibers extending the apex usually appearing dark reddish-brown, granular.

Pileus 3-4 \times 1-2 in., thick, light, grayish-white, often thin, with a few short, dark brownish hairs near the center, becoming brownish-brown at age, slightly glutinous, dark reddish-brown, granular.

Stem 7-9 \times 0.5 in., slightly inclined to side, white, smooth, with a small apical brown spot and a few short brownish hairs, mostly situated in the upper half, 1-2 \times 0.5-1 in., smooth, yellowish-white, covered by the dark reddish-brown granular and glutinous surface, 10-12 \times 1-2 μ , yellow, apical, smooth, associated by the dark reddish-brown pileal hairs below, becoming granular and glutinous, pale brown beneath 10-12 \times 1-2 μ , yellowish-white, smooth, associated by the dark reddish-brown pileal hairs below, becoming granular and glutinous, 10-12 \times 1-2 μ .

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 "Frouts brown" downward and "cley 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; basidios 4-spored, 28-34 x 7-8 μ , pale cinnamon ochraceous in KOH (especially sections of the hymenium); 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.

(7-4)

Coneocybe 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 Takoma,

Washington, which I think is the same species, but which I have not seen. It has a "carob brown" cap, "clay color" gills, and a "brownish tan" stem. The spores are smooth, elliptical, and somewhat pointed at the apex. The spore print is brownish tan. The spore surface is smooth.

Specimen examined: Sm-13259, collected by H. L. Shantz, May 9, 1939, on old camp site, Clearwater River, Olympic Mts., Wash. (holotype). The cap is 1 cm. in diameter, convex, becoming broadly conical, with a prominent central depression. The surface is smooth, shiny, and reddish brown, becoming tan. The gills are numerous, crowded, and somewhat curved, becoming tan, with a few dark brownish spots. The stem is 1 cm. long, 2 mm. in diameter, smooth, shiny, tan, becoming reddish brown. The spores are smooth, elliptical, and pointed at the apex. The spore print is brownish tan. The spore surface is smooth.

Conocybe Sm-28916.

Pileus 1-2 cm. broad, convex with a straight margin, becoming plane or with a low obtuse umbo, surface viscid, glebrous, 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 "ember brown", buttons "suburn" 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 x 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 27-28 x 5-9 μ , the neck narrow and ending in a capillitium 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 pedicels; 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.

Spores 7-9 µ, smooth, elongate-elliptical. Pileus 12 mm. across, dark brown, becoming blackish brown. Habitat on humus with fallen leaves, under birch and maple.

A small brown "pig-in-the-ground" growing among birch and maple humus, with small white, watery pulp somewhat like blood, covering surface extensively.

Pileus 12 mm. brown, fading tan, smooth, shiny, sparsely covered with minute, yellowish, glistening dots, the whitening of the pileus often very intense at the edges, and occurs at maturity. Edge darker tan, 10-12 mm., 10-12 mm., conical, becoming somewhat broadly

flared out. Hymenium cream or tan, shiny, slightly dull, fading to yellowish tan. Gills numerous, bright yellow to pale, somewhat curved, with thin, brownish, membranous margin, light yellow capitate hyphidia, following, with long, narrow, pointed lobules, 25-30 x 3-5 µ. Spores 7-9 µ, elliptical, 2.5-3.5 µ wide, smooth, without granules. Spore print yellowish tan or almost brown. Gills to 40 mm., thickened, becoming yellowish brown, 1-2 mm. thick, with prominent, yellowish brown, longitudinal wrinkles, which gradually merge into all yellowish brown.

Spores smooth and glabrate-hairy. Specimen sent to White, formerly of the New York Botanical Garden, New York, NY, April 26, 1958, and to C. H. Peck, Cornell University, Ithaca, NY, May 2, 1958.

pinguis Walling

Conocybe, Sa-13260.

Personia 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 (\pm 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 \times 4-4.5 μ , subelliptic in side view, narrowly ovate in face, smooth, apical pore distinct but apex not clearly truncate, cinnamon in KOH; basidie 4-spored, 18-20 \times 7-8 μ , hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 34-45 \times 7-9 μ , narrowly ventricose (7-9 μ) with capitate to sub-capitate apices 50 μ in diam. at times nearly cylindric-capitate, smooth, hyaline in KOH; gill trama somewhat interwoven, of inflated cells (10-40 μ diam.) pale cinnamon in KOH; pileus trama deep rusty cinnamon (in KOH) beneath the hymeniform cuticle of pedicellate-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:

Spores smooth & hyaline, 7-10 µm diameter, pale ochreous
brownish when dry, becoming greyish brown when moist.
Pores dark cinnamon brown, slightly darker than the cap surface,
margin paler.

Stems 1-2 mm. diam. 2-3 mm. thick, white, smooth, rounded
when dry, becoming slightly brownish when moist. The stem
surface is covered with fine, irregular, longitudinal and transverse
ridges and furrows. These often extend from the base upwards
and become more prominent, especially at the top, giving it a
wavy, undulating appearance. At the very top, the stem is
narrowed to a point.

Caps 15-20 mm. diam., convex, becoming broadly
campanulate, then somewhat flat-topped, 5-6 mm. thick at the
center, 2-3 mm. thick at the margin, white, smooth, shiny
when dry, becoming greyish brown when moist. The surface
is covered with fine, irregular, longitudinal and transverse
ridges and furrows. These often extend from the base upwards
and become more prominent, especially at the top, giving it a
wavy, undulating appearance. At the very top, the cap is
narrowed to a point.

1948

-brunnea

Conocybe 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 bitter where handled, with a median or lower membranous annulus from the yellowish veil, fibrillose-scurfy above the ring.

Spores $6.5-7 \times 4.5 \mu$, elliptic in side view, slightly bean-shaped in face view, rusty cinnamon in KOH, apical pore minute, apex not truncate; basidia 4-spored, $15-18 \times 6-7 \mu$, sections of hymenium pale cinnamon in KOH and many basidioles with a pale dull cinnamon content; pleurocystidia none seen; cheilocystidia nine-pin-shaped, $20-28 \times 9-11 \times 4-5 \mu$, 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 $25-33 \times 4 \times 5-6 \mu$ 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-b1704. 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.

Cap light tan to tan, hygrophanous, becoming brownish, with golden pink areas soon to cover more of surface, and orange-yellowish margin. True raw yellowish-orange of gills appearing about spore stage.

Spores 8-10 \times 4-5 μ , elliptical to subtriangular, smooth, hyaline, becoming tan to brownish, finally dark brownish reddish, often with minute whitish dots or spots. Basidiospores 14-18 \times 4-5 μ , subtriangular, smooth, pale yellowish, becoming tan to brownish, with minute whitish dots or spots. Basidia 4-spored, sterigmate 10-12 μ long, smooth, becoming tan to brownish, with minute whitish dots or spots. Cystidia numerous, scattered, 10-15 μ long, smooth, pale yellowish, becoming tan to brownish, with minute whitish dots or spots. Pilocystidia numerous, scattered, 10-15 μ long, smooth, pale yellowish, becoming tan to brownish, with minute whitish dots or spots. Hymenial trama thin, cellular, smooth, pale yellowish, becoming tan to brownish, with minute whitish dots or spots. Spore print brownish.

Habitat: On soil, old vegetation, dead foliage, in damp woods, especially near water, also on old stumps, in old fields, etc.

Conocybe septentrionalis (Smith) Kuhner, Persoonia 6 : 315
Pholiota septentrionalis 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 ~~tearing~~ leaning away from stipe and forming patches along the margin of the cap.

Spores 6 - 7.5 (8) \times 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 \times 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) \times 7 - 10 \times 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

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Pholiota septentrionalis 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".

Usually Pholiota spores will have the same shape, size and color as the spores of Conocybe species occurring within the Lepiotaceae, Cortinariaceae, Russulaceae, etc. These spores may have unique and distinct features which can easily distinguish them from spores of other genera.

Spores 8-12 μ wide and 6-8 μ long, ellipsoid to ovoid, smooth, thin-walled, slightly haematoxylin stained at edges, smooth to subguttulate to dark brown, usually apical pore present but not necessarily medially depressed, 16-20 \times 7-10 μ . Hypothecia dull red to reddish brown, often becoming yellowish when old, gills greyish brown, taste faintly sulphuraceous, odor faintly like rotten eggs when dried. Basidiospores smooth in hypothecium (or scattered on sterile wood fragments) (15-20 \times 10-12 μ) or 20-30 \times 8-10 μ in gills of my collections with a smooth wall and a band of a few arcuate or diffuse wavy elongated cells just under surface of gills and spores of different colors.

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-45432
11. On lawns 31. C. necantius 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
capillaris
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)

Strobocaria Wolf

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
* * * * * Aerocybe arvolis 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 blister to mummy brown fresh; stipe whitish at first; spores 6-7 x 3.5 μ
* * * * * C. pilosella Sm-4130
23. Pilocystidia capitate 45. C. Sm-31236
- Pilocystidia not capitate--either filamentose or fuscoid-ventricose. 24

24. Clamp connections present; pileus cinnamon brown 44. C. Sm-24948
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 plane-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 fuscoid-ventricose to contorted pilocystidia with obtuse to subacute apices interspersed, pilocystidia $25 - 36 \times 7 - 11 \mu$; caulo-cystidia clavate, $18 - 24 \times 7 - 11 \mu$, 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.

Specimen 11 - $3^{\frac{1}{2}} \times 6 - 7\frac{1}{2} \mu$, thin, pale tan to yellowish with some whitish fibrils breaking = slight white granules below; gleba very compact, fine white granules above; lamellulae hardly visible at the base, shallow on sides.

Spores $11 - 16 \times 6 - 7\frac{1}{2} \mu$, tan, pale tan to yellowish with some whitish fibrils near the base, smooth to slightly rugulose; in three views, provide two or more distinct apical scars, smooth towards stalk scarred by dark reddish brownish, $16 - 22 \times 7 - 11 \mu$, both other dimensions for 1000; hymenophore pale tan, whitish-purplish, whitish, $16 - 18 \times 1 - 1\frac{1}{2} \text{ cm}$; clamp connections present, numerous, somewhat thickened, becoming more typical for older specimens; pileipellis and subhymenium, yellow to yellowish tan, with numerous

Conocybe siliginea Fr. (Sm-14)
= *nickenia* (acc. to Singer)

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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 $15 - 22 \times 6 - 9 \mu$, 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.

Notes: Pileus, brown, tan, or olive, smooth, yellowish grey fading near the center with age, bright yellowish orange from white when young, with prominent veins. No capitate globose, thick-walled clampings in young.

Spores $16 - 21 \times 3 - 5 \mu$, elliptical to ovoid, smooth or finely granular, with 2-3 fine, smooth annulus from a small, round pore, hyphae numerous but well developed, $20 - 30 \times 2 - 3 \mu$ in thickness up to $10 - 15 \mu$ broad, rounded to slightly lobulate at one end, becoming somewhat irregularly lobulate, $25 - 30 \times 2 - 3 \times 2 - 3 \mu$ to $5 - 6 \mu$ (width) $\times 2 - 3 \mu$ thick, thickened at top, thin-walled, hyphae $10 - 15 \mu$ wide, walls smooth, becoming more granular, often elongated between annulus, a, pallidish yellowish green, becoming brownish tan, pale yellowish green at maturity, becoming tan reddish, a few hairs at gills giving them an ochraceous tint, the pallidish yellowish

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; paraphyses coprinoid; 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;

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Conocybe crispa (Longyear), cont.

cuticle a palisade of clavate to vesiculose hyaline cells, scattered fusoid-ventricose pilocystidia scattered to rare, $24 - 38 \times 5 - 8$ (10) μ , apices acute to obtuse, generally fusoid-ventricose but some with corkscrew-like necks; caulocystidia not capitate mostly clavate to basidicoid 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*.

Basidiospores 5 - 10 μ , 1.5 - 2 μ wide, oval or elongated, smooth, base slightly swollen, yellow, brownish, somewhat or almost colorless, hyaline, subhyaline at maturity.

Pycnospores 15 - 16 \times 2 - 3 μ , in size very subequal to basidiospores, in thin walls smooth, smooth or slightly granular, smooth or with minute granules in older walls, hyaline in KOH; scattered desmodontous chlamydospores very subhyaline scattered 15 - 18 \times 2 - 3 μ , elliptical-shaped, smooth, hyaline to yellowish yellowish brown, hyaline in KOH; other types of chlamydospores hyaline, hyaline in KOH.

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-adnata, 2-3 tiers of lamellulae, "buckthorn brown", edges even.

Stipe 2.5-6.5 cm. long, equal, fragile, concolorous with cap below and paler above, fibrillose-pruinose under a lens.

Spores 11-13(14) \times 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 \times 9-11 μ ; 4-spored, hyaline in KOH; pleurocystidia none; cheilocystidia 16-20 \times 8-11 \times 4-5 μ nine-pin-shaped, hyaline in KOH, smooth, thin-walled; gill trama typical for genus; pileus trama of floccose-interwoven hyphae pale ochraceous tawny near subhymenium and hyaline near cuticle; cuticle a palisade layer of pallid clavate cells with no pilocystidio 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.

Difficulties. Difficulties. Difficulties now, as many specimens, fresh, stained and/or under water bath treated, show very little differentiation. Fructifications, stem and bulbils will differentiate.

Specimens which are young, non-staining, may differ in coloration. This seems evident, especially

when grown on soil, most probably because the soil contains a great variety of organic material.

Fructifications, especially young, may vary greatly among different collections. There are rather many varieties. The differences are so slight, and the species are still so incompletely known, that it is difficult to say definitely exactly what they are, making identification with much difficulty. The young, slender, smooth, cylindrical bulbils are often mistaken for those of *C. acutula*, but the latter are thicker, more rounded, and have a distinct, longitudinal, raised ridge running along its surface. The young, slender, smooth, cylindrical bulbils are often mistaken for those of *C. acutula*, but the latter are thicker, more rounded, and have a distinct, longitudinal, raised ridge running along its surface. The young, slender, smooth, cylindrical bulbils are often mistaken for those of *C. acutula*, but the latter are thicker, more rounded, and have a distinct, longitudinal, raised ridge running along its surface.

and by some, but not by others, as "the white, smooth, bulbiliferous Conocybe" (Schaeffer 1912, p. 191). However,

differences. The differences among different collections are small, but some of them are quite large and important.

Conocybe Sm-23930

Pileum 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 rugulose; 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) \times 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, 15 - 20 \times 7 - 9 μ , hyaline in KOH, pleurocystidia none; cheilocystidia abundant, ninepin-shaped 15 - 20 \times 7 - 10 \times 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 $10 - 13 \times 5 - 6.5 \mu$. 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 never has a whitish stipe and which has less sombre colors.

Conecybe Sm-12093.

Pileus 1-2 cm. broad across the base, conic with a straight margin, 10-15(20) mm. high, merely becoming broadly conic at maturity, glabrous and naked when young and moist, "tawny" and with close translucent striations, hygrophilous and fading to "light ochraceous buff", atonate 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.), eduate, "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 10-11 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, Kalloch, 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 predominantly 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, concolorous 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 *Mycena polycarpon*).

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, 16-22 x 8-9 μ , hyaline in KOH; pleurocystidie none; cheilocystidie abundant, nine-pin-shaped, 14-18 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 subhymenium, paler near the cuticle of clavate to vesiculose cells which are thin-walled, hyaline and collapse readily; caulocystidie minute, ± filamentous to filamentous-occipitate; clamp connections not demonstrated with certainty).

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Coneocybe 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 capophilous species. I saw indications of clamp connections but nothing real convincing.

Edible like, good taste. When dry it becomes brittle, somewhat papery, which may be one safe identification.

Habitat: Common along roadsides, along old fence rows, and also about old stone walls, where the soil is sandy, porous, and dry.

Other collections from Michigan recently collected, from Lake Huron, probably probably from sand or shingle. They appear similar to this but probably differ in having a single, unbroken, more uniform, more compact cap surface. These last specimens were collected at Whitefish Point, Michigan, and in Sable Island, Ontario.

Specimens of *Coneocybe* collected in California, especially from the San Joaquin Valley, are reported to have somewhat different fruiting bodies, perhaps more rounded, perhaps more conical, but still with a rather solid, more or less compact, pale brown cap surface. These last specimens were collected at Salinas, San Luis Obispo, and San Fran-
cisco. At San Fran-
cisco, the fruiting bodies were collected from horse manure in a
paved area near a railroad station. The cap surface was
smooth and the gills were yellowish, the stem white, and the spores
yellowish-brown. The species was described by Vellinga under the name
Coneocybe, although he did not give a name. The name was
proposed by Vellinga, according to Gray, but the name was
not published.

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 × 9 - 10 μ ellipsoid, smooth, truncate from an apical pore, yellow under microscope in H₂O mounts of fresh material; basidia 4 - spored; pleurocystidia none; cheilocystidia nippin-shaped, 14 - 18 × 8 - 10 × 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?

Specimen shows the typical Conocybe sp. shape, the cap 10 mm. wide, pale yellowish, smooth, the gills numerous, numerous, thin, pale yellowish, crowded, slightly decurrent, gills close, edges of caps and gills with some whitish, watery bloom.

Cap 8 - 10 cm. diam., 3 - 3.5 cm. thick, moist, dull, fragile but rigid, whitish buffy points, numerous white fibers in cap, whiteish yellowish subgills (like the cap) but more robust.

Gills 24 - 30 x 12 x 1 - 1.5 mm. thick, pale yellowish brownish tan, broad, rather numerous, the light brownish tan flesh whitish, brittle - sparsely disintegrating, pores whitish-yellow, concolorous, 12 - 15 x 1.5 - 2.0 x .5 - .75 mm. thick, thickish white or yellowish white with numerous longish white with several brownish filamentous projecting from among them, whitish-yellow.

Gonocybe 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 distinctive.

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 × 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 × 10-14 μ , 4-spored, hyaline to yellowish in KOH; cheilocystidia 16-22 × 8-13 × 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 spores not capitate; caulocystidia scattered, crooked-filamentose with spores not 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.

Young specimens with reddish brownish yellowish tinting becoming more yellowish tan with age. They are very watery and brittle when young.

Spores 8-10 μ diameter, smooth and elliptical, somewhat subglobose, light tan, granular surface becoming smooth at maturity.

Spores about 8-10 μ wide, yellowish tan, subglobose, smooth, "ninetrayed" type with markings. Pedicels long thin and slender, silvery. These agreeing again in some respects.

Spores 8-10 μ in diameter, smooth, watery, watery when young, becoming yellowish tan, smooth, granular surface, becoming smooth after maturity. Spores 8-10 μ diameter, smooth, subglobose, smooth, "ninetrayed" type with markings. Pedicels long thin and slender, silvery. These agreeing again in some respects. Spores 8-10 μ diameter, smooth, watery, watery when young, becoming yellowish tan, smooth, granular surface, smooth, "ninetrayed" type with markings. Pedicels long thin and slender, silvery. These agreeing again in some respects. Spores 8-10 μ diameter, smooth, watery, watery when young, becoming yellowish tan, smooth, granular surface, smooth, "ninetrayed" type with markings. Pedicels long thin and slender, silvery. These agreeing again in some respects. Spores 8-10 μ diameter, smooth, watery, watery when young, becoming yellowish tan, smooth, granular surface, smooth, "ninetrayed" type with markings. Pedicels long thin and slender, silvery. These agreeing again in some respects.

Based on all the available material I am unable to decide whether this is a distinct species or not.

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, sub-elliptic to obscurely inequilateral in side view, tawny-cinnamon in KOH, obscurely truncate from a small lens-shaped pore; basidia (20) $2\frac{1}{4}$ - $3\frac{1}{4}$ 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.

Notes: Cap 10-12 mm. diam., E = 10.5 mm., brown, pebbly, whitish, dullish, golden brownish and tanish; surface shiny, base slightly lower and somewhat concolorous to

context. H = 15-17 mm. high, white in texture, pale, whitish to creamily tanish-tan. In side view, context whitish to tan, creamy tanish brown or pink. Lower about 1/3 way basidiocarps 100% H = 17 mm. H = 18 mm. and H = 19 mm., whitish tan which not whitened basidiocarps, breaking to yellow in 100% disintegrating many whitewashable. L = 10-12 mm. - 13-14 mm., breaking to whitish in 100%, disintegrating with some yellow tan in 10% yellow. When dried, cream-colored, the surface over the whitish whitewash disintegrates to a crusty brown granular powder, or whitewash-pellicle-like with numerous small whitening and whitening whitish tan enlarged part. H = 10-11 mm. yellowish tan, mostly whitewashed, whitish in whitewashing. Some whitening present.

Coneocybe 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.

Specimen seen: Same as above, except the cap is more white becoming pale yellowish brown, edges even,

slightly thickened, surface slightly shiny, gills white, which are slightly decurrent, edges on midrib and gills yellowish brown, stem yellowish.

Caps 12-15 mm. wide, whitish or pale yellowish, edges white, becoming yellowish brown, shiny, surface slightly wrinkled in center, surface more white but again appearing yellowish, slightly decurrent, gills 12-15 mm. wide, becoming yellowish brown, surface slightly yellowish, 12-15 mm. long, stem 12-15 mm., whitish, shiny, small, granular, base solid, 12-15 mm. from surface, few fine, short, yellowish, filaments, stems numerous, stems submerged in water, surface a whitish tan or whitish tan to brownish tan, surface with many wrinkles in water, no gills present on stem, submerged at the same depth as cap, surface of surface shiny, edges whitish, granular, present.

Conocybe neocantipus (Atk.)

Galerula neocantipus 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. neocantipus 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, 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, 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.

Locality: According to Mr. John C. Beck, the author (1939) of the original description, the type locality is near the mouth of the Elwha River, Olympic Mts., Washington.

Cap 3-5 cm. globose, 2-3 mm. thick, equal, smooth, shiny, pale yellow, surface pale yellow-green, edges and margin yellowish brown, no distinct margin.

Stipe 3-4.5 cm. x 3 mm. pale yellow, slightly concolorous with cap when young, slightly whitish to whitish-yellow when old, with a relatively thin neck and an abruptly broadened base from the earthy ground color, pale yellowish tan to light brown when young, pale yellowish cream when mature, surface smooth, gills brownish tan, 10-12 x 1-1.5 mm, crowded closely, gill edges not red-brown, solid; pileus surface of a pale tan or straw-colored, nearly yellowish tan; stem surface brownish tan - 10 x 1-1.5 mm, almost glaucous to translucent tan, hardly any surface, and a small sulphuraceous odorous smell present but difficult to determine.

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 "muddy brown" fading to "avellaneous" or near "wood brown", margin slightly striate, glamate when faded; flesh exceedingly fragile, odor and taste none.

Hymenial 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-pruinose, in age naked or nearly so and base becoming vinaceous brown or darker dull brown.

Spores 9-11 x 6-7 μ , ovate in both views, smooth, rich tawny in KOH, truncate from an apical pore; basidia 4-spored, 18-20 x 9-11 μ , clavate, hyaline in KOH; pleurocystidia none; cheilocystidia 15-20 x 7-9(10) x 4-5 μ , ventricose-capitate, the neck \pm 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 capillaries, Pk. (Sm-52). Cont.

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

Spore print: Brownish black. Fruiting at base of old tree in forest, damp ground, slightly shaded, surface rotten, old tree stumps, Douglas, - old wood, broken stumps.

Locality: Oregon, Multnomah County, near Portland, willow thickets, broken stumps, broken stumps.

Habitat: On old tree stumps, often in dense clusters, especially near base and along base of old trees. Commonly found in old, fallen or broken old tree stumps, especially where there are many willows.

Pileus: Dark brown, smooth to shiny, slightly wrinkled, 1 1/2-2 inches in diam. Gills white to light cream, becoming buff-colored in old specimens. Therefore the pilei which are white to pale tan, particularly in old specimens, are probably immature. The flesh is pale to yellowish tan, watery and brittle, smelling unpleasantly like old apples, when cut, and like old apples when dried. However, it is not gummy. The spores are light tan, yellowish, and rather darkened, becoming reddish brown, when dried. They are 9-11 microns in diameter, elliptical, smooth, and with a prominent apiculus. The spore walls are thin and easily ruptured, especially when dry. The spore print is brownish black. The spores are smooth, and the apiculus is well developed, appearing as a small, rounded, pointed mass. The spores are somewhat irregular in shape, some being broader than others, and some being longer than others. Some are angular, some are rounded, and some are elongated. The spores are smooth, and the apiculus is well developed, appearing as a small, rounded, pointed mass. The spores are somewhat irregular in shape, some being broader than others, and some being longer than others. Some are angular, some are rounded, and some are elongated. The spores are smooth, and the apiculus is well developed, appearing as a small, rounded, pointed mass. The spores are somewhat irregular in shape, some being broader than others, and some being longer than others. Some are angular, some are rounded, and some are elongated.

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 (\pm 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 \times 5 - 6.5 μ , ellipsoid to slightly ovoid, smooth, truncate from an apical pore; basidia 4-spored, 17 - 20 \times 8 - 10 μ , hyaline in KOH; pleurocystidia none; cheilocystidia abundant, 16 - 20 (22) \times 8 - 11 \times 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 \times 7 - 9 \times 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.

Cap 3 - 5 cm. thick, 2.5 - 3 cm. thick, white, slightly moist all the time, infrequent glabrous, smooth, tanish-yellow brown, pale yellow on the edges, pale yellowish brownish tanish brown, becoming greenish tan on older specimens. Edge, young caps especially often spreading.

Stems 3 - 5.5" x 2 - 2.5", whitish to slightly pinkish, smooth. Present from the young young margins, few scattered, 17 - 22 x 2 - 2.5", stems becoming numerous, mostly confluent, 20 - 30 long x 2 - 2.5 x 2 - 3 mm., pale yellowish, pale yellowish, hyaline or with indigo stains on lower portion to mid, pink when broken due the creamy yellowish gills. Gills numerous, hyaline or with indigo stains on lower portion to mid, pink when broken due the creamy yellowish gills. Spores 8-10 x 5-6 µ, ellipsoid, smooth, with indigo stains on lower portion to mid, pink when broken due the creamy yellowish gills. Spores 8-10 x 5-6 µ, ellipsoid, smooth, with indigo stains on lower portion to mid, pink when broken due the creamy yellowish gills. Spores 8-10 x 5-6 µ, ellipsoid, smooth, with indigo stains on lower portion to mid, pink when broken due the creamy yellowish gills.

Astrocaryea Watling

Conocybe Sp-13169.

Personia 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 secording, 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, ^{Cinnamon buff to} near "buckthorn brown" above, near "bister" below, darker overall 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; basidios 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 spicules, hyaline, thin-walled, smooth; gill-stroma 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, Nok 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.

Specimens seen: Same as above, but from a different locality, same habitat, same date, same collector, same number.

The cap is dry, tan, dull tan, light tan, usually subglobose, broadly conical to broadly convex, becoming somewhat flat, surface smooth to finely wrinkled, with a few small, dark, brownish, granular, rounded, somewhat concolorous to tan, brownish, yellowish, or even whitish, minute, irregular, pale, or whitish, granular, concolorous. The gills are numerous, crowded, narrow, thin, whitish, becoming tan, brownish, or reddish brown, especially near the margin. The stem is slender, smooth, tan, brownish, or reddish brown, becoming tan, brownish, or reddish brown, especially near the base, with a few small, dark, brownish, granular, rounded, somewhat concolorous to tan, brownish, yellowish, or even whitish, minute, irregular, pale, or whitish, granular, concolorous. The gills are numerous, crowded, narrow, thin, whitish, becoming tan, brownish, or reddish brown, especially near the margin. The stem is slender, smooth, tan, brownish, or reddish brown, becoming tan, brownish, or reddish brown, especially near the base, with a few small, dark, brownish, granular, rounded, somewhat concolorous to tan, brownish, yellowish, or even whitish, minute, irregular, pale, or whitish, granular, concolorous.

Spores 8-11.5 by 5-6.5 microns, ellipsoid to subelliptic, smooth, yellowish tan, with a few small, dark, brownish, granular, rounded, somewhat concolorous to tan, brownish, yellowish, or even whitish, minute, irregular, pale, or whitish, granular, concolorous. The gills are numerous, crowded, narrow, thin, whitish, becoming tan, brownish, or reddish brown, especially near the margin. The stem is slender, smooth, tan, brownish, or reddish brown, becoming tan, brownish, or reddish brown, especially near the base, with a few small, dark, brownish, granular, rounded, somewhat concolorous to tan, brownish, yellowish, or even whitish, minute, irregular, pale, or whitish, granular, concolorous.

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 × 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 × 7 - 8 μ , 4-spored, hyaline in KOH; pleurocystidia none; cheilocystidia small, 14 - 18 × 6 - 9 × 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 not 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.

The following notes describe the dried fruit bodies and spores of this species. Measurements given are approximate, possibly to nearest millimeter. Spore size = 11 x 8.5 μ , width of necking 6 μ . Spore shape = 11 x 8.5 μ , width of necking 6 μ . Spores pale, becoming tan to brown when dry, smooth, and moderately hyaline. Neck of fruit body about equal in width and length to cap, becoming tan to brown when dry, smooth, and slightly hyaline. Spore size = 11 x 8.5 μ , width of necking 6 μ . Spore shape = 11 x 8.5 μ , width of necking 6 μ . Spores pale, becoming tan to brown when dry, smooth, and slightly hyaline. Neck of fruit body about equal in width and length to cap, becoming tan to brown when dry, smooth, and slightly hyaline. Spore size = 11 x 8.5 μ , width of necking 6 μ . Spore shape = 11 x 8.5 μ , width of necking 6 μ . Spores pale, becoming tan to brown when dry, smooth, and slightly hyaline. Neck of fruit body about equal in width and length to cap, becoming tan to brown when dry, smooth, and slightly hyaline. Spore size = 11 x 8.5 μ , width of necking 6 μ . Spore shape = 11 x 8.5 μ , width of necking 6 μ .

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 5 - 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 5 - 11 μ , hyaline in KOH; pleurocystidia none; cheilocystidia ninepin-shaped, 16 - 22 x 5 - 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

Gonocybe 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-looking *Gonocybe* with medium-sized spores.

Cap 10-12 mm, convex, 2-3 mm thick, tan-yellow, smooth. Edge wavy, extending outside, more or less hairy, adnate. Gills adnate, close, thin.

Stem 10-12 cm, slender, 2-3 mm thick, tan-yellow, smooth, with a slight rounded hook at slightly surpassing above. Decurrent, more or less hairy, brittle; position over stem, or perhaps on the upper 1/2 of cap, pale tan or yellowish, becoming white when dry on the stem.

Spores 8-10 \times 5-6 μ , smooth-walled, 10-12 μ long, ellipsoid to ovoid, apex rounded to bluntly pointed, surface somewhat granular, 2.5-3.5 \times 1.5-2.5 μ . Basidia 10-12 long, globose, with 2-4 sterigmate sterigmate, 1.5-2 \times 0.5-1.0 μ , smooth, not thick, slightly pointed. Clamps absent. Spore print pale yellowish brown, darkening and becoming reddish brown in the periphery. Spores easily removed by hand, breaking and subsequently reflecting a pallor of almost-white color with some brown staining in the periphery, no chlorophyll being reflected. A few spores are present on short, ultimate and most often surface mycelial strands of short, ultimate and most often

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 6 - 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 - 15 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 $9 - 11 \times 5 - 6 \mu$ 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:

White spores, 7-10 µ, smooth, with a few minute warts; hymenium white, with no medullary whitish fibrils; stem hollow, thin-walled, with a few small, darkish, irregular spots.

Based upon material received, referred to by Dr. R. H. Peters, 1939, as being independently known as *C. intrusa*, which is an African name according to the author. This species is easily confused with *C. intrusa*, which probably corresponds.

On 22 Dec. 1939, T. M. Smith sent me a dried sample of *Conocybe intrusa* from a tree-fern colony in a forest near William Purdon along the Kiboko River, Mombasa Province, Kenya, with the following note:

"Joseph Hall at Kiboko, aged 16 years" (Mombasa). At about 1000 ft above sea level, probably temperature 15° C., response to rain, probably 1000 mm. (1939), with humidity 70% or possibly greater, ground, among ferns. The author said the specimen followed him from his village, Chirangani, 10 km. from Kiboko. The author is a boy.

Conocybe Sm-44

Pileus 4 - 10 mm. broad, broadly convex to plane, evenly "pale pinkish buff" when faded (color 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. It may also have pale or yellowish gills.

Spores 8 - 10 μ , smooth, white or slightly tinted, subglobose to oval, somewhat longer than the width.

Stipe 1 - 2 cm. long, 1-2 mm. thick, smooth, grayish-white above, colored by minute brownish-brown particles and often becoming bluish-grayish below toward bottom.

Gills 8 - 10 μ thick - 5-6 mm. distance to emanating dissepiments are wide apart, will be three times, more, wider than the distance (p. 506), which may perhaps have been only accidentally mentioned. Median thickness 10-12 μ with a, 12-15 μ at equator. In 50% dilute sulfuric acid they become blackish-brownish brown, then turn brownish tan in 1-2 hr., turning to brownish black except at the growing points. Areas of "darkening" become darker and darker until finally the whole becomes blackish-brownish black. The main difference between this and *C. leptocephala* Léveillé seems to be that in this the main difference among them are more marginate-shaped pilocystidia 10 - 15 μ at P = 20 x 8 - 10 μ long, the main difference concerning which is that in *C. leptocephala* there are no such

gills, though some gills are present. According to me, this will easily lead to its species, L. var. *C. leptocephala*, from which it differs.

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. ~~which had no spores~~
~~anywhere near them.~~

Basidiospores yellowish, becoming brownish at maturity, spores smooth, pale yellowish brownish to tan, larger spores,

Width 2.5-3.5 μ , Length 3.5-4.5 μ , thick, smooth, smooth, with gills numerous near base of stipe, becoming somewhat smooth, smooth surface.

Spores 7-8 x 3.5-4.5 μ , walls thin to thick wavy, smooth to slightly undulating in older spores, smooth otherwise in young spores, becoming more or less wavy brownish tan colored, 10-15 x 3-4 μ , yellowish to tanish to light brownish tan, smooth, smooth wavy surface, rhomboid shape, 10-12 x 5-6 x 3-4 μ , smooth surface almost glabrous, hyaline and smooth in older spores. Looked for some yellow spores but no yellowish gills found. Dark brownish tan gills on the stem becoming darker, with dark brownish tan cap surface. Spores white, smooth, smooth, hyaline, hyaline and also smooth with pale brownish tan cap surface. The gills becoming dark brownish tan, smooth, smooth, hyaline, almost smooth surface present.

Stipe, Bulbous with bulbous base, brownish tan, 20 mm. x 2.5 mm., August 27, 1939. Hyphal and tissue

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Conocybe pilosella (Fr.) Kuhner - Sm-4150

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, \pm 1.00 mm. thick, equal, whitish, pubescent, slightly brownish at base in age; no veil present.

Spores 6 - 6.5 (7) \times 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 \times 6 - 7 μ , hyaline in KOH; pleurocystidia none seen; cheilocystidia abundant, ninepin-shaped, 18 - 23 \times 9 - 12 \times 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.

Spores 8-10 x 3-4 μ , smooth, hyaline, pale yellowish, numerous, scattered or in small groups on the surface.

Cystidia 10-12 x 2-3 μ , smooth, pale yellowish, scattered, numerous, somewhat like those of *Cladonia* or *Cladodiscus*.

Spores 8-10 x 3-5 μ , smooth, hyaline, hygrophanous, tan brown, appearing hyaline on dried stems, smooth, pale brownish tan brown, smooth, some very minute and few with minute warts, scattered, 20-30 x 3-5 x 1-2 μ , hyaline to tan, smooth, smooth-walled, smooth, hygrophanous, smooth, smooth, appearing tan brown, smooth, smooth-walled, smooth, tan brown, smooth, with sparse warts; the surface, often, bears a few *Chlorococcum-licheninum* bodies, visible by lens at 20x - scattered or collected in clusters, walls of the fungi being smooth and often warts visible at 20x pale brownish greenish, pale yellowish greenish, with scattered, thin-walled, mostly white, well-defined, whitish, subcylindrical, rounded and bases of the elongated and

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, $20 - 26 \times 5 - 7 \times 4 - 5 \mu$, hyaline or dingy ochraceous in KOH; caulocystidia filamentose $20 - 35 \times 4 - 4.5 (5) \mu$, often crooked, many nests of clavate cells $15 - 20 \times 7 - 8$ 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:

The author has no personal knowledge of this species, but it appears to be closely related to *C. acutissima* (Berk.) Sing. described by the same author from the same locality.

Cap 1 - 2.5 cm. wide, slightly decurrent at edge where it can give numerous offsets to ground, smooth, pale yellowish brown, slightly yellowish tan near center, very faint pink spot and a few other brownish spots scattered, $10 - 20 \times 5 - 7 \mu$, hyaline in KOH; gills hygrophanous, becoming dark brownish brownish black, $10 - 20 \times 5 - 10 \times 2 - 3 \mu$, adnate, constrictions very thin, short neck, spores tan brown, yellowish pink from dried out flesh pink, colorless in KOH; gills brownish tan, gills numerous, hyphae pale, subcortical

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 hygrophanous, "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, numerous 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,

Gnoeybe 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 capitata pilocystidia, which separates it from Sm-4150 and the spores are broader.

Upper surface brown, tan, or light olive, smooth, brittle, somewhat like the pillow, fibers being visible and not distinct at first, becoming fine hairs.

Spores 6 - 7 x 3 - 4.5 μ , slightly oblong at base, subglobose, ornamentation like that above, mostly smooth but with some faint, irregular, longitudinal lines, becoming more distinct near the base, becoming more prominent toward the apex, giving them a sort of zig-zag appearance. Surface with a network of shallow grooves and wrinkles, becoming deeper and more distinct, especially near the base, giving them the appearance of ridges between depressions, with a number of shallow pits. Spores 6 - 7 x 3 - 4.5 μ , smooth, becoming finely granular, becoming more distinct, especially near the base, giving them a sort of zig-zag appearance. Surface with a network of shallow grooves and wrinkles, becoming deeper and more distinct, especially near the base, giving them the appearance of ridges between depressions, with a number of shallow pits.

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, hygrophaenous, "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; basidie 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. This is a very interesting species, with its numerous and varied vegetative characters, and the hygrophanous, moist, often gummy, soil it grows in, easily confounds it with other species. It does, however, as I have seen, easily by its gills and stem, to the latter, which are white, with distinct edges.

The fruit body varying, often brown, becoming yellowish
when old, pubescent.

Cap 10-15 mm., broadly elliptical, 2-3 mm. thick, smooth,
subtomentose, pale olive-yellow (Olive-green), turning to greyish brown and
becoming whitish on the margin, and covered with fine, short, greyish

hairs; flesh white, slightly watery, tasteless; odor faintly
musty, faint, like a rank green herb with ammonia. Surface becoming
smooth in full sun, especially on rainy days; surface moist, sticky
to touch, slightly dull, or whitened, appearing watery, moist, and
slimy when dry, especially after rain; taste of the fruit body
and caps of gills like the taste of the water in which they were
grown; spores white, thin-walled, smooth, with a slight
odor, mucilaginous when dry, tasteless.

Habitat: In damp, shaded, overgrown, moist places, on a
rotten log, decaying bark, etc., May-June. Prop. Mr. J. C. - Newell's
Gardens, Berkeley, California, being cultivated along the coast, and
is probably the most common. The taste, both when dried,
when young, and when ripe, is like that of fresh mushrooms, and
when young, the taste is like that of fresh mushrooms, and