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Cortinarius Bulbopodium Notebook 1

L. R. Hesler

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SOUTHEASTERN CORTINARIUS

List of Species. Numbers in Hesler's December, 1955, Key are given.

264	acutus Fr.	23	callochrous Fr.
51	albiceps Murr.	194	campestris Murr.
50	albidiformis Murr.	131	camphoratus Fr.
181	albidulus Murr.	111	canescens Pk.
155	alboviolaceus Fr.	281	castaneus Fr.
176	amarissimus Murr.	116	castanellus Pk.
165	annulatus Pk.	261	castaneoides Pk.
140	anomalus Fr.	203	cinnabarinus Fr.
158	argentatus Fr.	202	cinnamomeus Fr.
35	arquatus (A. & S.) Fr. sensu Lange (as No. 20159)	55	citriniceps Murr.
177	armillatus Fr.	118	colymbadinus Fr.
6	Arnoldae Murr.	78a communis Pk.	
		152	compressus A. H. Smith
153	asper Pk.	38	corrugatus Pk.
36	Atkinsonianus Kauff.	81	corruscans Fr.
53	atribadius Murr.	168	croceocolor Kauff.
259a	badius Pk.	267	cuspidatus (Murr.) Singer
63	balteatus Fr.	2	cylindripes Kauff.
112	Birchfieldii Murr.	173	cylindrisporus Murr.
218	bivelus Fr.	54	Davisii Murr.
115	bolaris Fr.	251	deceptivus Kauff.
42	Boudieri Henry	151	deflexus Murr.
132	Brandlei Pk.	17	delibutus Fr.
233	brunneofulvus Fr.	231	distans Pk.
40	caerulescens Fr.	223	duracinus Fr.
41	No. 22210 caesiocyaneus Britz.	4	elator Fr.
172b	callisteus Fr.	48	elegantior Fr.

- | | | | |
|-----|-------------------------------|-----|-----------------------------------------------------|
| 46 | <i>elegantioides</i> Kauff. | 227 | <i>livor</i> Fr. |
| 70 | <i>equestriformis</i> Murr. | 11 | <i>longisporus</i> (Murr.) Singer |
| 274 | <i>erythrinus</i> Fr. | 18 | <i>luteobrunnescens</i> Smith |
| 217 | <i>evernius</i> Fr. | 138 | <i>malachius</i> Fr. |
| 65 | <i>fimbriatus</i> Murr. | 201 | <i>malicorius</i> Fr. |
| 191 | <i>flammuliformis</i> Murr. | 222 | <i>mammosus</i> Kauff. |
| 185 | <i>flavifolius</i> Pk. | 200 | <i>melleipes</i> (Murr.) Singer |
| 283 | <i>flexipes</i> Fr. | 24 | <i>michiganensis</i> Kauff. |
| 269 | <i>gentilis</i> Fr. | 45 | <i>montanus</i> Kauff. |
| 247 | <i>glandicolor</i> Fr. | 235 | <i>Morrisii</i> Pk. |
| 34 | <i>glaucopus</i> Fr. | 8 | <i>mucifluus</i> Fr. |
| 107 | <i>glutinosus</i> Pk. | 10 | <i>mucosus</i> Fr. |
| 86 | <i>hebelomoides</i> Murr. | 61 | <i>multiformis</i> Fr. |
| 243 | <i>hemitrichus</i> Fr. | 100 | <i>mutabilis</i> Smith |
| 198 | <i>hiemalis</i> Murr. | 9 | <i>muscigenus</i> Pk. |
| 239 | <i>hinnuleus</i> Fr. | 248 | <i>nigrellus</i> Pk. |
| 183 | <i>humicola</i> (Quél.) Maire | 271 | <i>nigrocuspidatus</i> Kauff. |
| 257 | <i>iliopodius</i> Fr. | 144 | <i>obliquus</i> Pk. |
| 108 | <i>infractus</i> Fr. | 276 | <i>obtusus</i> Fr. |
| 12 | <i>iodeoides</i> Kauff. | 68 | <i>olivaceus</i> Pk. |
| 13 | <i>iodes</i> B. & C. | 78 | <i>oreades</i> Murr. |
| 278 | <i>juberinus</i> Fr. | 277 | <i>paleaceus</i> Fr. |
| 113 | <i>lacticeps</i> Murr. | 178 | <i>perferrugineus</i> Murr. |
| 109 | <i>laeticolor</i> Murr. | 280 | <i>periscelis</i> Fr. |
| 98 | <i>lanatipes</i> Pk. | 142 | <i>perviolaceus</i> Murr. |
| 96 | <i>lapidophilus</i> | 205 | <i>phoeniceus</i> var.
<i>occidentalis</i> Smith |
| 69 | <i>largiformis</i> Murr. | 224 | <i>plumiger</i> Fr. |
| 74 | <i>largus</i> Fr. | 67 | <i>porphyropus</i> Fr. |
| 159 | <i>lilacinus</i> Pk. | 33 | <i>praebrevipes</i> Murr. |
| | | 249 | <i>praepallens</i> Pk. |

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|------|------------------------------------------|------|------------------------------------------------|
| 182 | privigniformis Murr. | 104 | subcaespitosus Murr. |
| 253 | privignus Fr. | 75 | subcamphoratus Murr. |
| 1 | pseudo-salor Lange | 76 | subcommunis Murr. |
| 125 | pulchrifolius var.
odorifer Hesler | 89 | subfimbriatus Murr. |
| 126 | pulchrifolius var.
typicus Smith | 184 | subflavifolius Murr. |
| 25 | purpurascens Fr. | 279 | subflexipes Pk. |
| 139a | pusillus Murr. | 49 | subfulmineus Murr. |
| 192 | raphanoides Fr. | 56 | subglaucopus Murr. |
| 225 | renidens Fr. | 139 | subglobisporus Murr. |
| 245 | rigens Fr. | 268 | subjuberinus Murr. |
| 127 | rimosus Pk. | 95 | sublilacinus Murr. |
| 72 | robustus Beardslee | 7 | submarginalis Pk. |
| 37 | rubens Kauff. | 172a | subnotatus Fr. |
| 130 | rubrocinereus Pk. | 160 | subpulchrifolius Kauff. |
| 14 | salor Fr. | 161 | subpulchrifolius var.
microsporus var. nov. |
| 204 | sanguineus Fr. | 26 | subpurpurascens Fr. |
| 275 | scandens Fr. | 226 | subrigens Kauff. |
| 27 | scaurus Fr. | 114 | subrimosus Smith & Hesler |
| 252 | scutulatus Fr. | 135 | subtabularis Kauff. |
| 206 | semisanguineus (Fr.)
Kauff. | 210 | torvus Fr. |
| 17 | sphaerosporus Pk.
(see delibutus Fr.) | 265 | uraceus Fr. |
| 5 | splendidus Pk. | 73 | varicolor Fr. |
| 87 | squalidiformis Murr. | 71 | varius Fr. |
| 147 | squamulosus Pk. | 64 | verruculosus (Murr.) Singer |
| 88 | straminipes Murr. | 19 | vibratilis Fr. |
| 180 | subargentatus Murr. | 20 | vibratilis (large-spored
form) |
| 117 | subaustralis Smith & Hesler | 124 | violaceus Fr. |
| | | 44 | virentophyllus Kauff. |

90	viscibadius Murr.	107a	No. 17195
52	Watsonii Murr.	164	No. 17218
195	Weberi Murr.	190	No. 17219
196	Weberianus (Murr.) Singer	30	No. 17220
272	Westii (Murr.) Singer	15	No. 17229
43	No. 9635	216	No. 17248
3	No. 12320	241	No. 17271
242	No. 12708	230	No. 17298
171	No. 13820	187	No. 17692
121	No. 13917	188	No. 17903
166	No. 13918	16	No. 18045
66	No. 14032	106	No. 18162
263	No. 14776	122	No. 18570
168a	No. 16416	122	No. 18571
179	No. 16426	213	No. 18575
238	No. 16427	207	No. 18582
15	No. 16564	162	No. 18586
47	No. 16565	186	No. 18603
21	No. 16566	189	No. 18606
77	No. 16568	148	No. 18607
197	No. 16617	143	No. 18612
110	No. 17062	32	No. 18640
133	No. 17068	211	No. 18646
128	No. 17072	141	No. 18653
134	No. 17118	137	No. 18661
172a	No. 17135	129	No. 18667
174	No. 17174	99	No. 18695
163	No. 17193	254	No. 19011

209 No. 19012	120 No. 19371	105 No. 20949
212 No. 19170	255 No. 19378	92 No. 20999
82 No. 19215	236 No. 19379	256 No. 21046
79 No. 19223	39 No. 19390	94 No. 21599
119 No. 19224	253 No. 19400	232 No. 21814
219 No. 19252	83 No. 19401	229 No. 21825
220 No. 19253	154 No. 19464	170 No. 21845
285 No. 19254	167 No. 19711	146 No. 21882
258 No. 19256	270 No. 19720	150 No. 21942
100 <i>mutabilis Smith</i>	156 No. 19814	228 No. 22016
100 No. 19262	35 No. 20159	250 No. 22049
101 No. 19275	22 No. 20198	103 No. 22089
62 No. 19276	246 No. 20233	91 No. 22119
262 No. 19279	59 No. 20234	60 No. 22142
193 No. 19280	215 No. 20235	29 No. 22160
221 No. 19281	282 No. 20247	31 No. 22161
136 No. 19286	102 No. 20449	57 No. 22164
260 No. 19288	97 No. 20450	58 No. 22167
244a No. 19298	240 No. 20452	84 No. 22169
244 No. 19306	208 No. 20524	28 No. 22183
80 No. 19308	273 No. 20525	85 No. 22185
237 No. 19309	149 No. 20537	
93 No. 19310	234 No. 20556	
259 No. 19326	123 No. 20559	
284 No. 19338	145 No. 20560	
199 No. 19341	254 No. 20579	
214 No. 19342	157 No. 20585	
266 No. 19347	175 No. 20596	
169 No. 19353		

Hamula astragalina

CORTINARIUS ALBICEPS Murrill

Bulbopodium

Lloydia 5:146. 1942

"Pileus convex to compressed-hemispheric, gregarious, 2-3 cm. broad; surface slightly viscid, smooth, glabrous, white, not shining; margin even, entire, incurved on drying; context very thin, white, odorless, mild, mawkish; lamellae sinuate, plane, broad, close, inserted, entire, dark-roseous when first seen, becoming fulvous; spores irregularly oblong-ovoid, inequilateral, pointed, obliquely apiculate, smooth, 1-guttulate, ferruginous, about $8-10 \times 4-5 \mu$; cystidia none; stipe equal above the globose, immarginate bulb, smooth, white, shining, furfuraceous above, glabrous below, about 4×0.5 cm.; cortina evanescent, leaving no trace.

"Type collected by West, Arnold and Murrill in leaf-mold in low ground under hardwood trees at Magnesia Springs, Alachua Co., Fla., July 15, 1938 (F 17941). Suggesting C. communis Peck. Found but once. My notes on the fresh specimens state that the spores are purplish-brown, but under the microscope they are deep-ferruginous and of the usual Cortinarius type."

Notes on Type

No. 21135, part of type, shows spores $7-10.5 \times 5-6 \mu$, inequilateral, tuberculate.

CORTINARIUS ALBIDIFORMIS Murrill

Bulbafodum

Lloydia 8:280-281. 1945

"Pileus convex to slightly depressed, gregarious, about 3-6 cm. broad; surface viscid, smooth, glabrous, white or pallid, margin even, entire; context thick, white, unchanging, mild or with taste of radishes; lamellae adnate, inserted, rather narrow, much crowded, entire, soon rusty; spores oblong-ellipsoid, smooth, pale bright-yellowish under the microscope, about $6-9 \times 4-5 \mu$; cystidia none; stipe equal or tapering upward above the large bulb, white, smooth, glabrous, about $1.5-3 \times 0.7-1$ cm.; cortina copious but evanescent; bulb obovoid, white, margined, reaching 2 cm. broad.

"Type collected by G. F. Weber in sandy soil under scrub oaks east of Gainesville, Fla., Dec. 27, 1942 (F 19208). Suggesting C. albida Pk., described from New York, but the gills are adnate and the spores smaller."

Notes on Type

No. 21138, part of type, spores $6-9 \times 3.5-4.5 \mu$, ellipsoid, smooth (even under oil).

CORTINARIUS ATRIBADIUS Murrill

Lloydia 7:316-317. 1944

Bulbopoda

"Pileus convex to depressed, solitary, 7.5 cm. broad; surface viscid, smooth, glabrous, uniformly dark-bay, margin even, entire; context white, unchanging when cut, mild, with earthy odor; lamellae adnate, inserted, broad, close, entire, soon fulvous; spores short-fusoid, smooth, opaque, ferruginous, about $11 \times 5.5 \mu$; stipe short, striate, whitish, abruptly bulbous, about 3×1 cm.; bulb large, dark-violet when dry.

"Type collected by W. A. Murrill on a shaded lawn in Gainesville, Fla., Dec. 31, 1940 (F 20063).

"In 1939 (Jour. Elisha Mitchell Sci. Soc. 55:362-366) I gave a brief account of the genus Cortinaria as represented in Florida and described several new species. Those added in the present paper bring the number now known from the state to thirty-four. Further collecting may raise the total to fifty. The percentage of endemic species appears to be large. Cortinaria, adopted by S. F. Gray in 1821, may be considered simply a variant spelling and need not cause any change in current names except to make them feminine instead of masculine."

Notes on Type

Spores of No. 21138, part of type, $10-12 \times 4.5-6 \mu$, tuberculate, limoniform-amygdaliform.

Cortinarius Boudieri Henry

Rubropodium
Key C

Pileus 5-9 cm. broad, convex, expanding, viscid, "clay color," tinged violet under cuticle, somewhat fibrillose, cuticle separate half-way to disk. Flesh thick, white, rather brittle; odor slightly of pears; taste mild. Lamellae sub-emarginate, *at first dull purplish brown, then* "cinnamon-brown" (~~color in young state not seen~~), broad, crowded, edge eroded. Stipe 4-7 cm. x 10-15 mm., dry, dingy brown, fibrillose, solid, *marginate but not depressed* with a bulb (up to 3 cm. diam.). Spores 9-12 x 5-6 μ , *ellipsoid, subinequilateral, minutely warty.* ~~11-12.5 x 5.5-6.5 microns, pointed at one end, slightly rough.~~

Great Smoky Mountains National Park, Tennessee, September.

CORTINARIUS CAERULESCENS Fries

Boletopodium

(N.A.F. 10:298)

"Pileus fleshy, convex, then convex-plane, quite thick, 3-6 cm. broad; surface with a separable, viscid pellicle, glabrous, even, violaceous-blue, ochraceous-tinged on the disk, sometimes entirely ochraceous-yellow, not hygrophanous, the margin at first incurved, pubescent and white, then spreading and violaceous; context pale-violaceous-blue, especially under the cuticle, then whitish, at length ochraceous-stained, the odor slight, the taste mild; lamellae arcuate, then plane or slightly ventricose, attenuate in front, rounded behind, thin, broad, rather broadly adnate, violet-amethyst or violet-blue at first, then rusty-brown, the edge serratulate; stipe cylindric-conic, 3-5 cm. long, 10 mm. thick, with a marginate bulb, fibrous-fleshy, dry, silky-fibrillose, violaceous-blue to amethyst-blue, the bulb white, solid; cortina violaceous at first; universal veil rapidly evanescent; spores subamygdaliform, ellipsoid, tuberculate, 12-14 x 6-7 μ ."

No. 22210

CORTINARIUS ~~GAESTIOCYANEUS~~ Britz.

~~Bot. Centr. 62:307. 1895~~

Bulbopodium

Illustration:

Plate

Pileus 3-6 cm. broad, convex, then expanded-plane, sometimes depressed in the center, viscid, pellicle separable, bluish-violaceous-white to silvery-violaceous, appressed-fibrillose, silky-shining when dry, margin even. Flesh pale-violet, darker next to lamellae, fading slowly, thick on disk; odor and taste mild. Lamellae adnexed, rounded behind, pale-violaceous, soon "Dresden brown," crowded, rather narrow, edges even or becoming eroded. Stipe 3-5 cm. x 5-10 mm., dry, pale violaceous, apex deeper violet, concolorous within, solid, equal above the large, flattened, marginate-depressed bulb, bulb white. Cortina violaceous-white.

Spores 10-12 x 6-7 μ , amygdaliform, tuberculate, in mass: "verona brown."

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

Smith says nearest Sm-43666 But mine showed no red stain in cuticle with KOH.



22210 - *Gyromitra caesiocyanescens* Pritz.

CORTINARIUS CALLOCHROUS Fries

Bulbopodium

(N.A.F. 10:298-299)

"Pileus not large, convex, soon expanded-plane, 3-6 cm. broad; surface bright ocher-yellow to citron-yellow, fulvous on disk, with a viscid pellicle, glabrous, even; context thickish, rather compact, whitish; lamellae emarginate-adnexed, crowded, thin, rather narrow, rosy-violet to violaceous-purple at first, at length pale-clay-cinnamon, the edge serratulate; stipe 3-5 cm. long, 5-9 mm. thick, solid, pale-violaceous or whitish at first, soon becoming dingy-yellowish, equal above the rather small, abrupt, marginate-depressed, shallow bulb, the bulb clothed at first by the yellow universal veil; spores subinequilateral, ellipsoid, 8-9 (rarely 10) x 4-5.5 μ ."

My #14375: spores 9-10.5 x 5-6 μ , tuberculate, subinequilateral.

CORTINARIUS CITRINICEPS Murrill

Lloydia 8:281. 1943

Bulbopoda

"Pileus convex to plane, gregarious, 7-8 cm. broad; surface slimy-viscid, smooth, glabrous, lemon-yellow, margin even, entire; context thin near the margin, lemon-yellow, odorless, mild; lamellae adnexed, broad, crowded, soon bay, entire; spores amygdaloid, rough, deep-ferruginous, about $10 \times 5 \mu$; no cystidia; stipe dry, short, bulbous, solid, lemon-yellow, about $2-3 \times 1-1.5$ cm.; cortina copious, evanescent; bulb short, margined, about 2.5-3 cm. broad.

"Type collected by W. A. Murrill at the edge of laurel-oak woods near Lake Wauberg, Alachua Co., Fla., Jan. 14, 1921 (F 22463). A very attractive species suggesting C. Davisii Murr. in some ways but yellow instead of pale-lilac. When dried the cap and stem became dirty-bay, while the cap is lustrous with its coating of dried gluten. In C. citrinella Kauffm. the stipe is much longer and the spores much broader."

Notes on Murrill's Collection (not the Type)

No. 19838, not the type, spores $8-9 \times 4-4.5 \mu$, tuberculate, limoniform.

CORTINARIUS CORRUGATUS Pk.

Bulbopodium

N. Y. State Mus. Ann. Rept. 24:72. 1872

Pileus 5-12 cm. broad, convex to campanulate, rather prominently and obtusely umbonate, expanding somewhat, glutinous, "zinc orange" when young, then "ochraceous tawny" to "ochraceous orange" or "raw sienna," radiately rugose to disk. Flesh thick on disk, thin elsewhere, pallid; odor and taste mild. Lamellae rounded-adnate, narrowly attached, broad (up to 8 mm.), ventricose, transversely rugose to striate, many short, crowded, at first "light cinnamon drab," then "brownish drab," finally "mikado brown" to "sayal brown" or "cinnamon brown," edges fimbriate. Stipe 6-17 cm. x 8-15 mm., concolor to pileus or paler, often tinged greenish, bulbous, the bulb rounded, more or less depressed, and at first slightly glutinous, then dry, except glutinous basal end, spongy-stuffed or solid, somewhat twisted, apex or upper half golden scurfy. Cortina sparse, evanescent.

Spores 11-16 x 8-10 μ , coarsely tuberculate, ellipsoid, often slightly inequilateral, color in mass: "cinnamon brown" to "fawn color." Pleurocystidia none; cheilocystidia clustered, clavate, 24-38 x 12-14 μ .

Habitat and Distribution. - On soil, in deciduous and mixed woods, Tennessee, Virginia, and North Carolina, June-September.

Discussion. - No. 20917 was found forming a fairy ring, about 20 feet in diameter.



20917 - *Cortinarius corrugatus* PK.



Cortinarius corrugatus Pk.

CORTINARIUS DAVISII Murrill

Lloydia 5:146-147. 1942

Palleopodium

"Pileus convex, not fully expanding, cespitose, 4-6 cm. broad; surface slightly viscid, smooth, glabrous, pale-lilac, margin even, entire; context thick, white, mild, odor slight and rather peculiar; lamellae squarely adnate, crowded, inserted, medium broad, entire, pallid to rusty; spores fusoid, coarsely tuberculate, deep-ferruginous, with a few large granules, about $12 \times 5 \mu$; cystidia none; stipe white above, lilac at the base, $3-4 \times 1.5-2$ cm.; bulb marginate, 2.5 cm. wide; cortina copious, violet, quite persistent, leaving a trace on the stipe.

"Type collected by Eli Davis and Erdman West in a low hammock at Magnesia Springs, Fla., Feb. 11, 1939 (F 19207). Also collected by West and Murrill in South Planera Hammock, Oct. 26, 1938 (F 19216). Suggesting C. velicopia C. H. Kauffm. Mr. Davis came to Florida to hunt myxomycetes. He was inducted into the mysteries of mycology by John Dearness."

Notes on Type

Spores of No. 21139, part of type, $9-12 \times 4.5-5.5 \mu$, amygdaliform, coarsely tuberculate.

CORTINARIUS GLAUCOPUS Fr.
Epicr. Myc., p. 264. 1838

Bulbopodium

Illustration:

Plate

Smith, Univ. Mich. Herb. Contr. No. 2, pl. 8. 1939

Pileus 5-14 cm. broad, convex, expanding plane and more or less depressed, viscid, pellicle separable half-way, silvery-violaceous, marginal third "olive gray," finally more or less brownish or "ochraceous tawny," radiately streaked or rivulose, margin sometimes zoned, even. Flesh white tinged yellow in age, unchanging when bruised, firm; odor mild to slightly musty; taste mild or sweetish to musty. Lamellae adnate-subdecurrent, then emarginate, close or crowded, narrow to medium, caesius to "pallid quaker drab," finally "tawny," scarcely reaching margin, edges eroded. Stipe 3-8 cm. x 8-22 mm., dry, violaceous then tinged tawny, apex persisting "violet-gray," fibrillose-striate solid, flesh bluish, bulb emarginate, not depressed, 2-3.5 cm. diam. Veil copious, fibrillose rusty.

Spores 7-9 x 4-5.5 μ , ellipsoid, punctate, subreticulate (interrupted ridges), "russet" to "snuff brown" in mass.

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



22209 - *Stropharia glaucopus* Fr.

CORTINARIUS MICHIGANENSIS C. H. Kauffman

Bulbopodium

(N.A.F. 10:296)

"Pileus fleshy, compact, firm, broadly convex, then slowly expanded, 8-14 cm. broad; surface pale-violaceous to lilac, unicolorous, the color persistent, glabrous, even, glutinous when moist or young, then viscid, the margin persistently inrolled and tomentose-silky; context very thick, white or tinged with lilac, not changed by bruising, the odor and taste mild; lamellae rounded behind and adnexed, or almost free, narrow, crowded, thin, acuminate in front, pale-violaceous-white at first, then pale-ashy, finally ochraceous-cinnamon, the edge serratulate from the first; stipe stout, solid, 3-6 cm. long, 18-30 mm. thick, pale-violaceous-lilac to whitish, fibrillose from the cortina, marginate-bulbous, the bulb large, up to 4 cm. broad, white beneath, the flesh white except the violaceous apex; cortina bluish-white, at first attached to the bulb, evanescent, not copious; spores narrowly ellipsoid-ovoid, almost smooth, 8-10.5 x 4.5-5.5 μ , pale-ochraceous-cinnamon in mass."

My # 6436: spores 9-10 (11.5) x 5-6 μ ,
tuberculate-warty.

CORTINARIUS MULTIFORMIS Fr.

Epier. Myc., p. 263. 1838

Bulbopodium

Pileus 4-10 cm. broad, convex, expanding-wavy, viscid, "ochraceous buff," chamois to warm buff, canescent when young, radiately wrinkled when dry, glabrous, pellicle separable. Flesh pallid, thick on disk, thin on margin; odor and taste mild. Lamellae adnexed, then emarginate, medium broad, pallid (nearly white) to "avellaneous" at first then pinkish buff, crowded, edges eroded, not reaching margin of pileus. Stipe 3-7 cm. x 14-18 (25) mm. (bulb up to 30 mm.), equal, slightly compressed, dry, marginate-bulbous, pallid to buff, solid; veil white, copious, evanescent.

Spores 7-9 x 4-5 μ , ellipsoidal, at times sub-inequilateral, faintly wrinkled-rough, "buckthorn brown" in mass.

Habitat and Distribution. - On soil and among moss, in coniferous woods, Tennessee and North Carolina, August-December.

Cortinarius multiformis Fr.



22975 - *Cortinarius multiformis* Fr.



22222 - *Cortinarius multiformis* Fr.



18341

Cortinarius multiformis Fr.

Cortinarius praebrevipes Murrill

Bulbophallus

Cortinarius praefelleus Murrill. Elisha Mitchell Sci.

Soc. Jour. 55:363-364. 1939.

Cortinarius Westii Murrill. Elisha Mitchell Sci. Soc. Jour.

55:367. 1939.

Murrill's description (Mycologia 30:369-370. 1938):

"Pileus convex to expanded, not umbonate, gregarious to cespitose, 5-7.5 cm. broad; surface pallid to isabelline, viscid, smooth, glabrous, margin entire, incurved; context pallid, decidedly bitter; lamellae dark-violet when young, soon dirty-brown and at length rusty from the spores, adnexed, rather narrow, crowded, entire; spores subglobose to pyriform, prominently verrucose, ferruginous, uniguttulate, 8.5-9.5 x 6-7 μ ; stipe exceedingly short, at first violet, smooth, glabrous, becoming isabelline when bruised, arising from a large margined bulb, about 2 cm. long and 2-2.5 cm. thick; cortina slight, hyaline, evanescent.

"Type collected by W. A. Murrill in shaded soil at Gainesville, Fla., Aug. 23, 1937 (No. 16003). Also collected by the author later in the same day on a lawn under oaks at Gainesville (No. 15880). Remarkable for its very short stipe. The spores are also rather peculiar and the flesh decidedly bitter. I was surprised to find the spore-print tinted with rose, as in Lepista, although the species plainly belongs in Cortinarius."

Murrill reports that (1944) C. praefelleus Murrill is the same as C. praebrevipes Murrill.

Examination of No. 16128, not type, from Florida, det. Murrill, spores 7.5-9 x 5-6.5 μ , ellipsoid-ovoid, tuberculate-marty. In No. 19834, spores 7.5-9 x 4-5 μ .

In both collections, pilei (dried) are definitely greenish!

CORTINARIUS PURPURASCENS Fr.

Epicr. Myc., p. 265. 1838

Bulboides

Pileus 3-8 cm. broad, convex, finally expanding-convex, viscid, pellicle separable, "slate violet (2)," becoming silvery-olivaceous and variegated brownish (especially on disk), appressed-fibrillose, glabrescent, margin even. Flesh thick, "slate violet (2)" to "deep dull lavender," purplish when bruised; odor and taste mild. Lamellae rounded-adnate to emarginate, "slate violet (2)," deep-purple when bruised, narrow, close to crowded. Stipe 3-5 (7) cm. x 8-18 mm., dry, "slate violet (2)," bulbous, bulb slightly to definitely emarginate, not depressed, soon ovoid, solid, purplish within, darker when bruised.

Spores 8-10 x 5-6 μ , ellipsoid, sub-inequilateral, densely echinulate-warty.

Habitat and Distribution. - On soil, in conifer and mixed woods, Tennessee, North Carolina, and Florida, July-December.



22593 - *Cortinarius*

(near *purpurascens*)

CORTINARIUS RUBENS C. H. Kauffman

Bulbophodum

(N.A.F. 101303)

"Pileus fleshy, hemispheric, then convex-expanded, 3-7 cm. broad; surface vermilion-red to orange-fulvous, unicolorous, with a viscid, separable, toughish pellicle, glabrous, even, shining when dry; context thick, whitish, the odor faintly aromatic, the taste bitterish then disagreeable; lamellae adnexed, becoming emarginate, rather close, cesious or pale-drab at first, then argillaceous-cinnamon, the edge entire and tinged dull-citron-yellowish; stipe 4-7 cm. long, 1-1.5 cm. thick, solid, dry, pale-straw-yellow to whitish, citron-yellowish within, fimbriate from the cortina, equal above the rounded, marginate-depressed bulb, the bulb clothed by the vermilion-red universal veil except below, there white and attached to white mycelium; cortina white or tinged with red; spores almond-shaped, very inequilateral, tuberculate, 15-18 x 7-8.5 μ ."

Hab & Distr. ^{In} ~~On~~ humus, in deciduous woods, North Carolina, August.

(Smith holds my [#]14383 & notes)

Bulbophanes

CORTINARIUS SCAURUS Fr.

Epicr. Myc., p. 312. 1838

Fileus 3-6 cm. broad, hemispheric, then convex, finally nearly plane or slightly discoid from upturned margin, viscid to glutinous (when wet), "brownish olive" when young, then "orange citrine" with disk "mummy brown," finally "sayaal brown," radially streaked darker brown, often retaining greenish or olive hues to maturity, glabrous, margin even. Flesh at first pale blue, then whitish, unchanging, dingy brown in 15% KOH, thick on disk, abruptly thin on margin; odor and taste mild. Lamellae adnexed to emarginate, crowded, rather narrow, at first smoky to "French gray" with a pinkish tint, then "mignonette green," finally "tawny olive" to "sayaal brown," reddish in 15% KOH, transversely rivulose, edges rough to fimbriate. Stipe 3-6.5 cm. x 8-15 mm., equal or tapering upward, base bulbous, bulb ovoid to slightly depressed or sub-emarginate, 2-3 cm. diameter, faintly bluish at apex, elsewhere pallid and tinged greenish, bulb greenish-yellow from universal veil, reddish-brown in 15% KOH, not viscid, solid. Cortina white, with a greenish-yellow tinge.

Spores 8-10 x 5-6 μ , ellipsoid to ovoid, subinequilateral, punctate-warty and subreticulate (under oil), in mass: "sudan brown." Pleurocystidia broadly fusiform, not conspicuous, 32-38 x 9-11 μ ; cheilocystidia clavate, 22-26 x 6-10 μ .

Habitat and Distribution. - On soil, under spruce-fir, North Carolina, July.



21914 - *Cortinarius scabrus* Fr.



22386 - *Cortinarius scabrus* Fr.



22159 - *Stenarius scavrus* Fr.

Bulbopoda

CORTINARIUS SUBFULMINEUS Murrill

Elisha Mitchell Sci. Soc. Jour. 55:365. 1939

"Pileus convex to plane, gregarious to subcespitose, 5-6 cm. broad; surface viscid, smooth, glabrous, sulphureous, testaceous in the center, margin even, entire; context 1.5 cm. thick at the center, whitish, unchanging, with a strong mushroom odor and a mild, slightly mawkish taste; lamellae slightly uncinatae, 5 mm. broad, plane, inserted, crowded, undulate on the edges, sulphur-colored; spores almond-shaped, 1-guttulate, deep-ferruginous, distinctly tuberculose, 11-12 x 5-6 μ ; cystidia none; stipe tapering upward, smooth, glabrous, white with a sulphur tint, solid, white within, 5-7 x 0.7-1.3 cm.; bulb plainly marginate, 2.5 cm. thick and 1 cm. high; cortina evanescent except for a few fibrils on the stipe.

"Type collected by West and Murrill under hardwood trees in South Planera Hammock, eleven miles northwest of Gainesville, Fla., Oct. 26, 1938 (F 18398). An attractively colored species with large, margined bulb and tuberculate spores. Found but once."

Notes on Murrill's Collection (not the Type)

U-T Herbarium No. 16132: Spores 10-12 x 7-8 μ , ellipsoid, scarcely inequilateral, coarsely tuberculate with reticulations which are more or less interrupted.

The pileus (dried) shows a red-brown disk elsewhere pale walnut, and the bulb "purplish vinaceous". My #5 No. 16565 also assumes red tints in the Herbarium.

Cortinarius subglaucopus Murrill

Bulbopodiceps

Murrill's description (Elisha Mitchell Sci. Soc.
Jour. 55:366. 1939):

"Pileus convex to subexpanded, gregarious, 3-5 cm. broad; surface somewhat viscid, smooth, glabrous, violet-white, becoming darker, margin even, entire; context thin, pallid, mild, odorless; lamellae adnexed, ventricose, rather narrow, crowded, entire, becoming fulvous; spores ellipsoid, 1-guttulate, distinctly tuberculate, deep-ferruginous, about 7-8 x 5 μ ; cystidia none; stipe tapering upward, smooth, glabrous, shining, pale-violet-white, 4-5 x 0.7-1.5 cm., the bulb decidedly marginate.

"Type collected by W. A. Murrill under hardwood trees in South Planera Hammock, eleven miles northwest of Gainesville, Fla., Oct. 30, 1938 (F 18407). Resembling C. alboviolaceus but with marginate bulb and tuberculate spores."

CORTINARIUS SUBPURPURASCENS Fr.

Epicr. Myc., p. 265. 1838

Calbapodium

Pileus 4-16 cm. broad, at first hemispheric-convex, then convex, finally expanded, becoming discoid from upturned margin, viscid, at ^{times} ~~first~~ ^{in button stage,} purplish soon "cinnamon buff" to "buckthorn brown," disk "yellow ocher" to "tawny olive," margin paler, appressed-fibrillose, often radiately streaked, pellicle separable, margin even. Flesh "vinaceous gray" (young), finally whitish, unchanging, or becoming slightly vinaceous when cut or bruised; thick, brittle; odor slightly pungent, taste mild. Lamellae rounded-adnate becoming emarginate, "pale quaker drab" (when young), finally "sage brown," purplish when bruised, medium broad, close to crowded, edges even. Stipe 4-9 cm. x 8-16 mm., equal or slightly tapering above the sub-emarginate bulbous base, bulb 2-3.5 cm. diam., dry, fibrillose, "vinaceous gray" when young, dingy brown (mature), purplish when bruised, stuffed, becoming hollow, flesh of stipe white then "bluish lavender when cut or bruised. Cortina white, arachnoid.

Spores 8-9.5 (11) x (4.8) 5-6.5 μ , warty with fine reticulations, ellipsoidal, inequilateral, "sage brown" in mass. Pleurocystidia and cheilocystidia not differentiated. Trama of lamellae nearly parallel, hyphae 11-17 μ broad. No color change in KOH.

Habitat and Distribution. - On soil, in coniferous woods, Tennessee and North Carolina, July-October.

Discussion. - Lange says flesh and stem turn purplish like gills when rubbed. My collections resemble Lange's Tab. 82C.



20565 - *Cortinarius subpurpurascens* Fr.



20960 - *Cotrinarium subpurpurascens* Fr.



Cortinarius subpurpurascens Fr.

CORTINARIUS VIRENTOPHYLLUS Kauff.

Agar. Mich. 1:353. 1918

Bulb of adn

Pileus 5-8 cm. broad, viscid, pellicle separable, grayish olive (not matched) at first, becoming yellowish with olive tints, often streaked brownish, margin even. Flesh pallid, watery-green along lamellae, thick, abruptly thin on margin; odor slight, taste slightly bitter. Lamellae adnate, slightly adnexed, at first "citrine," finally brownish-olive (not matched), close moderately narrow, edges even. Stipe 3-5 cm. x 10-15 mm., "pallid quaker drab," fading downward, bluish within, fading, silky-appressed striate, dry, stuffed then hollow, bulbous, the bulb more or less marginate.

Spores 9-11 x 6.5-7.5 μ , ellipsoid, warty-reticulate.

Habitat and Distribution. - On soil, in deciduous woods, Kentucky, October.

Cortinarius Watsonii Murrill

Bulbophodina

Murrill's description (Lloydia 7:320. 1944):

"Pileus convex to expanded, gregarious, reaching 10 cm. broad; surface slightly viscid, smooth, glabrous, cremeous with pale-fulvous disk, margin even, entire to undulate; context firm, whitish, bitter and astringent; lamellae sinuate, ventricose, inserted, broad, entire, pallid to fulvous; spores subovoid, inequilateral, smooth, granular, pale-ferruginous, 10-12 x 5-6 μ ; stipe subequal above the abrupt bulb, scurfy, pale-yellowish, solid, 5-6 x 1-2 cm.

"Type collected by J. R. Watson and W. A. Murrill on the ground in a high hammock at Gainesville, Fla., Jan. 9, 1940 (F 22510). Common in Alachua Co., especially under live-oaks. Also collected in Columbia, Marion and Lake Counties. The odor varies from pleasant to disagreeable. Sometimes both taste and odor resemble that of radishes."

[#]
~~Spores~~ of 16136, not type, 10-12 x 6-7 μ , inequilateral, smooth to minutely wrinkled rough (under oil, x 1125).

Bulbophodina

Pileus 3-5 cm. broad, viscid, convex, expanding-convex, "pale pinkish buff," finally slightly darker, glabrous, margin even. Flesh pale-violaceous at first, soon white, unchanging when bruised; odor and taste mild. Lamellae adnate to adnexed, narrow, close or crowded, pallid-grayish at first, finally "snuff brown," edges serrulate. Stipe 4-6 cm. x 4-7 mm., whitish, dry, equal above marginate bulb, bulb not depressed, solid.

Spores (8) 10-12.5 x 6-7 μ , ellipsoid, sub-inequilateral, densely echinulate-warty.

Habitat and Distribution. - On soil, in deciduous woods, Tennessee, October.

Cortinarius

(No. 14032)

Bulbopodium
(*multiformis*)

Pileus 5-9 cm. broad, convex, expanded, viscid, "ochraceous buff," radiately corrugated, glabrous, margin even. Flesh thick, firm, white; odor mild; taste of radish. Lamellae adnexed to emarginate, white, then "cinnamon buff," broad, crowded or close, edge undulate-serrate. Stipe 7-13 cm. x 8-15 mm., dry, bulbous (bulb not emarginate), tinged like pileus, with scattered, brown fibrils, solid. Spores 9-11 x 5-6 u, elliptical, smooth *or minutely wrinkled-rough*.

Seems near C. triumphans Fr. ~~and to C. multiformis Fr.~~

Great Smoky Mountains National Park, Tennessee,
September.

Turns red after being
stored in Herbarium

Bulbopodium
(Pterisfolia)

no buttons found;
(color not observed) ↑ of yellow young gills

Smith says new. A very peculiar Bulbodium. ^{to} On being stored, phores turned color to "dull Indian purple".

My 16132, C. subfulmineus Murr., also assumes
reddish-brown + rufaceous (bulk) tints in
the Herbarium. No. 22422 is close to 16565.

Cortinarius

(No. 17220)

Bulbopodium
(*Violacei*)

Pileus 4-6 cm. broad, convex, expanding, viscid, "cinereous," appressed silky-fibrillose, shining when dry, even. Flesh "cinereous," firm, rather thick, thin on margin; odor and taste musty. Lamellae adnate-subdecurrent, "cinereous" to "light violet-gray" (young), finally "sage brown," narrow (2-3 mm.), crowded, edge even. Stipe 4-6 cm. x 8-12 mm., bulbous, bulb 2-3 cm., diam., ovoid, at times flattened and sub-emarginate, dry, "cinereous," silky-striate, solid. Spores 8-10 x 4.5-6.5 microns, ^{minutely pruinose-warty,} smooth, ellipsoidal.

This has the aspect of C. argentatus and C. alboviolaceus but seems not to be either of these.

Great Smoky Mountains National Park, Tennessee, October.

Cortinarius

(No. 18640)

~~Isobolus Dermoglyphus~~

Bulbopodium
viscid,

~~viscid~~
Pileus 5-6.5 cm., convex, ~~convex~~, expanding, "dark plumbago gray," finally tinged brownish on disk, glabrous, even. Flesh thin, concolor; odor and taste none. Lamellae ^uadnexed, ~~close~~, at first ~~concolor to pileus~~, finally "cinnamon brown," medium broad, ~~close~~.
~~deep-violaceous~~
~~rough~~ ^{bulb not depressed} Stipe 3.8-4 cm. x 8-12 mm., concolor, dry, with an emarginate bulb (up to 2 cm. diam.), [^]Spores 8.5-10 x 6-6.5 ^uellipsoid, ~~microns~~, ~~echinulate-warty~~.

~~Near C. michiganensis Kauff.~~

Highlands, North Carolina, August.



18640 - Cortinarius

18847

CORTINARIUS

PHOTO

On soil, pine woods, New Hopewell, Knox Co., Tennessee,
leg. LRH, November 25, 1948

Pileus 6-10 cm broad, convex, "pale ochraceous salmon" to "light pinkish cinnamon," viscid, hoary-silky, margin even. Context compact, flesh thick, abruptly thin at margin, white; odor and taste of radish.

Lamellae narrowly adnate, seceding, crowded, rather broad, at first white, finally "wood brown," edges fimbriate.

Stipe 6-8 cm long, 16-20 mm thick, white, apex white-squamulose, equal, hollow, base bulbous, bulb 22-28 mm diameter, more or less emarginate.

Spores (11)12-14.5 x 6-7.5(8) μ , inequilateral in profile, sublimoniform in face view, coarsely rugose-warty, dark brown in 2% KOH, wall 0.5 μ thick, no germ pore. Basidia 27-38 x 8-10 μ , 4-spored. Pleurocystidia none; cheilocystidia 30-52 x 4-7 μ , cylindric-subcapitate. Gill trama of subparallel hyphae. Pileus cuticle a tangled ixotrichodermium (but not a palisade); hypodermium brown. Stipe cuticle a thick zone of dry, colorless slender hyphae (appearing "cellular" in transverse sections).

This is a Bulbopodium (same as 18861).

Cortinarius

18847



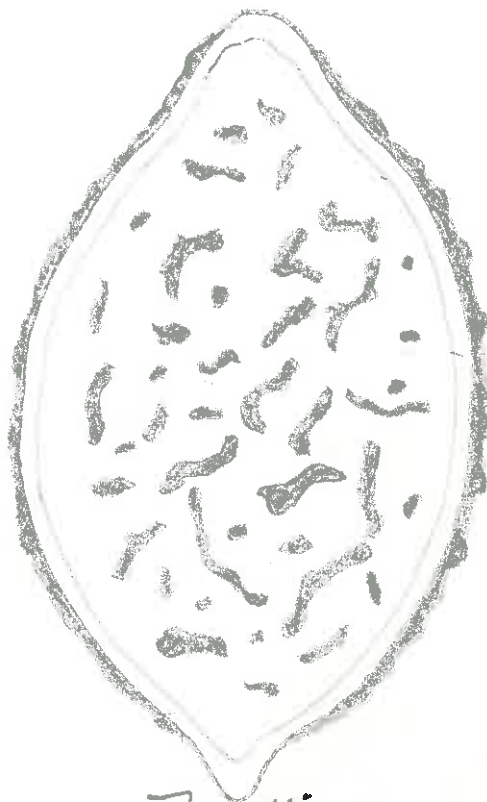
Basidia
x 1000



Ch x 1000



Profile



Face View

Spores x 1000



18847 - *Cortinarius*
(subg. Bulbopodium)

18861

CORTINARIUS

On soil, in oak-pine woods, Claxton School, Anderson County,
Tennessee, December 5, 1948

Spores 10-14(20) x 7-8 μ , inequilateral in profile, sublimoniform in face view, coarsely rugose-warty, no germ-pore. Pleurocystidia none; cheilocystidia 38-62 x 4-7 μ , cylindric-capitate or clavate. Pileus cuticle an interwoven ixotrichodermium. Stipe cuticle a zone of colorless, slender, dry hyphae.

Seems to be same as 18847 (Bulbopodium).



18861 - *Cortinarius*
(*Bulbopodium*)

Cortinarius

Bulbopodum

(No. 19390)

Pileus 4-5 cm., viscid, "deep heliotrope gray," appressed-fibrillose. Flesh firm, violaceous; odor and taste mild. Lamellae emarginate, deep violaceous, crowded, broad. Stipe dry, concolor to pileus, with an emarginate bulb, solid. Spores 10-12 x 5-6.5 μ , rough.

Highlands, North Carolina, frondose woods, September.

Bulbophidius

Pileus 4-6 (9) cm. broad, convex, expanding, finally margin upturned, viscid, "honey yellow" to "warm buff," when young with a tinge of gray to grayish-olive, appressed-fibrillose, margin incurved, even. Flesh soft, thick, "french gray," fading to whitish at maturity; odor and taste mild at first, finally slightly acrid. Lamellae rounded-adnate, seceding, at first "violet gray," finally "wood brown," unchanging when bruised, close to crowded, narrow, edges undulate or even. Stipe 4-7 cm. x 10-15 mm., dry, at first "plumbago gray," fading to whitish but retaining a tint of original color, especially at apex, emarginate-bulbous, not depressed, bulb clay colored and up to 3 cm. diam., solid, flesh tinted plumbago gray. Cortina webby, pallid or white, soon brown (from spores), evanescent.

Spores 8.5-10 x 4.5-6 μ , ellipsoid to ovoid, sub-inequilateral, coarsely warty.

Habitat and Distribution. - On soil, in mixed woods, Tennessee, September.

Discussion. - Color of cuticle, lamellae, and flesh unchanged in KOH. This seems close to C. arquatus Fr. (sensu Lange), but ^{Smith is} ~~I am~~ not satisfied with this name.



20159 - *Cortinarius argutus* ~~Fr. sensu Kauffman~~

Cortinarius

Bulbopodium

(No. 20234)

Pileus 4-6 cm. broad, convex, expanding, viscid, "clay color," with brown tints at maturity, glabrous except margin which is fibrillose-silky. Flesh pallid, thick, firm; odor and taste mild. Lamellae adnate-subdecurrent at first white with a distinct flesh-tint ("pale pinkish cinnamon," then light pinkish cinnamon"), finally "clay color," rather broad, close, edge even. Stipe 25-35 mm. x 10-15 mm., dry, marginate-bulbous, or bulb not marginate, pallid, fibrillose, solid. Spores 8-9 x 4.6-5 microns, minutely rough.

This appears to be a form of C. multiformis.

Great Smoky Mountains National Park, Tennessee, under hemlock-rhododendron, November.

Subbotinum

Pileus 4-8 cm. broad, convex, convex-expanding, viscid, "pale violet," becoming dull "burn blue," finally with stains or areas of clay color, glabrous, even. Flesh pale blue, unchanging, thick; odor and taste mild. Lamellae rounded-adnate, becoming emarginate, at first "Ramier blue," finally "benzo brown" to "brownish drab," unchanging, narrow, close, edges eroded. Stipe 4-7 cm. x 16-28 mm., surface blue, flesh pale bluish, dry, equal above the marginate bulb, bulb 2.5-4 cm. diameter, not depressed, solid. Cortina copious, blue or bluish-white.

Spores 8-9 x 6-7 μ , broadly ellipsoid, coarsely warty, distinctly reticulate, in mass: "verona brown."

Habitat and Distribution. - In deciduous woods, Tennessee, October.

Discussion. - Near C. michiganensis but lacks depressed bulb, and has broader spores. Agrees well with C. caerulescens (sensu Lange), but Kauffman says spores 12-14 x 6-7 μ .

Smith says spores are those of C. sphaerosperma, + the color, cortina + bulb check. But flesh + lamellae ~~do~~ not stain. Says type ^{of C. sphaerosperma} has spores 8-10 x 7-8.5 μ .



22160 - *Cortinarius*

near *caerulescens* (Senn Lange)

(Sp. nov.)
Bulbopodum

Pileus 3.5-6 cm. broad, convex, then plane, viscid, at first "heliotrope slate," then tinged smoky clay with dull bluish margin, usually radiately rugose, margin even. Flesh pale to "French gray," thick on disk, thin on margin; odor slight, taste none. Lamellae rounded-adnate, narrowly attached, at first "violet gray," finally "sage brown," unchanging, ventricose, medium broad, close, edges serrulate. Stipe 4-5 cm. x 6-10 mm., dry, blue, fading, stained brownish, fibrillose, bulbous, bulb emarginate, not depressed, 2-2.5 cm. diam., solid. Cortina violaceous.

Spores 7-9 x 4.5-5.5 μ , subfusoid, subinequilateral, ~~rough~~^{-rough,} punctate, in mass: "sage brown."

Habitat and Distribution. - In deciduous woods, Tennessee, October.

Discussion. - Near C. michiganensis Kauff. which has a much thicker stipe. Cf. C. aggregatus and C. subsolitarius.

Smith agrees it is very close to subsolitarius but the color-pattern different. Clearly a candidate for a sp. nov.



22161 - *Cortinarius*

Bulbifolium

Pileus 6-9 (12) cm. broad, convex, expanding-convex, viscid, pellicle separable to disk, "clay color," at times tinged "ochraceous buff," glabrous or fibrillose, somewhat streaked, even. Flesh white, thick on disk, abruptly thin on margin; odor and taste of radish. Lamellae adnexed, at first "pinkish buff" to "cinnamon buff," finally "sage brown," unchanging, medium broad, close, edges eroded. Stipe 5-7 cm. x 12-18 mm., dingy, apex caesius or pale violaceous, bulbous, bulb emarginate, not depressed, dry, solid. Cortina very copious, white, profuse on stipe where it stains brown by spores.

Spores 8-10 (11) x 5-6 μ , ellipsoid-fusoid, sub-inequilateral, warty, in mass: "snuff brown." Pl. name ?

Habitat and Distribution. - In deciduous woods, Tennessee, October.

Smith says close to his #20929, but the sharp raphanoid odor & taste & violet in stipe make it distinct.



22164 - *Cortinarius*

sp nov (No. 22198)
CORTINARIUS ~~ATKINSONIANUS~~ Kauff.

Bulbopodina

Torrey Bot. Club Bul. 32:324. 1905

Pileus 6-9 cm. broad, convex, expanding, viscid, pellicle separable, at first "tawny," margin paler, at maturity the disk remaining "tawny," marginal half "sea-foam green," glabrous, margin even. Flesh thick, soft, abruptly thin on margin, "vinaceous-lavender," unchanging; odor and taste like raw potatoes or sub-raphanous. Lamellae adnate then adnexed, at first "vinaceous-lavender," then tinged green (base remaining lavender), finally "buffy brown" to "Prout's brown," unchanging when bruised, medium broad, tapering both ways, rather close. Stipe 6-10 cm. x 8-15 mm., dry, "pale vinaceous-lilac," with scattered cortina remnants, bulbous, bulb ^{not depressed,} slightly ^{marginate} ~~and~~ up to 2.5 cm. diameter, flesh "vinaceous lavender," solid. Cortina copious, bright yellow, tinged greenish.

Spores 14-17 x 7.5-10 μ , limoniform, coarsely warty.

Habitat and Distribution. - On soil, in deep humus, mixed woods, Kentucky, October.

CORTINARIUS NO. 22295

(Lowy #1723)

Pileus (dried) violet; sections indicate surface is fibrillose; cuticle unchanged in KOH. Stipe with a depressed marginate bulb.

Spores 8.5-9.5 x 4.5-5 μ , ellipsoid, wrinkled.
Pleurocystidia none; cheilocystidia few, clavate,
25-30 x 5-7 μ . Cuticle of pileus of appressed, somewhat interwoven hyphae.

Seems to be a Bulbopodium, near C. subsolitarium Smith.

Bulb of odium
 Turns red in herb.
 of 16565

Pileus 5-11 cm. broad, very viscid, marginal half "baryta yellow" to "empire yellow," central portion "ochraceous-tawny," dark red in 15% KOH, glabrous, pellicle separable to disk, margin even. Flesh soft, thick, white with a tint of yellow, slightly deeper yellow next to cuticle, fading to white, "brownish vinaceous" in 15% KOH; odor and taste mild. Lamellae adnexed, close, becoming broad, pale yellow at first, then in turn greenish yellow, "sulphine yellow," "cinnamon-drab," to finally "Rood's brown," unchanging when bruised, edges serrate. Stipe 4-8 cm. x 10-28 mm., white, fibrillose-striate, equal, marginate bulbous, somewhat depressed, at times slightly oblique, the bulb 20-35 mm. in diameter, dry, solid, flesh white. Veil white, copious.

Spores 10-12 x 5.5-7 (8) μ , more or less amygdaliform, inequilateral, coarsely warty (sub-tuberculate). Pleurocystidia none, cheilocystidia clustered, clavate, 25-32 x 5-10 μ .

Gill-trama colorless, pale pinkish-vinaceous in 15% KOH.

Habitat and Distribution. - Under hemlock, Tennessee, September.

Discussion. - Near C. fulgens; also C. orichalceus var. luteifolius and C. aurantio-turbinatus (see Lange), C. subfulmineus Murr. (see U.T. Herb. No. 16132). Close to #16565!



22422 - *Cortinarius*

CORTINARIUS No. 22593

Pileus 6-10 cm. broad, viscid, convex-hemispheric, expanding convex, "bister" when young, becoming "dresden brown" to near "sabal brown," tinged umber, disk slightly darker, appressed fibrillose, pellicle separable half way. Flesh thick, white, tinged violaceous, unchanging when bruised; odor and taste mild or slight. Lamellae adnexed, medium broad, close, "light violet gray" when young, finally "Saccardo's umber," purplish when bruised, edges even. Stipe 5-8 cm. x 1/4-18 mm., dry, whitish with a violaceous tint, flesh concolor, unchanging when bruised, the bulb slightly or not at all depressed, fibrillose, solid, bulbous. Cortina white, arachnoid, copious.

Spores 8-10 x 4.5-5.5 μ , ellipsoid, coarsely warty, somewhat reticulate.

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

Discussion. - Near C. purpurascens in which the flesh of pileus and stipe turns purple when bruised and the spores are said by Kauffman to be rough-echinulate. (Lange says that in C. purpurascens the spores are punctate, and the flesh is dark and dingy violet, expallent). My No. 22593 resembles Lange's Tab. 82A.

23512

Bulbopodium
Cortinarius
in deciduous woods, Boarts'
Coll.: Mr. Boarts, October 27, 1959

Photo

Pileus 4-8 cm. broad, convex, viscid to glutinous, white or disk "cream buff" to "chamois" and margin "cartridge buff," radiately fibrillose-streaked. Flesh "french gray," thick; odor of ripe pears, taste mild. Lamellae adnate, at first "smoke gray," finally "dresden brown," not staining when bruised, close, narrow. Stipe 3-6 cm. x 10-16 mm., "plumbago blue," whitish-fibrillose, apex blue and remaining so, dry, equal above the flat, marginate, scarcely or slightly depressed bulb, the bulb pallid to buff, solid. Veil copious, whitish, finally draped about the stipe-apex.

Spores 9-12 x 7-8 μ , amygdaliform-limoniform, asperulate or slender-echinulate.

Close to C. boudieri Henry (see Smith: Torr. Bull. 69:50) but appears to differ in spore markings, pear-odor.

Cf. No. 23546.



23512 - *Cortinarius*



23512 - *Cotnamia*

23453

Bulbopodium
Cortinarius (near glaucopus Fr.)
in deciduous woods
Nale's Creek, October 25, 1959

Photo

Pileus 5-11 cm. broad, convex, expanding, finally more or less upturned, viscid, radiately streaked (virgate) with dark fibrils, at first "light violet gray," the margin paler, the entire surface paler in age, margin thin, even. Flesh white, medium thick; odor and taste slightly musty. Lamellae emarginate, "lilac gray," soon becoming "buckthorn brown," close, broad, many short. Stipe 5-10 cm. x 10-20 cm. x 10-20 mm., dry, apex "lilac gray," paler to dingy white below, flesh in apex "pallid quaker drab," flesh white below, solid, with scattered fibrils (mostly from the veil), bulbous, the bulb emarginate, not depressed. Veil copious, finally draped over the stipe.

Spores 8-9 x 4-5 μ , sub-inequilateral, tuberculate, warts numerous, small.

Near glaucopus but the spores are warty, and the pileus has distinctly blue colors.



23453 - *Cortinarius*

Bulbopodium

23454

Cortinarius
in deciduous woods.
Nale's Creek, October 25, 1959

Photo

Pileus 3.5-7 cm. broad, convex, expanding, viscid, "antimony yellow," finally "warm buff," glabrous, some innate-fibrils seen under lens. Flesh white, rather firm, medium thick; odor and taste mild. Lamellae emarginate, at first "pinkish buff," finally "Prout's brown," close, rather broad, many short. Stipe 3-7 cm. x 8-15 mm., white, finally dingy, with veil-remnants, solid, dry, bulbous, the bulb emarginate, depressed. Veil copious, disposed over the stipe.

Spores 10-12 x 5-6 μ , inequilateral, minutely tuberculate.



23454 - *Cortinarius*

23539

Cortinarius (Bulbopodium)
in deciduous woods
Nale's Creek, October 25, 1959

Pileus 4-5 cm. broad, convex, viscid to glutinous, disk
"ochraceous buff," margin "primrose yellow," appressed-fibrillose.
Flesh white, firm, medium-thick; odor and taste mild. Lamellae
emarginate, "reed yellow," close, rather narrow, many short.
Stipe 4-6 cm. x 10-12 mm., not viscid, "reed yellow," with
scattered fibrils, solid, equal, bulb emarginate, not depressed.
Veil webby, dusted brown, variously disposed about the bulb.

Spores 10-14 x 8-9 μ , limoniform, coarsely tuberculate.

23546

Cortinarius (cf. 23512)
on soil, deciduous woods
Boarts', October 30, 1959

Bulbopodium

Pileus 4-10 cm. broad, convex, expanding, viscid, pallid to whitish, tinged violaceous, finally stained or tinged "clay color," even. Flesh blue, fading in upper half; odor and taste mild. Lamellae adnexed, "smoke Gray" when young, finally "cinnamon," close, narrow. Stipe 4-8 cm. x 10-18 mm., dry, bluish at apex, fading, pallid or dingy below, blue within, solid, bulbous, the bulb marginate and more or less depressed.

24151 Cortinarius

Bultopodium

C-49

on soil, deciduous woods

Cherokee Farm. U.T.

Oct. 9, 1960

Coll. T. H. Campbell

Pileus 3.0-5.0 cm. broad, conic, viscid, light grey-brown (Pl. 13, D, 6) with cinnamon cast on disc, innately fibrillose _____ glutin toward margin, margin inflexed; context 1 cm. broad on disc and narrowing to 1 mm. at margin, whitish, hygrophanous. Lamellae adnate, grey-brown, broadest behind, close, edge slightly undulate 4 mm. broad. Lamellulae in several series. Stipe white, tapering upward to 1 cm., slightly brown fibrillose, solid, base bulbous, bulb 2.0-2.5 cm. Taste indefinite, odor indefinite. Spore print cinnamon brown.

Bulbopodium

CORTINARIUS No. 25812

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

Pileus 6-12 cm broad, convex, expanding, "tawny olive" to "buckthorn brown," slightly hygrophanous, viscid when wet, appressed-fibrillose. Context whitish, yellowish-brown in 2% KOH; odor and taste not distinctive.

Lamellae emarginate, pallid-brownish at first, finally "sage brown," close, moderately broad, edges whitish.

Stipe 3-8 cm x 8-15 mm, dry, whitish, shining, more or less scattered-fibrillose, base ^{marginate} bulbous, the bulb 15-26 mm diameter, solid. Veil webby white (brown from spores), leaving an evanescent, fibrillose annulus.



2631b

26314 - *Cortinarius*

Culbifodum ?

29463

CORTINARIUS

On soil, mixed woods, Winnsboro, S. C., coll.
Carolyn Lyles, Oct. 23, 1966

Pileus up to 9 cm broad, convex, yellowish tan, slightly hygrophanous and subviscid, fibrillose. Context white, taste mild.

Lamellae lavender in buttons, then brownish.

Stipe 3.5 cm long, silky, bulb more or less depressed.

Spores 7.5-10 x 4-4.5 μ , slightly rough.

Bulbopodium

39745

CORTINARIUS

Under pine, Cades Cove, Ekanetlee Trail, September 25, 1974

Pileus 5-10 cm broad, convex, expanding-wavy, viscid, hygrophanous, "violet gray" when wet, "french gray" when dry, in age the central portion tinged buff, rivulose (under lens), margin with whitish veil-remnants. Context pallid violaceous; odor slight of camphor, taste mild.

Lamellae slightly adnexed, violaceous, finally brownish, crowded to close, narrow, lamellulae alternating.

Stipe 5-6.5 cm long, 8-15 mm thick, concolorous with cap, white fibrillose, slightly viscid, solid, bulbous, the bulb up to 3.5 cm diam. Veil not seen.

Spores "sage brown" in deposit.