SOUTHEASTERN AGARICALES, III

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STUDIES OF COLLYBIA TYPES

This paper is a report of studies of American types of the genus Collybia. Type studies on two species, namely Collybia expallens Pk. and C. agricola Murr., were reported in an earlier paper (Hesler, 1957). The species treated here are found in the Southeastern United States, and are organized into two groups: I. Those species in which the cuticle of the pileus is composed of a palisade of globose ellipsoid, clavate, or pyriform cells; or sometimes a tangled mass of hyphal tips which project as a turf of pilocystidia (sterile cells on the surface of the pileus); II. Those species in which the cuticle of the pileus is composed of repent hyphae, from which, in some species, hyphal tips project as pilocystidia.

Group I: Cuticle of the pileus cellular, or with a dense turf of pilocystidia


Collybia lilacina Coker & Beardslee. Elisha Mitchell Sci. Soc. Jour. 37:104. 1921. Type locality: Chapel Hill, North Carolina. – Spores 6.5-8 x 3.5-5 μ. ellipsoid, smooth, non-amyloid. Pleurocystidia 60-76 x 8-17 μ. flask-shaped to fusoid, some more or less knobby; cheilocystidia similar. Cuticle of the pileus composed of clavate to pyriform, closely-packed cells, 22-30 x 19-18 μ. Although Singer (1949) thinks that this species is a Marasimus, dried specimens do not revive well.

Collybia ludoviciana Murr. Mycologia 8:219. 1916. Type locality: New Orleans, Louisiana. – Spores 4.5-6 x 2.5-3 μ. pip-shaped subellipsoid, smooth, non-amyloid. Pleurocystidia none; cheilocystidia few, not conspicuous, clavate, 25-28 x 6-8 (11) μ. Cuticle of the pileus composed of a palisade of pyriform or cuneate cells, 12-20 x 7-15 μ. In a dozen dried specimens of the type, the lamellae are adnate-decurrent, attached to the stipe, and there is no evidence of a collar. The type readily revives in water. – a character which places it in the genus Marasimus (Singer, 1949).

Group II: Cuticle of the pileus composed of hyphae which are more or less appressed


This species is distinguished from *C. albida* Murrill by its smaller, ellipsoid spores.


**Colybia albistricta** Murr. Mycologia 30:371. 1938. (*Gymnopus al-bistrictus* Murr. Mycologia 30:365. 1938). Type locality: Gainesville, Florida. — No. 16104, collected and determined by Murrill, not the type, was examined. Spores 6-7.5 x 3-4 μ, ellipsoid-pip-shaped to narrowly ovoid, smooth, non-amyloid. *Pleurocystidia* none; *cheilocystidia* clavate-cylindrical, 24-32 x 5-8 μ. *Pileus cuticle* composed or repent hyphae, 3-6 μ diam.

This species is related to *C. strictipes* Pk. but differs in its smooth, white pileus, and in the structure of the cuticle. In *C. strictipes* the cuticle is composed of a palisade of pyriform cells.


**Colybia atriceps** Murr. Lloydia 5:157. 1942. (*Gymnopus atriceps* Murr. Lloydia 5:137. 1942). Type locality: Levy Co., Florida. — Spores 6-7.5 x 4.5 μ, broadly ovoid, smooth, non-amyloid. *Pleurocystidia* scattered, conspicuous, bottle-shaped, 42-51 x 10-15 μ; *cheilocystidia* of two types: (a) those similar to the pleurocystidia in size and shape; (b) those which are cylindrical, 34-38 x 6-8 μ. *Pileus cuticle* composed of appressed hyphae.

The uniformly dark-fulginous color of the pileus, and the conspicuous pleurocystidia distinguish *C. atriceps*.


This species is closely related to *C. nitellina* (Fr.) Quel., which, together with other warty-spored species, are brought by Singer and others under the genus *Rhodocybe*.

Murrill, in his original description, gives the spores as subellipsoid, smooth, about 7 x 3-4 μ. Spores of the type are 8-13 x 4-6 μ.


Because of its angular spores, this species, like *C. atrigilva* Murr., is related to species of the genus *Rhodocybe*. 

This species appears related to C. dryophila from which it is distinguished by its anise odor, broad lamellae, smaller size, and smaller spores.


Collybia familia (Pk.) Sacc. Syl. Fung. 5:241. 1887. (Agaricus familia Pk. New York State Cab. Rept. 23:79. 1873). Type locality: Adirondack Mountains, New York. — Spores 2.5-3.5 μ, globose to subglobose, somewhat amyloid, smooth. Pleurocystidia and cheilocystidia none. Cuticle of the pileus composed of appressed, narrow hyphae, with a few pilocystidia which are flask-shaped to clavate. Stipe hollow; cortex of angular colorless cells; rind of small cells and not sharply distinguished as in Marasmius, surface with numerous, irregular, hyphoid caulocystidia.

This is one of the few species of Collybia with amyloid spores.

Collybia flavescens Murr. Mycologia 8:219. 1916. (Gymnopus flavescens Murr. North American Flora 9:357. 1916). Type locality: New Orleans, Louisiana. — Spores 6-75 x 4.5-5 (6) μ, ellipsoid, smooth, non-amyloid. Pleurocystidia scattered, usually conspicuous, mostly slender fusiform, 30-37 x 2.5 μ, some fusiform to bottle-shaped, 28-40 x 10-12 μ; cheilocystidia clustered, 30-37 x 2.5 μ, usually cylindrical, few fusiform. Cuticle of the pileus composed of narrow, appressed and slightly interwoven hyphae.

Collybia lentinoidea Pk. New York State Mus. Ann. Rept. 32:27. 1879. Type locality: Montgomery County, New York. — Spores 5.5-7 x 2.5-4 μ, ellipsoid, with a suprahilar depression, smooth, non-amyloid. Pleurocystidia none; cheilocystidia 18-32 x 6-10 μ, basidiform, not conspicuous. Cuticle of the pileus composed of appressed subparallel, narrow, slightly gelatinous hyphae, about 2 μ broad. Trama of pileus loosely organized.


Collybia luxurians Pk. Torrey Bot. Club Bull. 24:141. 1897. Type locality: Auburn, Alabama. — Spores 7-9 (10) x 3-4.5 (5) μ, pip-shaped to sub-ellipsoid, smooth, non-amyloid. Pleurocystidia and cheilocystidia none. Pileus cuticle composed of narrow, appressed hyphae. Pileus trama loosely organized. This species is close to C. castaneidisca Murr. which has a stipe glabrous except pruinose or tomentose apex. It differs from C. subluxurians Murr. in its slightly larger, pip-shaped to sub-ellipsoid spores.

loid. *Pleurocystidia* and *cheilocystidia* none. *Pileus cuticle* composed of appressed hyphae.

Murrill describes the spores as 3 x 1.5 μ.


In the original description, Murrill states that cystidia are few, hyaline, long, gradually tapering to a sharp point. It appears close to *C. atriceps* which has a fuliginous, glabrous pileus, and larger spores, and bottle-shaped pleurocystidia.

**Collybia praemultifolia** Murr. Florida Acad. Sci. Proc. 7:127. 1945. *(Gymnopus praemultifolius* Murr. Florida Acad. Sci. Proc. 7:109. 1945.)* Type locality: Gainesville, Florida.—No. 16110, from Murrill, not the type, was examined. *Spores* 2-3.3 x 1-2 μ, subglobose to short-ellipsoid, smooth, non-amyloid. *Pleurocystidia* none, or rare and then filamentous, similar to the cheilocystidia; *cheilocystidia* 12-20 x 1-2 μ filamentous. *Pileus cuticle* composed of appressed hyphae.


This species differs from a close relative, *C. praemultifolia* Murr., in its slightly longer spores, its lack of cystidia of any kind, its smaller, isabelline pileus and its astringent taste.

**Collybia subconiceps** (Murr.) comb. nov. *(Gymnopus subconiceps* Murr. Lloydia 9:316. 1946.)* Type locality: Gainesville, Florida.—*Spores* 5-6.5 x 3-4.5 μ, ellipsoid, smooth, brown in Melzer’s reagent. *Pleurocystidia* and *cheilocystidia* none. *Pileus cuticle* composed of appressed, tangled hyphae, a few slender ones more or less erect.

The rosy-isabelline, umbonate pileus, and bay, white-pulverulent stipe separate *C. subconiceps* from *C. alba*. From *C. coniceps*, it is distinguished by its smaller spores and more highly colored pileus.


This species is similar in color to *C. subconiceps*, but differs in its capitate habit of growth and in its subovoid, more narrow spores. It also resembles *C. subluxurians* which lacks cheilocystidia, and has broader spores.

Collybia subtortipes  

This species appears related to C. caryophila, but differs in its fuliginous disk, lack of anise odor, slightly longer spores, and its longer, grayish-pulverulent stipe. From C. tortipes Murr., it differs in its much shorter spores, its lack of cheilocystidia, and its dull-fulvous pileus.

Collybia tortipes  

See remarks under C. subtortipes, above.

Collybia tricholoma  
Murr. Mycologia 33:448. 1941. (Gymnopus tricholoma Murr. Mycologia 33:439. 1941). Type locality: Gainesville, Florida.—Spores 6.5-7 x 4.5 μ, ellipsoid, smooth, non-amyloid. Pleurocystidia and cheilocystidia none. Pileus cuticle composed of more or less erect, loosely disposed hyphae, 5-8 μ diameter.

From C. subagricola, it differs in its larger, ellipsoid spores, and its stipe which tapers upward.

Collybia umbrinescens  
Murr. Mycologia 43:235. 1951. Type locality: near Gainesville, Florida — Spores 5-6 x 2.5-3 μ, ellipsoid, smooth, non-amyloid. Pleurocystidia and cheilocystidia none. Pileus cuticle composed of brownish, interwoven hyphae, 10-12 μ diameter.

Collybia unakensis  

This species has white lamellae and stipe both of which become somewhat fulvous on bruising.

Collybia virginiana  
Murr. Mycologia 8:219. 1916. (Gymnopus virginianus Murr. North American Flora 9:357. 1916). Type locality: Falls Church, Virginia. — Spores 6-7 x 2.5-3.5 μ, ellipsoid to slightly ovoid, smooth, non-amyloid. Pleurocystidia and cheilocystidia none. Cuticle of the pileus composed of appressed, narrow hyphae (3-5 μ broad), with scattered, projecting pileocystidia, 51-51 x 4.6 μ.

LITERATURE CITED
