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PRODROMUS FUNGORUM LUDOVICIANORUM II[1]

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Eight of the ten species of Homobasidiomycetes here reported appear to be new records for the state. Four Gasteromycetes are included to add to Lowy's (1955) treatment of this group for the state. One of these, *Tulostoma striatum,* Cunningham is rarely collected; the only other records known to me are from Australia and Michigan.

Microscopic analyses reveal several interesting details. The paraphysoid hyphae, basidia, and spore size in *Corticium armeniacum* Sacc. lead to the conclusion that this species is closely related to *Aleurodiscus.* Similar paraphysoid structures were found in *Clavulinopsis aurantio-cinnabarina,* (Schw.) Corner, but do not indicate a similar relationship. Basidia in *Vararia pallescens* (Schw.) Rogs. et Jacks. appears to have a development similar to that described by Lentz (1957) for *Coniophora.* Perhaps basidial development and spore morphology should be considered to relate *Vararia* to the *Coniophora-Jaapia* complex, often considered by some mycologists as a family separate from the Thelephoraceae. Structures which I have called gloeocystidia are present in the hymenium of *V. pallescens* which Burt (1916) does not mention. Clamps are also present on the thin-walled hyaline hyphae.

Corticium armeniacum Sacc., Syll. Fung. 6:637. 1888. (Fig. 1,A)

Fructification broadly effused, waxy-fleshy, drying membranous, becoming Burnt Orange (Maerz and Paul, 1950), brighter when fresh, surface assuming the contours of the substratum, and warty, not cracking.

Basidiocarp ca. 480μ thick in section; hyphae loosely arranged into a palisade growing down from the substratum with the hymenium forming at the tips; hyphae thin-walled, branching, with many, distinct clamps, 3 (-4)μ diam.; hymenium of basidia, basidioles, and "paraphyses"; basidioles long, cylindrical-clavate, 70-73 x 9-10μ; basidia long, cylindrical-clavate, 80-81 x 9-10μ with four large, slightly curving sterigmata 10-11μ in length; "paraphyses" thin-walled, narrow, cylindrical, 1.5-3μ in diam.; spores smooth, hyaline, 15-16 x 6-7μ.

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[1]Latina a D.P. Rodgers, professore in universitate Illinoiensi emendata est, cui gratias ago.

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Found near Luling in St. Charles Parish (14III58) and determined by Stevenson and Lentz of the National Fungus Collection. Burt (1926) lists this species (as *C. ceraceum* Berk. et Rav.) from New Jersey south to Alabama and Louisiana, extending into Mexico, Cuba, and from South Africa.

Vararia pallescens (Schw.) Rogers et Jacks., Farlowia 1:309. 1943. (Fig. 1,B)

Fructication resupinate, effused, 9G4 (a buff color), taking the contours of the substrate, compact, cracked in some parts, surface pulverulent; margin indeterminate.

In section ca. 212μ thick, filled with hyaline to mosty brown Dichophyses, some with walls completely thickened, spores and gloeocystidia scattered throughout; inconspicuous hyaline narrow, thin-walled, clamped hyphae also present; hymenium all but hidden by the dichophyses; gloeocystidia cylindrical-clavate when young, becoming fusoid in age, often filled with deeper staining granular matter, some protruding slightly beyond the hymenial surface, 48-53 x 5-7μ; basidia ventricose-cylindrical, 36-42 x 5-7μ with 4 straight sterigmata each ca. 5μ long; spores subspherical, prominently apiculate, with roughened, yellow, thickened walls, the roughenings strongly amyloid, 7-8 x 6-7μ.

Collected from fallen pine in St. Tammany Parish near Slidell (ALW 1056). *Vararia pallescens* has been reported by Burt (1916, 1917) from Canada south to Florida, west to Texas, Missouri, and Illinois; in British Columbia, Washington; Mexico; Jamaica; Cuba; Puerto Rico; Trinidad. For a discussion of this and other related species, primarily nomenclatorial, see Rogers and Jackson (1943).

Clavaria vermicularis Fr., Syst. Myc. 1:484. 1821.

Basidiocarps up to 7 cm tall, simple, occurring singly or clustered, as many as 7 fruit bodies in a fasicle, white, a few with yellow tips, brittle, no odor, cylindric, tips acute or obtuse, slightly curved or straight, solid, but center stuffed, with a distinct stem, drying pale yellow, twisted and flattened.

Hyphae of the flesh compact, unclamped, thin-walled, 7-11μ diam., with long cells, inflating, slightly constricted at septa; subhymenial hyphae branching, interwoven and forming a pseudo-parenchyma; basidia 32-36 x 6 (-7)μ, multiguttulate, with 4 sterigmata 3-5μ long; spores apiculate, 1-guttulate, smooth, hyaline, (4-)5 x 3μ.

One reasonably abundant collection (ALW 1059) was made in West Feliciana Parish among humus on a roadside bank. *Clavaria vermicularis* is reported as cosmopolitan in distribution and appears to be quite variable. See Coker (1923) who reports this species from California, Connecticut, New York, New Jersey, Tennessee, and Alabama. Corner (1950) has an interesting discussion of this species and its varieties, as well as illustrations.

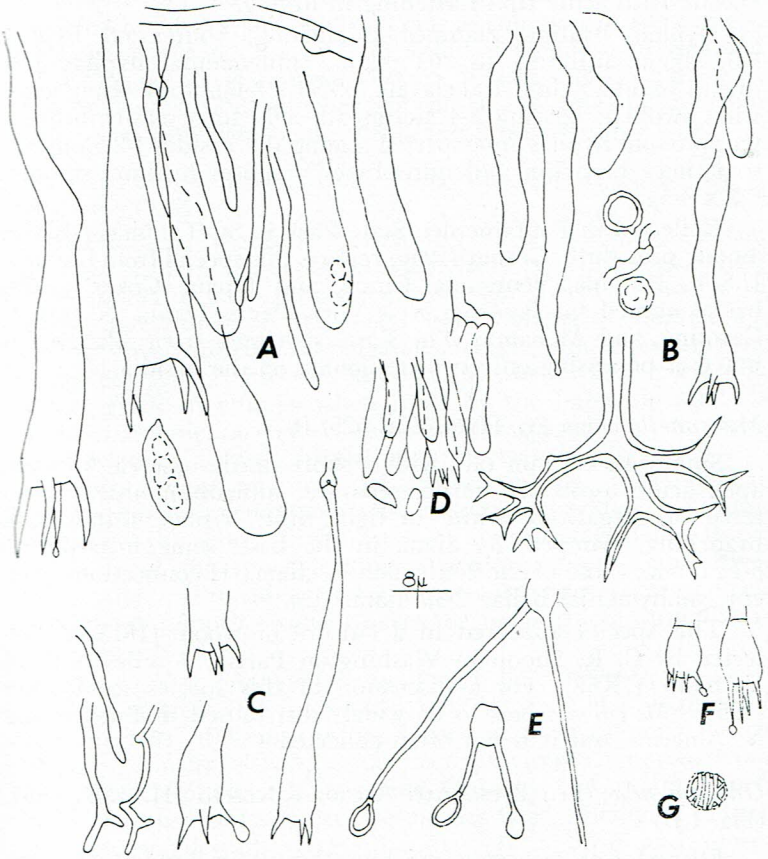

Fig. 1. *Corticium armeniacum,* basidia, basidioles, spore, and paraphysoid hyphae, *A; Vararia pallescens* gloeocystidia (to the left) young basidia, basidium, spores, thin-walled hypha, and a dichophysis, *B; Clavulinopsis aurantio-cinnabarina,* paraphysoid (dendrophyses?) hyphae, basidia, *C; Odontia uda,* hymenial detail showing basidioles, cystidioles, basidium, and spores, *D; Arachnion album,* bastidia with spores, *E; Lycoperdon peckii,* basidia with young spores, *F; Tulostoma striatum,* spore, *G.* All drawings magnified X750.

Clavulinopsis aurantio-cinnabarina (Schw.) Corner, Ann. Bot. Memoirs No. 1, 358. 1955. (Fig. 1,C)

Basidiocarps simple, solitary to caespitose, cinnabar-red with pale orange tips, brittle, not fading in herbarium, cylindrical-clavate with acute tips, flattening in drying.

Hyphae hyaline, clamped, branching; contextual hyphae 5-6μ diam., inflating to 10μ diam.; subhymenial hyphae 1-2μ diam.; basidia cylindrical-clavate, 39-50 x 5-6μ, apex often somewhat swollen, bearing 3-4 sterigmata 5-6μ long, easily broken; paraphysoid hyphae interspersed among the basidia 1-2.5μ diam., sometimes branching (dendrophyses?); spores hyaline, smooth, 6-7 x 4-5μ.

Collected in Fontainebleu State Park in St. Tammany Parish among pine duff. Corner (1950) reports this species from Canada, U.S.A., Panama, Venezuela, China, and Japan. Coker (1923) has examined species from New York, Pennsylvania, N. and S. Carolina, and Alabama. The Earle specimen from Alabama is noted as possessing only two sterigmata on the basidia.

Mucronella calva Fr., Hym. Eur. 629. 1874.

Spines ca. 0.5 mm tall, with a short sterile base ca. 0.1 mm, apex acute, probably sterile, separate, subiculum absent, scattered or gregarious, white to light buff; hyphae thin-walled, branching, clamped, 3μ diam. in the base, some inflating to 6-1μ diam., those of the context to 5μ diam., H-connections present; subhymenial hyhae 2-3μ diam.

This species appeared in a culture of wood (18IX58) collected by C. R. Shoop in Washington Parish, 7 miles N.E. of Varnado (7X58). For a discussion of this species see Corner (1950). *M. calva* seems to be widely distributed in Europe and N. America, but it is not often collected.

Odontia uda (Fr.) Bres., Atti Accad. Rovereto III. 3:97. 1897. (Fig. 1,D)

Effused, soft, ceraceous, cracking slightly in drying, adherent, saffron-yellow to chamois, hymenial surface smooth, warted, or barely toothed, warts are hemispherical, scattered to clustered, teeth acute, simple, rarely fimbriate, center of warts and teeth filled with crystalline matter; basidiocarp turning purple upon contact with KOH.

Contextual hyphae somewhat obscured by crystalline material, thin-walled, branching, 1.5-3μ diam., clamps present and frequent; subhymenial hyphae similar; cystidioles thin-walled, little differentiated from basidioles, obclavate, 16-24 x 3-5μ; basidioles cylindrical-clavate, 11-20 x 3-4μ; basidia cylindrical-clavate, 20-24 x 4-5μ with 4 straight, needlelike sterigmata; spores smooth, hyaline, slightly depressed laterally, (4-)5 x) (-3)μ.

Odontia uda does not fit well into the typical Odontias. Teeth-like prolongations are present but only along the margins. Over one-third of the hymenial surface is corticioid with the remaining warts reminescent of *Grandinia.*

Collected in St. Tammany Parish near Slidell (23VIII58). Reported by Miller and Boyle (1943) as common in the Eastern and Central U.S.A. Rea (1922) found it common in England and it also occurs in Europe (Bourd. & Galz., 1927). I have an additional collection of what appears to be this species from Jamaica. It differs in being thinner and olivaceous.

Arachnion album Schw., Synop. Fung. Car. Sup. n. XIV. t.1, f.2. 1822. (Fig. 1,E)

Basidiocarp irregularly spherical, 1.5-2 cm. diam., 1-1.5 cm. tall, light to dark sulfur-yellow when fresh; peridium extremely fragile, breaking into progressively smaller pieces covered with closely spaced tufts of very short "hairs" giving a granular appearance over the entire peridial surface; numerous gray or faintly olive-gray peridioles exposed by the broken peridium, held together in clumps when fresh by the hairy surfaces, irregularly globose, or slightly elongated, ca. 0.5 mm. in size; base of the peridium folded; capillitium and sterile base wanting.

Basidia almost spherical, 3-4 x 3-4μ, the few observed bear 2(-4?) sterigmata up to 30μ or longer; sterigmata often remaining attached to the spore, finally breaking immediately below thickened area of the spore leaving a pedicel; spores light olive-yellow, spherical to subspherical, slightly tapering to the pedicel, 3-4 x 3-4μ, smooth, walls thickened (0.8μ thick), usually 1-guttulate.

Found twice: once in Orleans Parish on a lawn in the Gentilly area of New Orleans (ALW 109, det. by J.H.B. Garner of the University of Kentucky), and once in St. Tammany Parish (16VI56). *Arachnion album* has been previously reported from N. and S. Carolina, Alabama, and Ohio by Coker and Couch (1928). Smith (1951) reports the species from Michigan. These same authors describe larger basidia (11 x 3.7μ) and spores than are found in the Louisiana material. I have observed what appear to be shrivelled basidia bearing four long sterigmata, but spores were not seen on these structures. As the illustration demonstrates, up to two mature spores can be borne upon the basidium simultaneously.

Calostoma ravenelii (Berk.) Massee, Ann. Bot. 2: 42. 1888.

Lacunose rooting base of reddish-brown fibers 1.4 cm. long, gelatinous; basidiocarp 0.7-1 cm. wide, spherical with a distinct, red stoma of 5-7 ridges; exoperidium remaining as large scales at the base of the endoperidium, endoperidium clay colored, bearing the puckered stoma; spore sac white to buff, suspended from the stomal region; spores hyaline, 0-3 guttulate with a

thickened, perforate wall giving a pitted appearance to the spore wall, 14 x 7μ.

The single collection in the Tulane Herbarium was made by Mrs. Nesta Ewan in Washington Parish (21IX58). She found it growing on a mossy, clay bank overhanging a stream. Clay soil appears to be its typical habitat. Coker and Couch (1928) reports *C. ravenelii* from Delaware, Pennsylvania, Kentucky, N. Carolina, and Alabama. No mention of either this genus or species is made by Smith (1951). It appears to be eastern U.S. and southern in its distribution.

Lycoperdon peckii Morgan, Jour. Cinc. Soc. Nat. Hist. 13:15. 1891. (Fig. 1,F)

Basidiocarp 2.5 cm. tall and 2 cm. wide; upper surface covered with spines often united at their tips, less than 1 mm. long, brown with purplish tingle, lighter in color and separate toward the base; peridium golden yellow-brown in color, minutely furfuraceous where spines have fallen; gleba olivaceous-yellow, stringy in young specimens, subgleba "cellular", slightly convex, composing one-third of the fruit-body and all of the blunt, stem-like base.

Capillitium golden yellow with faint olive tinge, tapering toward the blunt ends, occasionally twisting, walls thinning toward tips, rarely with bulbous expansions or triangular protuberances, occasionally pitted in the thickened walls, 4-5μ diam., walls 0.8μ thick, color fading toward tips; hyaline, unclamped, thin-walled branching hyphae 4-5μ diam. present, often short-celled, expanded, and sometimes branching immediately adjacent to a septum giving the appearance of a clamp; spores golden yellow, globose or subglobose, occasionally pip-shaped, thick-walled, pedicellate with pedicel joined to inner spore wall, 4-5μ diam., older spores minutely spinulose, 1-guttulate; basidia short-clavate, 8-11 x 6-8μ with (3-)4 sterigmata 4-5μ long, almost globose, with a tendency to become concolorous with the spores.

ALW 50 was taken in St. Tammany Parish and consists of a single specimen determined by J.H.B. Garner of the University of Kentucky. Coker and Couch (1928) have examined specimens from Ontario, Newfoundland, Pennsylvania, and N. Carolina, and Smith (1951) has found the species in Michigan.

Tulostoma striatum Cunningham, Proc. Linn. Soc. N.S. Wales 50: 255. 1925. (Fig. 1,G)

Exoperidium a cottony layer of pallid or white mycelial threads in which are embedded (agglutinated?) sand and dirt particles forming a thick adherent layer which slowly flakes away leaving a smooth, pale vinaceous tan peridium; stoma raised, fibrillose, slightly lighter in color than the peridium; stipe 13-21 mm. long, 3-5 mm. wide, striate, arising from a

mycelial bulb; peridium 11-18 mm. wide, 6-10 mm. high, more or less globose and seated on the stipe by means of a loose socket-like attachment; spores possessing ridges which tend to join at the poles of the spore, irregularly globose, 6-7μ diam.; capillitium scarcely branched, septa absent or rare, walls thickened, 5-6μ diam.

Specimens of this species (ALW 47 confirmed by J.H.B. Garner) were found by a young lady, Miss Linnie Osborne, in a play yard in New Orleans. She located these by pushing her fingers into the rather hard, sandy, clay soil where they were imbedded. The only other report of *T. striatum* from N. America known to me is Smith's (1951), but Wright (1955) believes it to be common in the United States. He has also seen specimens from Paraguay and Argentina. The Louisiana material differs from Smith's description in the absence of a prominently darkened "mouth" area shown so well in his excellent photograph (Pl. XXXVIII, fig. 1). The habitats of the Michigan and Louisiana specimens are similar, *viz.*, sandy soil. The stipe of one specimen is white which is similar to Potter's notes reported by Smith.

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