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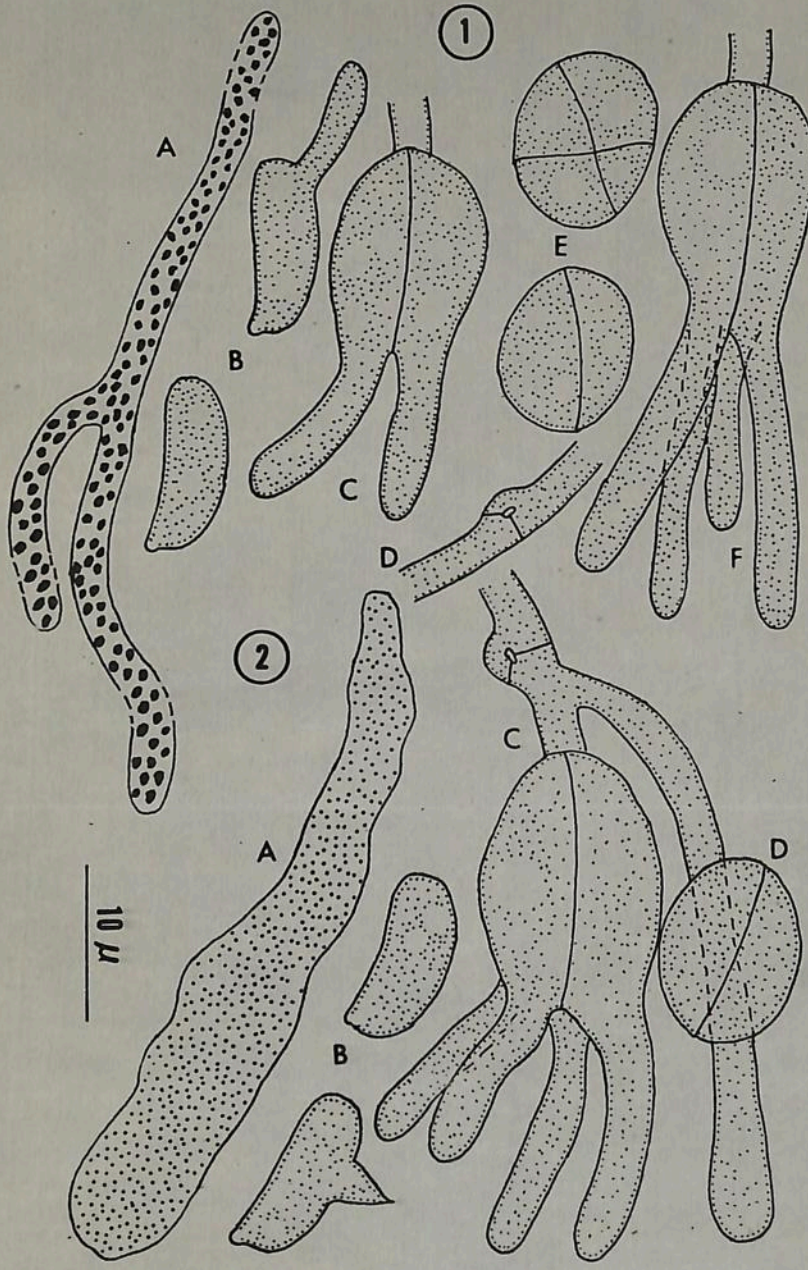

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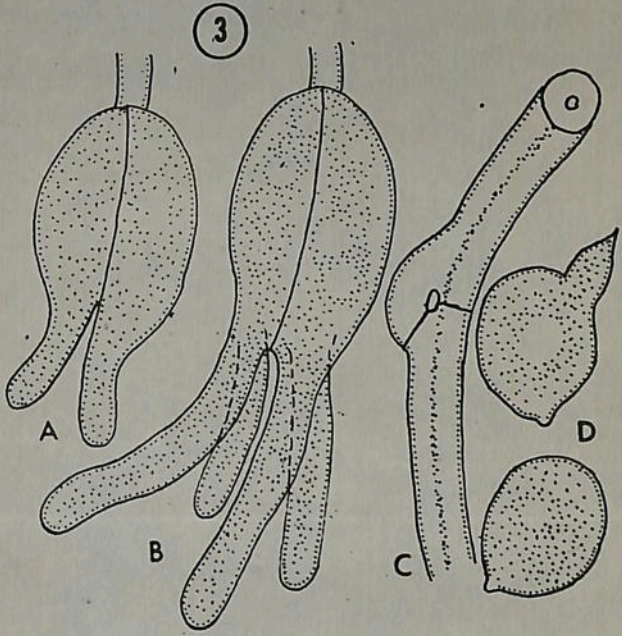

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Fig. 3

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NEW TREMELLALES FROM PANAMA

B. Lowy

Botany Department, Louisiana State University, Baton Rouge, 70803

The three new species of tremellaceous fungi here described constitute addenda to the author's monograph of neotropical Tremellales (Lowy, 1971) which may be consulted for morphological comparison with other related species included therein. The major differences that separate the species considered here from those previously described are succinctly noted.

Exidia panamensis Lowy, sp. nov. FIG. 1

Fructificatio humida late effusa, 75 mu crassa, firme-gelatinosa, pallido-brunnea, in sicco vernicosa; papillae albae, numerosae, 50 X 3.5 mu; hymenio 30 mu lata, basidia numerosa; hyphae nodosae, 2 mu diam, muri tenuibus; chromatohyphae in hymenio et subhymenio abundantiae, 1.5$\frac{1}{N}$2 mu diam cum granulae atrofuscae et grandisculae; probasidia subglobosa, 9$\frac{1}{N}$11 mu; metabasidia 4-cellularia, ovoidea, cruciatim septata, 12$\frac{1}{N}$14.5 X 8$\frac{1}{N}$10.5 mu; sterigmata cylindraceae, 2 mu diam; basidiosporae allantoideae, hyalinae, 12$\frac{1}{N}$13.5 X 5.0$\frac{1}{N}$5.5 mu, per repetitionem germinantes.

Holotypus: Panama. Bamboo-oak forest, La Cumbre, 3$\frac{1}{N}$4 km N Cerro Punta, Prov. Chiriquí. On unidentified wood, 3-VI-1975, K. P. Dumont & S. E. Carpenter PA-1911 (NY); Isotypus (LSUM).

Fructification broadly effused, 75 mu thick when wet, firm gelatinous, light buff, drying to a vernicose film; numerous, scattered, white papillae, 50 X 3.5 mu; margin determinate with a narrow, white mycelial fringe; hymenium 30 mu wide with crowded basidia; subhymenial hyphae branched, 2 mu diam with clamp connections; narrow, branched alpha chromatohyphae abundant, 1.5$\frac{1}{N}$2 mu diam, hymenial and subhymenial, with coarse, dark-pigmented granules; probasidia subspherical, 9$\frac{1}{N}$11 mu diam; metabasidia ovoid, cruciate-septate, 12$\frac{1}{N}$14.5 X 8$\frac{1}{N}$10.5 mu; sterigmata cylindrical, 2 mu diam; basidiospores allantoid, 12$\frac{1}{N}$13.5 X 5.0$\frac{1}{N}$5.5 mu, germinating by repetition.

Received: 8-X-'76

A distinctive feature of the species is the presence of abundant hyphae containing large, dark-pigmented granules. These appear to arise in the subhymenium but invade the hymenium as well. I have previously referred to such hyphae as "gloeocystidium-like" in Exidia tucumanensis Lowy (Lowy, 1962), but upon reconsideration this description does not seem adequate. Gloeocystidia are variously inflated and have oily or finely granular contents, whereas the structures under consideration are modified, non-inflated, granule-bearing hyphae without clamps or septa (FIG. 1 A). These I would now term "chromatohyphae" of which two types, alpha and beta, may be designated. Alpha chromatohyphae have distinct pigment granules, as in the new species and beta chromatohyphae are characterized by having pigment distributed homogeneously in the cytoplasm. An example of beta chromatohyphae is found in Exidia maya Lowy (Lowy, 1964).

Ductifera aurea Lowy, sp. nov. FIG. 2

Fructificatio in humido effusa, ca 2 mm crassa, aurantiaco-brunnea, ad substratum firme adnata, duro gelatinosa; in superficie laevigato vel subrugosa; in sicco membranacea, vernicosa; hyphae fibulatae, $2\frac{1}{N}2.5$ mu diam; gloeocystidia luteo-aurantia, numerosa, $45\frac{1}{N}75(\frac{1}{N}90) \times (5.5\frac{1}{N})7.5\frac{1}{N}9.0$ mu ab parte inferiore angusta; dikaryoparaphyseae non ramosae, cylindraceae vel subclavatae; probasidia subglobosa, $11.5\frac{1}{N}13.0 \times 10.0\frac{1}{N}11.5$ mu; metabasidia $13.5\frac{1}{N}18.5(\frac{1}{N}22) \times 9.5\frac{1}{N}11.0$ mu, cruciatim septata; sterigmata flexua, ca 3 mu diam; basidiosporae curvato-cylindraceae, $11.0\frac{1}{N}12.5 \times 5\frac{1}{N}6$ mu, per repetitionem germinantes.

Holotypus: Panama. Oak forest, Cerro Respingo ca 6 km NW Cerro Punta,

Prov. Chiriquí. On unidentified wood, 2-VI-1975, K. P. Dumont & S. E. Carpenter PA-1737 (NY); Isotypus (LSUM).

Fructification effused, about 2 mm thick when soaked, smooth to rugulose, orange-brown, drying to a vernicose, membranaceous film; firmly attached to the substrate; hyphae 2½–2.5 µ diam, with clamp connections; gloeocystidia abundant, 45½–75 (½–90) × (5.5½–)7.5½–9.0 µ, tapering below (Fig. 2 A) with yellow-orange granules; dikaryoparaphyses simple, cylindrical to subclavate (Fig. 2 C); probasidia subglobose, 11.5½–13.0 × 10.0½–11.5 µ; metabasidia 13.5½–18.5 (½–22) × 9.5½–11.0 µ, cruciate-septate; sterigmata stout, flexous, ca 3.0½–3.5 µ diam; basidiospores slightly curved-cylindrical, 11.0½–12.5 × 5½–6 µ, germinating by repetition.

The only other neotropical species of Ductifera with orange pigmentation is D. argentinensis Lowy. The new species differs from this both in gross and microscopic features, including an essentially smooth basidiocarp as opposed to the thick, convolute-cerebriform aspect of D. argentinensis; curved-cylindrical basidiospores versus ovoid and the distinct morphology of dikaryoparaphyses which in D. argentinensis are dendroid.

Tremella subrubiginosa Lowy, sp. nov. FIG. 3

Fructificatio in humido pulvinoidea, rugulosa, elastico-gelatinosa, pallide aurantio-lutea, ca 1 mm crassa; in sicco cornea, membranacea, subrubiginosa; hymenio in zona angusta 40½–50 µ lata; basidia numerosa; hyphae nodosae, crassitunicatae, 3.5½–4.5 µ diam; probasidia subglobosa, 9.0½–11.0 µ diam; metabasidia cruciatim septata, ovoidea vel subpiriforme, 16.0½–18.5 (½–21) × 8.5½–11.0 µ; sterigmata cylindraceae, 2½–2.5 µ diam; basidiosporae subglobosae, 8.0½–9.5 × 7.0½–8.0 µ, per repetitionem germinantes.

Holotypus: Panama. Vicinity of Rio Calovébora, about 16 km from Santa Fe, Prov. Veraguas, Atlantic slope. On unidentified wood, 18-VI-1975, K. P. Dumont, Carpenter & Mori PA-537 (NY); Isotypus (LSUM).

Fructification pulvinoid, rugulose, rubbery-gelatinous, pale orange-yellow when wet, drying nearly concolorous; about 1 mm thick when soaked, with very slightly elevated, thickened margins; firmly adhering to the substrate; membranaceous when dry; hymenium in a zone 40$\frac{1}{N}$50 mu wide, crowded with basidia; subhymenium composed of thick-walled gelatinous hyphae, 3.5$\frac{1}{N}$4.5 mu diam with a narrow lumen; clamp connections large (FIG. 3C); probasidia subglobose, 9.0$\frac{1}{N}$11.0 mu diam; metabasidia ovoid to subpyriform, 16.0$\frac{1}{N}$18.5($\frac{1}{N}$21) X 8.5$\frac{1}{N}$11.0 mu; sterigmata narrowly cylindrical, up to 62 X 2$\frac{1}{N}$2.5 mu observed; basidiospores subspherical, 8.0$\frac{1}{N}$9.5 X 7.0$\frac{1}{N}$8.0 mu, germinating by repetition.

This species has closest affinities with Tremella durissima Lowy from Argentina (Lowy, 1962) which is characterized in part by its homogeneous, tough-gelatinous, solid lobes, although unlike T. subrubiginosa, it dries black. Other structural details sharply separate these species, including T. subrubiginosa's smaller metabasidia and basidiospores and the distinctive, broad, large-clamped hyphae of which the basidiocarp is constructed.

I thank Dr. K. P. Dumont for his kindness in sending me these recent collections for determination.

LITERATURE CITED

Lowy, B. 1962. Contribución al estudio de los Tremellales de La Argentina. Lilloa 31:213-228.

-2-. 1964. New species of Tremellales from Guatemala. Jour. Elisha Mitchell Sci. Soc. 80: 65-70.

-2-. 1971. Tremellales. Monograph No. 6, Flora Neotropica. Hafner Publishing Co., Inc., New York. 153 p.

LEGEND OF FIGURES

FIG. 1. Exidia panamensis. A. Alpha chromatohypha with pigment granules. B. Basidiospore, one germinating by germ tube. C. Two-sterigmate metabasidium. D. Clamped hypha. E. Apical view of 2-celled and cruciate-septate basidia. F. Metabasidium with 4 sterigmata.

FIG. 2. Ductifera aurea. A. Gloeocystidium. B. Two basidiospores, one germinating by repetition. C. Metabasidium with subclavate dikaryoparaphysis. D. Two-celled basidium.

FIG. 3. Tremella subrubiginosa. Two and 4-sterigmate metabasidia. C. Clamped hypha. D. Two basidiospores, one germinating by repetition.

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in press

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