

NEW OR LITTLE KNOWN SPECIES OF TROPICAL FUNGI

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ABSTRACT

Stereum cupulatum Pat. and *S. spumeum* Burt are excluded from *Stereum*; they are, respectively, an imperfect Fungus and *Peniophora crenea* Bres. An unusual form of *Laxitextum bicolor* (Pers. ex Fr.) Lentz is discussed, and a modified description of *Dichopleuropus spathulatus* Reid is presented. Two new species, *L. sharpiana* and *Paraphelaria colombiana*, are described. *Stereum crassum* Fr. is transferred to *Lopharia* and given a new name.

Stereum cupulatum

An examination of the type (Duss 212 in FH) shows *S. cupulatum* Pat. (in Duss, Fl. Crypt. Antilles Fr. 223. 1903) to be a lignicolous, cupulate fungus which is minutely hairy, dark brown or blackish, and dully iridescent. The inner spore-bearing surface is dull brown to black and cracked toward the center. The fructification arises from a central point and is once or twice concentrically sulcate. Hyphal walls are golden and thin, and all septa are simple ones. A palisade of clavate terminal cells forms the spore-bearing surface and the hyaline, thin-walled spores are attached by long, needle-like prolongations which frequently remain with the spore. Spores appear to be passively discharged. They are $5-7 \times 2-3\mu$. This fungus is neither *Stereum* nor a member of any of the generic segregates of *Stereum*. It seems very likely that *S. cupulatum* is a fungus imperfectus rather than a Basidiomycete. I have included some free-hand sketches of the species (Fig. 1A).

Stereum spumeum

Burt (Ann. Missouri Bot. Gard. 7:208, 1920) lists *Corticium spumeum* Berk. & Rav.

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as a synonym *pro parte* which is in the literature as *C. spumeum* Berk. & Rav. (Grevillea 20:13. 1891) where Cooke refers to Berkeley's var. *erimosum* of *C. ochroleucum*, (Grevillea 1:166. 1871) who noted that it was "formerly *spumeum* Berk. & Rev." (an herbarium name?). There is no *C. spumeum* in the Curtis Herbarium at the Farlow Herbarium, but there is a *C. ochroleucum* from South Carolina (Ravenel 1772). It is *C. scutellare* Berk. & Curt. A second specimen, collected by Clinton, on the same sheet as the Ravenel collection, is all *C. scutellare*, as is a third collection from the Ellis Herbarium. In the last packet on the sheet there is a note in Burt's hand relating how *C. spumeum* may be a mistake.

An examination of the type material (A. B. Langlois, E. from St. Martinville, Louisiana) reveals it to be probably *Peniophora crenea* Bres. Other material cited by Burt as *S. spumeum* includes S. H. Burnham 27 in BPI which is *Peniophora filamentosa* (Berk. & Curt.) Burt, Michener 1864 in Curtis Herbarium as *Corticium subgigantium* Berk. and probably that species, Edgerton & Humphrey, collected at Baton Rouge, which is *C. scutellare*, and W. A. & E. L. Murrill 405, 414, 498, 503, and 520 from near Cuernavaca, Mexico. All of the Murrill collections are *Peniophora incarnata* (Pers. ex Fr.) Karst., or close to that species. Their gloecystidia react faintly to sulfobenzaldehyde. Murrill 413 from the same locality is probably that species also. W. A. and E. L. Murrill 1214 from near Cordoba I interpret as a pale-colored form of *Lopharia crassa* (Lév.) Boid.

Laxitextum bicolor

A collection (N0 7258 from Costa Rica) of *L. bicolor* (Pers. ex Fr.) Lentz (Agric. Monog. 24:19. 1955) has relatively large

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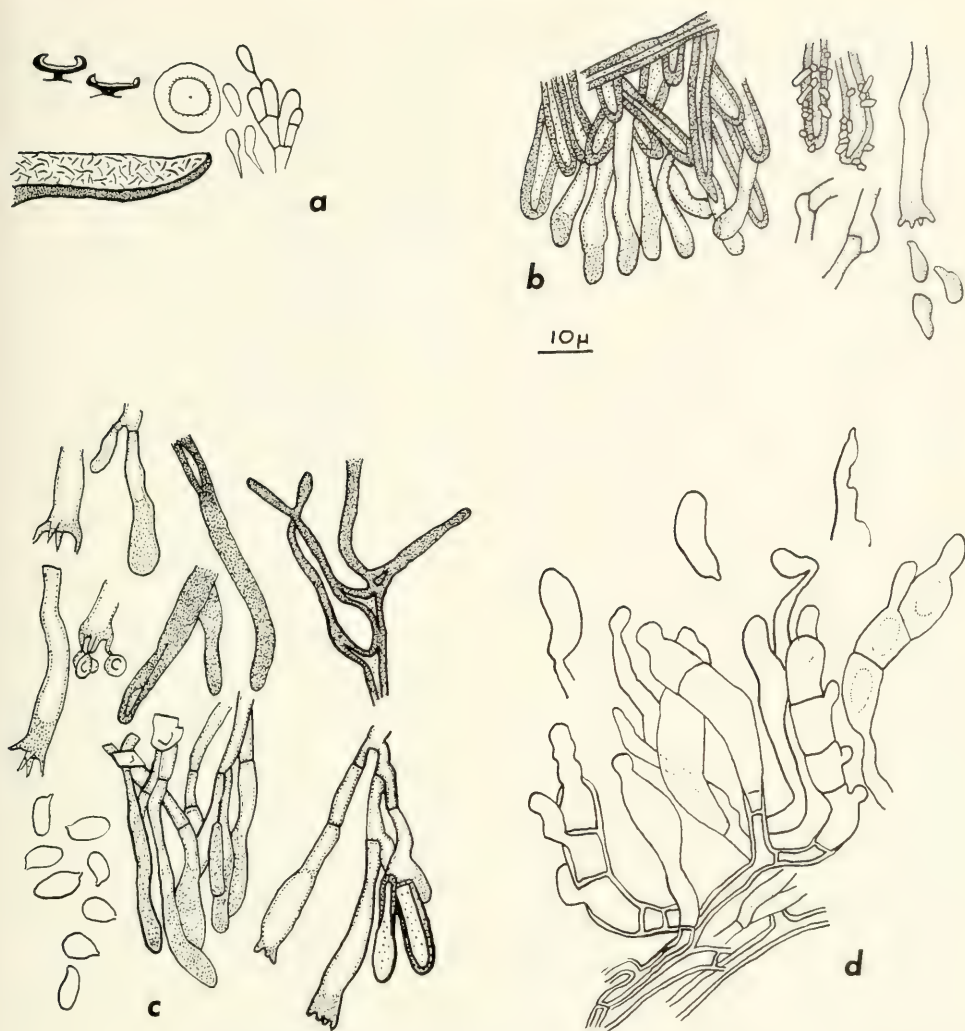


Figure 1. A. Free-hand sketch of *Stereum cupulatum* Pat. showing habit of sporocarps in section and top view and the sporogenous hyphae. B. *Lopharia sharpiana* with hymenial detail, in-crusting skeletal hyphae of the hymenium, clamp-bearing hyphae, basidium, and spores. C. *Lopharia mexicana* with young and mature basidia, skeletal and binding hyphae, spores, hymenial detail, basidium and origin of thick-walled, pigmented hyphae at the hymenial level. D. *Paraphellaria colombiana* showing hymenial detail.

basidiocarps and abundant spores, and appears to be in prime mature condition. The collection is unusual and worthy of comment because of its pigmentation. Normally the pilei of this effuso-reflexed species have a dark, tobacco-colored upper surface and a white hymenial surface. The Costa Rican material was completely white when collected and has become a pale tan in the herbarium. There are a few, narrow, darker zones on the

upper surface which probably represent rest periods between growth. Upon resoaking the hymenium is waxy and bears a number of warty elevations. The only microscopic distinction is that the spores of this collection are slightly smaller; they measure $3.3\text{--}4.7 \times 2.4\text{--}2.8\mu$ [$\bar{x}$ (10) = $3.8 \times 2.7\mu$], as compared with $3.8\text{--}4.7 \times 2.4\text{--}2.8\mu$ [$\bar{x}$ (10) = $4.5 \times 2.7\mu$] of the typical form, hardly a significant difference. The contextual hyphae

of the Costa Rican form are decidedly paler than the typical form, an expected difference. Additional collections of this form, coupled with cultural studies, may reveal it to be worthy of formal recognition.

Dichopleuropus spatulatus

This fungus was recently described from Malaysian material by Reid (Beih. Nova Hedw. 18:330. 1965). Two collections from Florida have come to hand and represent a considerable range extension. There are a few minor differences between these specimens and the description given by Reid and these are contrasted in the following description by placing Reid's within brackets.

Basidiocarps infundibuliform [spatulate or narrowly flabelliform], about 4 cm tall $\times$ 2.5 cm wide [3.15 cm tall and 2.7 cm wide], coriaceous, mesopodal [pleuropodal]; pileus tomentose with tomentum organized into radial, $\pm$ knife-like ridges [glabrous, radiately rugulose], zonate with alternating buff and reddish brown zones [. . . pallid, fawn, ochraceous. . . whole surface becoming uniformly ochraceous on drying], tomentum frequently or partially absent in some zones exposing the smooth, deep reddish brown surface, reddish brown tomentum organized into flattened, irregularly toothed elevations at base of pileus; hymenial surface smooth, minutely powdery, bearing scattered, embedded sand crystals, India Buff (12EF),² with lighter margin [. . . white becoming pale cream in herbarium material]; central stripe about 2.5 cm tall $\times$ 0.8 cm wide at widest part, solid, buff, covered with sand particles [1.7 cm long and 2–3 mm wide, lateral, pallid-fawn-ochraceous. . .].

Generative hyphae 2–3 μ diam [1.5–4 μ], thin-walled, branching, hyaline, without clamp-connections, frequently collapsed and twisted; dichophysoid hyphae (binding hyphae) with major branches 2–5 μ diam, dextrinoid (i.e. turning red in iodine solution), without clamp-connections or septa, walls hyaline to yellow, generally thickened in older ones but with prominent lumina, more profusely branched toward and within the hymenium, scattered throughout the pileus flesh; catahymenial; basidia 8–10 μ

diam at apex, with four stout, curved sterigmata each up to 7 μ long, base not observed but over 48 μ long; macrocystidia long-cylindrical, thin-walled, often containing short rod-shaped yellowish elements, of variable length and width, some projecting beyond the hymenial surface, apices blunt or acute, some in the deeper contextual layers and hyphoid; spores 6–9 $\times$ 5.5–6.5 μ [$\bar{x}$ (20) = 7.5 $\times$ 6.0 μ], subspherical ($e = 1.2$), with a thin, smooth, amyloid exosporium and a thin episporium, walls hyaline to pale yellow, contents $\pm$ oily and hyaline to pale yellow.

Specimens examined: Fla. Agric. Exp. Sta. Herb. F17924 (Planera Hammock, 21 July 1938, leg. West, Arnold, and Murrill); F18471, Newman's Lake, E. of Gainesville, 30 July 1938, leg. West and Murrill.

Lopharia sharpiana

(Fig. 1B)

Lopharia sharpiana Welden sp. nov. Basidiocarpis effuso-reflexis, glabrosis vel tomentosellis, griseo-roseis (7 A 8 Rose Grey) vel crustulinis (13 E 7 Oakbuff) vel spadiceis (7 A 11 Vandyke Brown); cuticula epicutisque contexto intertexto: hyphis generativis nodoso-septatis, hyalinis; hyphis sceletalibus cinnamomeis procurentibus in hymenio saepe incrustatis. Hab. ad ligna emortua Abietis in Michoacan, Mexico.

Basidiocarpi spongioso-fragiles, effuso-reflexi saepe anastomosantes, solitarii vel complicati, glabrosi vel tomentoselli, in partibus veterioribus griseo-roseis (7 A 8 Rose Grey) vel prope crustulinis (13 E 7 Oakbuff), alteris spadiceis (7 A 11 Vandyke Brown); hymenium laeve, alutaceum vel ochraceum, saepe rimulosum; cuticula epicutisque ex hyphis intertextae cinnamomeis; hyphis generativis 4–5 μ diam, nodoso-septatis, hyalinis et hyphis sceletalibus 2–5 μ diam cinnamomeis, multis procurentibus in hymenio et saepe incrustatis; contextus intertextus; basidia 30–43 $\times$ 4–5 μ , cylindrico-clavata cum 4-sterigmatibus crassis; sporae 5–8.5 $\times$ 2.3–4 μ [$\bar{x}$ (16) = 6.5 $\times$ 2.8 μ], apiculatae, laeves, hyalinae, aliquae maturiores brunnescentes inamyloidae.

Typus: Mil Cumbres, E. Morelia, Michoacan, Mexico, 9500 ft. alt., 6.18.1945, leg. A. J. Sharp 3718, in ligno Abietis (in UT 18379 et NO).

² Maerz and Paul. Dictionary of Color. Second Edition, McGraw-Hill. 1950.

The presence of clamp-connections, a cuticle, and an interwoven context make this species unique in *Lopharia*. The species is named in honor of its collector, who has made many contributions to botany.

Lopharia mexicana

Lopharia mexicana Welden nom. nov. *Stereum crassum* Fr., Roy. Soc. Sci. Upsal. Actis III. 1:111 1851 non *Lopharia crassa* (Lev.) Boid. Basidiocarpis effuso-reflexis, tomentosis, badiis (8 A 12 Autumn); cuticula nulla, contexto intertexto; hyphis generativibus hyalinis, haud nodoso-septatis; hyphis colligantibus procurentibus in hymenio. Hab. ad ligno in Mexico.

Basidiocarpus spongiosus, effuso-reflexus, tomentosus, badius (8 A 12 Autumn); margo obtusus, concolor vel pallidior; hymenium laeve, saepe rimulosum, fuscus vel cinnamomeum et margine alutaceo; cuticula nulla, contextus hypharum intertextarum; hyphis generativis $3.8\text{--}4.7\mu$ in diam, hyalinis, haud nodoso-septatis et hyphis colligantibus $4.7\text{--}8.5\mu$ in diam, cinnamomeis, procurentibus in hymenio et saepe consociatis cum crystallis; basidia $31\text{--}38 \times 5.7\text{--}6.6\mu$, cylindrico-clavata cum 4-sterigmatibus crassis; sporae $6.6\text{--}8.5 \times 3.8\text{--}4.7\mu$ [$\bar{x}$ (20) = $7.5 \times 3.8\mu$], apiculatae, laeves, hyalinae maturiores brunnescentes inamyloidae.

Typus: Mirador, Mexico, leg. Liebmann in Herb. Fries.

Specimen exemplare: Chilpancingo, Guerrero, Mexico, 6000 ft. alt. 10.20.1944, leg. A. J. Sharp 1015, in lingo Quercus (in UT 16799 et NO).

The interwoven context, the binding hyphae projecting into the subhymenium and hymenium, and the lack of cystidia, a cuticle,

and clamp-connections sharply separate *L. mexicana* from other species of *Lopharia*.

Paraphelaria colombiana

(Fig. 1D)

Corner has redescribed *Aphelaria amoenensis* (Lev.) Corner (Persoonia 4: 346. 1966) and transferred it into a new genus of auriculariaceous fungi. Last year I made two collections of a similar fungus in Colombia which appears to differ specifically from *P. amboinensis*.

Paraphelaria colombiana Welden sp. nov. *Paraphelariae amboinensi* (Lev.) Corner affinis sed receptaculis e subiculo ortis et sporis basidiisque brevioribus et basidiis 2(–3) septis transversis divis in hymenio. Hab. in bambusa in provinciis Valle Caldasque, Colombia.

Receptaculae subiculo orta ad 3 cm alta, fuliginosus (8 L 12 Mandalay), dense ramosa, inconspicue pilosa, paucis ramis principalibus denuo semel, bis, velter ramulosis, ramis ramulisque depressis, saepe anastomosantibus, apicibus penicillatis; hymenium pallidulum, pulveraceum, sporae $9.5\text{--}17.8 \times 4.4\text{--}6.6\mu$ [$\bar{x}$ (15) = $13.2 \times 5.4\mu$], hyaline, leves, cylindratae, inamyloideae, tunicis crassis; basidia $26.6\text{--}42 \times 6.6\text{--}8.5\mu$, 2(–3) septis transversis divisa; hymenium ex hyphis sterilis basidiisque; subhymenium $95\text{--}140\mu$ crassum; hyphae $2\text{--}4\mu$ diam, hyalinae vel brunneo-ochraceae, septis simplicibus.

Typus: La Palestina in provincia Valle 6.17.68.

Specimen exemplare: Hcnda. Las Alcazares in provincia Caldas 7.3.68.

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