

## SUMMARY

A preliminary survey of Phragmobasidiomycetes from the Brazilian Amazon revealed three new species: *Tremella riobrancensis* Lowy, *Ductifera elastica* Lowy, and *Dacryopinax maxidorii* Lowy. Ten other species representing the families Auriculariaceae, Tremellaceae, and Dacrymycetaceae previously unreported from Acre and Amazonas were also collected.

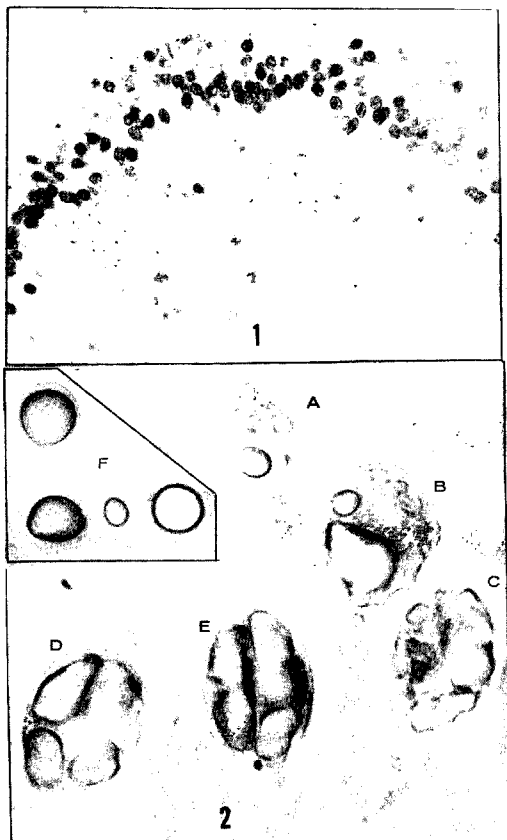
## INTRODUCTION

In this century the higher fungi of Brazil have been the subject of numerous studies, but many taxa have scarcely been considered and are still virtually unknown or infrequently collected. The tremellaceous fungi constitute one of these groups (Tremellales sensu lato) and Möller's (1895) publication is the first comprehensive treatment of the fungi now generally classified as Phragmobasidiomycetes. For a recent survey of the taxa included within this class, together with diagnostic characteristics of orders and families, the reader is referred to the author's 1982 paper. A Flora Neotropica monograph (Lowy, 1971) is the first attempt since Möller's work to review and revise the morphology and taxonomy of neotropical Tremellales and although numerous Brazilian collections are noted, few of them are from the Amazonian region. A 1980 expedition to Acre jointly sponsored by the New York Botanical Garden and by INPA concentrated chiefly on angiosperms and fungi and the present report is a summary of Tremellales collected at that time including three new species previously described (Lowy, 1981, 1982a).

*Tremella riobrancensis* Lowy, Mycotaxon 15:95, 1982. (Figs. 1-2) Fructification tough gelatinous when fresh, effused,  $\pm$  650  $\mu$ m thick, dark brown, parasitizing perithecia of a pyrenomycete; drying to a rusty brown crust; hymenium  $\pm$  75  $\mu$ m wide with basidia arising from clamped hyphae; probasidia subglobose 14-18 (-20)  $\mu$ m diam; metabasidia cruciate septate, subovoid, (20-) 23-28 (-32) X 15-18 (-20)  $\mu$ m diam; sterigmata narrow-cylindrical; basidiospores subglobose 10.0-12.0 X 8.5-11.0  $\mu$ m with prominent apiculus, germi-

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Figs. 1, 2. *Tremella riobrancensis*. 1: Transverse free hand section through basidiocarp showing aggregation of basidia in hymenium, x 100. 2: Crush mount of hymenium; A-C, unicellular probasidia; D-E, septate metabasidia; F, three mature basidiospores and a smaller secondary spore; x 1000. B. Lowy BR485 (holotype INPA, on loan to LSUM).

nating by repetition.

TYPE. Brazil. Km 18 SE of Rio Branco on road to Porto Velho, Acre. On decorticated wood, 6-X-1980. **Lowy BR 485** (Holotype INPA, on loan to LSUM).

Of neotropical species of *Tremella* that I have examined (Lowy, 1971), only *T. tubercularia* Berk. has been reported as parasitizing a pyrenomycete, and this is known from a single collection in Colombia. *T. tubercularia* and the new species differ in their major macroscopic and microscopic characteristics. *T. tubercularia* is hyaline to grayish when soaked, with metabasidia measuring  $14-18.5 \times 11.0-14.5 \mu\text{m}$  and basidiospores  $8.0-9.5 \times 7.0-8.5 \mu\text{m}$ .

*Ductifera elastica* Lowy, Mycotaxon 15:97. 1982. (Fig. 3)

Fructification effused,  $\pm 200 \mu\text{m}$  thick when fresh, extremely tough rubbery gelatinous, dark brownish, drying to a concolorous film; hyphae obscure, no clamp connections observed; gloecystidia (beta type) numerous, serpentine, (60-) 110-125 (-150)  $\times$  5.0-7 (-8.5)  $\mu\text{m}$ , with coarse, brownish granules; crowded in hymenium and subhymenium, probasidia subglobose, 9.5-11.5  $\times$  10.5-12.0  $\mu\text{m}$ ; metabasidia cruciate septate, 13-15  $\times$  8.5-11.0  $\mu\text{m}$ ; basidiospores ovoid (7.5) 8.5-9.5  $\times$  5.0-6.0  $\mu\text{m}$ ; germinating by repetition. TYPE. Brazil. Km 20 AC-010 N of Rio Branco on road to Porto Acre, Acre. On rotten wood, 11-X-1980. **Lowy et al BR 646** (Holotype INPA, on loan to LSUM).

Of the six species of *Ductifera* reported from the neotropics only *D. argentinensis* (Lowy, 1962), has ovoid basidiospores 10.0-13.2  $\times$  6.5-7.3  $\mu\text{m}$ , but its thick, gelatinous basidiocarp (up to 4 mm) and conspicuous carotinoid pigmentation easily separates it from the new species.

*Dacryopinax maxidorii* Lowy, Mycotaxon 13:428. 1981. (Fig. 4)

Fructification when fresh rubbery gelatinous, orange-yellow, stipitate, pileate, up to 4.5 cm in height, 5 cm broad (Fig. 4); drying horny, rusty brown; arising from a broad, elongated, firm rooted, sterile stalk; veined, densely whitish-pilose when dry, with pilosity diminishing upward; deeply branched apically, frequently becoming polycephalic with broad, veined, flabelliform lobes  $\pm 450 \mu\text{m}$  thick, often with crenate margins; hymenium unilateral, inferior, producing a dense palisade of basidia; abhymenium thinly covered with hyaline, cylindrical to slightly inflated, unbranched hairs, unicellular to sparsely septate, arising from a layer of irregularly inflated hyphae; probasidia cylindrical, unicellular, 30.0-36.5  $\times$  4.0-4.5  $\mu\text{m}$ ; occasional cylindrical, slender, unbranched dikaryophyses 20-25  $\times$  2.5-3.0  $\mu\text{m}$ ; metabasidia furcate, bisterigmate hyphae without clamp connections, 2.0-3.0  $\mu\text{m}$  diam; basidiospores slightly curved-cylindrical to subovoid (7.0-) 8.0-10.0 (-11.5)  $\times$  4.5-5.0  $\mu\text{m}$ , with narrowed apices and prominent apiculus, with a single, thick, central septum, producing subspherical conidia 1.5-2.5  $\mu\text{m}$  diam; or germinating by germ tube.

TYPE. Brazil. **Lowy 190 BR** (Holotype INPA, on loan to LSUM), km 405 Manaus-Porto Velho road, Amazonas, 16-IX-1980. Leg. B. Lowy, D. Coelho. On unidentified log. This species is named for Maxine and Doris Lowy, enthusiastic collectors of tremellaceous fungi.

Some phragmobasidiomycetes ...



Fig. 4. *Daeryopinax maxidorii*. Scale in mm.



Fig. 5. *Auricularia delicata*. Scale bar 20mm.

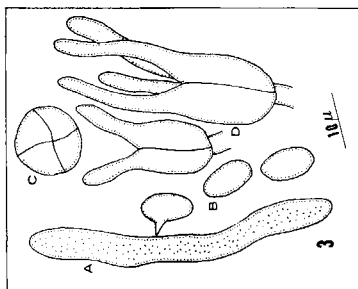


Fig. 3. *Dactifera elastica*. A, gloeocystidium; B, three basidiospores, one germinating by repetition; C, cruciate separate basidium; D, two mature basidia with sterigmata. B. Lowy BR 646 (Holomata, INPA, on loan to LSUM).

In gross morphology this species somewhat resembles *D. indacocheae* (Lowy, 1959), except for the latter's stubby stalk, thinner lobes, and brownish to earth-colored pigmentation. However, the long stalk, bright carotinoid pigmentation, and flabelliform lobes of the new species place it closer to *D. martinii* (Lowy, 1971). The basidiospores of these three species are predominantly 1-septate, but *D. maxidorii* shares with *D. indacocheae* somewhat curved-cylindrical spores with a single, thick septum whereas the spores of *D. martinii* are characteristically thin septate.

The collections cited below extend the range in which the species noted have been found. Duplicates have been deposited in NY, INPA, and LSUM.

#### AURICULARIACEAE

*Auricularia delicata* (Fr.) Henn. (Fig. 5)

Reserva Florestal Ducke, km 26 N of Manaus, Amazonas. Lowy et al.\* BR 156, 13 Sept. 1980; km 500 S of Manaus on Porto Velho road, Amazonas. Lowy et al. BR 220, 17 Sept. 1980; km 25 from Rio Branco to Porto Acre, Acre. Lowy et al. BR 269, 27 Sept. 1980; km 18 S of Rio Branco along highway AC-040, Acre. Lowy et al. BR 359, 28 Sept. 1980; km 33 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR-367, 29 Sept. 1980; km 46 highway AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian border, Acre). Lowy et al. BR-397, 1 Oct. 1980; between km 44, km 52, BR 317 SW of Rio Branco on road to Xapuri, Acre. Lowy et al. BR 451, 2 Oct. 1980; forest on terra firme near Sena Madureira, Acre, Brasil. Nelson BN 533, 554, 574, 579, 2-5 Oct. 1980; km 18 SE of Rio Branco on road to Porto Velho, Acre. Lowy et al. BR 502, 6 Oct. 1980; between km 40 and km 46 AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian border, Acre). Lowy et al. BR 542, 8 Oct. 1980; km 49 SE of Rio Branco on road to Porto Velho, Acre. Lowy et al. BR 575, 9 Oct. 1980; km 20 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 620, 11 Oct.; km 33 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 652, 12 Oct. 1980; km 39 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 705, 13 Oct. 1980; km 35 AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian, border). Lowy et al. BR 748, 17 Oct. 1980; km 16 AC-040 SW of Rio Branco and Xapuri, Acre. Lowy et al. BR 786, 20 Oct. 1980; km 11 AC-040 SW between Rio Branco and Quinari, Acre. Lowy et al. BR 894, 24 Oct. 1980; km 8 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al.

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\* To conserve space, "et al" refers to one or more of the following, who at various times accompanied the author in the field: S. R. Lowrie, B. Nelson, C. A. Ferreira, M. Moreira, V. M. de Souza and A. Rosas, Jr.

BR 1039, 1 Nov. 1980; km 13 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1063, 2 Nov. 1980; km 16 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1089, 3 Nov. 1980; km 22 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1112, 4 Nov. 1980.

*Auricularia fuscossuccinea* (Mont.) Farl.

Parque zoológico, Universidade Federal do Acre, Rio Branco, Acre. Lowy et al. BR 238, 24 Sept. 1980; km 33 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 367a, 29-IX-1980; km 46 highway AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian border, Acre). Lowy et al. BR 396, 1 Oct. 1980; between km 45 and km 65 BR 317 SW of Rio Branco on road to Xapuri, Acre. Lowy et al. BR 589, 10 Oct. 1980; km 33 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 653, 12 Oct. 1980; km 39 AC-010 N of Rio Branco on road to Porto Acre. Lowy et al. BR 704, 13 Oct. 1980; km 35 AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian border, Acre). Lowy et al. BR 747, 17 Oct. 1980; km 23 between Rio Branco and Quixadá, Acre. Lowy et al. BR 772a, 19 Oct. 1980; km 5 BR 364 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 835, 21 Oct. 1980; km 29 BR 364 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 875, 23 Oct. 1980; km 42 BR 364 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 892, 23 Oct. 1980; km 29 BR 364 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 902, 24 Oct. 1980; km 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1068, 2 Nov. 1980.

*Auricularia mesenterica* Pers.

Km 46 highway AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian border, Acre). Lowy et al. BR 384, 1 Oct. 1980; km 39 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 710, 13 Oct. 1980.

TREMELLACEAE

*Ductifera pululahuana* (Pat.) Donk

Km 175 S of Manaus on Porto Velho Road, Amazonas. Lowy et al. BR 180, 16 Sept. 1980.

*Exidia nucleata* (Schw.) Burt

Km 25 from Rio Branco to Porto Acre, Acre. Lowy et al. BR 280, 27 Sept. 1980; km 18 S of Rio Branco along highway AC-040, Acre. Lowy et al. BR. 356, 28 Sept. 1980.

*Stypella minor* Möller

Km 25 on road from Rio Branco to Porto Acre, Acre. Lowy et al. BR 281, 27 Sept. 1980.

*Tremella fuciformis* Berk.

Km 16 AC-040 SW between Rio Branco and Xapuri, Acre. Lowy et al. BR 783a, 20 Oct. 1980; km 22 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1115, 4 Nov. 1980.

DACRYMYCETACEAE

*Calocera cornea* (Batsch ex Fr.) Fr.

Km 25 from Rio Branco to Porto Acre, Acre. Lowy et al. BR 275, 27 Sept. 1980; km 16 AC-040 SW between Rio Branco and Xapuri, Acre. Lowy et al. BR 827, 20 Oct. 1980; km 8 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1041, 1 Nov. 1980; km 22 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1100, 4 Nov. 1980.

*Dacryopinax elegans* (Berk. & Curt.) Martin

Km 25 from Rio Branco to Porto Acre, Acre. Lowy et al. BR 293, 27 Sept. 1980; km 42 BR 317 SW of Rio Branco on road to Xapuri, Acre. Lowy et al. BR 477, 4 Oct. 1980; km 39 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 679, 13 Oct. 1980; km 16 AC-040 SW between Rio Branco and Xapuri, Acre. Lowy et al. BR 826, 20 Oct. 1980; km 29 BR 364 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 880, 23 Oct. 1980; km 12 BR 364 on road to Porto Velho, Acre. Lowy et al. BR 967, 25 Oct. 1980; km 13 BR 317 on road between Brasileia and Assis Brasil, Acre. Lowy et al. BR 1045, 2 Nov. 1980.

*Dacryopinax spathularia* (Schw.) Martin

Km 42 BR 317 SW of Rio Branco on road to Xapuri, Acre. Lowy et al. BR 473, 4 Oct. 1980; km 20 AC-010 N of Rio Branco on road to Porto Acre, Acre. Lowy et al. BR 610, 11 Oct. 1980; km 35 AC-040 SE of Rio Branco on road to Plácido de Castro (near Bolivian border, Acre). Lowy et al. BR 741, 17 Oct. 1980; km 29 BR 364 NW of Rio Branco on road to Sena Madureira, Acre. Lowy et al. BR 912, 24 Oct. 1980.

RESUMO

Uma investigação preliminar dos Phragmobasidiomycetes da Amazônia brasileira revelou três espécies novas: *Tremella riobrancensis* Lowy, *Ductifera elastica* Lowy e *Dacryopinax maxidorii* Lowy. Mais dez espécies previamente não coletadas na Amazônia, representantes das famílias Auriculariaceae, Tremellaceae e Dacrymycetaceae, do Acre e Amazonas, também são registradas.

## ACKNOWLEDGMENTS

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