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MYCOTAXON

AN INTERNATIONAL JOURNAL DESIGNED TO EXPEDITE PUBLICATION
OF RESEARCH ON TAXONOMY & NOMENCLATURE OF FUNGI & LICHENS

Elements for a mycological inventory of the vicinity of
"Saut Pararé" (Arataye River) and "Nouragues Inselberg"
(French Guiana) III. Heterobasidiomycetideae.
Studies on the flora of the Guianas, No. 52

Régis Courtecuisse and Bernard Lowy

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ELEMENTS FOR A MYCOLOGICAL INVENTORY OF
THE VICINITY OF "SAUT PARARÉ" (ARATAYE RIVER)
AND "NOURAGUES INSELBERG" (FRENCH GUIANA)
III. HETEROBASIDIOMYCETIDEAE

Studies on the Flora of the Guianas, No. 52

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SUMMARY: The authors give a description and illustrations of macro- and micromorphological features for the heterobasidiomycetous material collected in French Guiana by RC in 1988. Pseudohydnum gelatinosum var. bisporum Lowy et Courtec. and Dacryopinax formosus Lowy et Courtec. are proposed as new.

RESUME: Les auteurs donnent une description et des illustrations des caractères macro- et micromorphologiques pour le matériel appartenant aux Hétérobasidiomycètes, récolté en 1988 par RC en Guyane Française. Pseudohydnum gelatinosum var. bisporum et Dacryopinax formosus sont proposés comme nouveaux.

KEY-WORDS: Mycoflora, French Guiana, Heterobasidiomycetidae, Auricularia, Calocera, Dacryopinax, Ditiola, Pseudohydnum, Tremella.

INTRODUCTION:

After dealing with Hygrophoraceae, Pluteaceae (COURTECUISSÉ, 1989, 1990), and Russulaceae (COURTECUISSÉ and BUYCK, 1990), we present in this paper a survey of the heterobasidiomycetous material collected in French Guiana during a mission organized by the Muséum of Paris. Sixteen collections were made. Field notes were gathered on fresh material. Determinations by RC of the dried material took place after returning to the laboratory. BL confirmed some identifications and determined some unnamed specimens, including the sp. nov.

Some species were previously known from French Guiana: Auricularia fuscisuccinea (Mont.) Farlow and A. polytricha were noted by LOWY (1971), as well as Dacryopinax spathularia (Schw.) Martin, the two latter being already mentioned by Montagne (1854), respectively under the names Hirneola polytricha + H. nigra and Guepinia cohaerens. Septobasidium leprieurii (Mont.) Pat. and S. rhabarbarinum (Mont.) Bres. were cited respectively by DENNIS (1970) and MONTAGNE (l.c., s.n. Daedalea) followed by RYVARDEN (1982) who restudied the type. A single species of Tremella, viz. T. aurantia Schw.: Fr. was also listed by MONTAGNE (l.c.).

Our collections include Auricularia (5 specimens), Calocera (1), Dacryopinax (4), Ditiola (1), Pseudohydnum (1) and Tremella (4). Most of the taxa are well known from neotropical areas, but a variety is proposed as new, viz. Pseudohydnum gelatinosum var. bisporum as well as a species, viz. Dacryopinax formosus.

KEY TO THE DESCRIBED TAXA:

I. AURICULARIACEAE: Basidiocarp rubbery gelatinous, more or less auriform; metabasidia cylindrical, becoming transversely 3-septate.

1. Hymenium poroid-reticulate: Auricularia delicata
1. Hymenium non poroid-reticulate: A. polytricha.

II. DACRYMYCETACEAE: Basidiocarp gelatinous, pulvinate, lobate to substipitate or stipitate; metabasidia furcate, unicellular.

1. Erect, digitately branched: Calocera coralloides
1. Not digitately branched: cf. 2
 2. Stipitate, pileate; hyphae heterogeneous: Ditiola radicata
 2. Pileus spathulate to expanded flabelliform; hyphae homogeneous: cf. 3
3. Pileus narrowly spathulate, simple to branched, orange-yellow: Dacryopinax spathularia (= D. fissa)
3. Pileus foliose, deeply lobed, with brownish tints: D. indacocheae
3. Pileus flabelliform, not lobed, egg-yellow: D. formosus

III. TREMELLACEAE: Basidiocarp gelatinous, variously cerebriform to lobate; metabasidia subspherical, becoming cruciate-septate.

1. Hymenium spiny: Pseudohydnum gelatinosum
1. Hymenium without spines: cf. 2
 2. Hyaline to whitish, sparsely lobate, drying nearly effused: Tremella fibulifera
 2. Yellow, orange or brownish pigments predominating: cf. 3
3. Foliose, brownish when fresh, drying darker: T. fimbriata
3. Cerebriform to lobate, with yellow-orange pigments: T. lutescens.

DESCRIPTION OF TAXA:

I. AURICULARIACEAE:

1. Auricularia delicata (Fr.) Hennings in Bresadola, Hennings et Magnus 1893 Bot. Jahrb. 17:492 = ? Merulius affinis Junghuhn 1839 Batav. Gen. Verh. 17:76 (see LOWY, 1971 for further synonymy).

Macroscopic description (Fig. 1):

Basidiocarp pileate, more or less auriform, firmly gelatinous, sessile. Abhymenial surface shortly pilose. Hymenophoral surface pale yellowish, then light reddish brown, becoming poroid-reticulate.

Microscopic description:

Spores (Fig. 2) 10-17 x 4,5-6 μm , cylindrical to somewhat allantoid, hyaline with irregular internal droplets and guttules.

Probasidia cylindrical to clavate; metabasidia (Fig. 3) becoming transversely 3-septate, 28-40 x 4-7 μm , with basal clamp.

Hyphae (Fig. 4) x 1-3,5 μm , interwoven in a gelatinous matrix, more or less branched and anastomosing, with clamp connections. Some hyphidia with dendroid apex present x 1-3 μm .

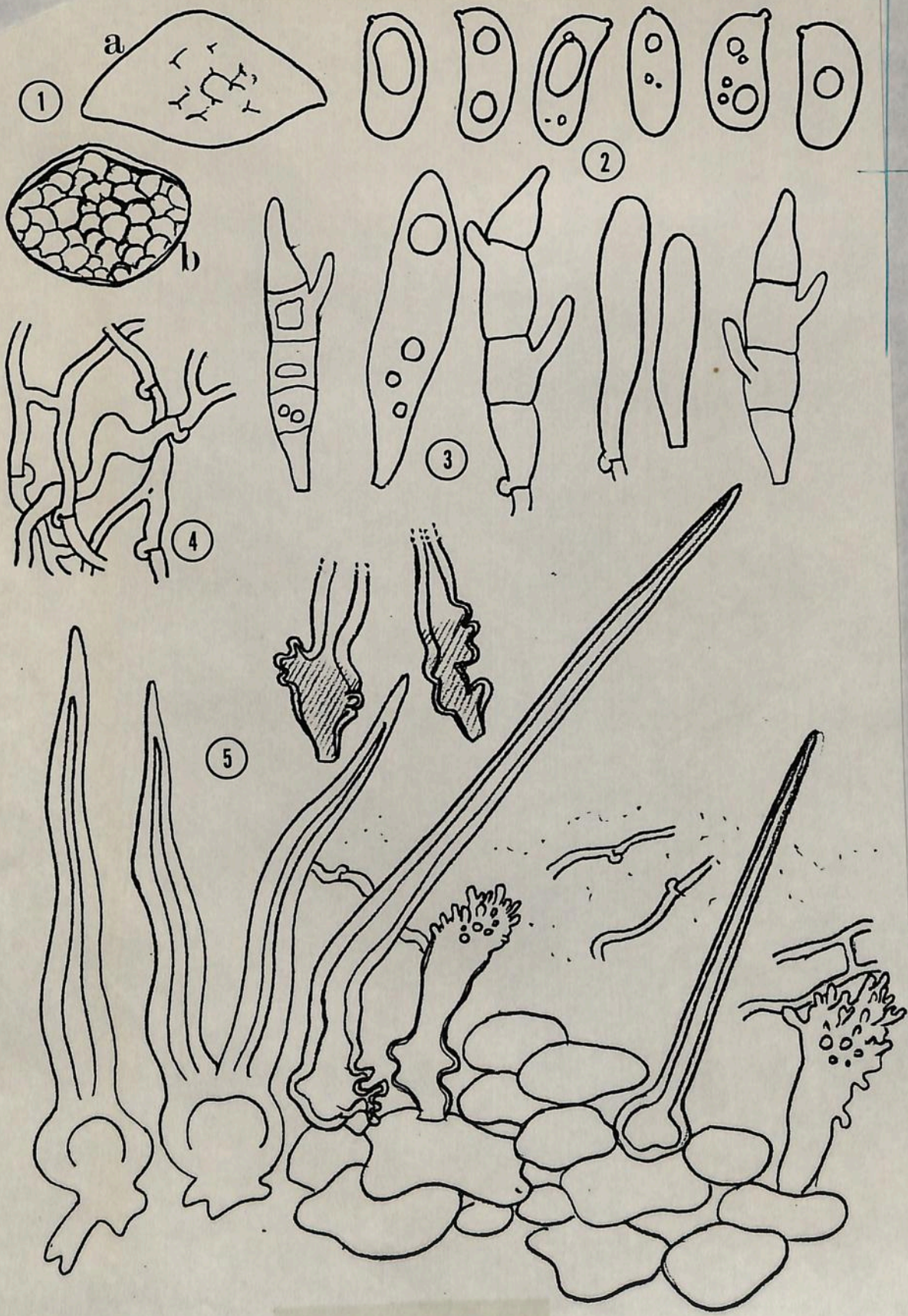
Pileipellis (Fig. 5) with a pseudoparenchymatous layer with more or less isodiametrical cells 10-25 x 5-20 μm , and dermatocystidia of two types. First type marasmioid, i.e., clavate diverticulate, brown, 15-30 x 10-25 μm . Second type setiform up to 130 x 7 μm with a thickened wall up to 2,5 μm , sometimes associated with an inflated and diverticulate base resembling the first type, but more often with a bulbous, smooth base, seldom forked.

Collections:

- "Saut Pararé" (Arataye river), on a wooden beam of the building at the camp. 27.02.1988. Coll. and Det.: RC; n° RC/GF88.354 (PC).
- Vicinity of the "Saut Pararé" (Arataye River), on a fallen trunk. 2.03.1988. Coll. and Det.: RC; n° RC/GF88.457 (PC).

Discussion:

Fig. 1-5: Auricularia delicata. Fig. 1 (x1): Basidiocarp, abhymenial (a) and hymenial (b) view. Fig. 2: Spores. Fig. 3: Probasidia and metabasidia. Fig. 4: Hyphae. Fig. 5: Suprapellis with detail of the basal portion of two setae.



These collections are typical of *A. delicata*, as described by LOWY (1971). This species is rather common throughout all the Neotropics, but was so far not reported from French Guiana. Countries where this fungus occurs are summarized as follows (from LOWY, 1971, or if from other references, those noted in brackets): Argentina, Bolivia, Brazil, British Honduras, China (DU FU et al., 1983; TAN et WU, 1986), Columbia, Congo (BRESADOLA, 1911), Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Ethiopia (BRESADOLA, 1894), Guatemala, Haiti, Honduras, India (NATARAJAN et KOLANDAVELU, 1980) Jamaica, Java (BRESADOLA, 1907), Mexico, Panama, Peru, Puerto Rico, St. Croix, Trinidad, Venezuela.

2. *Auricularia polytricha* (Mont.) Saccardo 1885 Att. R. Inst. Ven. VI, 3:722 (for synonymy, see LOWY, 1971).

Macroscopic description:

Basidiocarp pileate, cupulate, up to 10 cm broad, tough to rubbery gelatinous. Abhymenial surface densely pilose. Hymenium dark, brown to purplish brown, smooth to somewhat rugulose.

Microscopic description:

Spores (Fig. 6) 11-16 x 5-6 μ m, cylindrical to subballantoid, hyaline.

Probasidia cylindrical, metabasidia (Fig. 7) becoming transversely 3-septate, 40-60 x 4-6 μ m.

Hyphae x 1-4 μ m, interwoven in a gelatinous layer, with clamp connections.

Pileipellis, consisting of a layer of more or less isodiametrical cells and dense setiform dermatocystidia up to 300 x 5 μ m with a thickened wall, up to 2-(2,5) μ m.

Collections:

- Vicinity of the "Saut Pararé" (Arataye River), on dead wood of a fallen trunk. 27.02.1988. Coll. and Det.: RC, n° RC/GF88.353 (PC).

- Same locality, on dead wood, 7.03.1988. Coll. and Det.: RC, n° RC/GF88.527 (PC).

- Same locality, on a dead trunk. 8.03.1988. Coll. and Det.: RC, n° RC/GF88.562 (PC).

Discussion:

Like the preceding, those specimens fit well within the concept of *A. polytricha*, as described by LOWY (1971). The species was already mentioned from French Guiana and is also noted from (references as for the preceding) Argentina, Australia (BRESADOLA et SACCARDO, 1890), Bahama Islands, Bermuda, Bolivia, Brazil, British Honduras, Canal Zone, Cameroon (BERTHET et BOIDIN, 1966), China (DU FU et al., 1983; TAN et WU, 1986), Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Ecuador, Ethiopia (BRESADOLA, 1894), Guatemala, Guyana, Haiti, India (BERKELEY, 1854), Indonesia in Sumatra Island (BOEDIJN, 1929), Jamaica, Japan (IMAZEKI et HONGO, 1965 and other authors), Mexico, New Zealand (MacNABB, 1964), Nicaragua, Pacific Islands (LOWY, 1952), Pakistan (AHMAD, 1945, Panama, Peru, Philippine Islands (BRESADOLA, 1915), Puerto Rico, Sao Tome et Principe (BRESADOLA et ROUMEGUERE, 1890), Surinam, Trinidad, Venezuela.

II. DACRYMYCETACEAE:

3. *Calocera coralloides* Kobayasi 1939 Sci. Rept. Tokyo Bunr. Daig. B4(74):225.

Macroscopic description (Fig. 8):

Basidiocarp erect, digitate, cylindrical to subulate, up to 5 x 1 mm, orange to reddish brown below, firm gelatinous. Hymenium amphigenous, smooth.

Microscopic description:

Spores (Fig. 9) 7-10 x 4-5 μ m, slightly curved, 1-septate, the distal cell somewhat larger. Wall thin, easily collapsed.

Probasidia 30-35 x 2-4 μ m, cylindrical, slightly clavate upwards. Metabasidia (Fig. 10) up to 40 x 2-6 μ m, bifurcate, easily collapsed. Sterigmata up to 10 μ m.

Hyphae with gelatinous, punctate to asperulate ciliate wall, curved in the subhymenial layer.

Flesh with densely agglutinated parallel hyphae.

Sterile zone of the basidiocarp ("stipe") covered with short hairs (Fig. 11), up to $15 \times 4 \mu\text{m}$.

Collection:

- Vicinity of the "Saut Pararé (Arataye River), on the bark of a fallen branch. 5.03.1988. Coll. and Det.: RC, n° RC/GF88.503 (PC).

Discussion:

This rare species, previously known from Japan and Bolivia (LOWY, 1971) is new to the mycoflora of French Guiana. This is the second record from South America, as far as we know.

4. Dacryopinax formosus Lowy et Courtecuisse, sp. nov. Figs. 12-17.

Fructificatio humida lutea, firme gelatinosa, crassa flabelliforme vel ampla spathulata, radicata; sicca cornea, luteobrunnea; hymenio inferiori, glabrum; abhymenio rugulosa, pauci setulosa, setula curta, inspersa; probasidia cylindraceutae, aseptatae, usque ad $35 \times 5 \mu\text{m}$ diam; metabasidia furcata, aseptata; hyphae enodosae, $2-5 \mu\text{m}$ diam; basidiosporae angusta-cylindraceutae vel leviter allantoideae, uniseptata, $7.5-13 \times 3.8-4.5 \mu\text{m}$.

Holotypus: PC; Isotypus: LSUM. Vicinity of the "Saut Pararé" (Arataye River), on rotten trunk. 24-02-1988. Coll.: RC; Det.: BL & RC n° RC/GF88.227.

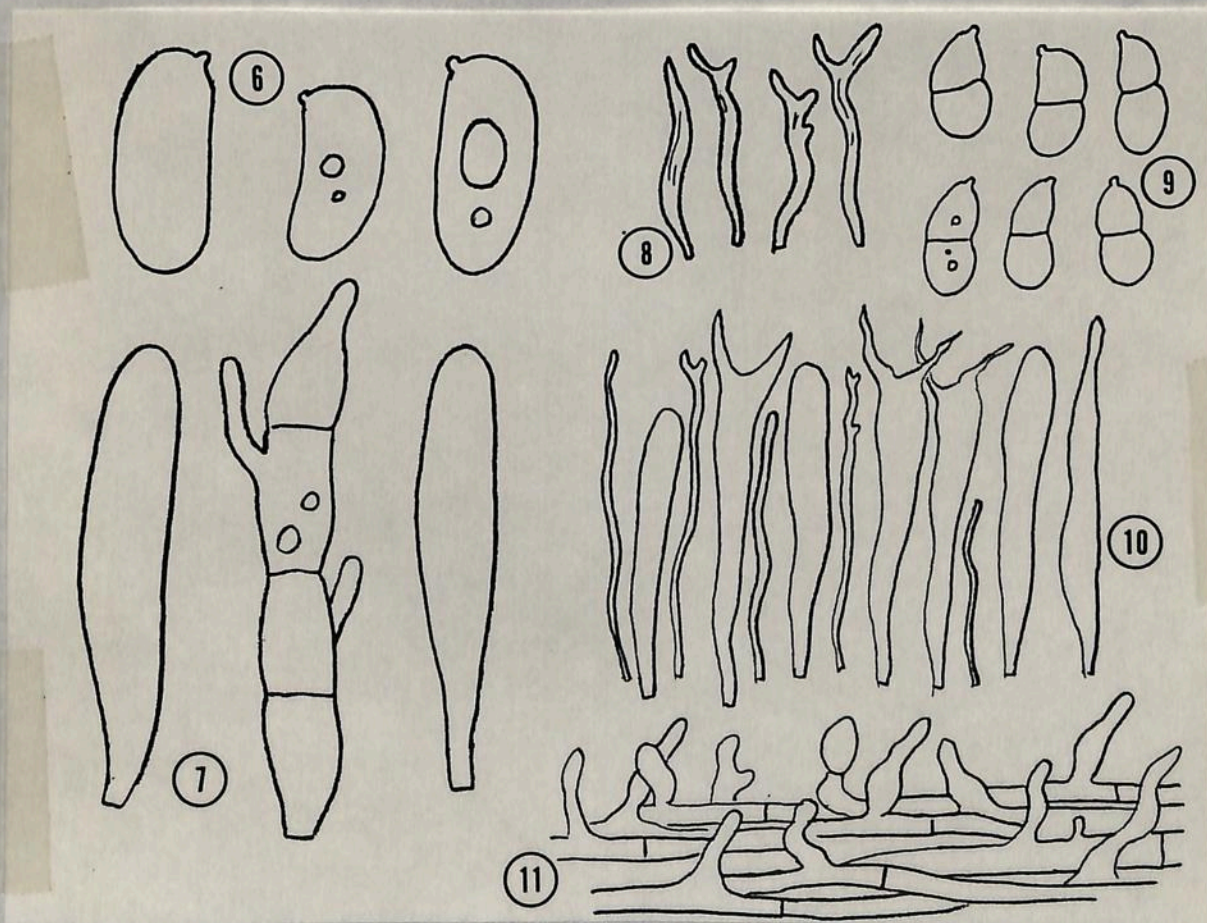


Fig. 6-7: Auricularia polytricha. Fig. 6: Spores. Fig. 7: Probasidia and one metabasidium.

Fig. 8-11: Calocera coralloides. Fig. 8: Shape of the basidiocarp. Fig. 9: Spores. Fig. 10: Probasidia, metabasidia and hyphidia. Fig. 11: Surface of the sterile zone ("stipe").

Macroscopic description (Fig. 12):

Basidiocarp spathulate, up to 25 mm long, 20 mm wide and 7 mm thick, slightly longitudinally ridged, uniformly egg-yellow when fresh. Flesh rather firm but smooth and more or less deliquescent while aging. Basal zone more narrow. Hymenium smooth (Fig. 13) and abhymenium more or less rugose, with sparse hyphal pegs (Fig. 14).

Microscopic description:

Spores (Fig. 15) 7,5-13 x 3,8-4,5 μm , narrowly cylindrical to slightly allantoid, rather frequently constricted in the middle when they are straight, hyaline, smooth, with empty, granulose or multi-guttulate contents. Apiculus voluminous, lateral or not axial. A central septum is rather frequent.

Probasidia 28-35 x 3-4,5 μm , cylindrical, subcapitate. Metabasidia (Fig. 16) 25-30 x 2-3,5 μm , with 2 sterigmata up to 20 x 2,5-3 μm , at first thick-set and obtuse, then acute.

Hyphidia (Fig. 16) not prominent, filiform cylindrical up to 35 x 2,5-3 μm , straight.

Hyphae tortuose intricate, x 2-3,5 μm , with the wall slightly thickened and a weak gelification. Clamps none.

Abhymenial suprapellis (Fig. 17) trichodermial but not dense, made of lageniform to cylindrical (sometimes thick-walled) elements, 15-35 x 4-8 μm , lying on the interwoven hyphae of the flesh, with short irregular to inflated elements.

Discussion:

The new species has close affinities with other Neotropical species described by one of us (BL), including *D. maxidorii*, *D. martinii*, and *D. crenata*. All of these share a conspicuous macroscopic feature, namely an expanded, flabelliform to broadly spathulate pileus, and a well defined stalk. Each of these species is however characterized by distinctive morphological differences. The pileus of *D. formosus* differs from that of the mentioned species by its short, scattered pegs (Fig. 14). There are as well significant variations in basidiospore measurements and septation. For a discussion and key to the species of *Dacryopinax* known from tropical America, see BL 1981. *D. crenata* was subsequently described in the BL 1987 paper.

5. *Dacryopinax indacocheae* Lowy 1959 Mycologia 51:848**Macroscopic description (Fig. 18):**

Basidiocarp gelatinous, up to 20 mm broad, irregularly orbicular or spathulate, dirty dark orange then milky orange, translucent, shining when wet. Stipe (sterile zone) short and thick-set, weakly differentiated. Lower surface somewhat velvety.

Microscopic description:

Spores (Fig. 19) 8-10 x 2,8-3,2 μm , narrowly allantoid or subcylindrical, sometimes constricted, 1-3 septate. Wall and septae thin. Some spores were seen germinating small spherical conidia x 1,5 μm with a broad "apiculus".

Probasidia up to 20 x 3 μm cylindrical to clavate subcapitate with a slightly thickened wall. Metabasidia (Fig. 20) up to 30 x 4-5 μm , bifurcate, with sterigmata up to 10 x 2 μm , organized in a very dense hymenium, with some sclerified clavate cells, up to 15 x 10 μm .

Flesh gelatinous made of thin-walled (up to 1 μm) hyphae x 2-4 μm . Clamps none.

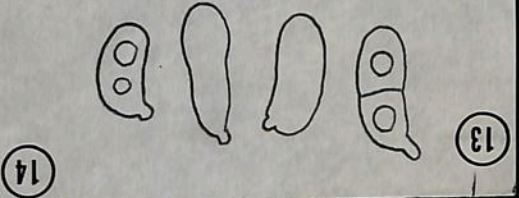
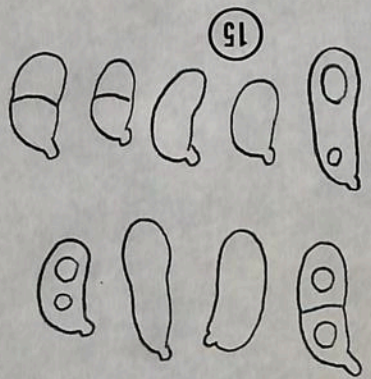
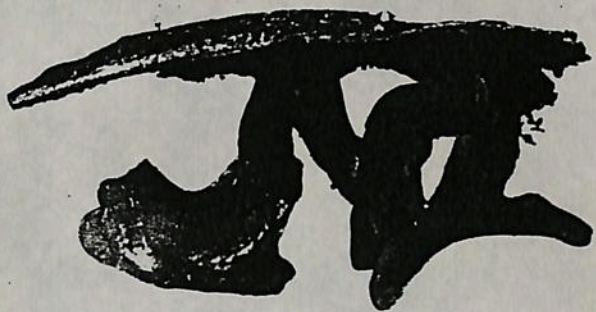
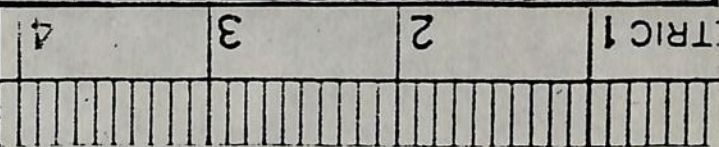
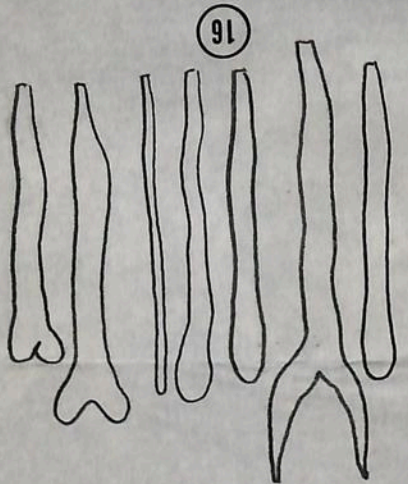
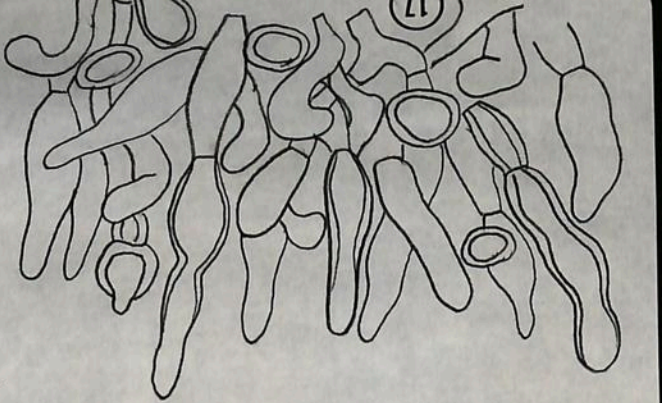
Abhymenial surface (sterile) with thick-walled, clavate to elliptical or pyriform cells (Fig. 21), up to 30 x 20 μm .

Collection:

- Vicinity of the "Nouragues mountain" camp, on a rotten trunk. 17.02.1988. Coll.: RC; Det.: BL; n° RC/GF88.093 (PC)

Fig. 12-17: *Dacryopinax formosus*. Fig. 12: Dry basidiocarps. Fig. 13: Hymenial surface (SEM view, x 475). Fig. 14: Abhymenial surface with hyphal pegs (SEM view, x 450). Fig. 15: Spores. Fig. 16: Probasidia, metabasidia and one hyphidium. Fig. 17: Suprapellis.

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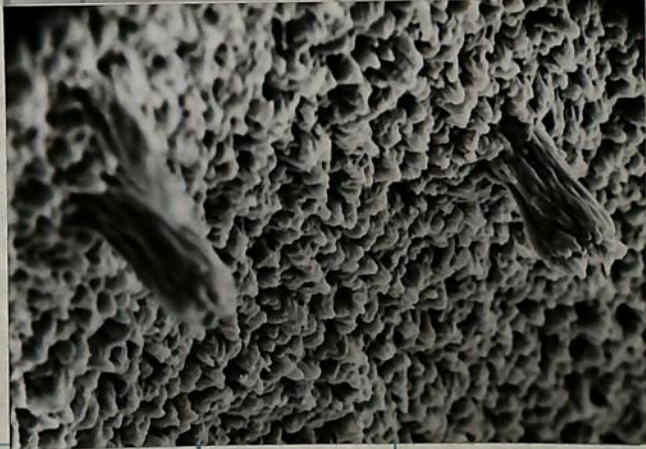
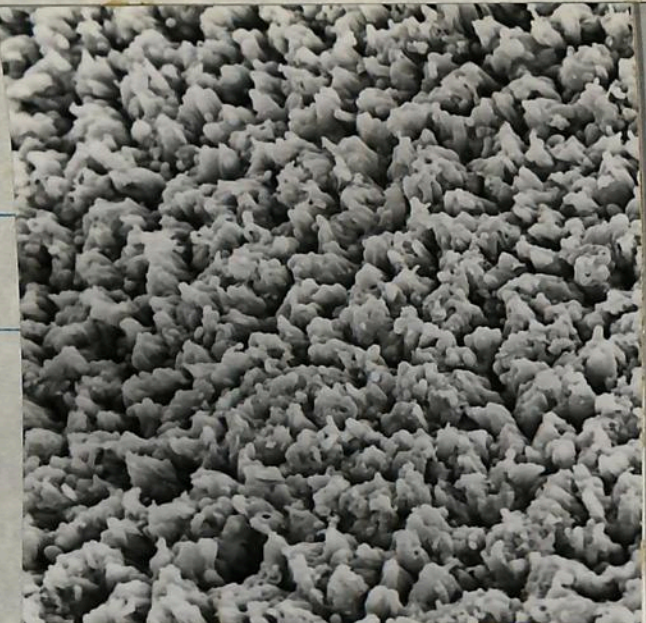
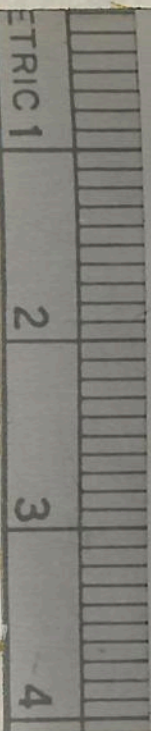
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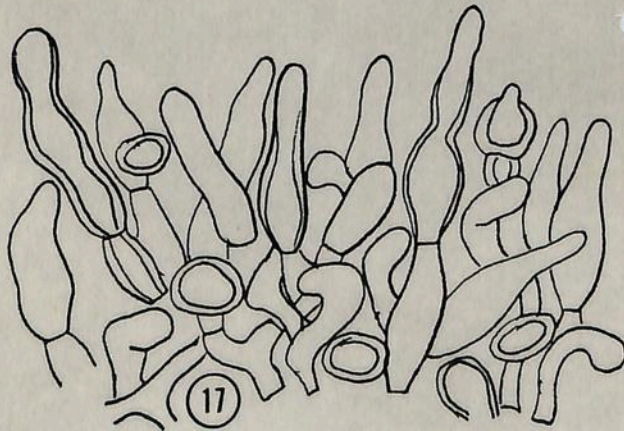
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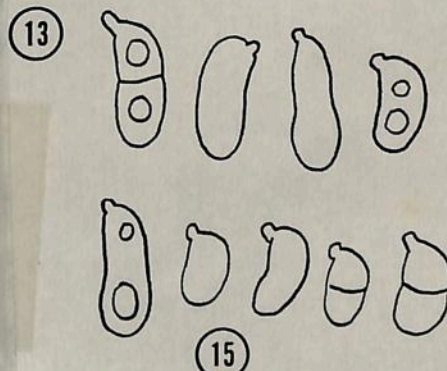
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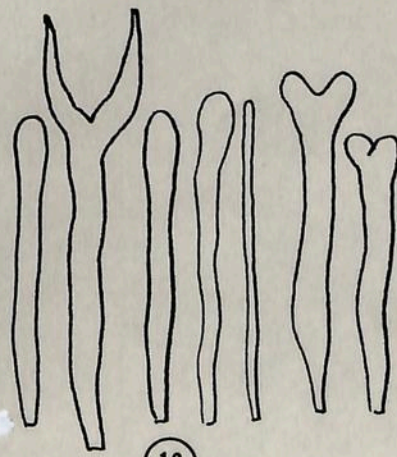
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Discussion:

Although the collection does not conform in every detail with the type description, because it appears to be composed of young basidiocarps, in our opinion it falls within the normal range of variation often found among dacrymycetaceous fungi. *D. indacocheae* is usually somewhat larger with a lobed basidiocarp, presents cylindrical dicharyoparaphyses which were not observed here; furthermore its secondary spores are larger, up to 2-2,5 μ m in diameter. The youth of the collection could explain discrepancies, the basidiocarp and conidia being immature, smaller than at maturity, and the hymenium being still too dense to let the dicharyoparaphyses appear. Nevertheless, the fructification shown by LOWY (1959:842), Fig. 1, right) looks like our collection, and we propose *D. indacocheae* as new to French Guiana. It was previously known from Bolivia and Brazil (LOWY, 1971).

6. *Dacryopinax spathularia* (Schw.: Fr.) Martin 1948 Lloydia 11:116 = *Dacryopinax fissa* (Berk.) Martin 1948 Lloydia 11:116 (for complete synonymy, see LOWY, 1971)

Macroscopic description (Fig. 22):

Basidiocarp up to 10 x 4-5 mm, erect, spathulate to somewhat furcate or even polycephalic at apex, the sides slightly curved, yellow orange, the base darker, with a well marked stipe, villose like the sterile surface.

Microscopic description:

Spores (Fig. 23) 8-10,5 x 4-5,5 μ m, elliptical subphaseoliform, the apex often inflated, subpyriform on face view, 1-septate when mature, easily collapsed after septation.

Probasidia cylindrical to clavate, 20-30 x 2-5 μ m; metabasidia (Fig. 24) bifurcate, with sterigmata up to 10 x 2 μ m. Hyphidia infrequent, cylindrical, not branched.

Flesh gelatinous, made of hyphae x 2-5 μ m (Fig. 25) with "villose" walls. Clamps none.

Collection:

- Vicinity of the "Nouragues Mountain" camp. Fallen trunk of a *Sterculiaceae* tree. 15.02.1988. Coll. and Det.: RC, n° RC/GF88.040 (PC).

- Vicinity of the "Nouragues Mountain" camp. On a rotten trunk. 19.02.1988. Coll.: RC; Det.: BL; n° RC/GF88.157 (PC)

- The species has been seen frequently, in its typical form, in the area of Nouragues mountains and Saut Pararé.

Discussion:

The above-cited collections fit very well in the concept of *Dacryopinax spathularia*, as described by LOWY (1971). It is a very common species throughout the tropical and subtropical belt, which can penetrate some temperate areas.

The hierarchic level of *D. fissa* is rather questionable. Some authors consider it as synonymous with *Dacryopinax spathularia* (MARTIN, 1948; LOWY, 1971), but others prefer to consider it a good species (ZANG MU, 1985). Indeed, microscopic features are almost identical, and the only discrepancy lies in the macroscopic appearance of the basidiocarps, much more furcate and polycephalic at the apex. This special pattern is disturbing enough to make the determination problematic in the field. But, examination of the type (Univ. of Iowa) by one of us (BL) indicates that it is merely an extreme morphological variation and we consider both taxa as conspecific.

7. *Ditiola radicata* (Alb. et Schw.: Fr.) Fr. 1822 Syst. Mycol. 2:170 = *Helotium radicum* Alb. et Schw. 1805 Consp. Fung.: 348

= *Ditiola luteoalba* var. *radicata* (Alb. et Schw.: Fr.) Quélet 1886 Enchir. Fung.: 227. =

Guepinia radicata (Alb. et Schw.: Fr.) Costantin et Dufour 1891 Nouv. Fl.: 205

= *Dacrymyces deliquescens* fo. *radicata* (Alb. et Schw.: Fr.) Bourdot et Galzin 1928 Hym. Fr.: 68

= *Dacrymyces radicatus* (Alb. et Schw.: Fr.) Donk 1933 Meded. Ned. Mycol. Ver. 18-20:120 (for other synonyms, see LOWY, 1971)

Macroscopic description (Fig. 26):

Basidiocarp orange, erect, tough gelatinous, with a sterile stipe and a lobate spathulate apex, up to 6 mm high. Hymenium amphigenous.

Microscopic description:

Spores (Fig. 27) 10-13 x 4-5 μm , cylindrical to elongate elliptical, slightly curved, fragile and easily collapsed, becoming 1-septate when mature.

Probasidia (Fig. 28) cylindrical to clavate, up to 40 x 4 μm . Metabasidia collapsed in our collection, but distinctly 2-furcate.

Structure monomitic, but with thick-walled hyphae in the cortical layer of the stipe x 1,5-2,5-(3) μm , strongly gelified. Hyphae of the capitate apex x 1-3 μm , thin-walled. Clamps none.

Collection:

- Vicinity of the "Saut Pararé" on the Arataye River. On dead wood. 1.03.1988. Coll.: RC; Det.: BL; n° RC/GF.88.419 (PC).

Discussion:

This collection fits into the concept of *Ditiola*, as redescribed by KENNEDY (1958). The heterogeneous structure is rather typical. It is difficult to give chorographical data about this species, because the synonymy seems rather confused. However, it occurs in tropical areas as well as in temperate ones.

III. TREMELLACEAE:

8. *Pseudohydnum gelatinosum* var. *bisporum* Lowy et Courtecuisse var. nov.

A typo differt metabasidia bisporibus. Typus in Guyana Gallica lectus, n° RC/GF88.273 in PC conservatur.

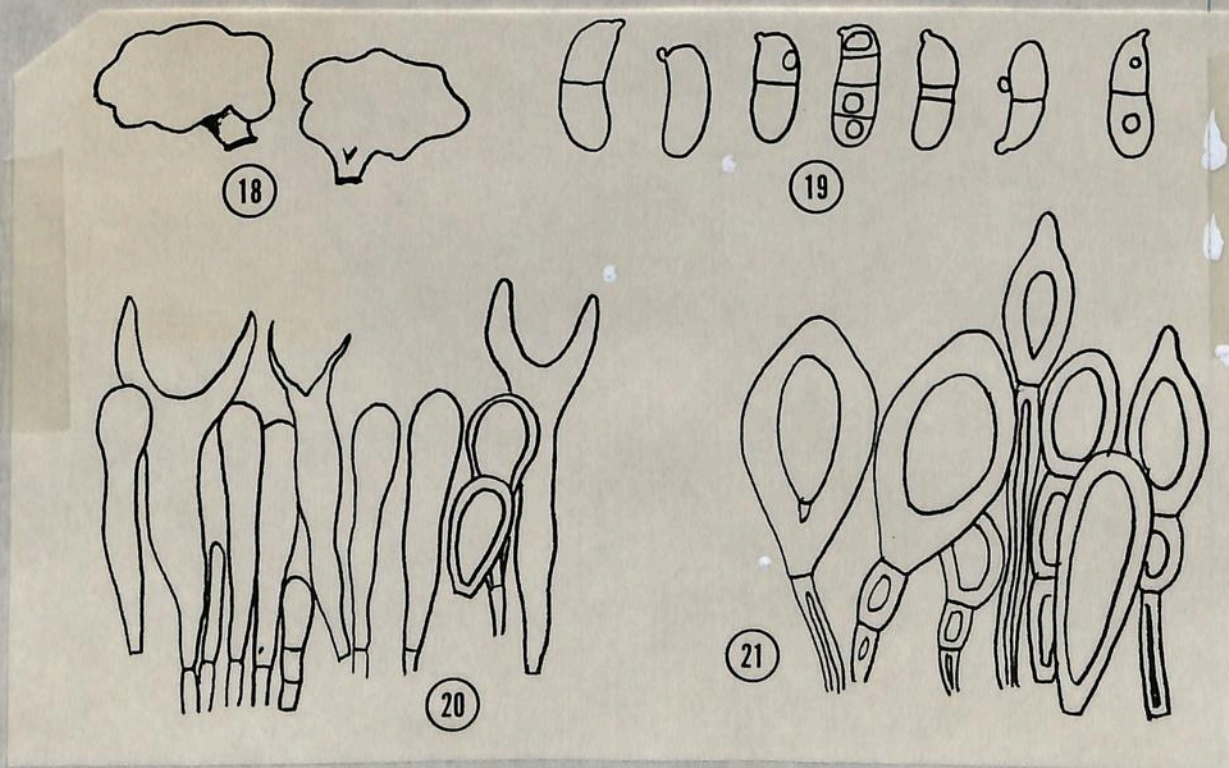


Fig. 18-21: *Dacryopinax indacocheae*. Fig. 18: Basidiocarps. Fig. 19: Spores. Fig. 20: Probasidia and metabasidia with sclerified hymenial elements. Fig. 21: Abhymenial surface.

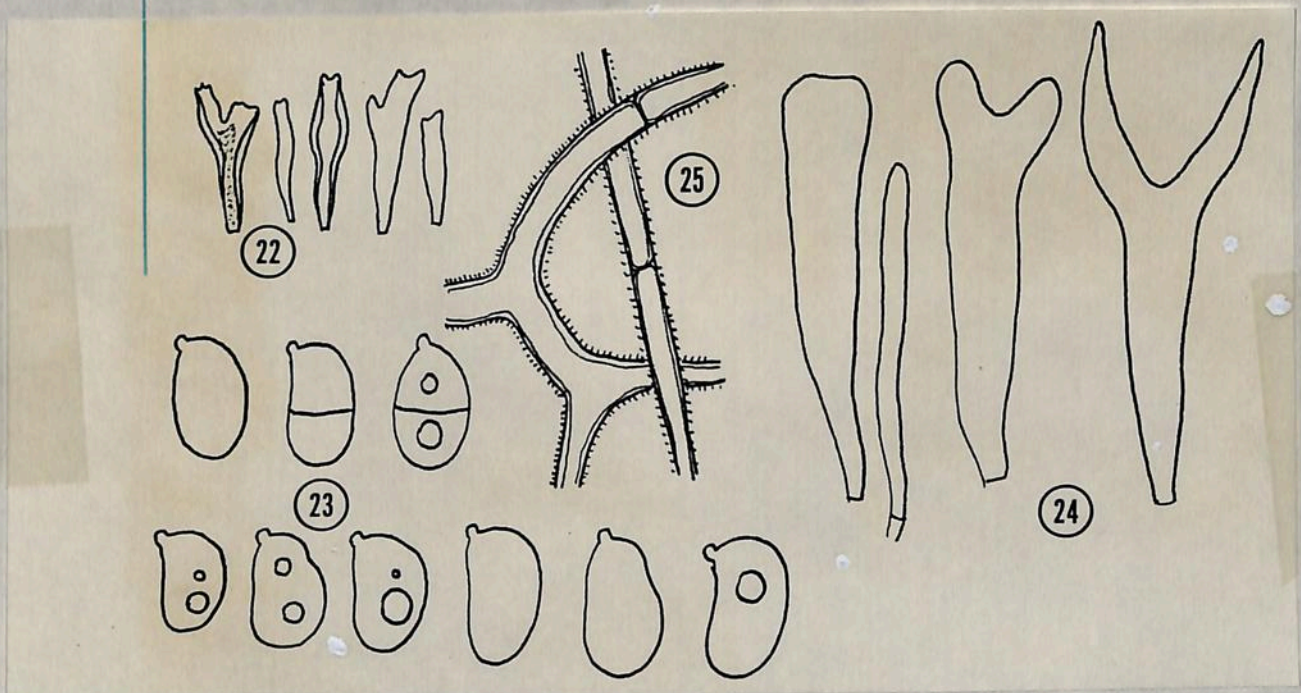


Fig. 22-25: *Dacryopinax spathularia*. Fig. 22: Basidiocarps. Fig. 23: Spores. Fig. 24: Probasidia and one metabasidium. Fig. 25: Hyphae.

Macroscopic description:

Basidiocarp quite typical of the type variety (see LOWY, 1971).

Microscopic description:

Spores (Fig. 29) $5,5-8,5 \times 5,5-7,5 \mu\text{m}$, shortly elliptical to subglobose, guttulate, germinating with a dorsal appendix. Very few quite elliptical (secondary ?) spores (Fig. 29a) have been seen.

Probasidia (Fig. 30) clavate or subglobose, up to $10 \times 8 \mu\text{m}$, becoming 2-septate, very seldom cruciate-septate, but metabasidia (Fig. 31) constantly 2-septate (for some reason, 2 of the probasidial cells from cruciate basidia do not form sterigmata), up to $12 \times 10 \mu\text{m}$.

Hyphae $1-3 \mu\text{m}$, with clamps.

Surface of the pileus (Fig. 32) covered with hyphae $2-10-(15) \mu\text{m}$, erect in a subtrichodermial structure, with intracellular beige-greyish pigmentation, very obvious in mediopellis.

Collection:

- Vicinity of the Saut Pararé on the Arataye River. On rotten wood. 25.02.1988. Coll.: RC, n° RC/GF88.273 (PC).

Discussion:

The variability of this subcosmopolitan species included so far the var. paucidentatum Lowy, 1959, known from Bolivia. The typical 4-spored P. gelatinosum is known from Guyana (LOWY, 1971) and from several other neotropical areas, and we found in the world literature no mention of 2-spored collections. This seems remarkable enough to establish a new variety.

9. Tremella fibulifera A. Möller 1895 Protobas.:119

Macroscopic description:

Basidiocarp soft gelatinous, pulvinate then folded and finally irregularly foliose, pure white then subhyaline white, up to 2-2,5 cm in diameter and height; drying to a horny pale yellowish irregular

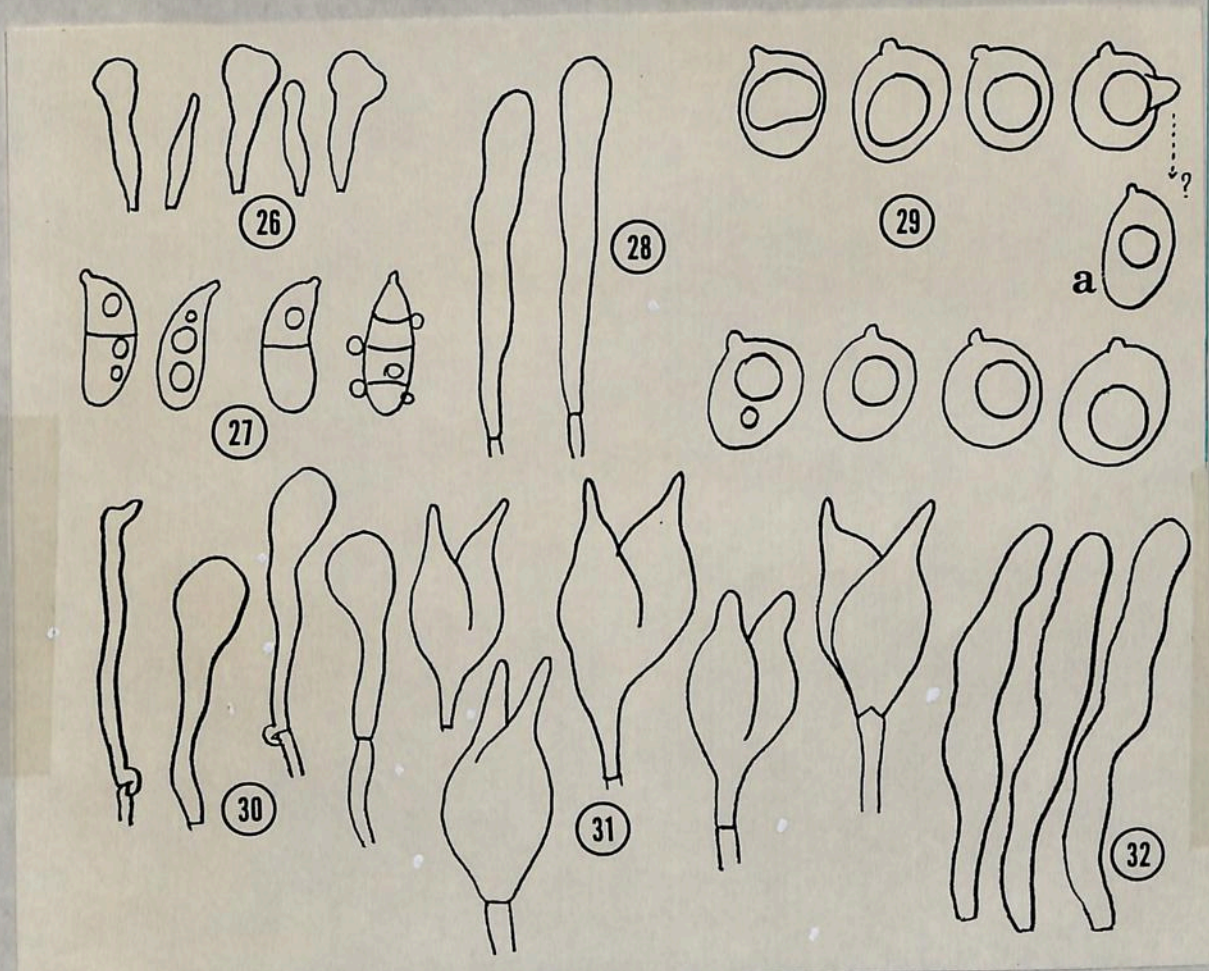


Fig. 26-28: *Ditiola radicata*. Fig. 26: Basidiocarps. Fig. 27: Spores. Fig. 28: Probasidia.
 Fig. 29-32: *Pseudohydnum gelatinosum* var. *bisporum*. Fig. 29: Spores. Fig. 29a: Atypical
 basidiospore. Fig. 30: Probasidia. Fig. 31: Metabasidia. Fig. 32: Elements from the suprapellis.

Microscopic description:

Spores (Fig. 33) 6-11 x 4-8 μm , elliptical, heteromorphous because of the mixture of primary and secondary spores. Primary (I) spores easily germinating by repetition through a secondary (II) sterigma or directly by repetitive budding. Among the I and II spores are some elliptical elements (spores III ?) 2-4 x 1-3 μm (Fig. 34).

Probasidia 10-18 x 5-12 μm , subspherical to elliptical. Metabasidia (Fig. 35) up to 20 x 15 μm , cruciate-septate, 4-spored.

Hyphae (Fig. 36) strongly gelatinized, x 4-8 μm , rather thick-walled (up to 1 μm thick) bearing numerous, complex and sometimes loop-like clamps.

Conidiophores (Fig. 37) also present, cylindrical to fusiform, producing elongate elements, 8-18 x 2-3 μm .

Collections:

- Vicinity of the "Nouragues Mountain" camp. On a lying trunk. 19.02.1988. Coll.: RC; Det.: RC, n^o RC/GF88.151 (PC).

- Vicinity of the "Saut Pararé" on the Arataye River. On the bark of a lying trunk. 2.03.1988. Coll.: RC, Det.: RC, n^o RC/GF88.452 (PC).

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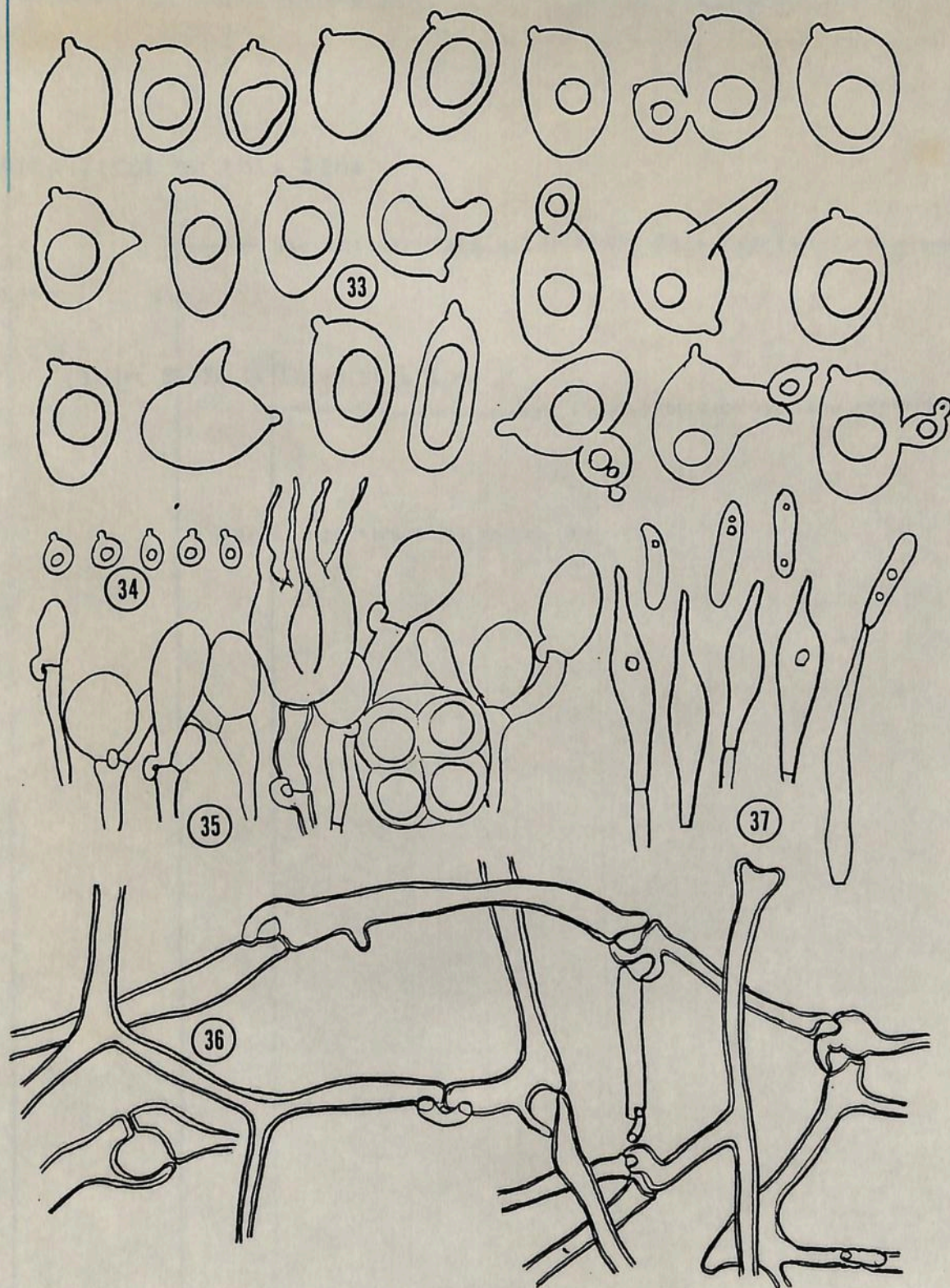


Fig. 33-37: *Tremella fibulifera*. Fig. 33: Spores of various kinds. Fig. 34: Conidia or spores III.
Fig. 35: Probasidia and metabasidium. Fig. 36: Hyphae. Fig. 37: Conidiophores and conidia.

Discussion:

The collections are quite similar to those described by LOWY (1971) and BANDONI et OBERWINKLER (1983). The production of spores (I basidiospores, II and perhaps III derived ones as well as conidiospores probably of different types) seems to be very complex in this species as shown by our own sketches and description and by the latter above-cited paper. In this one, the authors suggest that some of the observed elements may come from a tremellaceous parasite. This might deserve a more careful study in the field and on fresh material, because, it is probable that, if any, the parasite exist in the specimens as a rule. Indeed, our material shows the same pattern as the "single authentic specimen" described by BANDONI et OBERWINKLER. The association between the two hypothetical species might be specific and constant.

The species, previously known from Brazil, Columbia, Costa Rica, Panama (LOWY, 1971) is new to French Guiana.

10. Tremella fimbriata Fr.: Fr. 1822 Syst. Mycol. 2:212
= T. foliacea Pers. 1822 Mycol. europ. 1:101

Macroscopic description:

Basidiocarp up to 6 cm, brownish orange, foliose or auricularioid, firm gelatinous.

Microscopic description:

Spores not clearly seen, but several elliptical apiculate elements (Fig. 38), 8-10 x 6-7 μm present. Probasidia spherical, x 10-15 μm . Metabasidia (Fig. 39) up to x 20 μm , cruciate-septate, 4-spored, mainly arranged in groups.

Flesh gelatinous, made of elliptical to spherical elements mixed with hyphae (Fig. 40) x 1,5-2,5 μm , showing numerous swellings up to x 10 μm and intracellular pigment. Clamps numerous.

Beside the presumed basidiospores were seen many apical or pleural labile conidiophores (Fig. 41) up to 8 x 5 μm (probably acting themselves as conidia), bearing tiny (secondary ?) conidiospores, growing up to x 2,5-4 μm after maturation.

Collection:

- Vicinity of the Saut Pararé on the Arataye River. On dead wood. 8.03.1988. Coll.:RC; Det.:BL; n° RC/GF88.576 (PC)

Discussion:

The sporal diversity of this specimen seems also to be rather complex, and might be better studied in fresh material. Such a pattern seems never to have been noticed in the temperate areas where the species also occurs. It could specifically occur in the Tropics. The taxonomy of this group being rather imperfectly known, it seems difficult to propose a complete chorographical outline for this taxon.

11. Tremella cf lutescens Fr.: Fr. 1822 Syst. Mycol. 2:213
= Tremella mesenterica Fr.: Fr. 1822 1.c.:593

Macroscopic description:

Basidiocarp up to 25 mm in diameter, cerebriform to lobate contortate, adherent to partially free, gelatinous, orange coloured, with some shade of greenish, with some parts much more red orange or vermillion, especially on the folds.

Microscopic description:

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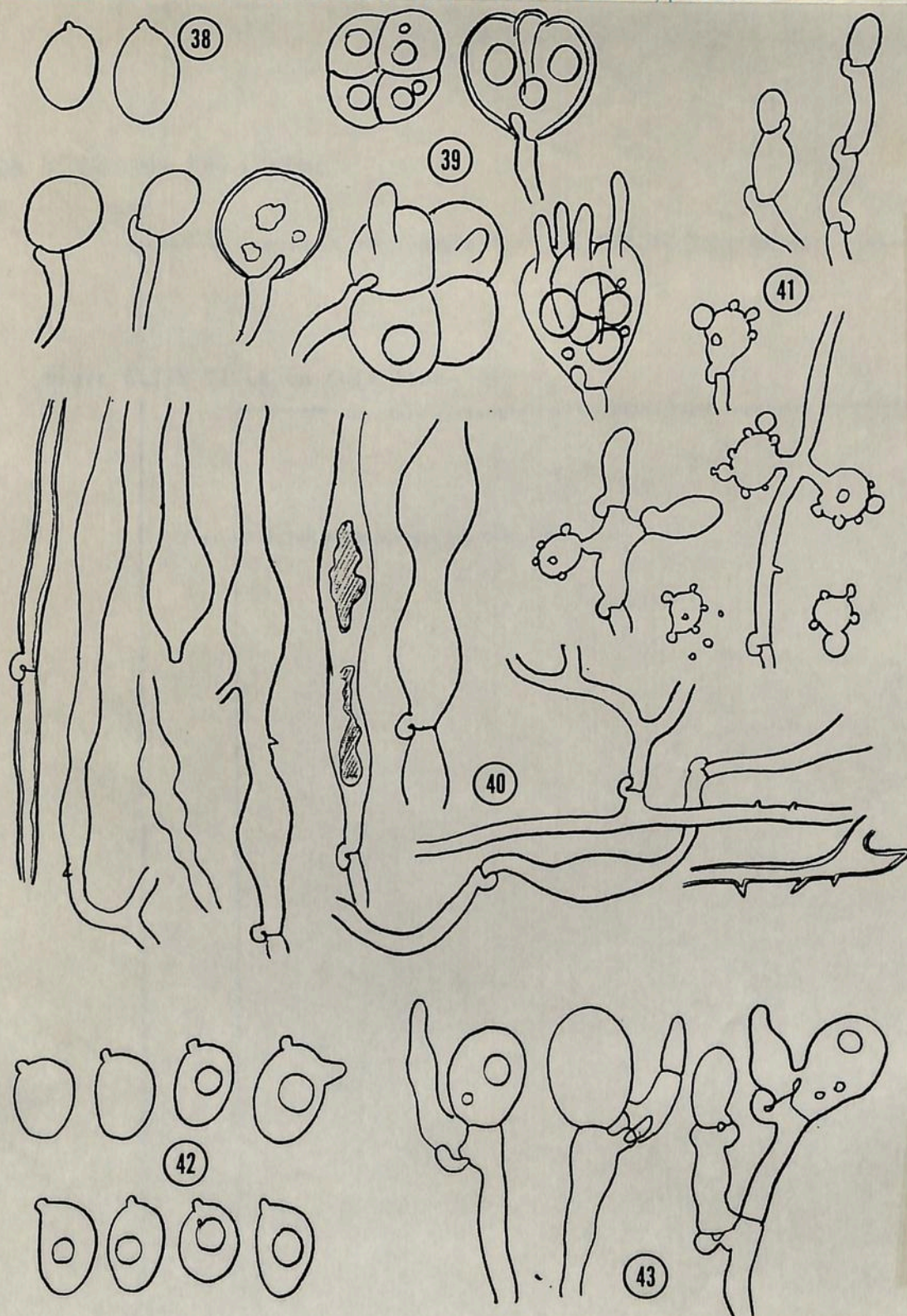


Fig. 38-41: *Tremella fimbriata*. Fig. 38: Spores. Fig. 39: Probasidia and metabasidia. Fig. 40: Hyphae. Fig. 41: Conidiophores.
Fig. 42-43: *Tremella lutescens*. Fig. 42: Spores. Fig. 43: Probasidia.

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Spores (Fig. 42) 6-7 x 4-5 μ m, shortly elliptical subglobose to more or less elliptical, guttulate, germinating by secondary sterigmata.

Probasidia (Fig. 43) x 12-15 μ m, associated with a conidiophore and a complex clamp system. Metabasidia cruciate-septate, 4-spored, up to 20 x 13 μ m.

Collection:

- Vicinity of the Saut Pararé on the Arataye River on fallen branches. 25.02.1988. Coll.: RC: Det.: BL; n° RC/GF88.284 (PC)

Discussion:

The smaller spores probably originate in the fact that we dealt with secondary ones. It is often difficult to distinguish between primary, secondary and eventually tertiary spores in a single mature basidiocarp, and heterogeneity in size and shape can easily confuse the interpretation of the primary basidiospores as indicated by LOWY (1971). Our collection probably fits into the concept of T. lutescens sensu lato, inclusive of T. mesenterica. In that wide sense, the species is almost cosmopolitan but is presumably new to French Guiana.

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We thank Dr. Sharon Matthews of the LSU Botany Department for providing us with Figs. 12-14.

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ELEMENTS FOR A MYCOLOGICAL INVENTORY OF
THE VICINITY OF "SAUT PARARÉ" (ARATAYE RIVER)
AND "NOURAGUES INSELBERG" (FRENCH GUIANA)
III. HETEROBASIDIOMYCETIDEAE

Studies on the Flora of the Guianas, No. 52

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SUMMARY: The authors give a description and illustrations of macro- and micromorphological features for the heterobasidiomycetous material collected in French Guiana by RC in 1988. *Pseudohydnum gelatinosum* var. *bisporum* Lowy et Courtec. and *Dacryopinax formosus* Lowy et Courtec. are proposed as new.

RESUME: Les auteurs donnent une description et des illustrations des caractères macro- et micromorphologiques pour le matériel appartenant aux Hétérobasiomycètes, récolté en 1988 par RC en Guyane Française. *Pseudohydnum gelatinosum* var. *bisporum* et *Dacryopinax formosus* sont proposés comme nouveaux.

KEY-WORDS: Mycoflora, French Guiana, Heterobasidiomycetidae, *Auricularia*, *Calocera*, *Dacryopinax*, *Ditiola*, *Pseudohydnum*, *Tremella*.

INTRODUCTION:

After dealing with *Hygrophoraceae*, *Pluteaceae* (COURTECUISSÉ, 1989, 1990), and *Russulaceae* (COURTECUISSÉ and BUYCK, 1990), we present in this paper a survey of the heterobasidiomycetous material collected in French Guiana during a mission organized by the Muséum of Paris. Sixteen collections were made. Field notes were gathered on fresh material. Determinations by RC of the dried material took place after returning to the laboratory. BL confirmed some identifications and determined some unnamed specimens, including the sp. nov.

Some species were previously known from French Guiana: *Auricularia fuscusuccinea* (Mont.) Farlow and *A. polytricha* were noted by LOWY (1971), as well as *Dacryopinax spathularia* (Schw.) Martin, the two latter being already mentioned by Montagne (1854), respectively under the names *Hirneola polytricha* + *H. nigra* and *Guepinia cohaerens*. *Septobasidium lepreurii* (Mont.) Pat. and *S. rhabarbarinum* (Mont.) Bres. were cited respectively by DENNIS (1970) and MONTAGNE (l.c., s.n. *Daedalea*) followed by RYVARDEN (1982) who restudied the type. A single species of *Tremella*, viz. *T. aurantia* Schw.: Fr. was also listed by MONTAGNE (l.c.).

Our collections include *Auricularia* (5 specimens), *Calocera* (1), *Dacryopinax* (4), *Ditiola* (1), *Pseudohydnum* (1) and *Tremella* (4). Most of the taxa are well known from neotropical areas, but a variety is proposed as new, viz. *Pseudohydnum gelatinosum* var. *bisporum* as well as a species, viz. *Dacryopinax formosus*.

KEY TO THE DESCRIBED TAXA:

I. AURICULARIACEAE: Basidiocarp rubbery gelatinous, more or less auriform; metabasidia cylindrical, becoming transversely 3-septate.

1. Hymenium poroid-reticulate: *Auricularia delicata*
1. Hymenium non poroid-reticulate: *A. polytricha*.

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