



Type studies of J. Rick's corticioid homobasidiomycetes (Agaricomycetes, Basidiomycota) housed in the Herbarium Anchieta (PACA)

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Abstract

A revision of J. Rick's type collection at Herbarium Anchieta (PACA) was carried out and 134 specimens corresponding to 115 taxa of corticioid homobasidiomycetes (Basidiomycota) proposed by Rick were studied. Sixteen taxa are accepted: *Epithele bambusina* is accepted in this genus, *Poria bambusarum* is accepted as *Fomitiporia bambusarum* (syn. *Phellinus bambusarum*), and the following new combinations are proposed: *Clavulicium flavidulum*, *Dendrothele triangulispora*, *Fibrodontia fimbriata* (syn. *Fibrodontia gossypina*), *Hyphoderma cinereoalbum* (syn. *Hyphoderma variolosum*), *Hyphoderma molliusculum*, *Hyphodontia corticioidea* (syn. *Hyphodontia sphaerospora*), *Hypochnicium horridulum* (syn. *Hypochnicium gomezii*), *Parvodontia albocrustacea*, *Peniophora carneorosea* (syn. *Peniophora laxitexta*), *Peniophora conspersa*, *Peniophora gomezii* (syn. *Peniophora confusa*), *Phlebia subconspersa* (syn. *Mycoacia subconspersa*), *Resinicium luteosulphureum* (syn. *Resinicium friabile*), and *Vararia calospora* (syn. *Vararia tropica*). Forty-four taxa are considered synonyms of older names, ten names are invalid and three are illegitimate. Furthermore, eight lectotypes and one epitype are designated. Forty-three taxa remain unsolved mainly due to the poor condition of Rick's specimens. Twelve unpublished names were found among Rick's type collections, and their determination is given whenever possible. Descriptions and drawings are provided to taxa poorly known from literature.

Key words: aphylloroid fungi, Brazil, Corticiaceae, taxonomy, Thelephoraceae

Introduction

Johannes Rick (1869–1946) was a Jesuit priest born in Austria who developed a deep interest in the study of macrofungi when still living in Europe (Fidalgo 1962). In the beginning of the 19th century he moved to the State of Rio Grande do Sul in Southern Brazil, and started what became the most important inventory of the regional mycota made until now. He was compiling his studies on Basidiomycetes when he died, but this important work was edited by Balduino Rambo and it was published in a series of posthumous papers several years later (Rick 1958, 1959a, b; 1960, 1961a, b). Rick's biographies and important data about his contribution to mycology, such as lists of publications and herbaria holding his specimens, can be found in Torrend (1918), Rick (1958), Fidalgo (1962) and Rabuske & Rambo (2004).

Rick established a great collection of corticioid aphylloroid fungi (Homobasidiomycetes, Basidiomycota) which is kept at PACA, but there are also specimens in other important herbaria such as BPI, FH, K and S (Rick 1928, Fidalgo 1962). He described 376 new species and varieties in this group, i.e., taxa accepted by him in Hydnaceae Chevall., Hypochnaceae J. Schröt., Meruliaceae P. Karst., and Thelephoraceae Chevall. Seventy-five names of this total are invalid, mainly because they were published after 1958 and lack citation of the type.

Rick's specimens originated mainly from the State of Rio Grande do Sul in southern Brazil. He collected most of them himself, but he also taught local people from several localities to collect and sent specimens to him (R.A. Wasum pers. comm.). Rick's collection also comprises a good number of specimens collected by him in the State of Santa Catarina, Southern Brazil, and from other Brazilian States sent by collaborators such as C. Torrend. Finally, Rick also

collected in Tacuarembó Department, Uruguay, possibly during some visit for a clerical activity (P.I. Schmitz pers. comm.). Unfortunately, most of the woodlands places visited by Rick no longer exist, or only few small remnants have been preserved, as they were suppressed by urbanization and farming. Most of those places pertained to the Atlantic Forest, which is still widely represented in southern Brazil but considerably reduced and away from Rick's original collecting spots. For these reasons, Rick's collections could be considered one of the most important records of the South American corticioid mycota, and revisions of his specimens are crucial to better know the diversity of corticioids in this area.

Several authors have revised Rick's type specimens, most of them for monographic/taxonomic works on particular corticioid genera or morphological groups within the Corticiaceae s.l. This is the case of studies on *Aleurodiscus* Rabenh. ex J. Schröt. by Lemke (1964a, b) and Núñez & Ryvarden (1997), stipitate stereoid fungi by Reid (1965), *Merulius* Fr. by Ginns (1971, 1976), *Coniophora* DC. by Ginns (1973, 1982), *Irpex* Fr. and *Steccherinum* Gray by Maas Gesteranus (1974), *Gloeocystidiellum* Donk by Hjortstam & Stalpers (1982) and Boidin *et al.* (1997), *Hydnochaete* Bres. by Ryvarden (1982), *Hymenochaete* Lév. by Job (1985) and Léger (1998), *Phanerochaete* P. Karst. by Burdsall (1985) and Hjortstam & Ryvarden (2010), *Lopharia* Kalchbr. & MacOwan and related genera by Hjortstam & Ryvarden (1990), *Hyphodontia* J. Erikss. by Langer (1994), *Rhizoctonia*-forming fungi by Roberts (1999), and miscellaneous genera by Nakasone (2008, 2012). Additionally, it is worthy to cite the revision of one type by Roberts (2001) in an inventory of heterobasidiomycetes in Cameroon, and the validation of a Bresadola's species from southern Brazil described by Rick (Baltazar *et al.* 2013).

Most of the studies cited above included few of Rick's specimens, usually less than three. The first extensive type revision of corticioid species described by Rick was carried out by Hjortstam & Ryvarden (1982). These authors revisited 71 taxa originally described in *Corticium* Pers., *Gloeocystidium* P. Karst., *Grandinia* Fr., *Kneiffia* Fr., *Odontia* Pers. and *Peniophora* Cooke. Later, Rajchenberg (1987b) revised the polypores described by Rick and also treated 11 species described in *Irpex* and *Grammothele* Berk. & M.A. Curtis. Despite the efforts of all previously cited authors, 253 corticioid species and varieties validly published by Rick remain unreviewed.

The aim of this work is to present a review of the original material of corticioid fungi described by Rick kept in the type collection at PACA. Taxa previously revised by other mycologists were not treated here except when we disagree of their opinion. Descriptions and drawings are provided for seven species poorly known from literature.

Material and Methods

A total of 134 specimens corresponding to 115 names proposed by Rick and revised in the present work were found and borrowed from Herbarium Anchieta (PACA). Specimens are included in a series named *Fungi Rickiani* (here abbreviated as *FR*) that received a five-character number. Additionally, specimens from BAFC and CIEFAP (herbarium of the Centro de Investigación y Extensión Forestal Andino Patagónico, Esquel, Argentina) were also studied as reference material.

Basidiomes were cut by hand for microscopical study and sections were mounted in 3 % KOH with 1% aqueous phloxine solution, Melzer's reagent, and 0.1% cotton blue in 60% lactic acid (Bills & Foster 2004). Line drawings were made with the aid of a camera lucida. Scanning Electron Microscopy (SEM) was conducted at 'Centro de Microscopia Eletrônica, Universidade Federal do Rio Grande do Sul' (CME/UFRGS). Basidiospores were coated with 15 nm of gold using a Bal-Tec SCD050 sputter coater and photographed with a JEOL JSM-6060 scanning electron microscope. Colors are coded following Kornerup & Wanscher (1978) and refer to dried specimens.

Taxonomy

Aldridgea ignatiana Rick, Iheringia, Bot. 4: 63, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, without date, *FR 20187* (PACA!).

Remarks.—**Indeterminable.** The type is sterile and the determination was not possible.

Aleurodiscus bicolor Rick, Iheringia, Bot. 4: 113, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 20627* (PACA!).

= *Cerocorticium molle* (Berk. & M.A. Curtis) Jülich, Persoonia 8(2): 219, 1975.

Aleurodiscus sordidoalbus Rick, Brotéria. Ciências Nat. 3(30): 166, 1934

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, without date, *FR 12089* (PACA!).

= *Sebacina sordidoalba* (Rick) Rick [as 'sordide-alba'], Iheringia, Bot. 2: 37, 1958.

Remarks.—The presence of septate, cruciate basidia indicates a heterobasidiomycete but other important microscopic features were neither found nor distinguished, for which reason we leave this name as *S. sordidoalba* as proposed by Rick (1958: 37). Maybe this is a synonym of another species in *Sebacina* Tul. & C. Tul., but we were unable to confirm it due to the poor condition of the specimen.

Asterostroma chromoluteum Rick, Brotéria. Ciências Nat. 3(30): 42, 1934

Neotype, designated by Rick (1959a: 116).—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, *FR 12157* (PACA!).

= *Hyphoderma setigerum* (Fr.) Donk, Fungus 27: 15, 1957.

Asterostroma olivaceum Rick, Brotéria. Ciências Nat. 3(30): 41, 1934

Lectotype, designated by Rick (1959a: 115).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 12142* (PACA!).

= *Dichostereum peniophoroides* (Burt) Boidin & Lanq., Mycotaxon 6(2): 284, 1977.

Remarks.—The type specimen was previously studied by G.A. Escobar (note in the exsiccatum), who also determined it as *D. peniophoroides*.

Asterostromella albocrustacea Rick, Ann. Mycol. 38(1): 59, 1940

Type.—not found at PACA.

Remarks.—**Unknown application.** Rick (1938: 73) introduced *A. olivaceo-oxydata* var. *albocrustacea* but cited no specimen. Later, Rick (1940b: 39) proposed *A. albocrustacea* as a new species, but again he did not cite any specimen. Finally, Rick (1959a) included *A. olivaceo-oxydata* var. *albocrustacea* in his compilation, but did not treat *A. albocrustacea*. It is quite possible that Rick treated a unique taxon under these two names and used the annotation 'n. sp.' instead of 'n. comb.' in Rick (1940b). Evidence supporting this hypothesis is that Rick cited a specimen labelled as *A. albocrustacea* as the type of *A. olivaceo-oxydata* var. *albocrustacea* (see below).

Asterostromella calospora Rick, Iheringia, Bot. 4: 118, 1959 (basionym)

≡ *Vararia calospora* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815702).

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 12071* (PACA!, mistyped as 1207 in the protologue).

= *Vararia tropica* A.L. Welden, Mycologia 57(4): 516, 1965.

Remarks.—This species is characterized by a soft, cracked basidiome, simple-septate hyphae, and ellipsoid to subglobose, inamyloid, 9–12 × 7–9 μm basidiospores. See Welden (1965: 516) and Gilbertson *et al.* (1976: 534) for full descriptions and drawings.

Asterostromella deglubens Rick, Brotéria. Ciências Nat. 7(34): 73, 1938

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, *FR 12063* (PACA!).

Remarks.—**Indeterminable.** The type is sterile and the determination was not possible.

Asterostromella lateritia Rick, Iheringia, Bot. 4: 118, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador (Santa Maria in the protologue), 1943, *FR 20343* (PACA!).

Remarks.—**Vararia/Dichostereum sp.** The type is sterile, no basidiospores were found, but it is undoubtedly a species either of *Vararia* P. Karst. or *Dichostereum* Pilát due to the presence of arboriform, dextrinoid dichohyphae.

Asterostromella olivaceo-oxydata var. *albocrustacea* Rick, Brotéria. Ciências Nat. 7(34): 73, 1938 (basionym). Figure 1

≡ *Parvodontia albocrustacea* (Rick) Baltazar & Rajchenb., *comb. & stat. nov.* (MycoBank MB 815703).

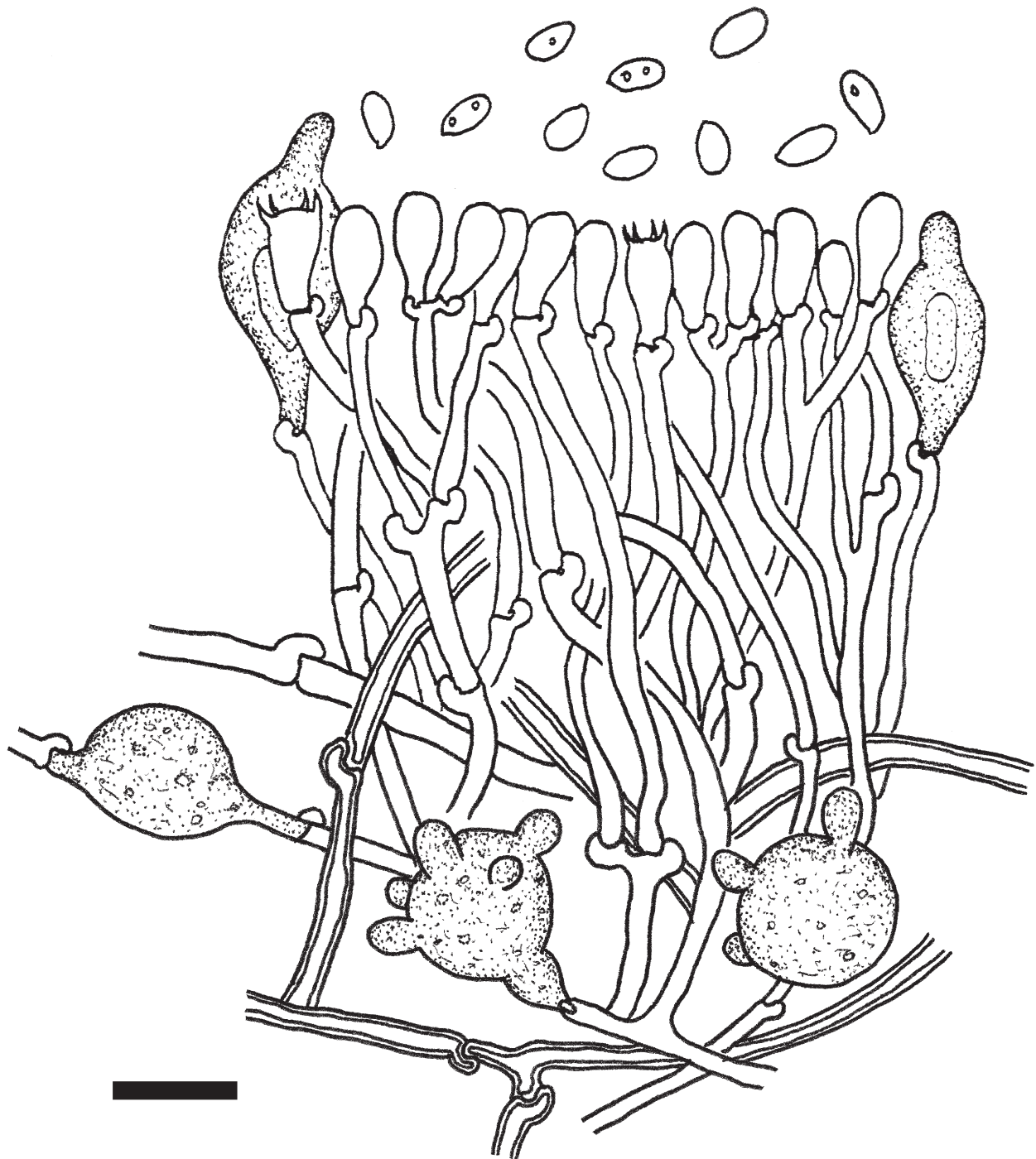


FIGURE 1. Microscopic features of *Parvodontia albocrustacea* (lectotype of *Asterostromella olivaceo-oxydata* var. *albocrustacea*, FR 12047, PACA). Scale bar = 10 μ m. Drawing by J.M. Baltazar.

Lectotype, designated by Rick (1959a: 117).—BRAZIL. Rio Grande do Sul: Parecí, 1935, FR 12047 (PACA!, labeled as “*Asterostromella albo-crustacea*” Rick).

Description.—Basidiome resupinate, effused, thin, first hypochnoid, cottony, becoming pellicular, up to 230 μ m thick. Hymenophore grandinioid, with scattered, small aculei, yellowish white (1A2) to pale yellow (1A3, 3A3); margin indeterminate.

Hyphal system monomitic, generative hyphae clamped, hyaline, with thin to thickened walls, 1.5–3 μ m diam.; in the subiculum forming intercalary or terminal, swollen, broadly ellipsoid to globose vesicles, 10–15 μ m diam., with yellowish contents, that usually present digitiform projections up to 4 \times 3.5 μ m. Cystidia present in the subhymenium and hymenium but rare, ventricose to subclavate, with a papillate apex, thin-walled, smooth, with yellowish contents and the same appearance of vesicles, 20–27 \times 7.5–12.5 μ m. Basidioles clavate, 10–15 \times 4 μ m. Basidia clavate to

slightly suburniform, $11\text{--}12 \times 4\text{--}4.5 \mu\text{m}$, with 4 sterigmata. Basidiospores cylindric-ellipsoid, $4\text{--}5 \times 2\text{--}2.5\text{--}3 \mu\text{m}$, thin-walled, hyaline, sometimes glued in groups of 3–4 basidiospores, IKI-.

Remarks.—See discussion under *Asterostromella albocrustacea* Rick regarding confusion with this name and *A. olivaceo-oxydata* var. *albocrustacea*.

The type material is rather scant but it represents an outstanding species characterized by the presence of subicular vesicles with yellowish contents and digitiform projections. *Parvodontia luteocystidia* Hjortstam & Ryvar den (2004b: 28), the genus type species which was described from southern Brazil and northeastern Argentina is very similar, but differs by lacking the digitiform projections in the vesicles, by presenting a distinct odontoid hymenophore and by having a bamboo or palm leaves as substrate. In Rick's specimen the digitiform projections may be overlooked at a first glance, but they were easily seen after squeezing the preparations. We were unable to analyze specimens of *P. luteocystidia* listed by Hjortstam & Ryvar den (2004b), but they were studied by S.P. Gorjón (Salamanca, Spain, pers. comm.) who confirmed the differences stated above. When more specimens of *Parvodontia* Hjortstam & Ryvar den will be found in the future a more accurate analysis may be carried out in order to properly delimit both taxa.

Asterostromella parasitica Rick, Brotéria. Ciências Nat. 7(34): 73, 1938

Lectotype, designated by Rick (1959a: 117).—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, FR 12040 (PACA!).

Remarks.—*Athelopsis* cf. *fusoidea* (Jülich) Tellería. The lectotype slightly differs from typical specimens in forming rhizomorphs, in lacking encrustation on the subhymenial hyphae and in the basidiospores being slightly broader, $6\text{--}7 (-8) \times 3\text{--}3.5 \mu\text{m}$. Otherwise it is similar macroscopically, in basidial morphology, and in basidiospores gluing in packages of 3–4 basidiospores.

Asterostromella subalutaria Rick, Ann. Mycol. 38(1): 60, 1940

Lectotype, designated by Rick (1959a: 118).—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, FR 12043 (PACA!).

Remarks.—*Clavulicium* sp. The material is most probably a *Clavulicium* sp. due to its characteristic basidiospores [broadly ellipsoid to almost globose, hyaline, thin to slightly thick-walled and smooth, IKI-, with many guttulae, distinctly apiculated, $6\text{--}7 (-7.5) \times 5\text{--}6 \mu\text{m}$], which are very abundant in the studied specimen. However, the specimen is in poor condition and other microscopic features were not available in order to properly establish the specific determination.

Asterostromella taquarae Rick, Brotéria. Ciências Nat. 3(30): 43, 1934

Lectotype, designated by Rick (1959a: 116).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, FR 12046 (PACA!).

Remarks.—**Indeterminable.** We have studied two specimens, including the lectotype. Both were sterile and the determination was not possible.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, FR 12065 (PACA!).

Asterostromella triangulispora Rick, Iheringia, Bot. 4: 118, 1959 (basionym). Figure 2

≡ *Dendrothele triangulispora* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815704).

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, FR 20115 (PACA!).

Description.—Basidiome resupinate, effused, initially forming small colonies that progressively coalesce and form basidiomes up to $2 \times 1 \text{ cm}$, ceraceous to cottony, soft to tough, easily detached from the substrate, up to $200 \mu\text{m}$ thick. Hymenophore smooth, felty, cracked, dull yellow (3B3, 3B4), golden yellow (5B7) to brownish yellow (5C7, 5C8) and brownish orange (6C8) in some parts. Margin mycelial to cottony, whitish (1A1).

Hyphal system monomitic, subiculum, subhymenium and hymenium undifferentiated and dominated by coarse hyaline crystals, generative hyphae clamped, hyaline, thin-walled, smooth, frequently branched and tortuous, usually agglutinated, $1.5\text{--}4 \mu\text{m}$ diam. Dendrohyphidia hyphoid, branched and tortuous, hyaline, thin-walled, smooth, $2\text{--}3 \mu\text{m}$ diam. Cystidia? subglobose, subclavate to ventricose, sometimes stalked, hyaline, thin-walled, smooth, $20\text{--}35 \times 8.5\text{--}10 (-12) \mu\text{m}$. Basidia suburniform, hyaline, thin-walled, smooth, with 4 sterigmata, $20\text{--}28 \times 8.5\text{--}12 \mu\text{m}$, sterigmata up to $2 \times 2.5 \mu\text{m}$. Basidiospores citriform, some elongated, with prominent distal peg and apiculus, hyaline to yellowish when collapsed, thin-walled, smooth, $(9.5\text{--}) 12\text{--}14 (-14.5) \times 6.5\text{--}8 \mu\text{m}$, IKI-, acyanophilous to weakly cyanophilous.

Remarks.—*Dendrothele triangulispora* is characterized by a dense microscopic structure largely composed of

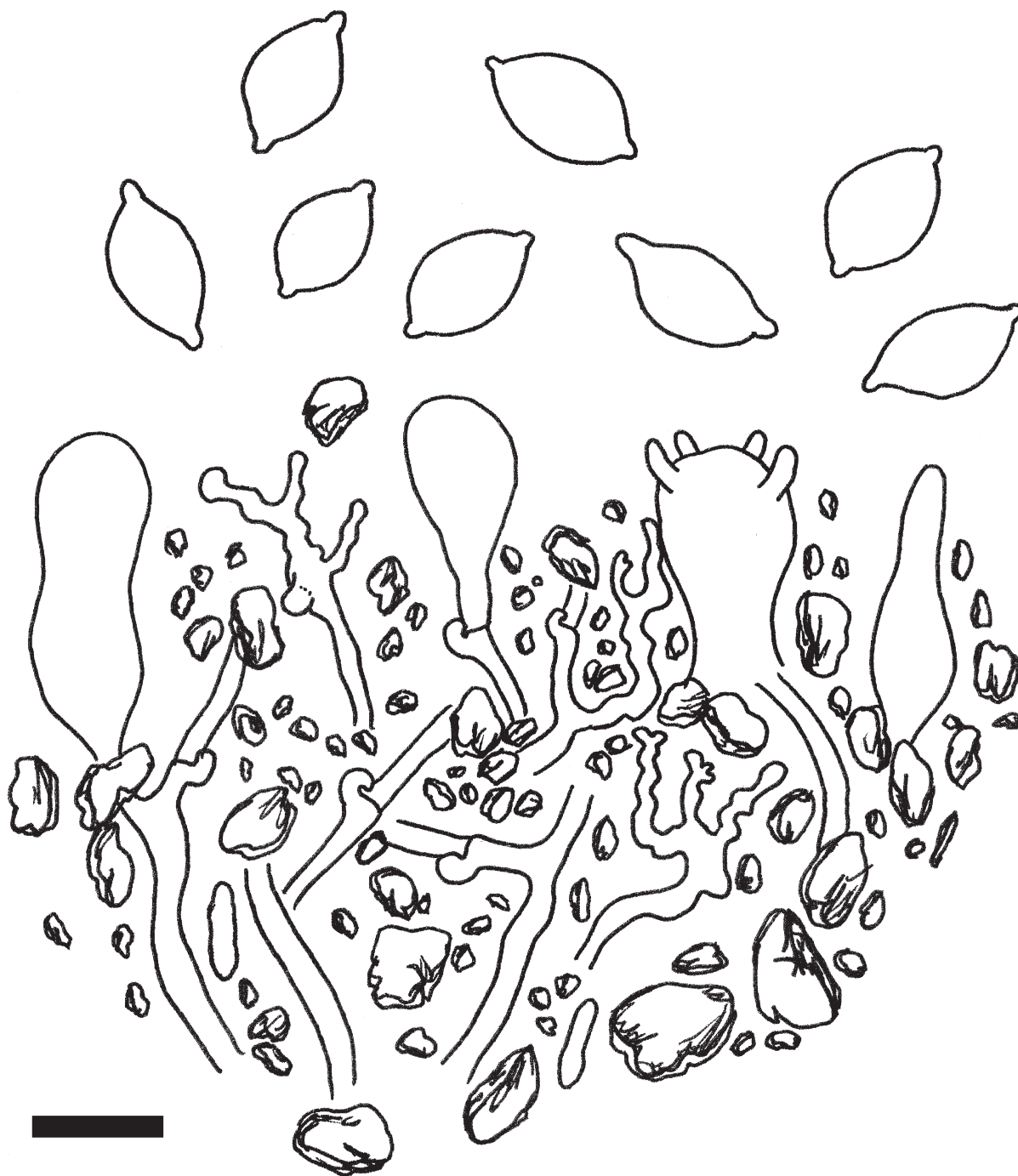


FIGURE 2. Microscopic features of *Dendrothele triangulispora* (holotype of *Asterostromella triangulispora*, FR 20115, PACA). Scale bar = 10 μm . Drawing by J.M. Baltazar.

crystals, where other structures are difficult to discern, and by the biapiculate basidiospores. The presence of cystidia is questionable, since they have the same size and general appearance of basidia but differ by their shape.

Morphologically *Dendrothele novae-zelandiae* Nakasone & Burds. (Nakasone & Burdsall 2011: 123) is the closest species of *D. triangulispora*. Their macroscopic appearance is similar, but *D. triangulispora* has a slightly darker hymenophore and more evident cracks. Microscopically *D. novae-zelandiae* differs by having encrusted dendrohyphidia and slightly shorter basidiospores, (9–) 10–11 (–12.5) \times (6.5–) 7–8.5 (–10) μm , while in *D. triangulispora* the dendrohyphidia are smooth and the basidiospores are larger (see description above).

Dendrothele biapiculata (G. Cunn.) P.A. Lemke and *Dendrothele citrisporella* Boidin & Duhem also have similar,

citriform and biapiculate basidiospores. They differ from *D. triangulispora* by having simple-septate generative hyphae and basidia with two sterigmata (Boidin *et al.* 1996; Nakasone & Burdsall 2011: 99; 116).

Botryochaete laxa Rick, Iheringia, Bot. 4: 122, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 20404* (PACA!).

Remarks.—*Hyphodontia sp.* No basidia and basidiospores were seen; in other features it seems to represent a member of *Hyphodontia* s.l. mainly due to the characteristic small, dome-like clamps.

Ceracea subsulphurea Rick, Iheringia, Bot. 2: 50, 1958

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, *FR 12019* (PACA!, labeled as “*Arrhytidia subsulphurea*” Rick).

= *Phanerochaete sordida* (P. Karst.) J. Erikss. & Ryvardeen, Corticiaceae N. Eur. 5: 1023, 1978.

Ceratobasidium striisporum Rick, Lilloa 9: 219, 1943

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 12849* (PACA!).

= *Xenasma pulverulentum* (Litsch.) Donk, Fungus 27: 25, 1957.

Remarks.—The hymenium and subiculum were collapsed and microscopic structures could not be properly observed. The basidiospores were collapsed in KOH but were clearly seen in Melzer’s reagent and showed typical features of the species, i.e., they were ellipsoid, hyaline, thick-walled and striate, with a distinct apiculus, IKI-, and measured 8–9 × 6 µm. The synonymy of *C. striisporum* under *X. pulverulentum* was first proposed by Roberts (1999: 228), who also studied the holotype at PACA.

Coniophora albo-olivacea Rick, Iheringia Bot. 4: 119, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 10 Feb 1944, *FR 21821* (PACA!).

Remarks.—**Indeterminable.** The specimen is scant and the determination was not possible. See a brief description in Ginns (1973: 249).

Corticium crystalliferum Rick, Brotéria. Ciências Nat. 7(34): 74, 1938, *non* Rick (1959: 91), *nom. inval.* [same holotype of *C. crystalliferum* Rick (1938)]

≡ *Athelopsis crystallifera* (Rick) Hjortstam, Windahlia 17: 56, 1987, *non* Hjortstam & Ryvardeen (1982: 261), *comb. inval.* (invalid basionym).

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, *FR 15483* (PACA!).

Corticium insinuans var. *cruentata* Rick, Brotéria. Ciências Nat. 3(30): 157, 1934

≡ *Stereofomes cruentatus* (Rick) Rick, Brotéria. Ciências Nat. 9(36): 146, 1940.

Holotype.—BRAZIL. Rio Grande do Sul: Porto Novo, 1930, *FR 14728* (PACA!).

= *Scytinostroma duriusculum* (Berk. & Broome) Donk, Fungus 26: 20, 1956.

Corticium paradoxum Rick, Iheringia, Bot. 4: 94, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 20127* (PACA!).

Remarks.—**Indeterminable.** The type is sterile and the determination was not possible. Also studied by Hjortstam & Ryvardeen (1982: 262), who also failed to resolve its identity.

Crystallocystidium albescens Rick, Brotéria. Ciências Nat. 9(36): 142, 1940

≡ *Stereum albescens* (Rick) Rick, Iheringia, Bot. 4: 68, 1959.

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 12386* (PACA!).

= *Scytinostroma duriusculum* (Berk. & Broome) Donk, Fungus 26: 20, 1956.

Crystallocystidium albobadium Rick, Brotéria. Ciências Nat. 9(36): 142, 1940

Lectotype, designated by Rick (1959a: 80).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 12396* (PACA!).

Remarks.—**Unknown application.** The type is sterile and the determination was not possible. Rick wrote ‘*non*

typus' in a note in the exsiccatum, but later this specimen was indicated as *typus* by him (Rick 1959a: 80). We also studied an additional specimen (FR 12394) but it is also sterile.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, FR 12394 (PACA!).

Crystallocystidium albopurpurascens Rick, Brotéria. Ciências Nat. 9(36): 140, 1940

Lectotype, designated by Rick (1959a: 80).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, FR 12406 (PACA!).

Remarks.—**Indeterminable**. The specimen is sterile and the determination was not possible.

Crystallocystidium enteroflavum Rick, Brotéria. Ciências Nat. 9(36): 141, 1940

Lectotype, designated by Rick (1959a: 80).—BRAZIL. Rio Grande do Sul: Cruz Alta, 1936, FR 12388 (PACA!).

= *Scytinostroma duriusculum* (Berk. & Broome) Donk, Fungus 26: 20, 1956.

Remarks.—The studied material seems to be a young specimen given its thin basidiome. Otherwise, microscopical features are typical of *S. duriusculum*.

Crystallocystidium intermedium Rick, Brotéria. Ciências Nat. 9(36): 140, 1940

Lectotype, designated by Rick (1959a: 80).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1934, FR 12387 (PACA!).

Remarks.—**Phlebiopsis** sp. The type is sterile and contaminated by anamorphic fungi, but cystidia and hyphae are typical of this genus.

Crystallocystidium luteolividum Rick, Brotéria. Ciências Nat. 9(36): 141, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, FR 12391 (PACA!).

Remarks.—**Indeterminable**. It seems to be a heterobasidiomycete, but no mature basidia and basidiospores were observed.

Crystallocystidium pauperrimum Rick, Iheringia, Bot. 4: 81, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1944, FR 20852 (PACA!).

Remarks.—**Indeterminable**. Sterile and contaminated by anamorphic fungi.

Crystallocystidium tenue Rick, Brotéria. Ciências Nat. 9(36): 141, 1940 (basionym)

≡ *Peniophora gomezii* Baltazar & Rajchenb., *nom. & comb. nov.* (Mycobank MB 815705), *non Peniophora tenuis* (Pat.) Masee 1889.

Lectotype, designated by Rick (1959a: 80).—URUGUAY. Taquarembó, 1935, FR 12405 (PACA!).

= *Peniophora confusa* C.E. Gómez in Gómez & Loewenbaum, Darwiniana 20(1–2): 205, 1976.

Holotype.—ARGENTINA. Buenos Aires: Punta Lara, s/ *Ocotea* sp. ad ramus in terram, Sep 1974, C.E. Gómez 2573 (BAFC!).

Etymology.—named in honor of Dr. Carlos E. Gómez (Argentina), in recognition of his contributions to the taxonomy of corticioid fungi.

Remarks.—*Crystallocystidium tenue* is a previous name for *P. confusa*. See descriptions and drawings in Gómez & Loewenbaum (1976a: 205) and Andreasen & Hallenberg (2009: 100).

Crystallocystidium triste Rick, Brotéria. Ciências Nat. 9(36): 141, 1940

Neotype, designated by Rick (1959a: 80).—BRAZIL. Rio Grande do Sul: São Salvador, 24 Sep 1943, FR 20020 (PACA!).

= *Peniophora gomezii* Baltazar & Rajchenb., above mentioned under *Crystallocystidium tenue* Rick.

Crystallocystidium variolosum Rick, Brotéria. Ciências Nat. 9(36): 143, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, FR 12399 (PACA!).

Remarks.—**A heterobasidiomycete**.

Cystidiodendron fimbriatum Rick, Lilloa 9: 218, 1943 (basionym)

≡ *Fibrodonia fimbriata* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815706).

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Salvador, 1933, *FR 12812* (PACA!).

= *Fibrodonia gossypina* Parmasto, *Consp. System. Corticiacearum*: 207, 1968.

Remarks.—*Fibrodonia fimbriata* possess the typical features of *F. gossypina*, i.e., a dimitic hyphal system with clamped generative hyphae and skeletoid hyphae in the aculei, coupled with ellipsoid, thin-walled basidiospores measuring 3.5–4.5 (–5) × 2.5–3 (–3.5) μm. Hjortstam & Ryvarde (2007: 60) stated that *F. gossypina* is easily confused with *Fibrodonia brevidens* (Pat.) Hjortstam & Ryvarde with globose to subglobose, 4–4.5 × 3.5–4.5 μm basidiospores, and asserted that they have never seen *F. gossypina* in South America. These two species are easily separated by the basidiospore morphology, and *F. fimbriata* clearly possess the ellipsoid type. Another related species is *Fibrodonia tomentosa* (Berk. & M.A. Curtis) Hjortstam & Ryvarde, which is separated from the other two by cylindrical to slightly allantoid and larger basidiospores, measuring 7–9 × 3.5–4.5 μm.

Cystidiodendron fuscum Rick, *Iheringia, Bot.* 5: 173, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 10 Jun 1944, *FR 22757* (PACA!).

Remarks.—**Indeterminable**. The type is sterile and the determination is not possible.

Cystidiodendron gossypinum Rick, *Iheringia, Bot.* 5: 172, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 21 Jul 1943, *FR 20321* (PACA!).

= *Hypochnicium horridulum* (Rick) Baltazar & Rajchenb., see below under *Radulum horridulum* Rick.

“*Cystidiodendron laetum*” Rick, *Iheringia, Bot.* 5: 173, 1959, *nom. inval.*

Type.—not designated.

Remarks.—*Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvarde. We have studied *FR 20622* and two other specimens deposited at PACA not cited by Rick (1959b), and they also correspond to *H. corrugata*.

Specimens studied.—BRAZIL. Rio Grande do Sul: São Salvador, 17 Sep 1945, *FR 20597, 20605, 20622* (PACA).

“*Cystidiodendron papilliforme*” Rick, *Iheringia, Bot.* 5: 172, 1959, *nom. inval.*

Type.—not designated.

Remarks.—*Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvarde. “*Cystidiodendron papilliforme*” is an invalid name since Rick (1959b) did not designate any of the two cited specimens as holotype. We were only able to study one of them and it corresponds to *H. corrugata*.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 10 Jun 1944, *FR 22530* (PACA).

Cytidia conspersa Rick [as ‘*Cytidea*’], *Iheringia, Bot.* 4: 114, 1959 (basionym). Figure 3

≡ *Peniophora conspersa* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815707).

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 12823a* (PACA!).

Description.—Basidiome resupinate, first growing in small patches, then coalescing and becoming widely effused, adnate, ceraceous to crustaceous, cracking and exposing the substrate, up to 0.4 mm thick. Hymenophore smooth to slightly tuberculate, in some parts minutely farinose, purplish white (14A2), violet white (15A2), pale violet (17A3) to lilac gray (16B2). Margin indeterminate, fimbriate, concolorous with the hymenophore, in some parts mycelial and whitish. Subiculum concolorous with the hymenophore, translucent. Mycelium below the subiculum and in the substrate cottony to felty, whitish.

Hyphal system monomitc, in the subiculum with a pseudoparenchymatic appearance; generative hyphae clamped, in the mycelium found on the substrate and in the margin hyaline, thick-walled and finely encrusted with a crystalline matter, 2.5–4.5 μm diam.; in the subiculum pale yellowish, slightly thick-walled, often collapsed, 2–3.5 (–4) μm diam.; in the subhymenium hyaline, thin to thick-walled, often tortuous and short-celled, 2–5.5 μm diam. Dendrohyphidia rare, tortuous, simple or branched, with a dendroid apex, hyaline, thin-walled, smooth, 1.5–5 μm diam. Cystidia of

two kinds: 1) subcylindric, subclavate to ventricose, sometimes stalked, apex obtuse to subcapitate, hyaline, thin-walled, smooth, (26–) 30–55 × (5.5–) 6.5–9 μm, lacking contents typical of gloeocystidia; 2) lamprocystidia conical, hyaline, thick-walled, strongly encrusted with hyaline crystals, 20–53 × 7–14 (–17) μm, abundant in the subiculum and subhymenium, rare in the hymenium and never projecting above the basidia. Basidia subclavate to subcylindrical, usually with few to several constrictions, hyaline, smooth and thin-walled, 23.5–37 × 6–8.5 μm, with 4 sterigmata up to 6.5 × 2.5 μm. Basidiospores allantoid to navicular, sometimes cylindrical, hyaline, smooth and thin-walled, sometimes with small guttulae, (11.5–) 12–14.5 (–16) × 3.5–5.5 (–6) μm, IKI-, acyanophilous to slightly cyanophilous.

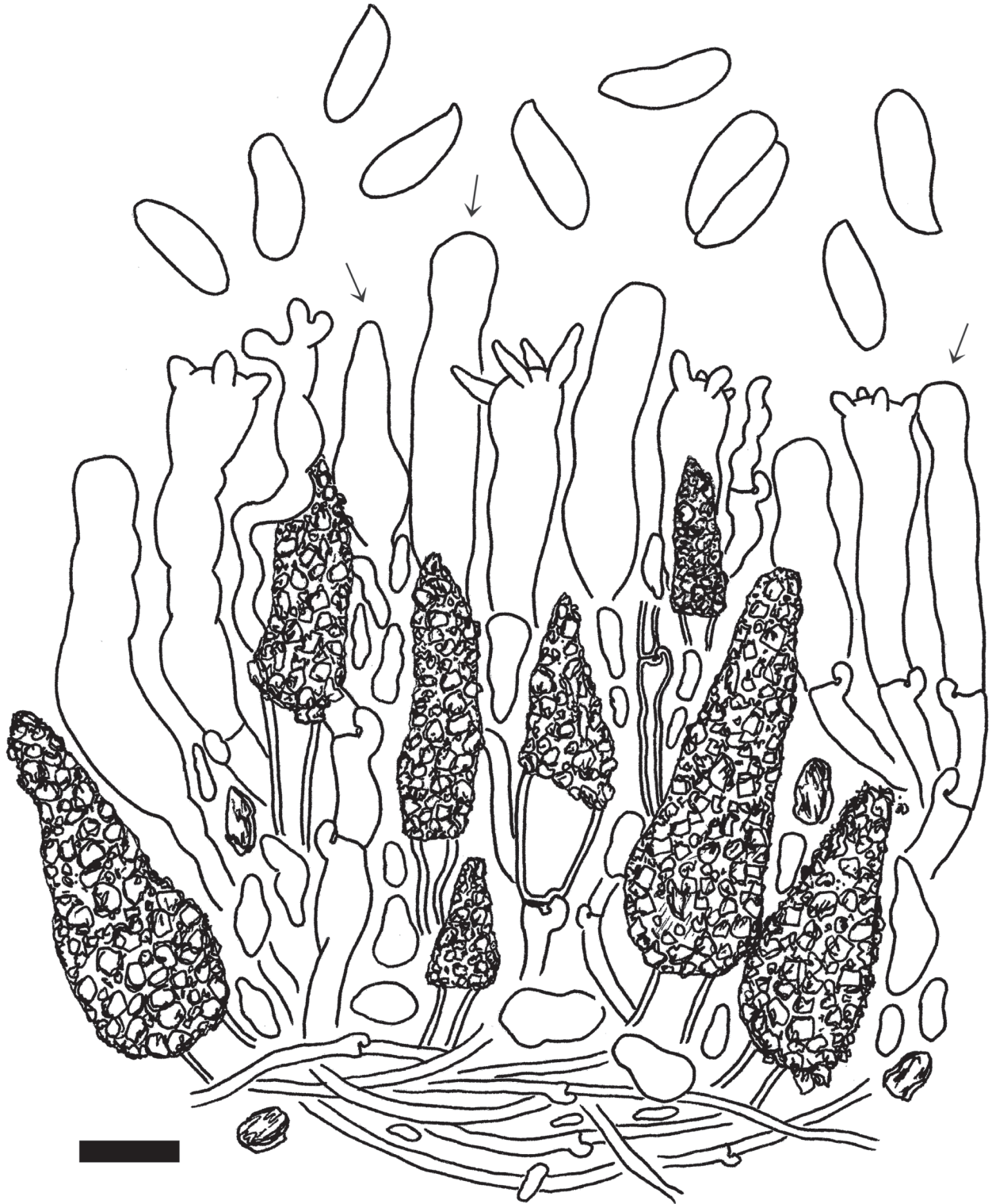


FIGURE 3. Microscopic features of *Peniophora conspersa* (holotype of *Cytidia conspersa*, FR 12823a, PACA). Arrows indicate thin-walled, naked cystidia. Scale bar = 10 μm. Drawing by J.M. Baltazar.

Remarks.—*Peniophora conspersa* is a typical member of *Peniophora* Cooke due to abundant lamprocystidia and large, allantoid to navicular basidiospores. It pertains to the group *Peniophora cinerea* (Pers. : Fr.) Cooke (Andreasen & Hallenberg 2009), which is characterized by having few gloeocystidia or even lacking. However, *P. conspersa* differs from other species in the group by its larger basidiospores. *Peniophora violaceolivida* (Sommerf.) Masee and related species share similar macroscopic features to *P. conspersa*, but all of them have gloeocystidia and smaller basidiospores (Andreasen & Hallenberg 2009: 99).

The presence of dendrohyphidia in *P. conspersa* needs confirmation because only two were observed, contrasting with the abundant dendrohyphidia present in *Peniophora lycii* (Pers. : Fr.) Höhn. & Litsch. and related species (Andreasen & Hallenberg 2009). Similarly, we are neither sure about the presence of gloeocystidia nor other kinds of cystidia except lamprocystidia. Structures named cystidia in the description above and drawn in Figure 3 lack any contents typical of gloeocystidia, and they are very similar in size and shape to basidia.

Epithele bambusina Rick, Iheringia, Bot. 4: 87, 1959. Figures 4–5

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 16 Aug 1943, FR 12936 (PACA!).

Description.—Basidiome resupinate, widely effused, at first orbicular, then confluent, felty, ceraceous to subcrustaceous, up to 0.5 mm thick. Hymenophore with grandinioid to odontoid appearance due to the emergent hyphal pegs, yellowish white (1A2) to pale yellow (1A3, 2A3). Margin indeterminate, white (1A1) to yellowish white (1A2). Hyphal pegs cylindrical to conical, with an acute apex, usually penicillate, concolorous with the margin, 0.5–2 (–3) per mm, 110–340 × 45–100 µm.

Hyphal system monomitic, generative hyphae clamped, hyaline, thin to slightly thick-walled, frequently branched, (2–) 2.5–5 µm diam., near to the hymenium usually short-celled. Dendrohyphidia present in the hymenium and in the apex of the hyphal pegs, hyphoid to irregular, hyaline, thin-walled, usually with a dendroid apex and short knobby branches, up to 25 × 2.5 µm. Cystidia subglobose, subclavate, pyriform to ventricose, apex obtuse, thin-walled, hyaline, sometimes covered by a fine crystalline matter, present in the hymenium but not emergent, 12.5–25 (–30) × (6.5–) 9–14 µm. Basidia clavate to subclavate, with one or two median constrictions, hyaline, thin-walled, smooth, with 4 sterigmata, 36–55 × 9.5–11.5 µm, sterigmata up to 8 × 2 µm. Basidiospores ellipsoid to broadly ellipsoid, usually slightly curved, with a distinct apiculus, thin- to thick-walled (especially in IKI), rugulose, 12–15 × (6–) 7.5–10 µm, IKI-, acyanophilous to weakly cyanophilous.

Remarks.—*Epithele bambusina* is characterized, above all, by a bamboosicolous substrate and by the ellipsoid, slightly curved basidiospores with a distinct apiculus and rugulose walls. The rugosity may be difficult to see under the light microscope, but it is evident and was confirmed with SEM (Figure 5).

Epithele bambusina is similar to *Epithele cylindricosterigmata* Han C. Wang & Sheng H. Wu due to the monomitic hyphal system with clamped hyphae, similar cystidia, dendrohyphidia and basidiospore shape. Wang *et al.* (2010: 1155) described *E. cylindricosterigmata* as lacking cystidia, but they were found in the paratype by Nakasone (2013: 73). *Epithele cylindricosterigmata* differs from *E. bambusina* by narrower cystidia (5–8 µm wide), larger hyphidia [22–50 (72) × 2.5–5 µm] and smooth, smaller basidiospores [(9.2) 10–11 (12) × (6.8) 7.2–8 (8.5) µm] (Nakasone 2013: 73).

Epithele fasciculata (G. Cunn.) Boidin & Gilles also has ellipsoid, rugulose basidiospores and similar hyphidia as those of *E. bambusina*, but it differs by having a dimitic hyphal system, lack of cystidia and slightly larger basidiospores, (13.5–) 14–16.5 × (9–) 9.5–11.5 (–12) µm (Nakasone 2013: 76).

Epithele alba (Viégas) Boidin *et al.* is another species with rugulose basidiospores, but it differs from *E. bambusina* by the basidiospores being biapiculate, broadly to narrowly ellipsoid or subfusiform, and distinctly larger, (15–) 16–19 (–22) × (6.8–) 7–11 (–13) µm (Nakasone 2013: 63).

Epithele bambusae (Burt) Nakasone is the only other species accepted in *Epithele* (Pat.) Pat. by Nakasone (2013) which also grows on bamboo. Its basidiospores appear rugulose when collapsed, but they differ from those of *E. bambusina* by being ellipsoid to broadly fusiform, occasionally biapiculate and remarkably longer, (14–) 16–20 (–23) × (8–) 9–10.5 µm. Furthermore, *E. bambusae* differs by lacking hyphal pegs and cystidia, and by possessing different hyphidia and larger basidia, 52–80 (–100) × 10–13 µm.

Epithele nivea Rick, Iheringia, Bot. 4: 87, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, FR 12943 (PACA!).

= *Fibrodontia tomentosa* (Berk. & M.A. Curtis) Hjortstam & Ryvarden in Synop. Fungorum 20: 55, 2005.

Remarks.—The features of the type fit the description of *F. tomentosa*. Basidiospores are slightly smaller in *E. nivea* when compared to those described for *F. tomentosa* [$6-7(-8) \times 3-4$ in *E. nivea*, $7-9 \times 3.5-4.5$ in *F. tomentosa*] by Langer (1994: 231), but they are similar to the holotype described by Hjortstam (1990: 416)— $6.5-7.5 (-8) \times 3.8-4 \mu\text{m}$.

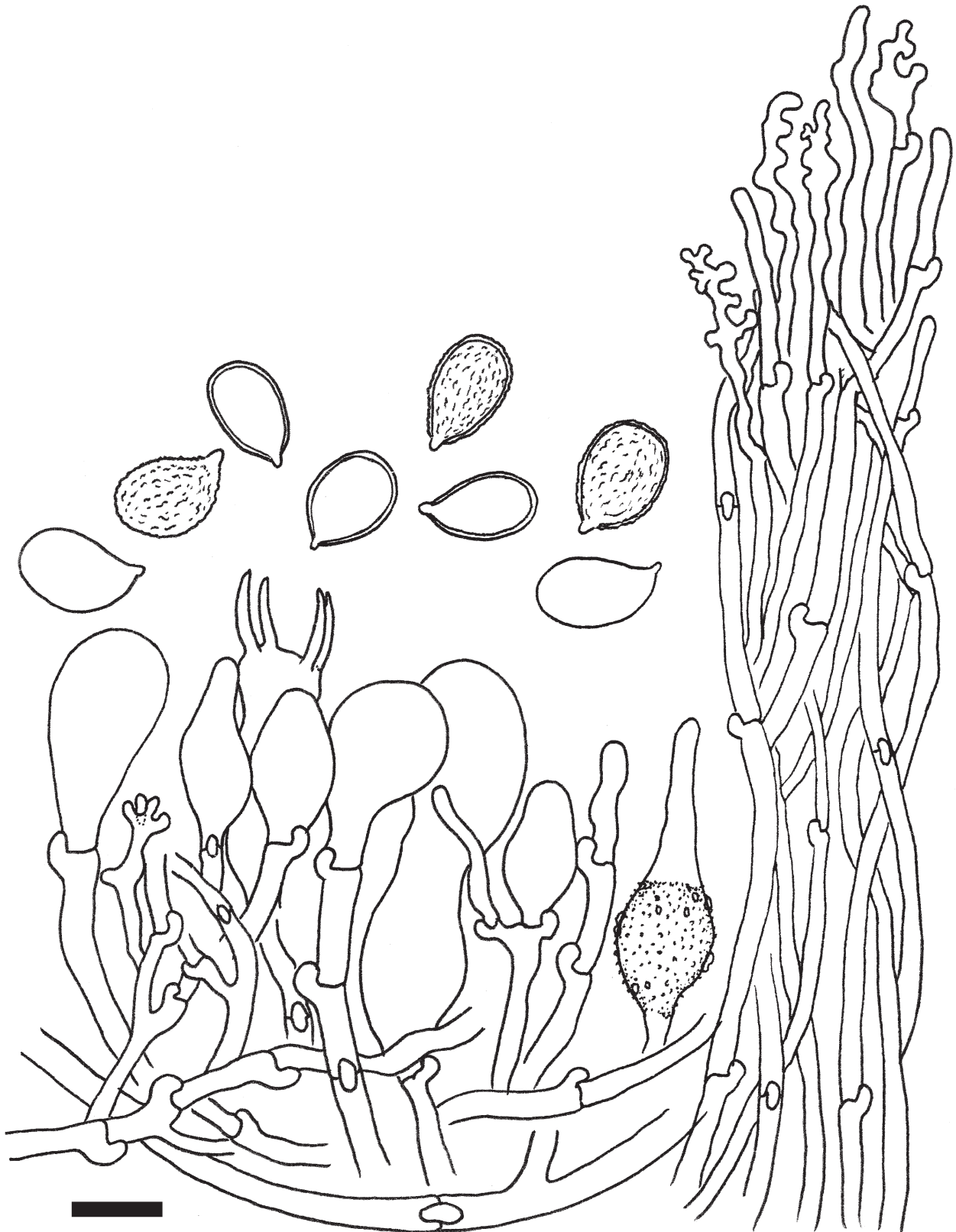


FIGURE 4. Microscopic features of *Epithele bambusina* (holotype, FR 12936, PACA). Scale bar = 10 μm . Drawing by J.M. Baltazar.

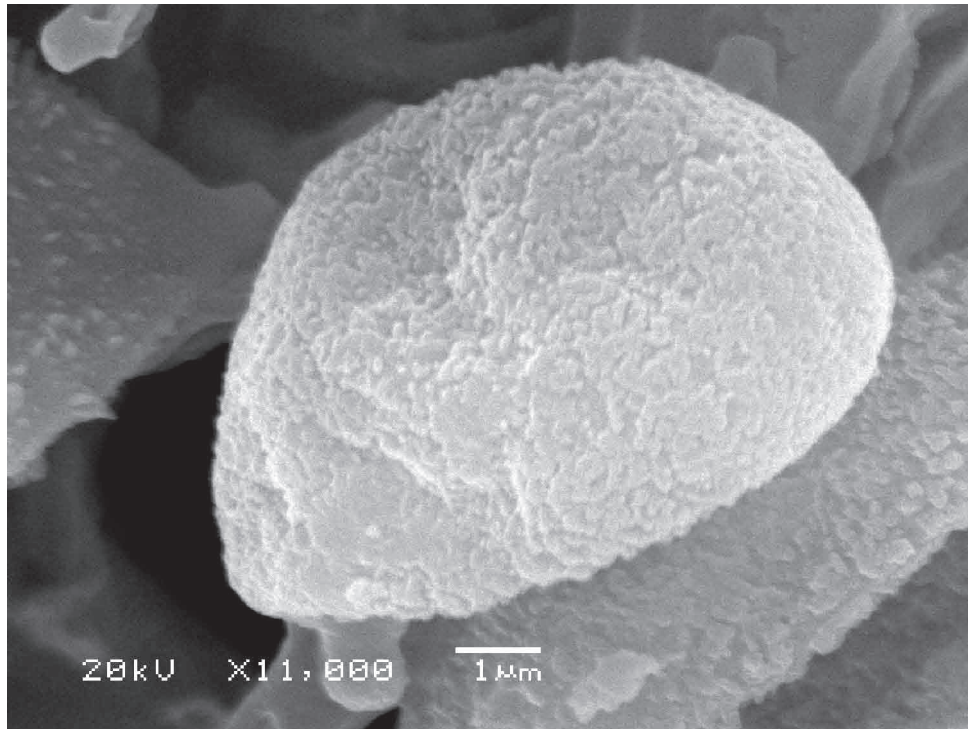


FIGURE 5. SEM photograph of a basidiospore of *Epithele bambusina*. (holotype, *FR 12936*, PACA). Photograph by J.M. Baltazar.

Epithele straminea Rick, *Iheringia*, Bot. 4: 87, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 20933* (PACA!).

Remarks.—**Indeterminable.** The specimen seems to correspond to a *Hyphodontia* s.l. due to its macroscopical features and the characteristic clamps. However, no hymenial elements (i.e., basidia, basidioles, cystidia or cystidioles) and basidiospores were seen.

“*Gloeocystidium cremeum*” Rick, *Iheringia*, Bot. 4: 90, 1959, *nom. inval.*

Type.—not designated.

Remarks.—*Scytinostromella cerina* (Bres.) Hjortstam & Ryvar den. We did not find any specimen under *G. cremeum* at PACA. In the type collection there is an exsiccatum labelled as “*Gloeocystidium ceraceum*” Rick, a name that was never published. It is possible that ‘*cremeum*’ was mistyped as ‘*ceraceum*’.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1936, *FR 13398* (PACA, labeled as “*Gloeocystidium ceraceum*” Rick).

Gloeocystidium ferrugineum Rick, *Iheringia*, Bot. 4: 90, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 30 Jun 1944, *FR 20949* (PACA!).

Remarks.—**Indeterminable.** The type is sterile and the determination was not possible. Hjortstam & Ryvar den (1982: 264) studied *FR 22794* and identified it as *Sebacina* sp.

Gloeocystidium clavuligerum var. *brasiliense* Rick in *Iheringia*, Bot. 4: 90, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1949, *FR 13446* (PACA!, labeled as “*Gloeocystidium butyraceum*” Rick).

= *Scytinostromella cerina* (Bres.) Hjortstam & Ryvar den, *Mycotaxon* 10(2): 287, 1980.

Gloeocystidium luteostramineum Rick, *Brotéria. Ciências Nat.* 3(30): 46, 1934

≡ *Sebacina luteostraminea* (Rick) Rick, *Iheringia*, Bot. 2: 37, 1958.

Syntype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1933, *FR 13439* (PACA!).

Remarks.—A **heterobasidiomycete**.

Gloeocystidium subincarnatum Rick, Brotéria. Ciências Nat. 7(34): 76, 1938

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria, 1935, *FR 13383* (PACA!).

Remarks.—A **heterobasidiomycete**.

Gloeoradulum luteosulphureum Rick, Iheringia, Bot. 5: 183, 1959 (basionym)

≡ *Resinicium luteosulphureum* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815708).

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, *FR 19740* (PACA!, labeled as “*Radulum luteo-sulphureum*”).

= *Resinicium friabile* Hjortstam & Melo, Mycotaxon 65: 324, 1997.

Remarks.—See Hjortstam & Melo (1997: 324) and Nakasone (2007: 426) for full descriptions and drawings of this species. Basidiospore size in the type of *G. luteosulphureum* is $5.5\text{--}7 \times 3\text{--}3.5$ (–4) μm , slightly different from those described for *R. friabile* by those authors, (4–) $4.5\text{--}5.5 \times (2.5\text{--}) 3\text{--}3.5$ μm . On the basis that all other features observed in *G. luteosulphureum* are in accordance with the concept of *R. friabile*, and that the type locality of the latter (Brazil, São Paulo, Ubatuba, Ilha Anchieta) is rather close to that of *G. luteosulphureum*, we decide to consider the differences in basidiospore size as an intraspecific variation and to place *R. friabile* under synonymy of *R. luteosulphureum*. This is the only *Resinicium* Parmasto species known from the southern Hemisphere up to date (Nakasone 2007: 429).

Resinicium bicolor (Alb. & Schwein. : Fr.) Parmasto is a similar species, with basidiospores presenting a size range similar to that of *R. luteosulphureum*, i.e., (4.5–) $5.5\text{--}7.2$ (–8) \times (2.5–) $2.9\text{--}3.5$ μm . However, the basidiospores are consistently cylindrical in *R. bicolor*, while in *R. luteosulphureum* they are typically ellipsoid. *Resinicium bicolor* also differs from *R. luteosulphureum* by having larger basidia and asterocystidia, and a north temperate distribution (Nakasone 2007: 429).

“*Grandinia braunii*” Rick, Iheringia, Bot. 5: 173, 1959, *nom. inval.*

Type.—not designated.

Remarks.—Rick (1959b: 173) cited three specimens but he did not select a type. Hjortstam & Ryvarden (1982: 265) studied *FR 22711* and determined it as *H. corrugata*. We studied another specimen cited by Rick (1959b), but its determination was not possible because it lacks most of the microscopic elements.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 07 Feb 1943, *A. Braun, FR 16048* (PACA!).

Hypochnus anceps Rick, Iheringia, Bot. 5: 129, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, *FR 13636* (PACA!).

= *Oliveonia fibrillosa* (Burt) Donk, Fungus 28: 20, 1958.

Remarks.—This species is characterized by the scarce, up to 50 μm long leptocystidia, and by the repetitive, hyaline, oblong-ellipsoid and slightly curved basidiospores measuring $8\text{--}10 \times 4.5$ μm .

Hypochnus aurantiacus Rick, Iheringia, Bot. 5: 129, 1959, *nom. illeg., non* (Pat.) Burt 1916

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, *FR 13640* (PACA!, labeled as *Hypochnus aureus*).

Remarks.—*Vararia/Dichostereum sp.* The type is sterile, no basidiospores were found, but it is undoubtedly a species either of *Vararia* P. Karst. or *Dichostereum* Pilát, due to the presence of arboriform, dextrinoid dichohyphae.

Hypochnus carneoroseus Rick, Brotéria. Ciências Nat. 3(30): 152, 1934 (basionym)

≡ *Peniophora carneorosea* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815709).

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, *FR 13645* (PACA!).

= *Peniophora laxitexta* C.E. Gómez in Gómez & Loewenbaum, Darwiniana 20(1–2): 195, 1976.

Holotype.—ARGENTINA. Buenos Aires: Punta Lara, s/troncos de *Ocotea sp.*, Jun 1975, *Galvagno & López G. 2596* (BAFC!).

Remarks.—*Hypochnus carneoroseus* is a previous name for *P. laxitexta*. For descriptions and drawings see Gómez & Loewenbaum (1976a: 195) and Andreasen & Hallenberg (2009: 76).

Additional specimen studied.—ARGENTINA. Buenos Aires: Tigre, Rincón de Milberg, 07 Sep 1968, *J.E. Wright G-2183* (BAFC 52167).

Hypochnus rhizomorphus Rick, Iheringia, Bot. 5: 129, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 15 Aug 1943, *FR 20330* (PACA!).

Remarks.—*Phanerochaete* sp. The specimen has a pellicular, yellowish basidiome with rhizomorphic margins that reminds one of *Rhizochaete* spp. However, it has no reaction in KOH and the specimen is sterile.

Irpex arborescens Rick, Iheringia, Bot. 5: 191, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1940, *FR 16591* (PACA!).

= *Peniophorella rude* (Bres.) K.H. Larss., Mycol. Res. 111(2): 192, 2007.

Remarks.—Rajchenberg (1987b) and Nietiedt & Guerrero (1998) already studied the type of *I. arborescens* and placed it under synonymy with *Peniophorella rude* (Bres.) K.H. Larss.

The type specimen comes close to *P. odontiformis* (Boidin & Berthier) K.H. Larss., described from the Central African Republic, given its smaller basidiospores [$7.5\text{--}9 \times 3.5\text{--}5 \mu\text{m}$ in *P. odontiformis*; $9\text{--}10 \times 6 \mu\text{m}$ in *P. rude* according to Larsson (2007: 192)]. Larsson (2007: 192) maintained *P. odontiformis* separated, but we consider it difficult to sustain on the basis of the morphological variation displayed by *P. rude*. We point out that *I. arborescens* type and *P. rude* type ('*ad ramos arbor. frond. S. Leopoldo Brasiliae*, Rick no. 51') were both collected by Rick in the same area. Therefore it is unlikely that they belong to different taxa unless this is proved experimentally.

We also note that other taxa such as *Hyphoderma crystallophorum* Gilb. & Adask. (Gilbertson & Adaskaveg 1993: 374) and *Hyphoderma mucronatum* (H. Furuk.) Sheng H. Wu (Wu 1990: 75) could be considered synonyms of *P. odontiformis* due to their basidiospore size, but have been properly compared and synonymized to *P. rude* by Nietiedt & Guerrero (1998). Hjortstam & Ryvarde (1980: 279) have previously suggested the synonymy of *P. odontiformis* with *P. rude*.

Irpex corticioides Rick, Iheringia, Bot. 5: 187, 1959 (basionym)

≡ *Hyphodontia corticioidea* (Rick) Baltazar & Rajchenb., *comb. nov.* (Mycobank MB 815711).

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, *FR 16667* (PACA!).

= *Hyphodontia sphaerospora* (N. Maek.) Hjortstam in Hjortstam & Ryvarde, Synop. Fungorum 15: 12, 2002.

Remarks.—This is a previous name for *H. sphaerospora*. See Maekawa (1993: 120) for a full description and drawings. *Odontia chroospora* Rick is also the same species (see below). It was published in the same work by Rick (1959b: 165) in a previous page but, on the basis of Art. 11 of the International Code of Nomenclature for algae, fungi, and plants (McNeill *et al.* 2012) which does not give preference for species published in the same work, we have selected *I. corticioides* because its type material is in far better condition than that of *O. ochrospora*.

The holotypes of *I. corticioides* and *O. chroospora* were studied by Rajchenberg (1987b: 555) and Hjortstam & Ryvarde (1982: 268), respectively, and were identified as *Hyphodontia arguta* (Fr.) J. Erikss. Nevertheless, *Hyphodontia corticioidea* is distinguished and separated by its globose to subglobose, $3.5\text{--}4\text{--}(4.5) \times 3.5\text{--}4 \mu\text{m}$ basidiospores, whereas *H. arguta* bears ellipsoid to ovoid, $4.5\text{--}5 \times (3\text{--}) 3.5\text{--}4 \mu\text{m}$ basidiospores (Maekawa 1993: 120).

Irpex furfuraceovelutinus Rick, Iheringia, Bot. 5: 188, 1959

≡ *Phanerochaete furfuraceovelutinus* (Rick) Rajchenb., Nordic. J. Bot. 7 (5): 556, 1987.

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 16597* (PACA!).

= *Kneiffiella stericola* (Bres.) Nakasone, Cryptogam. Mycol. 29 (3): 252, 2008.

Remarks.—Nakasone (2012: 36) studied a probable isotype of *I. furfuraceovelutinus* and treated it as a synonym of *K. stericola*. The holotype of *I. furfuraceovelutinus* deposited at PACA has slightly larger basidiospores than those described by Nakasone (2012: 36), but it agrees with the basidiospores size observed in other specimens (Gilbertson & Blackwell 1988: 383; Langer 1994: 170; Nakasone 2008: 252). See papers cited above for descriptions and drawings of *K. stericola*, and Rajchenberg (1987b: 556) for a description and drawings of the holotype of *I. furfuraceovelutinus*.

Irpex microdon Rick, Iheringia, Bot. 5: 187 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 18 Mar. 1943, *FR 16619* (PACA!).

= *Steccherinum ciliolatum* (Berk. & M.A. Curtis) Gilb. & Budington, J. Ariz. Acad. Sci. 6(2): 97, 1970.

Remarks.—Few basidiospores were found in the holotype, and they are coincident with measurements presented by Rajchenberg (1987b: 557).

Irpex poria Rick, Iheringia, Bot. 5: 190, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1936, *FR 16653* (PACA!).

Remarks.—*Ceriporiopsis* sp. Contrary to a previous statement by Rajchenberg (1987b) we were able to find the type specimen at PACA. It is similar to *Ceriporiopsis latemarginata* (Rick) Rajchenb. due to its macroscopic features and the thick-walled contextual hyphae; see Rajchenberg (1987b: 554) for a description and drawings of *C. latemarginata*. However, the holotype of *I. poria* is sterile and a final determination was not possible.

“*Irpex regularissimus*” Rick, Iheringia, Bot. 5: 190, 1959, *nom. inval.*

Type.—not designated.

Gloeodontia americana Rajchenb., Nordic J. Bot. 7(5): 557, 1987.

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 14 Aug 1943, *FR 20206* (PACA!).

Remarks.—Contrary to Rajchenberg’s (1987b: 557) description, this species does have skeletocystidia. They were found in the holotype as variably encrusted skeletal hyphal endings, which are abundant in the core of the aculei and rarely observed in the subhymenium, hymenium or projecting above the basidia. See drawings in Rajchenberg (1987b: Figs. 10–11). This is a good morphological species in *Gloeodontia* Boidin due to the combination of a dimitic hyphal system and ellipsoid basidiospores, measuring $6\text{--}7.5 \times 4\text{--}4.5 \mu\text{m}$.

Irpex subhypogaeus Rick, Egatea 17: 212, 1932

Lectotype, designated by Rick (1959b: 189).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 16631* (PACA!).

Remarks.—*Trechispora* sp. We have found hyaline, ellipsoid basidiospores that are slightly thick-walled and echinulate, IKI-, $4.5\text{--}6 \times 3.5\text{--}4 \mu\text{m}$. Microscopically, the specimen is close to *Trechispora verruculosa* (G. Cunn.) K.H. Larss. However, the basidiome is scant and badly broken and a study of its macroscopic features was not possible in order to properly determine it. See also comments in Rajchenberg (1987b: 558).

Kneiffia lurideolivacea Rick, Brotéria. Ciências Nat. 3(30): 74, 1934

≡ *Peniophora lurideolivacea* (Rick) Rick, Iheringia, Bot. 4: 109, 1959.

Neotype, designated by Hjortstam & Ryvarde (1982: 267).—BRAZIL. Rio Grande do Sul: Parecí, 1935, *FR 16864* (PACA!).

= *Phlebiopsis gigantea* (Fr.) Jülich, Persoonia 10(1): 137, 1978.

Remarks.—Already revised by Hjortstam & Ryvarde (1982: 267), who proposed the synonymy. We could not find any basidiospores in the neotype, but other features are according to the concept of *P. gigantea*. We have studied another original material (*FR 16836*) but it corresponds to *Phlebiopsis flavidoalba* (Cooke) Hjortstam.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: Parecí, 1935, *FR 16836* (PACA).

Kneiffia grisea Rick, Brotéria. Ciências Nat. 3(30): 74, 1934, *nom. illeg. non* Berk. & M.A. Curtis 1868

≡ *Peniophora grisea* (Rick) Rick, Iheringia, Bot. 4: 110, 1959.

Types.—Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, *FR 16780* (PACA!). Epitype, designated here.—BRAZIL. Rio Grande do Sul: São Salvador, 1939, *FR 16874* (PACA!).

= *Hypochnicium cymosum* (D.P. Rogers & H.S. Jacks.) K.H. Larss. & Hjortstam, Mycotaxon 5(2): 477, 1977.

Remarks.—*FR 16780* is the unique specimen kept at PACA under *K. grisea* which was collected before 1934, and is herein considered the holotype. However, it is sterile and indeterminable. *FR 16874* is selected as epitype and *K. grisea* is placed under synonym with *H. cymosum*. Hjortstam & Ryvarde (1982: 266) also studied this specimen but did not typify the name arguing that the specimen was not in accordance with the description in the protologue, and stated that Rick described the species as being ‘granular with subangular spores’. We consider these discrepancies between the description and the specimen unimportant, since Rick’s descriptions usually show incongruencies with their respective specimens. Furthermore, other features described in the protologue agree with the concept of *H. cymosum*, including the basidiospore size and the description of cystidia—‘*setulis longis, hyalinis*’ (Rick 1934: 74). *FR 16847*, also determined as *K. grisea* by Rick, corresponds to *Subulicystidium perlongisporum* Boidin & Gilles.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 16847* (PACA).

“*Kneiffia grisea* var. *hyalina*” Rick, Brotéria. Ciências Nat. 3(30): 74, 1934
≡ “*Peniophora grisea* var. *hyalina*” (Rick) Rick, Iheringia, Bot. 4: 110, 1959, *nom. inval.*
Type.—not found at PACA.

Remarks.—No specimen under this name was found at PACA. Two specimens labeled as “*Kneiffia hyalina*” Rick, an unpublished name, could be the ones used by Rick to describe *K. grisea* var. *hyalina*. However, both specimens are sterile and their determination was not possible.

Additional specimens studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1930, *FR 16704*, *FR16791* (PACA, both labeled as “*Kneiffia hyalina*” Rick).

“*Kneiffiella sparsa*” Rick, Iheringia, Bot. 4: 112, 1959, *nom. inval.*
Type.—not found at PACA.

Remarks.—We found the specimen *FR 17816* which was probably used by Rick to propose this species (see below), and it corresponds to *Botryodontia cirrata* (Hjortstam & Ryvarde) Hjortstam.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 17816* (PACA, labeled as ‘*Kneiffiella grisea* Rick [OBS: *sparsa*]’).

Lloydella carneo-olivacea Rick [as ‘*Lloydiella*’], Brotéria. Ciências Nat. 9(36): 89, 1940
Lectotype, designated by Rick (1959a: 77).—BRAZIL. Rio Grande do Sul: Rio Grande, 1936, *FR 16949* (PACA!).

Remarks.—**Indeterminable.** We have studied the lectotype and one of the five additional specimens cited by Rick (1959a: 77). Both are sterile and contaminated by anamorphic fungi. Other specimens were not found at PACA.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, *FR 16972* (PACA).

Lloydella cinereoalba Rick [as ‘*Lloydiella*’], Brotéria. Ciências Nat. 9(36): 89, 1940 (basionym)
≡ *Hyphoderma cinereoalbum* (Rick) Baltazar & Rajchenb., *comb. nov.* (Mycobank MB 815712).
Lectotype, designated by Rick (1959a: 78).—BRAZIL. Rio Grande do Sul: São Salvador, 1935, *FR 17006* (PACA!).
= *Hyphoderma variolosum* Boidin, Lanq. & Gilles, Bull. Trimest. Soc. Mycol. Fr. 107(3): 143, 1991.

Remarks.—*Lloydella cinereoalba* is a previous name for *H. variolosum*, a species originally described from the Central African Republic and later reported from Argentina, Colombia, Venezuela, Gabon and Taiwan (Hjortstam & Ryvarde 2007: 72). See Boidin *et al.* (1991: 143) for a complete description and drawings.

This species is characterized by a hymenophore and a subiculum of beige, pinkish gray or grayish pale brown color, with a yellowish brown zone near the substrate, presence of crystal masses which lump on the hymenophore, and yellowish to pale brown subicular hyphae that are compactly arranged. The holotype of *L. cinereoalba* slightly differs from the original description of *H. variolosum*, which is purplish gray to pinkish gray or more grayish pale brown (in the original ‘*gris pourpé à gris rousâtre, ou plus bistre*’) (Boidin *et al.* 1991: 143). The basidiome of *L. cinereoalba* holotype has a beige to yellowish hymenophore, but this is considered a variation within the species.

Hyphoderma romeroae C.E. Gómez *et al.* is close to *H. cinereoalbum* and possesses similar masses of crystals, basidiospores and cystidia, but differs by a tomentose, brownish subiculum, and microscopically by the loosely interwoven, brown subicular hyphae (Gómez & Loewenbaum 1976b: 347, under “*Mutatoderma brunneocontextum*” C.E. Gómez *nom. inval.*). This species is known only from the holotype (Baltazar & Rajchenberg 2014: 117), and specimens from northern Argentina assigned to it were herein determined as *H. cinereoalbum* (see ‘Additional specimens studied’ below). *Hyphoderma heterocystidium* (Burt) Donk, another related species, also has loosely interwoven, brown subicular hyphae, thus differing from *H. cinereoalbum*. There is no record of masses of crystals in *H. heterocystidium*.

Hyphoderma populneum (Peck) Donk also has the striking masses of crystals in the subiculum and the hymenium, and shares with *H. cinereoalbum* the yellowish brown subicular hyphae and similar basidiospores. They differ in the size of the metuloids, which are wider in *H. cinereoalbum* (6–12 µm, up to 20 µm considering the encrustation in *H. cinereoalbum*; 5.4–7.2 µm in *H. populneum*). Moreover, *H. populneum* is mainly collected on *Populus spp.* (McKeen 1952: 770).

Hjortstam & Ryvarde (2005: 38) treated *Porostereum pilosiusculum* Hjortstam & Ryvarde under *Hyphoderma* Wallr. and compared it with *H. variolosum*. Nevertheless, *P. pilosiusculum* has typical features of *Porostereum* Pilát,

despite its monomitic hyphal system (Hjortstam & Ryvarde 1990: 49). Microscopically it differs from *H. cinereoalbum* by lacking leptocystidia, by yellowish brown and larger metuloids (100–150 × 10–15 µm in *P. pilosiusculum*, 22–38 × 6–12 µm, up to 20 µm considering the encrustation in *H. cinereoalbum*), and by its slightly larger basidiospores [13–15 × 4–5 µm in *P. pilosiusculum*, (9–) 11–13 (–13.5) × 3–4 µm in *H. cinereoalbum*].

Additional specimens studied.—ARGENTINA. Formosa: Capital, Guaycoleq, vicinity of Arroyo Pilagá, on riparian forest, 16 Nov 1995, *O. Popoff et al.* 2855 (CTES). Ibid., Misiones: Guaraní, Predio Guaraní, close to the northern limit, 06 Sep 1994, *O. Popoff et al.* 2340 (CTES).

Lloydella cretacea Rick [as ‘*Lloydella*’], Brotéria. Ciências Nat. 9(36): 86, 1940

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 16990* (PACA!).

= *Lopharia cinerascens* (Schwein.) G. Cunn., Trans. Roy. Soc. New Zealand 83(4): 622, 1956.

Remarks.—Rick (1940a: 86) cited no specimen when he described *L. cretacea*, but later he cited 13 specimens (Rick 1959a: 75) but did not designate any of them as type. Among these specimens, three were collected by 1940, and we select *FR 16990* as the lectotype. *FR 16983* is also *L. cinerascens*, while the exsiccatum *FR 16976* only has wood material and no basidiome.

Additional specimens studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1935, *FR 16983* (PACA). Ibid., Parecí, 1936, *FR 16976* (PACA).

Lloydella durissima Rick [as ‘*Lloydella*’] in Brotéria. Ciências Nat. 9(36): 88, 1940.

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Salvador, 1939, *FR 17047* (PACA!).

= *Phlebiopsis galochroa* (Bres.) Hjortstam & Ryvarde, Mycotaxon 10(2): 285, 1980.

Remarks.—The type specimen of *L. durissima* agrees in all features with the concept of *P. galochroa*, except by possessing slightly dextrinoid metuloids. However, the importance of the dextrinoid reaction of metuloids has not been investigated in many corticioid genera.

Lloydella farinacea Rick, Iheringia, Bot. 4: 76, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 21 Jun. 1943, *FR 17030* (PACA!).

Remarks.—**Indeterminable.** The type is sterile and the determination was not possible.

Lloydella intermedia Rick, Iheringia, Bot. 4: 74, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 16998* (PACA!).

= *Scytinostroma duriusculum* (Berk. & Broome) Donk, Fungus 26: 20, 1956.

Lloydella ochracea Rick [as ‘*Lloydella*’] in Brotéria. Ciências Nat. 9(36): 90, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1933, *FR 17015* (PACA!).

= *Phlebiopsis ravenelii* (Cooke) Hjortstam, Windahlia 17: 58, 1987.

Lloydella retiruga var. *griseorubra* Rick [as ‘*retirugis*’], Iheringia, Bot. 4: 76, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 16964* (PACA!), labeled as “*Lloydella grisea-cerea*” Rick).

= *Lopharia cinerascens* (Schwein.) G. Cunn., Trans. Roy. Soc. New Zealand 83(4): 622, 1956.

Lloydella stramineomembranacea Rick, Brotéria. Ciências Nat. 9(36): 90, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, Oct. 1939, *FR 17049* (PACA!), labeled as “*Lloydellochaete stramineomembranacea*” Rick).

Remarks.—*Vararia/Dichostereum* sp. The specimen is sterile and indeterminable at species level but the dichohyphae are typical of those genera. Rick (1959a: 78) cited another specimen (*FR 17025*), which was not found at PACA.

Lloydella subalba Rick [as ‘*Lloydella*’], Brotéria. Ciências Nat. 9(36): 87, 1940

Lectotype, designated by Rick (1959a: 76).—BRAZIL. Rio Grande do Sul: Santa Maria, 1935, *FR 16938* (PACA!).

Remarks.—**Unknown application.** There are two specimens in the exsiccatum that belong to different species. One is *Peniophorella* aff. *praetermissa* (P. Karst.) K.H. Larss., differing from the species concept by possessing distinct reflexed margins. Another specimen is a *Stereum* sp. D.A. Reid has annotated ‘This portion is *Stereum australe* Lloyd’ in the exsiccatum. We cannot confirm its identity because the specimen has no hymenial elements and the basidiospores are collapsed. The original description by Rick is very brief and we are unable to assert which specimen he had in mind when he described *L. subalba*, then the status of the name remains unknown.

Lopharia albida Rick, Brotéria. Ciências Nat. 7(34): 13, 1938

Lectotype, designated by Rick (1960: 199).—BRAZIL. Rio Grande do Sul: Parecí, 1930, *FR 13935* (PACA!).

Remarks.—**Hyphodontia** sp. The specimen is sterile and indeterminable at species level. Hjortstam & Ryvar den (1990: 59) also studied the type and reached the same conclusion.

Lopharia bambusae Rick, Iheringia, Bot 7: 199, 1960

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1939, *FR 13938* (PACA!).

= *Fomitiporia bambusarum* (Rick) Campos-Santana & Decock, Cryptogam. Mycol. 36(1): 48, 2015.

≡ *Poria bambusarum* Rick, Brotéria. Ciências Nat. 6(33): 146, 1937.

≡ *Phellinus rickianus* J.E. Wright & J.R. Deschamps, Mycotaxon 21: 414, 1984, *nom. superfl.*

≡ *Phellinus bambusarum* (Rick) M.J. Larsen, Synop. Fungorum 3: 40, 1990.

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 18570* (PACA!).

= *Phellinus garuhapensis* J.E. Wright & Blumenf., Mycotaxon 21:420. 1984.

Holotype.—ARGENTINA. Misiones: Garuhapé, on bamboo, Jun 1965, *Gómez & Guerrero* (BAFC 29452!).

Remarks.—This species is a member of *Fomitiporia* Murrill due to its globose to subglobose, hyaline, and dextrinoid basidiospores, and the dimitic hyphal system. It belongs to the *Fomitiporia punctata* (Pilát) Murrill species complex, and a phylogenetic approach is desirable to solve its relationships within this group. For descriptions and discussions on this taxon see Rajchenberg (1987a: 114), Rajchenberg (1987b: 562), Larsen & Cobb-Poulle (1990: 40), and Coelho *et al.* (2009: 2).

Hjortstam & Ryvar den (1990: 59) also studied the holotype of *L. bambusae* and determined it as ‘cfr. *Phellinus punctatus* (Fr.) Pilát’.

“*Neokneiffia sulphurella*” Rick, Iheringia, Bot. 5: 178, 1959, *nom. inval.*

Type.—not designated.

Remarks.—Rick (1959b) cited *FR 22633* in the protologue, which was not extant at PACA, and the specimen cited below. None of them was designated as ‘*typus*’. *FR 22626* corresponds to *Hyphodermella corrugata*.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 1944, *FR 22626* (PACA).

Odontia alutacea var. *dubia* Rick, Egatea 17: 275, 1932

≡ *Odontia dubia* (Rick) Rick, Iheringia, Bot. 5: 161, 1959.

Holotype.—BRAZIL. Rio Grande do Sul: Jan 1922, *J. Rick 278* (BPI 265225).

Remarks.—**Unknown application.** Rick (1911: 179) treated this taxon as a variety of *Odontia alutacea* (Fr.) Quél., and later proposed it as an independent species (Rick 1932: 275; 1959a: 161). We studied one of the specimens cited by Rick (1959b), *FR 17553*, which corresponds to a *Fibrodontia* sp. It is sterile and contaminated by anamorphic fungi; therefore it was not possible to identify it at species level.

Specimen studied.—BRAZIL. Rio Grande do Sul: Leopoldo, 1905, *FR 17553* (PACA).

Odontia crassa Rick, Egatea 17: 279, 1932

≡ *Kneiffiella crassa* (Rick) Hjortstam & Ryvar den, Synop. Fungorum 15: 14, 2002.

Neotype, designated by Hjortstam & Ryvar den (1982: 268).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1933, *FR 19888* (PACA!).

= *Kneiffiella stercicola* (Bres.) Nakasone, Cryptogam. Mycol. 29 (3): 252, 2008.

Remarks.—Hjortstam & Ryvar den (1982: 268) studied *Odontia crassa* Rick and treated it as a synonym of *Kneiffiella barba-jovis* (Bull.) P. Karst. Later, they considered the taxon as a different species and proposed the binomial *Kneiffiella crassa* (Rick) Hjortstam & Ryvar den (Hjortstam & Ryvar den 2002). Nakasone (2008: 252), during a revision of Bresadola's type specimens, found an earlier name for that species and proposed the binomial *K. stereicola*, which is herein considered the correct name.

Odontia chroospora Rick, Iheringia, Bot. 5: 165, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1934, *FR 20003* (PACA!).

= *Hyphodontia corticioidea* (Rick) Baltazar & Rajchenb., cfr. above under *Irpex corticioides* Rick.

Odontia flava Rick, Egatea 18: 129, 1933

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 19938* (PACA!).

Remarks.—**Unknown application.** The studied specimen is sterile and its determination was not possible. Rick (1959b) did not cite *O. flava* in his treatment of *Odontia* spp.

Odontia irpicoidea Rick, Egatea 17: 278, 1932

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1930, *FR 17476* (PACA!).

Remarks.—Rick (1959b: 150) cited three specimens under *O. irpicoidea*, two of them collected by the date of publication. *FR 17476* was the only one found at PACA, and then is herein designated as the lectotype. However, it is indeterminable because it is sterile and contaminated by anamorphic fungi. Hjortstam & Ryvar den (1982: 269) studied *FR 17478*, another specimen collected by the date of publication of *O. irpicoidea*, which is also collapsed and indeterminable. The third specimen cited by Rick (1959b: 150), *FR 17651*, was collected after the publication of the species and corresponds to *Phaneroites subquercinus* (Henn.) Hjortstam & Ryvar den.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 17651* (PACA).

Odontia isabellina Rick, Iheringia, Bot. 5: 163, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1933, *FR 17843* (PACA!).

= *Phanerochaete cana* (Burt) Burds., Mycol. Mem. 10: 50, 1985.

Remarks.—For a description see Burt (1925: 227) and Burdsall (1985: 50). This species was previously known solely from Florida, USA. Rick's specimen agrees with *P. cana* in presenting a soft, hypochnoid/woolly and fibrous basidiome, and allantoid, narrow basidiospores $3.5\text{--}4.5 \times 1.2\text{--}1.5 \mu\text{m}$. Several metuloids are dextrinoid, as those observed in the holotype of *O. isabellina* var. *caesia* Rick (see below), but the meaning of this feature in this group of organisms is unknown, due to the fact that few observations have been made in Melzer's reagent and their reaction is rarely reported by specialists.

Hjortstam & Ryvar den (1982: 269) reduced *O. isabellina* to synonymy with *Scopuloides hydroides* (Cooke & Masee) Hjortstam & Ryvar den, but this species differs by a crustaceous, grandinoid to hydroid hymenial surface and ellipsoid, larger basidiospores $4.5\text{--}5 \times 2\text{--}2.5 \mu\text{m}$ (Hjortstam & Ryvar den 1979: 509).

Zmitrovich *et al.* (2006: 15) transferred *P. cana* to *Scopuloides* (Masee) Höhn. & Litsch. but did not give any comment. This combination needs a critical revision with further evidence.

Odontia isabellina var. *caesia* Rick, Iheringia, Bot. 5: 163, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 15 Feb 1943, *FR 17827* (PACA!).

= *Phanerochaete cana* (Burt) Burds., Mycol. Mem. 10: 50, 1985.

Remarks.—The type material is identical with *Odontia isabellina*, and also possesses dextrinoid metuloids.

Odontia lividogrisea Rick, Egatea 18: 39, 1933

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1930, *FR 17473* (PACA!).

Remarks.—**Indeterminable.** The holotype, a single specimen at PACA collected by 1933, is in poor condition and indeterminable. Hjortstam & Ryvar den (1982: 269) studied *FR 17529*, collected in 1935, and asserted that the specimen

is close to *Brevicellicium olivascens* (Bres.) K.H. Larss. & Hjortstam; this specimen is also in very poor condition and indeterminable.

Additional specimen studied.—BRAZIL. Rio Grande do Sul: Parecí, 1935, *FR 17529* (PACA).

Odontia subconspersa Rick, *Iheringia*, Bot. 5: 164, 1959 (basionym)

≡ *Phlebia subconspersa* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815714).

≡ *Mycoacia subconspersa* (Rick) Hjortstam & Ryvarde, *Mycotaxon* 15: 272, 1982.

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 17676* (PACA!).

Remarks.—We follow Nakasone (1997) who reduced *Mycoacia* Donk as a synonym of *Phlebia* Fr., and therefore the new combination *P. subconspersa* is proposed. See Hjortstam & Ryvarde (1982: 272) for a description.

Odontia subirpicoidea Rick, *Iheringia*, Bot. 5: 162, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 13 Oct 1942, *FR 17805* (PACA!).

= *Phaneroites subquercinus* (Henn.) Hjortstam & Ryvarde, *Synop. Fungorum* 27: 31, 2010.

Odontia subraduloides Rick, *Egatea* 17: 279, 1932

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 19996* (PACA!).

= *Fibrodontia brevidens* (Pat.) Hjortstam & Ryvarde, *Synop. Fungorum* 20: 54, 2005.

Remarks.—We found three specimens labeled under *O. subraduloides* in PACA's type collection. *FR 17548* is sterile and contaminated by anamorphic fungi, and it is left as *Fibrodontia* sp. *FR 17596* is in good condition but was collected after the publication date of *O. subraduloides*. *FR 19996* has many collapsed basidiospores, but we could also observe many in good condition and confirm its identity; therefore this specimen was designated as the lectotype. This species was not treated by Rick (1959b).

Additional specimens studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, *FR 17548* (PACA). *Ibid.*, São Salvador, 1939, *FR 17596* (PACA).

Peniophora gelatinosula Rick, *Iheringia*, Bot. 4: 107, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 20016* (PACA).

Remarks.—**Unknown application.** The holotype was not found at PACA. We studied two specimens labeled as '*Kneiffia gelatinosula* Rick', a genus name under which Rick (1959a) treated *Peniophora* Cooke taxa in his previous work (Rick 1934). Both specimens were collected previous to the publication of *P. gelatinosula* but they were not cited in the original work. Unfortunately they are sterile and it was not possible to identify them. Hjortstam & Ryvarde (1982) also studied *FR 16979* and asserted that 'the collection is completely indeterminable'.

Additional specimens studied.—BRAZIL. Rio Grande do Sul: Parecí, 1935, *FR 16797* and *FR 16831* (PACA).

Odontia rosea Rick, *Egatea* 18: 43, 1933, *nom. illeg., non* Bres. 1926

≡ *Cystidiendron roseum* (Rick) Rick, *Iheringia*, Bot. 5: 172, 1959.

Holotype.—BRAZIL. Rio Grande do Sul: Parecí, 1931, *FR 17471* (PACA!).

= *Steccherinum fimbriatum* (Pers. : Fr.) J. Erikss., *Symb. Bot. Ups.* 16(1): 134, 1958.

Remarks.—Hjortstam & Ryvarde (1982: 272) studied specimen *FR 20139*, which was collected in 25 Aug 1945, and according to them also corresponds to *S. fimbriatum*.

Phlebia cinnamomea Rick, *Iheringia*, Bot. 7: 194, 1960

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria (Santa Rosa in the protologue), 1936, *FR 14566* (PACA!).

Remarks.—**Indeterminable.** The specimen has a phlebioid appearance both macro and microscopically. However, only in a small portion was possible to observe a hymenium with basidioles. No basidia, basidiospores or cystidia were seen.

Prillieuxia flavidula Rick, Iheringia, Bot. 4: 121, 1959 (basionym). Figure 6

≡ *Clavulicium flavidulum* (Rick) Baltazar & Rajchenb., *comb. nov.* (Mycobank MB 815715).

Holotype.—URUGUAY. Tacuarembó, 1936, *FR 18826* (PACA!).

Description.—Basidiome resupinate, effused, adnate, membranaceous, up to 0.1 mm thick. Hymenophore smooth to tuberculate, light yellow (4A4, 4A5), grayish yellow (4B4, 4B5) to light orange (5A4), in some parts brownish orange (7C7) with a resinous appearance under the lens, cracking and exposing a white (1A1) subiculum. Margin fimbriate, white (1A1).

Hyphal system monomitic, all generative hyphae clamped, hyaline, thin-walled, regularly branched, 2–5 µm wide, crystals abundant in the whole basidiome and forming subglobose aggregations up to 50 µm in diam. Cystidia hyphoid, variable in shape, thin-walled and smooth, rarely with a dendroid apex, 23–40 × 4–5 µm. Basidia subclavate to cylindrical, sometimes with 1–2 constrictions, hyaline, smooth and thin-walled, with 2–4 sterigmata, clamped at the base, 55–80 × (4–) 6–8 (–10) µm, sterigmata up to 10 µm long. Basidiospores broadly ellipsoid to subglobose, hyaline, smooth and slightly thick-walled, with a distinct apiculus, with a granular and refractive content, 7.5–10 (–10.5) × 6.5–9 µm, IKI-, collapsed in cotton blue and variably cyanophilous.

Remarks.—*Clavulicium flavidulum* is characterized by a membranaceous basidiome with fimbriate and whitish margin, clamped generative hyphae, hyphoid cystidia, and large basidia with four sterigmata. It deviates from other species in *Clavulicium* Boidin by lacking gloecystidia (Bernicchia & Gorjón 2010: 214).

Macroscopically, *Clavulicium macounii* (Burt) J. Erikss. & Boidin ex Parmasto is very similar to *C. flavidulum*, but microscopically it is quite different by having rounded, yellowish matter irregularly present in some hyphal ends, gloecystidia, smaller basidia (35–50 × 7–8 µm), and more elongated, slightly larger basidiospores, 9–12 × 6.5–8 µm (Eriksson & Ryvarden 1973: 249; Bernicchia & Gorjón 2010: 215). *Clavulicium extendens* Hood from Australia has similar cystidia, but differs from *C. flavidulum* by having smaller, two sterigmated basidia (33–51 × 6–9 µm), and narrower basidiospores (7–) 8–11 (–12) × 4.5–6.5 µm (Hood & Ramsden 1999: 102).

Radulochaete flavoalutacea Rick, Iheringia, Bot. 5: 184, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1944, *FR 22969* (PACA!).

= *Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvarden, *Corticaceae N. Eur.* 4: 579, 1976.

Remarks.—K. Hjortstam studied the holotype of *R. flavoalutacea* and reached the same conclusion (note in the exsiccatum).

Radulum abortivum Rick, *Ann. Mycol.* 38(1): 57, 1940

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 18926* (PACA!).

= *Hyphodontia crustosa* (Pers. : Fr.) J. Erikss., *Symb. Bot. Ups.* 16(1): 104, 1958.

Remarks.—Rick (1940b) proposed *R. abortivum* but cited no specimen. Later, Rick (1959b: 183) cited two specimens but did not designate a lectotype. One of them, *FR 18926*, kept in PACA as ‘*typus*’, is here designated as the lectotype.

Radulum album Rick, Iheringia, Bot. 5: 181, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1939, *FR 18961* (PACA!).

= *Bysomerulius corium* (Pers. : Fr.) Parmasto, *Eest. NSV Tead. Akad. Toim., Biol. Seer.* 16(4): 383, 1967.

Radulum brunneum Rick, *Egatea* 17: 104, 1932

Neotype, designated by Rick (1959b: 180).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1935, *FR 18929* (PACA!).

Remarks.—*Phlebia sp.* The specimen is characterized by a hydroid, reddish ochraceous basidiome, and ellipsoid, hyaline, smooth, thin-walled, IKI-, 4–5 (–5.5) × 2–3 µm basidiospores. Other microscopic elements are completely collapsed and the specimen is indeterminable at species level.

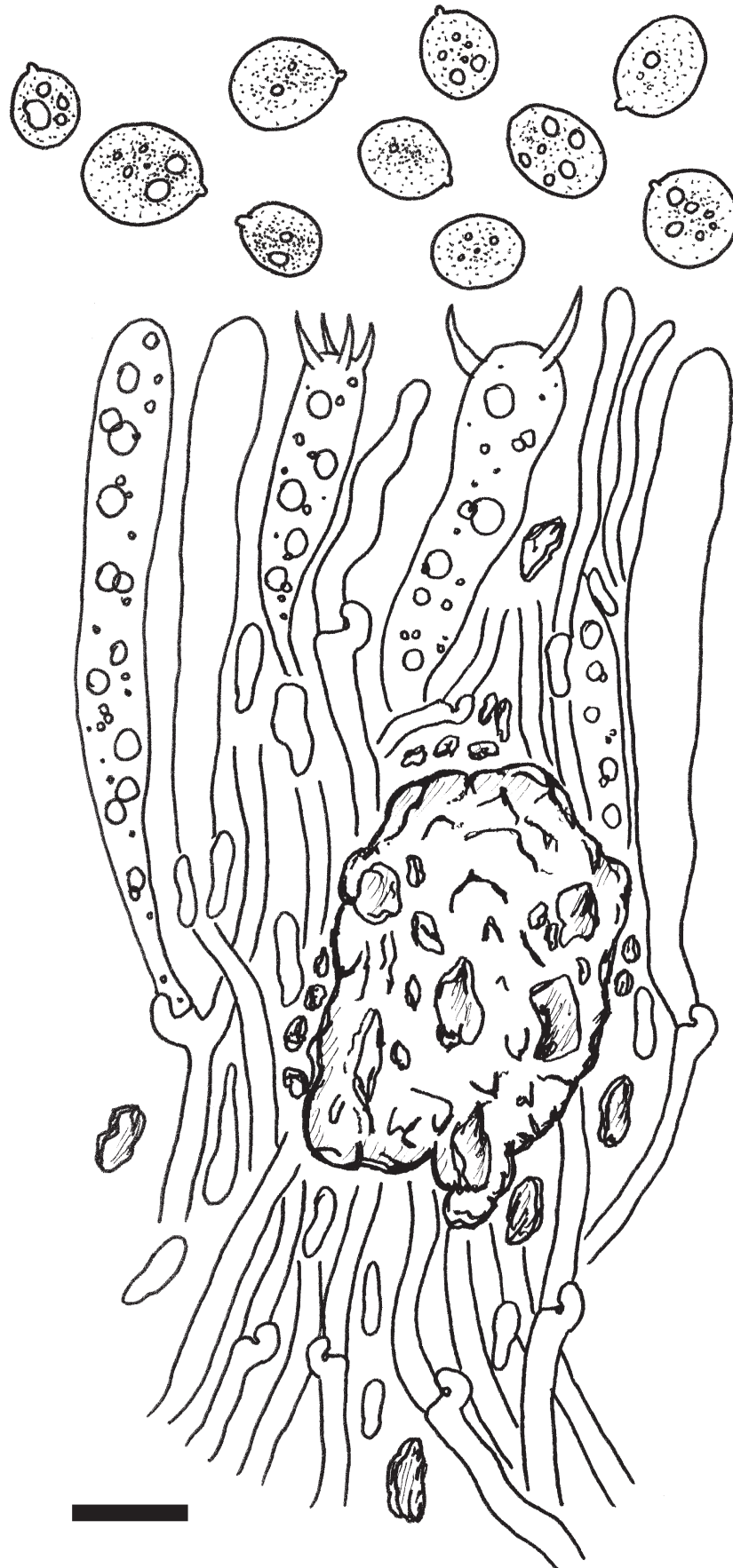


FIGURE 6. Microscopic features of *Clavulicium flavidulum* (holotype of *Prillieuxia flavidula*, FR 18826, PACA). Scale bar = 10 μ m. Drawing by J.M. Baltazar.

Radulum griseum Rick, Iheringia, Bot. 5: 182, 1959

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria, 1935, *FR 18938* (PACA!).

= *Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvardeen, Corticiaceae N. Eur. 4: 579, 1976.

Radulum horridulum Rick, Egatea 17: 102, 1932 (basionym)

≡ *Radulochaete horridula* (Rick) Rick [as ‘*horridulum*’], Ann. Mycol. 38(1): 58, 1940

≡ *Hypochnicium horridulum* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815716).

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, *FR 18951* (PACA!).

= *Hypochnicium gomezii* S.E. López & J.E. Wright, Mycotaxon 23: 439, 1985.

≡ *Nodotia gomezii* (S.E. López & J.E. Wright) Hjortstam & Ryvardeen, Synop. Fungorum 18: 18, 2004.

Remarks.—Rick did not designate any specimen when describing *R. horridulum*, but later, he cited *FR 18951* as the single specimen for the species (Rick 1959b: 181). The specimen agrees well with most features of *H. gomezii* studied by us (see below). Macroscopically, Rick’s specimen has darker basidiomes than the Argentinian collections of *H. gomezii*, being beige to almost light cinnamon brown, while specimens of the latter are yellowish white to pale beige. However, when describing the species, Rick stated ‘... when fresh it is white but then yellowish red’ (translation from Portuguese). *Cystidi dendron gossypinum* Rick, another synonym of *H. horridulum* (see above), also has brownish colors, but they are considerably paler than in *R. horridulum* lectotype. The aculei of *R. horridulum* are longer than those of *H. gomezii*, but they have their same shape and the penicilliate appearance. Microscopically all the specimens are similar and no remarkable differences could be noted. There is a good description and drawings of this species in López & Wright (1985: 439). We measured the basidiospores as $7.27\text{--}9.7 \times 6.3\text{--}7.27 \mu\text{m}$, slightly larger than those described by López & Wright (1985: 439), i.e., $6\text{--}9 \times 5.5\text{--}6.5 \mu\text{m}$.

Hjortstam (1987) established *Nodotia* Hjortstam based on *Nodotia aspera* Hjortstam as separated from *Hypochnicium* J. Erikss. by the presence of skeletoid encrusted cystidia. Later, Hjortstam & Ryvardeen (2004a) further transferred *H. gomezii* and *Odontia lyndoniae* D.A. Reid to *Nodotia*. However, molecular evidence has shown that the type species of these genera are phylogenetically closely related, and that *Hypochnicium* is monophyletic, including *Nodotia* (Paulus *et al.* 2007; Telleria *et al.* 2010).

Additional specimens studied.—ARGENTINA. Buenos Aires: Ezeiza, on a fallen branch in *Eucalyptus* woods, VI.1968, J.E. Wright G-2148 (BAFC 30093, paratype of *H. gomezii*). Ibid., Berazategui, Parque Pereyra Iraola, on a hardwood stump, VI.1969, C.E. Gómez G-2207 (BAFC 30094, paratype of *H. gomezii*). BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, *FR 18957* (PACA).

Radulum molare var. *sulphureum* Rick [as ‘*sulphurea*’], Iheringia, Bot. 5: 180, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1937, *FR 18925* (PACA!).

= *Hyphoderma setigerum* (Fr.) Donk, Fungus 27: 15, 1957.

Radulum molliusculum Rick, Egatea 17: 104, 1932 (basionym). Figure 7

≡ *Hyphoderma molliusculum* (Rick) Baltazar & Rajchenb., *comb. nov.* (MycoBank MB 815717).

Lectotype, designated here.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1930, *FR 18932* (PACA!).

Description.—Basidiome resupinate, effused, adnate, pellicular and cottony, less than 0.1 mm thick. Hymenophore smooth to grandinoid, pale yellow (1A3, 4A3), light yellow (1A4, 1A5) to orange-white (5A2), aculei pale orange (5A3) to light orange (5A5), up to 0.2 mm high. Margin indeterminate.

Hyphal system monomitic, all generative hyphae clamped, hyaline to yellowish in the subiculum, thin to slightly thick-walled, sparsely branched, variably covered by a cristalline matter, in the subiculum hard to discern, near the hymenium richly branched and somewhat short-celled, $2.5\text{--}5.5$ (–6) μm . Cystidia of two kinds: 1) hymenial, moniliform, with two or more constrictions, apically obtuse to subcapitate, projecting up to 10 μm or not, hyaline, thin-walled, variably covered by a crystalline matter, $14\text{--}29$ (–40) \times $4.5\text{--}8 \mu\text{m}$; 2) enclosed leptocystidia rare, ventricose, apically obtuse, hyaline, thin-walled, smooth, embedded, $26\text{--}60 \times 8\text{--}10.5 \mu\text{m}$. Basidia clavate to suburniform, with one or two constrictions, hyaline, thin-walled, variably covered by a crystalline matter, $30.5\text{--}36 \times 6\text{--}7 \mu\text{m}$. Basidiospores cylindrical to slightly curved, hyaline, smooth and thin-walled, with one big oil drop or several little ones, $13\text{--}16 \times 4\text{--}5 \mu\text{m}$, IKI-, acyanophilous.

Remarks.—Rick (1959b:180) cited three specimens but did not designate a lectotype. They correspond to a good morphological species in *Hyphoderma*, and *FR 18932* is here designated as the lectotype.

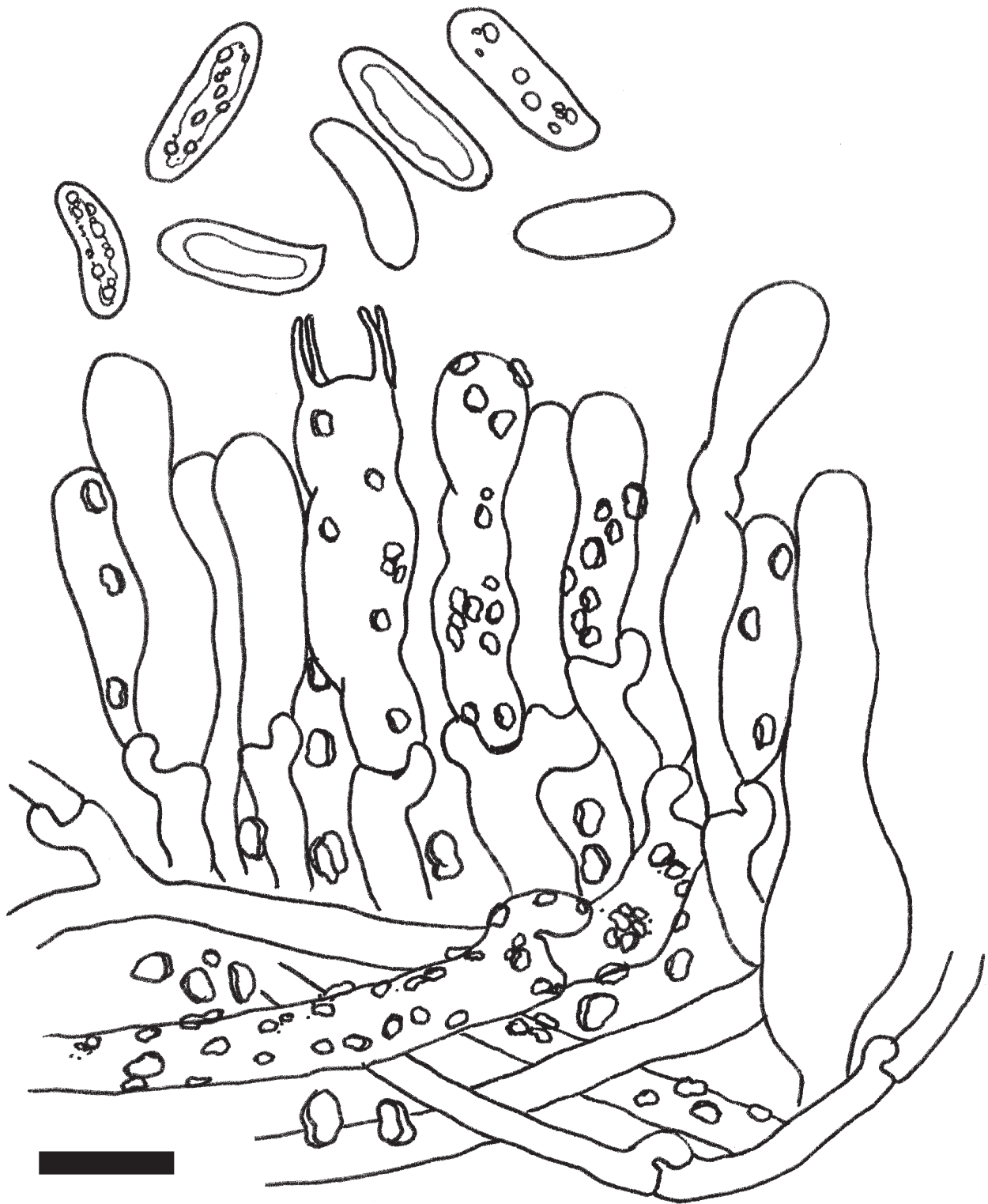


FIGURE 7. Microscopic features of *Hyphoderma molliusculum* (lectotype of *Radulum molliusculum*, FR 18932, PACA). Scale bar = 10 μ m. Drawing by J.M. Baltazar.

This species is characterized by its small hymenial cystidia, its rare, ventricose, enclosed leptocystidia, the fine encrustation on hyphae that easily dissolves in KOH, moniliform, subcapitate cystidia, and basidia variably covered by a crystalline matter. It is morphologically related to *Hyphoderma nemorale* K.H. Larss. and *Hyphoderma incrustatum* K.H. Larss., two European species, due to similar cystidia and basidiospores. They are inseparable by the basidiospores,

which are very similar in shape and size. Nevertheless, *H. molliusculum* is distinguished by the encrustation on other microscopic structures (i.e., hyphae and basidia), the ventricose, enclosed leptocystidia and the hymenial, moniliform, subcapitate cystidia. On the other hand, *H. nemorale* has enclosed cystidia with several constrictions and capitate, hymenial cystidia without constrictions, while *H. incrustatum* has cylindric leptocystidia and hymenial cystidia as in *H. nemorale* (Larsson 1998).

Additional specimens studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931, *FR 18944* (PACA). Ibid., Santa Maria, 1930, *FR 18942* (PACA).

Radulum obtusum Rick, *Egatea* 17: 104, 1932

Lectotype, designated by Rick (1959b: 180).—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931–1932, *FR 18965* (PACA!).

Remarks.—**Indeterminable**. The lectotype is sterile, as well as two other specimens extant at PACA (see below).

Additional specimens studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1931–1932, *FR 18939*, *18952* (PACA).

Radulum subsulphureum Rick, *Iheringia*, Bot. 5: 182, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 1943, *FR 20413* (PACA!).

= *Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvardeen, *Corticaceae N. Eur.* 4: 579, 1976.

Radulum tenue Rick, *Iheringia*, Bot. 5: 183, 1959

Holotype.—BRAZIL. Rio Grande do Sul: Pareci, 1935, *FR 18931* (PACA!).

= *Hyphodermella corrugata* (Fr.) J. Erikss. & Ryvardeen, *Corticaceae N. Eur.* 4: 579, 1976.

Stereofomes terrestris Rick, *Egatea* 15: 396, 1930

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1929, *FR 15242* (PACA!).

Remarks.—*Scytinostroma sp.* The studied specimen is a *Scytinostroma sp.* due to its dextrinoid skeletal-binding hyphae. However, it is in poor condition and indeterminable at species level.

Stereogloeocystidium albogriseum Rick, *Brotéria. Ciências Nat.* 9(36): 83, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1936, *FR 19656* (PACA!).

Remarks.—**Indeterminable**. The single specimen cited by Rick (1959a: 73) of this taxon is sterile and indeterminable.

Stereogloeocystidium alboverrucosum Rick, *Brotéria. Ciências Nat.* 9(36): 82, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1938, *FR 14748* (PACA!).

= *Gloeocystidiellum stereoideum* (Rick) Ginns, *Opera Bot.* 61: 57, 1982.

≡ *Coniophora stereoidea* Rick, *Brotéria. Ciências Nat.* 3(30): 166, 1934.

≡ *Coniophorafomes stereoideus* (Rick) Rick, *Brotéria. Ciências Nat.* 3(30): 167, 1934.

Lectotype, designated by Ginns (1973: 256).—BRAZIL. Rio Grande do Sul: São Leopoldo, Aug 1933, *FR 14219* (PACA!).

Remarks.—Ginns (1973: 256) described this species as ‘apparently dimitic [...] the skeletal (?) hyphae yellowish, rather thin-walled, occasionally branched, aseptate, 1.6–3.2 μ in diam [...]’. We found yellowish to pale rusty brown, slightly thick- to distinctly thick-walled, clamped generative hyphae that are anastomosed in some parts, in the subiculum of the types of *C. stereoidea* and *S. alboverrucosum*. These hyphae are probably the same as those that Ginns suspected to be skeletal hyphae. Therefore, we consider this species as monomitic.

The lectotype of *C. stereoidea* was studied by Sheng-Hua Wu, Ellen Larsson and Karl-Henrik Larsson (notes on the exsiccatum), and they pointed out the similarities of this species with *Scytinostromella cerina* (Bres.) Hjortstam & Ryvardeen. We agree that these species are very similar, possessing almost identical gloeocystidia and basidiospores. However, they have different hyphal structures: *S. cerina* has distinct skeletal hyphae, which is the case of the holotype of *Gloeocystidiellum clavuligerum* var. *brasiliense* Rick (see above), while *G. stereoideum* is monomitic. For the time being, we prefer to keep these species separated.

Stereogloeocystidium avellaneum Rick, Brotéria. Ciências Nat. 9(36): 82, 1940

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria, 1935, *FR 15222* (PACA!).

= *Ramaricium polyporoideum* (Berk. & M.A. Curtis) Ginns, Bot. Not. 132(1): 98, 1979.

Stereogloeocystidium citrinum Rick, Brotéria. Ciências Nat. 9(36): 81, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1939, *FR 15223* (PACA!).

Remarks.—**Indeterminable.** The studied specimen is sterile and indeterminable.

Stereogloeocystidium gausapatum Rick, Brotéria. Ciências Nat. 9(36): 80, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1930, *FR 14749* (PACA!).

= *Stereum hirsutum* (Willd. : Fr.) Pers., Obs. Mycol. 2: 90, 1800 [“1799”].

Remarks.—Although this and the holotype of *Stereogloeocystidium subsanguinolentum* were in poor condition, it was possible to observe basidiospores, skeletocystidia and acutocystidia, which helped to confirm their identity.

Stereogloeocystidium subsanguinolentum Rick, Brotéria. Ciências Nat. 9(36): 80, 1940

Holotype.—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, *FR 14745* (PACA!).

= *Stereum hirsutum* (Willd. : Fr.) Pers., Obs. Mycol. 2: 90, 1800 [“1799”].

Stereum humillimum Rick, Iheringia, Bot. 4: 68, 1959

Holotype.—BRAZIL. Rio Grande do Sul: São Salvador, 01 Mar. 1943, *FR 19249* (PACA!).

= *Phanerochaete sordida* (P. Karst.) J. Erikss. & Ryvardeen, Corticiaceae N. Eur. 5: 1023, 1978.

Remarks.—The dried type specimen is a fragment of bamboo with two resupinate basidiomes that correspond to two different species. Although the original description of *S. humillimum* is brief, it points out several features that correspond to the specimen we determine: an avellaneous hymenial color (cream in the other), a cracked hymenial surface (smooth in the other), the presence of cystidia and basidiospores size that correspond to *P. sordida*; these features helped us to be sure of which basidiome Rick had in mind when he described the species. The other basidiome is *Aleurodiscus phragmitis* (Boidin *et al.*) Núñez & Ryvardeen, easily distinguishable by the basidiospore amyloidity and size, small gloeocystidia, acanthophyses and the presence of protuberances in basidia; it has been recorded from NE Argentina by Núñez & Ryvardeen (1997: 123).

Stereum metallicum Rick, Brotéria. Ciências Nat. 9(36): 45, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1930, *FR 19135* (PACA!).

Remarks.—**Indeterminable.** The holotype is in poor condition and the determination was not possible.

Stereum oblitteratum Rick, Brotéria. Ciências Nat. 9(36):76, 1940

Holotype.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 19235* (PACA!).

Remarks.—**Indeterminable.** The holotype is sterile and the determination was not possible.

“*Thelephora clavarioides*” Rick [as ‘*lavarioides*’], Egatea 16: 39. 1931, *nom. inval.* [same holotype of an earlier name], *non* Torrend 1914

Remarks.—The original material of “*Thelephora clavarioides*” Rick is undoubtedly the holotype of *Thelephora clavarioides* Torrend. Notes in the exsiccatum are the same as those from the protologue and the basidiome is the same as drawn by Torrend (1914: 61). Then, “*T. clavarioides*” Rick is an invalid name since it was clearly based on a specimen previously designated as the type for another species, i.e., *T. clavarioides* Torrend. The studied specimen is a clavarioid fungus; however, it is sterile and indeterminable.

Specimen studied.—BRAZIL. Bahia, ‘*ad terram argillaceam*’, *J. Tavares* (PACA!, holotype of *Thelephora clavarioides* Torrend).

Tulasnella lividogrisea Rick, Brotéria. Ciências Nat. 3(30): 169, 1934

Neotype, designated by Rick (1959a: 99).—BRAZIL. Rio Grande do Sul: Parecí, 1935, *FR 15063* (PACA!).

Remarks.—A **heterobasidiomycete**.

“*Wiesnerina grandinioides*” Rick, Iheringia, Bot. 5: 177, 1959, *nom. inval.*

Type.—not designated.

Remarks.—Rick (1959b: 177) did not cite any specimen when describing this species, although he cited the substrate: ‘*Ad Bambusam*’. We found one specimen at PACA under this name, *FR 20872*, and it corresponds to *Hypochnicium horridulum* (Rick) Baltazar & Rajchenb. (see above).

Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 1944, *FR 20872* (PACA).

Unpublished names

Several specimens labeled with unpublished names and the annotation ‘*typus*’ by Rick were found at PACA. We have studied them and their determination was made whenever it was possible. These specimens are listed below.

“*Cytidea cinerea*” Rick, *nom. in herb*

Remarks.—**Indeterminable**. No spores and basidia were observed.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 28 Jan 1944, *FR 21015* (PACA).

“*Gloeocystidium incarnatum*” Rick, *nom. in herb.*, *non* (Pers.) S. Ito 1955

Remarks.—**Indeterminable**. The specimen is sterile and the determination was not possible.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1933, *FR 13390* (PACA).

“*Hypochnus albo-fumosus*” Rick, *nom. in herb*

Remarks.—***Tomentella sp.*** The hymenium is collapsed and it was not possible to observe the basidia and the presence/absence of cystidia. Therefore it was not possible to determine it at species level.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 13654.1* (PACA).

“*Kneiffia calcea*” Rick, *nom. in herb*

Remarks.—***Phanerochaete cf. sordida*** (P. Karst.) J. Erikss. & Ryvar den. The specimen is contaminated by anamorphic fungi and only one basidiospore was found.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1932, *FR 16763* (PACA).

“*Kneiffia cartilaginea*” Rick, *nom. in herb*

Remarks.—***Phanerochaete sordida*** (P. Karst.) J. Erikss. & Ryvar den.

Specimens studied.—BRAZIL. Rio Grande do Sul: Pinhal, 1936, *FR 16735, 16853, 16879* (PACA).

“*Kneiffia rudior* var. *carnea*” Rick, *nom. in herb*

Remarks.—***Phlebiopsis sp.*** The specimen is sterile and its determination at species level was not possible.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1935, *FR 16777* (PACA).

“*Kneiffia sulphureo-lutea*” Rick, nom. in herb

Remarks.—*Phanerochaete* sp. The specimen is sterile and contaminated by anamorphic fungi.
Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1933, *FR 16726* (PACA).

“*Lloydiella nivea*” Rick, nom. in herb

Remarks.—*Phlebiopsis flavidoalba* (Cooke) Hjortstam.
Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 1942, *FR 19659* (PACA).

“*Lopharia lanosa*” Rick, nom. in herb

Remarks.—**Indeterminable**. The specimen is sterile and contaminated by anamorphic fungi.
Specimen studied.—BRAZIL. Rio Grande do Sul: Porto Novo, 1932, *FR 13936* (PACA).

“*Odontia coccinea*” Rick, nom. in herb

Remarks.—*Phanerochaete* cf. *chrysorhiza* (Torr.) Budington & Gilb. The studied specimen agrees in most features with *P. chrysorhiza*. However, the hymenium is completely collapsed and it was not possible to observe basidia and cystidia.

Specimen studied.—BRAZIL. Rio Grande do Sul: São Salvador, 1939, *FR 17644* (PACA).

“*Odontia ochraceo-straminea*” Rick, nom. in herb

Remarks.—*Hyphodontia corticioidea* (Rick) Baltazar & Rajchenb. There are two specimens kept at PACA under this name. *FR 17842, I* corresponds to *H. corticioidea* (see above), a species of *Hyphodontia* s. str. characterized by globose basidiospores. See Maekawa (1993: 120) and Hjortstam & Ryvarden (2002: 12) for descriptions and drawings (under *H. sphaerospora*). *FR 17866* is sterile and indeterminable.

Specimens studied.—BRAZIL. Rio Grande do Sul: Santa Maria, 1936, *FR 17842, I* and *FR 17866* (PACA).

“*Stereum subsanguinolentum*” Rick, nom. in herb

Remarks.—*Stereum hirsutum* (Willd. : Fr.) Pers.
Specimen studied.—BRAZIL. Rio Grande do Sul: São Leopoldo, 1936, *FR 19172* (PACA).

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