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Pileate polypores from Araucaria Forests in Southern Brazil

Mauro Carpes Westphalen[1,3] e Rosa Mara Borges da Silveira[2]

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ABSTRACT - (Pileate Polypores from Araucaria Forests in Southern Brazil). During a survey of polypores in the municipality of São Francisco de Paula, Rio Grande do Sul State, Brazil, 20 pileate species previously unregistered for the area were found and identified. *Antrodia malicola*, *Coltricia* aff. *duportii*, and *Microporellus brasiliensis* are new records for Rio Grande do Sul State. Comments on the 20 newly recorded species and an identification key for the studied area are presented.
Key words: Basidiomycota, diversity, neotropics, xylophilous fungi

RESUMO - (Políporos Pileados em áreas de Floresta com Araucária no Sul do Brasil). Durante o levantamento dos políporos do município de São Francisco de Paula, Rio Grande do Sul, Brasil, foram identificadas 20 espécies pileadas não registradas previamente para a região. Dentre estas, *Antrodia malicola*, *Coltricia* aff. *duportii* e *Microporellus brasiliensis* representam novas citações para o Estado do Rio Grande do Sul. São apresentados comentários sobre cada um desses novos registros e uma chave de identificação para as espécies na área de estudo.
Palavras-chave: Basidiomycota, diversidade, fungos xilófilos, neotrópicos

Introduction

The polypores are fungi and they are characterized by presenting a not easily detachable tubular hymenophore and being predominantly xylophilous. The priest J. Rick was the pioneer in the study of macroscopic fungi, including polypores, of Rio Grande do Sul (Fidalgo 1962, Rick 1960). After that, several other taxonomic researchers have been undertaken in the State on that group (Silveira & Guerrero 1991, Groposo & Loguercio-Leite 2002, Coelho *et al.* 2006, Reck & Silveira 2008, Coelho *et al.* 2009, Westphalen *et al.* 2010, Reck *et al.* 2011, Westphalen *et al.* 2012). Silveira *et al*. (2008) did a survey of the pileate polypores from the São Francisco de Paula National Forest, providing a preliminary identification key for 38 species found in that study. More recently, another polypores survey was conducted in the municipality of São Francisco de Paula, RS, including collections of specimens in the National Forest, as well as the nearby areas. In this study, we present comments on 20 additional species previously unregistered from the studied area. Identification keys including all the 58 species in the region are presented.

Material & Methods

Specimens were collected from April 2009 to May 2011 in the Mixed Ombrophilous Forest of the municipality of São Francisco de Paula, northeast of Rio Grande do Sul State, Southern Brazil. The Mixed Ombrophilous Forest is characterized by a subtropical vegetation with the dominance of the coniferous tree *Araucaria angustifolia* (Bertol.) Kuntze. The municipality of São Francisco de Paula is located at 912 m above sea level and comprehends an area of 3.274 km². The climate in the region is of the Cfb type, according to Köppen Classification, with rainfall high in all months (average of 2.252 mm) and average annual temperature of 14.5 ºC (Mota 1951, Backes 1999).

New collections were made in Floresta Nacional de São Francisco de Paula, Centro de Pesquisa e Conservação da Natureza Pró-Mata and nearby

1. Instituto de Botânica, Programa de Pós-Graduação em Biodiversidade Vegetal e Meio Ambiente, Av. Miguel Estefano 3687, 04301-902 São Paulo, SP, Brazil
2. Universidade Federal do Rio Grande do Sul, Departamento de Botânica, Programa de Pós-Graduação em Botânica, Av. Bento Gonçalves 9500, 91501-970 Porto Alegre, RS, Brazil
3. Corresponding author: maurowestphalen@yahoo.com.br

areas. The collected basidiomes were preserved and analyzed macro and micromorphologically following usual methods for the study of polypores (Núñez & Ryvarden 2001). For microscopy analysis, freehand sections of the basidiomes were mounted in microscope slides with a drop of 3% KOH solution and 1% phloxine solution. Amyloid or dextrinoid reactions were observed in Melzer's reagent. All the specimens were deposited at ICN herbarium (Universidade Federal do Rio Grande do Sul, Brazil).

Results and Discussion

Twenty additional species not previously registered from the region were identified. Among them, *Antrodia malicola*, *Coltricia* aff. *duportii* and *Microporellus brasiliensis* are new records for Rio Grande do Sul State. Identification keys adapted from Silveira *et al.* (2008) are presented including all the species found in the region, as well as comments on the twenty species previously unregistered. Microscopic drawings of the newly recorded species and a image of *M. brasiliensis* are also presented.

Key to species of Hymenochaetaceae

1. Basidiomes stipitate from lateral to central
   2. Context duplex with a distinct black line, basidiospores up to 4 µm long ..... *Phylloporia spathulata*
   2. Context homogeneous, basidiospores 8-10 µm long ..... *Coltricia* aff. *duportii*
1. Basidiomes pileate, sessile or sometimes with a lateral tapering base
   3. Hyphal system monomitic
      4. Pileus surface soft and spongy, hymenial setae absent ..... *Phylloporia chrysita*
      4. Pileus surface tough to fibrous, hymenial setae present
         5. Context homogeneous, hymenial setae usually hooked, basidiospores longer than 4 µm ..... *Inonotus fulvomelleus*
         5. Context duplex, with one or two black lines, hymenial setae straight, basidiospores shorter than 4 µm ..... *Cyclomyces tabacinus*
   3. Hyphal system dimitic
      6. Hymenial setae present
         7. Basidiomes perennial, hymenial setae hooked and straight ..... *Fuscoporia wahlbergii*
         7. Basidiomes annual, rarely perennial, hymenial setae always straight ..... *Fuscoporia gilva*
      6. Hymenial setae absent
         8. Basidiospores hyaline, dextrinoid in Melzer's reagent..... *Fomitiporia apiahyna*
         8. Basidiospores golden yellow to rusty brown, undextrinoid
            9. Basidiomes convex to semi-ungulate, basidiospores ellipsoid, 3-4 µm wide ..... *Phellinus grenadensis*
            9. Basidiomes aplanate, basidiospores subglobose, 4-5.5 µm wide ..... *Phellinus fastuosus*

Key to species of other families

1. Basidiomes laterally to centrally stipitate
   2. Basidiomes on the ground, basidiospores globose, with double walls
      3. Basidiospores with inner wall ornamented, subglobose, 9-11.5 × 8-10 µm ..... *Amauroderma camerarium*
      3. Basidiospores with inner wall smooth, globose, 6.5-7 µm wide ..... *Amauroderma coltricioides*
   2. Basidiomes on dead wood, basidiospores cylindrical to ellipsoid, with simple walls
      4. Pileus surface tuberculate, cystidia present, with skeletal hyphae ..... *Microporellus brasiliensis*
      4. Pileus surface smooth to finely striated, cystidia absent, with skeleto-binding hyphae
         5. Stipe central, beige to light brown, concolorous with pileus surface ..... *Polyporus ciliatus*
         5. Stipe eccentric to lateral, dark brown to black or with a dark colored base
            6. Pileus flabelliform to petaloid, pores white to cream ..... *Polyporus virgatus*
            6. Pileus circular to spathulate, pore surface grayish to brownish
               7. Pileus surface cream to light brown, smooth to radially finely striate ..... *Polyporus varius*
               7. Pileus surface brown to vinaceous brown, smooth ..... *Polyporus dictyopus*
1. Basidiomes effused-reflexed, sessile or sometimes with a lateral tapering base
   8. Hymenophore irpicoid, dentate, daedaloid or lamellate

9. Hymenophore irpicoid to dentate, sometimes poroid at the margins, hyphal system monomitic, generative hyphae with simple septa ..... *Irpex lacteus*
9. Hymenophore daedaloid to lamellate, hyphal system trimitic, generative hyphae with clamps ..... *Lenzites betulina*

8. Hymenophore strictly poroid
10. Basidiospores truncate, golden-brown, with double walls, ornamented ..... *Ganoderma australe*
10. Basidiospores globose to cylindrical, hyaline, with simple walls, smooth
11. Generative hyphae with simple septa
12. Hyphal system dimitic with binding hyphae, basidiospores ellipsoid ..... *Laetiporus* cf. *sulphureus*
12. Hyphal system monomitic, basidiospores globose to subglobose
13. Basidiomes laterally attached by a distinct umbo or by a tapering base ..... *Rigidoporus concrescens*
13. Basidiomes effused-reflexed to dimidiate
14. Basidiomes white to cream, soft, hyphae more or less unchanged when dried ..... *Oxyporus obducens*
14. Basidiomes pinkish-orange, tough when fresh and very hard when dried, hyphae agglutinated when dried
15. Basidiomes large up to 6 cm thick, basidiospores 5-10 µm wide ... *Rigidoporus ulmarius*
15. Basidiomes smaller up to 1 cm thick, basidiospores 3.5-5 µm wide
16. Cystidia absent ..... *Rigidoporus microporus*
16. Cystidia present ..... *Rigidoporus lineatus*
11. Generative hyphae with clamps
17. Basidiomes perennial, basidiospores pip-shaped to truncate, dextrinoid and thick-walled
18. Basidiomes large, up to 7 cm thick, pileus surface dark bay to dark brown ... *Perenniporia martii*
18. Basidiomes smaller, up to 2.5 cm thick, pileus surface cream ochraceous
19. Basidiospores truncate, up to 16 µm long ..... *Perenniporia ochroleuca*
19. Basidiospores pip-shaped, up to 4 µm long ..... *Perenniporiella neofulva*
17. Basidiomes annual, basidiospores different shaped, undextrinoid and thin-walled
20. Cystidia present in the hymenium or trama
21. Cystidia thin-walled
22. Basidiomes pinkish-red, basidiospores slightly thick-walled ..... *Aurantiporus pulcherrimus*
22. Basidiomes white, cream or yellowish, basidiospores thin-walled
23. Basidiomes soft, more or less unchanged when dried, basidiospores allantoid ..... *Tyromyces hypocitrinus*
23. Basidiomes waxy, becoming very hard and darkening upon drying, basidiospores ellipsoid ..... *Flaviporus liebmanii*
21. Cystidia thick-walled
24. Pore surface grayish to vinaceous, basidiospores cylindrical to ellipsoid ..... *Trichaptum sector*
24. Pore surface light to vivid colored, basidiospores broadly ellipsoid to subglobose
25. Pore surface sulphur yellow ..... *Flaviporus brownii*
25. Pore surface cream
26. Basidiomes brittle, pores 7-9 per mm, basidiospores 2.5-3 × 2-2.5 µm ..... *Junghuhnia minuta*
26. Basidiomes flexible, pores 5-7 per mm, basidiospores 4-5 × 3.5-4 µm ..... *Junghuhnia undigera*
20. Cystidia absent
27. Hyphal system monomitic
28. Pore surface white, basidiospores allantoid ..... *Tyromyces leucomallus*

28. Pore surface smoke gray to blackish, basidiospores short-cylindrical
    29. Tubes pale gray, context white to cream with a black line ..... *Bjerkandera adusta*
    29. Tubes brownish-gray, context concolorous with the tubes, without a black line ..... *Bjerkandera fumosa*

27. Hyphal system di-trimitic
    30. Hyphal system dimitic to pseudo-trimitic
        31. Hyphal system pseudo-trimitic, strongly branched skeletal hyphae and/or skeleto-binding hyphae present
            32. Pore surface vinaceous to vinaceous brown, basidiospores yellowish and ellipsoid, 4-5 × 2.5-3 µm ..... *Abundisporus subflexibilis*
            32. Pore surface beige to brownish-gray, basidiospoes hyaline and cylindrical, 7.5-11 × 3-4.5 µm ..... *Datronia mollis*
        31. Hyphal system strictly dimitic, only unbranched to rarely branched skeletal hyphae present
            33. Pileus surface hirsute, with hydnoid processes and clamped asexual spores .... *Echinoporia aculeifera*
            33. Pileus surface glabrous to tomentose, without hydnoid processes, clamped asexual spores absent
                34. Pore surface white, cream, beige or light brown, pileus surface glabrous to velutinous
                    35. Context monomitic, skeletal hyphae present only in the trama
                        36. Pileus surface beige to pale brown, basidiospores up to 1.5 µm wide ..... *Antrodiella duracina*
                        36. Pileus surface bright reddish-orange, basidiospores 1.5-2 µm wide ..... *Flaviporus subhydrophilus*
                    35. Context dimitic, skeletal hyphae present throughout the basidiomes
                        37. Basidiospores ellipsoid ..... *Antrodiella multipileata*
                        37. Basidiospores cylindrical to allantoid
                            38. Basidiomes tough to corky, basidiospores 7-10 × 2.5-4 µm, causing a brown-rot in the wood ..... *Antrodia malicola*
                            38. Basidiomes fleshy to cartilaginous, basidiospores 4-8 × 2-2.5 µm, causing a white-rot in the wood .... *Diplomitoporus marianoi-rochae*
                34. Pore surface greyish brown vinaceous brown, pileus surface tomentose
                    39. Pores irregular, basidiospores cylindrical, 5-7 × 2-2.5 µm, dendrohyphidia present in the hymenium .... *Fuscocerrena portoricensis*
                    39. Pores regular, basidiospores allantoid, 3-4.5 × 0.5-1 µm, dendrohyphidia absent ..... *Skeletocutis roseola*
    30. Hyphal system trimitic
        40. Basidiomes orange-red ..... *Pycnoporus sanguineus*
        40. Basidiomes differently colored
            41. Pore surface dark, brownish grey to dark grey ..... *Fomitella supina*
            41. Pore surface light-coloured, cream to ochraceous
                42. Pileus surface ochraceous to pale cinnamon-brown, context yellowish ..... *Coriolopsis rigida*
                42. Pileus surface cream, brown or grey, context white
                    43. Pores 8-10 per mm, basidiospores allantoid, up to 1 µm wide, hyphal pegs abundant ..... *Skeletocutis nivea*

43. Pores larger, 1-7 per mm, basidiospores cylindrical to ellipsoid, at least 1.5 µm wide, hyphal pegs absent to sparse
    44. Pores 1-4 per mm, pileus surface strigose to hirsute
        45. Basidiomes thin, up to 2 mm thick, context homogeneus .... *Trametes villosa*
        45. Basidiomes thicker, at least 3 mm thick, context duplex, with a black line separating the layers .... *Trametes hirsuta*
    44. Pores 5-7 per mm, pileus surface tomentose, velutinate or glabrous
        46. Basidiomes large, up to 10 cm wide, basidiospores 7-9.5 µm long ..... *Trametes cubensis*
        46. Basidiomes smaller, up to 5.5 cm wide, basidiospores up to 6.5 µm long
            47. Pileus surface with more or less distinct cream to light brown zones ..... *Trametes membranacea*
            47. Pileus surface strongly zonate in shades of brown and gray ..... *Trametes versicolor*

Amauroderma camerarium (Berk.) J.S. Furtado, Revisão do genero Amauroderma:140. 1968

Description in: Furtado (1981)

Species characterized by the thin and glabrous pileus surface and the thin and long stipe. Microscopically it presents yellowish basidiospores with conspicuous endosporic projections and pilear cover as a cortex formed by skeletal hyphae.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 26-III-2009, *M.C. Westphalen 294/10* (ICN); *M.C. Westphalen 300/10* (ICN); *M.C. Westphalen 307/10* (ICN).

Antrodia malicola (Berk. & M.A. Curtis) Donk, Persoonia 4(3): 339. 1966
Figure 1A

Description in: Gilbertson & Ryvarden (1986)

Species characterized by the more or less uniform beige to light brown basidiomes with regular to sinuous pores, large cylindrical basidiospores and by causing brown rot in the wood. This is the first record of the species from Rio Grande do Sul State. In Brazil, it was previously recorded only from Paraná State (Meijer 2008).

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 25-VI-2010, *M.C. Westphalen 330/10* (ICN); *M.C. Westphalen 331/10* (ICN).

Antrodiella duracina (Pat.) I. Lindblad & Ryvarden, Mycotaxon 71:336. 1999

Description in: Lindblad & Ryvarden (1999)

Antrodiella duracina is characterized by the corky cream colored basidiomes with small pores, dimitic hyphal system with monomitic context (skeletal hyphae only in trama) and allantoid basidiospores. *Antrodiella versicutis* (Berk. & M.A. Curtis) Gilb. & Ryvarden is a very similar species, but it differs in presenting a dimitic context.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 22-VI-2009, *M.A. Reck 124/09* (ICN), *M.A. Reck 129/09* (ICN).

Aurantiporus pulcherrimus (Rodway) P.K. Buchanan & Hood, New Zealand J. Bot. 30: 96. 1992

Description in: Buchanan & Hood (1992)

This species is easily recognizable by its red to reddish-pink basidiomes with large pores (2-4 per mm) and fleshy to cartilaginous consistency that shrink and become very hard upon drying. Microscopically, it presents monomitc hyphal system, subglobose basidiospores and abundant thin-walled cystidia. *Aurantiporus pulcherrimus* was previously recorded from Rio Grande do Sul State by Silveira & Guerrero (1991) as *Spongipellis* aff. *caseosus* (Pat.) Ryvarden.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 14-IX-2009,

M.C. Westphalen 290/09 (ICN); 25-VI-2010, *M.C. Westphalen 329/10* (ICN).

Bjerkandera fumosa (Pers.) P. Karst., Meddel. Soc. Fauna Fl. Fenn. 5: 38. 1879

Description in: Ryvarden & Gilbertson (1993)

Species characterized by the grayish basidiomes, monomitc hyphal system and subcylindrical basidiospores. *Bjerkandera fumosa* is similar to *B. adusta* (Willd.) P. Karst., but it differs in paler tubes, presence of a dark line between the tubes and the context and longer basidiospores. Moreover, the basidiomes *B. fumosa* are often laterally fused, while in *B. adusta* they are usually solitary.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 26-IX-2009, *M.A. Reck 224/09* (ICN); Hotel Veraneio Hampel, 27-III-2010, *M.C. Westphalen 314/10* (ICN).

Coltricia* aff. *duportii (Pat.) Ryvarden Occas. Pap. Farlow Herb. 18: 140. 1984
Figure 1B

Description in: Ryvarden (1983)

Coltricia duportii is a rare species described from Guinea (Pattouilard 1912, Ryvarden 1983) and later found in Paraná State, Southern Brazil (Rajchenberg & Meijer 1990). It is characterized by the stipitate basidiomes with velutinate pileus surface and the large rusty brown basidiospores (8-10 × 6-7 µm). Our specimen was found growing on the stipe of a living *Dicksonia sellowiana* Hook., differing from what was described by the other authors (op. cit.), where they were found growing on the base of living palm trees. However, Ryvarden & Meijer (2002) cited another specimen of *C. duportii* from Paraná State growing in a living dicotyledonous tree, so it seems that the substratum may be variable. Moreover, Ryvarden (op. cit.) described the pores of *C. duportii* as 2-3 per mm, while in our material they are smaller (4-7 per mm). Further investigation on the species, also including molecular data, could help resolving this morphological and host variation and confirming the identity of our specimen.

Examined specimen: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 7-V-2011, *J.M. Baltazar* & *L.T. Pereira* JMB 2491 (ICN).

Diplomitoporus marianoi-rochae G. Coelho, Fungal Planet no. 26, 2008

Description in: Coelho (2008)

The species is characterized by the effused-reflexed to almost completely resupinate fleshy to cartilaginous basidiomes with large white pores (0.5-2 per mm). Microscopically it can be recognized by the allantoid spores (3.5-9.5 × 1.5-3 µm) and abundant hyphidia or dendrohyphidia in fresh basidiomes. This species was previously recorded only from its type locality Santa Maria, also on Rio Grande do Sul State (Coelho 2008).

Examined specimen: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 7-V-2011, *M.C. Westphalen 344/11* (ICN).

Echinoporia aculeifera (Berk. & M.A. Curtis) Ryvarden, Mycotaxon 20(2): 330. 1984

Description in: Gilbertson & Ryvarden (1986)

This species is easily recognized in the field by its orange to brown hirsute pileus surface, with hydnoid processes, and by its beige to light-brown hymenial surface, with irregular to daedaloid pores and often dilacerate dissepiments.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 26-IX-2009, *M.C. Westphalen 278/09* (ICN); 14-XI-2009, *M.C. Westphalen 281/09* (ICN); 26.VI.2010, *M.C. Westphalen 332/10* (ICN).

Fuscocerrena portoricensis (Spreng. *ex* Fr.) Ryvarden, Trans. Brit. Mycol. Soc. 79(2): 279. 1982

Description in: Gilbertson & Ryvarden (1986)

The species is normally easy to recognize due to the dark brown to vinaceous brown pileus and the irregular hymenophore that becomes strongly split to dentate with age. Such characteristics are similar to those of *Hydnochaete* Bres. species, but the latter present a more rusty brown color, generative hyphae with simple septa and setae.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 24-IV-2009, *M.C. Westphalen 160/09* (ICN); 18-V-2009, *M.C. Westphalen 186/09* (ICN).

Irpex lacteus Fr. (Fr.), Elench Fung. 1:145. 1828

Description in: Ryvarden & Gilbertson (1993)

Macroscopically, *Irpex lacteus* is characterized by the cream colored effused-reflexed basidiomes with irregular hymenophore, at first poroid (2-3 mm^{-1}), and latter becoming strongly split, irpicoid to hidnoid. Microscopically it presents incrusted cystidia and

generative hyphae with simple septa. On the studied area, this species was found growing on dead branches of *Baccharis uncinella* DC., what was also observed by Silveira & Guerrero (1991).

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 26-VI-2010, *M.C. Westphalen 333/10* (ICN); *M.C. Westphalen 334/10* (ICN).

Microporellus brasiliensis Ryvarden & Decock, Czech Mycol. 54(1-2): 23. 2002
Figures 1C-D, 2

Description in: Decock & Ryvarden (2002)

Microporellus brasiliensis can be easily identified by the beige to grayish, hard, stipitate to sub-stipitate basdiomes with tuberculate pileus surface. Microscopicallly, the apically incrusted fusoid to ventricose cystidia, the strongly dextrinoid vegetative hyphae and the subglobose to drop-shaped basidiospores with slightly thickened walls are diagnostic features of the species. This is the first record of the species for Rio Grande do Sul State, which was previously know only from Paraná State, where it was described (Decock & Ryvarden 2002, Meijer 2006).

Examined specimen: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 24-V-2010 *M.C. Westphalen 327/10* (ICN).

Oxyporus obducens (Pers.) Donk, Meddel. Bot. Mus. Herb. Rijhs Universit. Utrecht. 9: 202. 1933.

Description in: Robledo & Urcelay (2009)

The species is characterized by the white to cream-colored, effused-reflexed, soft basidiomes.

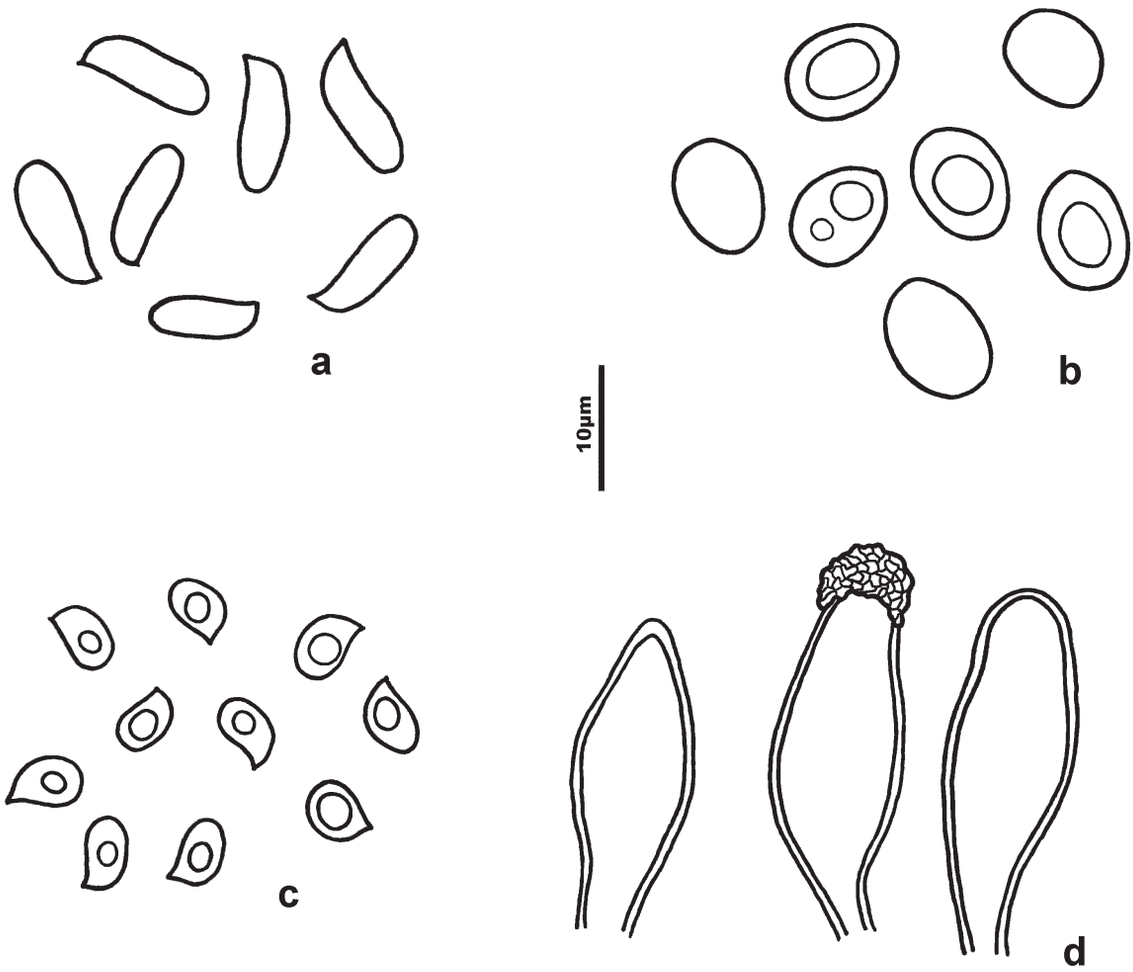

Figure 1. A. Basidiospores of *Antrodia malicola*. B. Basidiospores of *Coltricia* aff. *duportii*. C-D. *Microporellus brasiliensis*. C. Basidiospores. D. Cystidia.

Microscopically, the species can be identified by the monomitic hyphal system with simple-septate hyphae, subglobose basidiospores, thick-walled cystidia with an apical crown of crystals and the presence of chlamydospores. The pileus surface of this species is often found in the field tinged *green due to the presence of algae.*

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 24-IV-2009, *M.C. Westphalen 159/09* (ICN); 24-V-2010, *M.C. Westphalen 323/10* (ICN); *M.C. Westphalen 326/10* (ICN); CPCN Pró-Mata, 29-V-2009, *M.A. Reck 103/09* (ICN); 26-VI-2010, *M.C. Westphalen 336/10* (ICN).

Perenniporia ochroleuca (Berk.) Ryvarden, Norweg. J. Bot. 19: 143. 1972

Description in: Ryvarden & Johansen (1980)

This species can be recognized by the pileate basidiomes with cream to pale brown sulcate pileus surface, the light-colored hymenophore with relatively large pores (2-5 mm^{-1}) and the large (12-18 × 7-11 µm), truncate, strongly dextrinoid spores.

Examined specimen: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 7-V-2011, *M.C. Westphalen 341/11* (ICN).

Perenniporiella neofulva (Lloyd) Decock & Ryvarden, Mycol. Res. 107(1): 94. 2003

Description in: Decock & Ryvarden (2003)

Perenniporiella neofulva is characterized by its cream to light brown, glabrous, sulcate pileus, and small pores (5-9 mm^{-1}). Microscopically the small (up to 4 µm in diam.), weakly dextrinoid, subglobose to globose spores that often become withered and appear to be angular in dried specimens and are diagnostic features of the species.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 24-IV-2009, *M.A. Reck 040/09* (ICN)*;* CPCN Pró-Mata, 29-V-2009, *M.C. Westphalen 215/09* (ICN).

Phylloporia chrysita (Berk.) Ryvarden, Norw. Jl Bot. 19: 235. 1972.

Description in: Ryvarden (2004)

Phylloporia chrysita is easily identified by the light, spongy basidiomes, with brown upper surface and yellow hymenophore, and context with a distinct black line. Microscopically, it is characterized by monomitic hyphal system and the small, subglobose, indextrinoid spores. This species is usually found growing on living lianas.

Examined specimen: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 25-VI-2010, *Campos-Santana 266/10* (ICN).

Rigidoporus lineatus (Pers.) Ryvarden, Norw. Jl Bot. 19: 236. 1972.

Description in: Ryvarden & Johansen (1980)

This species is characterized by the effused-reflexed basidiomes with orange pore surface that become very hard after dried. Microscopically, it presents monomitic hyphal system, metuloid cystidia, often apically incrusted, and globose to subglobose basidiospores, usually with one large oil-drop. *Rigidoporus microporus* (Sw.) Overeem is a very similar species, differing only by lacking cystidia.

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 26-III-2010, *M.C. Westphalen 297/10* (ICN); Hotel Veraneio Hampel, 27-III-2010, *M.C. Westphalen 318/10* (ICN).

Skeletocutis nivea (Jungh.) Jean Keller, Persoonia 10(3): 353. 1979

Description in: Ryvarden & Gilbertson (1994)

Species recognizable by the small, white, tough basidiomes, usually effuse-reflexed and imbricate. Microscopically, it is characterized by the trimitic hyphal system, the very narrow allantoid basidiospores (0.5-1 µm wide) and the presence of hyphal pegs. This is second record of the species from Brazil. It was previously registered by Rick (1960), also from Rio Grande do Sul State, as *Poria consimilis* Rick, and later identified as *S. nivea* by Rajchenberg (1987).

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 29-V-2009, *M.A. Reck 108/09* (ICN); FLONA, 04.VI.2010, *M.A. Reck 431/10* (ICN).

Skeletocutis roseola (Rick *ex* Theiss.) Rajchenb., Nordic J. Bot. 7(5): 561. 1987.

Description in: Rajchenberg (1987)

Macroscopically, *Skeletocutis roseola* can be recognized by the thin basidiomes with vinaceous-brown hymonophore, beige to grayish tomentose pileus surface and duplex context, formed by an upper

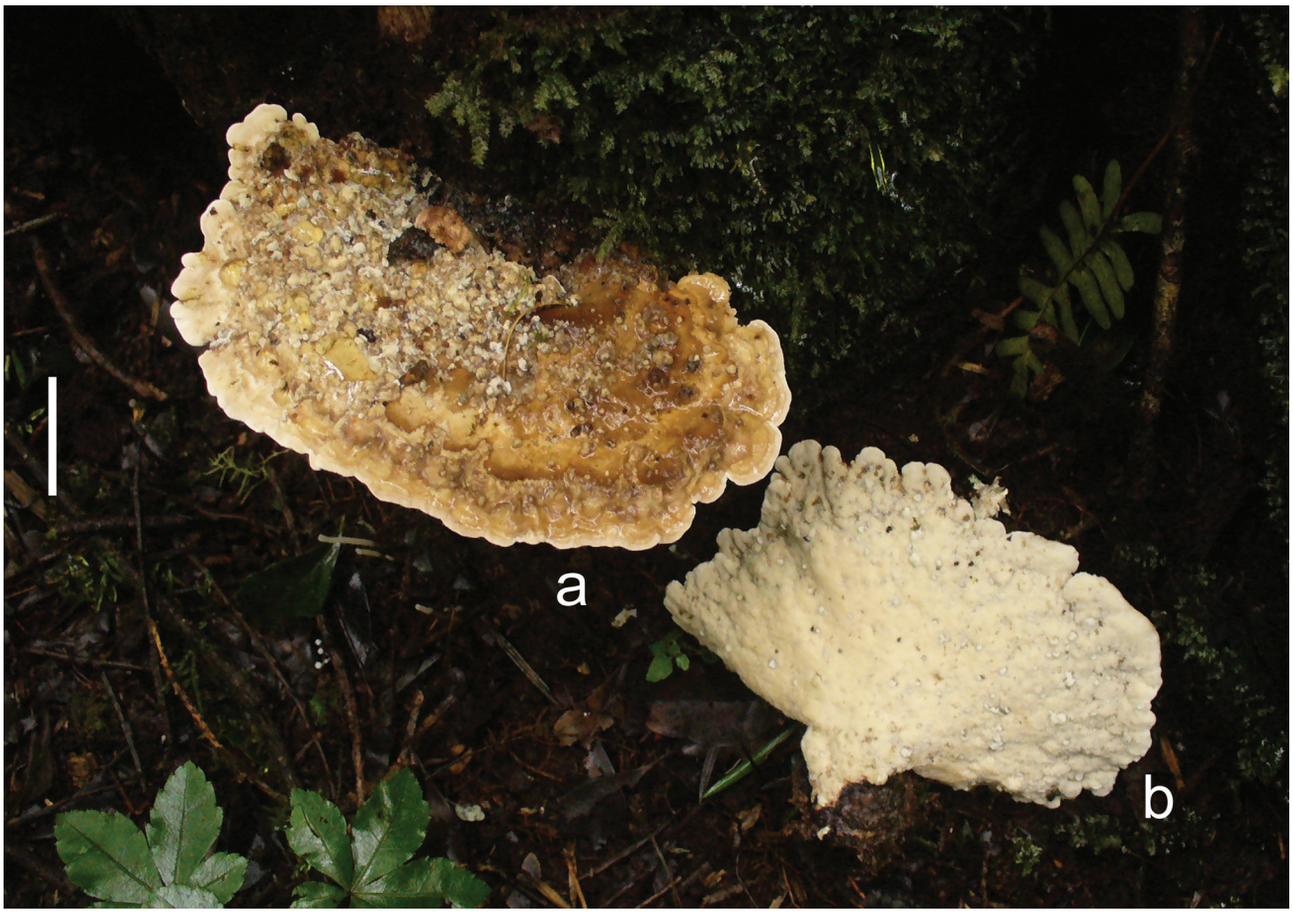

Figure 2. A-B. Basidiomes of *Microporellus brasiliensis*. A. Pileus surface. B. Pore surface. (Image by M.A. Reck). Scale bar: 2 cm.

white cottony layer and a lower brown gelatinous layer. Microscopically it is distinguished by the very narrow allantoid basidiospores (0.5-1 µm wide).

Examined specimens: BRAZIL. Rio Grande do Sul: São Francisco de Paula, FLONA, 24-IV-2009, *M.C. Westphalen 149/09* (ICN); 22-VI-2009, *M.C. Westphalen 232/09* (ICN); 24-V-2010, *M.C. Westphalen 328/10* (ICN).

Trametes hirsuta (Wulfen) Lloyd, Mycol. Writ. 7(73): 1319. 1924

Description in: Ryvarden & Gilbertson (1994)

This species can be recognized by its hirsute and zonate in shades of gray pileus surface, large pores, and the presence of a dark line in the context. *Trametes villosa* (Fr.) Kreisel is a similar species, differing in smaller and thinner basidiomes and the lack of a black line in the context.

Examined specimen: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 14-XI-2009, *M.C. Westphalen 287/09* (ICN).

Trametes versicolor (L.) Lloyd, Mycol. Writ. 6(65): 1045. 1920

Description in: Ryvarden & Johansen (1980)

Trametes versicolor is a common cosmopolitan species, being recognized mostly by its silky and tomentose pileus surface, zonate in shades of brown and gray, and by its white hymenophore. *Trametes membranacea* (Sw. *ex* Fr.) Kreisel is a similar species that can be differentiated by the lighter, cream-colored, pileus surface.

Examined specimes: BRAZIL. Rio Grande do Sul: São Francisco de Paula, CPCN Pró-Mata, 20-V-2009, *M.A. Reck 100/09* (ICN); FLONA, 22-VI-2009, *M.A. Reck 125/09* (ICN).

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