

***Ceriporia spissa* (Schwein. ex Fr.) Rajchenb. (BASIDIOMYCOTA):
FIRST RECORD FROM BRAZIL**

Gilberto Coelho^{1,2}
Mateus Reck²
Rosa Mara Borges da Silveira²
Rosa Trinidad Guerrero²

ABSTRACT

Ceriporia spissa (Schwein. ex Fr.) Rajchenb., a temperate to tropical species, is recorded for the first time in Brazil, collected in Rio Grande do Sul State. It presents simple-septate hyphae, allantoid spores and a bright orange-red color, which is rare among polypore species. A key for the so far known Brazilian species of the genus *Ceriporia* is presented.

Key words: Hapalopilaceae, Polyporales, new record, xylophilous fungi.

RESUMO

***Ceriporia spissa* (Schwein. ex Fr.) Rajchenb. (Basidiomycota): uma espécie de fungo com poros citada pela primeira vez no Brasil**

São registrados para o Brasil os primeiros espécimes de *Ceriporia spissa* (Schwein. ex Fr.) Rajchenb., uma espécie de distribuição em regiões temperadas e tropicais, a qual foi coletada no estado do Rio Grande do Sul. As principais características da espécie são: hifas com septo simples, esporos alantóides e uma coloração laranja-avermelhado brilhante, esta última incomum entre as espécies de políporos. É incluída uma chave para as espécies de *Ceriporia* conhecidas para o Brasil.

Palavras-chave: Hapalopilaceae, Polyporales, nova ocorrência, fungo xilófilo.

INTRODUCTION

Ceriporia Donk is an accepted polypore genus (RYVARDEN 1973, 1991) containing about 22 and 29 species, which has been included in the family Hapalopilaceae Jülich (Polyporales) (KIRK et al., 2001; SUHARA et al., 2003). In recent works on Brazilian polypores only four species of *Ceriporia* were found (LOGUERCIO-LEITE; GERBER, 1997; LOGUERCIO-LEITE; WRIGHT, 1991; NIETIEDT; GUERRERO, 2000; RAJCHENBERG; DE MEIJER, 1990; SILVEIRA; GUERRERO, 1991).

Several polypore studies have been made in Brazil along the last centuries by ancient or modern authors,

but the continental dimensions of the Brazilian territory and the diversity of tropical forest woody hosts allow to claim that it still remains a mycologically understudied country. More studies on the distribution and taxonomy of the polypore mycota will generate a new amount of interesting data. We present a polypore species newly recorded in Brazil in order to contribute to its knowledge and distribution.

MATERIALS AND METHODS

Basidiomes were collected in Santa Maria, RS and Parque Estadual de Itapuã, Viamão, RS; in both locations the predominant vegetation being the

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¹ Departamento de Fundamentos da Educação, CE, Universidade Federal de Santa Maria, Campus. CEP 97110-050, Santa Maria, RS, Brasil – E-mail: coelhogb@smail.ufsm.br

² Departamento de Botânica, Instituto de Biociências, UFRGS. Av. Bento Gonçalves, 9500, CEP 91501-970, Porto Alegre, RS, Brasil – E-mail: mateus_reck@yahoo.com.br

subtropical Forest making part of the rain forest domain. Macro and microscopic analysis were made with usual procedures in polypores fungi studies. Specimens' identification is according to the keys by Rajchenberg (1984) and Suhara et al. (2003). Description abbreviations are modified from Dai (1999) and Coelho (2005). All the collections are preserved at the Herbário do Departamento de Botânica of Universidade Federal do Rio Grande do Sul (ICN).

RESULTS AND DISCUSSION

Ceriporia spissa (Schwein. ex Fr.) Rajchenb.
Mycotaxon 17: 276, 1983.

Fig. 1-3

≡ *Polyporus spissus* Schwein. ex Fr., Elench. Fung., p. 111. 1828.
 ≡ *Poria spissa* (Schwein. ex Fr.) Cooke, Grevillea 14: p. 110. 1886.
 ≡ *Physisporinus spissus* (Schwein. ex Fr.) Murrill, Mycologia 34 (5): p. 595. 1942. ≡ *Meruliopsis spissa* (Schwein. ex Fr.) Parmasto, Consp. Syst. Cort., p. 103. 1968. ≡ *Caloporus spissus* (Schwein. ex Fr.) Ryvarden, Norw. J. Bot. 20: p. 9. 1973. = *Boletus juglandinus* Schwein., Schr. Naturf. Ges. Leipzig 1: p. 99. 1822. = *Polyporus cruentatus* Mont., Ann. Sci. Nat. Bot. 4, 1: p. 129. 1854. = *Poria crocipora* (Berk. & M. A. Curtis) Sacc., Syll. Fung. (Abellini) 6: p. 300. 1888. = *Polyporus crociporus* Berk. & M. A. Curtis ex M. A. Curtis, Geol. Nat. Hist. Survey N. Carol. III, p. 100. 1867. = *Polyporus laeficus* Peck, N. Y. State Mus. Ann. Rept. 38: p. 91. 1885.

Basidiocarp annual, resupinate, $70 \times 20 \times 2$ mm, fleshy and soft when fresh, membranous to papery and more firm when dried. Hymenophore poroid, watery, ceraceous to fleshy, usually with a vivid orange-red color, but also cream, reddish-cream, pink to brownish-red, darker when dried, reddish-ochre; pores round to elliptical, (5-)-6-8(-9)/mm, $P_m = 6.85$, $n = 75/2$; dissepiments smooth; margin paler than the hymenophore, whitish cream, orange, pink to pale reddish-orange, more elevated than the hymenophore, cottony, up to 2 mm wide or wider in sterile mycelial growing zones. Tube layer concolor with the hymenophore, up to 1 mm thick. Context residual, less than 0,5 mm thick, similar in coloration with the margin, paler than the tube layer.

Hyphal System monomitic, tramal generative hyphae simple-septate, branched, thin to usually thick-walled, pale-yellow to hyaline, becoming oriented in parallel, difficult to individualize, with a ferruginous coloration, (1.6-)-2.4-4(5.5) μm in diam. in the trama, $D_m = 3.3$, $n = 90/2$; contextual generative hyphae ferruginous, branched, intertwined in any direction,

some hyphae from the context can be obliterated with yellowish material, (2-)-2.4-4(-5) mm in diam., $D_m = 3.3$, $n = 91/2$, there are amorphous ferruginous crystalline bodies among hyphae.

Basidia clavate, 4-sterigmate, (8-)-9.2-12.8(-14.4) \times (2.8-)-3.2-4.4(-5.2) μm , $L_m \times W_m = 10.6 \times 3.99$, $Q = 1.80-3.78$, $Q_m = 2.70$, $n = 105/3$; basidiopores allantoid, hyaline, thin-walled, tiny, (3.2-)-3.4-4.4(-4.8) \times (1-)-1.2(-1.6) μm , $L_m \times W_m = 3.8 \times 1.26$, $Q = 2.00-4.00$, $Q_m = 3.11$, $n = 117/3$. Cystidia lacking.

Associated wood-rot and cultural studies: white (see RAJCHENBERG, 1983).

Substrate: on decayed branch of a living *Schinus terebinthifolius* Raddi (Anacardiaceae), decayed wood of *Senna multijuga* (L. C. Rich.) Irwin & Barneby (Fabaceae), and other decayed Angiosperms.

Geographic distribution: temperate to tropical. widely distributed in Europe (Canary Islands), Asia (Northern China and Japan), Oceania (New Zealand) (BERNICCHIA, 1990; BUCHANAN; RYVARDEN, 2000; CUNNINGHAM, 1965; NÚÑEZ; RYVARDEN, 2001; RYVARDEN; GILBERTSON, 1993), and the Americas (DAVID; RAJCHENBERG, 1985; LOWE, 1966; SETLIFF; RYVARDEN, 1983; RAJCHENBERG, 1984; AIME et al., 2003): North America (Canada and USA), Central America (Cuba), and South America (Colombia, Guyana, Ecuador and Argentina).

Studied materials: BRAZIL, Rio Grande do Sul, SANTA MARIA, Camobi, Campus da Universidade Federal de Santa Maria, 03.II.1998, leg. G. Coelho, **GC 127-1**, on *S. terebinthifolius*; 30.VI.1999, leg. G. Coelho, **GC 185-3**, on *S. terebinthifolius*; 27.IX.1999, leg. G. Coelho, **GC 197-2**, on *S. terebinthifolius*; 17.II.2000, leg. G. Coelho, **GC 214-1**, on *S. terebinthifolius*; 11.II.2003, leg. G. Coelho, **GC 376-1**, on *S. multijuga*; leg. G. Coelho, **GC 376-7**, on *S. multijuga*; VIAMÃO, Parque Estadual de Itapuã, 23.X.2004, leg. M. A. Reck, **MR 123**, on decayed Angiosperm.

Remarks: *Ceriporia spissa*, recorded for the first time in Brazil, is a remarkable species due to its beauty and very intense reddish orange coloration, uncommon among polypores. Some collections, however, can present pale colors (pink to pale red). The pseudo-parenchymatic trama with amorphous colored crystals is a diagnostic microscopic character.

Ceriporia purpurea (Fr.) Donk presents a colored purplish basidiome, but it differs by larger dimensions of allantoid spores and pores (species keyed below). Species of *Pycnoporus* P. Karst., a widely distributed poroid genus, also have a brilliant red-orange color and white wood-rotting ability, but they are quite different

from *C. spissa* by producing subcylindrical to cylindrical spores in a pileate basidiome with a trimitic hyphal system. Species of the genus *Pycnoporellus* Murrill are similar to *C. spissa* in their red-orange hymenophore color and monomitic hyphal system with simple-septate generative hyphae (GILBERTSON; RYVARDEN, 1987); those species, however, produce brown wood-rot and cylindrical to oblong-ellipsoid spores, further they are distributed in the North Hemisphere. Brilliant colors also can be observed in basidiomes of a small species group of *Tyromyces* P. Karst., however, they presents clamped generative hyphae in basidiomes usually pileate (RYVARDEN, 1987).

Key to the species of *Ceriporia* reported from Brazil

Adapted from Rajchenberg (1984) and Suhara et al. (2003).

- 1. Pore surface purple, orange or reddish-orange, basidiospores allantoid 2
- 1'. Pore surface white to tan, basidiospores cylindrical or ellipsoid to globose 3
- 2. Pore surface purple; basidiospores 5.5-8.5 × 1.5-2.5, pores 2-4/mm *C. purpurea* (Fr.) Donk
- 2'. Pore surface reddish-orange when fresh; basidiospores 3-6 × 1-2, pores 4-6/mm *C. spissa* (Schwein.: Fr.) Rajchenb.
- 3. Basidiospores cylindric, 5-8 × 2.5-3, pores 1-2/mm *C. mellea* (Berk. & Broome) Ryvarden
- 3'. Basidiospores ellipsoid to globose 3.5-6 × 3-5, pores 3-6/mm *C. xylostromatoides* (Berk.) Ryvarden

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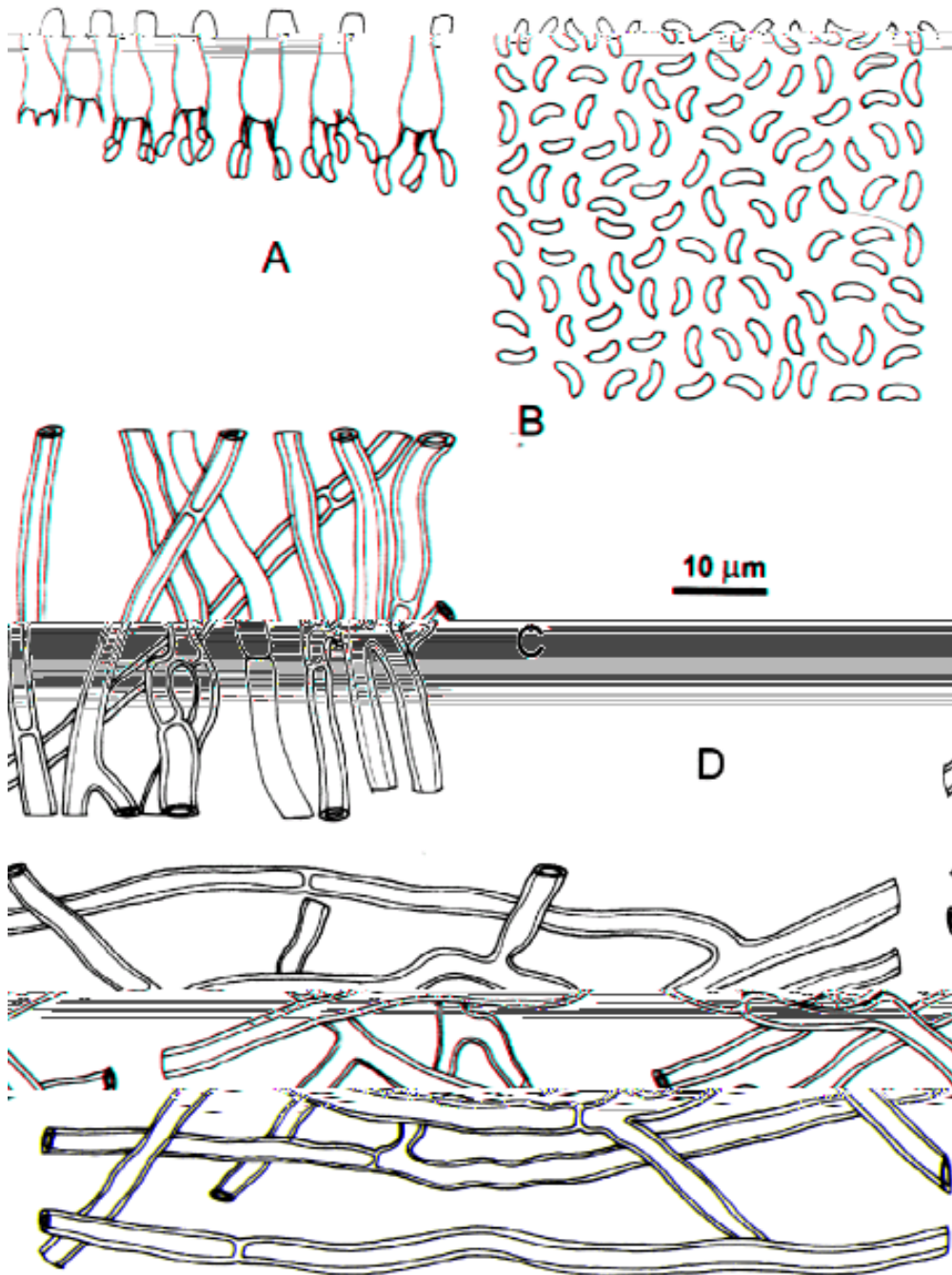


Fig. 1. Microscopic characters of *Ceriporia spissa* (Schwein. ex Fr.) Rajchenb., GC 214-1. **A.** Basidia. **B.** Basidiospores. **C.** Generative hyphae from the trama. **D.** Generative hyphae from the context.

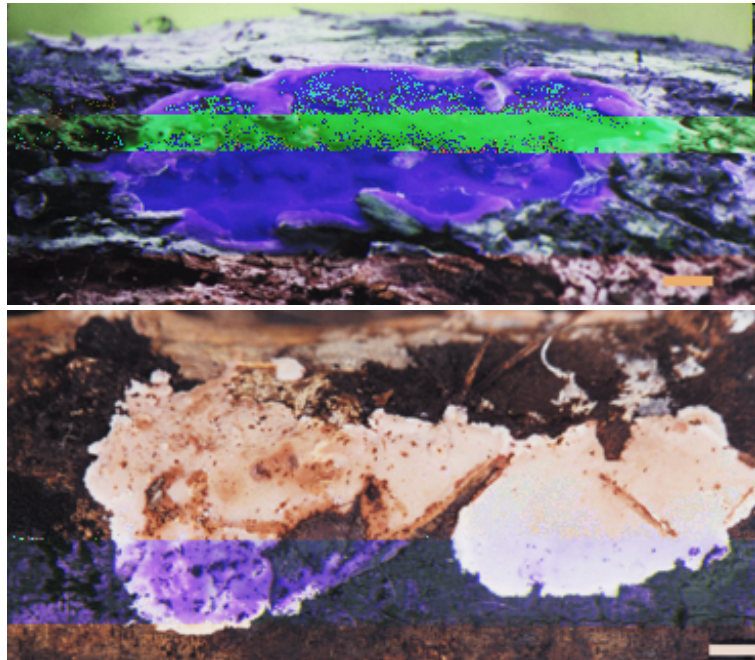


Fig. 2. *Ceriporia spissa* (Schwein. ex Fr.) Rajchenb.: **A.** Basidiome on decayed *Schinus terebinthifolius* Raddi. Scale bar = 10 mm. **B.** Basidiome on decayed *Senna multijuga* (L. C. Rich.) Irwin & Barneby. Scale bar = 20 mm.

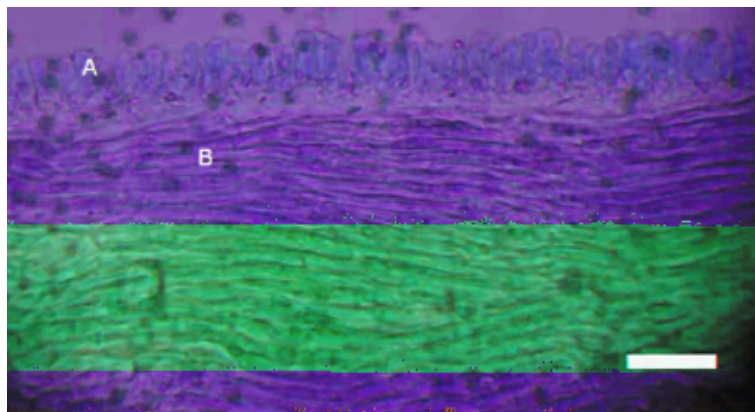


Fig. 3. *Ceriporia spissa* (Schw. ex Fr.) Rajchenb.: Pseudoparenchymatic trama, with basidioles (A) and generative hyphae with simple septa (B). Scale bar = 25 μ m.