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Phylacia cylindrica sp. nov. from Brazil

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ABSTRACT—A new species, *Phylacia cylindrica*, characterized by cylindrical stromata with constricted bases, is described from the southern region of the State of Bahia, Brazil. A key to *Phylacia* taxa found in Brazil is presented.

KEY WORDS—*Ascomycota*, Brazilian mycota, *Hypoxylaceae*, systematics

Introduction

The genus *Phylacia* Lév. was proposed by Lévillé (1845) with the type species *P. globosa* Lév. The main characteristics of the genus are carbonaceous stromata, a single layer of embedded, closely packed, elongated perithecia lacking ostioles, and a powdery spore mass (Dennis 1957). *Phylacia* is found mostly in the American tropics. Recently, this genus was transferred to *Hypoxylaceae* DC. (*Ascomycota*) as resurrected and emended by Wendt et al. (2018). Currently, nine taxa are accepted (Index Fungorum 2018), of which six have been recorded in Brazil (Pereira 2015, Speer 1980): *P. bomba* (Mont.) Pat. var. *bomba*, *P. globosa*, *P. poculiformis* (Mont.) Mont., *P. pseudohypoxylon* Speer, *P. surinamensis* (Berk. & M.A. Curtis) Dennis, and *P. turbinata* (Berk.) Dennis; the genus is represented in eleven Brazilian states (Amazonas, Bahia, Mato Grosso, Pará, Paraná, Pernambuco, Rio de Janeiro, Rio Grande do Sul, Rondônia, Roraima, and Santa Catarina). Although other genera of *Xylariaceae* in Brazil have been studied during the past decade (Pereira et al. 2008a,b, 2009, 2010; Trierveiler-Pereira et al. 2009; Yuyama et al. 2013), little research has

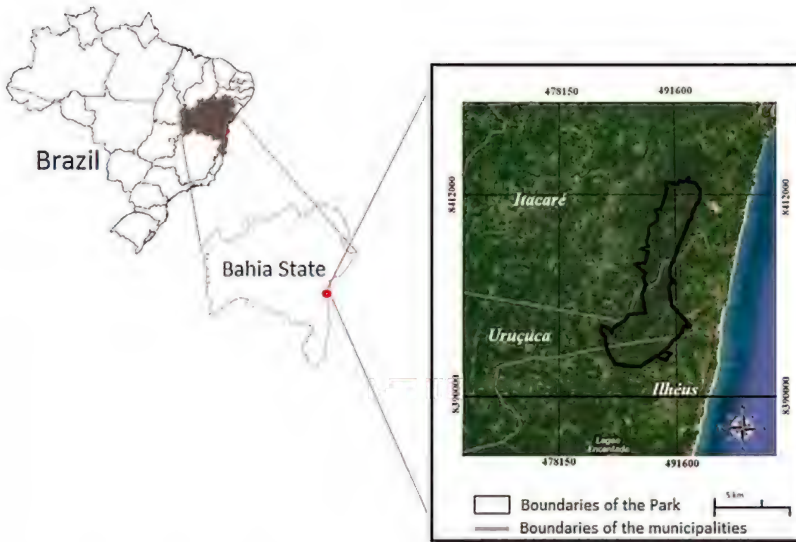


FIG 1. Geographical location of the Parque Estadual Serra do Conduru, Bahia, Brazil.

been conducted on *Phylacia* in Brazil, even though well represented in the tropics.

Below we describe a new *Phylacia* and provide a key to the seven taxa representing the genus in Brazil.

Materials & methods

In November 2012 a specimen of *Phylacia* was collected during a field trip to the Parque Estadual Serra do Conduru (PESC), a protected area of Atlantic Rainforest located in the municipalities of Ilhéus, Itacaré, and Uruçuca, State of Bahia, Brazil (FIG. 1). The specimen was analyzed according to Dennis (1957), Speer (1980), Rodrigues & Samuels (1989), and Medel et al. (2006). The holotype is deposited in the mycological collection of Herbário Centro de Pesquisas do Cacau, Ilhéus, Brazil (CEPEC) and the name registered in MycoBank. The isotype was deposited in the Tropical Fungarium (TFB) at the Universidade Estadual de Santa Cruz, Ilhéus, Brazil. A key to *Phylacia* taxa found in the Brazil is provided.

Taxonomy

Phylacia cylindrica L.T. Lacerda, J.L. Bezerra & Jad. Pereira, sp. nov. FIGS 2–5

MYCOBANK MB805788

Differs from *Phylacia pseudohyoxylon* by its cylindrical stroma with constricted base and its smaller ascospores.

TYPE: Brazil. Bahia: Uruçuca, Parque Estadual Serra do Conduru, 14°20'S 39°02'W, on dead wood, 28-XI-2012, L.T. Lacerda & J. Pereira (CEPEC 2388, **holotype**; TFB 568, **isotype**).

ETYMOLOGY: The epithet refers to the cylindrical form of the stroma.

Stromata solitary or gregarious, erumpent through bark, cylindrical, dark brown to black, 4–5 × 2–5 mm, surface smooth, carbonaceous, sessile or stipitate, base constricted, apex flat to slightly concave. KOH-extractable pigments purple vinaceous. Perithecia cylindrical, 2.5 × 0.4–0.5 mm, numerous. Asci not seen. Ascospores elliptical to sub-cylindrical, pale olive, 9.5–12.5 × 6–9.5 μm, smooth, without apparent germ slit. Perispore indehiscent in 10% KOH.



FIGS 2–6. *Phylacia cylindrica* (holotype, CEPEC 2388). 2. Stromata. 3. Stromata showing constricted base. 4. Cross section showing inside of the stroma. 5. Sub-cylindrical ascospore without apparent germ slit. *Phylacia surinamensis* (holotype, K[M] 196019). 6. Ascospore with conspicuous germ slit. Bars: 2, 3 = 5 mm; 4 = 3 mm; 5, 6 = 5 μm.

COMMENTS—Speer (1980) recorded *Phylacia pseudohyoxylon* from Ponta Grossa, Paraná State, Brazil, a species that differs from *P. cylindrica* by its subglobose sessile stromata (clavate to turbinate at maturity) and larger ascospores ($14\text{--}15 \times 4.5\text{--}5 \mu\text{m}$).

We have examined the holotype of *P. surinamensis*, deposited in Kew Fungarium (K[M] 196019) and which differs from *P. cylindrica* in the following: a) smaller stromata ($1.5\text{--}3 \times 1\text{--}3 \text{ mm}$) that are sessile (but not stipitate) with a non-constricted base; b) KOH-extractable green pigments; c) longer and narrower ascospores ($11\text{--}14 \times 4\text{--}6 \mu\text{m}$), with conspicuous germ slit seen in old ascospores (FIG. 6).

We were unfortunately unable to cultivate *P. cylindrica* on oatmeal agar, as had been done by Rodrigues & Samuels (1989) for *P. globosa*, *P. poculiformis*, and *P. bomba* var. *macrospora* K.F. Rodrigues & Samuels.

Key to *Phylacia* taxa recorded in Brazil

- 1a. Stromata sessile 2
- 1b. Stromata stipitate or pseudostipitate 4
- 2a. Stromata cylindrical, ascospores $11\text{--}14 \times 4\text{--}6 \mu\text{m}$ *P. surinamensis*
- 2b. Stromata hemispherical or subglobose 3
- 3a. Stromata hemispherical, ascospores $9\text{--}16.5 \times 4\text{--}7.2 \mu\text{m}$ *P. bomba* var. *bomba*
- 3b. Stromata subglobose, ascospores $14\text{--}15 \times 4.5\text{--}5 \mu\text{m}$ *P. pseudohyoxylon*
- 4a. Stromata pyriform, ascospores $10\text{--}15 \times 5.5\text{--}7.5 \mu\text{m}$ *P. poculiformis*
- 4b. Stromata not pyriform 5
- 5a. Stromata cylindrical with constricted base,
ascospores $9.5\text{--}12.5 \times 6\text{--}9.5 \mu\text{m}$ *P. cylindrica*
- 5b. Stromata subglobose or turbinate 6
- 6a. Stromata subglobose, ascospores $11\text{--}15 \times 7.5\text{--}9 \mu\text{m}$ *P. globosa*
- 6b. Stromata turbinate, ascospores $11\text{--}13 \times 5\text{--}6 \mu\text{m}$ *P. turbinata*

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