

REPORT OF *Xylariales* (ASCOMYCOTA) ON *Pachira glabra* IN SOUTHERN BAHIA

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The present work brings the report of *Phylacia bomba* and *Leprieuria bacillum* colonizing rotten trunks of *Pachira glabra* at the campus of Universidade Estadual de Santa Cruz, Ilhéus, Bahia.

Key words: Taxonomy, Hypoxylaceae, Xylariaceae, Castanha-do-Maranhão.

Relato de *Xylariales* (Ascomycota) sobre *Pachira glabra* no Sul da Bahia. O presente estudo traz o relato de *Phylacia bomba* e *Leprieuria bacillum* colonizando troncos de *Pachira glabra* em decomposição no Campus da Universidade Estadual de Santa Cruz, no município de Ilhéus, Bahia.

Palavras-chave: Taxonomia, Hypoxylaceae, Xylariaceae, Castanha-do-Maranhão.

Pachira glabra Pasq. (= *Bombacopsis glabra* (Pasq.) Robyns) is a nut tree of the family Malvaceae known as Castanha-do-Maranhão, Castanha-da-praia, Mamorana, Cacau-do-Maranhão, Embiruçu-da-casca-lisa (Carvalho, 2014; Duarte et al., 2007), occurring from Pernambuco to Rio Grande do Sul (Flora e Funga do Brasil, 2022). The fruits are highly consumed in some regions, and could be explored as Non-Conventional Food Plant.

Despite several reports of fungi on plants from Brazil (Mendes e Urben, 2019), there are many species with few or no report of fungal species associated with them, considering the, still, reduced number of mycologists in Brazil. The xylariaceous fungi *sensu lato*, recently reorganized in the Families Graphostromataceae, Hypoxylaceae, Lopadostomataceae and Xylariaceae (Daranagama et al., 2018; Wendt et al., 2018) are widely distributed through the Tropics, colonizing mono and dicots, whether as endophytic, saprobes or pathogens. Despite that fact, the knowledge of xylariaceous species known are not homogeneous in Brazil, some

regions such as Northeast they are so far not well known. Hence, the present work brings the report of *Phylacia bomba* (Hypoxylaceae) and *Leprieuria bacillum* (Xylariaceae) colonizing *P. glabra*, contributing to the knowledge of xylariaceous fungi and their hosts in southern Bahia.

The trunks of *P. glabra* were found in the campus of Universidade Estadual de Santa Cruz, Ilhéus, Bahia (14°47'48" S 39°10'19" W). Samples were collected and taken to Phytopathology and Nematology Laboratory, dehydrated for 24 h at 50° C and deposited at the TFB/UESC collection. Macro photographs were taken with a Canon Rebel T7 equipped with 18-55 mm lens and microphotographs directly in a Leica DM500 equipped with ICC500 W camera connected into a laptop and processed with LEICA LAS EZ 3.4 software (Leica Microsystems, gmbH). Ascospores were measured with Piximetre 5.10 (<http://ach.log.free.fr/Piximetre/>).

Phylacia bomba (Mont.) Pat. in Duss, Crypt. des Antilles, Champ. 74. 1903. (Figure 1).

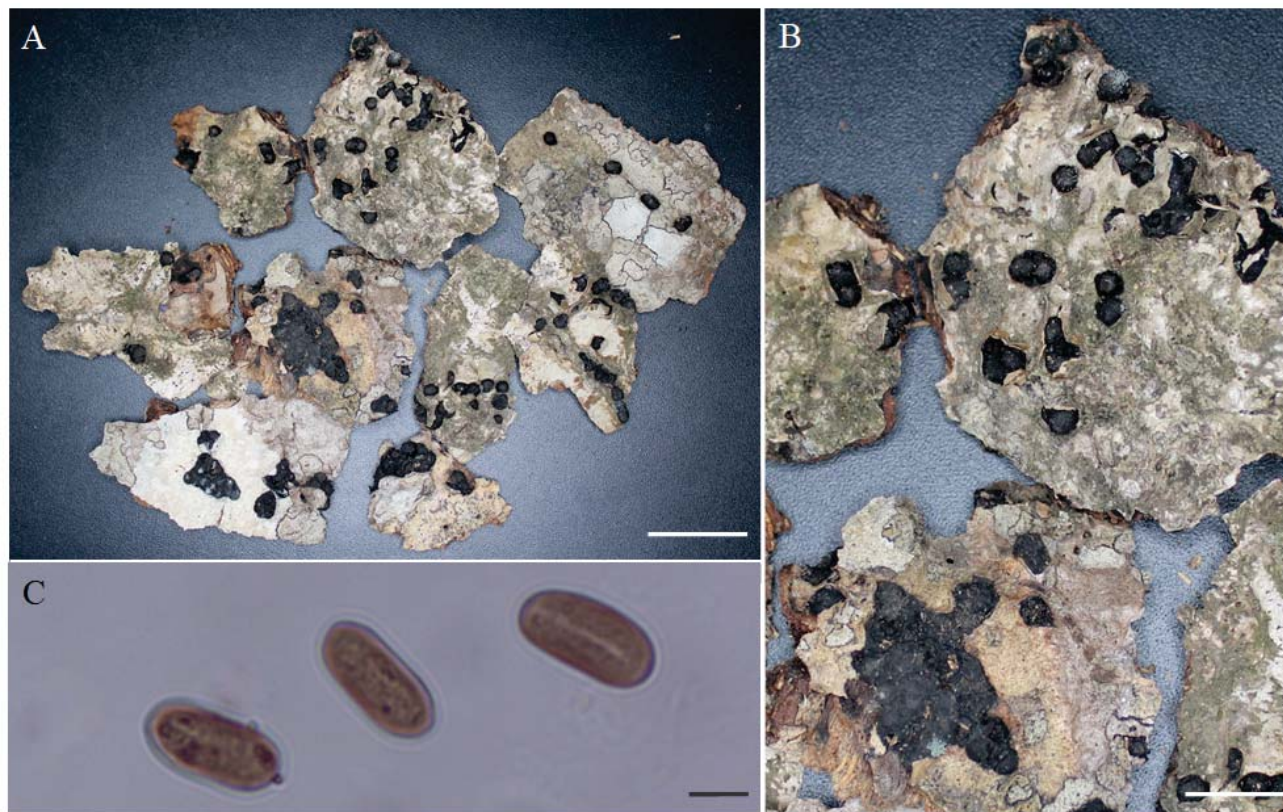


Figure 1. *Phylacia bomba*. A: stromata; B: maximized view of stromata. C: ascospores. Germ slit (right). Scale: A = 5 cm; B = 5 mm; C = 10 μ m.

≡ *Hypoxylon bomba* Montagne in Sagra, Flora Cubana 1 208. 1803.

≡ *Camillea bomba* (Mont.) Lloyd, Mycological Notes 5, Large Pyrenomyc. 8. 1917.

≡ *Phylacia bomba* var. *bomba* (Mont.) Pat., in Duss, Enum. Champ. Guadeloupe (Lons-le-Saunier): 74 (1903).

≡ *Phylacia bomba* var. *macrospora* K.F. Rodrigues & Samuels, Mem. N. Y. Bot. Gdn 49: 293 (1989).

Stromata: solitary or gregarious, erumpent, sessile, subglobose to hemispherical, 0.3–0.9 mm diam, surface black, carbonaceous, without ostioles in young ascomata, opening a large hole at the top when mature and exposing the ascospore mass inside. Individual perithecia not observed.

Asci: damaged. Ascospores: brownish, oblong, broadly rounded ends, (9-) 13-18 (-19) × (5-) 6-8.5 μm, straight germ slit less than spore-length, usually inconspicuous.

Material examined: BRAZIL. Bahia: Ilhéus, Universidade Estadual de Santa Cruz, on Rotten trunk of *Pachira glabra*, 04.VII.2021, leg. C. Silva, det. C. Silva & Jad Pereira.

Comments: *Phylacia bomba* were previously collected in Bahia by Dr. José Luís Bezerra back in 2006 in the RPPN Serra Bonita, Camacan, then again by Silva et al. (2020) in a cocoa plantation in the campus of UESC. There are two varieties of *Phylacia bomba*: var. *bomba*, whose spores measure 8-14 μm, and var. *macrospora*, presenting spores 13-18 μm (this study; see Rodrigues & Samuels, 1989), with the

present study bringing the first report of the latter to Northeast. The genus *Phylacia*, in contrast to the other genera of Hypoxylaceae, presents two unusual morphological aspects: (i) cleistothecial ascomata, instead of the typical perithecia, lacking an ostiole and opening a large hole at the top when mature; and (ii) subglobose instead of the typical cylindrical ascus.

Leprieuria bacillum (Mont.) Laessoe, J.D. Rogers & Whalley, Mycol. Res. 93(2): 153 (1989). (Figure 2).

≡ *Camillea bacillum* (Mont.) Mont., Syll. gen. sp. crypt. (Paris): 207 (1856)

≡ *Hypoxylon bacillum* (Mont.) Mont., Fl. Cubana 1: 210 (1853)

≡ *Numulariola bacillum* (Mont.) P.M.D. Martin, Jl S. Afr. Bot. 42(1): 76 (1976)

≡ *Thamnomycetes bacillum* (Mont.), Annls Sci. Nat., Bot., sér. 2 8: 358 (1837).

Stromata: erect, cylindrical to slightly compressed laterally, erumpent, 3-8 × 0.5-0.7 mm, raising from a discoid base, larger than the stromata diameter, surface carbonaceous, grayish-brown to black, apex round to convex, 3-8 umbilicate ostioles.

Perithecia: lanceolate, 0.8-1.2 × 0.5-0.6 mm, enclosed in a carbonaceous entostroma, which becomes fibrous towards the base of the stroma. Asci: deliquesced. Ascospores: brown, reniform, 6-8 × 3-4 μm, straight germ slit less than spore-length, surface smooth.

Material examined: BRAZIL. Bahia: Ilhéus, Universidade Estadual de Santa Cruz, on Rotten trunk

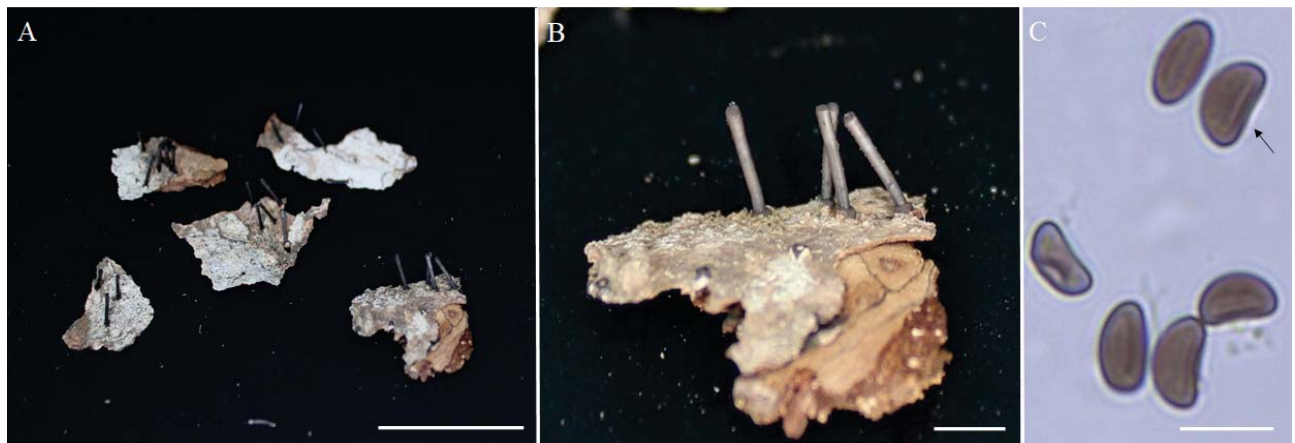


Figure 2. *Leprieuria bacillum*. A: stromata; B: maximized view of stromata; C: ascospores (arrow=germ slit). Scale: A= 1 cm; B= 1 mm; C= 10 μm.

of *Pachira glabra*, 04.VII.2021, leg. C. Silva, det. C. Silva & Jad Pereira.

Comments: previously reported in Bahia by Vital and Buck in 1991, and Dr. Bezerra in 2008 (Specieslink, 2022), as well as Lacerda (2014), even though the host(s) was/were not mentioned, which usually happens due to the condition of substrate when specimens were collected. *Leprieuria bacillum* is the only known species of this genus so far, albeit this species shares morphological similarities with the monotypic genus *Poroleprieuria* (see González et al., 2004), which was most recently considered as the same genus by Daranagama et al. (2018). Nevertheless, there is no molecular data to support this amendment.

Except for the study of Silva (2009) no reports of fungi colonizing *P. glabra* in Brazil, nevertheless, information for other species of the genus *Pachira* can be found: *P. aquatica* Aubl.: *Cercospora pachirae* Chupp & A.S. Mull., *Colletotrichum gloeosporioides* (Penz.) Penz. & Sacc., *Colletotrichum* sp. Corda e *Phaeoramularia* sp. Munt. Cvetk; *P. insignis* Savign.: *C. pachirae* (Mendes e Urben, 2022). Even with the lack of reports, fungal species such as *C. gloeosporioides*, a generalist pathogen, probably might occur on *P. glabra*. It's not clear if *Ph. Bomba* and *L. bacillum* were the causal agents of *P. glabra* decline or both species are acting as saprobes, considering that some species of xylariaceous fungi are known as weak or severe pathogens of ornamental and economically important plants (Patejuk et al., 2021; Vujanovic et al., 2020; Edwards et al., 2003).

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