

New record of *Porobeltraniella porosa* (Piroz. & S.D. Patil) Gusmão, 2004 (Fungi: asexual Ascomycota) for South America

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ABSTRACT: *Porobeltraniella porosa* (Piroz. & S.D. Patil) Gusmão is an asexual fungus colonizing leaf litter. Previously known for India, from where it was described, and for Australia and Mexico, now it has been collected for the first time in Brazil, in Ribeirão Preto county, São Paulo State. The characteristics of the Brazilian material are given here and its geographical distribution is expanded to South America.

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The genus *Porobeltraniella* was erected by Gusmão to accommodate two species previously described in the genus *Beltraniella* (Gusmão 2004). The type species is *Porobeltraniella porosa* (Piroz. & S.D. Patil) Gusmão based on *Beltraniella porosa* Piroz. & S.D. Patil described from plant debris collected in India (Pirozynski and Patil 1970; Gusmão 2004). *Porobeltraniella* belongs to the *Beltrania* group (asexual Ascomycota), with morphological features such as setae or conidiophores arising from radially lobed basal cells, separating cells present or absent, production of biconic or turbinate conidia and the presence of a hyaline transverse band at the widest part of the conidia (Pirozynski 1963; Kendrick 1980). We want to point out that Kendrick (1980) had asserted that *B. porosa* could be another genus due to the presence of pores instead of a band on the conidia, which was realized only in 2004 by Gusmão (2004). Nowadays, two species comprise the genus: *Porobeltraniella patilii* (K.G. Karand. & Patw.) Gusmão, and *P. porosa* (Karandikar and Patwardhan 1992; Gusmão 2004; Index Fungorum 2013). These species are characteristic of leaf litter, acting as decomposers and probably have no host specificity. During a survey of asexual Ascomycota colonizing leaf litter in different vegetation areas of São Paulo State, Brazil, a specimen of *P. porosa* was collected. The material represents the first record of this species for South America.

Samples of indeterminate leaf litter were collected in a fragment of disturbed forest and taken to the laboratory. The plant materials were washed with sterile water and incubated in moist chambers (Petri dishes with 9 cm diam.). Periodically, the reproductive structures of fungi were taken, placed in polyvinyl alcohol resin to make permanent slides (Trappe & Schenck 1982). The slides were deposited at Herbarium of Instituto de Botânica (SP). Collecting in the preserved areas of São Paulo State was authorized by COTEC/ Instituto Florestal (SMA 9612008).

Porobeltraniella porosa (Piroz. & S.D. Patil) Gusmão, *Mycologia* 96(1): 151 (2004).
= *Beltraniella porosa* Piroz. & S.D. Patil, *Can. J. Bot.* 48(3): 573 (1970).
(Figure 1A–E)

Conidiophores setiforms arising from radially lobed basal cells, erect, septate, smooth, with or without ramifications, with conidiogenous cells near the septa, pale brown, up to $250 \times 3.0\text{--}5.0 \mu\text{m}$; lobed basal cells $7.5\text{--}8.7 \mu\text{m}$ wide. Ramifications arising from conidiogenous cells or from setiforme conidiophores always near the septa, septate, smooth, pale brown with apical part thin-walled, gradually narrowing and subhyaline, $2.5\text{--}3.0 \mu\text{m}$ wide near the base. **Conidiogenous cells** continuous, broadly ellipsoid or ovoid, in verticils, smooth, denticulate, sympodial extension, polyblastic, pale brown or subhyaline, $5.0\text{--}10.0 \times 3.7\text{--}5.0 \mu\text{m}$. **Separating cells** arising from conidiogenous cells, continuous, smooth, ellipsoid, thin-walled, denticulate at ends, subhyaline, originating a conidium, rarely observed, $9.6\text{--}11.5 \times 3.8\text{--}4.8 \mu\text{m}$. **Conidia** turbinate, continuous, smooth, proximal end rostrate, distal end truncate, pale brown and sometimes with black wall appearance mainly in the apical part and sides; conidia with typical subhyaline circular pores arranged transversely around the widest part, $17.5\text{--}27.5 \times 5.0\text{--}7.5 \mu\text{m}$, secession schizolytic.

Teleomorph: unknown

Material examined: BRAZIL, São Paulo, Ribeirão Preto, São Paulo University, Campus of Ribeirão Preto, disturbed forest area, on indeterminate leaf litter ($21^{\circ}9'12''$ S, $47^{\circ}51'47.8''$ W, 652 m a.s.l.), 6-VI-2008, P. Silva (SP445825).

Geographical distribution: India: Maharashtra, Poona, on *Diospyros embryopteris* Pers. (as *B. porosa*, holotype—DAOM 128105, isotypes on IMI and K); Khandala, on *Gnetum ula* Brongn. (as *B. porosa*, DAOM 128333) (Pirozynski and Patil 1970). Australia: Queensland, on indeterminate dead

leaves (as *B. porosa*, IMI 228276) (Sutton 1980). Mexico: Tabasco, on indeterminate plant in decomposition (CB 1374) (Becerra-Hernández *et al.* 2011).

In general, the Brazilian specimen is similar to the type described on *Diospyros embryopteris* and *Gnetum ula* from India but with smaller measurements than the latter and seems more delicate (Pirozynski and Patil 1970). We observed that ramifications of the conidiophores usually break free. We think that conidiogenous cells in verticils can be found in the two published species, *P. patilii* and *P. porosa*, but the presence of separating cells and smooth conidia are typical and differentiate *P. porosa* from *P. patilii* (Gusmão 2004). Becerra-Hernández *et al.* (2011) described *P. porosa* from Mexico but the description showed some discrepancies or mistakes such as conidiogenous cells and separating cells integrated, and smooth or verrucose conidia in the same specimen. These features are not present in the protologue of *P. porosa*. Recently, the Indian material (holotype) was analyzed and measured again for a doctoral thesis on the *Beltrania* group and the specimen described here is in accordance with the morphological variations and illustrations of *P. porosa* (Cruz, personal communication, 2013). Thus, if the occurrence in Mexico is correct, this is the fourth record of the species for the world and the first for South America.

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FIGURE 1. *Porobeltraniella porosa* (SP445825). A: General aspects of setiforme conidiophores. B: Conidiogenous cells (arrow) in verticil. C: Ramification of conidiophores originating from conidiogenous cell. D: Conidia and one of them with attached separating cell (arrow). E: Conidia with typical pores.

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