



Short Communication / Nota Científica

On the occurrence of *Lejeunea pulverulenta* (Marchantiophyta, Lejeuneaceae) in Brazil

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Abstract

Lejeunea pulverulenta is recorded for the first time to the Northeast of Brazil. The specimen was collected in Serra Bonita, Municipality of Camacan, southern Bahia, Brazil. Herein the species is described and illustrated.

Key words: Atlantic Forest, floristic, Liverworts, Porellales.

Resumo

Lejeunea pulverulenta está sendo reportada pela primeira vez para o Nordeste do Brasil. Os espécimes foram coletados na Serra Bonita, Município de Camacan, sul da Bahia, Brasil. Descrição e ilustração são apresentadas para a espécie.

Palavras-chave: Floresta Atlântica, florística, Hepáticas, Porellales.

Lejeunea Lib. is the largest genus of the family Lejeuneaceae, with more than 300 recognized species (Heinrichs *et al.* 2013), and is distributed worldwide. In Brazil, the genus is represented by 40 species (Costa & Peralta 2015); however, a new species, *Lejeunea combuensis* O.S. Moura, Ilk.-Borg. & M.E. Reiner, was recently described for the state of Pará (Moura *et al.* 2012). Ilkiu-Borges (2000) and Bastos (2004) published the first treatments of the family Lejeuneaceae for the states of Pará and Bahia, respectively, while Bastos & Yano (2009) performed the first treatment of the genus *Lejeunea* for the state of Bahia, describing 21 species.

Lejeunea is a complex genus, and the identification of most of its species depends on characteristics of the perianth. However, the genus can be recognized by the combination of the following characters: (a) *Lejeunea*-type vegetative branches; (b) innovation with lejeunoid sequence; (c) first tooth of lobule prominent, with hyaline papilla located at its proximal base; (d) *Jungermannia*-type or *Massula*-type oil bodies;

(e) generally bifid, rarely entire underleaves; and (f) perianth 5-keeled or smooth. According to Heinrichs *et al.* (2013), the center of diversity for the genus is the humid tropics, but it also inhabits temperate zones.

During studies that resulted from the project “Briófitas do corredor central da floresta atlântica brasileira: de onde partimos, para onde vamos?” (“Bryophytes of the central corridor of the Brazilian Atlantic Forest: where do we begin, where are we going?”) coordinated by the last author, *Lejeunea pulverulenta* (Gottsche *ex* Steph.) E. Reiner, a rare species cited for Brazil but without locality and known to occur in Guadeloupe, Ecuador and Guiana (Reiner-Drehwald 2005), was encountered. Thus, the distribution of this species in Brazil is not known. Thus, the objective of this work is to report the occurrence of this species in state of Bahia, Northeastern Brazil.

Material was collected in Serra Bonita, Municipality of Camacan, the extreme south of the state of Bahia, Brazil (15°23’S, 39°33’W), covering an area equivalent to 7,500 hectares.

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Located in the central portion of Serra Bonita is the Reserva Particular do Patrimônio Natural (RPPN) Serra Bonita, which possesses 2,000 hectares of protected area at altitudes from 300 to 1,080 m (Amorim *et al.* 2009) within the Atlantic Forest Domain, specifically the Central Atlantic Forest Corridor.

Lejeunea pulverulenta (Gottsche *ex* Steph.) E. Reiner, *Cryptogamie, Bryologie* 26(1): 60. 2005. \equiv *Taxilejeunea pulverulenta* Gottsche *ex* Steph., *Sp. Hepat.* 5: 477. 1913.
Type: WINDWARD ISLANDS, GAUDELOUPE. *L'Herminier s.n.* (lectotype G 52572, designated by Reiner-Drehwald 2005). Fig. 1a-f

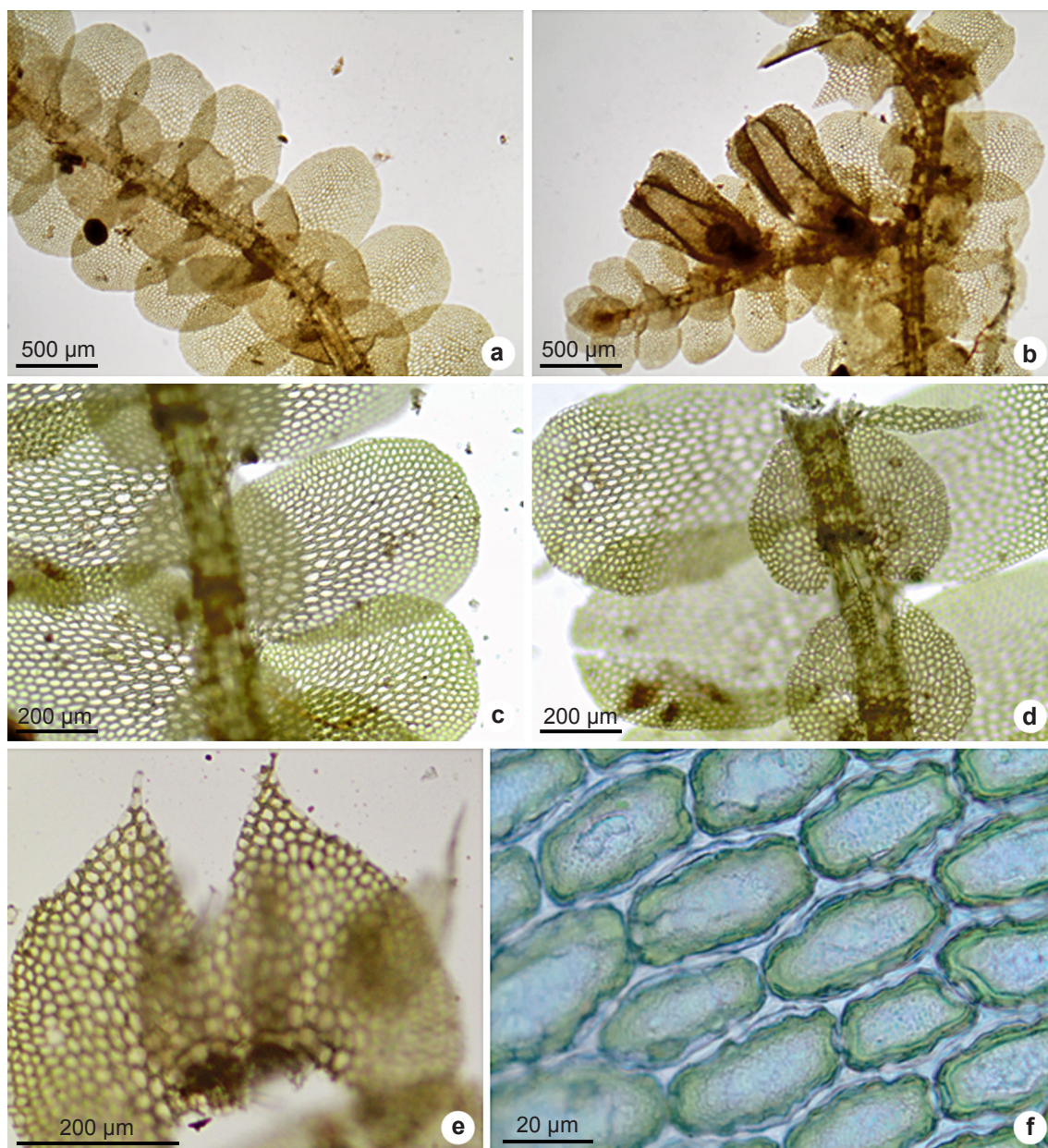


Figure 1 – *Lejeunea pulverulenta* – a. gametophyte, ventral view; b. gametophyte with perianths, ventral view; c-d. detail of gametophyte in ventral view, showing the underleaves; e. underleaf; f. laminar cells (all figures from J.P.S.Batista 74).

Plants robust, 1.2–1.4 mm wide, vegetative branches *Lejeunea*-type. Stem 100 µm wide, in cross-section 7 cortical cells and 21 medullary cells; ventral merophytes two cells wide. Leaves spreading, imbricate; lobe oblong, 650–750 µm long × 475–575 µm wide, dorsal margin slightly arched, entire, ventral margin slightly arched, entire, apex rounded to acute; median cells oblong, 38–55 µm de long × 23–30 µm wide, thin-walled, papillose, trigones large, intermediate thickenings nodulose, cells toward the leaf margin oblong to hexagonal, 20–25 µm long × 15–20 µm wide, perpendicular to the larger, central cells, strongly papillose surface; oil bodies not seen; ocelli absent; lobule small, ovate, 100–120 µm long × 80–100 µm wide, free margin involute, apical tooth oblong, slightly curved, hyaline papilla at proximal base of apical tooth, keel straight to slightly arched. Underleaves large, ovate to suborbicular, imbricate, 400–600 µm long × 430–640 µm wide, bifid to 1/2, lobes acute to cuspidate, sinus acute, base auriculate, insertion line arched. Autoicous. Androecia terminal or short lateral branches, 2–5 pairs, bracteole at the base of branch. Gynoecium terminal on short lateral branches, innovation lejeuneoid-type, innovation usually fertile and then 1–3 or more gynoecium in a row per branch, female bract lobe ovate to obovate, margin entire, apex rounded to acute, lobule oblong-obovate, apex acute to rounded; bracteole bifid to short bifid, oblong-ovate; perianth obovate, 5-keeled, lateral keels expanded above, irregularly ornamented with teeth and small cilia, beak short, two cells long.

Material examined: BRAZIL. BAHIA: Camacan, Serra Bonita, Trilha das Bromélias, 24.II.2015, *Mércia P.P. Silva 977* (ALCB); Trilha da Bapeba, 15°23'35.2"S, 39°33'34"W, 25.II.2015, *J.P.S. Batista 74* (ALCB).

Lejeunea pulverulenta is characterized by leaf lobe with rounded apex, and sharp border of 5–6 rows of smaller marginal cells perpendicular to the larger, central cells, cells with trigones and strongly papillose surface, underleaves imbricate with auriculate bases and acute lobes, perianth with keels irregularly ornamented with teeth and small cilia. *Lejeunea pulverulenta* is morphologically closely related to *Lejeunea controversa* Gottsche, but differing by following characters: (a) leaf lobe apex entire (occasionally with few teeth on dorsal margin near the apex in *L. controversa*); (b) leaf lobe apex widely rounded (subacute to apiculate in *L. controversa*); (c) underleaf base auriculate (rounded in *L. controversa*) (fide Reiner-Drehwald 2005).

Lejeunea pulverulenta is known from Guadeloupe, Ecuador and Guiana. It was cited for Brazil but without locality. The specimen was found growing on the trunk of a live tree.

Lejeunea pulverulenta was initially described as *Taxilejeunea pulverulenta* Gottsche ex Steph., and subsequently transferred to the genus *Lejeunea* by Reiner-Drehwald (2005). According to Reiner-Drehwald (2005), *Taxilejeunea pulverulenta* was described based on plants from Guadeloupe and Brazil, however, this author does not indicate the geographic distribution of any locality of occurrence of this species in Brazil, and only refers to Monte Roraima (Mount Roraima), but in Guiana. Stephani (1914) also reported the occurrence of *L. pulverulenta* in Brazil but without indicating the locality (*Brasilia orientalis*). Thus, here we report for the first time a precise locality of occurrence of this species in Brazil. However, this restricted distribution in Brazil may be due to insufficient collection or to the difficult of identifying the species. Examination of several herbarium collections or the implementation of greater collection effort may reveal a wider distribution of the *L. pulverulenta* in Brazil, or even in the neotropics.

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