

A new *Lepraria* from Brazil

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ABSTRACT – (A new *Lepraria* from Brazil). *Lepraria brasiliensis* is described from Minas Gerais, Brazil. It is mainly characterized by the presence of thamnolic acid and atranorin as chemical constituents.

Key words: atranorin, Brazil, *Lepraria brasiliensis*, thamnolic acid

RESUMO – (Uma nova *Lepraria* do Brasil). *Lepraria brasiliensis* é uma espécie nova encontrada em Minas Gerais, Brasil, caracterizada pela presença de ácido taminólico e atranorina como constituintes químicos principais.

Palavras-chave: atranorina, ácido taminólico, Brasil, *Lepraria brasiliensis*

Introduction

In a recent review of the lichen genus *Lepraria* in South America (Flakus & Kukwa 2007), 19 species were recorded for the continent but none are known to contain thamnolic acid. Here we report *Lepraria brasiliensis*, a new South American *Lepraria* which contains thamnolic acid and atranorin.

Material and methods

The material studied is deposited in SP and BG. The morphology was examined using a Zeiss Stemi 2000C stereo microscope, and a Zeiss Axiolab compound microscope. Chemical constituents were identified by thin layer chromatography (Elix & Ernst-Russell 1993) and high performance liquid chromatography (Elix *et al.* 2003).

Results

Lepraria brasiliensis Elix, Spielmann & Øvstedal, sp. nov.

Figures 1-2

Thallus leprosus, non stratosus, granulis 20–28 µm diam., albus vel virido-cinereus, ad margines

non lobatus; atranorinam, acidum thamnolicum, acidum decarboxythamnolicum, et acidum incognitum continens.

Type: BRAZIL. MINAS GERAIS: Catas altas, Parque Natural do Caraça, trilha entre a Ponte do Bode e o campo de futebol, 20 06'06.0"S, 43 29'12.9"W, A.A. Spielmann, L. S. Canez & M. P. Marcelli, 2345 – IV - 2006, alt. 1265 m, em tronco de *Eucalyptus*, mata aberta (holotypus SP, isotypus BG)

Thallus grey-green, leprose, up to 10 cm wide, thin, with a somewhat uneven distribution of soredia, in some parts with a thin white hypothallus. Margin diffuse, lobes, sublobes and medulla absent. Soredia relatively fine, 20–28 µm diam., ±roundish, forming an uneven continuous layer, consoredia absent, with a few projecting hyphae. Hyphae smooth, 0.7–0.9 µm thick. Photobiont a unicellular green alga, algal cells 10–12 µm wide.

Chemistry: thallus K+ bright yellow, C–, KC–, P+ yellow-orange; thamnolic acid (major), decarboxythamnolic acid (minor), atranorin (minor), unknown (trace); fatty acids absent.

Habitat: *Lepraria brasiliensis* was found growing on a *Eucalyptus* trunk, in a humid location with diffuse light near a stream (Figure 2). *Eucalyptus* is an

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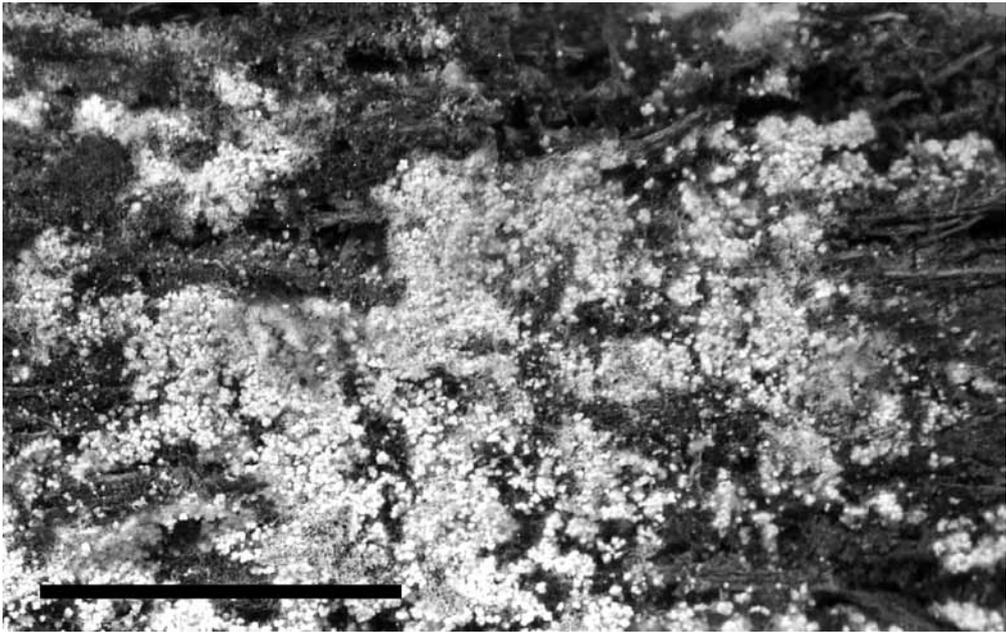


Figure 1. *Lepraria brasiliensis*. Holotype. Scale bar = 5 mm.



Figure 2. *Lepraria brasiliensis* (gray patches on the trunk) on type locality.

introduced genus, but the general ecology is typical for Brazilian, montane riparian forests.

Discussion

This new species resembles both *Lepraria umbricola* Tønsberg and *L. nylanderiana* Kummerl. & Leuckert, as these species typically have thin, grey-green thalli with fine soredia (20–30 µm diam.) and contain thamnolic acid. In well developed specimens *L. nylanderiana* is reported to have sublobes and a conspicuous greyish hypothallus (Leuckert *et al.* 1995), but these characters were not evident in the specimens that we have examined (material from SW Europe, determined by T. Tønsberg). *Lepraria umbricola* on the other hand, usually has a thicker thallus and a tendency to become ochre-coloured in the herbarium, but these are not reliable characters (material from northern Europe in BG and determined by T. Tønsberg). The only reliable character appears to be the chemistry, with *L. umbricola* containing thamnolic acid and decarboxythamnolic acid (trace), and *L. nylanderiana* containing thamnolic acid, roccellic acid, decarboxythamnolic acid (trace) and atranorin (± trace). *Lepraria brasiliensis* contains thamnolic acid (major), decarboxythamnolic acid (minor), atranorin (minor) and traces of an unknown compound.

Two other recently described species of *Lepraria* from Thailand also contain thamnolic acid, viz. *L. aurescens* Orange & Wolseley and *L. pulchra* Orange & Wolseley (Orange & Wolseley 2005). Both of these species lack atranorin, and in addition *L. pulchra* has a medulla and lobes, while *L. aurescens* has larger soredia (40–100 µm) and a prominent brown hypothallus.

It is interesting to find a new species in a well-studied locality like Caraça, as Vainio (1890a,b) thoroughly investigated this region for his doctoral thesis, and during a recent meeting of the “Grupo Latino Americano de Liquenólogos” (GLAL-3) lichens were recollected in this area (Marcelli & Seaward 1998). This no doubt reflects the high lichen diversity in this region of Brazil.

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