



***Corniculariella brasiliensis*, a new species of coelomycetes in the rhizosphere of *Caesalpinia echinata* (Fabaceae, Caesalpinioideae) in Brazil**

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Abstract

Corniculariella brasiliensis sp. nov. is proposed here as a new species of coelomycetes, based on material isolated from the rhizosphere of *Caesalpinia echinata*. *Corniculariella brasiliensis* differs from other congeneric species mainly by the shape and size of the conidia. The phylogenetic relationship between *Corniculariella* and related genera is discussed.

Keywords: phylogeny, anamorphic fungi, ITS, taxonomy, Brazil wood

Introduction

Caesalpinia echinata (Lamarck 1785: 461) (Fabaceae, Caesalpinioideae) is a Brazilian endemic plant species that grows exclusively in Brazilian Atlantic Rain Forest (Lorenzi 1992, Carvalho 1994). It was known by Portuguese colonists as “pau brasil” (Brazil wood), from which the name of its country of origin (Brazil) is derived. This species is included in the Red List of Threatened Species (IUCN 2013), because over the centuries following its discovery an important red pigment was extracted from the wood for use as a fabric dye (Aguiar and Pinho 2007). The wood is extremely valuable for manufacture of highly prized bows for stringed instruments (Rizzini 1971). In addition, the plant is extremely important for conservation of Brazilian biodiversity.

The genus *Corniculariella* (Karsten 1884: 57) was described by Karsten with *C. abietes* as the type species. DiCosmo (1978) revised the genus and accepted seven taxa: *C. abietes* P. Karst., *C. harpographoidea* Dearn. ex DiCosmo, *C. hystricina* (Ellis) DiCosmo, *C. populi* DiCosmo, *C. pseudotsugae* (W.L. White) DiCosmo, *C. spina* (Berk. & Ravenel) DiCosmo and *C. urceola* (Höhn.) DiCosmo. The most recently described *Corniculariella* species was *C. queenslandica* B. Sutton, from Australia (Sutton 1991). Therefore, *Corniculariella* presently comprises eight recorded species (<http://www.indexfungorum.org>; accessed 7 February 2014) and previously no DNA sequences of *Corniculariella* spp. were available in public databases, making difficult to determine the phylogenetic position of the genus.

The aim of this study was to describe, illustrate, and analyze the phylogenetic relationships of a new species of *Cornulariella* isolated from the *Caesalpinia echinata* rhizosphere.

Materials and methods

Sampling sites

Samples from the *Caesalpinia echinata* rhizosphere were collected from a protected fragment of the Atlantic Rain Forest in São Lourenço da Mata municipality, Pernambuco, Brazil (Estação Ecológica do Tapacurá; 08°02' S, 35°13' W). Soil was collected at six random sites (50 m distant from each other) during the rainy season (June and August

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