Occurrence of Aulonemia deflexa (Poaceae: Bambusoideae) in Brazil

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ABSTRACT

Aulonemia Goudot is a genus of woody Neotropical bamboo comprising 36 described species. Fifteen of these are considered endemic in Brazil and almost all of them occur in the Atlantic Forest biome. As part of a taxonomic study of the Brazilian species of Aulonemia, an expedition to the Brazilian part of Roraima Tepui was carried out in order to investigate the occurrence of A. deflexa in Brazilian territory. A Global Positioning System was used to record the exact location of the populations. Several individuals of A. deflexa were located in Brazil. Some of them were sampled, photographed and georeferenced. This record of A. deflexa is the first citation of the species in Brazil and it illustrates the poor state of botanical knowledge in the northern region of the country.

RESUMO

Aulonemia Goudot é um gênero de bambus lignificados que compreende 36 espécies descritas. Desse total, 15 são consideradas endêmicas do Brasil, sendo que a maioria ocorre no bioma Mata Atlântica. Como parte do estudo das espécies brasileiras de Aulonemia, uma expedição ao Monte Roraima foi conduzida a fim de verificar a ocorrência de Aulonemia deflexa em território brasileiro. Diversos indivíduos de A. deflexa foram localizados no Brasil, alguns dos quais coletados, fotografados e georreferenciados. Este registro de A. deflexa é a primeira citação para o Brasil e reflete o pouco conhecimento da flora na região norte do País.

INTRODUCTION

Aulonemia Goudot is a genus of woody neotropical bamboo comprising 36 described species (Judziewicz et al. 2000) and many yet to be described, raising the total diversity in the genus to an estimated 60 species (Clark et al. 2007). The genus is distributed from Mexico to southern Brazil and almost all the species are found on wet and high altitude sites, such as the Andean páramos, the Guayana Shield and eastern and southern Brazil, in the Atlantic Forest (Judziewicz et al. 1999).

As far as known, the species of Aulonemia found in Brazil are considered endemic (Filgueiras and Santos-Gonçalves 2004), especially in the Atlantic Forest. The only species that exceed the limits of the Atlantic Forest
biome are *A. aristulata* (Doell) McClure, which also occurs in gallery forest in the Cerrado biome in the states of Goiás and Minas Gerais, and *A. effusa* (Hack.) McClure, a distinctive species found in rocky grasslands of Minas Gerais and Bahia states.

The Guayana Shield region is an important center of diversity for the genus and contains at least five endemic species of *Aulonemia* (Judziewicz et al. 1999). None of these have previously been recorded in Brazil.

Mount Roraima, an integral part of the Guayana Shield, is a remarkable flat-topped mass of quartzite (or “Tepui”, in the local indigenous language) located at the tri-border area between Brazil, Venezuela and Guyana. The altitudes in the summit range from c. 2500 m to 2734 m high. Eighty five per cent (85%) of the area belongs to Venezuela, 10% to Guyana and only 5% to Brazil. The different types of vegetation found are riverine forests, crevice and ledge forests, dry open savannas, bogs and lithobiomes (Michelangeli 2000).

Since Thurns and Perkins' first excursion to Mount Roraima in 1884 (Perkins 1885), several botanists have visited this tepui, attracted by its peculiar and specialized flora (e.g. Tate 1932, 1930; Maguire 1970; Steyermark 1979). Several new species, most of them endemic, were described and almost all of them were collected in Venezuelan or Guyanan territory.

The single species of *Aulonemia* recorded on Mount Roraima was first collected in Guyanan territory in 1898 by McConnell and Quech, three years later it was described by N. E. Brown as *Arundinaria deflexa*, based on McConnell’s specimens. According to Judziewicz (2004), this species also occurs in Venezuelan Ilú-Tepui and Ptari-Tepui.

**MATERIAL AND METHODS**

As part of a taxonomic study of the Brazilian species of *Aulonemia*, an expedition to the Brazilian part of the tepui was carried out in January 2008, in order to investigate the occurrence of *A. deflexa* in Brazilian territory. A Global Positioning System (GPS) was used to record the exact location of the populations, shown in Fig. 1. The collected specimens are deposited at the herbarium BHCB, of the Universidade Federal de Minas Gerais, Brazil and duplicates were sent to the herbaria IBGE, and ISC (acronyms according to Holmgren & Holmgren 1998).

![Fig. 1. Map representing the area of occurrence of *Aulonemia deflexa* (*) in Brazilian territory.](image-url)
RESULTS AND DISCUSSION


After a two-day search for Aulonemia in Brazilian territory, several individuals were seen. They were located along a stream (5°13'23" N, 60°43'49" W to 5°12'30" N, 60°43'41" W) growing on open bogs (Fig. 2) and extending into the adjacent riverine and crevice forests (Fig. 3).

The forests are dominated by the trees Schefflera sp., Bonnetia roraimae Oliv., and the pteridophyte Cyathea delgadii Sternb. Several epiphytic species are also found, such as the
The specimen here cited was collected on the forest edge. It presents clambering habit, culms up to 1.5 cm thick, and foliage leaf blades up to 20 cm long (Fig. 3). On the other hand, the individuals found in bogs (photographed but not sampled) are caespitose with erect culms which rarely reach 2 m high (Fig. 2). The foliage leaf blades are glaucous and typically deflexed, as the specific epithet suggests. All the individuals observed in the field presented foliage leaf sheaths without fimbriae on the margins, foliage leaf blades up to 20 cm long, deflexed, glabrous on both surfaces and typically coriaceous, which are useful vegetative characters for recognizing A. deflexa (Judziewicz 2004). In the same way, Judziewicz (2004) cited different habitats for this species, including open places, bases of cliffs, stream sides, bogs and rocky forests of tepuis. All these observations lead us to conclude that the plants from those two distinct habits in the Brazilian Mount Roraima belong to the same taxon, i.e., A. deflexa.

The record of Aulonemia deflexa, which was never cited before in Brazil, is the first citation of the genus in the northern part of the country and it illustrates the poor state of botanical knowledge of this region. Much field work still must be done to gather information for a solid evaluation of the real plant diversity in the Brazilian Amazon.

ACKNOWLEDGMENTS

We thank Guilherme F. Ribeiro, Antônio L.T.O. Barbosa, Cinthia V. Varela, Lívia Echterncht and Luiza Angellini for their help in the field. Support for fieldwork was provided by FAPEMIG and Bamboos of the Americas (BOTA-SAP).

LITERATURE CITED


