

Project Proposal

Investigation for reinstatement of *Phoebe reticulata* Mez (Lauraceae), a neglected species from the Brazilian Atlantic Forest

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Introduction

During the preparation of my dissertation, I analyzed collections of Lauraceae Juss. of several herbaria of Eastern Brazil (Brotto 2018). Some specimens of the genus *Aiouea* Aubl. caught my attention because they did not correspond to their related names. Currently these specimens are identified as *Aiouea glaziovii* (Mez) R.Rohde, *Aiouea montana* (Sw.) R.Rohde or *Aiouea pseudoglaziovii* Lorea-Hern. They were collected in the Southeastern states of Brazil, such as Minas Gerais, São Paulo and Rio de Janeiro, from the region of the Atlantic Forest biome.

The most recent review of the Neotropical genus *Aiouea* accepted 19 species (Renner 1982), until Rohde *et al.* (2017) transferred the Neotropical species of *Cinnamomum* Schaeff. to *Aiouea*, which now comprises 72 species. In his review of *Cinnamomum*, Lórea-Hernández (1996) considered *Cinnamomum reticulifolium* Kosterm. = *Phoebe reticulata* Mez as a doubtful species. This may be due to the fact that the type specimen has immature fruits only, which makes it difficult to judge its relationship with the genera *Aiouea*, *Cinnamomum* or *Ocotea* Aubl. – voucher: A. Glaziou 18432 (barcode C10013536, K000602096, P00128575).

After the analysis of several herbaria collections, I believe that I am able to associate the type material of *Phoebe reticulata* with recent samples with mature fruits and flowers, and then reestablish the name. I believe that the taxon will be transferred to *Aiouea*, and not remain in *Phoebe*.

However, it is necessary to collect new samples from the type locality, which is Macaé de Cima (“Alto Macahé” by Glaziou) in Rio de Janeiro State. This collection is essential for a detailed analysis of the mature fruits and flowers of the type location.

Furthermore, in the two last decades 30 new species of Lauraceae were described from the Atlantic Forest. Most of these species are endemic of the Atlantic Forest, with very restricted distribution, usually distributed in one or two Brazilian states (Brotto & Baitello 2012; Brotto 2018 chapter 3). Nevertheless, some areas of the Atlantic Forest of Brazil are still poorly studied such as the

Eastern portion of Minas Gerais. This fact demonstrates the high potential for new discoveries.

Objectives

The main aim is to review the species *Phoebe reticulata* and to investigate if the name can be reestablished and transferred to *Aiouea* or *Ocotea*. The secondary aim is to perform field expeditions in the poorly sampled region of Eastern Minas Gerais to search for Lauraceae in general, particularly *P. reticulata*. Besides that, another aim is to increase the floristic checklists of important conservation units of Minas Gerais.

Material and methods

During the analysis of material preserved in the herbaria ESA, IAC, HRCB, MBM, NY, SP, SPF, SPSF and UEC, I found specimens that can be related to *Phoebe reticulata*. The next step is to investigate the indetermined samples placed in RB (largest herbarium in Brazil), R (second largest herbarium in Brazil) and also in the CESJ, GFJP, HUEMG and VIC herbaria, which are in Eastern Minas Gerais and presumably have records of the species.

Field expeditions will be carried out at the type locality, Macaé de Cima in Rio de Janeiro State. Expeditions will also take place at the Ibitipoca State Park, Minas Gerais, where some samples have been collected and with precise locality data. Finally, I intend to expand the search at the Sete Salões State Park, Minas Gerais, which is in a poorly sampled area and is potentially rich in Lauraceae species.

Phoebe reticulata blooms in October and fruits take almost one year to mature. Therefore, I propose to perform two field expeditions, the first to look for the flowers and the second to look for the fruits. The first one will last 20 days and is planned to take place between July and August to collect mature fruits, when I will also visit the herbaria. The second expedition will last 10 days in October and will be for collecting flowers.

For the field and laboratory work, the structure and equipment will be provided by the herbarium Museu Botânico Municipal de Curitiba (MBM), where I work as curator. It will be necessary to rent a car to drive to the herbaria and to the field areas.

The collected material will be maintained at MBM herbarium, and duplicates will be sent to the herbaria CESJ, HBG, HRCB, K, NY, SPSF and RB. I have a partnership with the researchers that are specialists in Lauraceae, Ph.D. João Batista Baitello (SPSF) and Ph.D. Pedro Luís Rodrigues de Moraes (HRCB). The collected samples could also benefit them in their future researches. Samples for DNA extraction will be sent to Ph.D. Jens G. Rohwer (HBG), contributing to the phylogenetic studies of Lauraceae. These samples will promote an advance in the knowledge of the Atlantic Forest, one of the biodiversity hotspots (Mittermeier *et al.* 2004), and also one of the main families of this biome.

At the moment, this project has no financing.

Budget perspective

The total cost for the two expeditions counting 30 days is US\$ 1.964,08.

References

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