

Project Update: January 2017

June 2016 – December 2016

Summary: about 90 days were spent in the field to collect the specimens. The collections were carried out from June 2016 to December 2016, in 17 Conservation Units of Brazilian Atlantic Forest with authorisations granted by the Forest Institute. In this period, a total of 307 specimens were collected. To date, polysporic cultures of 125 specimens have been obtained. Almost all specimens collected are new records for the visited localities. Among them, one is a new genus and two specimens are new to science and two specimens for which no records exist more than 50 years ago and which were believed to be extinct were re-collected and documented. All preliminary results were presented in VIII Congresso Brasileiro de Micologia and 21th Reunião Anual do Instituto de Botânica.

MISSION STATEMENT

This project understands that although conservation and restoration of fungal diversity and associated processes are important for the functioning of ecosystems, fungi with pores, major degraders of plant materials, are not taken into consideration. Thus in this way our work is carried out in a multidisciplinary and multifaceted way to face the major problem and concern that has left the lack of knowledge in the conservation of poroid fungi.

HIGHLIGHTS OF THE PAST 6 MONTHS

FIELDWORK

Morphological analyses including revision of macro and microscopic characteristics are being performed using stereo and microscopic equipment. Also analysis of scanning electron microscopy are being performed. Product of these revisions more than 50% of the collected specimens represent new records for the visited localities. A new genus and two new species are being described for science and will be published shortly in international scientific journals. The collected materials were identified at least up to the generic level. The materials identified at the specific level are represented by: *Abortiporus fractipes*, *Bjerkandera adusta*, *Bjerkandera fumosa*, *Bjerkandera* sp., *Ceriporia xylostromatoides*, *Ceriporia viridans*, *Ceriporia* spp., *Ceriporia balaenae*, *Ceriporiopsis flavilutea*, *Cymatoderma dendriticum*, *Cymatoderma papyraceum*, *Gloeoporus dichrous*, *Gloeoporus subvinaceous*, *Gloeoporus telephoroides*, *Gloeoporus taxicola*, *Spongipellis caseosus*, *Spongipellis spumeus*, *Phlebia incarnata*, *Phlebia tremellosa*, *Rhizochaete* sp. *Hjortstamia crassa*, *Hjortstamia papyracea*, *Hyphoderma setigerum*, *Hydnopolyporus fimbriatus*, among others. Materials not yet identified up to the specific level represent possible new occurrences for Brazil or new species.

EX SITU CONSERVATION

The preservation of specimens accurately identified in the herbarium SP and *ex situ* conservation of genetic material through the culture collection allow the heritage improvement of the biological collections. To obtain spores, the fresh basidiomas, preferably on the same day of collection, were placed in a wet chamber under sterile slides. After 12-24h the spores deposited under the slides was verified. The spores obtained were stored in a refrigerator at approximately 4 ° C. To obtain the polysporic cultures, a drop of sterile

distilled water was spread over the spore and transferred to 90 mm diameter petri dishes with Agar Extract of Malt (MA) or Potato Agar Dextrose (PDA). The plates were incubated at 25 °C where they were maintained for the time necessary for the spores to germinate. After development of the mycelium, the plates were stored in a refrigerator at approximately 4 °C. To date, polysporic cultures of 125 specimens have been obtained. All the specimens will be deposited in the collection culture CCIBt that kept over 1000 isolates of different species of fungi through the Castellani method, which guarantee the viability and the survival of the organism for approximately 15-20 years. This method allows the use of cultures in physiology, pathogenicity, bioremediation, among others studies.

We extracted DNA from 125 species and 72 amplification reactions were performed by exploring different parameters (annealing temperature, Mg concentration, primers) in order to obtain feasible sequences of analyses. The different amplification reactions explored did allow to establish an optimized amplification protocol for each of the target markers (ITS1, 5.8S, ITS2, nLSU). The results obtained allowed the identification of a new genus of poroid fungi to be described in the near future, which we will call on behalf of the Rufford Foundation.

EDUCATION IN CONSERVATION OF FUNGI

We create a website (<http://micolabibot.webnode.com>) in which we make information about courses and field collections, mainly for students in biology or related areas and the community in general to learn about the activities carried out by us. This page is attached to the institutional page of the Institute of Botany to generate greater visibility and guarantee its maintenance.

We also created a page on Facebook which already has more than a thousand followers in which people are encouraged to comment, publish photos about fungi, help to conserve these organisms and participate in courses and field trips. The page has reached more than 1000 followers.

New students enthusiastic about the study and conservation of fungi with wood degrading pores have joined our laboratory to carry out scientific experiments and undergraduate studies.

We also participate in national and local meetings where we present our preliminary results in the form of posters.

PLANS FOR THE NEXT FEW MONTHS

- We will continue with macro and microscopic identification.
- All specimens collected will be deposited in the Herbarium SP.
- All the cultures will be deposited in the collection of the Instituto de Botânica CCIBt.
- All records are deposited on platforms as: Lista de Espécies da Flora do Brazil and the INCT-Herbário Virtual da Flora e dos Fungos.
- An identification field course will be conducted.
- A field guide for the study of fungi will be finished and printed.
- The information will be released to the scientific community through the writing and

publication of articles to be published in national and international journals.

- We will also participate in the Latin American Congress of Mycology that will be held in Lima–Peru where we will present our final results.



