

## A checklist of the Brazilian gasteroid fungi (*Basidiomycota*)

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**Abstract** — Based on the available literature, a list of 232 gasteroid species recorded from Brazil since the earliest known collection is presented. These species are distributed among 54 genera and 16 families (plus incertae sedis). *Morganella fuliginea*, *Calvatia cyathiformis*, *Gastrum saccatum*, *Scleroderma albidum*, and *S. verrucosum* are the species with widest distribution in Brazil. Rio Grande do Sul is the State with the largest recorded gasteroid mycota. The complete checklist is available on <http://www.mycotaxon.com/resources/weblists.html>.

**Key words** — gasteromycetes, mycodiversity, Brazilian fungi

### Introduction

Brazilian mycota studies started in 19<sup>th</sup> century with European naturalists' interest. Many foreign travelers were collectors and sent materials to scientists in different countries in Europe who identified the specimens (Fidalgo 1968).

Concerning the gasteromycetes, the first collection from Brazil was a *Clathrus* specimen gathered in 1826 by William John Burchell (Fidalgo 1974). Other foreigners who contributed to gasteroid fungi knowledge in the country were: Berkeley (Berkeley 1842, Berkeley & Cooke 1876), Möller (1895), Hennings (1902, 1904a, b, c), Lloyd (1906a, b, c, d, 1907a, b, c), Sydow & Sydow (1907), Patouillard (1907), and Rick (1930, 1961).

It was about the middle of the twentieth century that some Brazilian scientists began working with gasteroid fungi taxonomy (Silveira 1943, Batista 1950, Batista & Vital 1955, 1957, Batista & Bezerra 1960), but only at the beginning of the new millennium that detailed studies concerning the group started (Baseia & Milanez 2000, 2001a, b, 2002a, b, c, 2003a, b).

Gasteroid fungi present a wide range of basidiomata structure and these distinctive life forms led to the designation of many genera represented by only one or a few species. Currently, approximately a hundred genera of gasteromycetes are accepted (Dring 1973, Miller & Miller 1988).

The main objective of this article is to compile data about Brazilian gasteroid fungi and present a list of species.

### Material and methods

This checklist is based on intensive search of literature records of gasteroid fungi recorded from Brazil. Nomenclature and author names follow Index Fungorum (IFS—<http://www.indexfungorum.org/Names/Names.asp>) and the International Plant Names Index (IPNI—<http://www.ipni.org>). Genera and species are listed alphabetically inside each family according to Kirk et al. (2008). Genera with taxonomic positions not well established are designated as 'incertae sedis'. Names not found on the IFS database are marked with \*. This checklist includes only records that were identified to the species level.

Although this compiled list has been reviewed carefully, minor errors can occur. We plan to regularly update the internet version of the checklist, so we gratefully encourage any remarks concerning errors or omitted data.

### Results

The 232 gasteroid fungi species recorded from Brazil are distributed among 54 genera and 16 families. The most highly represented family is *Agaricaceae* with 104 species (44.8 %), followed by *Geastraceae* and *Phallaceae* (with 44 and 38 species, respectively). *Geastrum* is the genus with the highest number of species, with 40 taxa (17.2 %).

The species with widest Brazilian distribution are *Morganella fuliginea* (Berk. & M.A. Curtis) Kreisel & Dring (recorded from 7 States), followed by *Calvatia cyathiformis* (Bosc) Morgan, *Geastrum saccatum* Fr., *Scleroderma albidum* Pat. & Trab. and *S. verrucosum* (Bull.) Pers. (6 States). Rio Grande do Sul is the State with the greatest number of gasteroid mycota recorded (133 taxa/57.3 %), especially due to the great contribution of Father Johannes Rick.

If there are approximately a hundred genera of gasteromycetes (Dring 1973, Miller & Miller 1988), the diversity of this group is still not well represented in Brazil, since only 54 genera are recorded in the literature.

The complete checklist of the Brazilian gasteroid fungi is available on <http://www.mycotaxon.com/resources/weblists.html>.

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