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Hemimycena longipleurocystidiata (Mycenaceae, Agaricomycetes), a new species from the Argentinean Atlantic Forest

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Abstract

The Atlantic Forest is the second largest South American tropical-subtropical rainforest and one of the most diverse ecosystems on earth. *Hemimycena longipleurocystidiata,* a fungal species collected in the Argentinean Atlantic forest, is proposed as new. It is characterized by its whitish and large basidiomata with large pleuro- and cheilocystidia. The species is here described and illustrated and a key is provided to the *Hemimycena* species known from Argentina.

Key words: Agaricales, Tricholomataceae, *Mycena* subsect. *Omphaliariae,* taxonomy

Introduction

The Atlantic Forest is the second largest South American tropical-subtropical rainforest and is one of the most diverse ecosystems on earth (Tabarelli *et al.* 2005). It extends along the coastal hills of Brazil, south to the east of Paraguay and northeast of Argentina. Although it covers less than 1% of the planet's surface, 7% of the known species on earth live there (Placci & Di Bitetti 2006). Only 7% of the Atlantic rainforest is preserved, therefore it is one of the 8 most vulnerable regions of the world (Myers *et al.* 2000). For this reason, it has been incorporated into the "Global 200" by the World Wildlife Fund (WWF) (Oslon & Dinerstein 2002), and also amongst the "biodiversity hotspots" by Conservation International (Myers *et al.* 2000).

Despite its high diversity and high number of endemic species, the Atlantic forest's mycobiota is still not thoroughly studied. From the 1966 species of Agaricales *sensu lato* known from Argentina (Niveiro & Albertó 2012a–d, 2013a–b, 2014), only 174 were found in the Argentinean Atlantic forest (Ramirez *et al.* 2012) and many of these species have been recently described (Lechner *et al.* 2005, Lechner *et al.* 2006, Niveiro *et al.* 2012a, Uarth & Albertó 2009) or cited (Lechner *et al.* 2006, Niveiro *et al.* 2010, 2011, 2012b). Even though numerous monographs of genera in South America include species of this region (Singer 1958, 1960, 1962a, 1964, 1965a–b, 1966, 1970, 1973, 1975, 1976, 1982), we believe that, due to the extension of the area and the diversity of habitats included in it, there are numerous species still unknown.

The genus *Hemimycena* is characterized by small, thin, membranous, delicate, mostly white, putrescent basidiomata, with generally well formed to venose lamellae, and a central or eccentric stipe. The distinctive microscopic characters of this genus are: hyaline, thin-walled and inamyloid spores; neither amyloid nor dextrinoid tissue, a pileipellis as a cutis with commonly diverticulate hyphae and a hypodermium lacking voluminous elements (Singer 1986, Largent & Baroni 1988, Malysheva & Morozova 2009). *Hemimycena* includes about 50 species worldwide (Kirk *et al.* 2008), of which only four are known from Argentina (Niveiro & Albertó 2012d).

The aim of this paper is to propose *Hemimycena longipleurocystidiata* as a new species which is here described and illustrated. Comments on related species are also made and a key to the species of *Hemimycena* known in Argentina is provided.

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We analysed the type material of *Hemimycena longicystis* [Singer B707 (LIL)]. It consists of a single pileus in a good state of preservation. Based on this collection, we observed: few spores (14–16 x 4–4.5 µm, n = 6), lageniform, long pedicellate cheilocystidia (54–65 x 10–15 µm), and no pleurocystidia. This is in agreement with the description made by Singer (1962: 61).

Dennis (1961) described several species of *Hemimycena* for Venezuela, but none of them match the characteristics of this new species, and besides, all were subsequently transferred to other genera: *Hydropus gigasporus* (Dennis) Pegler, *Hydropus sphaerosporus* (Dennis) Dennis, *Marasmiellus anomalus* (Dennis) Dennis, *Marasmiellus junquitoensis* (Dennis) Dennis, *Marasmiellus primulina* (Dennis) Dennis, *Marasmiellus roseipallens* (Dennis) Singer, *Mycena filicina* (Dennis) Dennis, and *Myena xanthopoda* (Dennis) Dennis.

There are several similar species worldwide: *Hemimycena pseudolactea* (Kühner) Singer is very similar to *H. longipleurocystidiata.* Its pileus may occasionally reach 25 mm diam, and it has broadly fusiform pleurocystidia, but it differs in its smaller spores (6.9–7.8 x 2.6–4.4 µm) and pleurocystidia (25–60 x 8–15 µm) (Malysheva & Morozova 2009: 61; Moser 1978: 171). *Hemimycena lactea* (Pers.) Singer could be mistaken for *H. longipleurocystidiata* in having a similar spore size, but it has distinctly smaller pleuro- and cheilocystidia (19–30 x 5.5–6 µm) (Malysheva & Morozova 2009: 50). Other similar species are *Hemimycena cucullata* (Pers.) Singer (Malysheva & Morozova 2009: 36, Moser 1978: 171) and *Phloeomana speirea* (Fr.) Redhead [= *Hemimyena speirea* (Fr.) Singer] (Maas Geesteranus 1991: 95, Smith 1947: 359) but both differ in having smaller basidiomata, no pleurocystidia and a pileipellis consisting of diverticulate hyphae.

Key to *Hemimycena* species from Argentina

1	Lamellae venose or very narrow, extremely distant. Pleuro and/or cheilocystidia absent	*H. subtropicalis*
-	Lamellae more developed. Pleuro and/or cheilocystidia present	2
2-	Spores smaller, 4–5 × 3.7–5 µm	*H. cretacea*
-	Spores larger spores, more than 6 µm long	3
3-	Pileus usually larger, up to 30 mm diám. Pleurocystidia 53–91 × 11–20 µm, lageniform to fusiform	*H. pleurolongicystidiata*
-	Pileus less than 15 mm diam. Pleurocystidia absent	4
4-	Growing in subtropical forest. Cheilocystidia cylindrical to filiform, 27–63 × 4–8.5 µm	*H. truncicola*
-	Growing in Andino-patagonic Forests. Cheilocystidia different	5
5-	Pileus 5–14 mm diam., cheilocystidia ventricose to cylindrical, with a capitulate apex, 16–30 × 2–6.7 µm	*H. patagonica*
-	Pileus 2–7 mm diam., cheilocystidia subulate, with acute apex, 22–50 x 4.5–6 µm.	*H. nothofagi*

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