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Mycena moconensis, a new species in section *Polyadelphia* from Argentina

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Abstract — A new agaric species, *Mycena moconensis*, is described from Paranaense Rain Forest, Argentina. This species is characterized by small bicoloured basidiomata with yellow to orange yellow or golden pilei and magenta to purple stipes, pip-shaped spores, and spinulose cheilocystidia and pellicular hyphae.

Key words — *Agaricomycetes, Agaricales, Mycenaceae*, new taxa, taxonomy

Introduction

Mycena (Pers.) Roussel comprises approximately 500 species, widely distributed in the world (Kirk et al. 2008). It is a polyphyletic genus where comprehensive molecular analyses are needed to clarify the infrageneric classification and species circumscriptions.

South American species of *Mycena* have been studied by Spegazzini (1887, 1898), Rick (1938), Dennis (1961), Singer (1969, 1973, 1989), Valenzuela & Moreno (1995), Raithelhuber (1984a,b, 1985a–f, 1996a,b, 2004) and Maas Geesteranus & de Meijer (1997, 1998). Raithelhuber (1985f, 1996a) published monographic studies that included identification keys to *Mycena* species in the region. Maas Geesteranus & de Meijer (1997) also provided a key to species described or mentioned previously by Singer.

There are 114 *Mycena* species so far recorded in Argentina. Most have been found in the Andino-Patagonic forest and the Yungas region of northwestern Argentina, with only six species known from the Paranaense forest (Spegazzini 1926, Wright et al. 2008, Lechner et al. 2006, Wright & Wright 2005, Niveiro et al. 2010).

According to Maas Geesteranus, "many more species of *Mycena* await to be discovered in Paraná State (Brazil) but, however desirable, the search cannot for various reasons be continued" (Maas Geesteranus & de Meijer 1998).

During a survey of the *Agaricomycetes* of northern Argentina, we recently collected some specimens that do not match any other known species of *Mycena.* We propose herein *M. moconensis,* a new species in section *Polyadelphia*.

Material & methods

Macroscopic description is based in fresh material, according to Largent (1986) and Lodge et al. (2004). Microscopic features are described from material mounted in KOH 5%, phloxine (1%), and Melzer's reagent. The following notations are used: L = number of lamellae reaching the stipe; x = arithmetic mean of the spore length and width; Q = quotient of length and width indicated as a range of variation; Qm = mean of Q values; n = number of spores measured. Herbarium specimens are deposited in CTES, BAFC, and LIL. Herbarium abbreviations follow Holmgren et al. (1990).

Results

Mycena moconensis Niveiro, Albertó & Desjardin, **sp. nov.** Figs 1–8

MycoBank MB519458

Differing from other species of *Mycena* sect. *Polyadelphya* by its yellow to golden pileus and magenta to purple stipe.

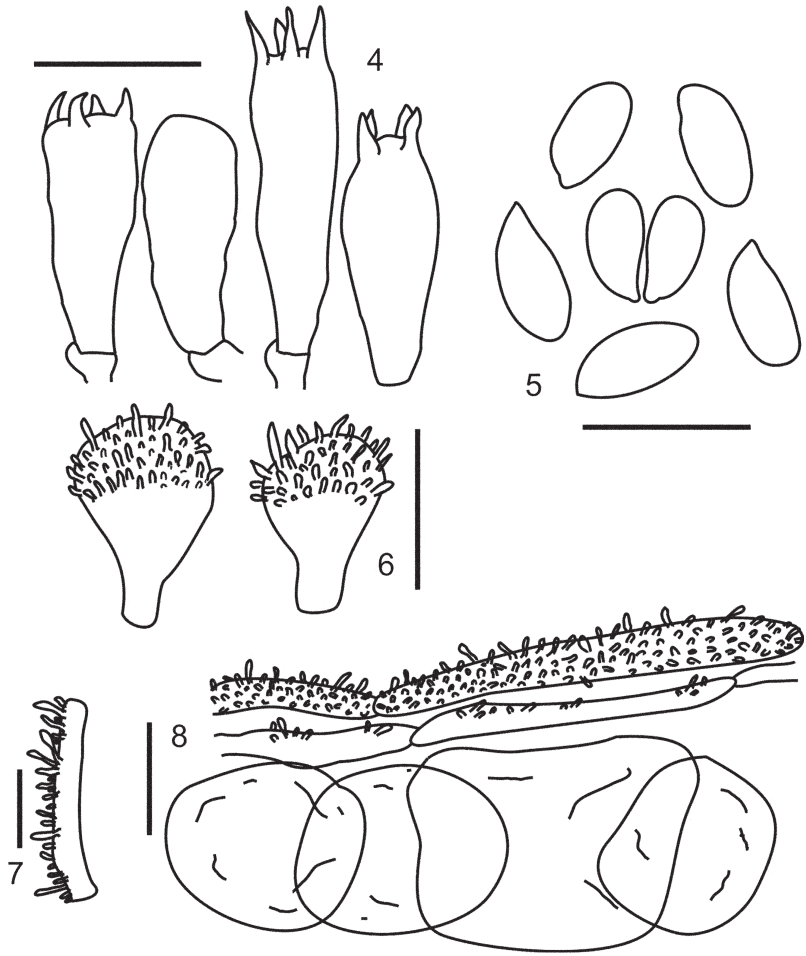
Type: Argentina, Misiones, Parque Provincial Moconá, Sendero de la Gruta, (27°09′13.2″S 53°54′04.7″W), 17.V.2008, leg. N. Niveiro et al. 767, (**Holotype**, CTES 0591002).

Etymology: From Moconá Provincial Park.

Basidiomata scattered to gregarious. Pileus 1–8 mm in diameter, broadly parabolical to hemispherical or campanulate, without umbo; margin entire, decurved, translucent striate to sulcate; surface smooth, slightly pruinose to silky, dry; yellow to orange yellow or golden. Context thin. Odor and Taste absent. Lamellae adnate to slightly decurrent by a tooth, subdistant (L = 11–13) without lamellulae, up to 0.5 mm wide, white; entire edge, concolorous. Stipe 30–60(–90) × 0.5–1.5 mm, central, cylindrical, equal, hollow, smooth, glabrous, apex magenta to dark magenta, purple or Indian red, paler on the base; attached to the substratum by a mycelial pad of brown radiating hyphae. Spore print white.

Basidiospores 5.7–8.6 × 3–4.5 µm, [x = 7.5 × 4 µm, Q = 1.59–2.27; Q_m = 1.87, n = 38), oblong to pip-shaped, smooth, hyaline, amyloid, thin-walled, without germ pore. Basidia 20–23 × 6–7 µm, clavate, 4-sterigmate. Pleurocystidia absent. Cheilocystidia 10–16 × 7–10 µm, hyaline, broadly clavate to subglobose, densely spinulose, with simple cylindrical excrescences 2–2.6 µm long. Hymenophoral trama regular; hyphae 2.5–11 µm diam, dextrinoid, non-gelatinous. Pileipellis a thin cutis of repent, radially aligned hyphae; hyphae 2.5–5.5 µm diam., densely covered with short cylindrical

Figs 1–3. *Mycena moconensis*: 1. General aspect; 2. Detail of pileus; 3. Stipe with mycelial filaments radiating from the base. Scale bars: 1 = 20 mm; 2 = 2 mm; 3 = 1 mm.



Figs 4–8. *Mycena moconensis*: 4. Basidia; 5. Basidiospores; 6. Cheilocystidia; 7. Hyphae of the stipitipellis; 8. Pileipellis and hypoderm. Scale bar = 10 µm.

spinulae, non-gelatinous. Hypodermium pseudoparenchymatous, with cells 18–37 µm diam., dextrinoid. stipitipellis hyphae 3.5–5.5 µm diam., densely covered with short cylindrical spinulae. Caulocystidia absent or rare and scattered. Clamp connections present.

Habitat: Gregarious in small clusters, on leafy litter.

Additional specimens examined — **ARGENTINA**, **Misiones**, Parque Provincial Moconá, Sendero de la Gruta, (27°09′17.1″S 53°54′02.6″W), 25/V/2009, Niveiro & Michlig 1276 (BAFC); 25/V/2009, Niveiro & Michlig 1296 (LIL).

Discussion

This beautiful new species is characterized by small bicolored basidiomata with yellow to orange yellow or golden pilei and magenta to purple stipes.

The following combination of features refer this species to section *Polyadelphia* (Maas Geesteranus 1986, Maas Geesteranus & de Meijer 1997): small basidiomata with few lamellae, thin stipes with radiating basal mycelium, cheilocystidia densely covered with simple excrescences, pip- shaped basidiospores, and a non-gelatinous pileipellis composed of hyphae densely ornamented with small spinulae.

Mycena moconensis could be confused with "*M. coprinoides*" P. Karst. sensu Raithelh., a species previously recorded in Argentina (Raithelhuber 2004). The latter species differs, however, in forming a pale yellow to pale ochraceous pileus with a weakly striate margin, crowded and adnexed-adnate lamellae, a pale yellow stipe with a darker base, and fusiform cheilocystidia. It should be noted that Maas Geesteranus (1981) considers *Mycena coprinoides* P. Karst. as representing a species of *Coprinus*, based on his examination of the holotype specimen. The taxon reported by Raithelhuber (2004) as "*M. coprinoides*" may represent an undescribed species.

The presence of a citron yellow to barium yellow pileus, sulcate-striate margin, adnate-decurrent, distant lamellae, and pyriform to clavate cheilocystidia with excrescences also diagnose *Mycena citricolor* (Berk. & M.A. Curtis) Sacc., a pathogen of coffee known from the New World tropics. *Mycena citricolor* differs in forming a yellow stipe, slightly smaller basidiospores (4.2–6 × 2.3–3.5 µm), and pileipellis hyphae that are embedded in a gelatinous matrix (Pegler 1983). It also differs in forming bioluminescent mycelium on which are produced stilboid asexual propagules with the anamorphic *Decapitatus flavidus* (Cooke) Redhead & Seifert.

The similar *M. melinocephala* Singer, described from Argentina on *Alnus* wood, differs in forming a yellowish honey-coloured pileus and stipe and larger, subglobose to globose basidiospores (8–10.5 × 7.5–9.5 µm) (Singer 1973). *Mycena ixoxantha* Singer, a species described from Colombia with citrine yellow pileus and amber coloured stipe, differs in forming gelatinous pileipellis tissue (Singer 1973).

Two species from the northern hemisphere, *Mycena albiceps* (Peck) Gilliam and *M. capillaris* (Schumach.) P. Kumm., share similar micro-morphological features with *M. moconensis* but differ in forming white to pale greyish white pilei and dark greyish brown to black stipes (Maas Geesteranus 1986).

Maas Geesteranus & de Meijer (1997, 1998) described two species of *Mycena* sect. *Polyadelphia* — *M. elongata* Maas Geest. & de Meijer and *M. tuberifera* Maas Geest. & de Meijer — from Paraná State (Brazil) near the location where *M. moconensis* was found. They are characterized by very dark brown pilei and

a pale yellow (*M. elongata*) or white (*M. tuberifera*) stipe. The authors regarded both species as unusual for section *Polyadelphia* by differing from northern hemisphere representatives in forming smooth stipitipellis hyphae and simple, non-spinulose caulocystidia, characters not observed in *M. moconensis*.

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