
A new species of *Mycena* sect. *Polyadelphia* from southern India

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Mycena saparna sp. nov. from Kerala State, India is described, illustrated and discussed. It is placed in *Mycena* sect. *Polyadelphia* where it seems closely allied to *M. foliicola* reported from Madagascar.

Key words – Agaricales – Basidiomycota –Mycenaceae– mycota – taxonomy

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Introduction

Mycena sect. *Polyadelphia* Singer ex Maas Geest. comprises about 30 species described globally. Species belonging to this section are characterized by very small basidiomata growing on non-woody substrata, limited number of distant, broadly adnate lamellae, filiform stipe, absence of pleurocystidia, cheilocystidia typically covered with warts, and hyphae of both the pileipellis and stipitipellis densely ornamented with short warts. They grow mainly on fallen, decaying leaves of deciduous trees and occasionally also on herbaceous stems, fronds and rhizomes of ferns and conifer needles (Maas Geesteranus 1992, Villarreal et al. 2002). *Mycena polyadelphia* (Lasch) Kühner is the type species of the section. During our studies on *Mycena* species of Kerala State, India, we came across, on several occasions, an as yet undescribed species that belongs in this section. The fungus is described, illustrated and discussed here.

Methods

Conventional morphology based taxonomic methods were employed for this study. Microscopic observations were made on material stained with 1% aqueous solution of Congo red and mounted in 3% aqueous KOH.

Melzer's reagent was used to observe whether the spores and tissues were amyloid or vinoid. For evaluation of the range of spore size, twenty basidiospores from each specimen cited were measured. Colour codes used in the description are from Korerup & Wanscher (1978). The examined collections are deposited at Kew (Mycology) Herbarium and the Kew accession numbers (e.g., K (M) 175513) are indicated. The infrageneric taxonomy of *Mycena* followed is that of Maas Geesteranus (1992).

Results

***Mycena saparna* Aravind. & Manim. sp. nov.**

Fig. 1

MB 800054 (<http://www.mycobank.org>).

Etymology – *saparna* (Sanskrit), associated with leaves.

Differing from *Mycena foliicola* Métrod in having subdecurrent to decurrent lamellae, tetrasporic basidia, clavate, cylindrical or sphaero-pedunculate cheilocystidia, and geographic distribution.

Basidiomata very small, delicate. Pileus 0.1–1.25 (2.5) mm diam., 0.5–2.75 mm high, broadly hemispherical with an acute or acuminate umbo when young, becoming conic

or parabolic to cylindrico-campanulate with persisting umbo; surface off-white all over when very young, then yellowish brown (5D4) or greyish yellow (4C3) on umbo, whitish towards margin, and brownish orange (5C3) or yellowish grey (4B2) elsewhere, and finally becoming dark brown (6F7) or greyish brown (5E3) at the centre, whitish at margin, and brown (6E5) or orange grey (6B2) or brownish orange (5C3) elsewhere, sulcate-striate, dry, with fine ridges over mature pileus under a lens; margin slightly incurved and entire when young, becoming straight or nearly applanate and crenate or undulate with age. Lamellae 4–9, descending, subdecurrent to somewhat arcuate, off-white, up to 0.1 mm wide, distant, without lamellulae; edge finely torn under a lens, concolourous with the sides. Stipe 4–22 × 0.5–0.75 mm, central, terete, tapering towards apex in all stages of development, hollow; surface translucent, whitish or orange-white (5A2), becoming brownish at extreme base, glabrous; base slightly broad, with a thin, inconspicuous basal mycelial felt. Context not conspicuous. Odour and taste not distinctive.

Basidiospores 6–9.5 × 3–4.5 (6.85±0.266 × 3.075±0.034) µm, Q = 2–2.66, Qm = 2.33, oblong-ellipsoid, thin-walled, hyaline, smooth, with a few guttules, amyloid. Basidia 7.5–17 × 5–7 µm, clavate, bearing 4 sterigmata up to 5 µm long, hyaline, with a few guttules. Lamella-edge sterile. Cheilocystidia crowded, 6–20.5 × 2.75–6 µm, clavate, cylindrical or sphaero-pedunculate, thin-walled, hyaline, with short, conical or cylindrical excrescences (0.75–2 × 0.75–1 µm). Pleurocystidia none. Lamellar trama subregular; hyphae 2–11 µm wide, thin-walled, hyaline, vinoid in Melzer's reagent. Subhymenium pseudoparenchymatous. Pileus trama subregular; hyphae 3–32 µm wide, thin-walled, hyaline or with pale greyish brown contents, vinoid in Melzer's reagent. Pileipellis a cutis; hyphae 1–4.5 µm wide, slightly branched, slightly gelatinized, thin-walled, hyaline, with short, conical or cylindrical excrescences (0.5–2 × 0.5–0.75 µm). Stipitipellis a cutis; hyphae 1.5–6 µm wide, thin-walled, hyaline, with short, conical or cylindrical excrescences (0.5–2 × 0.5–1 µm), terminal cells not inflated and not modified in any way. Caulocystidia none. Stipe trama

strongly vinoid in Melzer's reagent. Clamp connections seen on all hyphae.

Habitat – On decaying leaves of various dicotyledonous plants, scattered or in groups, July, September–October.

Known distribution – Calicut and Malappuram Districts of Kerala State, India.

Material examined – INDIA, Kerala State, Malappuram District, Calicut University Campus, 5 Jul 2007, D.M. Aravindakshan DM153 (K(M) 175513, **holotype**); *ibid.*, 18 Jul 2007, D.M. Aravindakshan DM170 (K(M) 175514); 20 Oct 2010, D.M. Aravindakshan DM509; Kozhikode District, Koyilandy, Poyilkavu, 26 Sep 2009, D.M. Aravindakshan DM341 (K(M) 175515).

Discussion

Mycena saparna is characterized by minute, fragile, foliicolous basidiomata; conico-campanulate pileus with a prominent acuminate umbo; subdecurrent to decurrent lamellae without lamellulae in between; filiform, glabrous stipe with an inconspicuous basal mycelial felt; oblong-ellipsoid, amyloid basidiospores; cheilocystidia with short conical excrescences; and hyphae of both pileipellis and stipitipellis showing short conical excrescences. In the current infrageneric classification (Maas Geesteranus 1992), this species is placed in sect. *Polyadelphia* owing to the following characters: ellipsoid and amyloid basidiospores, lamella-edge concolourous with the sides, stipe arising from a basal patch of mycelium, hyphae of the pileipellis more or less densely covered with short simple excrescences, clavate cheilocystidia that are covered with excrescences and not embedded in a gelatinous matter, and absence of pleurocystidia. However, no other species so far described from sect. *Polyadelphia* agrees fully morphologically with that of *M. saparna*. Keys to the Northern Hemisphere species of the section by Maas Geesteranus (1992) and Villarreal et al. (2002) do not lead the present species to any known species. Similarly, it is not fully similar to any of the species of sect. *Polyadelphia* described from Brazil (Maas Geesteranus & de Meijer 1997), Australia (Grgurinovic 2003), New Zealand (Segedin 1991) or Malaysia (Corner 1994).

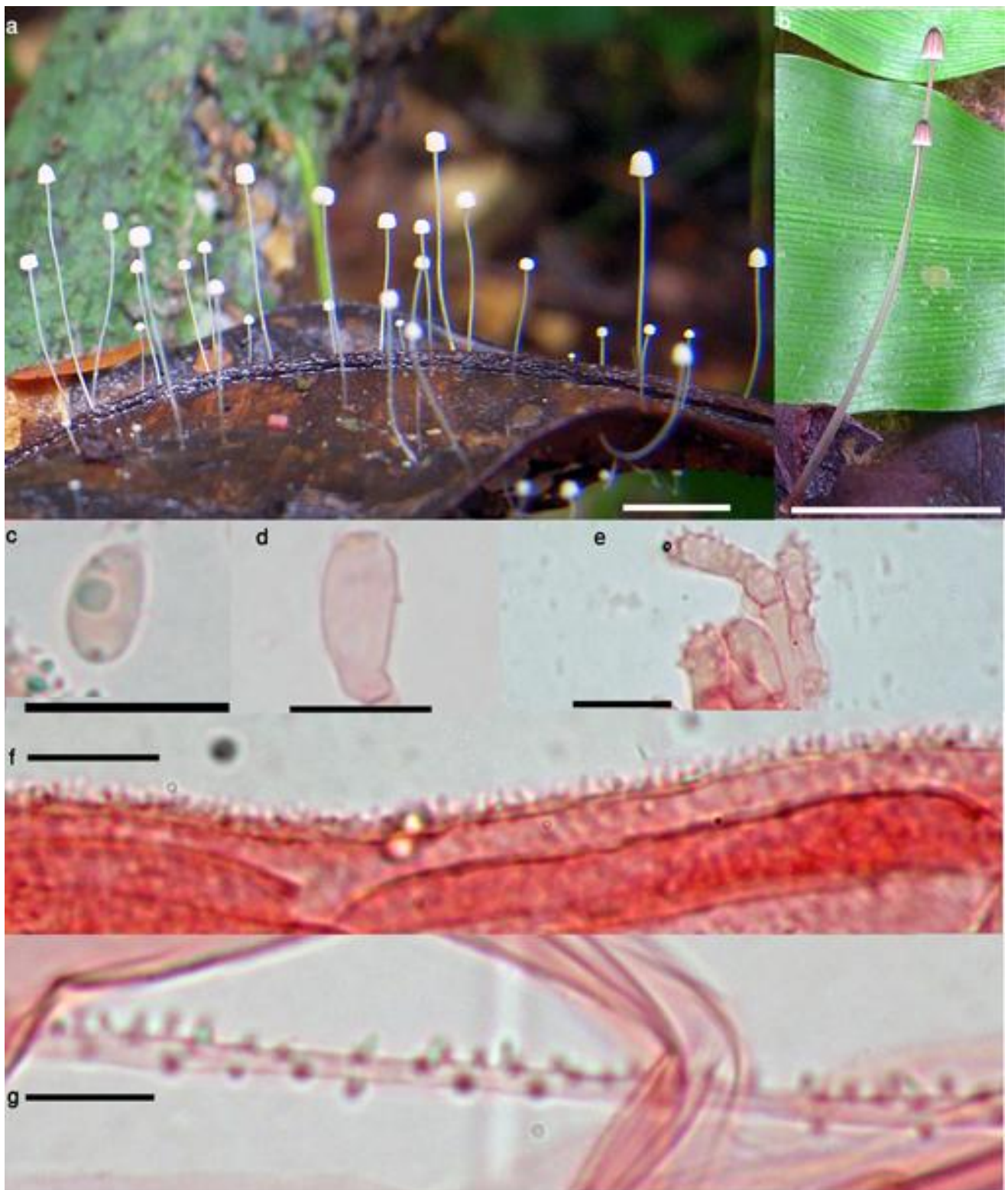


Fig. 1 – *Mycena saparna*. **a, b** Basidiomata. **c** Basidiospore. **d** Basidium. **e** Cheilocystidia. **f** hyphae of the pileipellis. **g** hyphae of the stipeipellis. Bars: a, b = 1 cm c–g = 10 μ m.

Extensive searches in the literature on mycenas, however, revealed that *M. saparna* is strikingly similar to *M. foliicola* Métrod in several features. *Mycena foliicola* was originally described from Madagascar by Métrod (1949). It is a very small, delicate, and

follicolous species that has not been reported since its original discovery. Métrod's description and illustrations of the species are scanty but adequate for comparison. Although Métrod (1949) placed *M. foliicola* in sect. *Granulatae* Lange subsect. *Insititiae* Fries, a

reassessment of its features indicate that it is a good representative of sect. *Polyadelphia* in the modern infrageneric classification of the genus. In fact, the only species with which Métrod (1949) compared *M. foliicola* was *M. polyadelphia*. Both *M. foliicola* and *M. saparna* have very small, fragile, foliicolous basidiomata with conico-campanulate pileus, an acuminate umbo, and similar-sized basidiospores. However, there are both microscopic and macroscopic differences. The lamellae are ascending and broadly adnate, basidia are bisporic and the cheilocystidia are ovoid in *M. foliicola*. These differences along with the geographical difference are considered sufficient for the erection of a new species.

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