

***Mycena pilosostipitata*, a new species of section *Filipedes* from Lower Saxony (Germany)**

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Abstract: *Mycena pilosostipitata* is described as a new species from Lower Saxony (Germany) and integrated in section *Filipedes*. It was found by the first author growing on soil between grasses and *Quercus*-leaves. Delimitation from the related taxon *Mycena rebaudengi* is discussed. A water colour of fruitbodies and microscopical drawings are given.

Riassunto: *Mycena pilosostipitata* viene descritta come nuovo taxon dalla Bassa Sassonia (Germania) e collocato sezione *Filipedes*. Gli esemplari sono stati raccolti dal primo autore, al suolo, fra erba e foglie di *Quercus*. Viene fatto il confronto di questo nuovo taxon con *Mycena rebaudengi* e presentate immagini ad acquerello degli esemplari raccolti e dei caratteri microscopici.

Zusammenfassung: *Mycena pilosostipitata* wird als neue Art aus Niedersachsen (Germany) beschrieben und in die Sektion *Filipedes* eingeordnet. Sie wurde vom Erstautor zwischen Gräsern und Eichenblättern gefunden. Die Abgrenzung von der ähnlichen Art *Mycena rebaudengi* wird diskutiert. Ein Aquarell der Fruchtkörper und eine Zeichnung der mikroskopischen Merkmale werden beigelegt.

During a trip in the nature reserve „Großes und Weißes Moor“ near the village Kirchwalsede, region Rotenburg/Wümme, some basidiomata of an unknown *Mycena* species were found. They were characterized by brownish pilei, pale brownish stipes with a bluish-violet shining surface, long white hairs and warty cheilocystidia. The preliminary identification with KÜHNER (1938), MAAS GEESTERANUS (1984, 1992), REXER (1994), MIERSCH & RÖNSCH (2003), ROBICH (2003), and ARONSEN (2011) keying out *Mycenas* of the Northern Hemisphere and also with literature dealing with species from overseas (CORNER 1994; DENNIS 1951, 1955, 1961, 1970; DESJARDIN & HORAK 2010; GARRIDO 1985, 1988; GRGURINOVIC 2003; HORAK 1971, 1980; MAAS GEESTERANUS & MEIJER 1997; MÉTROD 1949; PEGLER 1977, 1983, 1986; RAITHELHUBER 1996; SINGER 1959, 1969, 1973, 1989; SMITH 1947; STEVENSON 1964) revealed that an unknown species close to *Mycena rebaudengi* (ROBICH 2000) was recorded. Therefore, *Mycena pilosostipitata* is newly described here and proposed as a species of section *Filipedes* (FR.) QUÉL.



Fig. 1. *Mycena pilosostipitata*, holotype, bar: 5 mm. – Pinxit J. MIERSCH.

***Mycena pilosostipitata* MIERSCH & ROBICH, spec. nova (Figs. 1, 2)**

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Description:

Pileus : 6–10 mm in diameter, convex, pale brownish, $\frac{1}{2}$ translucent-striate.

Lamellae : 15–20 reaching the stipe, whitish, ascending, adnate, edge convex, whitish.



Fig. 2. Microscopic characters of *M. pilosostipitata*. A spores, B basidia, C cheilocystidia, D hyphae of the pileipellis, E cortical layer of stipe, F caulocystidia. – Delineat G. ROBICH.

Stipe: $0.5\text{--}1 \times 35\text{--}40\ \mu\text{m}$, hollow, apical whitish-pale brownish, towards base more brownish with bluish-violet shine, surface partly with white, smooth, thin-walled hairs, about $2.5 \times 38\text{--}100\ \mu\text{m}$, at the base hairy and attached at the substrate by hairs.

Context: Odour and taste indistinctive, perhaps odour insignificantly nitrous.

Basidiospores (Fig. 2 A): $5.5\text{--}6.5\ (-7\text{--}7.5) \times 9.5\text{--}11\ (-11.5)\ \mu\text{m}$, cylindrical-ellipsoidal, ellipsoidal, and elongate-ellipsoidal, amyloid.

Basidia (Fig. 2 B): $7.5\text{--}9.5 \times 19\text{--}30\ \mu\text{m}$, clavate; 2-sp., then sterigmata $6\text{--}7.5\ \mu\text{m}$, clamp connections absent; rarely 4-sp., $5\text{--}7.5 \times 17\text{--}20\ \mu\text{m}$, then sterigmata about $5\ \mu\text{m}$, clamp connections present.

Cheilocystidia (Fig. 2 C): $10\text{--}18 \times 20\text{--}34\ (-52)\ \mu\text{m}$, subclavate, subovoid, subpyriform, apically often covered by thin, simple, flexuose excrescences, $0.5\ (-1) \times 0.5\text{--}10\ \mu\text{m}$, some rare excrescences of different forms, irregular, up to $3\ \mu\text{m}$ wide and up to $12\ \mu\text{m}$ long, lamellar edge sterile.

Pleurocystidia: rare, a bit larger than the cheilocystidia, up to $24 \times 40\ \mu\text{m}$.

Hyphae of the pileipellis (Fig. 2 D): $6\text{--}10\ \mu\text{m}$ wide, covered by simple, thin excrescences, $1 \times 1\text{--}4\ (-9)\ \mu\text{m}$, with similar pileocystidia; also some undulated, smooth or little diverticulate $2\text{--}5\ \mu\text{m}$ wide hyphae with finger-like, simple, flexuose, branched $1\text{--}3\ (4) \times 4.5\ \mu\text{m}$ large excrescences present; excrescences and hyphae of the pileipellis embedded in a layer of gelatinous matter.

Hyphae of the pileus trama and of lamellae: cells of pileus sublobose, elongate-globose and vesicular, up to $58\ \mu\text{m}$ wide; hyphae of the lamellae widely cylindrical, up to $34\ \mu\text{m}$ wide.

Hyphae of the stipe cortex (Fig. 2 E): $1.5\text{--}2.5\ \mu\text{m}$ wide, with simple excrescences, $0.5 \times 0.5\text{--}5\ \mu\text{m}$.

Caulocystidia (Fig. 2 F): as wide as the hyphae, with excrescences, $1\text{--}1.5 \times 1\text{--}7\ \mu\text{m}$, and some others of different forms (Fig. 2 G), $5\text{--}11 \times 18\text{--}40\ \mu\text{m}$, irregularly diverticulate; on the upper half of the stipe some smooth, curved, flexuose, thin-walled, hairy elements (H), $2\text{--}3 \times 95\ (-100)\ \mu\text{m}$.

Reaction of hyphae in Melzer's reagent: hyphae of pileus trama and lamellae pseudoamyloid (vinaceous red and vinaceous); hyphae of the stipe pseudoamyloid (vinaceous-brown and vinaceous) and metachromatic (violet).

Clamp connections: present.

Habitat: on western-exposed slope near tumuli in a small forest (*Pinus sylvestris* L., *Quercus robur* L., *Betula pendula* ROTH) between grasses and leaves of *Quercus*, gregarious.

Typus: Germany, Lower Saxony, north of the village Kirchwalsede, district Rothenburg/Wümme, nature reserve Großes und Weißes Moor (MTB 2922/1), 28. 12. 2011, leg. JÜRGEN MIERSCH, holotype in the herbarium of the Martin-Luther-University Halle (HAL 2649 F), isotype in the herbarium of Museo Civico di Storia Naturale Venezia (MCVE 28971).

Etymology: derived from Latin „pilosus“ – hairy and „stipes“ – stipe (BERGER 1980).

Tab. 1. Differences between the new species *Mycena pilosostipitata* and *M. rebaudengi*, discriminating characters in bold.

	<i>Mycena pilosostipitata</i>	<i>Mycena rebaudengi</i>
Colour of stipe	apical whitish-pale brownish, to base brownish-blue	apically pale brownish, to base brownish
Spores	5.5–6.5 (–7–7.5) × 9.5–11 (11.5) µm	(5.5–) 6–7.5 × 8–10 µm
Basidia	7.5–9.5 × 19–30 µm, 2-sp., 5–7.5 × 17–20 µm, 4-sp.	7.5–10 × 25–30 µm, 4-sp.
Cheilocystidia	10–18 × 20–34 (52) µm, excrecences warty, apically often short finger-like, seldom simple-branched	15–37 × 25–80 µm, excrecences only warty
Pleurocystidia	Larger than cheilocystidia, up to 24 × 40 µm	12–35 × 24–70 µm
Hyphae of the pileipellis	6–10 µm wide, with thin, simple excrescences, 1 × 1–4 (–9) µm	6–23 µm wide, with thin, simple excrescences, 0.5 (–1) × 1–2 µm;
Hyphae of the cortex of the stipe	1.5–2.5 µm wide	1.5–5 µm wide
Caulocystidia	1.5–2.5 µm wide, with excrescences 1–1.5 × 1–7 µm, warty and often short finger-like ; others of different forms, 5–11 × 18–40 µm, irregularly diverticulate	5–10 µm wide, with thin, simple, only warty excrescences 0.5 × 0.5–1 µm

Discussion

In the past the second author described a number of new species of *Mycena* sect. *Filipedes*, e.g., *M. rebaudengi* (ROBICH 2000), *M. amabilis* (ROBICH 2008), *M. dobraensis* (ROBICH & HAUSKNECHT 2008), *M. albidoaquosipes* (ROBICH 2009a), *M. quercifolia* (ROBICH 2009b), *M. truncimuscicola* (ROBICH 2009c), *M. malafidensis* (ROBICH 2010a) and *M. parvistrobilicola* (ROBICH 2010b), but up to now, only *M. rebaudengi* showed a stipe with long microscopic hairs. Besides this character, the new *M. pilosostipitata* is mainly differentiated from *M. rebaudengi* by size and shape of basidia, cheilo- and caulocystidia (see Tab.1). The bluish colour of the stipe pictured in ROBICH (2003: 193) of *M. rebaudengi* is exactly the tint which is also present in the new species. But in the original description and in the figure of *M. rebaudengi* (ROBICH 2000: 322), no bluish parts of stipe were marked. Possibly, this is a problem of printer's error. All other *Mycena* species showing long hairy stems could be differentiated by very variably shaped cheilocystidia, which are smooth or covered with few but coarse excrescences.

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