

***Mycena cretata* – a new member of section *Fragilipedes* from southern Norway**

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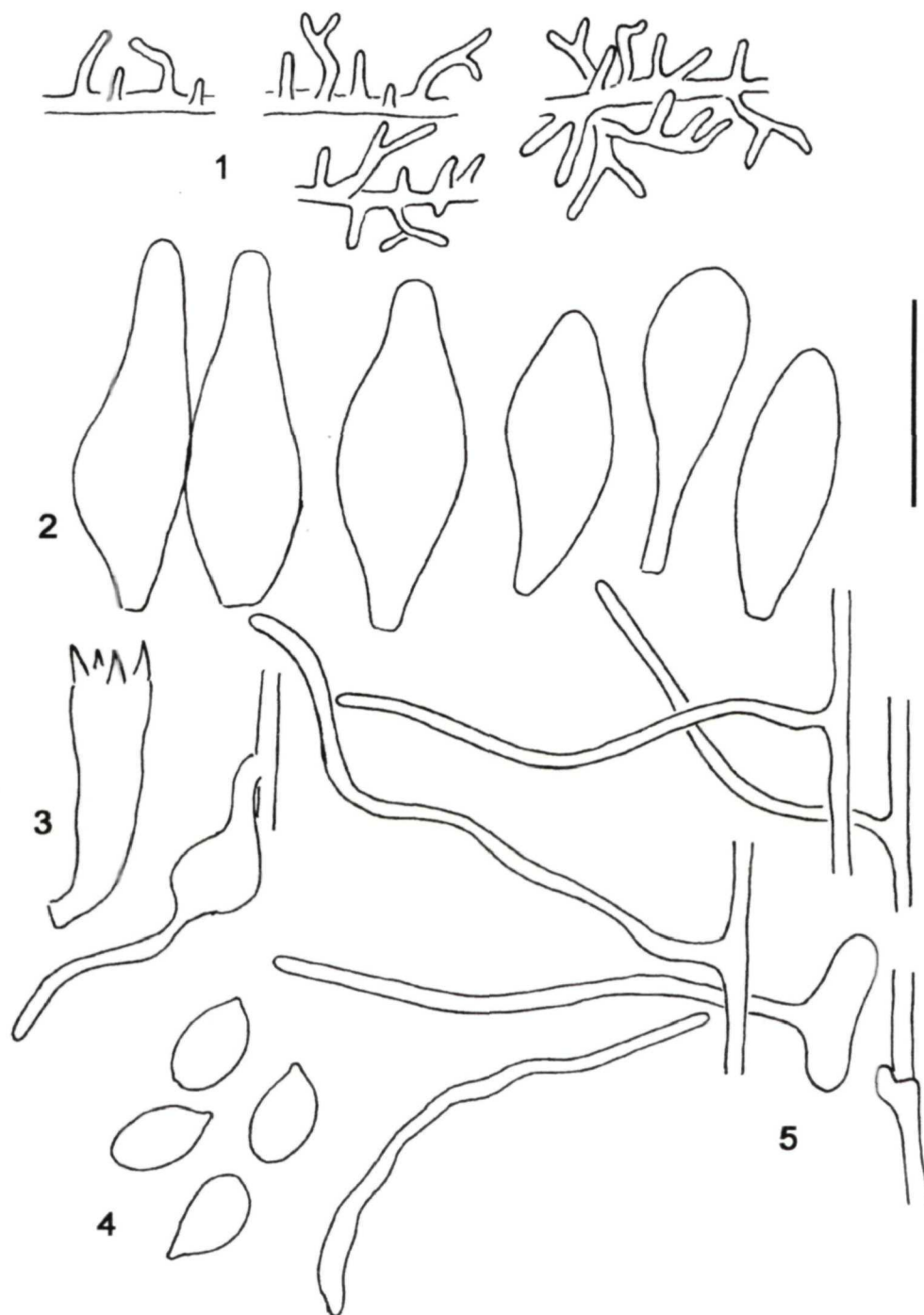
Abstract: *Mycena cretata* is here proposed as a new species in section *Fragilipedes*. It is characterised by a grey to grey-brown pileus, a nitrous smell and long, thin-walled hair-shaped cells sprouting from the stipe cortex. The new species is compared with the other species of the section with similar hair-shaped caulocystidia, and a key to these species is provided.

Zusammenfassung: *Mycena cretata* wird als neue Art der Sektion *Fragilipedes* beschrieben. Sie ist durch einen grauen bis graubraunen Hut, nitrösen Geruch und lange, dünnwandige haarartige Zellen, die der Stielrinde entspringen, charakterisiert. Die neue Art wird mit den anderen Arten der Sektion mit ähnlichen haarartigen Kaulozystiden verglichen, und ein Schlüssel zu diesen Arten ist angefügt.

Along the coast of the Oslo fjord in SE Norway there are some localities that are dominated by open grass land covered with low shrubs of *Juniperus communis*, intermixed with a few bushes of *Prunus spinosa* and *Rosa rugosa*. These localities have revealed a number of new species of *Mycena* in the recent years (ARONSEN 1994, 1996; ARONSEN & MAAS GEESTERANUS 1989, 1997; MAAS GEESTERANUS 1993). *Mycena cretata* is another new species occurring in these localities.

Material and methods

The description is based on three collections from three different years and two different localities including specimens in all stages of age. Preliminary observations and photos were made in daylight in the field, while more thorough observations and descriptions were made the same day in lamp light in the laboratory. The dried material was remoistened in 2% KOH and examined in ammoniated Congo Red and in Melzer's reagent using a Nikon light microscope with high resolution, 100 × oil objective. Of each collection 30 spores were measured. The spore length and width ratios (Q) were calculated and the average quotient value (Q_{av}) is given in the description. Measurements and drawings were made of basidia, spores, cheilocystidia, hyphae of the pileipellis and of the cortical layer of the stipe. Melzer's reagent was used to check amyloidity of spore walls and colour reactions in the lamellar trama. Abbreviations of author names are according to Index Fungorum (2009). The collections are deposited in the university museum of Oslo (O).



Figs. 1-5. *Mycena cretata* A83/08, holotype. – Fig. 1. Hyphae of the pileipellis. – Fig. 2. Cheilocystidia. – Fig. 3. Basidium. – Fig. 4. Spores. – Fig. 5. Hyphae of the stipeipellis with caulocystidia. – Bar: 20 μ m.

***Mycena cretata* ARONSEN, spec. nova (Figs. 1-7)**

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Latin description:

Pileus usque ad 17 mm latus, conicus, parabolicus vel convexus, sulcatus, translucente striatus, pruinosis, griseobrunneus vel obscure griseus, deinde griseus, centro pallido. Lamellae 15-17 stipitem attingentes, adscendentes, anguste adnatae, griseae vel obscure griseae. Stipes 70 × 2 mm, cavus, aequalis, cylindraceus, albo-pulverulentus, glabrescens, brunneus vel griseo-brunneus, deinde griseus, apice albido vel pallide griseo. Caro odore nitroso. Basidia 24-34 × 6-8 µm, clavata, 4-sporigera. Sporae (7-) 8,5-11 × (4-)4,5-5,5 µm, inaequilateraliter ellipsoideae, amyloideae. Cheilocystidia 25-47 × 8-18 µm, clavata, fusiformia, lageniformia, levia. Pleurocystidia similia. Hyphae pileipellis circa 5 µm latae, diverticulatae, in materiam gelatinosam immersae. Hyphae stipitipellis 2-4 µm latae, leves, caulocystidia 25-180 × 1,5-5 µm. Fibulae praesentes. Terricola. Basidiomata gregaria.

Holotypus: Norway, Westvold, Tjøme, Hvasser, Sønstegård 11. 10. 2008, leg. A. ARONSEN A 83/08 (O-F300031).

Etymology: from Latin *cretatus*, chalked, in white; referring to the white powdery "bloom" at the pileus and stipe.

Characters:

Basidiomata: gregarious.

Pileus: up to 17 mm across, conical, parabolical to convex, with or without a small umbo, sulcate, translucent-striate, prominently white-pruinose, glabrescent, grey-brown or dark grey, turning paler grey, mostly with a pale brown centre.

Lamellae: 15-17 reaching the stipe, ascending, narrowly adnate, at times decurrent with a short tooth, with age veined and anastomosing, dorsally intervenose, grey to dark grey, sometimes blackish grey.

Stipe: up to 70 × 2 mm, hollow, straight, terete, equal, densely puberulous, glabrescent, brownish or grey brown, apex whitish or pale grey, the base fairly dark brown, with age turning grey-brown to silvery grey, the base densely covered with long, coarse, flexuous, whitish fibrils.

Smell: nitrous.

Spores: (7-)8.5-11 × (4-)4.5-5.5 µm, Q = 1.4-2.2, Q_{av} = 1.7-2.0, pip-shaped, amyloid.

Basidia: 24-34 × 6-8 µm, clavate, 4-spored, with sterigmata up to 9 µm long.

Cheilocystidia: 25-47 × 8-18 µm, forming a sterile band, clavate, fusiform, lageniform.

Pleurocystidia: similar.

Lamellar trama: dextrinoid.

Hyphae of the pileipellis: 2-5 µm wide, covered with simple to branched, flexuous or curved, cylindrical excrescences 2-18 × 1-2.5 µm, forming dense masses and tending to become somewhat gelatinised.

Hyphae of the cortical layer of the stipe: 2-4 µm wide, smooth but occasionally covered with short excrescences near the terminal cells, producing numerous, simple to rarely forked, flexuous to fairly straight or curved, cylindrical, thin-

walled, hair-shaped caulocystidia, often somewhat widened at the base $25\text{--}180 \times 1.5\text{--}5\text{ }\mu\text{m}$. Near the apex of the stipe the caulocystidia more cystidia-shaped, clavate or with an inflated base and a short neck, smooth or with a few coarse excrescences.

Clamp connections: observed at the base of the basidia and the cheilocystidia and at the septa of the hyphae of the stipitipellis.

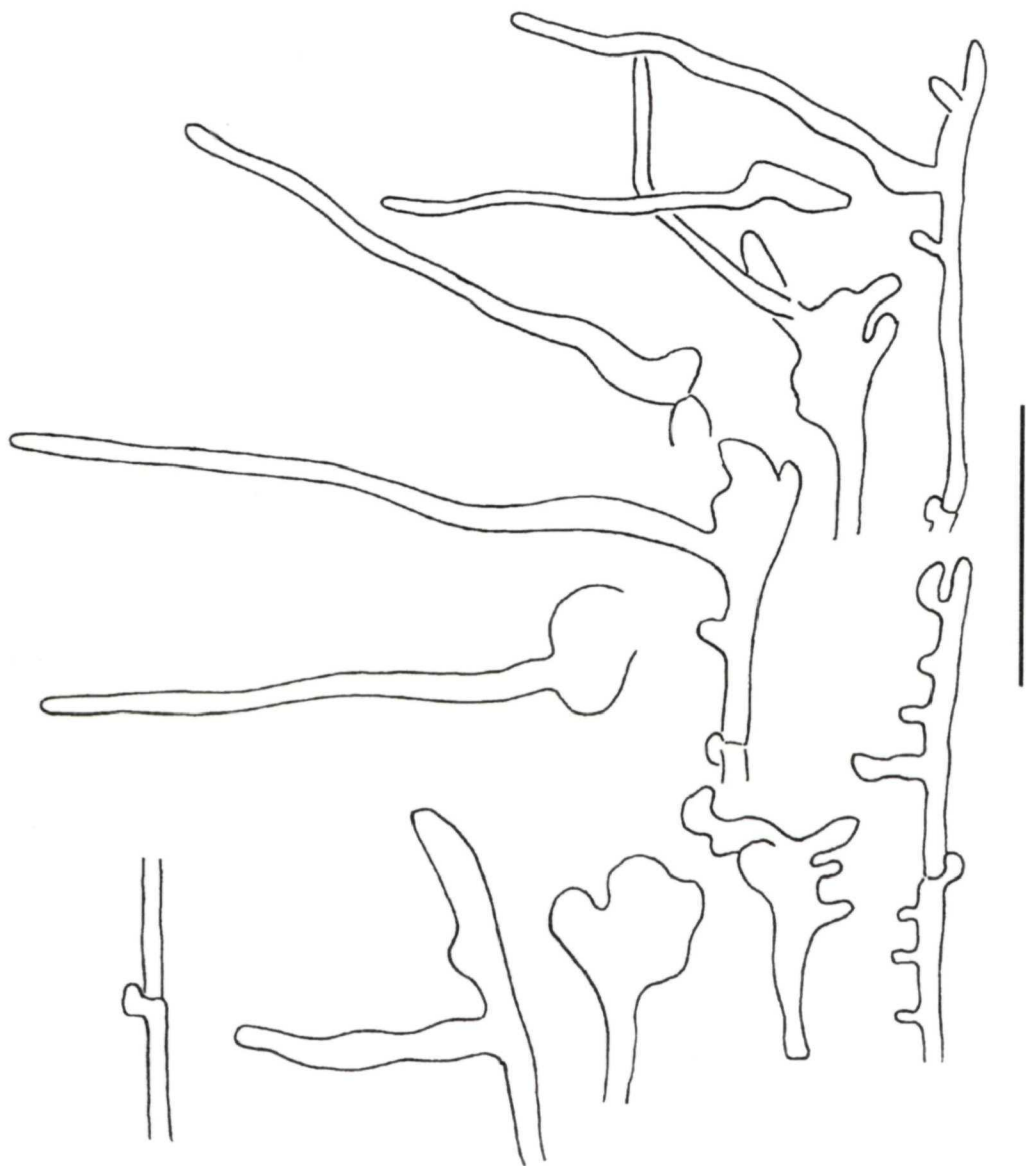


Fig. 6. *Mycena cretata* A03/98, hyphae of the stipitipellis with caulocystidia. – Bar: 20 μm .



Fig. 7. *Mycena cretata*. – Phot. A. ARONSEN.

Habitat: terrestrial in moss and grass among low bushes of *Juniperus communis* near the shore.

Material examined: Norway: Vestfold, Tjome, Moutmarka 29. 9. 1998, leg. A. ARONSEN A 03/98 (O-F370556); - Tjome, Hvasser, Sonstegård 22. 10. 2006, leg. A. ARONSEN A 16/06 (O-F370555); - 11. 10. 2008, leg. A. ARONSEN A 83/08 (O-F300031, holotype).

Discussion

This taxon initially was mistaken for *Mycena leptcephala* (PERS.) GILLET. The microscopic details, however, are so special that it can be told apart from any other *Mycena*. The taxon belongs to *Mycena* sect. *Fragilipedes* (FR.) QUÉL. on account of grey-brown colours, nitrous smell, smooth cheilocystidia, hyphae of pileipellis diver-ticulate and smooth hyphae of stitipitellis. In sect. *Fragilipedes*, so far, there are six species known with long, “hair-shaped” elements sprouting from the hyphae of the stipe cortex: *Mycena bambusae-pygmaeae* ROBICH, *Mycena pilosella* MAAS GEEST., *M. pruinatipes* ROBICH, *M. scirpicola* M. VILLARREAL, HEYKOOP, ESTEVE-RAV. & MAAS GEEST., *Mycena spinulosipes* ROBICH, and *M. villicaulis* MAAS GEEST. Neither of them matches the present taxon.

Mycena scirpicola has similar colours of the pileus: very pale brown to light grey with a darker centre, and the stipe is greyish brown. The stipe, however, is becoming very dark grey to black at the base when drying, the lamellae are more crowded (15-27 reaching the stipe), paler (white to greyish), and with a broader attachment to the stipe.

In addition the smell was said to be indistinctive. The spores are somewhat smaller measuring $7.7\text{--}9.5 \times 4.2\text{--}5.5 \mu\text{m}$, the caulocystidia have slightly thickened walls at the base and the length of the caulocystidia measures up to $300 \mu\text{m}$, and pleurocystidia are absent, only found with certainty near to the lamellar edge. Besides, the type was found growing on dead culms of *Scirpus holoschoenus* L. (VILLARREAL & al. 1998).

Mycena pruinatipes also has a brown to grey-brown pileus, brown-grey lamellae, pale watery brown stipe and nitrous smell. It is a smaller species, however, with the pileus only 3–6 mm wide; clamp connections are absent, the cheilocystidia are somewhat differently shaped, often apically mucronate; the excrescences of the hyphae of the pileipellis are shorter and the terminal cells of these hyphae are conspicuously clavate, smooth to diverticulate, and the caulocystidia are up to $280 \mu\text{m}$ long (ROBICH 2005).

Another species with a pale brown to brown pileus is *Mycena spinulosipes*. It differs from the present taxon in having the pileus centrally blackish in young specimens, white lamellae and indistinctive smell. The spores are somewhat shorter and the caulocystidia are variously shaped, either with shorter, coarse excrescences or with simple, thin protuberances up to $70 \mu\text{m}$ long, tapering towards the apex. Another important difference is the presence of thick-walled, spiny elements up to $130 \mu\text{m}$ long in the lower parts of the stipe (ROBICH 2003).

Mycena villicaulis is a very different species with cheilocystidia apically narrowed into one or two slender necks, diverticulate hyphae of the stipe cortex, and thick-walled caulocystidia. Furthermore, it lacks pleurocystidia (MAAS GEESTERANUS 1988 b).

ROBICH (2006) reported the new species *M. bambusae-pygmaeae* possessing hair-shaped elements on the stipe, measuring up to $350 \mu\text{m}$. Among several features it differs from *M. cretata*, however, by having a dark brown pileus with a violet tinge, 20–22 lamellae reaching the stipe, much larger and somewhat differently shaped cheilocystidia, and absence of pleurocystidia.

The present taxon shows similarities to *M. pilosella* in having cylindrical, thin-walled, hair-shaped caulocystidia but that species has a white pileus with a slight yellowish tint, white to yellowish white lamellae that are broadly adnate, longer cheilocystidia apically narrowed into a simple neck (rarely two necks), and is devoid of pleurocystidia. Furthermore, it is growing on wood of *Quercus* (MAAS GEESTERANUS 1988 a).

Key to the species of sect. *Fragilipedes* with hair-shaped caulocystidia

- | | | |
|----|---|---------------------------|
| 1 | Pileus white with a slight yellowish tinge | |
| | | <i>Mycena pilosella</i> |
| 1* | Pileus brown, grey or grey-brown, with or without a violet tinge | 2 |
| 2 | Hyphae of the stipitipellis diverticulate, thick-walled caulocystidia | |
| | | <i>Mycena villicaulis</i> |
| 2* | Hyphae of the stipitipellis smooth | 3 |
| 3 | Clamp connections absent, pileus 3–6 mm | |
| | | <i>Mycena pruinatipes</i> |
| 3* | Clamp connections present, pileus wider than 6 mm | 4 |

- 4 Thick-walled, spiny elements at the stipe absent 5
 4* Thick walled, spiny elements at the stipe present

Mycena spinulosipes

- 5 Pleurocystidia present

Mycena cretata

- 5* Pleurocystidia absent 6

- 6 Pileus without a violet tinge, cheilocystidia 30-65 µm long, the base of caulocystidia thick-walled

Mycena scirpicola

- 6* Pileus with a violet tinge, cheilocystidia 52-102 µm long, the base of caulocystidia thin-walled

Mycena bambusae-pygmaeae

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