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THREE MYCENAS REVISED

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Oegstgeest

(With 10 Text-figs.)

Mycena flocculentipes is reduced to the synonymy of *M. hiemalis*. *Mycena metata* is maintained as the correct name for *M. vitrea* var. *tenella* sensu Ricken, and *M. phyllogena* becomes a synonym. *Mycena corticola* is rejected as an ambiguous name, while *M. meliigena* seems a plausible choice as the correct name for *M. corticola* sensu Kühner.

In the course of my study of the genus *Mycena* the following cases were encountered which called for comment.

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MYCENA FLOCCULENTIPES Huijsm.

Mycena flocculentipes Huijsm. *in* Blumea, Suppl. 4: 160, fig. 2. 1958.

The present species proves to key out so near the two-spored form of *M. hiemalis* (Osb. apud Retz. ex Fr.) Quél. that a closer inspection seemed in order. The more important features taken from the descriptions of both are tabulated below.

	M. flocculentipes (after Huijsman)	2-spored *M. hiemalis* (after Kühner, 1938: 577)
Habitat	on rotten wood of broad-leaved tree	on mossy trunks of broad-leaved trees
Pileus	6–9 mm across, striate nearly to centre, brown in centre, more greyish, beige or whitish near margin	5–15 mm across, long striate, grey-brown to brown in centre, passing into whitish or white near margin
Flesh	very thin, more or less concolorous, not amyloid	thin, brownish, not amyloid
Odour	practically none	none
Lamellae	adnate, somewhat ventricose, white	not very broadly adnate, ascending or ventricose-sinuate, pure white or often whitish, sometimes with grey-brown shade along the base

	M. flocculentipes (cont.)	2-spored *M. hiemalis* (cont.)
Stipe	24–30 × 0.6–1 mm, finely pruinose, farinose above, covered with long hairs at the base, whitish	5–30(–40) × 0.5–1(–1.2) mm, densely but briefly pubescent throughout, with long hairs at the base, white
Basidia	22–28 × 6–7 μm, 2-spored	21–30 × 5.5–8 μm, 2-spored
Spores	7–8 × 5–6 μm, broadly ellipsoid, not amyloid	5.7–9.5 × 4.5–7 μm, briefly pruniform, ovoid to almost spherical, not amyloid
Cheilocystidia	(40–)60–72(–80) × 9–15 μm, very numerous, usually lageniform	22–35 × 5–15 μm, scattered, cylindrical to more or less strongly ventricose
Pleurocystidia	absent or some present near edge of lamellae	absent or some present near edge of lamellae
Caulocystidia	subcylindrical to fusiform, more or less irregularly shaped	cylindrical or fusiform, more or less irregularly shaped

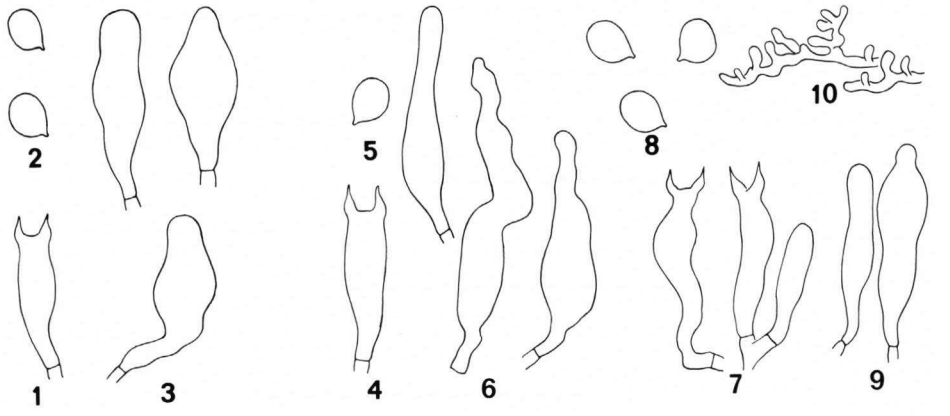
Except for the cheilocystidia which appear much longer in *M. flocculentipes* and are moreover said to be very numerous, the two descriptions offer no other points of difference by which *M. flocculentipes* could be effectively separated from *M. hiemalis*. Since, however, in many species of *Mycena* numbers as well as size and shape of cheilocystidia may vary within wide limits, one Swedish and two indubitable Dutch collections of *M. hiemalis* were procured for further investigation. The essential features of the cheilocystidia of these collections are tabulated as follows. Spore measurements are added 'pour acquit de conscience'.

	Mycena hiemalis		
	I	II	III
Cheilocystidia	36–45 × 5.5–12.5 μm, numerous	40–60 × 7–10 μm, scattered to numerous	36 × 6.5–9 μm, scarce
Spores	7.3–9 × 5.5–6.3 μm	8.1–8.5 × 5.8–6.5 μm	7.2–9 × 6.7–7.2 μm

I: Netherlands: Noord-Holland, Amstelveen, 9 Aug. 1978, *J. Reijnders* (L).
II: Netherlands: Overijsel, Delden, 11 Oct. 1968, *E. Kits van Waveren* (herb. v. W.).
III: Sweden: Fungi exs. suec. praes. upsal. 1746 (UPS).

By comparing these data and their relevant drawings (figs. 1–9) with those bearing upon the two species under discussion it will be readily seen that the supposed gap between *M. flocculentipes* and *M. hiemalis* is bridged by intermediates.

Two more points may be brought forward in support of my view that the two species are truly identical. (i) In both species, that is, in their two-spored forms, the basidia and cheilocystidia lack



Figs. 1–3. *Mycena hiemalis* (Netherlands: Noord-Holland, *J. Reijnders*). — 1. Basidium. — 2. Spores. — 3. Cheilocystidia.

Figs. 4–6. *Mycena hiemalis* (Netherlands: Overijsel, *E. Kits van Waveren*). — 4. Basidium. — 5. Spore. — 6. Cheilocystidia.

Figs. 7–9. *Mycena hiemalis* (Sweden, Fungi exs. suec. 1746). — 7. Basidia. — 8. Spores. — 9. Cheilocystidia.

Fig. 10. *Mycena flocculentipes* (holotype), hyphae from pileipellis 1.8–2.7 μm wide, showing simple and branched excrescences.

(All figures, × 700.)

clamp connections. (ii) Although the hyphae of the pileipellis in *M. flocculentipes* were stated to be 'lisses ou pourvues de quelques aspérités difficiles à résoudre', some of the said hyphae in the holotype were actually seen to possess excrescences (Fig. 10), very much like those described and depicted by Kühner (1938: 580, fig. 202 c).

MYCENA PHYLLOGENA (Pers.) Sing.

Agaricus phyllogena Pers., Mycol. eur. **3**: 242. 1828. — *Mycena phyllogena* (Pers.) Sing. *in* Persoonia **2**: 38, fig. 25. 1961.

Singer, on examination of the type of *Agaricus phyllogena* in Herb. Persoon, proposed the combination *Mycena phyllogena*, pointing out that this represented what Kühner (1938: 289) had described as *Mycena vitrea* var. *tenella* sensu Ricken. I restudied Persoon's type but failed to find cheilocystidia. Yet, in view of Singer's microscopic description and Persoon's diagnosis, I am inclined to agree with the former author's identification, but I do not share his opinion that *Mycena phyllogena* is the correct name for the species. Instead, I concur with Dennis, Orton & Hora (1960: 119) that the (earlier and) correct name is *Mycena metata* (Fr. ex Fr.) Kummer. Singer's attempt at stabilizing nomenclature, however, makes one thing abundantly clear. It is high time that action be taken and that Fries's species become fixed by the intelligent choice of neotypes. In my eyes, going by the description given by Lundell (1935: 10), it seems that the material of Lundell & Nannfeldt, Fungi exs. suec. no. 119 would make an excellent neotype for

Mycena metata. Redescription and illustration also of the microscopic features will be necessary before the choice is actually made.

In a later publication Singer (apud Singer & Moser, 1965: 156) indicated that two of his South American collections compared well to Kühner's and Favre's ideas of *Mycena vitrea*, although the colours of one of them were said to be in better agreement with *M. vitrea* var. *tenella*. Singer solved this problem by considering both collections to be mere colour forms of one species, *M. phyllogena*. It may be remembered, however, that in Europe and at least by a number of mycologists *Mycena vitrea* sensu Kühner and *M. vitrea* var. *tenella* sensu Ricken are taken to represent two separate species, and that Dennis, Orton & Hora (1960: 121) regarded *Mycena sepia* J. Lange as the correct name for *M. vitrea*. If Singer's observation, which requires repetition in Europe, is correct *M. sepia* would fall into the synonymy of *M. metata*.

MYCENA CORTICOLA (Pers. ex Fr.) S. F. Gray

Agaricus corticola Pers., Syn. meth. Fung.: 394. 1801; ex Fr., Syst. mycol. 1: 159. 1821. — *Mycena corticola* (Pers. ex Fr.) S. F. Gray, Nat. Arrang. Br. Pl. 1: 621. 1821.

Persoon's diagnosis and description of *Agaricus corticola* allow very few conclusions, and these are negative. The recording of his fungus as 'fuscescens' may be taken to mean either darkish or darkening, but since this term was followed by 'Recens pallescit, exsiccatus crispus et fuscus' there is no room for doubt. Such a description can on no account be applied to *Mycena corticola* as understood by modern authors. But, then, how to interpret Persoon's species? Here is where Singer's opinion (1961: 18–19) and mine diverge.

Persoon referred to Bulliard's *Agaricus corticalis* and the accompanying illustration, pl. 519 fig. 1A, B, with which the description of his own *A. corticola* shows a marked correspondence. If indeed this is what *A. corticola* looked like, Persoon's fungus may well have been any of several corticolous species: *Mycena supina* (Fr.) Gillet, *M. venustula* Quél., *M. alba* (Bres.) Kühn., *M. hiemalis* (Osb. apud Retz. ex Fr.) Quél., *M. speirea* (Fr. ex Fr.) Gillet, to name some of the more obvious possibilities. I fail to find any feature in Persoon's account that applies to one of the above species to the exclusion of the others. My conclusion is that it is impossible to be certain about the identity of *A. corticola* from the information available.

Fries in accepting Persoon's species gave a description of his own but, while the latter's colour annotation is simple enough, Fries must have had a much wider concept of the species in that he included dark or darkening forms (exemplified by *Agaricus corticalis* Bull. and *A. corticola* Pers.), whitish forms (exemplified by *A. umbellifera* Scop., *A. clavularis* Batsch, and *A. hiemalis* Retz.), and still others apparently seen fresh by him which were stated to vary 'incarnatus, rufescens, cyaneus, etc.' It is no use speculating what colour was foremost in Fries's mind in view of the diverse examples he gave.

The conclusion to be drawn from this is that *Agaricus corticola* Pers. ex Fr. must be rejected as a nomen ambiguum and the same applies to *Mycena corticola*. I therefore agree with Singer (although my grounds for this conclusion are different) that *M. corticola* in the sense of Kühner must be renamed, and I also agree with him that the correct name for this species would seem to be *Mycena meliigena* (Berk. & Cooke apud Cooke) Sacc., the type of which I have not studied.

Singer based his arguments largely on his examination of the material he had seen. Of the two sheets in Herb. Persoon under the name *A. corticola*, Singer suggested L 910.258–421 as lectotype. (The second sheet is of no consequence as it does not bear Persoon's handwriting.) Considering as proved by his account of this material, Singer proclaimed that 'Persoon's type must be recognized as the type of *A. corticola*.' I am not convinced. It is true that in Singer's redescription of the one whole basidiome he has seen (and of which now nothing remains) the size of the pileus (3.5 mm broad) and the size of the stipe (7.5 mm long) are well in agreement with those given by Persoon — pileus $1\frac{1}{2}$ lin. (3.2 mm) latus, stipes 3–5 lin. (6.3–10.5 mm) longus — but Singer ignored the presence of six additional stipes on the sheet. Five lack a pileus, the sixth bears a poor fragment of the pileus, with no trace left of the lamellae, but with inamyloid context, while the narrower hyphae of the stipe possess clamps. On the evidence of these two important features I am inclined to accept that the stipes on the sheet and the specimen redescribed by Singer belong to the same species. No evidence, however, can be obtained that the stipes, which may well have been gathered in a period after the publication of the Synopsis, are also conspecific with *A. corticola* as originally described by Persoon. The six stipes now range from 12 to 22 mm long. Very likely they were appreciably longer when fresh, and this coincides in no way with the measurements indicated by Persoon. It may seem futile to use the greater length of the stipe of a number of specimens as an argument to disprove their connection with an earlier description. I may point out, however, that in view of the importance of the choice of a lectotype every bit of evidence counts, and there is very little else of it available in the present case. While I admit that my own arguments inevitably contain some indecisive elements, I cannot see any justification in accepting Singer's view as correct.

Perhaps an additional piece of (circumstantial) evidence may be presented. Singer described the base of the stipe as 'now velutinous but insititious.' A stipe is called insititious if it is attached directly to the substratum, that is, without rooting fibrils. This description vividly recalls Bulliard's illustration referred to by Persoon and depicting a stipe which looks glabrous except for the very base and which does not seem to be fastened by rooting fibrils. The actual situation in the six stipes is completely different. Towards the base they are increasingly covered in long, flexuous fibrils with which the stipes are attached to the surrounding mosses.

Summing up, I maintain that the relation between the material of L 910.258–421 and the original description of *A. corticola* has not been and cannot be conclusively ascertained. In other words, the identity of the material, albeit authentic, cannot be taken to coincide with the identity of the species as originally described.

There is yet another consideration which comes into play in case Singer's choice of the lectotype would have been correct. Singer, in redescribing the specimen he regarded as lectotype, failed to give a description of the cheilocystidia, stating that they 'must be rare.' This is a circuitous way of admitting that he has not seen any. He further admitted to have observed spores 'of various types and apparently different sources...the subglobose ones most consistently appearing...taken to belong to these carpophores...' In my opinion here two defects are disclosed, and they are so serious as to render the material under discussion completely unsuitable as lectotype.

A final point may be mentioned, although it has no direct connection with the foregoing. Singer held the opinion that his redescription, in which stress is laid on subglobose spores,

'coincides with *Omphalia corticola* Peck which, according to A. H. Smith...is *Mycena hiemalis*.' Actually, Smith's wording was more cautious, for this author said '...in all probability ...' (1947: 359). I shoud add here that Smith who had studied Pecks's type stated that the material was very scanty; he said nothing about the spores. The matter acquires a very different aspect when, on consulting the original description (1891: 130), the spores of Peck's species (compare also his pl. 2 fig. 12) turn out to be 'elliptical, .0003 in. long, .00016 broad', that is, almost twice as long as their width. Further, Peck's illustration shows the lamellae to be narrow and arcuate, whereas those of *M. hiemalis* are definitely ventricose. This clearly demonstrates that Peck's fungus and *M hiemalis* are not conspecific.

REFERENCES

DENNIS, R. W. G., ORTON, P. D. & HORA, F. B. (1960). New check list of British agarics and boleti. *In* Suppl. Trans. Br. mycol. Soc.

KÜHNER, R. 1938). Le genre *Mycena* (Fries). *In* Encycl. mycol. **10**.

LUNDELL, S. (1935) *Mycena metata*. Apud Lundell, S. & Nannfeldt, J. A., Fungi exs. suec., praes. upsal., fasc. 3–4: 10.

PECK, CH. H. (1891). Report of the State Botanist. *In* Ann. Rep. N.Y. State Mus. **44**: 117–187.

SINGER, R. (1961). Type studies on Basidiomycetes. X. *In* Persoonia **2**: 1–62.

SINGER, R. & MOSER, M. (1965). Forest mycology and forest communities in South America. *In* Mycopath. Mycol. appl. **26**: 129–191.

SMITH, A. H. (1947). North American species of *Mycena*. *In* Univ. Mich. Stud., Scient. ser. **17**.