PROBLEMS AROUND A NEW MUCRONELLA

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Oegstgeest

Mucronella styriaca Maas G., spec. nov.¹

Habitu coloreque Mucronellae flavae Corner similis, ab hac tamen diversa subiculo manifesto, proventu caespitoso, sterigmatibus longioribus, sporis majoribus, cystidiis hymenialibus. Holotypus in GZU, fragmentum typi in L.

Fungus resembling by its habit and colour Mucronella flava Corner, from which it differs in possessing a well-developed subiculum, caespitose growth, longer sterigmata, larger spores, and hymenial cystidia.

Corner (1953: 356) mentioned the presence of abundant crystals in the tissue and on the surface of the stem of M. flava. There are none in M. styriaca.

Basidiome consisting of spines hanging down from a subiculum. Subiculum very sparse or more or less densely arachnoid to almost pulverulent-tomentose, yellowish white, producing stipitate spines. Stipe (dried) up to about 1 mm long, 0.1 mm wide, cylindrical, minutely powdered, whitish to corneous-translucent. Spines (dried) up to 2 mm long, up to 0.2 mm wide, pointing downwards, caespitose, more rarely growing separately, simple or coalesced or furcate at the base, subulate, with acute apex, yellowish white to pale straw yellow (fresh: vitellin with paler tips).

Context of the spines monomitic, made up of generative hyphae only. Subicular hyphae up to 9 μm wide, moderately thick-walled, with clamp-connections. Generative hyphae 3.6–10 μm wide, thin-walled, with clamp-connections, branched, anastomosing, somewhat inflating, firmly coherent, in the stipe becoming narrower towards the sides and producing hair-like excrescences (Fig. 1). Basidia 20–25 × 6.5–7 μm, clavate, with 4 sterigmata up to 7 μm long, with basal clamp (Fig. 2). Spores 5.5–7.3 × 3.8–4.3 μm, pip-shaped and often slightly triangular, smooth, colourless, without oil-drops, pale blue amyloid. Cystidia of hymenial origin, thin-walled, somewhat narrower than the basidia and little or not projecting (Fig. 2), contrasting with the latter in that their contents are stained a different shade of red in Congo Red, not becoming stained by sulfo-benzaldehyde.

Holotype: ['Österreich,] Ostalpen, Koralpe, Steiermark: Garanas bei Schwanberg, nahe der Pauritsch Kapelle im Wald, ca. 640 m³, 26 Sept. 1976, S. Michelitsch, apparently growing on very rotten wood (GZU; fragment of holotype in L).

In trying to identify the present fungus, Corner’s keys (1970) left no other choice but to regard the species as a member of Mucronella, although this assignment raised some questions, the most important one being that this genus was reputed normally to have no cystidia. These questions, as so often happens, proved to be tied to others,

¹ Etymology: styriaca, derived from Styria, Steiermark.
of which, I am sure, Donk must have been aware. He may have considered it inappropriate to go into greater detail at the time (1971), but the matter seems to me to be sufficiently important to be outlined on the following pages.

Corner (1950: 95) said of some of the species of *Mucronella* that ‘their structure is the same as in the truly Clavarioid fruit-bodies of *Ceratellopsis*, which differ in growing upward instead of downward as those of *Mucronella*. It was too early, as yet, to formulate a more definite statement.

Donk (1964: 252) placed *Mucronella* with the Clavariaceae, but there is a telltale line on p. 270 indicating that he obviously had thought of incorporating the genus into the Hericiaceae, but refrained from doing so because *Mucronella* lacked a ‘conspicuous gloeocystidial system ... taken to be of primary importance [in characterizing the Hericiaceae]'.

Figs. 1–2. *Mucronella styriaca* (holotype). — 1. Outer part of the stipe, showing hair-like excrescences. — 2. Detail of the hymenium with basidia, cystidia, and sterile cells near the tip of the spine. (Both Figs., × 700.)
At this juncture it seems appropriate to reproduce Donk's (1964: 233) definition of gloecystidia: 'Gloecystidia are usually more or less inflated, often ventricose or even vesicular bodies clearly differentiated from the hyphae from which they originate not only in their contents but also in diameter and shape'. He admitted, however, that gloecystidia may also be hypha-like, with gloecystidia-like terminations in the hymenium. With this emendation he introduced an element that would cause him to deviate from his original concepts.

In his card index I found that Donk evidently had changed his mind later on and had entered not only Mucronella but also Amylodontia parmastii Nikol. among the genera of the Hericiaceae. The Latin description of the latter species (Nikolajeva, 1967: 238)—the specific epithet of which I would have preferred to spell parmastoi—mentions the rare presence of cystidia. The true nature of these organs greatly puzzled Nikolajeva, as is borne out by the sentence: 'Species ... Hericio fragili (Fr.) Nikol. [=Dentipellis fragilis (Pers. ex Fr.) Donk] simillima est, sed gloecystidiis nullis (nunquam bene evolutis) ... differt'.

The two examples mentioned above show that Donk no longer felt any scruples in incorporating into the Hericiaceae (a family he had proposed himself) genera which lacked an essential familial character—the gloecystidial system. But there is more.

Corner (1970: 171–173) similarly placed Mucronella in the Hericiaceae, stating of the genus that 'there are no gloecystidia or well-formed cystidia'. The latter part clearly refers to a description given by Malençon but is open to comment. Malençon (1958: 321), in redescribing the species Corner was to rename Mucronella bresadolae (Quél.) Corner (1970: 172), found the species to possess 'cystidioles ... tantôt rares ou même absentes, tantôt très nombreuses, d'origine hyménienne et répondant à des basides stériles étirées en poils étrous, simples ... demeurant inclus entre les basides ou dépassant l'hyménium de 10–20 μ'.

Firstly, even if it is true that the cystidia in M. bresadolae are very slender indeed and may with some imagination be compared to sterile basidia, this certainly does not apply in the case of M. styriaca. Secondly, in her description of Amylodontia parmastii Nikolajeva observed that the hyphae in the apex of the spines were sometimes filled with yellow matter and terminated with swollen tips. Thirdly, Corner (1970: 170) in a figure drawn after Siberian material (Parmasto 12993) showed the hymenial details of a fungus which, although possessing gloecystidia, differed from Dentipratulum bialoviesense as described by Domański (1965: 7) in lacking a gloeoplerous system, of which in general the gloecystidia constitute the terminal ends.

The above three points, in connection with the aspect of the cystidia of M. styriaca as shown in Fig. 2, strengthen my opinion that in some of their characters the smaller-sized Hericiaceae display a truly remarkable series of smoothly graded steps: well-developed gloeoplerous hyphae terminating in gloecystidia (Dentipellis Donk, Dentipratulum Domański); no gloeoplerous hyphae but unambiguous gloecystidia.

* The term 'gloeoplerous hyphae' was coined by Donk (1971: 18).
present (Dentipratulum sp.: Parmasto 12993); gloecystidia-like hyphae present among the basidia (Mucronella styriaca, Amylodontia Nikol.); basidia mixed with sterile organs which do not resemble gloecystidia and which are numerous or rare or may be absent altogether (Mucronella bresadolae); hymenium with no cystidia at all (Mucronella Fr.).

There are yet other series in this group, although they may prove to be of lesser importance, as e.g. basidiome made up of a single spine (Mucronella, Corner, 1950: 95)—basidiome consisting of clustered or branched spines (M. styriaca); without a subiculum (Dentipratulum) — with a thin, arachnoid subiculum (some species of Mucronella)—with a dense, almost tomentose subiculum (M. styriaca)—with a thin, woolly subiculum and a long rooting base penetrating the substratum (M. bresadolae) —consisting of a membranous basal layer (Dentipellis, Amylodontia).

Overlooking these multiple series, I am under the steadily growing impression that not all of the genera so far mentioned constitute separate taxa. Dentipratulum, by way of example, could easily be merged with Dentipellis, from which it merely differs in lacking a membranous basal layer, a feature that in my eyes is of specific rather than generic significance. Further considerations, however, seem to make it in-advisable as yet to take this step, since it eventually would lead to all three genera —Amylodontia, Dentipellis, and Dentipratulum—becoming united with Mucronella. Keeping in mind moreover (1) that Mucronella bresadolae with its long rooting base ‘may well be regarded as an intermediate’ (Corner, 1970: 173) and (2) how little it would actually take to amalgamate a greatly enlarged Mucronella (with correspondingly vaguer generic limits) with Hericium Pers. ex S. F. Gray, it becomes clear that here looms the other extreme, and certainly one which is equally unsatisfactory.

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References


