

More on *Mielichhoferia mielichhoferiana*

Fred Rumsey's interesting article on *Mielichhoferia mielichhoferiana* (*Field Bryology* 113, 12-17) requires a response. Having examined a range of herbarium specimens a few years ago, including continental material, I concluded that there wasn't any compelling evidence for the presence of *M. mielichhoferiana* in Britain, but did not get around to publishing. All the specimens I examined proved to be either *M. elongata* or *Pohlia nutans*.

As stated in Rumsey's article, and as earlier concluded by Shaw (1994, 1998), there is now no doubt that *M. elongata* and *M. mielichhoferiana* are distinct taxa. The question is whether the latter occurs, or has ever occurred, in Britain. I found that the problem was not so much differentiating between *M. elongata* and *M. mielichhoferiana*, but between depauperate specimens of putative *M. mielichhoferiana* and *Pohlia nutans*. One of the problems is the variability of *P. nutans*, which can be very small and can also form quite compact patches, often with fragile stems. True *M. mielichhoferiana* (judging by specimens from continental Europe) is even more compact, has a metallic sheen and the shoots have a slight but characteristic, rather *Zygodon*-like, twist. Its appearance is thus somewhat different from that of *P. nutans*, but size, compactness and fragility alone do not distinguish it. *M. elongata* is easily recognised in the field by its pale glaucous green colour.

The nerve section is indeed a good character for distinguishing *M. mielichhoferiana* from *M. elongata*, but *P. nutans* and *M. mielichhoferiana* are very similar indeed in this respect, and

unfortunately the nerve section of *P. nutans* is very variable. That of *M. mielichhoferiana* is nicely shown on the *Flore des bryophytes de Suisses* website (http://www.swissbryophytes.ch/content/fr/bildgalerie?taxon_id=1683). That of *P. nutans* tends to be coarser, deeper, and have more stereids. I have examined all the specimens of *P. nutans* in my herbarium and, even in that limited selection, found a wide range of nerve sections from the sort illustrated by Nyholm (1981) all the way to ones that look just like the illustrations in Fig. 1 of the paper in *Field Bryology* (Rumsey 2015), especially Braithwaite's Moel Siabod plant.

Both Coker's Coire Kander plant and Corley's Beinn Dorain plant appear to be *P. nutans*, the latter determined as that species by Jonathan Shaw. Braithwaite's Moel Siabod plant is at best equivocal. It certainly does not much resemble continental material of *M. mielichhoferiana*, and my opinion is still that it is depauperate *P. nutans*. Rumsey is correct in saying that I did not examine the July 1930 Duncan collection from Coire Kander (it is kept in the Dixon herbarium (BM), which I did not search at the time). However, I have since examined this specimen, and it is indeed by far the most convincing candidate for *M. mielichhoferiana* of all the specimens I have seen. It is small and fragmentary, but the shoots have both the characteristic metallic sheen and the slight twist of that species. The nerve section is rather variable, but shows more stereids than is usual in *M. elongata*, and often two tiers of large thick-walled cells ventrally: in fact many sections closely resemble those shown for *M. mielichhoferiana* on the *Flore des bryophytes de Suisses* website. It has been identified as *M. mielichhoferiana* by Shaw, with the comment, "apparently mixed with and possibly hybridizing with *M. elongata*".

It would appear, therefore, that *M.*

mielichhoferiana, or something partly derived from *M. mielichhoferiana*, occurs or has occurred in Britain. However, this conclusion rests on a single, non-fertile, scrappy specimen from Coire Kander that might be a result of hybridisation. Nearly all the other putative specimens of *M. mielichhoferiana* collected in Britain are certainly either *M. elongata* or *Pohlia nutans*. Braithwaite's Moel Siabod specimen is at best dubious, and the balance of evidence suggests that it too is *P. nutans*. Further fieldwork to attempt to find material of *M. mielichhoferiana* or the hybrid in Coire Kander would obviously be desirable. Several bryologists have been there in recent years and found only *M. elongata*, but it is a large and difficult area to search thoroughly. I have myself seen and collected from Coire Kander compact and fragile plants that I thought had a chance of being *M. mielichhoferiana*, but all turned out to be *P. nutans*. The key to finding *M. mielichhoferiana* (or the hybrid, or whatever it is) will be to look among the cushions of *M. elongata* for shoots that are less glaucous and have more of a metallic sheen.

References

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