

# Changing patterns in frequency of two coprophilous/necrophilous mosses in northern England and some notes on forestry tracks

△ Fig. 1. *Tetraplodon mnioides*. John Birks

In light of his own data on *Tetraplodon* and *Splachnum* in north-east England, **John O'Reilly** asks other members to share their observations and thoughts about 'dung moss' distribution.

Since August 2007, I have found *Tetraplodon mnioides* (Fig. 1) 10 times in the uplands of north-east England (v.-c.s 66, 67 & 68). In the same time I have found *Splachnum sphaericum* only once. This prompted me to examine all of the records for these two species from this area which are summarized by decade in Fig. 2. *Splachnum* seems to have been almost twice as frequent as *Tetraplodon* in the 1950s and 1960s. There follows a period of three decades when new records of both species were few and show no clear pattern, but since 2000 *Tetraplodon* records are more frequent than ever before and are far outstripping *Splachnum* records. The purpose of this note is mainly to ask if others are noticing similar patterns elsewhere in upland Britain.

Marino (1991) studied competition between two *Splachnum* and two *Tetraplodon* species growing on moose and wolf dung through both laboratory and field experiments in Alberta, Canada. He found that, although species from both genera grew well in either wet or dry habitats when growing on their own, *Splachnum* species competed better than *Tetraplodon* species in wet habitats and the reverse was true in dry habitats.

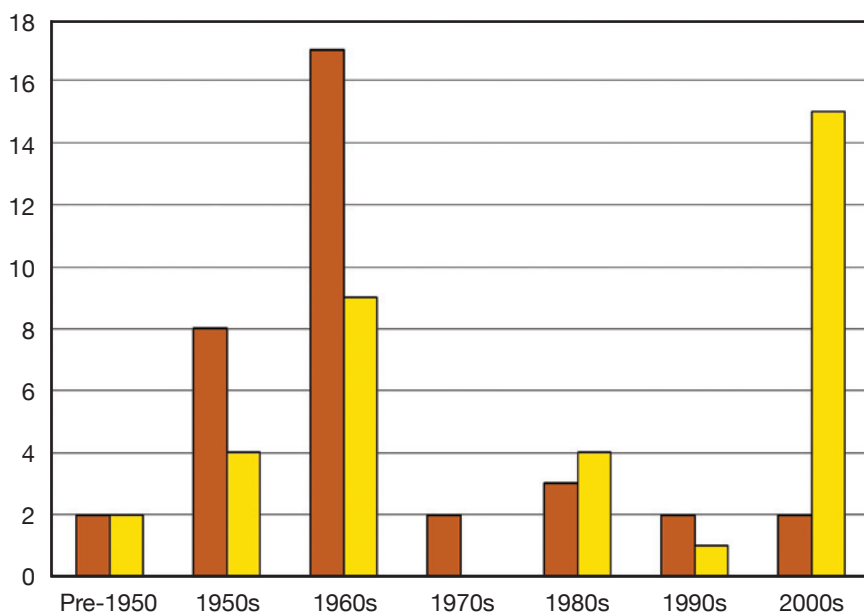
Most of the more recent records from north-east England can be ascribed to a reasonably specific habitat. Both post-2000 records of *Splachnum sphaericum* are from blanket bog at relatively high altitude (595 m and 630 m), although a record from 1994 is from only about 205 m. The 13 most recent records of *Tetraplodon mnioides*

that can confidently be ascribed to a specific microhabitat are more varied. Three records are from blanket bog, one from a ditch next to a forestry track, six from forestry or moorland (hard-surfaced) tracks, one from a disused forestry quarry floor and two from amongst scree. The altitude of these *Tetraplodon* records ranges between 295 m and 655 m with a mean of 455 m. Over half of these *Tetraplodon* records come from relatively dry, recently modified habitats associated with forestry plantations. Other interesting species have been recorded locally from this type of habitat in recent years. *Scapania scandica* has been recorded 15 times in the region. Nine of these records are post-2000 and most of these are from forestry track passing places. *Diplophyllum obtusifolium* was

recorded new to v.-c. 68 in some abundance along a forestry track in 2008. Forestry tracks have also been noted as a habitat of some interest in the Scottish borders for species of clubmoss that had previously been uncommon in the area by Braithwaite (2009), who describes the precise microhabitat in some detail.

Interesting sites are often in north-facing and/or sheltered locations on older tracks that are relatively undisturbed by vehicle traffic. The surface is often still relatively sparsely vegetated, with a low overall cover of (mostly stunted) vascular plants amongst the bryophytes and lichens.

Together, these observations raise a number of intriguing questions about the factors affecting the distribution of the Splach-



< Fig. 2. Number of records of *Splachnum sphaericum* (■) and *Tetraplodon mnioides* (■) for each decade since 1950 in v.-c.s 66, 67 & 68.





'Dung moss' distribution

< Fig. 3. *Tetraplodon mnioides* and *Splachnum sphaericum* growing together on the same dead sheep at Harthope Head (v.-c. 66). Note that the *Tetraplodon* is confined to the higher and drier microhabitat. Paul Leadbitter

naceae. To what extent are the new records due to a particularly suitable new habitat provided by the forestry tracks, or due to these forestry tracks providing convenient routes for botanists to walk along? If the observed changes are real, it is interesting to speculate on why they are happening. Climate change (warmer, wetter?), habitat change or recorder bias are reasonable suspects of course, but there are also a number of other factors which need to be considered. The type of dung (herbivore, carnivore, avian) on which the plants grow is significant. For example, Gordon Rothero's observations suggest that in Britain *Tetraplodon* species grow exclusively on carnivore scats, bird pellets or on carrion, and *Splachnum* species rarely grow on anything other than herbivore dung. In addition, much

discussion has centred around the possible effects of chemical drenches for livestock on Splachnaceae numbers.

I would be interested to hear from any bryologists who have observations on any of these issues.

**John O'Reilly**

3 Railway Cottages, Lambley, Brompton  
CA8 7LL (e [john@ptyxis.com](mailto:john@ptyxis.com))

## References

- Braithwaite M.E. (2009). The Lycopods and conifers of forestry tracks. *BSBI Scottish Newsletter* 31, 26–27
- Marino, P.C. (1991). Competition between mosses (Splachnaceae) in patchy habitats. *Journal of Ecology* 79, 1031–1046