
**THE BRYOPHYTES OF MONKWOOD
GREEN**

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All photos © Dr Christopher Betts (this is *Rhytidiadelphus squarrosus*)

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The Bryophytes of Monkwood Green

Introduction

Following my short paper about the lichens of Monkwood Green¹, it has seemed logical to follow up with some information on the bryophytes that are found there, too. Again, this is not an exhaustive study and there are doubtless more than a few species that I have missed, but I hope this note will at least give a flavour of the variety of bryophytes we have on the Green². They represent a significant botanical element in terms of cover and abundance on the Green.

Bryophytes (the Phylum **BRYOPHYTA**) are non-vascular plants and consist of the mosses (BRYOPSIDA), the liverworts (MARCHANTIOPHYTA) and the hornworts (ANTHOCEROTOPHYTA). The taxonomy is rather complicated, and with so much in this era of genomics and cladistics, subject to much change. Based on the current system adopted in the *Journal of Bryology* checklist³, the bryophyte flora of Britain and Ireland comprises four hornworts, 299 liverworts, and 795 mosses at species level (with forty-two additional infraspecific taxa). In this paper, I have only been concerned with the mosses and liverworts I have come across in walking over the Green. These plants have very interesting and rather complex life cycles for which I cannot do better than recommend you to the British Bryological Society's web site at <https://www.britishbryologicalsociety.org.uk> which has a wealth of information. I have not seen any hornworts.

Mosses are ecologically important in several ways that are not always appreciated, and recent studies indicate that they are genetically more diverse than vascular plants⁴ but that almost 20% of them in Britain are in danger of extinction⁵. They don't just supply lining for hanging baskets or nesting material for birds, but they are rich micro-habitats in their own right, contributing significantly to biodiversity. Look at any moss under a lens or microscope and you will find small animals amongst the fronds. Some moss-dwellers are fairly large and can be seen with the naked eye (small snails, woodlice, weevils, springtails, *etc.*) but most of the life is microscopic, though

¹ Available to download as a PDF at <https://tinyurl.com/3vw6zf7d>

² There are more than 450 moss and liverwort species recorded in Worcestershire. Eminent botanist Dr Ann Hill is the county bryophyte recorder for the Worcestershire Wildlife Trust.

³ <https://tinyurl.com/yppf98tm>

⁴ <https://www.nature.com/articles/s41588-025-02325-9>

⁵ <https://tinyurl.com/54a67des>

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none-the-less fascinating for that. With one of the new affordable digital microscopes that you can connect to your laptop, you will see mites, rotifers, nematodes, tardigrades and “hairybelly” gastrotrichs as well as diatoms, amoebae and others. Perhaps think twice before removing all the moss from your lawn or roof and killing all the life living in it as well as the bryophytes themselves!

Liverworts have the oldest fossil record of the bryophytes and are also ecologically important, being able to grow where other plants cannot, especially as components of alpine/arctic ecosystems. They help soil stabilisation, thus preventing erosion, and contribute to ecosystems by, like mosses, providing a micro-environment of habitats for small and microscopic organisms. Their identification and collection, though, is challenging, many being small and growing intertwined with lichens, mosses, algae or fungi and sometimes looking like moss protonemata. I am sure my list is far from exhaustive.



In the face of the latest government concessions to developers and planners so that no nature reserves are now completely safe, we must try to ensure the long-term protection of important wildlife sites such as Monkwood Green. The more knowledge we can accumulate about its ecology and the myriad of creatures living here, the better armed we are to stave off attempts to impoverish its ecological status or, heaven forbid, build on it. Hopefully the data I and others have collected are a significant counter to any developer’s thoughts of operations on Monkwood Green.

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Bryophytes of Monkwood Green recorded by the author

Name	Comment
Mosses	
<i>Brachythecium velutinum</i> (Hedw.) Ignatov & Huttunen (velvet feather-moss)	Edge of drives and trees, <i>etc.</i> Common
<i>Bryoerythrophyllum recurvirostrum</i> (Hedw.) P. C. Chen (red beardmoss')	Here and there on tree boles
<i>Bryum argenteum</i> Hedw. (silver-moss)	In cracks along road/tracks
<i>Bryum capillare</i> Hedw. (capillary threadmoss)	Common on various substrata
<i>Cryphaea heteromalla</i> (Hedw.) D. Mohr (lateral cryphaea)	On mossy tree bark
<i>Grimmia pulvinata</i> (Hedw.) Sm. (grey-cushioned grimmia)	Occasional (saxicolous)
<i>Hylocomium splendens</i> (Hedw.) Schimp. (glittering woodmoss)	Here and there
<i>Hypnum cupressiforme</i> Hedw. (cypress-leaved plait-moss)	On trees
<i>Hypnum resupinatum</i> Taylor (supine plait-moss)	Common on trees
<i>Isoetecium myosuroides</i> Brid. (slender mouse-tail moss)	On shady tree trunks
<i>Kindbergia praelonga</i> (Hedw.) Ochyra (common feather-moss)	Common/widespread
<i>Lewinskya affinis</i> (Brid.) F. Lara, Garilleti & Goffinet (wood bristle moss)	Common & widespread on tree branches
<i>Orthotrichum anomalum</i> Hedw. (anomalous bristle-moss)	Calcicole (on concrete drainage headwall)
<i>Oxyrrhynchium hians</i> (Hedw.) Loeske (Swartz's feathermoss)	On clay soil
<i>Plagiomnium undulatum</i> (Hedw.) T. J. Kop. (palm-tree moss)	On soil around trees
<i>Pseudoscleropodium purum</i> (Hedw.) Fleisch. in Broth. (neat feather-moss)	Abundant in Green's grassland with <i>R. squarrosus</i>
<i>Rhynchostegium confertum</i> (Dicks.) Schimp. (clustered feather-moss)	Common on tree trunks
<i>Rhytidiadelphus squarrosus</i> (Hedw.) Warnst. (springy turf-moss)	Abundant in the Green's grassland
<i>Syntrichia laevipila</i> Brid. (small hairy screw-moss)	On tree trunks & stumps mostly
<i>Thuidium tamariscinum</i> (Hedw.) Schimp. (common tamarisk-moss)	Shady, damp ground, <i>etc.</i>
<i>Tortula muralis</i> Hedw. (wall screw-moss)	Local (<i>e.g.</i> on well top)

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Name	Comment
Liverworts	
<i>Frullania dilatata</i> (L.) Dumort. (dilated scalewort)	Widespread on tree bark
<i>Lophocolea bidentata</i> ⁶ (L.) Dumort. (bifid crestwort)	Common, often with mosses in various habitats.
<i>Lejeunea cavifolia</i> (Ehrh.) Lindb (Micheli's least pouncewort)	Occasional
<i>Marchantia polymorpha</i> ssp. <i>Ruderalis</i> L. (common liverwort)	Disturbed ground near gardens
<i>Metzgeria furcata</i> (L.) Corda (forked veilwort)	On trees
<i>Pellia epiphylla</i> (L. Corda) (overleaf peltia)	On moist, shady loam, etc.
<i>Radula complanata</i> (L.) Dumort. (even scalewort)	Among lichens on trees etc.
<i>Riccardia palmata</i> (Hedw.) Carruth. (palmate germanderwort)	One small patch found on a log.

⁶ Some of the latest references I have for this common liverwort include *Lophocolea cuspidata*, so I have followed this convention.

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Illustrations

Below are some of the Monkwood Green bryophytes, photographed with a digital microscope or mobile phone. Please note that they are at different magnifications.



Bryum argenteum, silver-moss. This common moss forms pale/silvery tufts. It likes disturbed, anthropogenic habitats and occurs along the edges of the Green's roads.

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Bryum capillare, the capillary thread-moss, common throughout the British Isles in many habitats.

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Cryphaea heteromalla, the lateral cryphaea. This moss likes ash and willows which are plentiful on the Green. Common in England and Wales.

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Grimmia pulvinata, the grey-cushioned grimmia. A common moss of lowland Britain, it grows here and there on substrata such as on wall tops at the edge of the Green. Inset is a close-up of one of the capsules, showing the beaked lid.

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Hylocomium splendens, the glittering woodmoss. A common, rather glossy pleurocarp of less calcareous substrata, often amongst grass. The red stems and fine-pointed, stem leaves lacking a prominent central nerve help separate it from other similar mosses.

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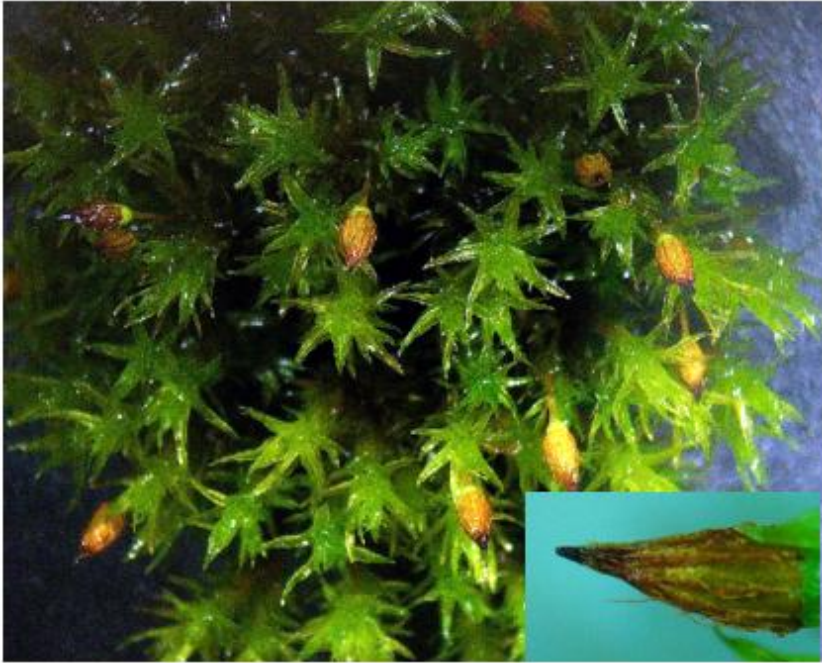
Hypnum resupinatum, the supine plait-moss. This is sometimes treated as a variety of *H. cupressiforme* which also occurs on the Green. The leaves tend to point upwards, and the capsules are held more-or-less erect, at least when young. Very common throughout Britain.

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Isoetecium myosuroides, the slender mouse-tail moss. This grows on shady tree trunks all over Britain and can also be found on boulders and other substrata that are not calcareous.

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Orthotrichum anomalum, the anomalous bristle-moss showing late-season furrowed capsules which also have sparse hairs (inset); a common and widespread species in Britain on concrete, gravestones and masonry.

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Oxyrrhynchium hians, Swartz's feather-moss. This moss tends to grow on bare soil, often on banks and sides of ditches and in anthropogenic habitats. It has widely-spaced leaves and side branches. Stem and branch leaves are the same shape, unlike *Kindbergia praelonga*.

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Plagiomnium undulatum, the hart's-tongue thyme-moss occurs in grassland and on woodland soils where the ground is neutral/base-rich.

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Pseudoscleropodium purum, the neat feather-moss, a common species on the Green. Insert shows the tiny, recurved leaf-tips which are a diagnostic feature.

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Syntrichia laevipila, the small hairy screw-moss. Another widespread species, mostly on trees.

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Thuidium tamariscinum, the common tamarisk moss. A very familiar woodland and hedge bank species, sometimes amongst grass. More common in Monkwood than on the Green.

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Frullania dilatata, the dilated scalewort on an ash tree near the centre of the Green. Ash is a favourite substratum for the distinctive dark patches of this liverwort, but it also grows on willows, poplars and other trees as well as in turf and on rocks in coastal areas.

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Lophocolea bidentata, the bifid crestwort. This is thought to be the commonest liverwort in the British Isles, occurring on many different substrata in a wide range of habitats.

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Marchantia polymorpha ssp. *ruderalis*, known as the common liverwort, grows in anthropogenic habitats such as gardens, plant pots and between paving – my photo showing gemma cups.

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Metzgeria furcata, the forked veilwort. This liverwort grows on a wide range of trees.

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Radula complanata s.l., the even scalewort. This is a liverwort of areas of moist scrub and woodland.

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Algae

Algae are not bryophytes and I have not looked at this large group of diverse phyla in any detail – that will have to be for another study. Certainly, there are numbers of them on Monkwood Green, including the symbionts of lichens as well as *Desmococcus*, orange *Trentepohlia* and aquatic green algae in the ditches.

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Internet Resources

British Bryological Society <https://www.britishbryologicalsociety.org.uk/>

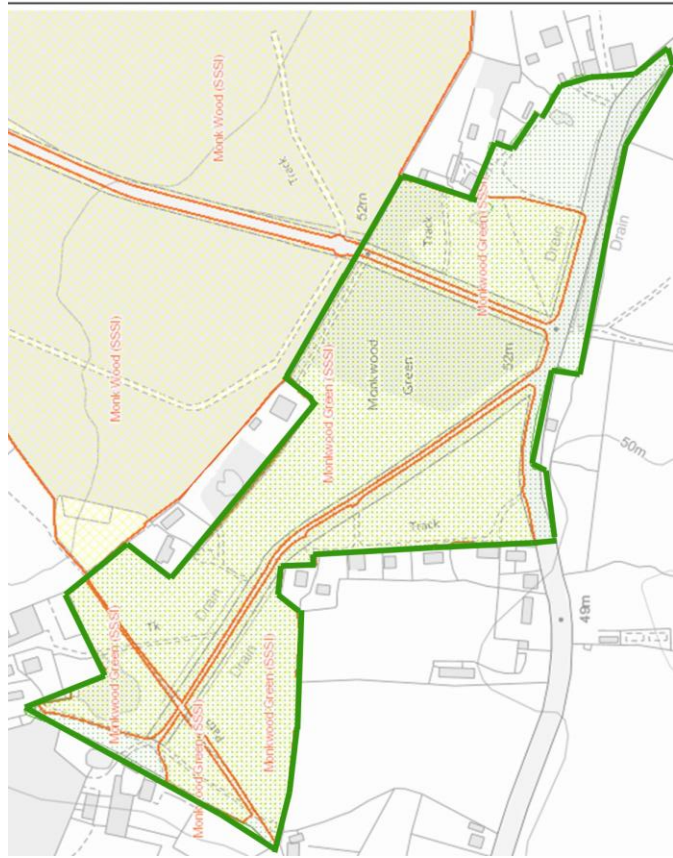
English Names for British Bryophytes <https://www-tinyurl.com/07e95bd8>

Literature <https://www.britishbryologicalsociety.org.uk/publications/>

Key

- Registered Common Land - Conclusive © Natural England
- SSSI England Detailed © Natural England

Approx area examined for lichens



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