

## Mosses and Liverworts in Churchyards and Burial Grounds

Mosses and liverworts are usually studied together and are collectively called 'bryophytes'. They are small green photosynthetic plants that do not form flowers or seeds, but instead produce spores. There are over 1000 different kinds in the British Isles. Although some species can tolerate drying out many cannot survive unless kept moist. The best places, therefore, to look for bryophytes are sheltered and humid habitats.

### Mosses

Churchyards and burial grounds are vitally important for many mosses as they often incorporate rocks not naturally occurring in the area and they are generally less intensively managed than the surrounding countryside.

In a churchyard or burial ground mosses can be found in grassland and on nearly all walls, roofs and some gravestones, depending on the nature of the stone. Granites and marbles are poorer in mosses whilst limestones are much richer.

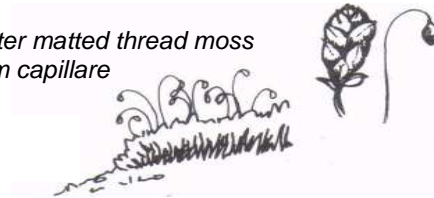
Mosses may be small and seem common place but it does not mean that they are unimportant. Mosses provide habitat for other life such as insects, which in turn provide food for birds. Mosses, therefore, should in general not be stripped away, unless they are causing a safety hazard, e.g. on slippery paths. Roof tiles covered in moss can sometimes become loose, but it does no harm to leave the moss in place.

Small quantities of moss on the church building do no damage in the short term. Long term, however, if it becomes too vigorous, it may be best removed.

### Moss on Gravestones

Mosses can obscure the inscriptions on an old headstone or tomb, but they do constitute a colourful sight and eco-friendly areas for wood lice, beetles etc.

*Greater matted thread moss  
 bryum capillare*



Mosses attach themselves by rhizoids and can grow at very low nutrient levels. Aspect and shelter determine which species are present on the stones. Typically a whole suite of common mosses such as *Bryum capillare*, *Grimmia pulvinata* and *Tortula muralis* soften the harsh stonework with soft cushions whilst the creeping *Homalothecium sericeum* spreads over headstones. For *Rhynchostegiella tenella*, Tender Feather-moss, churchyards are its commonest habitat.

Flat gravestones can quickly be covered with moss, which may have a protective effect on the inscriptions so its removal is not advised. There are occasions, however, where moss can accelerate stone deterioration and it may be appropriate to remove moss from the top surface of standing **sandstone** gravestones to stop the rhizoids or roots penetrating downwards.

Unfortunately, modern headstones, such as those made of black reflective granite make unsuitable substrates for mosses and are devoid of life.

### Conserve Mosses

Mosses are perhaps to some extent in competition with lichens on gravestones, and through their greater mass and more vigorous growth, could shade out lichens. However, in drier sunnier parts of the churchyard lichens clearly survive quite well. Darker shady areas are less likely to produce much lichen growth so nature has a way of allowing the different species to co-habit quite amicably.

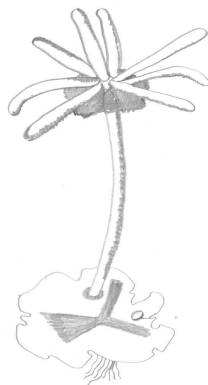
The practice of collecting mosses to line hanging baskets, or completely exposing stonework carpeted in moss is perhaps a little disrespectful and is not something, which should happen in churchyards. Finding the balance between what is good for the environment and the historic stonework and the interests of tidiness is the key.

### Moss in Grassland

Mosses often form part of the grassland areas too, and as their existence indicates the right conditions for other life forms such as fungi, sedges or rushes, it is best not to dig up or treat mosses in damp grassland. Dry calcareous grasslands with their multitude of species are not likely to have much moss growth on sunny aspects. If there are mossy areas, then they could well produce some unusual species of fungi in the autumn if undisturbed, as well as uncommon mosses.

### Liverworts

Liverworts may be leafy and very similar to mosses (although the fruit looks quite different) and there are many varieties of liverworts, which can be a study in their own right. They thrive in conditions similar to mosses - moist and shady, in woodland areas, by streams and rivers but also on damp shady stones and soil such as in churchyards. They are found less frequently than mosses in churchyards. One of them is *Marchantia polymorpha*, a thalloid liverwort.



Liverwort *Marchantia polymorpha*

### Identification

Mosses and Liverworts do not have common English names. A microscope is not necessary for identification – a good hand lens is recommended.

Some species can be identified using the very useful *Mosses and Liverworts of Towns and Gardens* sheet, available as a download from the British Bryological Society (BBS) website under their 'learning more' section. [www.britishbryologicalsociety.co.uk](http://www.britishbryologicalsociety.co.uk)

BBS also offer short courses as do the Field Studies Council. [www.field-studies-council.org](http://www.field-studies-council.org)

### Surveys of Mosses and Liverworts

There are many species of mosses and liverworts, some rare. Therefore, it may be worthwhile having a specialised survey completed on a wall, which has to be dismantled or repaired extensively to make sure any unusual mosses or liverworts are kept alive and repositioned after the repair is completed. Some botanists specialise in mosses and liverworts. To enlist their help with identification, you should contact your local Wildlife Trust. [www.wildlifetrusts.org](http://www.wildlifetrusts.org)

### Publications

The BBS recommend the society's field guide, both for those starting out and for more experienced bryologists: *Mosses and Liverworts of Britain and Ireland. A Field Guide*. eds: I.Atherton, S.Bosanquet, M.Lawley. First edition 2010, British Bryological Society. SBN: 978-0-9561310-1-0.

There are other publications listed on the BBS website: [www.britishbryologicalsociety.org.uk](http://www.britishbryologicalsociety.org.uk)

### Contacts

British Bryological Society (mosses) Dept. of Botany, National Museum of Wales, Cardiff CF1 3NP