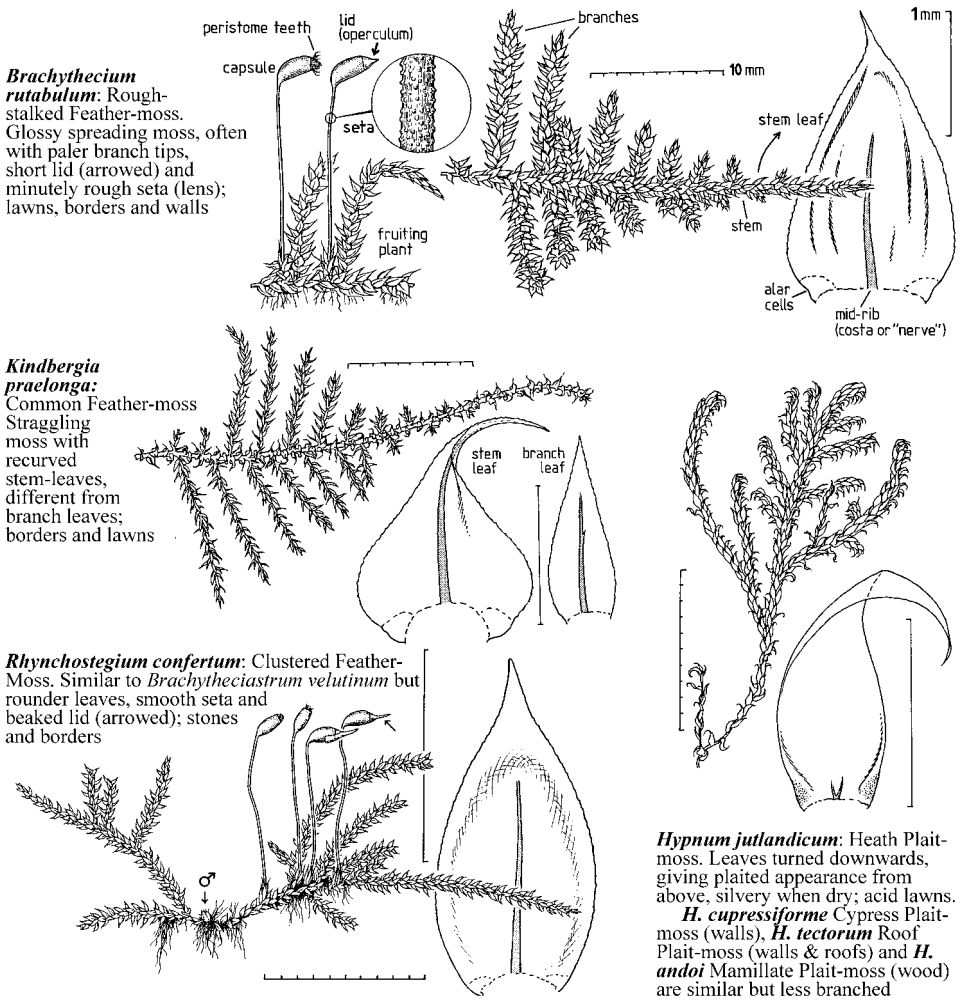


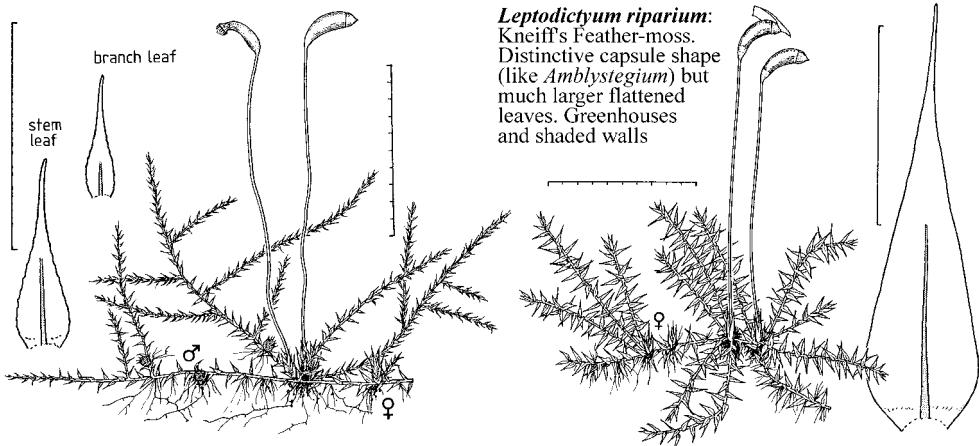
# MOSES AND LIVERWORTS

## OF TOWN AND GARDEN

### identification of some commoner species with a hand-lens

**T**his leaflet introduces the hidden world of mosses and liverworts. 🍄 They are everywhere but they are small, so you need an **8× (or more) hand-lens** to see the details. 🍄 You should be able to recognize many of the species that surround you, and learn about this abundant but unknown green carpet. 🍄 **HINTS WHEN EXAMINING:** mosses may alter unrecognisably when dried, and moistening them may help; also because of the range of sizes, plants are not all drawn to the same scale – pay particular attention to the scale bars (**units: 1 mm**). 🍄 Your plant may not be one of the **46 species illustrated** (plus 10 mentioned) here: see back page for: **MORE ABOUT MOSES**

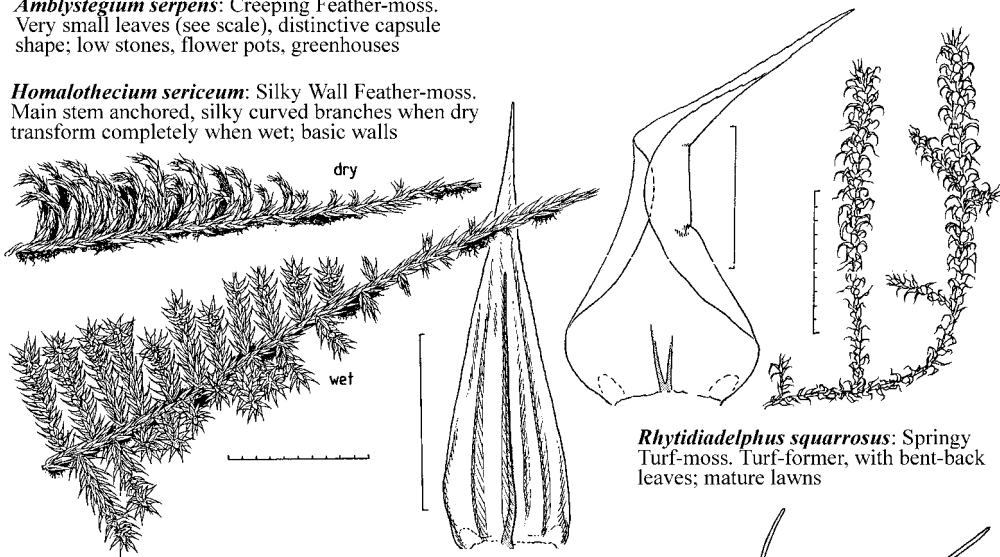




***Leptodictyum riparium*:**  
Kneiff's Feather-moss.  
Distinctive capsule shape  
(like *Amblystegium*) but  
much larger flattened  
leaves. Greenhouses  
and shaded walls

***Amblystegium serpens*:** Creeping Feather-moss.  
Very small leaves (see scale), distinctive capsule  
shape; low stones, flower pots, greenhouses

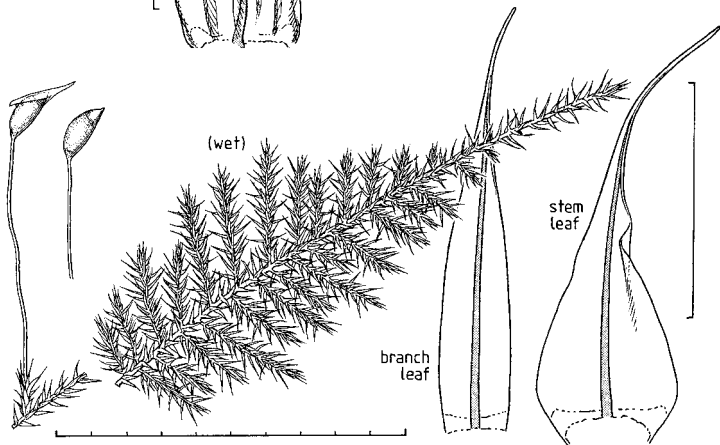
***Homalothecium sericeum*:** Silky Wall Feather-moss.  
Main stem anchored, silky curved branches when dry  
transform completely when wet; basic walls



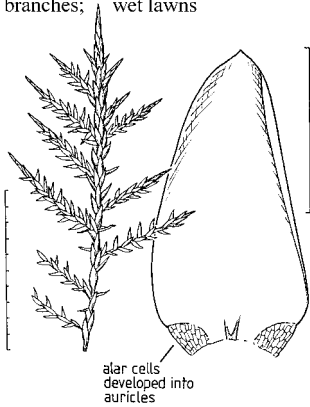
***Rhytidiadelphus squarrosus*:** Springy  
Turf-moss. Turf-former, with bent-back  
leaves; mature lawns

**MOSS BOX 1**  
mosses with a  
spreading branching  
habit, bearing fruit  
on the sides of main  
branches, are called  
**'pleurocarpus'**

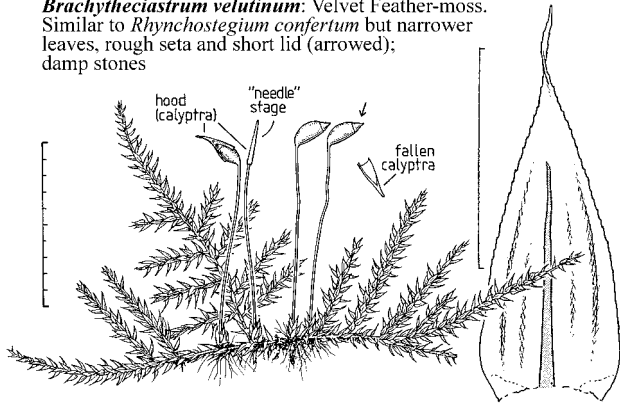
***Sciuro-hypnum populeum*:**  
Matted Feather-moss.  
Leaves silky-appressed  
when dry (a smaller  
version of *H. sericeum*),  
short lid and minutely  
rough seta; damp stones



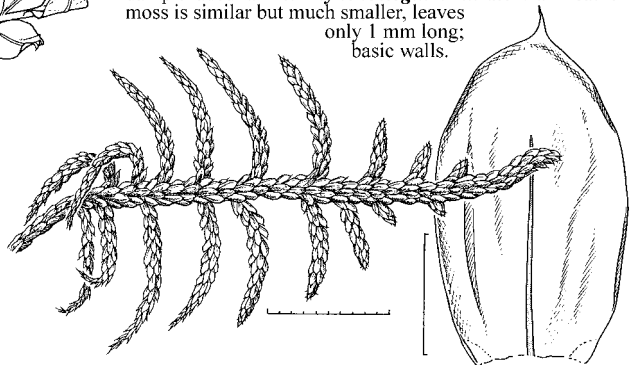
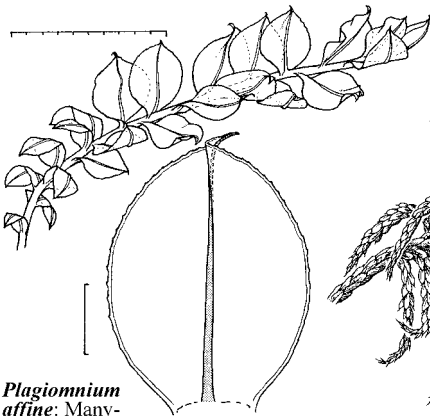
**Calliergonella cuspidata:** Pointed Spear-moss. Spear-tipped stems and branches; wet lawns



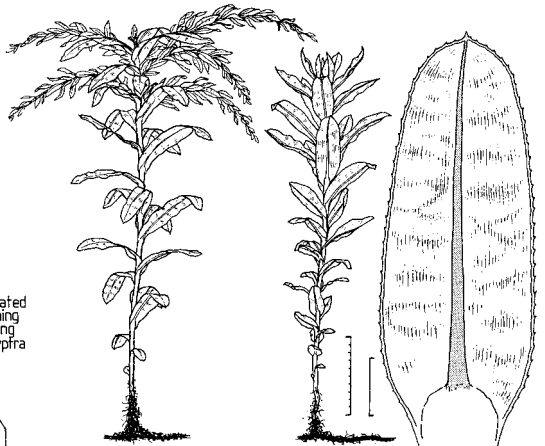
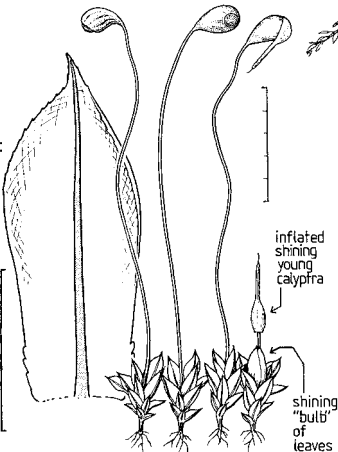
**Brachytheciastrum velutinum:** Velvet Feather-moss. Similar to *Rhynchosstegium confertum* but narrower leaves, rough seta and short lid (arrowed); damp stones



**Pseudoscleropodium purum:** Neat Feather-moss or Worm-moss. Glossy worm-like appearance with blunt branches; damp shaded lawns. **Rhynchosstegium murale** Wall Feather-moss is similar but much smaller, leaves only 1 mm long; basic walls.



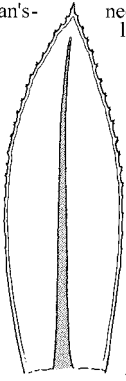
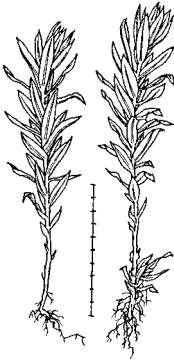
**Plagiommium affine:** Many-fruited Thyme-moss. Large leaves (see scale), moist shady lawns



**Funaria hygrometrica:** Common Cord-moss or Little Goldilocks. Twisting seta, ripe capsule orange; pavement cracks, cinders, flower pots, green-houses

**Plagiommium undulatum:** Palm-tree Moss. Very large undulate leaves (see scale), branched above like a palm-tree when well grown; moist shady lawns and rank grass

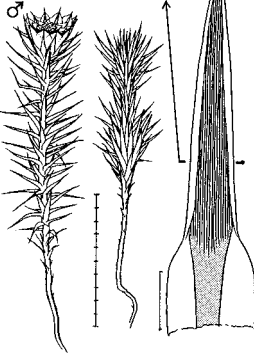
*Mnium hornum*: Swan's-



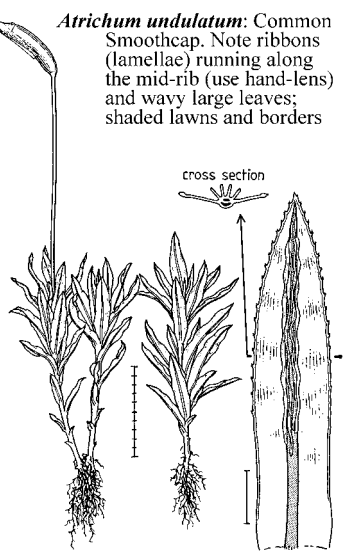
neck Thyme-moss. Large leaves lacking lamellae (compare with *Atrichum undulatum*), drier lawns, borders

*Polytrichum juniperinum*:

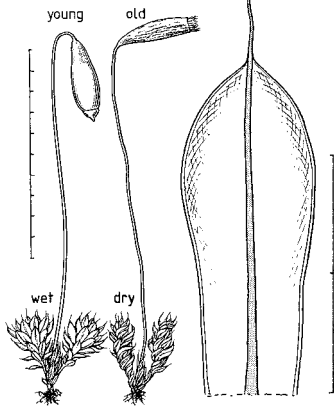
Juniper Haircap. Stiff spiky large leaves (with many close lamellae), male cups reddish; dry acid lawns



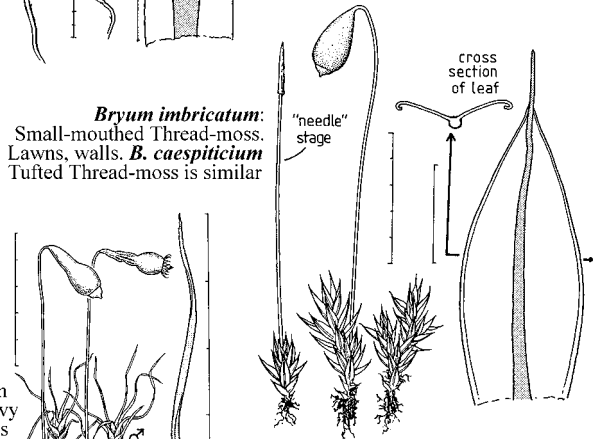
*Atrichum undulatum*: Common Smoothcap. Note ribbons (lamellae) running along the mid-rib (use hand-lens) and wavy large leaves; shaded lawns and borders



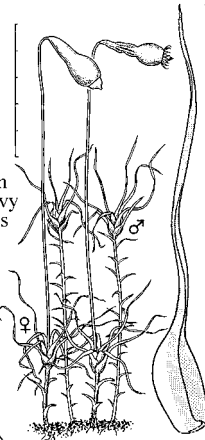
*Bryum capillare*: Capillary Thread-moss. Leaves corkscrew when dry; walls and paths



*Bryum imbricatum*: Small-mouthed Thread-moss. Lawns, walls. *B. caespiticium* Tufted Thread-moss is similar



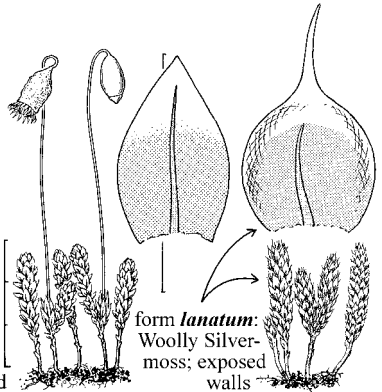
*Leptobryum pyriforme*: Golden Thread-moss. Long narrow wavy comal leaves; pots, greenhouses

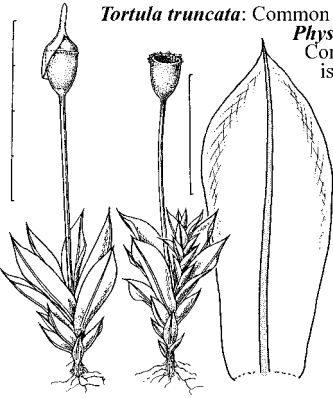


*Bryum dichotomum*: Bicoloured Bryum. Often bulbils in leaf axils (arrowed), occasional fruit similar to *B. argenteum* but more black & red ('bicoloured'); earth



*Bryum argenteum*: Silver-moss. Silvery-green moss; paths, pavement cracks, waste ground

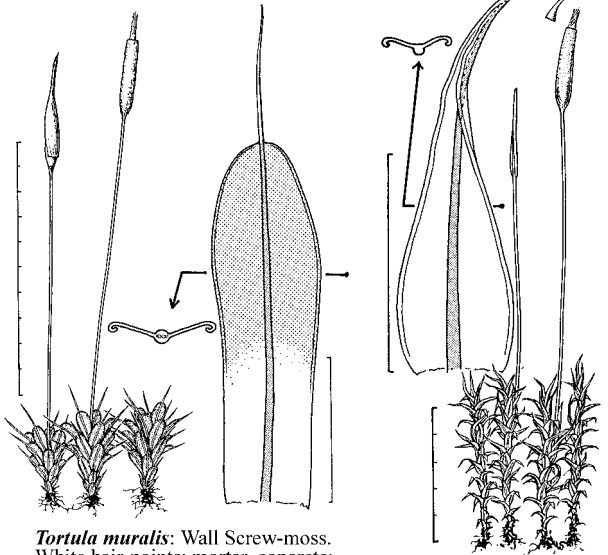




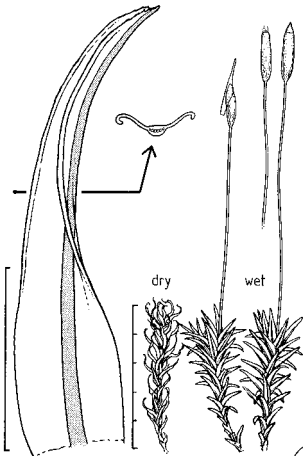
*Tortula truncata*: Common Pottia. Borders, pots.  
*Physcomitrium pyriforme*  
 Common Bladder-moss,  
 is similar but twice the size

*Didymodon fallax*: False Beard-moss.  
 Leaves often reddish. *D. insulanus*  
 Cylindric Beard-moss, has upper leaves  
 more flexuous; walls, paths, stones

**MOSS BOX 2**  
 mosses with an upright habit,  
 bearing fruit at the top of the  
 stems, are called 'acrocarpous'

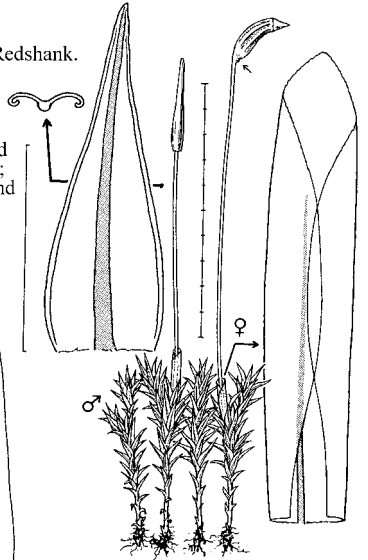


*Tortula muralis*: Wall Screw-moss.  
 White hair-points; mortar, concrete;  
 limestone or base-rich walls



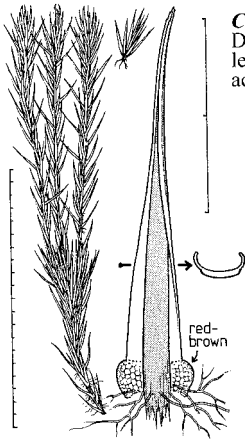
*Bryoerythrophyllum recurvirostrum*: Red  
 Beard-moss. Often bright  
 brick-red below, leaves  
 rough-edged above,  
 capsule with short lid;  
 paths, walls

*Ceratodon purpureus*: Redshank.  
 Purple seta and 'Adam's  
 Apple' (arrowed), also  
 leaves with a purply-  
 brown tinge, more rigid  
 than *Didymodon* but hard  
 to identify if not fruiting;  
 walls, paths, waste ground

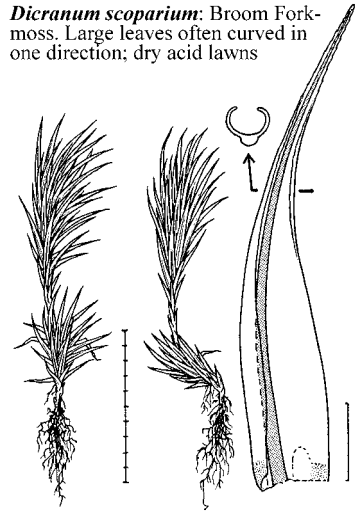


*Barbula convoluta*: Lesser  
 Bird's-claw Beard-moss.  
 Very close mats, yellow seta;  
 walls, stones, paths.  
*B. unguiculata* Bird's-claw  
 Beard-moss, has red seta and  
 blunter leaves, more open mats

**MOSS BOX 3**  
*Barbula*, *Bryoerythrophyllum* and  
*Didymodon* all used to be called  
*Barbula*, and can be difficult to  
 distinguish without a microscope

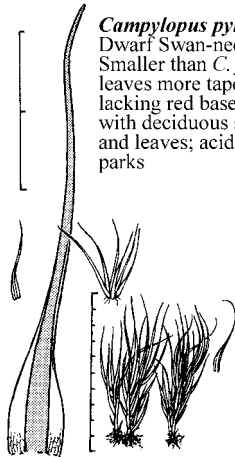


***Campylopus flexuosus***: Bandy-shanks. Dark moss with thick-nerved rigid leaves, deciduous shoot tips; dry acid lawns

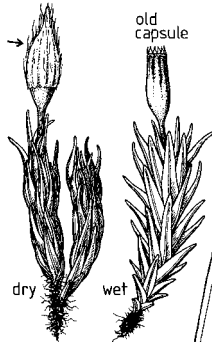


***Dicranum scoparium***: Broom Fork-moss. Large leaves often curved in one direction; dry acid lawns

***Dicranella heteromalla***: Silky Forklet-moss. Leaves curved to one side, drawn to same scale as *Dicranum scoparium*; soil around tree and post bases

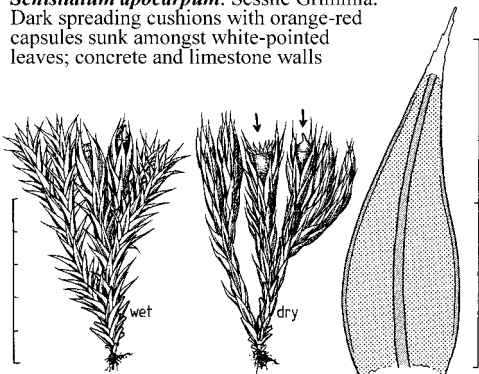


***Campylopus pyriformis***: Dwarf Swan-neck Moss. Smaller than *C. flexuosus*, leaves more tapered and lacking red base, also with deciduous shoot tips and leaves; acid lawns parks

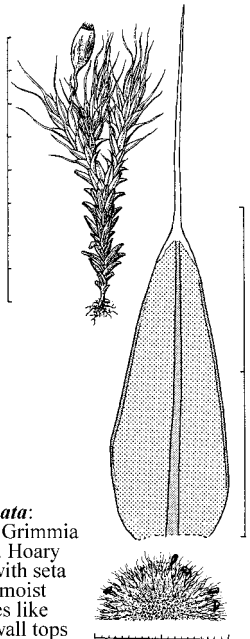


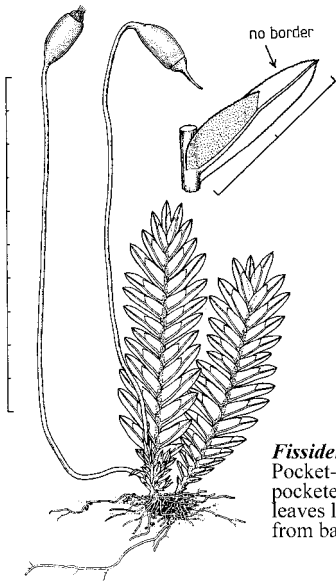
***Orthotrichum anomalum***: Anomalous Bristle-moss. Neat cushions, pale hairy calyptras (arrowed) in the spring; concrete and limestone walls. ***O. diaphanum*** White-tipped Bristle-moss has white-pointed leaves

***Schistidium apocarpum***: Sessile Grimmia. Dark spreading cushions with orange-red capsules sunk amongst white-pointed leaves; concrete and limestone walls

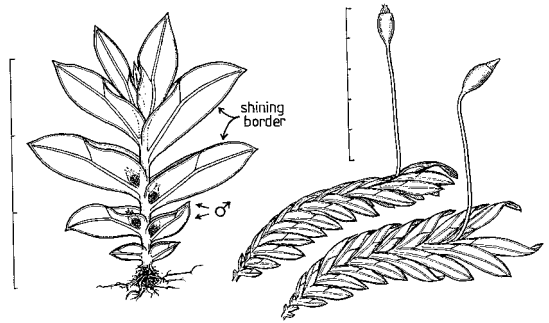


***Grimmia pulvinata***: Grey-cushioned Grimmia or Ostrich-moss. Hoary little cushions, with seta bent back when moist (burying capsules like ostrich heads); wall tops





***Fissidens taxifolius***: Common Pocket-moss. Flattened shoots, pocketed leaves sheathing stem, leaves lacking a border, fruits from base; earth and borders



***Fissidens bryoides***: Lesser Pocket-moss. Flattened shoots, pocketed leaves with a shining border (lens), fruits from apex of stem; earth

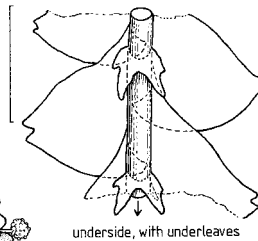
**MOSS BOX 4**

Pocket-mosses (*Fissidens*) are unusual for mosses in having leaves in two ranks, appearing like leafy liverworts, but the leaves have a mid-rib and are not divided

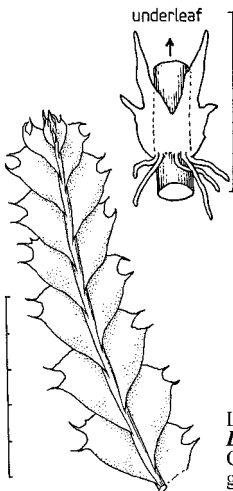
**LEAFY LIVERWORT BOX**

Leafy liverworts look like mosses, but have leaves in two ranks (often with a third row of underleaves); the leaves are usually divided into lobes or terminal teeth, and lack a mid-rib.

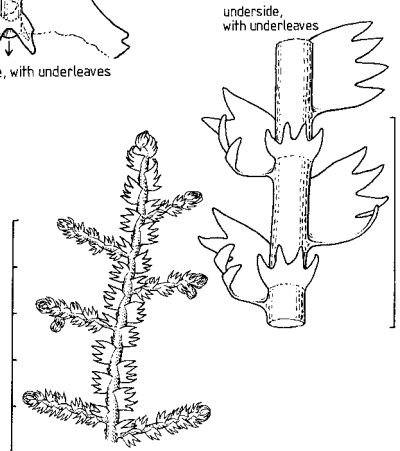
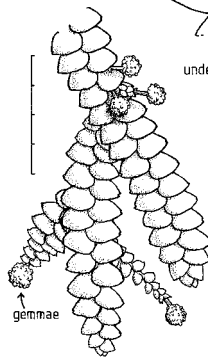
The fruit of all liverworts is quite different from mosses (see *Pellia*), and they are probably not closely related



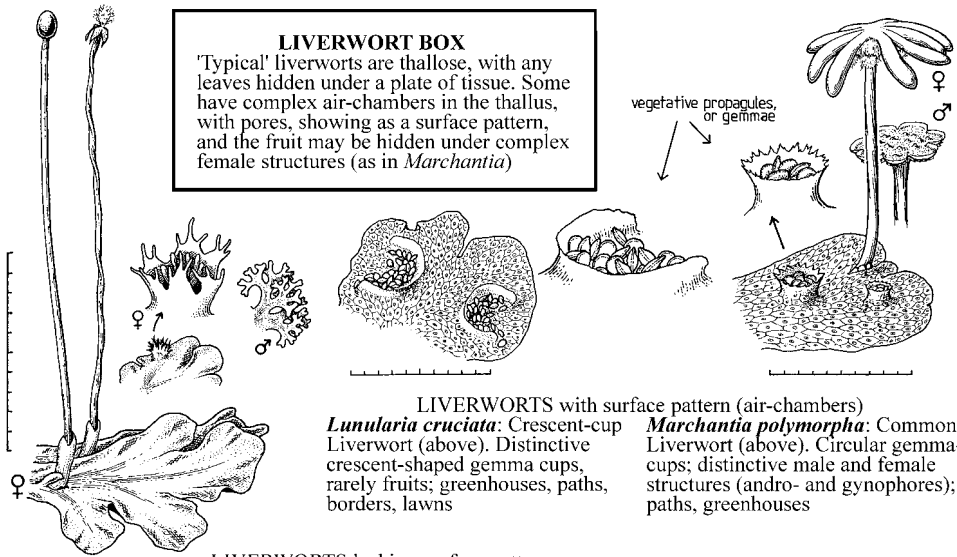
**LEAFY LIVERWORT**  
***Calypogeia fissa***: Common Pouchwort. Shaded banks and walls. ***C. muelleriana*** Mueller's Pouchwort, lacks side-lobes to the underleaves



**LEAFY LIVERWORT**  
***Lophocolea bidentata***: Bifid Crestwort. Moist lawns, rank grass, borders



**LEAFY LIVERWORT**  
***Lepidozia reptans***: Creeping Finger-wort. Minute (see scale), 4-fingered leaves; old stumps, earth banks



**LIVERWORT BOX**  
 'Typical' liverworts are thallose, with any leaves hidden under a plate of tissue. Some have complex air-chambers in the thallus, with pores, showing as a surface pattern, and the fruit may be hidden under complex female structures (as in *Marchantia*)

LIVERWORTS with surface pattern (air-chambers)  
*Lunularia cruciata*: Crescent-cup Liverwort (above). Distinctive crescent-shaped gemma cups, rarely fruits; greenhouses, paths, borders, lawns  
*Marchantia polymorpha*: Common Liverwort (above). Circular gemma-cups; distinctive male and female structures (andro- and gynophores); paths, greenhouses

**LIVERWORTS lacking surface pattern**

*Pellia epiphylla*: Overleaf Pellia (above left). Flap-shaped female involucre (to left of captive calyptral tube).  
*Pellia endiviifolia*: Endive Pellia (3 drawings inset). Fringed tubular involucre (don't confuse with gemma-cups of *Marchantia*), and male thallus frilly in autumn. Both on moist shaded soil (*P. endiviifolia* more base-rich)

**MORE ABOUT MOSSES ?**

**WHAT IS A BRYOPHYTE ?**

There are about 1,000 species of bryophytes (mosses and liverworts) in the British Isles, and about 20,000 in the world. They are flowerless plants, reproducing by spores, and they range from being nearly microscopic to over a metre tall; they may be upright, or creeping and much branched. They may grow in streams or deserts, on mountain tops or in sea spray, from the antarctic through tropical rain forests to the arctic, and in fact just about anywhere, though hardly in the sea itself. They clothe our landscape, but few naturalists get to know them.

**Do I need a microscope?**

Not necessarily – a good hand-lens is a good start. But a microscope will open many further fascinating doors, and costs no more than a microwave or a television. Advice on buying and using a microscope should be found from your local Museum, or the BBS (see below).

**Two books for beginners**

- Watson EV. 1981 (3<sup>rd</sup> edition). *British mosses and liverworts*. Cambridge.
- Jahns HM. 1983. *Collins guide to the ferns mosses & lichens of Britain and northern and central Europe*. Collins

**BRITISH BRYOLOGICAL SOCIETY**

**Objectives**

The Society exists to promote a wider interest in all aspects of bryology. It provides tuition, organizes meetings, facilitates research and aids measures for conservation.

**Meetings**

Field meetings, paper-reading sessions, workshop weekends, symposia, etc.

**Publications include:**

- Journal of Bryology*, containing original research papers, book reviews, etc.
- The Bulletin*, giving news and articles of general interest.

**Projects for members**

Recording of bryophyte distribution in Great Britain and Ireland, and many other projects

**Services to members**

- A panel of referees to help in identifications
- A herbarium of voucher specimens
- A collection of colour transparencies and jpegs
- An extensive library of bryological books
- The Reading Circle

**Membership**

Membership is open to anyone interested in bryophytes. Detailed knowledge of the subject is not required and there is no entrance fee.

**Annual subscriptions are as follows:**

Ordinary membership: £20.00 (includes entitlement to *Journal of Bryology* and *BBS Bulletin*, as well as other services provided by the society.)

Junior Members (under 21) and Student Members: £10.00  
 Family membership: £1.00 (For any of the family who resides with an Ordinary or Junior member. Family members do not receive the *Journal of Bryology* but have all other rights and privileges of membership.)

**Further information**

about the Society and its activities is available from: Mike Walton (Hon. General Secretary), Ivy House, Wheelock Street, Middlewich, Cheshire, CW10 9AB.

**BBS website:** <http://www.britisshbryologicalsociety.org.uk>