

MAP



1. *Marchantia polymorpha* · Common Liverwort



M. polymorpha is a striking thallose liverwort that has a flat, sheet-like appearance. Due to its ability for easy regeneration, Common Liverwort was used in many early tissue culture studies.

2. *Frullania dilatata* · Dilated scalewort



Often forming thick, red-purple patches on the trunks and branches of trees, it's easy to miss the details of *F. dilatata*. Closer inspection reveals the scale-like leaves of this small liverwort. Fresh growth can be green, giving a more variable appearance.

About bryophytes

Mosses, also known as bryophytes, are non-vascular plants that lack true roots, leaves and stems. The term bryophyte includes the lesser known liverworts and hornworts too.

Being one of the oldest plant groups, bryophytes were a beginning step in terrestrial plant evolution. Bryophytes evolved before seeds and have been reproducing via spores and regenerative fragments for over 400 million years. Here at the National Botanic Garden of Wales over 130 species have been recorded!



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Mae fersiwn Gymraeg o'r ddogfen hon ar gael

Tour



The Moss Trail

The Botanic Garden is cloaked
in beautiful bryophytes

3. *Plagiomnium undulatum* · Hart's-tongue Thyme-moss



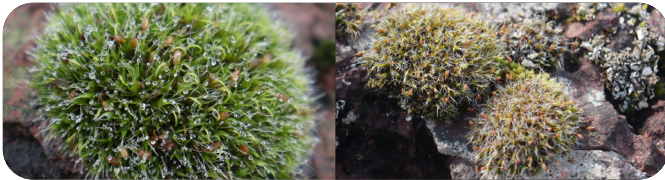
The leaves of *P. undulatum* are so thin they appear translucent, have a wavy (undulated) surface, and very closely resemble the leaves of a Hart's-tongue fern.

4. *Cryphaea heteromalla* · Lateral Cryphaea



C. heteromalla was very rare in the 1980s due to sulphur dioxide pollution however, clean air legislation has allowed this moss to become common. The bottle brush appearance of the stems makes trees look woolly.

5. *Grimmia pulvinata* · Grey-cushioned Grimmia



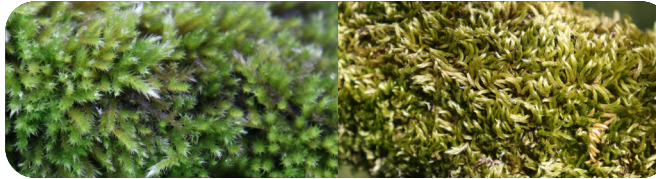
The striking white hairs reduce the effects of wind and UV light, allowing this moss to retain humidity even in exposed habitats such as bare rock. The sporophytes sit with the capsule pressed downwards until they are mature, creating little loops on the cushion surface.

6. *Polytrichum juniperinum* · Juniper Haircap



Uncommonly for mosses, *P. juniperinum* has cells that transport water, creating distinctly thicker leaves and more robust shoots that can grow to larger sizes.

7. *Homalothecium sericeum* · Silky Wall Feather-moss



This moss forms lush patches, ranging in colour from green to orange. It is somewhat more distinct when dry as the branches curl up to create an eye-catching, silky appearance. Interestingly, the tiny leaves of this moss are pleated, aiding in water retention.

8. *Metzgeria furcata* · Forked Veilwort



This tiny liverwort can form extensive patches, mostly as an epiphyte on the branches and trunks of trees. Looking closer, forks can be seen at the ends of the tiny, semi-translucent thallus ribbons, hence the words forked and veil are used as descriptors in the common name.

9. *Rhytidiadelphus squarrosus* · Springy Turf-moss



This moss is commonly associated with wax cap fungi in grasslands like turf, and denser mats feel springy to touch. Peering down the shoots will reveal a star shape formed by the leaf arrangement.

10. *Neckera complanata* · Flat Neckera



The 'Ice Man', a 5,200-year-old body found in a melting Tyrollean glacier, was discovered to have packed his boots with mosses to keep warm. *Neckera complanata* was found among them.

11. *Plagiochila asplenioides* · Greater Featherwort



This large liverwort has stems up to 12 cm in length. One may mistake this plant for a moss however, the leaves are arranged in two rows, along opposite sides of the stem, which is characteristic of leafy liverworts.

Helpful hints

1. Look down around the water feature.
2. Inspect the tree trunks.
3. Look at the near bank of the water feature as it runs down to the right.
4. Growing on the branches and trunk of the *Ulmus x hollandica* 'Jacqueline Hillier' tree.
5. Take a look at the Devonian Red Sandstone.
6. At the base of the steps leading up into the boulder garden.

7. Take a look at the lower right branch of the *Lonicera maackii* f. *podocarpa* tree.
8. Look closely at the tree trunks.
9. In the grassy lawn patch opposite to the dragonfly sculpture.
10. Take a closer look at the wall.
11. Look closely at the wall.