

## Peatlands and the role of Sphagnum moss



The Pwllpeiran holding includes 140 ha of mountain land mainly covered by unimproved peat bog. This is an important research resource as it has had very little human intervention over the years beyond minimal livestock grazing. Keystone species for this type of ecosystem are Sphagnum mosses. The importance of Sphagnum lies in its ability to retain water and act as a filter, helping to reduce peat erosion and improve water quality. Sphagnum can hold up to 20 times its dry weight in water, acting just like a sponge.

The Pwllpeiran mountain not only supports a vast array of Sphagnum species, but also a high abundance of feather mosses, liverworts and lichens, with a total of 65 species recorded during a single site survey.

Peat forms when dead and decaying plants decompose only partially. This partial decomposition occurs when the plant material is very wet. Oxygen levels are then too low for worms, bacteria and other decomposers to live and feed on the plant material. Acidic conditions also favour the development of peat rather than compost for the same reason. Sphagnum moss is known as the 'bog builder' because it holds water (lowering oxygen levels) and secretes acid, keeping conditions suitable for peat formation and specialist plants.



Thus, Sphagnum mosses not only plays an important role in water regulation, it is also involved in the process of carbon storage, and so helps in combating climate change. This is why we include the story of these common but under-rated plants in our outreach work with schools.

*Contact for more information:*

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