

## Bryophyte Survey on Rougham Estate 2019 – a summary

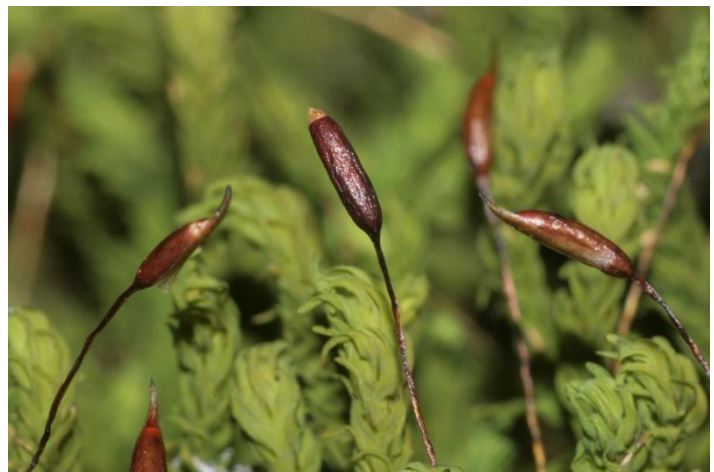
Mosses and liverworts are bryophytes and they reflect habitat diversity at a big and micro-scale and the presence of rarities can reflect the health of the environment locally too. Volunteer Bryophyte County Recorder Richard Fisk carried out a bryophyte survey over targeted areas of Rougham Estate in 2019. Of Suffolk's total of 319 mosses (288 since 1980), 101 species ie 26% of Suffolk's species were found in this survey of Rougham Estate habitats. And of Suffolk's total 79 liverworts (63 since 1980), 10 species ie 13% were recorded in this survey. Several rare and unusual species were recorded and a few of the common species were missing.

Many bryophytes grow on soil or on the persistent remains of their own growth, as well as on living or decomposing material of other plants. Some grow on bare rock surfaces, and several are aquatic. Most bryophyte species inhabit damp or humid places but some mosses can grow in areas with little water because they can dry out without dying and then rehydrate when it rains. Mosses are a habitat for wildlife in their own right for other plants, insects, frogs and fungi. Some insect larvae only feed on moss. Other insects hunt among moss for prey and, in turn, are eaten by bats and birds. Liverworts can be leafy and look similar to mosses, or can have a flattened, pancake-like appearance.

The UK's bryophytes are of global significance, but they are threatened by human activities. Rougham Estate Trust is keen to incorporate management recommendations to improve their status at Rougham in various habitats: wood pasture with veteran trees, woodland, scrub, hedges, field margins, arable and ponds. These recommendations include leaving leaning trees and veteran trees where they are safe, leaving more dead wood lying on the ground, encouraging scruffy areas with bare, rabbit-scuffed ground and waterlogged areas.

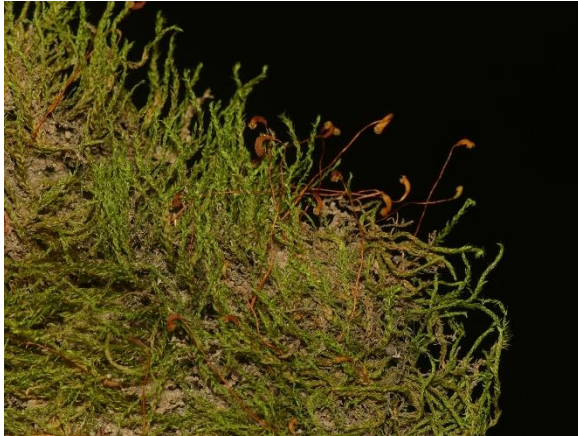
Richard Fisk surveyed nine areas – woodland, pond edges and arable field edges. Most areas had some unusual or rare species. And some had species that are normally found in another habitat.

- Species of interest were found around a sink hole include mosses *Syntrichia latifolia* and *Leskea polycarpa*, normally found along riverbanks; *Bryun donianum* – quite a rarity in the county occurring on sandy banks.
- Ash and hazel coppice were found to have good growths of the large and attractive moss *Anomodon viticulosus* (pictured right) and liverwort *Porella platyphylla*. In a shallow ditch was a carpet of the moss *Plagiomnium undulatum*, a very common woodland plant but one that very rarely produces spore capsules, but here many of them were doing so, the first time Richard Fisk has seen it with capsules in Suffolk. Rarities for Suffolk *Brachythecium salebrosum* and *Tortula subulata* were recorded. *Leucodon sciuroides* was found in a tree, but usually found on churchyard stone.



Rambling tail moss *Anomodon viticulosus* - growing on ash and hazel coppice – and one of several species growing on ash. Photo by Hermann Schachner, CC0, via Wikimedia Commons

- Ash trees, even upright ones, had the species of most interest. *Orthotrichum straminium*, one of the species increasing with reduced air pollution but slower than some others like *O. striatum* so still uncommon in the county. Where ash trees are damper where it was damper *Orthotrichum striatum* was recorded and *Anomodon viticulosus* on the base of another.
- Several water's edge species were recorded around a pond including *Fontinalis antipyretica* an aquatic species on tree roots, and *Hygroamblystegium varium* (rare in Suffolk). *Didymodon sinuosus* and *Bryum pseudotriquetrum* were growing around a pond's edge – both associated with water.



Left: *Hygroamblystegium varium* Tangled Thread Moss, rare in Suffolk was growing on tree roots at a pond edge. It is a moss growing in a wide variety of moist and wet habitats. The most characteristic of these is in wet woodland and willow carr, especially on the roots and bases of alders and willows, and on rotting wood and old grass and sedge tussocks. Photo by Shaun Pogacnik, CCO, via Wikimedia Commons

- The moss *Dicranum tauricum* recorded on a rotting tree stump is rare in the county with fewer than six recent records. Elsewhere *Herzogiella seligeri*, an uncommon plant, was on two rotting tree stumps as was the quite invasive *Campylopus introflexus*.

Rt: *Herzogiella seligeri* Silesian Feather-moss was found on two rotting tree stumps. Photo: Christian Berg, CC BY 4.0 <https://creativecommons.org/licenses/by/4.0/>, via Wikimedia Commons



The diversity of bryophytes recorded reflects the diversity of tree species and substrate type and other factors such as humidity and the amount of light penetrating the canopy of a woodland. The bryophyte interest often lies in the species that make up the 'assemblage' of a particular habitat and not just the individual species.

Rougham Estate Trust is keen to implement recommendations to increase bryophytes, most of which overlap with good conservation management for other species such as fungi and invertebrates. These include retaining veteran trees, leaning and fallen trees, rotten wood, hedgerow trees and in particular elm and ash. Bryophytes also benefit from ponds managed as predominantly open and sunny, with a few wetland trees nearby and, ideally, with livestock poached margins.

Bryophytes can be enjoyed from many public and permissive footpaths around Rougham Estate – but they are a very specialist taxonomic group to try and identify! Rougham Estate Trust is very grateful to specialist Richard Fisk for giving his time to do this survey.

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