

A qualitative investigation of lichens on dead branch bark in Cowslip Meadow. 22.9.2022

Aim – A scoping survey to see the extent of lichens in the meadow woods. To see whether there is any merit in a more detailed future survey of lichens.

Method During a dog walk by NRO around the perimeter a few examples of lichen covered branches, mainly on the western side where there appears more visible deadwood were observed. 6 twig specimens were removed and photographed for later lichen identification. No attempt was made to access dense scrub where more lichen may flourish.

Observations Four twig with lichen were found and photographed:



Result and Discussion

Top left photo: Possibly, *Physcia adscendens*- Common in UK; nitrogen loving and pollution tolerant

Top right photo: Possibly, *Ramalina fastigiata* common in UK, pollution tolerant

Bottom left photo: Possibly, *Xanthoria parietina* aka common orange lichen or yellow scale. Colour varies yellow to orange or even grey-green if it's in the shade. Found across the UK, especially on elder. It is nitrogen loving and pollution tolerant

Bottom right photo: Algae patches on twig side with *Ramalina fastigiata* on top

Lichens result from a symbiotic relationship between at least two organisms, an alga (or sometimes a cyanobacterium) and a fungus. There are about 1,800 UK examples, and they are difficult to identify for non-experts. They can be categorised in to four types based on their structural growth appearance.

Lichens provide shelter and food for many invertebrates near the bottom of food chains (mites, molluscs, spiders, and moths). Small birds use lichen fragments to camouflage their nests. Woods rich in lichens have a far greater biodiversity than a woodland where the trunks and branches are relatively bare.

Lichens act as bioindicators for pollution being sensitive to nitrogen or sulphur dioxide levels. The observed species were all pollution tolerant.

Most lichen are highly adapted to an ecological niche such as a dry underhung of an old trunk. Lichens are poor colonisers; they can only survive by the continuous local availability of a particular niche. Lichens also act as ecological indicators. Lichens are used to monitor continuity of management and form the evidence to determine the age of a woodland. An 'Indices of Ecological Continuity' for woodland is where the total number of certain indicator species is used as a measure of the conservation importance of that woodland.

If ancient woodland is part cleared, almost all the herbs and trees will still survive. But rare lichens, bryophytes and invertebrates will almost all disappear, leaving only common species, and it may take many centuries for them to return depending on the distance to the next nearest population.

Given the meadow woods were planted after 1990 the opportunity to create enough deadwood and lichen has been limited. We would therefore not predict a wide range of lichens and this cursory inspection bears out that prediction. Ensuring deadwood stays in situ will help lichen populations spread and support their dependent species. Thinning tree branches, crown lifting, removing dead branches all work against building populations of lichens.

A survey of older trees on nearby footpaths or in the churchyard and on graves and stone walls may give a better historical perspective of local lichens and any pollution indication. So, I looked at a few examples on older trees along the adjacent footpath (FP11) and immediately it was obvious there was a greater coverage of lichens on the sticks and a greater variety as the next 3 photographs show:





Conclusion To conduct a fuller lichen survey or not? A difficult question. There is little lichen present in the meadow wood at first inspection so that would make surveying easier, but Identification of specimens is challenging. Any survey results may be of interest but are unlikely to inform short term conservation plans for work tasks. An awareness of the importance of lichens will help educate BCV members in an aspect of woodland conservation.

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