

A Bryophyte Survey of Carnoch Community Woodland, Applecross



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Introduction

At the invitation of the Applecross Community a bryophyte survey and workshop were conducted in Carnoch Hazel Wood in January 2011. The purpose of the survey was to assess the bryophytes on site and to advise whether a proposed community exploitation of the hazel coppice would pose a conservation threat to them. A workshop was organised to demonstrate the main bryophyte communities in the wood to interested local residents.

Carnoch Wood covers roughly 14 hectares at 40-50 m altitude on a west-facing bouldery slope 500 m south of Applecross. It is largely dominated by hazel that has been coppiced in the past, though there are a few other broad-leaved trees, including *Quercus*, *Betula* and *Fraxinus*. In general it is fairly open and, where the coppice is less successful, there are local areas of Bracken. The conifer plantation on the southern boundary of the site may increase the humidity locally, but most of the wood gives the impression that there is a good air-flow through it. There are no streams running through the site; this undoubtedly reduces the humidity, the range of microhabitats and consequently the bryophyte diversity, though, by most standards, the 95 species recorded in such a small area attest to a relatively rich site. The underlying geology is sandstone, with very local limestone influences.

The Bryophyte Communities

In comparison with many woodlands on the western oceanic fringe of Scotland there is a relatively poor development of epiphytic bryophytes on the hazel and other species. However, the lichens benefit from the less humid conditions, and provide a much more significant component to the epiphytic communities, especially in the lower south-western part of the wood.

The copiously bryophyte-covered boulders are an attractive feature of this site that is dependant on the protection provided by the hazel and other tree species. Both *Antitrichia* and *Hylocomium brevirostre* have a more northern and western distribution in Britain and are a component of the associated bryophyte mats. More common moss species such as *Hylocomium splendens*, *Hypnum cupressiforme*, *Isoetecium myosuroides*, *Rhytidiadelphus loreus* and *Thuidium tamariscinum*, feature strongly in these mats.

Liverworts are an important component of the bryoflora, comprising 35% of the recorded species, with some oceanic species such as *Plagiochila spinulosa*, *P. punctata*, *P. exigua* and *Scapania gracilis*. *Plagiochila spinulosa* and occasionally *P. punctata* and *P. exigua* are limited to the more sheltered shaded parts of the boulders, especially in the south-western corner of the wood, where the tree cover is a little denser. *S. gracilis* is widespread throughout the wood. The boulders in the more humid south-eastern part of the wood (NG712438) support *Bazzania trilobata* and *B. tricrenata*, associated with the fern *Hymenophyllum wilsonii*. *Harpanthus scutatus*, an oceanic species, growing through *Scapania umbrosa*, occurs on a more open rock face in the northern part of the wood (NG710441).

For the most part the boulders and ground flora is fairly acidic though there is an artificial heap of stones around a large mature ash tree, at NG712441, some of which are probably limestone, and are more base-rich. *Anomodon viticulosus*, *Tortella tortuosa* and *Trichostomum brachydontium* occur on these stones.

Conservation issues

In comparison with the Allt Mor Wood, to the north of Applecross, Carnoch Wood is apparently less humid and does not support the same range of oceanic elements. Nevertheless it supports an attractive bryophyte flora, largely restricted to the boulders, that is dependent on the maintenance of an open tree cover. Where the coppice is fairly moribund and too sparse it would benefit from a limited renewal by replanting, especially in the south-eastern section. However, any attempt to exploit the hazel will require considerable care. Wholesale coppicing would open up the wood to the prevailing wind and could do considerable harm to both the bryophytes and the lichens. Limited coppicing of individual trees might help to rejuvenate the wood, but that requires a forestry management input that we cannot supply.

Conclusions

Carnoch Wood supports a comparatively rich bryophyte flora for the small area and the moss-covered boulders are an attractive feature of this woodland. While some of the species have limited oceanic distributions, none are categorised as nationally scarce or rare. In comparison with the lichens the potential loss is therefore more aesthetic. Any disturbance of the status quo of the tree cover should be carried out with the utmost caution.

Species list

Mosses

Anomodon viticulosus
Antitrichia curtipendula
Atrichum undulatum
Brachythecium rutabulum
Bryum bicolor
Bryum capillare
Calliergonella cuspidata
Campylopus flexuosus
Campylopus introflexus
Ceratodon purpureus
Cirriphyllum piliferum
Ctenidium molluscum var. *molluscum*
Dichodontium pellucidum
Dicranella heteromalla
Dicranum fuscescens
Dicranum majus
Dicranum scoparium
Didymodon insulanus
Didymodon rigidulus
Eurhynchium hians
Eurhynchium praelongum
Eurhynchium striatum
Fissidens dubius
Fissidens taxifolius
Heterocladium heteropterum var. *flaccidum*
Heterocladium heteropterum var. *heteropterum*
Homalothecium sericeum
Hylocomium brevirostre
Hylocomium splendens
Hypnum andoi
Hypnum cupressiforme var. *cupressiforme*
Hypnum jutlandicum
Hypnum lacunosum var. *lacunosum*
Hypnum resupinatum
Isothecium alopecuroides
Isothecium myosuroides
Mnium hornum
Neckera complanata
Plagiomnium rostratum
Plagiomnium undulatum
Plagiothecium succulentum
Plagiothecium undulatum
Pleurozium schreberi
Pogonatum urnigerum
Polytrichum commune
Polytrichum formosum
Polytrichum juniperinum
Racomitrium fasciculare
Racomitrium lanuginosum

Rhytidiadelphus loreus
Rhytidiadelphus squarrosus
Rhytidiadelphus triquetrus
Schistidium crassipilum
Scleropodium purum
Thuidium tamariscinum
Tortella tortuosa
Tortula muralis var. *muralis*
Trichostomum brachydontium
Ulota bruchii
Ulota phyllantha
Zygodon conoideus
Zygodon viridissimus var. *viridissimus*

Liverworts

Barbilophozia floerkei
Bazzania tricrenata
Bazzania trilobata
Calypogeia arguta
Calypogeia fissa
Calypogeia muelleriana
Cephalozia bicuspidata
Cephalozia lunulifolia
Diplophyllum albicans
Frullania dilatata
Frullania tamarisci
Harpanthus scutatus
Jungermannia gracillima
Lejeunea patens
Lepidozia reptans
Lophocolea bidentata
Lophozia ventricosa
Metzgeria furcata
Nardia scalaris
Nowellia curvifolia
Plagiochila asplenioides
Plagiochila exigua
Plagiochila porelloides
Plagiochila punctata
Plagiochila spinulosa
Radula complanata
Riccardia palmata
Scapania gracilis
Scapania irrigua
Scapania nemorea
Scapania umbrosa
Scapania undulata
Tritomaria quinquedentata