

Background: Oceanic hazelwoods in western Scotland are hypothesised to be unmanaged post-glacial relicts, representing an unusual type of old-growth forest habitat in Europe. They are characterised by an exceptionally high epiphytic diversity, including their status as 'hotspots' for indicators of woodland ecological continuity.

Aims: The aim of this study was to evaluate the effects of climate, pollution and management on the occurrence of epiphytic lichens and bryophytes on *Corylus avellana*.

Methods: Thirteen hazelwood study sites were systematically sampled along a climate, pollution and management gradient in Britain. Epiphyte composition and richness were examined in a strict hierarchical framework, and compared against site-, stool- and stem-scale environmental predictors.

Results: The study showed that along the gradient from 'clean-air' relict sites to 'polluted' coppiced sites: (i) epiphytic local stem-scale diversity declined, (ii) there was a loss of late-successional species including foliose cyano- and tripartite lichens and bryophytes and (iii) stem sizes were reduced, providing a further limit to the accumulation of species richness within a site.

Conclusions: Relict hazelwoods in western Scotland are confirmed as an example of the most intact epiphyte communities. In particular, we show that the transition to coppicing can be clearly linked to ecological processes causing species loss.