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Colonisation Patterns of Woodland Ground Flora.

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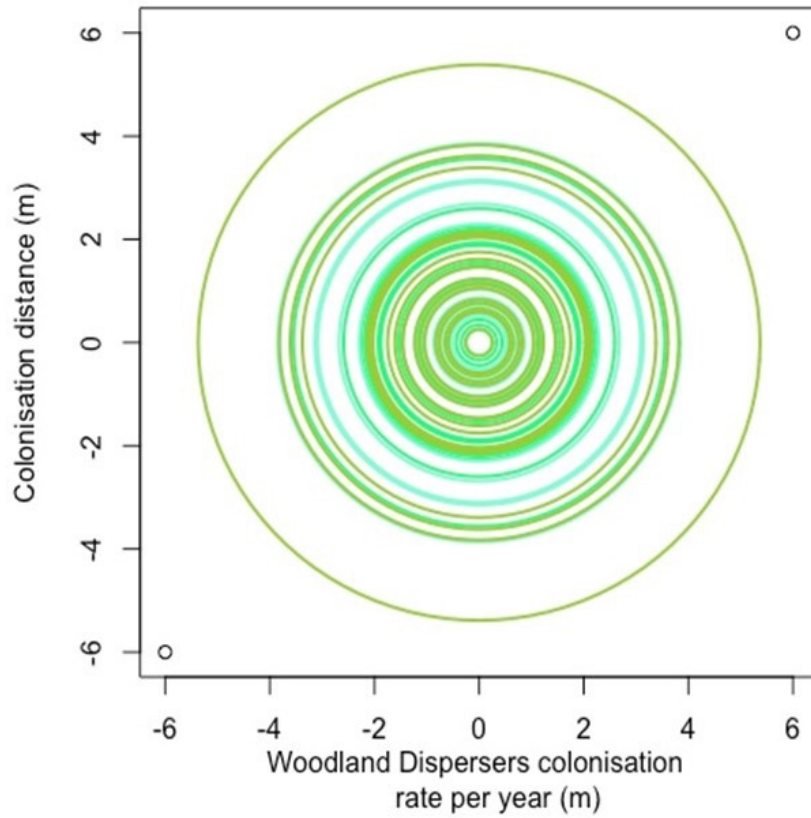
Authors and Affiliations:

Kathryn Nelson, Roy Nelson – Queens University Belfast

Email:

r.nelson@qub.ac.uk

A study was carried out into the colonisation patterns of ground flora in newly planted woodlands. Nine ancient woodland indicator species, four woodland indicator species together with lesser celandine (*Ficaria verna*) were analysed. The research was carried out over a two-month period within thirty newly planted broadleaved woodlands in Northern Ireland. The distance each species dispersed into the woods was measured and a colonisation rate was calculated per species based upon their distance of dispersal and the age of the wood. Linear regression of the effects of twelve habitat variables on colonisation rates revealed that the greater dispersal distances were associated with the source habitat, in particular the conditions of hedges, existing mature woods, and riparian zones. The dispersal distance was improved if these sources were managed and were connected to the newly planted woodland. Active management can improve connectivity features and allows for the establishment of a richer woodland floral biome. In the study tree species and density of planting did not affect the pattern of dispersal. The colonisation rates were also investigated using hierarchical cluster analysis, and the fourteen species were assigned to four groups that explained their colonisation patterns, the Ancient edge huggers (ransom, wood sorrell, harts tongue fern, dog violet, wood anemone), Expansionists (primrose, greater stitchwort, golden saxifrage, bluebell, enchanters nightshade), Woodland dispersers (jack in the pulpit, male fern, herb bennet), and Exploiters (Lesser celandine). The colonisation patterns are also presented in novel fingerprint graphs. The new descriptors along with the fingerprint analysis provide evidence of how these ground flora colonise new woodlands. In addition, they provide a framework to predict future establishment distributions within newly planted broadleaved woodlands as illustrated in the figure.



Key to species included in study