

EXAMINING LONG-TERM TRENDS IN WOODLAND INVERTEBRATES

Research summary

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Researchers from the UK Centre for Ecology & Hydrology and the University of York collaborated together to examine trends in woodland invertebrates over the past 45 years in the UK.

Woodlands have been expanding due to tree planting, but it is unclear whether these increases in woodland cover have benefited woodland invertebrates. In our research, we asked whether woodland-associated invertebrates have increased, or declined, compared with open-habitat invertebrates.

Methods:

We compiled information for over 2700 species of invertebrates, from 21 groups ranging from ants to moths, which had been collected between 1970 and 2015 by citizen scientists. We used statistical models to describe the associations between where species occur and the amount of woodland present, and whether the strength of this association with woodland was related to long-term trends in invertebrate distributions.

Key findings:

1. We found that around a third of invertebrate species were more common in areas with broadleaf woodland, while slightly fewer species were more common in coniferous woodland.
2. Woodland-associated species were less likely to be declining over time, on average, compared to species that were not associated with woodland, but there was large variation among species.
3. Some woodland species have declined while others have increased.

Our findings indicate that woodland expansion has not benefited many woodland invertebrates. This may be because woodlands are in poor condition, lacking the structural diversity necessary to support invertebrate communities. Also, most woodlands are small and scattered, hindering the colonisation and persistence of many woodland invertebrates.

Woodland creation is a key part of the strategy to tackle climate change and the biodiversity crisis. Our study provides a baseline assessment of the associations of species with woodland, and species' trends over the last four decades, and could be used to inform actions to help conserve certain species. On-going monitoring of species trends is needed, especially in areas with targeted woodland creation, to ensure that new woodlands are meeting the diverse needs of invertebrates.

If you would like to find out more about this research, the full paper has been published in *Insect Conservation and Diversity* and is available to read through the Royal Entomological Society website: [Idiosyncratic trends of woodland invertebrate biodiversity in Britain over 45 years - Bowler - 2023 - Insect Conservation and Diversity - Wiley Online Library](#)