

# Case Study: A Survey of the Saproxylic Invertebrates of an English Woodland – Bredon Hill

## Introduction

Saproxylic invertebrates are invertebrates that are dependent on dead and decaying wood (or dependent on other organisms that are themselves dependent on dead wood) for part or the whole of their life-cycle. Many saproxylic invertebrates have low rates of dispersal and therefore require a continuity of dead wood habitat if they are to maintain viable populations. Their presence is often indicative that the woodland or forest has been in existence for several centuries. Similarly known ancient woodlands are often high in saproxylic invertebrates. This makes saproxylic invertebrates very sensitive to environmental change and as a consequence, excellent indicators of continuity of habitat types.

## The Study

EMEC Ecology was commissioned by Natural England to conduct an intensive season long survey on the saproxylic invertebrate fauna of Bredon Hill, Worcestershire. A National Nature Reserve (NNR) already exists at Bredon Hill as it is one of the most important sites for saproxylic coleoptera and diptera in the United Kingdom. This study aimed to survey areas of Bredon Hill outside of the boundaries of the NNR in order to gather information on the saproxylic fauna of these outlying locations.

## Survey Details

The primary objective of the study was to identify the saproxylic assemblage of invertebrates at five sample locations on Bredon Hill. From the assembled list of invertebrates, suitability reports on the quality of the habitat to support saproxylic invertebrates could be made.

This survey was conducted from early June to mid-October and consisted of four visits timed to coincide with the emergence dates of the majority of invertebrates targeted.

Insects were sampled throughout the study using bottle traps designed to intercept flying invertebrates. These traps were in place throughout the summer. Invertebrates were also found by a variety of other means including:

- Searching appropriate dead and decaying trees by hand.
- Beating branches and twigs of suitable trees.
- Sieving wood mould at the base of dead and moribund trees.
- Searching fungal fruiting bodies over a white sheet to extract invertebrates.

At each sample location all Coleoptera, Diptera and Hymenoptera were either retained for future identification or identified on-site wherever possible.



*Checking flight interception traps positioned next to deep fissures on the trunk of a dead oak*



*Ampedus rufipennis* an IUCN vulnerable click beetle found on Bredon Hill during the survey. A beetle with a very specific habitat choice, with the species larvae requiring rotten heart wood in over mature ash trees in which to develop.

Results of the survey confirmed that several areas adjacent to the Bredon Hill NNR supported a varied and nationally significant population of saproxylic invertebrates. The saproxylic invertebrates found also implied that the woodlands surveyed have remained undisturbed for several centuries.



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