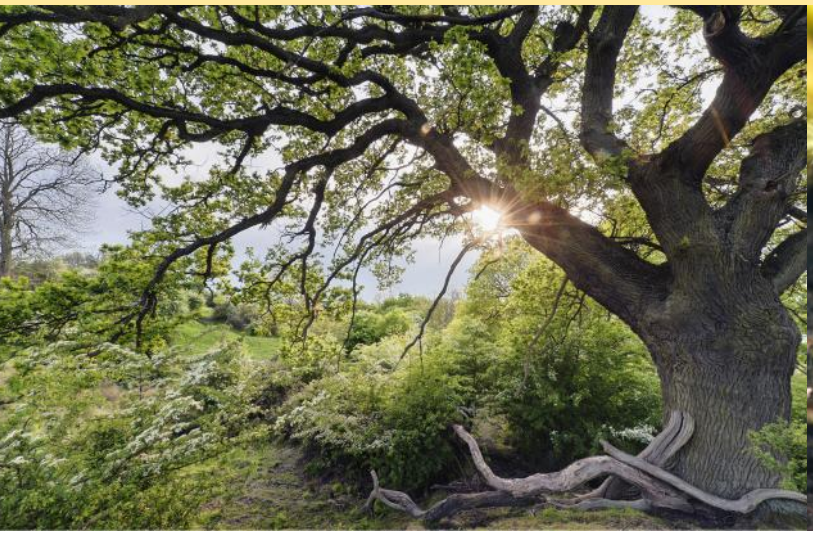
IMPORTANT INVERTEBRATE AREA PROFILE

# Bredon Hill & Dixton Wood



Left: Bredon Hill © Robert Wolstenholmes. Right: Violet Click Beetle (*Limoniscus violaceus*) © Tamas Németh

The Bredon Hill and Dixton Wood Important Invertebrate Area (IIA) includes Bredon Hill in Worcestershire, south west of Evesham, and Dixton Wood to the south in Gloucestershire, north of Cheltenham. The IIA supports two of three UK populations of the Globally Endangered Violet Click Beetle (*Limoniscus violaceus*), only otherwise known in the UK from Windsor Great Park in Berkshire.

The entirety of the IIA is within designated landscapes - the Bredon Hill Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and National Nature Reserve (NNR) and Dixton Wood SSSI/SAC. Dixton Wood is designated specifically for its Violet Click Beetle population, while Bredon Hill's citation includes its diverse deadwood invertebrate assemblage as well as Violet Click Beetle specifically.

The Violet Click Beetle is found in veteran Beech and Ash trees in the UK. Its larvae feed on wood mould in rotting woody debris at the base of hollows of veteran trees. Suitable trees are those in the most advanced stages of heartwood decay, particularly those more than 200 years old. The diet of adult Violet Click Beetles is unknown but they have been seen at Hawthorn so may feed on pollen or nectar, or else rely largely on stores laid down during the larval period.

The Violet Click Beetle has suffered from the loss and mismanagement of woodland and in particular the veteran trees they rely upon.

## Reasons for Selection

The Bredon Hill and Dixton Wood IIA supports an internationally important population of the Globally Endangered Violet Click Beetle, which is found on only three sites in the UK.

## Habitat Threats and Opportunities

### Deciduous woodland, veteran trees and ancient deadwood

Veteran Ash at Bredon Hill © Aidan Fallon

Threats

- The loss of continuous presence of old (>200 years) hollowing trees in a landscape. The natural or deliberate loss of hollowing trees is the greatest threat the beetle faces, particularly where replacement trees are not available. The sparsity of suitable trees in a landscape, combined with the beetle's suspected poor dispersal abilities, may mean it is difficult to recolonise an area once it has been lost, or indeed prevent it colonising suitable habitat away from its current strongholds.
- Important veteran trees and decaying wood sources are often at risk from overzealous management, including the tidying-up of standing and fallen trees and collection of fallen material for firewood.
- Fragmentation of woodlands can lead to inability of invertebrates to move between fragments.
- Loss of woodland grazing or management such as maintenance of rides or coppicing, can lead to woodlands becoming shaded and the development of Ivy, Holly or bramble thickets, significantly impacting ground flora vegetation that provides valuable nectar and pollen sources for invertebrates.
- Overgrazing and disturbance by deer, squirrel or rabbit populations prevents young trees from being recruited, creating a uniform tree age structure, and reducing ground layer vegetation and opportunities for woodland regeneration.
- Invasive non-native species (e.g. Rhododendron, Cherry Laurel, conifers) can negatively affect the vegetation and structural composition of woodlands.
- Ash Dieback and other tree diseases and pests, which are exacerbated by the climate change, can cause changes in tree species and age composition that could affect Violet Click Beetles.
- Historical damage of woodland through industrial use and large-scale conifer timber planting resulted in direct habitat loss of native woodland, causing a slow recolonisation rate of invertebrates into some of these areas. In present times, woodlands are still lost to development, agriculture or intensive forestry.

Opportunities

- Maintain all veteran trees and manage ageing trees to prolong their life and encourage the development of deadwood features.
- Retain all deadwood, both standing and fallen in situ, and discourage the collection for aesthetic reasons or firewood. Additionally, retain trees showing decay features and do nothing to damage those features.
- Consider long-term age structure, aiming to increase the recruitment of young trees and ensuring a continuity of mature trees. This can be achieved through practices such as coppicing, pollarding and thinning. Additionally, mark out 'future veteran' trees to ensure the existing veterans will be replaced in the future.
- Consider veteranisation of some young vigorous trees, to provide expanded habitat in areas of few to no veteran trees.
- If work is needed on a tree for health and safety reasons or in the event of tree dying, avoid felling unless considered to be a high risk and if possible reduce it down to a 2-3 metre high pollard and leave to decay. If reducing crown appropriate bat surveys should be carried out prior to any work.

- Overall, aim for a mix of deadwood, healthy live trees, young saplings, scrub areas and open spaces such as glades, rides or scallops. In addition to the increased light levels in the forest, rides create varied woodland edge microhabitats and allow grasses and wildflowers to regrow.
- Maintain/re-establish light grazing regimes in ancient woodlands to manage understorey vegetation and keep and open wood pasture structure with connected patches of closed canopy.
- Aim to restock and regenerate native tree species, particularly Ash and Beech, ensuring a new generation of trees that will eventually become veterans.
- Promote growth of suitable tree species on land between existing woodland sites to extend and reconnect fragmented patches of woodland.
- Monitor and control or remove invasive and competitive species encroaching on the habitat, such as Rhododendron and bramble.

Veteran Ash at Bredon Hill © Aidan Fallon

- If it appears to be a problem, reduce access to the base of hollow trees by people or livestock, to ensure that decayed material is not disturbed and remains damp.
- Install and maintain beetle boxes that mimic the basal cavities used by Violet Click Beetles and might help to plug the tree age gap. The content of boxes should be topped up annually to ensure continuity of decaying wood.
- Establish in-field and hedgerow trees, including flowering Hawthorn and fruit trees.
- Wych Elm, Field Maple, oak, Hawthorn, cherry and perhaps Sycamore could be established and widely scattered as open grown trees across the surrounding hillsides to connect nearby trees and woodland.
- Thin plantations to include future recruitment of ancient trees.

## Other Interests

Although this IIA qualifies for the Violet Click Beetle, there are records of four other IIA qualifying species in this hectad, however, it doesn't exceed the threshold to qualify for an overall invertebrate assemblage. Other species of interest are reliant on ancient woodland and veteran trees, and include the clown beetle *Acritus homoeopathicus*, which is known from fungi that are associated with fires in Ash and Beech woodland, the weevil *Cossonus parallelepipedus*, which relies on veteran trees and deadwood, and the long-legged fly *Argyra grata*, which is associated with deciduous and wet woodland. The Dark-winged Soldier (*Oxycera analis*) is also known from Bredon Hill and is reliant on wet woodland, calcareous seepages and water margins.

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