

Sherwood Forest



Left: Sherwood Forest heathland © Anna Maka. Right: Heath Ghost (*Zora silvestris*) © ole-ohm (CC-BY-NC)

The Sherwood Forest Important Invertebrate Area (IIA) includes two remnant parts of the larger historic Sherwood Forest landscape. To the north lies the heathlands and grasslands of Clumber Park, and to the south are parts of the Sherwood National Forest and the adjacent Budby South Forest.

The Sherwood Forest IIA is dominated by a suite of national and international designations. In the south this includes the Sherwood Forest National Nature Reserve (NNR) and Birklands and Bilhaugh Site of Special Scientific Interest (SSSI)/Special Area of Conservation (SAC). Its northern section, South Budby South Forest, is managed by the RSPB. Clumber Park in the north of the IIA is a SSSI managed by the National Trust. It supports a rich mosaic of heathland, grassland and woodland. This complex of protected sites is home to the Critically Endangered Heath Ghost spider (*Zora silvestris*) and the Critically Endangered Diamond-backed Spider (*Thanatus formicinus*). The Sherwood Forest IIA is now the only known site in the UK for Diamond-backed Spider and one of three known sites for Heath Ghost.

Heath Ghost usually relies on mature heather on dry heathland at Sherwood Forest, but it is also found in

mixed heath and grassland that has been recently cleared of scrub encroachment. Nationally, fires in particular have led to the loss of much of this spider's habitat as its reliance on mature heather is often at odds with the management of most heathlands.

In Southern England, Diamond-backed Spiders are found in areas of wet heath with Purple Moor Grass, Sphagnum, Common Heather and Cross-leaved Heath.



However, the population found within Clumber Park is known to use Common Heather stands of varying ages, with a mossy understorey and including a mosaic of heathland grasses. It is thought it may have been lost from its former range across Britain due to degradation of heathland, where grazing has been lost, or drainage ditches have been introduced.

Reasons for selection

The Sherwood Forest IIA supports a nationally important population of the Critically Endangered Heath Ghost spider and Critically Endangered Diamond-backed Spider, two of Britain's most threatened spiders. The Diamond-backed Spider was once presumed to be extinct, but was rediscovered in 2017. Sherwood Forest IIA is the only known modern site for Heath Ghost spider and Diamond-backed Spider.

Habitat Threats and Opportunities

Calluna heathland, acid grassland and scrub mosaic

Threats

- Fire is a growing threat to remnant heathland sites, with the potential for smaller sites and populations to be irreparably damaged through a single incident.
- Poor management or implementation of the same management approach too widely can lead to uniform heathland habitats that lack structural and age variation, reducing their value for invertebrates.
- Overgrazing can lead to a loss of heather stands, creating open grass-dominated areas and making them more prone to invasion by competitive plants such as Bracken. Conversely, lack of

management or undergrazing can lead to a loss of bare ground, soil disturbance and succession to scrub and woodland.

- Invasive invertebrate species such as the Heather Beetle (*Lochmaea sutralis*) can cause loss of important heather from the area.
- Invasive plant species such as *Rhododendron ponticum*, Bracken and bramble can be a particular problem to heathland as they start dominating the habitat.
- The loss of wet habitat features on wet heathland sites, bog and heathland carr due to drainage or otherwise changing hydrology can significantly reduce their value for invertebrates.
- Habitat fragmentation due to development pressure or agricultural improvement reduces connectivity between patches of habitat, particularly of Common Heather, isolating populations and, potentially, lowering the genetic diversity of the Diamond-backed Spider and Heath Ghost spider.
- Public pressure such as horse riding and motorcycle activity on open heaths can cause extensive damage and should be controlled on heathland sites.

Opportunities

- Aim to produce a mosaic of heathland successional stages to support the highest number of invertebrates. These should include bare and disturbed ground, moss and lichen-dominated areas, grasses, flower-rich areas and young heather plants, through to tall swards with establishing and established blocks of mature heather, scrub and scattered trees.
- Aim to establish grazing at appropriate stocking levels, avoiding under or overgrazing, to maintain a mosaic of heathland structure. Cattle tend to produce a more varied vegetation structure than sheep and their greater weight will suppress Bracken growth and provide areas of disturbed ground.
- Provide bare ground and early successional vegetation, which provide basking, nesting and hunting opportunities for ground-active invertebrate species as well as opportunities for key early successional flowering species. If grazing is not available, this can be achieved via rotational cutting

Diamond-backed Spider (*Thanatus formicinus*) © Richard Gallon





Left: Hazel Pot Beetle (*Cryptocephalus coryli*) © Pentti Ketola (CC-BY-NC). Right: The crane fly *Ctenophora ornata* © Barbara Klenner (CC-BY-NC)

and scraping of the soil surface to create exposures.

- Consider excluding grazing from some areas all year round to provide permanent cover and opportunities for species using standing stems and seed heads to complete their life cycle. While too much Bracken can be a problem, it does support rare sawflies and flies, so areas of Bracken, both shaded and in the open, should be retained.
- Restore degraded or damaged heathland sites, including the removal of trees from plantation sites and restore open heathland habitat mosaics across the landscape to improve connectivity and to provide opportunities for invertebrates to develop resilient populations.
- Expand and connect Common Heather heathland habitat between sites to ensure connectivity of isolated populations of the spiders.
- Monitor recreational pressure and mitigate for trampling and footpath erosion.
- Protect existing valley mires, wet heath, streams and ponds.
- Evaluate the feasibility of translocating Diamond-backed Spiders to new sites, to create new populations and secure the future of the species.
- Retain dead and decaying wood.

- Carefully control or remove invasive species such as *Rhododendron ponticum*, Bracken and bramble.

Other Interests

Although the Sherwood Forest IIA qualifies as an IIA on the basis of its Heath Ghost and Diamond-backed Spider populations, it does also support populations of ten other IIA qualifying species of invertebrate. The IIA is home to several woodland species, including the Endangered Midas Tree-weaver (*Midia midas*) and the crane fly *Ctenophora ornata*, which rely on ancient and veteran trees. Hazel Pot Beetle (*Cryptocephalus coryli*) relies on Hazel, and White-letter Hairstreak (*Satyrrium w-album*) on Elm, while Shining Pot Beetle (*Cryptocephalus nitidulus*) and Scarce Vapourer (*Orgyia recens*) feed on deciduous trees. Deadwood is also an important habitat for several other species such as the crane fly *Tanyptera nigricornis* and Variegated Fungus Moth (*Nemapogon variatella*), which feeds on bracket fungus. Mature and veteran trees in Sherwood Forest also support populations of the Great-eyed Whip-palp spider (*Mastigusa diversa*) which relies on ant nests.

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