Rare insects and plants thriving under the wing of the globally endangered Large blue butterfly on restored grasslands

Monday 22 August, 2022

PRESS RELEASE

EMBARGOED: 00:01 25th August 2022

Press release and images also available at www.royensoc.co.uk/media-centre/

Rare insects and plants thriving under the wing of the globally endangered Large blue butterfly on restored grasslands

- **Twelve new UK sites created or restored in south-west England for the globally endangered Large blue butterfly**
- **Large blues now breeding at the highest levels for 150 years at a record number of UK sites**
- **Many other rare species have increased or returned on these restored habitats**
- **Plants benefitting under 'Large blue management' include Pasqueflower, Cut-leaved Selfheal, and twelve species of native orchid**
- **Rare insects that have benefited include Rugged oil beetle, Rock-rose pot beetle, Shrill carder bumblebee, Downland villa and Spotted beeflies, and 8 Red data book species of butterfly, including Duke of Burgundy, currently one of the UK's most endangered butterflies**

The once-extinct **Large blue butterfly**, reintroduced to the UK in 1983, flew in its greatest numbers since records began on the largest number of sites in 2022. Thanks to meticulous conservation management by a partnership of scientists and conservation bodies, south-west England now supports the greatest concentration of Large blues known in the world.

Twelve new sites are being restored to flower-rich meadows suitable for Large blue breeding, either 'starting from scratch' on arable land, failed conifer plantations and railway constructions, or by restoring bespoke grazing to degraded downland. Already, these support up to a third of the UK population of Large blues, up from just 7% in 2019.

These restorations of a disappearing type of wild meadowland have also provided ideal breeding grounds for numerous other rarities that share the Large blue's habitat. Among plants, the extremely rare Pasqueflower and Cut-leaved self-heal have reappeared and/or spread under 'Large blue management', together with up to twelve species of orchid (Musk, Fly, Bee, Green-winged, Scented, Pyramidal, Spotted, Early purple, Greater butterfly, Autumn lady's tresses, Narrow-leaved helleborine, White helleborine).

A remarkable number of other insects have increased on or newly colonised the twelve restorations. Nationally threatened species include the Shrill carder bee (UK's second most endangered bumblebee), Rock-rose pot beetle (known from just five UK sites), the Downland villa beefly (not recorded in UK for 50 years prior to 2000), and the weird Rugged oil beetle (only found on around 30 UK sites). Eight Red Data-listed butterflies - Duke of Burgundy, Small blue, Adonis blue, Brown hairstreak, White-letter hairstreak, Small heath, Grizzled skipper, Dingy skipper – are also thriving alongside abundant displays of more common or local insects and plants.

These restorations represent the largest and most innovative next phase of the re-establishment of the Large blue in Britain. Aside from the gains of other rare species, they are important internationally because the Large blue is listed as one of Europe's most 'Endangered Species' of insect, and similarly worldwide. The twelve sites link or extend more-established populations spanning two landscapes in mid Somerset and, more recently, in the Cotswold Hills of Gloucestershire where a most promising toehold is now established.

Media:

Related Sectors:

Environment & Nature :: Farming & Animals :: Home & Garden :: Travel & Tourism ::

Related Keywords:

Butterfly :: Conservation :: Cotswolds :: Insects :: Rare :: Endangered :: Orchids :: Grassland :: Meadow :: Environment ::

Scan Me:

The new restoration sites are managed, owned or administered by six partner organisations – National Trust, Somerset and Gloucestershire Wildlife Trusts, J & F Clark Trust, Natural England, and Oxford University. The restorations are led, supervised and monitored by the Royal Entomological Society's David Simcox and Sarah Meredith, who also designed the bespoke management plan needed for each site. Generous funding by the Prince of Wales's Charitable Fund made this possible in 2019-22, including the successful physical re-introduction of Large blues to two sites in the Cotswolds (after 150 years' absence) and of the Duke of Burgundy to Somerset. Other colonisations occurred by natural spread, as the new restorations link up with previous ones to form interconnected populations across two landscapes.

After this promising start, the next phase of restoration – research and development to extend the Large blue and associated wildlife across three landscapes in its former stronghold of the Cotswold Hills and gain a greater understanding of the threats posed by climate change – will again be led by the Royal Entomological Society and funded by Natural England's Species Recovery Programme.

Nikki Jeffery, Executive Director of the Prince of Wales's Charitable Fund: "This project has been a great example of what sensitive habitat restoration can achieve, resulting in record new populations of the Large blue butterfly as well as the re-emergence of other rare insect and plant species. PWCF is delighted that our funding, in collaboration with the Royal Entomological Society and other partners, has had such a significant impact."

Prof Jeremy Thomas, Emeritus Professor of Ecology, University of Oxford; Chair of the Joint Committee for the Re-establishment of the Large Blue Butterfly: "The unprecedented success of this project is testimony to what large scale collaboration between conservationists, scientists and volunteers can achieve. Its greatest legacy is that it demonstrates that we can reverse the decline of globally-threatened species once we understand the driving factors."

Simon Ward, CEO, Royal Entomological Society: "This project shows how innovative habitat restoration and evidence-based management can benefit several important and rare species in a single landscape. We recognise that there is still much work to be done to understand the complex relationships between plants and insects to maximise their conservation success for future generations, and we have a great team of partners and experts to take the next steps."

David Simcox, Project Officer, Royal Entomological Society and the Joint Committee for the Re-establishment of the Large Blue Butterfly: "We have welcomed the opportunity to continue working on this iconic and difficult butterfly and to lead this diverse and energetic partnership. We are extremely proud that the partnership's efforts have enabled hundreds of people to see this stunning and enigmatic butterfly flying on some of the most beautiful grassland sites in the country.

The greatest challenge ahead is to secure this expansion in a warming climate and to develop strategies to mitigate the impacts of extreme weather events."

Paul Hackman Natural England Senior Adviser West Midlands, and Natural England representative on the Joint Committee for the Re-establishment of the Large Blue Butterfly: "Natural England is really excited to be supporting the next phase of restoring the Large blue butterfly into the Cotswolds landscape. The evidence gathered will not only help safeguard the Large blue but will also inform nature recovery initiatives in other landscapes and involving different species. All this is made possible by a strong landowner partnership supported by scientific evidence and high-quality practical management advice. Undoubtedly a blueprint for the future!"

Notes to editors

The **Large blue** has a bizarre life cycle. Having fed for three weeks on the flowers of wild thyme or marjoram, the caterpillar produces scents and songs that trick red ants into believing it is one of their own grubs, and is carried underground into the ant nest and placed with the brood. The caterpillar spends the next ten months feeding on ant grubs before pupating in the nest the following year, then emerging to crawl above ground as a butterfly.

Despite over 50 years of efforts to halt its decline, the Large blue butterfly was pronounced extinct in Britain in 1979. Its reintroduction in 1983 was based on the discovery that Large blue caterpillars can only survive in the nest of one particular species of red ant, *Myrmica sabuleti*. Changes in countryside management were responsible for the extinction. Alterations in grazing left surviving wildflower meadows too tall and shady for the heat-loving red ant. We have now learned how to reverse these trends through targeted grazing – tailored to optimise the structure of the turf on each interconnected site – across two UK landscapes to date. As knowledge increased, we were able to create new Large blue habitat 'from scratch' on arable land, failed plantations and new railway constructions – the ultimate test for what is

already the largest-scale, longest-running successful conservation programme for any endangered insect in the world.

The Royal Entomological Society unites experts across the globe to share and preserve knowledge about insects while engaging diverse audiences. It invests in meaningful insect science to benefit people and nature. Founded in 1833, the RES supports entomology, the study of insects through its international scientific journals and books, scientific meetings and has a long history leading efforts to conserve the Large blue, including as a founder member of the 11-organisation partnership to re-establish the Large Blue.

The Prince of Wales's Charitable Fund has supported The Prince of Wales's charitable work for over 40 years. Its mission is to transform lives and build sustainable communities by awarding grants to a wide range of good causes within core funding themes: Heritage & Conservation, Education, Health & Wellbeing, Social Inclusion, Environment and Countryside. Over the last 20 years, PWCF has awarded grants of more than £70 million charitable projects in the UK and overseas.

Natural England was established by Act of Parliament in 2006 and is the government's adviser for the natural environment in England. Sponsored by **Defra**, its purpose is to help conserve, enhance and manage the natural environment for the benefit of present and future generations, thereby contributing to sustainable development.

Contacts for further details or interviews

Prof. Jeremy Thomas: Jeremy.thomas@zoo.ox.ac.uk Tel: 01258 880644/ 07942 185913

David Simcox: david.simcox@btinternet.com Tel: 07590 817474

Dr Luke Tilley (RES press and images): press@royensoc.co.uk Tel: 07912 180844

Images

You are welcome to use the images in this folder. Please ensure that all images are credited and captioned as stated here. Photographs or graphics distributed by the Royal Entomological Society (RES) to support this media release may only be used for editorial reporting purposes for the contemporaneous illustration of events, things or the persons in the image or facts mentioned in the media release or image captions. Reuse of the picture requires further permission from the RES from press@royensoc.co.uk

Additional Notes

The Large blue was re-introduced to Devon in 1984, using an identical race to the extinct British one from Sweden, by Prof Jeremy Thomas and David Simcox after research by Thomas had identified the butterfly's ecological needs. They made a further introduction to the Somerset Wildlife Trust's (SWT) Green Down in 1992, where the butterfly thrived and spread across the Polden Hills.

In 2010, Green Down butterflies were used to re-establish the Large blue in the Cotswolds, when it was re-introduced by Simcox, Sarah Meredith and Thomas to Daneway Banks, one of the four great historical Large blue sites in Gloucestershire. The early re-introductions to Devon and Somerset were made by the Centre for Ecology & Hydrology (CEH), part of the Natural Environment Research Council, and co-funded by Natural England, and to the Cotswolds by the University of Oxford and CEH, funded primarily by the EU Framework programme CLIMIT. Prof Jeremy Thomas chairs the national Joint Committee for the Re-establishment of the Large Blue Butterfly, with David Simcox serving as Project Officer and Sarah Meredith as Deputy Project Officer. The Large blue project is underpinned by science carried out by Oxford University and CEH, implemented by a collaborative partnership between Natural England, the National Trust, Gloucestershire Wildlife Trust, Somerset Wildlife Trust, the Royal Entomological Society, the Prince of Wales's Charitable Fund, the University of Oxford, J&F Clark Trust, CEH, Butterfly Conservation, Network Rail, Painswick Beacon Conservation Group, and Spalding Associates.

Company Contact:

Royal Entomological Society

T. 07912180844
E. press@royensoc.co.uk
W. https://www.royensoc.co.uk

Additional Contact(s):
luke@royensoc.co.uk

View Online

Additional Assets:
Press release and link to images
https://www.royensoc.co.uk/media-centre/

Newsroom: Visit our Newsroom for all the latest stories:
https://www.royentsoc.pressat.co.uk