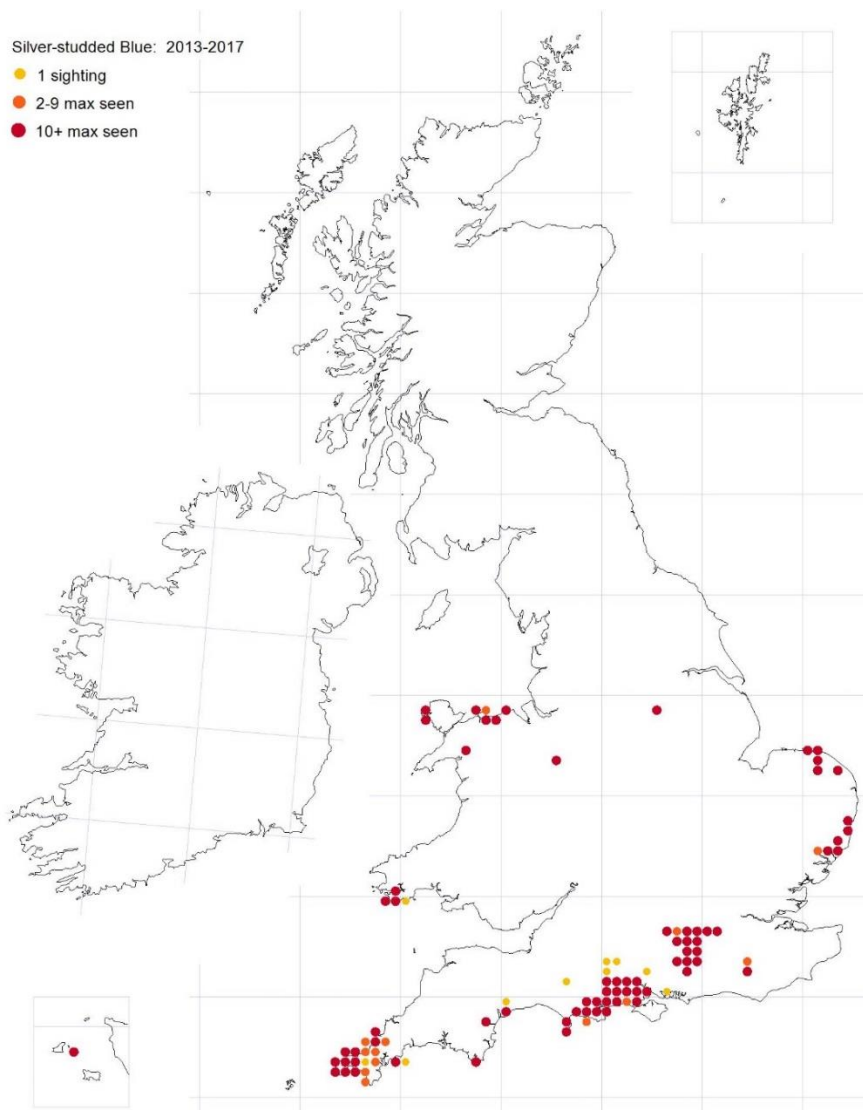




The Silver-studded Blue Butterfly

1. Conservation Status

- Butterfly Conservation: Medium
- Section 41 species of principal importance under the NERC Act in England
- Section 42 species of principal importance under the NERC Act in Wales
- UK BAP status: Priority Species
- Protected under Schedule 5 of the 1981 Wildlife and Countryside Act (for sale only)
- European status: Not threatened
- Distribution Trend Since 1970's: -43%
- UK Distribution Trend 1976-2014: -64% (State of UK's Butterflies 2015, Butterfly Conservation)



2. Distribution

- The Silver-studded Blue has declined enormously during the past century because much of its habitat has been destroyed and is now virtually absent from four-fifths of its former range. Its overall decline in range at a 10km square level has been 71% since 1800. Most colonies are found in Southern England, but some colonies are present in Wales, the East of England and on Prees Heath Reserve in Shropshire.
- It is mainly found in 3 biotopes: lowland heath, calcicolous grassland and sand dunes. In much of the country it lives on heathland and its caterpillars feed on heather.
- In Cornwall, as well as a few inland heathland populations, large colonies are found on the sand dunes of the north coast. The Silver-studded Blues on these sand dunes appear to be larger and more brightly coloured than the heathland forms (*P. argus argus*) and are similar to the now extinct *cretaceus* (*P. argus cretaceus*) form which was previously found on calcareous habitats. In North Wales there is another form of the Silver-studded Blue – *carnensis* (*P. argus carnensis*).
- Ecotypes or races are not afforded special protection. At present there is research into the different ecotypes but the sand dune populations are regarded as unusual and worthy of further research.
- Adults are extremely sedentary and form colonies on discrete patches of habitat. Published research suggests that most adults move less than 50m in their lifetime but a small proportion do disperse and individuals can slowly colonize suitable habitat close by. However this species is particularly reluctant to cross obstacles and potential breeding areas separated by unsuitable habitat are effectively isolated.

3. Relationship with ants

During part of its life cycle it has a highly developed relationship with ants. The black ant (*Lasius* species) protects the caterpillar and the chrysalis from parasites and predators and in return feeds on the sugar-rich solution that both the caterpillar and the chrysalis produce. Caterpillars and chrysalis have been found in ants' nests.



Silver-studded Blue caterpillar with ants in attendance
Photographed at Penhale Sands by C Poland

4. Why are butterflies important?

- Butterflies are the best-studied UK insects by far, providing vital insights into the changing state of wider biodiversity and the ecosystem services that depend upon it, as well as an important opportunity for the general public to engage with conservation, citizen science and the natural world. Restoring butterfly populations across the UK, in gardens, urban green spaces and the countryside, is likely to bring substantial benefits to innumerable other species but also to the health, wealth and well-being of the human population.
- Due to the fact that butterflies and moths are extremely valuable indicators of the state of the environment, Butterfly Conservation runs schemes to record and monitor them which involve over 18,000 volunteer recorders.
- The data gathered in our world-renowned schemes is used by the Government to indicate the health of the environment at national, UK and European levels.
- The ongoing recording and monitoring programmes help us direct our conservation effort where it is needed. It also helps us assess how effective current conservation work is.

5, The UK Butterfly Monitoring Scheme (UKBMS)

In the UKBMS, annual data on the population status of butterflies is derived from a wide-scale program of site-based monitoring and sampling in randomly selected 1km square. The resulting dataset is one of the most important resources for understanding changes in insect populations and answering policy questions relating to status and trends in biodiversity. The scheme has monitored changes in the abundance of butterflies throughout the United Kingdom since 1976. Forty years later, trends in butterfly populations were compiled from a network of over 4,000 locations across all years, with nearly 2,500 sample locations monitored in 2015.

Top Ten Transect Sites in the UK					
Site Code	Site Name	year	Indices	Name	BC Branch
166	Great Orme	2006	6736	Silver-studded Blue	North Wales
166	Great Orme	2018	5469	Silver-studded Blue	North Wales
166	Great Orme	2002	4121	Silver-studded Blue	North Wales
166	Great Orme	2005	3958	Silver-studded Blue	North Wales
2363	Prees Heath (SSB)	2003	3864	Silver-studded Blue	West Midlands
166	Great Orme	2004	3447	Silver-studded Blue	North Wales
10458	Prees Heath	2003	3407	Silver-studded Blue	West Midlands
166	Great Orme	2000	3310	Silver-studded Blue	North Wales
1827	Upton Towans	2016	3156	Silver-studded Blue	Cornwall

6. Climate Change and Ecosystems (and Soils)

- **The Government's target.** The Government's plan is for "net zero" emissions by 2050, which means balancing carbon emissions with carbon removal. In practice, we'll need to slash the amount of CO₂ we put in the atmosphere.
- **Ecosystems and Soils.** It cannot be overstated the importance of maintaining healthy ecosystems and soils in this ambitious but essential plan.
- **Indicator Species.** Butterflies play an important role -they are an excellent indicator species of healthy ecosystems sometimes referred to as 'flagship' species. For example it cannot be over emphasized the importance of conserving the Marsh Fritillary. This species is not only a very important species that is suffering severe decline but is a flagship species for healthy and well-maintained wetlands including mires, bogs and Molinia dominated habitats. These ecosystems play a very important role in the absorption of CO₂.
- **The Silver-studded Blue** like many other specialist butterflies is also a flagship species for the various ecosystems. The Silver-studded blue is an excellent indicator in Cornwall of healthy dune systems. The requirements for the survival of this species are such that benefit many other plants and animals that typify this beautiful habitat. Apart from providing home to many pollinators these unimproved grasslands play an important role in absorbing CO₂. Safeguarding these habitats helps preserve our landscape that we value so highly

7. Cornish Perspective

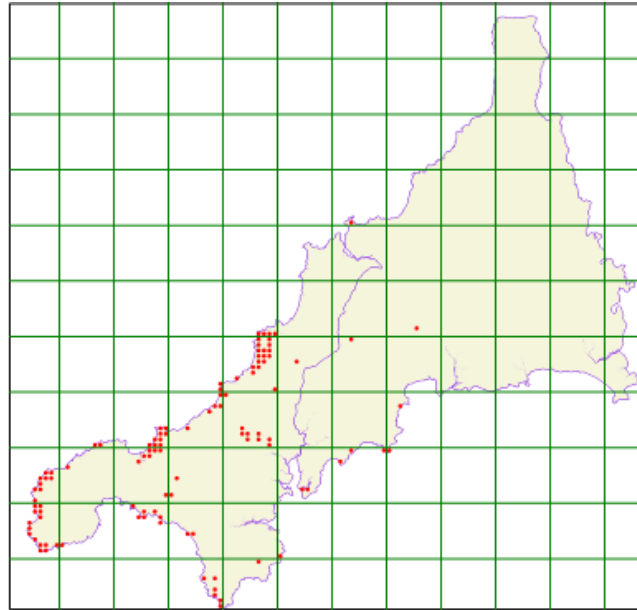
- In Cornwall BC and CBC (local branch) have monitored the Silver-studded Blue and carried out practical conservation work to protect and enhance the habitat for this species. In the past work has been mainly concentrated on the dune systems but in 2017 CBC received funding from the World Heritage Fund for a 'Mining for Butterflies' Project and has carried out survey work on many of the mining sites in Cornwall and in Autumn 2019 practical conservation work is planned. Full programme of events, conservation and survey days is advertised on the CBC website and is open to all.



Godrevy Warren

- **Distribution**

The following map provides the distribution of the Silver-studded Blue in 2018. Due to a large number of dedicated volunteers over 20000 records were sent to the CBC county recorder and entered onto the CBC database,



ERICA data base : 2018 records of the Silver-studded Blue

Report compiled by: Sally Foster CBC member

Acknowledgements

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Cornwall Butterfly Transect Co-ordinator- Jim Barker

Butterfly Conservation Transect Co-ordinator – Ian Middlebrook

National Butterfly Records – Richard Fox.

Cornish butterfly map has been enabled with the kind assistance of Dr Colin French and the use of his data base ERICA.