Butterfly Conservation



factsheet

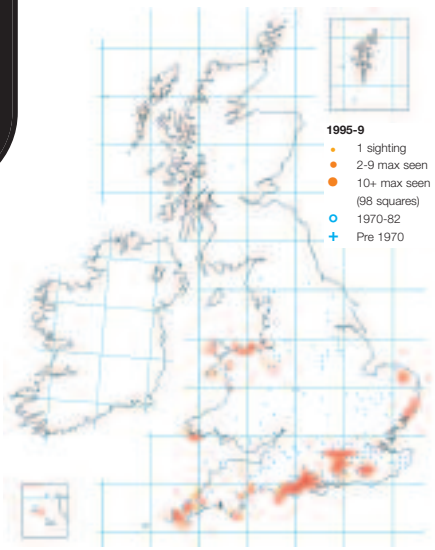


Silver-studded Blue

Plebeius argus

Conservation status

Priority Species in UK Biodiversity Action Plan.
The Wildlife and Countryside Act (1981) specifies that a licence is needed for trading in this species.



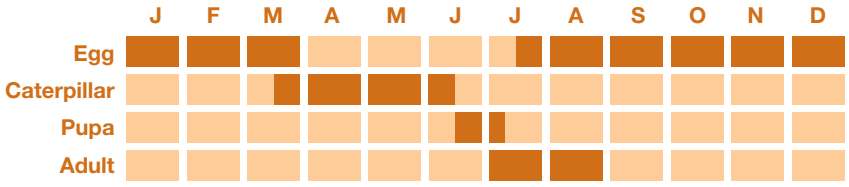
This small butterfly is found mainly in heathland where the silvery-blue wings of the males provide a marvellous sight as they fly low over the heather. The females are brown and far less conspicuous but, like the male, have distinct metallic spots on the hindwing. In late afternoon the adults often congregate to roost on sheltered bushes or grass tussocks. The Silver-studded Blue has a restricted distribution but occurs in large numbers in suitable heathland and coastal habitats. It has undergone a major decline through most of its range.

Life cycle

The Silver-studded Blue is single brooded with adults flying from July to August on heathland and from June to mid-July on calcareous sites. There may be a very small second brood in late August. Eggs are laid singly, close to the ground, where they pass the winter. On heathland, they are often laid in short vegetation (<10-15 cm) on woody stems of the foodplants among sparse vegetation and patches of bare ground. On calcareous sites, eggs are typically laid amongst bare rock or in very short vegetation (<3 cm). Larvae hatch in the spring and feed on the flowers or growing tips of the foodplants. They have a close relationship with ants and females only lay eggs where they detect suitable ant pheromones. On heathland, the most commonly associated species are the black ants *Lasius niger* and *L. alienus* and on calcareous sites almost exclusively with *L. alienus*. The ants probably pick up the larvae soon after hatching and place them in ant chambers beneath rocks or stones. They pupate within or close to ant nests where they are tended by ants until the adults emerge.

Colony structure

Adults are extremely sedentary and form colonies on discrete patches of habitat. Most adults move less than 20 m per day but a small proportion disperse and individuals have been known to move up to 1.5 km between colonies. Colonisations over this distance are very rare and the maximum recorded distance is 4 km. Because most of its early successional habitats are ephemeral, the butterfly often occurs as metapopulations spanning numerous nearby habitat patches.



Foodplants

A wide variety of ericaceous and leguminous plants are used: on heathland the most common are Heather *Calluna vulgaris*, Bell Heather *Erica cinerea*, Cross-leaved Heath *E.tetralix*, gorses *Ulex* spp.; and on calcareous sites mainly Common Bird's-foot-trefoil *Lotus corniculatus*, Common Rock-rose *Helianthemum nummularium*, and Horseshoe Vetch *Hippocrepis comosa*.

Habitat

Three main habitats are used:

1. Lowland heathland (the most widely used);
2. Calcareous grasslands (e.g. Isle of Portland, Dorset, and Gt. Orme, N.Wales);
3. Sand dunes (e.g. in Cornwall).

The species occasionally occurs in other habitats such as bogs. In all habitats the butterfly requires short or sparse vegetation, such as recently burnt heathland, or where there are thin, eroding soils (for example old quarries and coasts). In the far south of England it is less demanding and is often associated with shorter areas of wet heath dominated by Cross-leaved Heath.

Habitat management for the Silver-studded Blue

Heathland

Aim to maintain a mosaic of heathland of different stages and a continual presence of early successional vegetation, which encourages good populations of the symbiotic ants. This is less important on large expanses of habitat where suitable conditions are likely to occur through random events such as disturbance and burns. Suitable management techniques will vary from region to region and should be determined locally. In southern England the butterfly has slightly broader requirements and often breeds around areas of cut heathland dominated by Cross-leaved Heath.

Burning

Periodic, patchy/small scale burning can be beneficial but needs to be considered carefully because of the risks involved. Large areas of sandy soils dominated by gorse become suitable if burned; even isolated cutting and burning in small piles produces patches of habitat. Suitable conditions may take 2-5 years to develop after burning (or soil disturbance) and in the absence of further management may only remain suitable for 5-10 years (10-15 years in far south).
Any burning undertaken must be in line with 'The Heather and Grass burning Code'.

Grazing

Grazing can prolong suitable conditions on heathland and the presence of large herbivores may also help by providing some local soil disturbance. Re-instating grazing alone, however, is unlikely to be sufficient to restore conditions for the Silver-studded Blue in more northerly sites and periodic burning may be needed.

Soil disturbance

Disturbance of the ground, especially if the topsoil is removed, can produce suitable conditions and may be useful when restoring neglected sites. However care should be taken not to damage other interests on the site and small-scale trials should be conducted before applying over wider areas. Rotovation of sandy soils will re-create conditions, but may not suffice on more nutrient-rich soils. Stripping topsoil may be a valuable tool in the restoration of former sites, after the removal of any scrub and Bracken.

Cutting/mowing

Cutting and mowing can maintain areas for Silver-studded Blues in the absence of grazing, by keeping vegetation short and exposing areas of open ground. Small numbers of the butterfly frequent the edges of firebreaks on heathland that are regularly mown, but this is not thought to represent good long-term management. Forage harvesting of mature heather areas can produce suitable habitat if debris is removed.

Grassland

Ideal conditions are found in 2-7cm tall vegetation and with some broken turf.

Grazing

Moderate grazing by livestock will maintain suitable conditions indefinitely, although the butterfly may be eliminated from areas that are too heavily grazed. Precise stocking rates will vary considerably from site to site and require further research.

Ground disturbance (Quarry sites)

On sites with a history of ground disturbance (e.g. disused quarries) suitable conditions may be maintained by patchy disturbance of the soil. This may be especially appropriate on sites where grazing is difficult. Precise techniques have not been tested yet but small areas could be scraped or disturbed by a small bulldozer or tractor mounted blades and allowed to regenerate naturally.



below Ideal habitat with mosaic of short and taller heathland vegetation

Butterfly Conservation

Saving butterflies, moths and their habitats

Head Office Manor Yard East Lulworth Wareham Dorset BH20 5QP
Telephone: 0870 774 4309 Email: info@butterfly-conservation.org
www.butterfly-conservation.org

Compiled by Martin Warren and Tom Wigglesworth. Photographs by BC Picture Library and Martin Warren.
Butterfly Conservation is a registered charity and non-profit making company, limited by guarantee.
Registered Office: Manor Yard East Lulworth Wareham Dorset BH20 5QP.
Registered in England No. 2206468 - Registered Charity No. 254937
Designed and produced by cellcreative 01942 681648. Printed on 100% recycled stock including 75% post-consumer waste.

defra
Department for Environment Food and Rural Affairs

This leaflet has been sponsored by the Department for Environment, Food and Rural Affairs. Details of Defra's Environmental Stewardship Scheme can be found at **www.defra.gov.uk/erdp/schemes/es/default.htm** The scheme includes Higher Level Stewardship, which supports management for targeted butterflies, moths and other biodiversity.