

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.

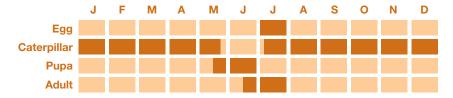
This small butterfly has a silvery appearance as it flies low to the ground over sheltered flowery grasslands. In Britain and mainland Europe, the pattern of wing spots is highly variable and many local races have been described. In Scotland, most individuals are of the race artaxerxes and have a characteristic white spot in the middle of the forewing. In northern England, this spot is generally dark brown or black. The butterfly occurs mainly as small, scattered colonies and has declined in northern England.

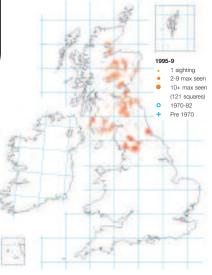
Life cycle

The species is single brooded with adults typically flying from early June until mid-August, with a peak in numbers from late June to mid-July. The flight period varies considerably between years and between regions. The eggs are laid singly on the upperside of Common Rock-rose leaves, where they are highly visible and easily counted. Females select plants that have fleshy leaves, rich in nitrogen, and typically growing in sheltered situations. They lay in swards of various heights from 1-30 cm, but most frequently in medium (6-10 cm) and taller (>10 cm) swards. The young larvae feed on the underside of leaves, leaving the upper surface intact. They hibernate while quite small at the base of the foodplant or on the ground. The larvae start basking in early spring before recommencing feeding. They possess ant-attracting organs on the abdomen and are sometimes attended by ants. The larvae pupate in late May, often lying on the ground on a silken mat, or attached by silk threads amongst the vegetation.

Colony structure

The butterfly forms discrete colonies that are generally small (<100 adults). Most colonies breed on habitat patches <1 ha in area and very few sites are larger than 10 ha. Adults have very limited colonising ability, but some movement has been recorded up to several hundred metres. Extinctions are more frequent on small, isolated sites. It appears that clusters of nearby habitats are interconnected by periodic dispersal and support metapopulations within which periodic local extinctions and colonisations occur.





Foodplants

The most important foodplant is Common Rock-rose *Helianthemum nummularium*, though there are rare records of accidental egg-laying on other plants.

Habitat

The butterfly occurs in well drained, unimproved grasslands where Common Rock-rose grows in a lightly grazed or ungrazed sward. Most sites are sheltered, frequently with scrub, and have thin, base-rich soils often with patches of bare ground, for example coastal valleys, steep slopes, limestone pavements, sand dunes and quarries.

Habitat management for the Northern Brown Argus

The overall aim is to maintain a varied sward with a large proportion of Common Rock-rose areas in the medium (6-10cm) and tall (>10cm) categories. Site size is important - a minimum of 0.2ha is recommended to support a population.

The most suitable grazing regimes have yet to be determined, but light grazing levels of up to 0.2 LU/ha/year are recommended. Sites managed by more intensive grazing regimes may still support the butterfly, but at a low population density. Proven regimes include winter or late summer and autumn grazing (e.g. 4 sheep or 0.5 cattle per hectare for four months). Alternatively, lighter year round grazing can be used, but stocking levels should be reduced to no more than 0.1 LU/ha between April and July. However, on more fragile hill systems, and on sites in Scotland maintained primarily by rabbits, this may represent overgrazing. Care should also be taken to re-introducing grazing gradually on neglected sites..

Mowing

Mowing is always a poor alternative to grazing. However, where grazing is impractical, a single annual cut in the autumn (September) can maintain suitable habitat. Grassland should be mown on rotation, leaving some areas uncut each year. Some sward variation can be achieved by adjusting the height of the mower. Scrub control

Periodic scrub removal may be necessary at some sites although some light, well-spaced scrub is often beneficial to provide shelter, especially on more exposed sites. Scrub can be cut on a rotation of 10-15 years to maintain existing levels of cover, and where scrub reduction is necessary the stumps should be treated with herbicide to prevent regrowth. On neglected sites, concentrate on controlling scrub lying within mosaics of grassland and scrub, where the foodplant is still present, in preference to dense scrub.



above Breeding habitat showing varied sward structure below Taller, sheltered grassland used for roosting





Saving butterflies, moths and their habitats

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The scheme includes Higher Level Stewardship, which supports management for targeted butterflies, moths and other biodiversity.