

Northern Brown Argus (*Aricia artaxerxes*)



Northern brown argus
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This is a relatively small butterfly with a wingspan of only 25 mm. It flies in late June/early July. The butterfly's upper side is brown with orange markings towards the wing margins. Underneath, the wings are grey/brown with a scattering of black-centred white spots and some orange markings similar to those on the upper surface.

A similar-looking species, the brown argus (*Aricia agestis*) also inhabits Britain but recent genetic research seems to confirm that all argus butterflies in North West England are northern brown argus ⁽¹⁾. The brown argus produces two broods of young per year compared with the northern brown argus' one, while their flight periods are different and do not overlap.

This species (known also as the mountain argus) is widely distributed in uplands throughout Europe. In Britain it occurs as two sub-species that are endemic to this country - *Aricia artaxerxes artaxerxes* and *Aricia artaxerxes salmacidis*. The former occurs in Scotland, the latter, the one we are concerned with, is restricted to northern England.

The larval foodplant is common rockrose (*Helianthemum nummularium*). Wild thyme (*Thymus polytrichus*) and bird's-foot trefoil (*Lotus corniculatus*) provide nectar sources for the adult. Sites for this butterfly frequently contain scattered bushes that provide shelter. The adults roost communally among tall grass in sheltered spots. The caterpillars possess ant-attracting organs and there may be some relationship between the caterpillars and certain species of ants (6).

Main Habitat(s): Lightly grazed or ungrazed; well-drained calcareous grassland and limestone pavement below 350m altitude.

National status

The salmacid sub-species occurs in seven separated populations in northern England. Most of the colonies that together make up these populations are assessed as being "small and vulnerable" ⁽²⁾. Since 1970 there has been a 23% reduction in the number of 2 km squares from which the salmacid sub-species has been recorded in the UK. Some colonies have been lost from Yorkshire ⁽³⁾.

Regional status

Of the seven populations in northern England, two occur in limestone areas in the region (in the southern Orton Fells and around Morecambe Bay). Within the North West, the number of 10 km squares with records for this species has increased by 25% over the last 25 years but this is attributed to increased recording rather than a real expansion in the butterfly's range ⁽¹⁾.

Local status

The colonies in north Lancashire are not regarded as being under threat at present ⁽⁴⁾.

There are three known sites all with "large colonies" ⁽⁴⁾: Gaitbarrows NNR, Warton Crag and Leighton Moss/Yealand Hall Allotment.

Current factors affecting the species

There are thought to be two main reasons for the decline in numbers at the national scale. Firstly, there has been an overall loss of unimproved limestone grassland and limestone pavement habitats. Secondly, where these habitats still exist, subtle changes to the vegetation structure can be the cause of the extinction of northern brown argus colonies.

Heavy grazing or overgrazing (by sheep or rabbits) may lead to the loss of sheltered spots and of the areas of tall grass in which the adult butterflies roost. If sites are allowed to scrub-over too much however, there is a danger that the butterfly's nectar sources and food plants will be shaded out.

It can be difficult to achieve and maintain the right management balance. The most appropriate management regime for the grassland habitat to benefit this species is believed to consist of light winter grazing by livestock with occasional scrub removal.

The isolation of sites from each other increases chances of the local extinction of colonies.

Records of the butterfly at a distance from known sites might indicate new colonies but only a systematic search in suitable areas at the appropriate time of year could establish firmly the existence of further colonies. Care would need to be taken to distinguish brown argus butterflies from female common blue (*Polyommatus icarus*) butterflies, which can be similar in appearance.

Current Action / Mechanisms

A national Species Action Plan for northern brown argus was published by Butterfly Conservation in 1996 ⁽²⁾. This has been supplemented by a section on the species in the organisation's Regional Action Plan for North West England ⁽¹⁾.

Northern brown argus is a UK BAP Priority Species. A Species Statement was included in the second tranche of UK Plans ⁽⁵⁾. Scottish Natural Heritage is preparing an information and advice note on habitat management for the *artaxerxes* sub-species.

Northern brown argus is listed on Schedule 5 of the 1981 Wildlife and Countryside Act for sale only.

All of the sites in Lancashire for the argus are designated as SSSIs and are managed primarily for nature conservation. All known populations in the county are monitored systematically through the walking of six butterfly transects.

Objectives, targets and proposed actions for northern brown argus in Lancashire

Broad Objective:	A. Maintain and enhance all known colonies.			
Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Maintain systematic monitoring of all known colonies in Lancashire.	1. Continue annual monitoring of population size on existing transects. (High)	BCL, EN, WT, RSPB, Lancaster CC	O	RM
2. Ensure that appropriate management is carried out on all sites with northern brown argus.	1. By end of 2001 review management plans for all nature reserves with colonies to check that prescriptions and programmes of work take adequate account of the species. (High)	EN, WT, RSPB, Lancaster CC	S	LM
	2. Implement positive management for this species on all nature reserves with Argus colonies through appropriate levels of winter stocking and control (if necessary) of rabbits. (High)	EN, WT, RSPB, Lancaster CC	O	LM
	3. Liaise with Yealand Hall tenants to ensure needs of the species are taken into account in management of Yealand Hall Allotment. (High)	EN, Yealand Hall Estate, tenants, MAFF	O	A, LM
3. Seek opportunities to increase patches of suitable habitat on existing sites.	1. By end of 2001 review management plans for all nature reserves with colonies to assess feasibility of increasing areas of suitable habitat. (High)	EN, WT, RSPB, Lancaster CC	S	LM
Broad Objective:	B. Promote ecological research that assists conservation of the species			

Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Confirm status of northern brown argus in Morecambe Bay limestone area.	1. Annually collate results from all existing transects to assess population trends at north Lancashire sites (High)	BCL, EN, WT, RSPB, Lancaster CC	O	RM
	2. Using BHS data, identify possible sites in north Lancashire and complete systematic survey for existence of undiscovered colonies by autumn 2003. (Medium).	BCL, LCC, BHS P/ship	M	RM
2. Encourage research on Morecambe Bay sites into aspects of species' ecology	1. Seek support for more research on Morecambe Bay sites into species' ecology (e.g. precise habitat requirements, its interaction with ants and parasitism. (Medium)	BC, EN, HE/FE	O	RM

Broad Objective: C. Encourage the establishment of new colonies within Morecambe Bay area.

Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Identify opportunities to restore suitable habitat in the Morecambe Bay area.	1. By the end of 2003 assess feasibility of habitat creation / restoration measures to facilitate natural colonisation or introduction of the species to new sites. (Medium).	BCL, LCC, BHS P/ship	M	RM
2. Ensure incentives are available to land managers to create appropriate conditions that encourage natural colonisation of new sites.	1. Include habitat requirements of the argus in prescriptions for Countryside Stewardship and other agri-environment schemes targeted at appropriate sites within the natural dispersal range of the butterfly in the Morecambe Bay area. (Medium)	MAFF	M	P

Broad Objective: D. Promote the northern brown argus as a flagship species in the Lancashire BAP

Operational Objective	Action Required (Priority)	Partners	Time-scale	Type
1. Produce material aimed at the general public that explains the importance of the northern brown argus populations in the limestone areas of north Lancashire and south Cumbria	1. Include information about the argus in newsletters, site leaflets and interpretative material. (Low)	MBP, EN, WT, RSPB, Lancaster CC, Arnside / Silverdale AONB CMS	O	PR

Related Action Plans:

- Pearl-bordered fritillary SAP
- High brown fritillary SAP
- Limestone Pavement HAP
- Calcareous Grassland HAP

References & additional reading:

1. Ellis, S. & Bourn, N. (2000) Butterfly Conservation Regional Action Plan North West England. Butterfly Conservation, Wareham, Dorset.
2. Ravenscroft, N. O. M. & Warren, M. S. (1996) Species Action Plan - Northern Brown Argus (*Aricia artaxerxes*) Butterfly Conservation, Wareham, Dorset.
3. Ellis, S. (1994) Conservation research on the Durham Argus butterfly *Aricia artaxerxes* ssp. *salmacis* (Stephens). Report to English Nature, North East Region: Contract No. 2/93.
4. Sivell, L. (1999) Unpublished Report to Butterfly Conservation (BC) on behalf of Lancashire Branch of BC towards the North West England Regional Action Plan.
5. DETR (1999) Northern Brown Argus (*Aricia artaxerxes*) Species Statement - UK Biodiversity Action Plan, Tranche 2, Vol IV, p411.
6. Asher, J., Warren, M., Fox, R., Harding, P., Jeffcoate, G. & Jeffcoate, S. (2001) The Millenium Atlas of Butterflies in Britain and Ireland. Oxford University Press, Oxford.

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