

## 18 BUTTERFLIES

### 1 Introduction

- 1.1 Nearly 70 species of butterfly have been listed as British. At least 10 of these are believed to occur only as migrants, and of these only the red admiral and painted lady appear regularly and often abundantly, some of the others being rarities. Although most species show population fluctuations from year to year, some residents are widespread and usually common over much of Britain. Species-richness decreases very markedly from south to north, for most butterflies are warmth- and sun-loving creatures. For example, some southern English counties have over 40 species, but most of the far north of Scotland has less than 10 (Heath, Pollard & Thomas 1984). The common residents and migrants tend to occur in a wide variety of habitats, including roadside and railway verges, field edges, gardens and waste ground, as well as the semi-natural habitats which are of particular concern in SSSI selection. While these species are an integral part of the wildlife interest of any site and help to characterise the insect assemblage, it is mainly the less widespread butterflies that confer special interest.
- 1.2 Two former British residents, the mazarine blue and black-veined white, became extinct earlier this century, and it is unlikely that they could be re-established. The large copper and large blue occur as reintroductions after becoming extinct. There is some doubt as to whether the large tortoiseshell is still definitely a resident, rather than a migrant that breeds occasionally, but clearly its conservation should be given special attention if permanent breeding sites are located. The large blue and large tortoiseshell are listed as "endangered" in the Red Data Book for insects (Shirt 1987); "vulnerable" species are swallowtail, heath fritillary and high brown fritillary, while there are two "rare" species - Glanville fritillary and silver-spotted skipper; the black hairstreak and chequered skipper are listed as "out of danger". In Atlas of butterflies of Great Britain and Ireland (Heath, Pollard & Thomas 1984) seven other species have a nationally scarce distribution (occurring in no more than 100 10 km grid squares: see C.11, 1.1) - adonis blue, black hairstreak, chequered skipper, Lulworth skipper, mountain ringlet, northern brown argus and purple emperor. Most of these species have suffered a decline in part of their range, and only the Lulworth skipper can be regarded as abundant within most of its range. There are, however, other species that have been suffering a marked decline in the last two decades, so that the 1984 atlas, by showing presence since 1970, may not give the true distribution today. Thus the list of nationally scarce species here (2.3) includes brown hairstreak, Duke of Burgundy, marsh fritillary, pearl-bordered fritillary, silver-studded blue, white-letter hairstreak and wood white, to ensure that attention is given to these declining species.
- 1.3 There are problems in applying a scoring procedure to butterflies, especially where there is uncertainty as to whether a site supports, or could with the correct management support, a viable population of a species. However, the main limitation in evaluation of butterfly sites is that the British butterfly fauna is small, and hence the list of rare and scarce species is short. The difficulties are compounded by the marked reduction in species-richness northwards and by the fact that the rarer butterflies are spread over a variety of habitats, especially grassland, scrub and woodland, and often occur in sites with a mosaic of these habitats. This means that, over much of Britain and in the case of many individual habitats, it is seldom that any

one site will contain many rare and/or scarce species. Habitat mosaics may rate higher, emphasising their importance, but often even these will support few rare or scarce species.

## 2 Site selection requirements

The following criteria should be used to select butterfly sites.

### 2.1 Nationally rare species

#### 2.1.1 Extinct in Great Britain

Large blue

Red Data Book category 1<sup>+</sup>; listed in Schedule 5 of the Wildlife and Countryside Act 1981: sites which are managed and monitored as key areas for re-establishment or introduction should be decided in consultation with the NCC; they may then qualify for SSSI designation.

Large copper

Red Data Book appendix: the native subspecies, Lycaena dispar dispar, became extinct in the mid 19th century, but a similar Dutch subspecies, L. d. batavus, has been introduced to Woodwalton Fen NNR, Cambridgeshire; sites which are managed and monitored as key areas for re-establishment or introduction should be decided in consultation with the NCC; they may then qualify for SSSI designation.

#### 2.1.2 Endangered (Red Data Book category 1)

Large tortoiseshell

Sites qualify only if there is long-term residence (i.e. continuous occupation for at least five years); sites with only sporadic or transient breeding do not qualify.

#### 2.1.3 Vulnerable (Red Data Book category 2)

Heath fritillary

Listed in Schedule 5 of the Wildlife and Countryside Act 1981: all sites with remaining natural colonies are eligible unless these are very small; large sites with dispersed colonies count as one site; introduced colonies do not normally qualify for SSSI selection, unless they have survived for at least 10 years.

High brown fritillary

Up to three sites per AOS are eligible, or all strong colonies if there are more than three sites; large sites with dispersed colonies count as one site.



candidates for selection. Wherever possible, the sites selected should support colonies of some nationally rare and scarce species in addition to the species identified here.

<u>Species</u>	<u>Regions most affected</u>
Brown argus	All except S & SE England and parts of SW England, East & West Midlands and East Anglia
Chalkhill blue	All except S England and parts of SE & SW England
Dark green fritillary	All except Wales, Scotland and S England and parts of SE & SW England
Dingy skipper	All except S & SE England, West Midlands and parts of SW England, East Midlands and Wales
Grayling	East Midlands, NE & SE England, and SE Scotland
Green hairstreak	Parts of all regions
Grizzled skipper	All except parts of S, SE & SW England and East & West Midlands
Large heath	England and Wales
Marbled white	All except S, SE & SW England and parts of West Midlands
Purple hairstreak	NE & NW England and Scotland
Scotch argus	NW England
Silver-washed fritillary	All except SW England, Dyfed/Powys and parts of S & SE England, West Midlands and S Wales
Small blue	All except parts of S, SE & SW England
Small pearl-bordered fritillary	All except NW England, Wales and NE, NW & SW Scotland
White admiral	All except S & SE England and parts of SW England

### 3 References

- HEATH, J., POLLARD, E., & THOMAS, J.A. 1984. Atlas of butterflies of Great Britain and Ireland. Harmondsworth, Viking.
- SHIRT, D.B., ed. 1987. British Red Data Books: 2. Insects. Peterborough, Nature Conservancy Council.

## 19 DRAGONFLIES

### 1 Introduction

- 1.1 The British dragonfly (Odonata) fauna numbers 44 species, of which three are believed to be extinct and several are wholly or partly immigrants. A list of 15 resident species, ranging from the endangered to the scarce, has been selected as deserving individual representation in site selection. The remaining, more widespread species are to be represented according to outstanding assemblages. Distribution patterns of species are given by Hammond (1983), and these have been revised in interim distribution maps of dragonflies compiled by Merritt (1986). Despite the fact that Scotland has a few species which are absent from England and Wales, dragonflies decrease in numbers of species with distance north in Britain, so allowance has to be made for this trend in site evaluation. All species need water for breeding, but as adults they also utilise terrestrial habitats.

### 2 Site selection requirements for individual species

#### 2.1 Nationally rare and scarce species

Site selection should cover the following individual species.

- 2.1.1 Believed extinct in Great Britain (Red Data Book category 1<sup>+</sup>:  
Shirt 1987)

<u>Oxygastra curtisii</u>	)	If rediscovered, all sites qualify for selection.
<u>Coenagrion armatum</u>	)	
<u>C. scitulum</u>	)	

- 2.1.2 Endangered in Great Britain (Red Data Book category 1)

<u>Aeshna isosceles</u> (listed in Schedule 5 of the Wildlife and Countryside Act 1981)		All sites qualify for selection.
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- 2.1.3 Vulnerable in Great Britain (Red Data Book category 2)

<u>Coenagrion hastulatum</u>	)	Use guidelines under 2.2.
<u>Lestes dryas</u>	)	

- 2.1.4 Rare in Great Britain (Red Data Book category 3)

<u>Somatochlora arctica</u>	)	Use guidelines under 2.2.
<u>Libellula fulva</u>	)	
<u>Coenagrion mercuriale</u>		Internationally endangered (see 2.1.6 and 2.2).

- 2.1.5 Nationally scarce (known or presumed to occur in 16-100 10 km squares in Great Britain, but not RDB species)

<u>Aeshna caerulea</u>	)	Use guidelines under 2.2.
<u>Brachytron pratense</u>	)	
<u>Coenagrion pulchellum</u>	)	
<u>Cordulia aenea</u>	)	