

BLOOMSBURY POCKET GUIDE TO

# BUTTERFLIES

BOB GIBBONS



B L O O M S B U R Y



POCKET GUIDE TO  
**BUTTERFLIES**

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Bob Gibbons

Photographs by Bob Gibbons and Richard Revels

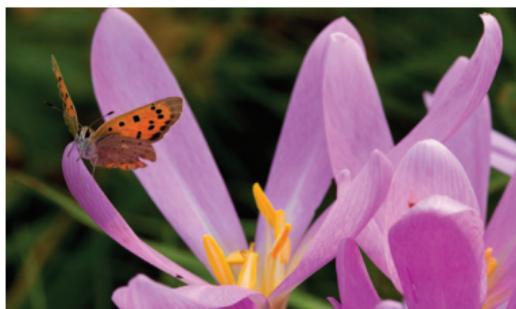
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# INTRODUCTION

## WHAT IS A BUTTERFLY?

Butterflies are part of a large order of insects, the Lepidoptera, which also includes the moths. The characteristics of the whole order are wings covered in scales (lepidoptera means 'scale wings'), which give them their colour and pattern, and, normally, a long sucking proboscis that is coiled up under the head when not in use. This is used for drinking nectar and other fluids, the primary source of food for the adults.

Moths and butterflies differ in a number of ways. Within northern Europe all butterflies are day flying only, whereas most moths are night flying, although there are a number of day-flying moths that do resemble butterflies. All our butterflies have distinctly clubbed antennae, and there is a sharply defined, short swelling at the tip of each antenna. Most moths do not have this feature, but some, such as the day-flying burnet moths, have antennae that taper gradually from a swollen tip. Most moths rest with their wings folded back along their bodies, whereas most butterflies fold their wings above the body, revealing only the undersides. Finally, on detailed examination moths can be seen to have their forewings and hindwings attached together by little hooks, each called a frenulum, whereas butterfly wings simply have a large area of overlap. This combination of characteristics, and particularly the antennae, serves to distinguish the two groups.

Superficially, butterflies can also be confused with the owl-flies, or ascalaphids, which are active, day-flying insects in warm, grassy sites throughout southern and central Europe (but not the UK). They differ from butterflies in having very long, clubbed antennae and large, clear patches on the wings, and by their active predatory lifestyles.

## THE LIFE OF A BUTTERFLY

All butterflies pass through a series of stages in their lives, known as complete metamorphosis. The females of adult butterflies lay eggs on specific food plants or groups of food plants, which they select; occasionally the eggs are deliberately laid away from the food plant, but near it. The eggs hatch to produce larvae, or caterpillars, which feed on the food plant, passing through a number of stages until they are fully grown. The larva is the main feeding and growing phase of the life cycle. When it reaches a certain size, a larva ceases feeding and turns into a pupa, or chrysalis, in a process known as pupation. This is an immobile phase and pupae are hidden somewhere attached to the food plant, in soil or in some other suitable place. Within the pupa an extraordinary process takes place, during which the body is

effectively gradually reassembled into the form of an adult butterfly. When ready, the fully formed adult breaks out of the pupa. At first it is relatively small and shrivelled looking, unable to fly and vulnerable to predation. Within a few hours, however, the wings are inflated to their full size, and the butterfly is able to fly as a sexually mature adult.

The main function of the adult part of the life cycle is breeding and dispersal. Adults feed regularly on nectar and other nutritious liquids, primarily to gain energy, not growth. When not feeding, basking or sheltering from inclement weather, the males spend most of their time defending territories, seeing off potential rivals and seeking out females with which to mate. Females behave rather differently, spending much of their time searching for suitable plants on which to lay their eggs. Males are frequently more conspicuous than females for this reason, although not in all species.

Butterflies vary widely in their mobility and powers of dispersal. Some, such as the Duke of Burgundy and Grizzled Skipper (see pp. 54 and 12), live in small, loose colonies, with relatively little movement outside of these. Others, such as the Brimstone (see p. 52), are highly mobile, moving widely in search of mates, nectar or larval food plants, although they are not migratory in the sense of having regular defined movements over long distances.

A number of species are regular migrants, most commonly migrating northwards from a southern base (typically in the Mediterranean area) whenever populations build up. The pattern of these migrations varies widely. Some species perform reverse migrations (much has been discovered about this in recent years – see, for example, p. 118), while others do not return south. In some cases the migrants reinforce existing resident populations, while others only occur as migrants. In more extreme cases American species, notably the Monarch *Danaus plexippus*, appear in north-west Europe when they are blown off course from their regular extraordinary north–south migrations within the American continent. Nowadays there are examples of human-assisted migration; for instance, the Geranium Bronze *Cacyreus marshalli*, from South Africa, has become established as a resident in parts of southern Europe due to its introduction there with pot plants, and the availability of suitable garden plants as larval food. It is recorded occasionally in Britain, but has not become established.

## FINDING AND WATCHING BUTTERFLIES

Although butterflies occur almost everywhere, it can be surprisingly difficult to find specific species without local knowledge. In general, the best way to discover a range of interesting and attractive butterflies is

by visiting high-quality, semi-natural habitats such as chalk grassland (especially in June and July), old woodland (especially spring and summer), heathland (especially summer) and gardens at almost any time. All of these are rich in insect life unless they are badly polluted.

Nature reserves frequently preserve the best examples of these habitats, and most are open to the public. Some examples of organisations that have reserves are given on p. 189. It is also worth searching the internet as there are many websites that give details of good sites for particular species.

When out in the field it is best to walk slowly and scan ahead, to try and see the butterflies before they see you. If you approach slowly they will often not see you as a threat and may stay put. It is always a good idea to carry binoculars, particularly for viewing tree-based species such as some hairstreaks and Purple Emperors (see p. 144). Consider close-focusing binoculars (such as the Pentax Papilio, which is small, light and extremely close focusing, specifically for butterfly watching); these will allow you to examine the features of butterflies in detail.

In general, butterflies are easier to see but harder to approach in warm, sunny weather, when they are very active, whereas in cool or damp weather they are hard to find but easier to approach as they are reluctant to fly. In settled weather it is worth going out early as butterflies begin to warm up, or staying out late as they settle for the night or, in some cases, become more visible as they come down from trees.

## HOW TO USE THIS BOOK

In order to identify a butterfly you have seen, the best starting point is to look through the photographs in this guide and try to find something similar to what you have seen. If it does not quite fit, check nearby pages, and also any similar species mentioned at the ends of species accounts. Also look at the information given on size, normal habitats, distribution in the region and flight period to try to confirm an identification.



**FLIGHT PERIOD** gives an indication of when the adult insect is likely to be seen. In particularly warm or cool sites, or in unusual years, adults may be seen outside the given period. In this era of climate change it is becoming increasingly difficult to give accurate flight periods, even for a given location. In general, there is a tendency for species to emerge earlier, and to be more likely to have an additional generation within the season than was the case in the past.

**HABITAT AND DISTRIBUTION** gives the normal habitats of the species – for example woodland – but many species are quite mobile and turn up in other habitats. Some details of where a species occurs in Britain and Ireland, and adjacent continental Europe, are given, but they are usually simplifications; many species are spreading or declining, so this information should not be considered as a defining feature. As in the case of flight period above, climate change is tending to alter the distribution of species, with many species moving northwards.

**SIMILAR SPECIES** gives an indication either of species that might be confused with the main one, or of some closely related species.

## **BUTTERFLY CONSERVATION**

Insects in general and butterflies in particular are declining alarmingly in most developed countries. The combination of habitat loss, habitat fragmentation and the widespread use of pesticides and other damaging chemicals has led to huge losses of numbers, and some species have become extinct, at least locally, in recent decades. Tragic in itself, this decline has also affected our populations of birds, bats and other animals that are so dependent on insects.

Butterfly conservation has become more widespread and more effective in the last few decades than it used to be, because we have learned much about butterflies and their requirements, allowing targeted management in protected areas. This has revolutionised the management for some species, so that their populations have risen even though the number of sites where they occur has declined. There are also now some successful examples of the reintroduction of locally extinct species such as the Large Blue (see p. 78) to their former haunts.

Several organisations (see p. 189) are specifically concerned with insect conservation, and of course the general nature conservation organisations help by protecting good habitats. Join as many of these as you can, and get involved.

To achieve something for butterflies personally, it is worth managing your garden with butterflies (and other aspects of nature) in mind. In summary, this includes planting or encouraging the larval food plants of likely local species, offering ample nectar plants for the adults, providing both shelter and warmth, and avoiding using any damaging chemicals. For more details, see the bibliography (p. 188).

## SKIPPERS, HESPERIIDAE

These are quite distinct, small butterflies that are almost moth-like in appearance, with flattened and clubbed antennae. Some, the 'golden skippers', perch with their forewings and hindwings at different angles. There are eight regular species in the UK, and about 45 in Europe as a whole.

### Dingy Skipper

*Erynnis tages*

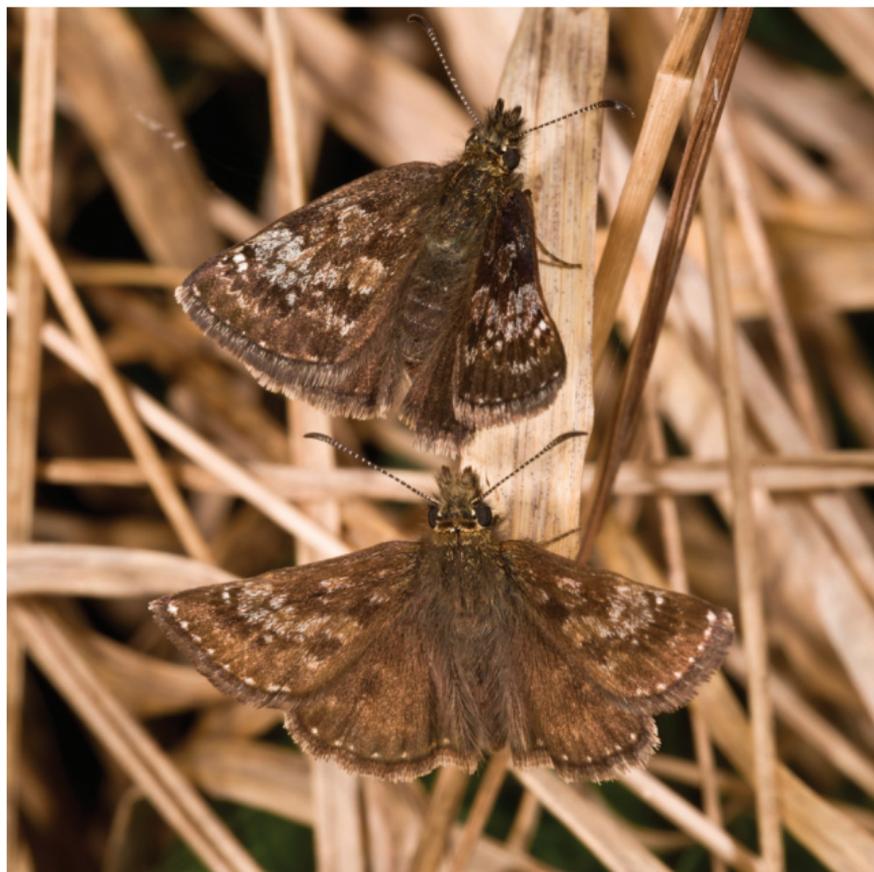
Wingspan 25–30mm. A small, brownish-grey butterfly that is quite patterned when fresh but soon becomes duller. The underwings are paler yellowish-brown than the upperwings, but are rarely seen as the butterfly normally settles with wings open flat, or sometimes curled around a stem. Males and females are very similar, although the male has inconspicuous scent scales. The tiny greenish eggs are laid on Common Bird's-foot Trefoil, Horseshoe Vetch and other related legumes.



**FLIGHT PERIOD** Mainly late April–mid-June, with a small second brood in late summer in favoured localities if warm.



Dingy Skipper second brood adult on chalk grassland.



A courting pair of Dingy Skippers, male below.

**HABITAT AND DISTRIBUTION** Occurs in small colonies in warm, sheltered, neutral to calcareous locations such as downland, old railway cuttings and woodland clearings. Still quite common, although declining, in southern Britain, with scattered colonies as far north as the Moray Firth. Locally frequent in Ireland, including as a distinct subspecies in the west. Widespread in northern mainland Europe as far north as southern Scandinavia.

**SIMILAR SPECIES** Most likely to be confused with day-flying moths such as the Burnet Companion *Euclidia glyphica*, which has orange underwings and antennae without any swelling, or Grizzled Skipper (see p. 12), which has a more distinct chequered pattern, and chequered fringes to the wings.

## Grizzled Skipper

*Pyrgus malvae*

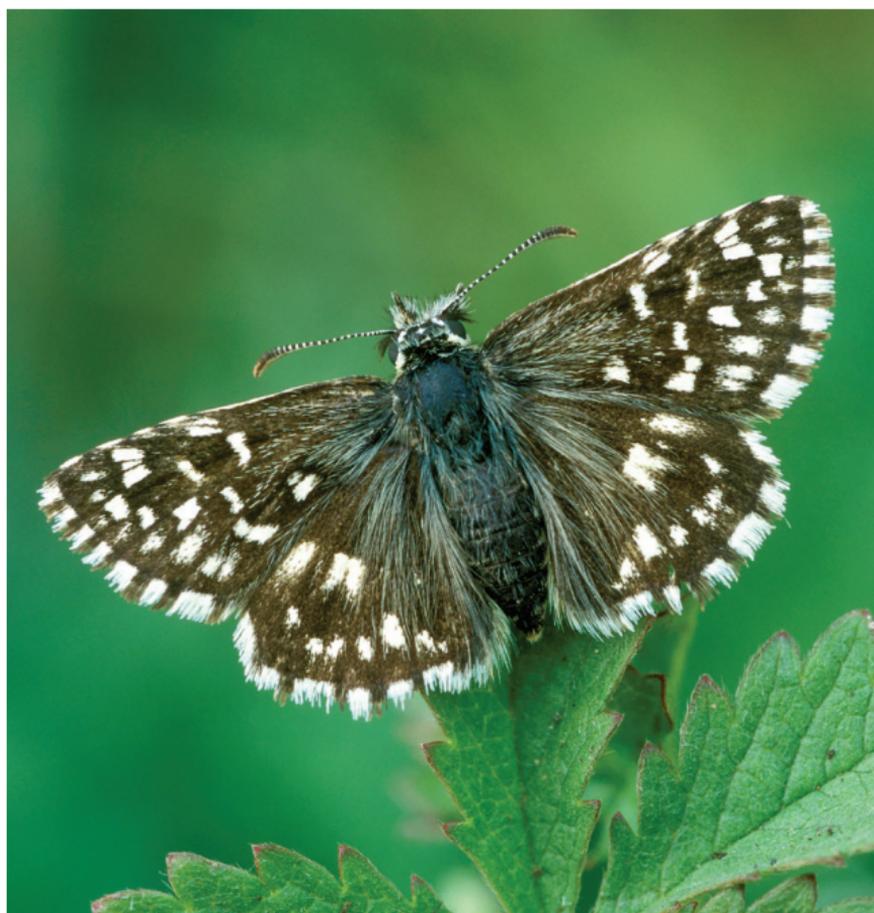
Wingspan 24–28mm. A small and pretty butterfly, boldly chequered dark brown and white above when fresh, becoming duller as it ages, with chequered wing fringes. The undersides are paler than the uppersides, with bold white spots; they are quite often seen because this species frequently settles with its wings closed in dull weather or when roosting. Males and females are virtually identical, although males are more conspicuous and active, constantly settling and basking, then darting off to meet a female or see off another male, whereas females fly close to the ground looking for host plants. The roughly spherical, pale green eggs are laid singly on Wild Strawberry, cinquefoils and other members of the rose family.



**FLIGHT PERIOD** Mainly late April–end June, with a small second brood in late summer in favoured localities in warm seasons.



Grizzled Skipper larva feeding.



Grizzled Skipper adult basking.

**HABITAT AND DISTRIBUTION** Found in similar places to the Dingy Skipper (see p. 10), although it is less tied to calcareous soils. Typical sites include woodland clearings, banks, sheltered downland and valleys, generally characterised by shelter, warmth and vegetation that is not too luxurious.

**SIMILAR SPECIES** In Britain it is unlikely to be confused with much else when newly emerged, although worn individuals may resemble the Dingy Skipper; in nearby mainland Europe it is most likely to be confused with the Large Grizzled Skipper *P. alveus*, a variable and uncertain species that is always larger, with a wingspan of up to 34mm, and smaller and fewer spots. It occurs in similar habitats and is widespread, although it is rare or absent from Denmark and Holland.

# Chequered Skipper

*Carterocephalus palaemon*

Wingspan 28–32mm. A particularly attractive little skipper with an appealing combination of large, orange-yellow spots on a warm dark brown background. The sexes are similar, although females are generally larger than males, with paler spots. Males normally pass their time perched with wings open in a sheltered spot ready to intercept any passing female, rival or even other insects, while females flutter in grass, or nectar at Bugle, bluebells and thistles. The pale, flattened, globose eggs are laid singly on the host plant, Purple Moor-grass, or other grasses such as Wood False-brome.



**FLIGHT PERIOD** Late May–early July in most localities; rather later in montane sites, in a single brood.



Chequered Skipper feeding on Thrift, showing underside.



Chequered Skipper basking, West Scotland.

**HABITAT AND DISTRIBUTION** Species of slightly damp, sheltered grassy places, such as woodland margins and clearings, and coppiced woodland, often on – although by no means confined to – quite heavy acid soils. Occurs in much of central Europe, and is most common at mid-altitudes in mountain areas. In Britain it is extinct in its former sites in central and eastern England, but still has strong populations locally in western Scotland. Elsewhere, it is widespread in central and western Europe as far north as northern Scandinavia, although it is absent from large parts of the flatter lowlands.



Large Chequered Skipper on Cross-leaved Heath.

**SIMILAR SPECIES** Within Britain, if you are lucky enough to see it, this species is unmistakable. However, in north-west Europe there are two rather similar species. The Northern Chequered Skipper *C. silvicolus* differs in that males are largely yellowish-brown above with a few dark forewing spots and dark shaded areas on the hindwings; females are more like Chequered Skippers, but have distinctly larger areas of yellow. This is a strongly northern species, becoming steadily more frequent from northern Germany northwards in damp meadows and woodland clearings. The Large Chequered Skipper *Heteropterus morpheus* is quite distinctive by virtue of its uniformly dark brown upper surfaces with just a few white spots on the forewings (more in the female than in the male), and with underside hindwings boldly marked with large, black-edged, oval white spots on a yellowish background. It also has a rather distinctive and curious bouncing flight, low over the ground. The species is locally common in sheltered damp meadows and wet heaths, from western France to southern Scandinavia in our area, flying late June–early August.

# Mallow Skipper

## *Carcharodus alceae*

Wingspan 30–35mm. A pretty but rather inconspicuous little butterfly, with marbled pale orange-brown and dark brown upperwing surfaces that have a slightly pinkish tinge, and distinctly crenellated hindwing margins. There may occasionally be small white spots or streaks on the forewings. Females are slightly larger than males, although otherwise the sexes are similar. The species settles frequently with wings either spread or closed, and the male often lowers its wings while raising its abdomen.

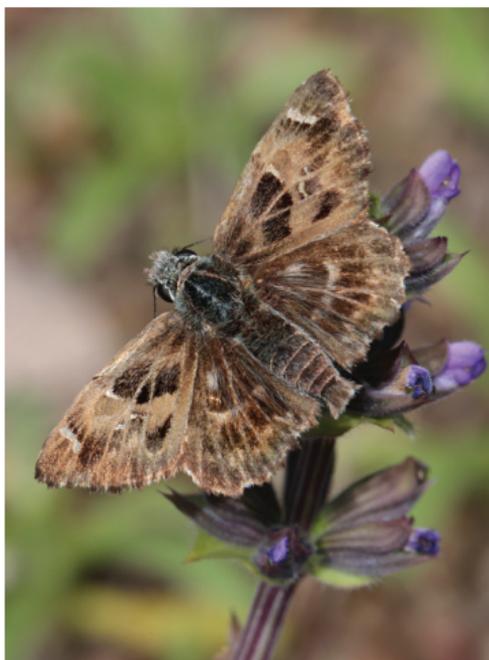


**FLIGHT PERIOD** One of the earliest species, appearing from March onwards, with several broods through to late summer; further south it may be present all year.

**HABITAT AND DISTRIBUTION** Occurs in a wide variety of sheltered, warm, flowery habitats. Recorded in Britain in 1923 but not since then; it was considered to be an introduction, although it can be quite a mobile species in warm weather. In continental Europe it is common south of 50 degrees north, and is currently spreading northwards due to a warming climate and widespread cultivation of potential host plants such as hollyhocks and other mallows.

### **SIMILAR SPECIES**

Distinctive in our area; the crenellated wing margins and lack of white helps to distinguish it from the Dingy Skipper (see p. 10) and similar moths.



Mallow Skipper basking.

## Small Skipper

### *Thymelicus sylvestris*

Wingspan 30mm. This is one of the five 'golden skippers' in the area, notable for their golden-brown colour and habit of settling with their forewings raised at about 45 degrees. The uppersides of the wings are golden-brown with faint black veins and shaded black margins. The sexes are similar except that the males have a distinct black sex brand running diagonally across the forewing. The undersides are unpatterned orange-brown shaded with greyish-green. Typically, males are more active than females, with the usual skipper behaviour of constant rapid forays to investigate females and potential rivals. In the UK the food plant is normally Yorkshire Fog, but elsewhere Timothy and other grasses are used.



**FLIGHT PERIOD** Flies in a single generation, early June–late August in the UK, although it may emerge much earlier in sites further south.



Female Small Skipper on Red Clover.