



Wiltshire's chalk grasslands are some of the best places in the UK to see butterflies. Forty or more species are quite possible during the year together with a multitude of day-flying moths. On warm sunny days in late summer, many thousands of individuals may be present. Reserves like Coombe Bissett Down are clearly great places for butterflies but the sheer numbers and variety of species can be a bit overwhelming. Identifying them all can be a considerable challenge.

This guide selects several groups of similar butterflies that can cause identification problems for beginners and experts alike. It is not intended to be a comprehensive guide to all species that might occur but it can be used to supplement a good identification guide. It only covers species which are likely to be found on Wiltshire chalk grasslands so it will not necessarily be useful for other parts of the country or in different habitats such as heathlands or woodlands.

Some butterflies can be tricky to identify even when seen at very close range and are sitting still enough to allow prolonged examination. Unfortunately, typical views are often fleeting and sometimes rather distant. On some days the butterflies just never seem to settle and allow themselves to be examined! It is hoped that these sheets may help by illustrating the particular features that are most useful for identification and by pointing out potential confusion species (including some day-flying moths). Not every butterfly can be positively identified in the field but we hope that this guide will help.

The butterflies covered are: -

- dingy skipper & grizzled skipper
- marsh fritillary & dark green fritillary
- Duke of Burgundy
- brown hairstreak
- the blue butterflies
- the "cabbage" whites
- other white butterflies
- ringlet, meadow brown & gatekeeper
- comma, small tortoiseshell & peacock

The dingy & grizzled skippers

These are two of our most inconspicuous butterflies. Both are small, brownish, "moth-like" species that often occur together on chalk grasslands, typically from late-April into early-June. They fly low to the ground, often making a series of short, erratic flights – hence the family name "skippers". They are also fond of basking with open wings on patches of bare ground or on dry rabbit droppings where they may be almost invisible until disturbed. They can be surprisingly difficult to follow in flight and getting good views is not always easy.

There are two day-flying moths that can cause major confusion with these skippers unless examined closely. These are so similar in general appearance as to create difficulties for even experienced observers, especially with the very brief glimpses that are typically possible. The main diagnostic features are listed below but close views will be needed to reliably distinguish these four species. Worn individuals can be particularly tricky!

dingy skipper

- Grey-brown wings with faint darker markings
- Rather plain underside
- Tiny white dots on wing edges
- Clubbed antennae



grizzled skipper

- Dark-brown wings with strongly contrasting white spots
- Mottled underside
- Strong chequering on wing edges
- Clubbed antennae



potential confusion species...

mother shipton moth

- "Face" pattern on mother shipton fore wings
- Orangy hind wings on burnet companion
- No clubs on antennae (if seen very closely!)



burnet companion moth



marsh fritillary & dark green fritillary

The marsh fritillary is one of the UK's most threatened butterflies. Fortunately, the Wiltshire chalk grasslands are one of its remaining strongholds where it is surviving thanks to much targeted conservation work. It occurs where its larval foodplant, devil's-bit scabious, is abundant and flies from May through to mid-June. This is a distinctive butterfly and, if seen clearly, not likely to be confused with any other species, although at a distance day-flying male fox moths can be surprisingly similar, so be wary.

The dark green fritillary flies between early-June and mid-August. It is a much larger butterfly than the marsh fritillary. In our area, it is only likely to be confused with the female silver-washed fritillary which is mainly a woodland insect and not frequently found on chalk grasslands. If in doubt, check for white ovals on the underside or the shape of the fore wing edges - convex in dark green and concave in silver-washed fritillary.

marsh fritillary

- o Strongly marked with bright orange and pale straw patches. Black borders to all wings
- o Predominantly orange undersides with white bands, spots and black dots



dark green fritillary

- o Orange with chequerboard black markings and row of large black spots near wing edges
- o Convex wing edges
- o Pale orange and green underside with white ovals



potential confusion species...

fox moth

- o fox moth: Can be confused with marsh fritillary if seen in flight and at a distance
- o Female silver-washed fritillary: Concave fore wing edges. No white ovals on underside



silver-washed fritillary



Duke of Burgundy

The Duke of Burgundy is generally found close to areas of scrub and in places where cowslips and primroses abound. The butterfly can be found from late-April to early-June but its exact time of appearance can vary greatly from year to year depending on weather conditions. Females are a brighter orange, slightly larger than males and have more rounded wings. One major difference, although very difficult to see, is that the males only have four legs whilst the females have six!

If seen clearly, this butterfly should present few identification problems. However, at distance and in flight, other small reddish-brown butterflies and moths, including dingy skipper, mother shipton moth and burnet companion could be confused. Burnet companions can be particularly troublesome as they often abound in the same habitats. Very occasionally, unusually small male marsh fritillaries may superficially resemble this species.

Duke of Burgundy

- A small orange and brown butterfly
- Conspicuous white patches on undersides
- Females are a brighter orange, slightly larger and have more rounded wings



potential confusion species...

dingy skipper

- dingy skipper: Brownish, no orange markings or white patches on undersides
- marsh fritillary: Larger, rounded wings, pale straw markings and black borders to all wings



marsh fritillary



burnet companion moth

- burnet companion: Orangy hind wings
- mother shipton: "Face" pattern on fore wings
- No white patches on undersides
- No clubs on antennae



mother shipton moth



The brown hairstreak

This is one of our last species to appear in the year, rarely being seen before early-August. The females lay their eggs on shoots of blackthorn. With close views, identification should be straightforward. The butterflies hardly ever sit with their wings open but the bright orange undersides are distinctive. The problem is that they spend most of their time in tree tops or amongst blackthorn thickets where they can be extremely difficult to see. Binoculars will be helpful. In flight, the species appears to be entirely bright orange.

Gatekeeper butterflies can also occasionally be seen in tree tops but the main confusion species is a common day-flying moth, the male vapourer (the females are wingless). As can be seen below, the moth looks entirely dissimilar when at rest but is maddeningly similar to brown hairstreak in flight. Vapourer moths are far more frequent than brown hairstreaks and much more likely to be encountered. Do not rely on flight views alone!

brown hairstreak (male)

- Near plain dark brown upper wings (rarely seen)
- Tawny-orange under wings with thin white cross-lines
- Tails (but may be missing)



brown hairstreak (female)

- Dark brown upper wings with orange patch (rarely seen)
- Bright orange under wings with thin white cross-lines
- Tails (but may be missing)



potential confusion species...

gatekeeper

- Superficially very dissimilar to brown hairstreak but both species appear bright orange in flight
- Only record brown hairstreak if seen at rest!



vapourer moth



The blues – (i) blue with orange spots on undersides

When identifying a blue butterfly, first try and get a glimpse of the undersides. If orange spots are present then the species will be either a male common blue, Adonis blue or chalkhill blue.

The next stage is to look carefully at the wing edges, particularly the white fringes and the adjoining black border. Is the white fringe plain or chequered? Is the black border narrow or broad?

- Plain wing fringes mean that the butterfly will be a common blue
- Chequered wing fringes mean that will be either an Adonis blue or a chalkhill blue
- A butterfly with chequered wing fringes and a narrow black border will be Adonis blue
- A butterfly with chequered wing fringes and a broad black border will be chalkhill blue

With experience, it should become possible to identify many individuals using wing colour alone but the above points will still be useful to confirm all but the most faded or damaged individuals.

common blue (male)

- Orange and black spots on undersides
- Violet-blue upper wings
- Narrow black border
- Plain white fringes to upper wings



Adonis blue (male)

- Orange and black spots on undersides
- Vivid sky-blue upper wings
- Narrow black border
- Chequered fringes to upper wings



chalkhill blue (male)

- Orange and black spots on undersides
- Milky blue upper wings
- Broad black border
- Chequered fringes to upper wings



The blues – (iii) blue or brown without orange spots on undersides

If the butterfly is blue, grey-blue or brown and has no orange spots on the underside, then it will be either a holly blue or a small blue. The small blue is entirely restricted to places where kidney vetch, its larval foodplant, grows and is very rarely found far from the plant. The holly blue can be found in many different habitats – it is the most frequently encountered blue butterfly in gardens.

Size alone should easily separate the two species. As the name suggests, the small blue is tiny – it is less than half the size of the holly blue. In addition, the upper wings of the two species are quite different but, as the holly blue hardly ever sits with its wings open, this feature is not usually very useful.

If further confirmation is needed then there is a very subtle difference in the arrangement of black spots on the under hind wings (see diagram below).

holly blue

- No orange spots on undersides
- Lilac-blue upper wings
- Narrow black edging (males) or broad black wing tips (females)
- Chequered white fringes on fore wing
- Medium size



small blue

- No orange spots on undersides
- Grey-blue (males) or brown upper wings (females)
- No black edging
- Plain white fringes
- Tiny size



differences in underside spotting

- holly blue (left): The line of four black spots in the centre of the hind wing forms a distinct curve
- small blue (right): The line of four black spots is nearly straight.



The blues – (iii) brown with orange spots and plain wing fringes

If the butterfly is brown with plain wing fringes and has orange spots, then it will be either be a female common blue or a brown argus of either sex (male and female brown argus are similar).

This can be a very difficult pair of species to separate, especially when the butterflies are faded or damaged. It does not help that female common blues can be highly variable in the amount of blue shading and also in the size of the orange spotting. Individuals with absolutely no trace of blue and with very conspicuous large orange spots on the borders on both upper wings are likely to be brown argus. Female common blues always have a certain amount of blue scales on the upper wings and generally have far less obvious orange spots. Brown argus are also very slightly smaller than common blue although this is a difficult feature to use in the field. If the undersides can be examined closely then there is a clear difference in the black spotting which is a very reliable way of distinguishing between the two (see diagram below).

common blue (female)

- Orange and black spots on undersides
- Brown upper wings, always with some blue, particularly towards body
- Small orange spots on borders of upper wings



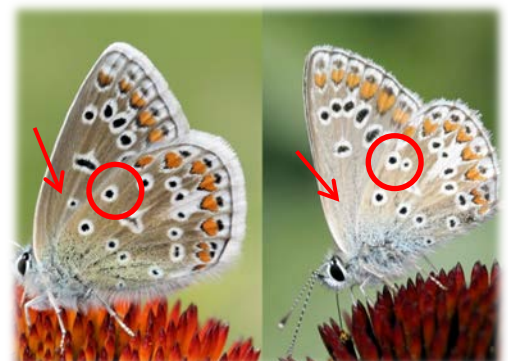
brown argus (male & female)

- Orange and black spots on undersides
- Brown upper wings with no trace of blue
- Large orange spots on borders of upper wings



differences in underside spotting

- common blue (left): Additional black spot on fore wing closest to body (can be difficult to see) and a single black spot at centre on top edge of hind wing
- brown argus (right): No black spot on fore wing closest to body and a double black spot at centre on top edge of hind wing



The blues – (iv) brown with orange spots and chequered wing fringes

Brown butterflies with chequered wing fringes will either be female Adonis blues or female chalkhill blues. The Adonis blue flies twice during the summer and chalkhill blue only once in late-summer. This means that any Adonis/chalkhill Blue type female seen flying in May or June can safely be assumed to be Adonis blue. However, butterflies of this type lying from late-July to late-September could be either species.

This is one of the most difficult pairs of butterflies to separate. Some guidelines appear below but the females of these two species can show great variation and there may be considerable overlap. Identification is even more uncertain when the butterflies are faded or tatty and in practice, many individuals cannot be safely separated. The difference between the subtle colouration of the spots on the outer edges of the upper hind wings appears to be consistent but this can be very difficult to see (see diagram below).

Adonis blue (female)

- Orange and black spots on undersides
- Chequered wing fringes
- Brown upper wings with traces of blue
- Silvery-blue scales on outer edges of upper hind wing spots



chalkhill blue (female)

- Orange and black spots on undersides
- Chequered wing fringes
- Brown upper wings
- Silvery-white scales on outer edges of upper hind wing spots



Differences in upper hind wing spots

- Adonis blue (pictured): The outer edges of the spots on the upper hind wing edges have a scattering of silvery-blue scales
- chalkhill blue: The outer edges of these same spots have a scattering of silvery-white scales



The whites (i) "cabbage whites"

Whilst most people will easily be able to identify a "cabbage white" as such, the three individual species that make up this group can be surprisingly difficult to tell apart. The sexes look different, some may have black spots and some not, size can be rather variable and spring butterflies can look very different from summer individuals of the same species! The first step is to check the underside: -

If the butterfly has the veins outlined with green scales, then it will be a green-veined white. Summer individuals often have much fainter markings than spring butterflies but the green scales are always present. If the butterfly has a pale yellow hind wing then it will be either a small white or a large white.

The next stage is to look at the dark markings on the upper wing tips: -

The green-veined white has a series of dark wedges; The small white a small dark patch on the tip only; On the large white the dark patch extends a long way down the wing edge towards the hind wing.

green-veined white

- o Spring brood (left):
Conspicuous green veins on undersides
- o Summer brood (right):
Green veins on underside fainter but still present
- o May or may not have black dots



small white and large white

- o Both have plain pale-yellow hind wings
- o The undersides of the small white (left) and large white (right) are very similar
- o Both may or may not have black dots



differences in wing tip patterns

- o green-veined white (left):
Series of small dark wedges
- o small white (centre):
Small dark patch at tip
- o large white (right):
Dark patch extending down towards hind wing



The whites (ii) other white butterflies

The female orange-tip can easily be confused with green-veined white in early spring. Look for the strong green marbling on the under hind wing that does not follow the veins. Males have bright orange wing-tips.

Seen at a distance, female brimstones could be mistaken for large whites, especially in early spring when the over-wintering butterflies can be very faded. However, brimstones have no black markings at all and, when seen more closely, the distinctive wing shape will confirm identity.

The clouded yellow is a regular immigrant species that is perhaps becoming established as a resident. An uncommon pale form of the female can superficially resemble large white. Look for the conspicuous pink circular mark on under hind wing. There are also two closely-related very rare immigrant species, the Berger's clouded yellow and pale clouded yellow. These are very similar to the pale female form of clouded yellow. These two species are extremely difficult to separate in the field and are included only for completeness.

orange-tip (female)

- Spring species only
- Strong green marbled pattern on underside
- Faint marbling shows on upper hind wing



brimstone (female)

- Pale greenish-white
- No black markings
- Distinctive wing shape



- brimstones never sit with wings open!

clouded yellow (pale form) & Berger's/pale clouded yellow

- clouded yellow (left) & Berger's/pale clouded yellow (right) are very similar
- Pale yellow fore and hind wings with conspicuous pink circular mark
- Heavy black edging on both upper wings



ringlet, meadow brown & gatekeeper

Distinguishing ringlet from male meadow brown can present a considerable challenge although, in theory, the multiple eye spots on both wings of the ringlet should allow easy separation. The problem is that, in bright sunshine, both species appear near black and any markings can be almost impossible to see. Complicating matters further, on warm days, neither species ever appears to stay still for even a few seconds. Be very careful when identifying flying butterflies. Considerable persistence may be needed for confirmation. In fresh individuals, the ringlet's white wing fringes may be helpful but be aware that these tend to wear off!

Female meadow browns are far larger than the male meadow brown or the ringlet. The large orange patches on the forewings are conspicuous.

Gatekeepers are smaller and with far more orange on the upper wings. Gatekeepers are the only one of these three butterflies to have any orange on the upper hind wings.

ringlet

- All wings with white fringes
- Four or more eye spots on upper wings
- No trace of orange on fore wings
- Several conspicuous eyespots on plain brown under wing



meadow brown

- Males (left) with dull orange on fore wings and dark fringes
- Females (right) with strong orange patch on fore wings
- Single black eye-spot on upper fore wing



gatekeeper

- Orange patch on upper hind wing
- Male (left) with deeper orange and brown band on fore wings
- Female (right) with plain orange on fore wings



comma, small tortoiseshell & peacock

These three well-known butterflies are frequent visitors to areas of chalk grassland where they are often seen feeding at the abundant nectar sources. In late summer, the butterflies will be building up reserves prior to hibernation and in spring, the overwintered butterflies will be refuelling after their winter dormancy.

The upper wings of each are distinctive and should present few difficulties. However, the undersides can appear similar and may present problems. All have more or less scalloped wing edges.

- The comma has far more deeply scalloped wing edges than the other two species. The undersides are a marbled dark brown with a conspicuous white "C" shaped mark (comma) on the hind wing.
- The small tortoiseshell's undersides are dark brown with well-defined irregular pale outer edges.
- The peacock is a uniform near black over both under wings.

comma

- Orange upper wings with darker patches
- Deeply scalloped wing edges
- Dark brown mottled under wings
- White "C" shaped mark on under hind wing



small tortoiseshell

- Orange upper wings with prominent black bars on forewing and metallic blue border to all wings
- Moderately scalloped wing edges
- Two tone under wings



peacock

- Rich scarlet upper wings with prominent eye spots
- Moderately scalloped wing edges
- Uniform black under wings

