Identification Guide: Large and Medium-sized Fritillaries - Argynnis, Brenthis, Fabriciana, Issoria, Speyeria

Identifying Fritillaries by Size

Identifying fritillaries* in Europe is difficult due to there being over 40 superficially similar species. As a starting point they are usually roughly divided by size into: 'large' fritillaries [Argynnis, Fabriciana, Speyeria], 'medium-sized' fritillaries [Brenthis, Issoria], and 'small' fritillaries [Boloria, Euphydryas, Melitaea]. The eleven large and medium sized are described in this guide.

Estimating size is a useful way to begin the identification process. Argynnis, Fabriciana and Speyeria species, for example, are usually noticeably larger (see diagram opposite), whilst the medium sized Brenthis and Issoria are intermediates, with Brenthis daphne sometimes as large as Argynnis, Fabriciana, Speyeria and Brenthis ino and Brenthis hecate frequently similar in size to the 'small' fritillaries.

To help separate the eleven species in this guide from the 'small' fritillaries by other than size, we can compare the general appearance of their uppersides. From the photos opposite it is noticeable that Euphydryas and Melitaea species usually have different looking uppersides resembling a grid or net-like pattern. Most are therefore unlikely to be confused with any of the species in this guide. Boloria species, on the other hand, have similar uppersides to the 'large and medium sized' fritillaries, all having an open pattern of marks and rounded spots. Boloria, however, can sometimes be distinguished by a prominent black spot [here]. More detailed guidance on distinguishing Boloria, Euphydryas and Melitaea [including undersides] from the species in this guide is given on page 5.

* This is an arbitrary grouping, see note on page 6.

Characteristics of Argynnis, Brenthis, Fabriciana, Issoria and Speyeria uppersides

There are usually 3 narrow, wavy black markings wholly inside the area of the fore-wing known as 'the cell'. This area is highlighted in white on these photographs. Look carefully, as the sinuous markings frequently merge, sometimes resembling vague figures of eight. The 3 markings can vary considerably in size, thickness and shape.

Notes: [i] Sometimes the innermost marking [1 on photograph left] is very faint or invisible, especially on females, [ii] Brenthis species can have a fourth small inner mark, see page 4, [iii] Some Boloria species have similar looking marks, see page 5.

Distribution: Many of the eleven species in this guide are fairly widespread in Europe. See page 6 for maps.

The uppersides of the species in this guide can be very similar and difficult to differentiate. It is best, therefore, to initially separate them by looking at the underside hind-wing which normally has the main diagnostic features.
Does the underside hind-wing (virtually the same in both males and females) have:

Silvery or yellowish stripes like these?

Large bold silvery spots like this:

with no eye-spots in this area?

with white centred eye-spots in this area?

Small silvery spots or stripes like this?

Pale yellow spots or stripes like this?

If yes, compare 1, 2, 2a below

If yes, go to 3 below

If yes, compare 4, 4a, 5, 6 on next page

If yes, compare 10 and 11 on page 4

If yes, and size is:
LARGE - compare 4b, 5a on page 3
MEDIUM - compare 7, 8, 9 on page 4

1. Cardinal [Argynnis pandora]

Size is good indicator, usually noticeably larger than all others in this guide

PTQ

White tips on female antennae Compare with 2

Olive green colouring across hind-wings, often extensive Compare with 2

Lower half of fore-wing is orange-yellow Compare with 1

Hind-wing stripes usually have a hazy 'silver washed' effect

Lower half of underside fore-wing is a distinct rose red/pink Compare with 2

2. Silver-washed Fritillary [Argynnis paphia]

Usually larger than all species in this guide except 1

Orange/brown tips on female antennae Compare with 1

Four bold sex brands on male are distinctive Compare with 1

MALE & FEMALE underside

Note: There is considerable variation in the underside colouring (see page 5). However, this violet tinge along the wing margin tends to be constant.

2a. form valezina (occurs only in females)

In this form, found across Europe, greyish green or greenish brown replaces the orange colouring on upper and undersides.

3. Dark Green Fritillary [Speyeria aglaja]

Usually similar size to 4 and 5

Orange/brown tips on female antennae Compare with 1

Three faint sex brands on male Compare with 2, 4 and 5

Note: Both sexes can be darker. See page 5.

MALE & FEMALE underside

Female usually has a bluish sheen along top and bottom of forewing, and bright wing margins.

Compare 2, 4 and 5

No eye-spots in this area is distinctive Compare with 4, 5 and 6
Males can usually be separated by the thickness of the two sex brands. Compare with 3.

Females and males can sometimes be differentiated by the wing border. Compare 3, 4 and 5.

MALE & FEMALE undersides of these two species are very similar.

Males have 2 thick sex brands. Females have 2 thin sex brands. Compare with 3.

MALE & FEMALE undersides hind-wings also similar. Differentiate by:

- **Vein colour**
  - All veins are lined yellow to brown, very rarely black.
  - Usually bold and bright.
- **Eye-spots**
  - Usually less conspicuous.

A tiny pale spot here, containing a black dot.

This black dot is a reliable indicator of niobe. N.B. The black dot is not always present.

Note: Eris is found throughout Europe. Races found in south eastern Europe are predominantly of this form.

MALES AND FEMALES underside hind-wings also similar. Differentiate by:

- **Vein colour**
  - All veins are usually lined black.
- **Eye-spots**
  - Usually less conspicuous.

Veins still predominantly black. May also have the black dot as in this photograph. Compare with 4b opposite.

Note: There is considerable variation in the upperside colour and size of markings, see page 5.

Male has no sex brands.

The dark wing markings on both sexes have a rounded appearance, especially these markings, which are usually triangular on most fritillaries.

Female is greenish at the base of the wings. Female usually has pale marks near tips of fore-wings.

Note: There is considerable variation in the upperside colour and size of markings, see page 5.

MALES AND FEMALES underside hind-wings also similar. Differentiate by:

- **Vein colour**
  - All veins are usually lined black.
- **Eye-spots**
  - Usually less conspicuous.

Note: Females can be darker, see page 5.

4. High Brown Fritillary *Fabriciana adippe*

- **LARGE**

4a. form chlorodippe
- Males and females of this form have the usual golden ground colour replaced by green.
  - Note: Chlorodippe is only found in Spain (except Pyrenees) and Portugal, where it replaces adippe.

4b. form cleodoxa
- Adippe underside is very variable with many intermediates between these two forms.
- Males and females of this form have the large silver spots replaced by a sandy yellow colour. Veins are still yellow to brown.
  - Compare with 5a opposite
  - Note: Cleodoxa is found throughout Europe but more common in the south.

5. Niobe Fritillary *Fabriciana niobe*

- **LARGE**

5a. form eris
- Males and females of this form have the large silver spots replaced by a pale buff colour.
- Note: Eris is found throughout Europe. Races found in south eastern Europe are predominantly of this form.

6. Queen of Spain Fritillary *Issoria lathonia*

- **MEDIUM**

Male has no sex brands.

The large bright mirror like silver spots on the hind-wing are easily seen and instantly identify this species. Compare 4 and 5.
7. Marbled Fritillary [Brenthis daphne]  
**MEDIUM**

Usually larger than 8 and 9

**MALE & FEMALE** uppersides of these species are very similar with males having no sex brands. Differentiate by:

- **Daphne** tends to look somewhat brighter than **ino**
- **Daphne** females usually have less basal suffusion than **ino**

**Daphne** is usually noticeably larger than **ino**

**Ino** usually found in wet areas, unlike **daphne**

8. Lesser Marbled Fritillary [Brenthis ino]  
**MEDIUM**

Usually smaller than 7 and similar to 9

**MALE & FEMALE** uppersides of these species are very similar with males having no sex brands. Differentiate by:

- Slightly duller overall appearance
- Extensive dark suffusion around body

9. Twin-spot Fritillary [Brenthis hecate]  
**MEDIUM**

Usually smaller than 7 and similar to 8

**MALE & FEMALE** uppersides of these species are very similar with males having no sex brands. Differentiate by:

- Two rows of evenly sized black spots parallel to wing edges are distinctive. Compare with 7 and 8
- Note: Frequently a fourth small mark in the cell area. See page 1.
- Females usually darker with bolder markings, sometimes with a bluish iridescence.

10. Corsican Fritillary [Fabriciana elisa]  
**LARGE**

Smaller than 1 and 2, usually larger than 6

Identification is straightforward as this species is only found on Corsica and Sardinia. Only 1, 2 and 6 are also present on these islands.

**MALE & FEMALE** uppersides of these species are very similar with males having no sex brands. Differentiate by:

- Faint, incomplete dark markings on upperside of males and females looks quite different from 1, 2 and 6.
- Small silvery spots and small eye-spots makes underside hind-wing quite different from 1, 2 and 6.

11. Pallas’s Fritillary [Argynnis laodice]  
**LARGE**

Smaller than 2, usually larger than 6

Only found locally in Eastern Europe (see page 6) where it frequently flies with 2.

**MALE & FEMALE** uppersides of these species are very similar with males having no sex brands. Differentiate by:

- Two sex brands on male Compare with 2
- Female has distinctive white triangular marks on fore-wings. Compare with 2

**MALE & FEMALE** underside of these species are very similar with males having no sex brands. Differentiate by:

- Broken white stripe divides hind-wing into two noticeably different colour zones with no eye-spots. Compare with 2, 7 and 8

Note: Yellowish markings variable. Sometimes much paler with hints of blue.
To assist in identification, below are some examples of variations in colouring.

**Silver-washed Fritillary [Argynnis paphia]**

Variation in the underside hind-wing colouring occurs mainly in the Mediterranean region with several forms proposed, including:

- Immaculata
- Niobe Fritillary [Fabriciana niobe]

Reduced pale stripes and a more golden suffusion. Found in Corsica and Sardinia.

**Dark Green Fritillary [Speyeria aglaja]**

In colder climes and at higher altitudes both sexes can be duller with darker markings and larger spots.

- Anargyria

Virtually no pale stripes. Usually encountered in Spain and Italy.

**Niobe Fritillary [Fabriciana niobe]**

Females sometimes much darker in eastern and south eastern Europe.

**Queen of Spain Fritillary [Issoria lathonia]**

These photographs of females illustrate the considerable variability in the upperside colour and markings of this species.

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**Distinguishing the three genera of ‘small’ fritillaries: Boloria, Euphydryas and Melitaea, from the species in this guide.**

**Boloria**

Boloria are similar to the species in this guide. Look for:

- The marks inside the cell [see page 1]. On Boloria species these are usually noticeably different, being either thicker, more incomplete or less sinuous.

- A prominent round black spot here. This is distinctive and found on the species of Boloria that are fairly widespread in Europe. This spot is not present on all species in this guide. Note: It is also not present on most of the more localised Boloria species which tend to be found in northern Europe or mountainous habitats in central Europe.

Unlike Brenthis, most widespread Boloria have some obvious silver or white spots. Several also have a distinctive black spot here.

**Euphydryas and Melitaea**

Most Melitaea and Euphydryas have a distinctive net-like pattern of markings (see photos below) which is quite different from all species in this guide. Also, Melitaea tend to be duller and Euphydryas more colourful than the species in this guide.

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**Features of the three Brenthis species (page 4) for comparison:**

- Hind-wing appears divided into two distinct colour zones
- All three Brenthis species have no significant silver or white spots
- Two parallel rows of dark marks near outer edge
- Boloria dia
- Boloria selene
- Brenthis ino

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**Note:** Melitaea didyma is the exception most likely to be encountered and cause confusion with species in this guide.
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**Fritillaries**

It should be noted that ‘fritillaries’ is an arbitrary English term which encompasses over forty similar looking species from two different subfamilies: Heliconiinae and Nymphalinae.

For more information on all aspects of European butterflies please go to european-butterflies.org.uk including the other Guides in this series which are free to download at EBG Identification Guides.

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