



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

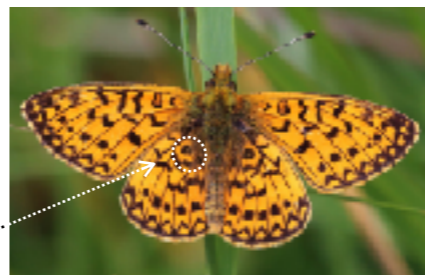
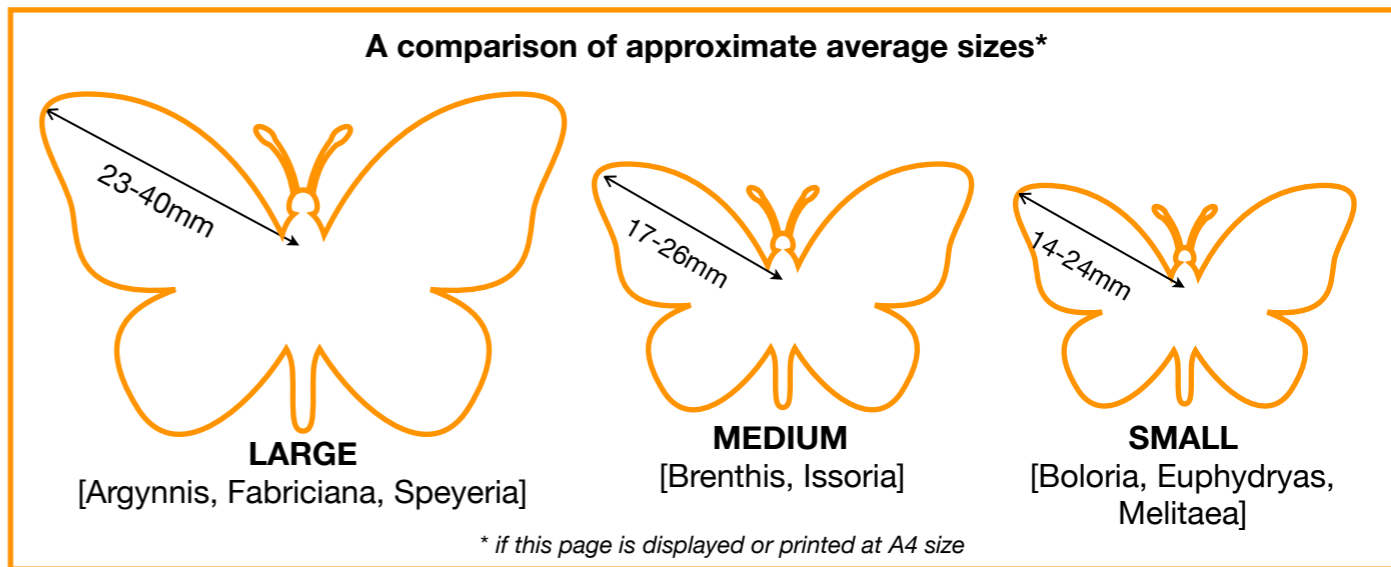
Identifying fritillaries by size

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.

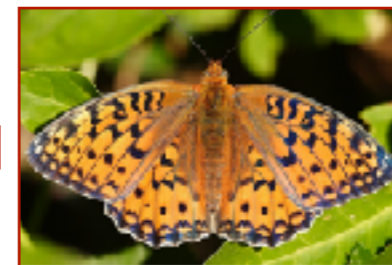
Estimating size is a useful way to begin the identification process. Argynnis, Fabriciana and Speyeria species, for example, are usually noticeably larger (see diagram opposite), whilst the medium sized Brenthis and Issoria are intermediates, with *Brenthis daphne* sometimes as large as Argynnis, Fabriciana,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

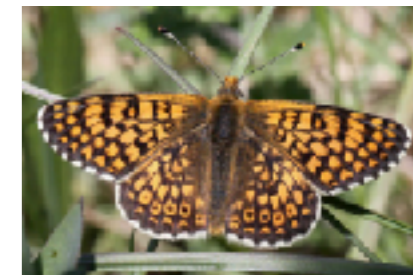
* This is an arbitrary grouping, see note on page 6.



Boloria

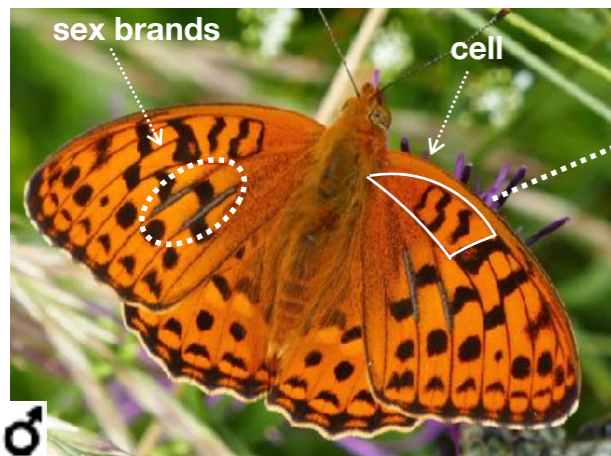


Argynnis, Brenthis, Fabriciana, Issoria, Speyeria



Euphydryas, Melitaea

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



Males are usually more orange than females sometimes with conspicuous sex brands running along the veins in the area of fore-wing highlighted.



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.



Females usually appear brownish with bolder markings compared to males. They have no sex brands.

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?



If yes, compare 1, 2, 2a below

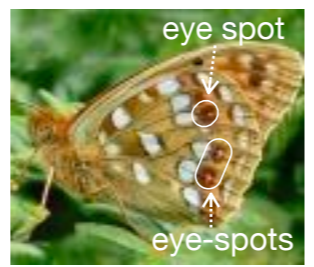
Large bold silvery spots like this:

with no eye-spots in this area?



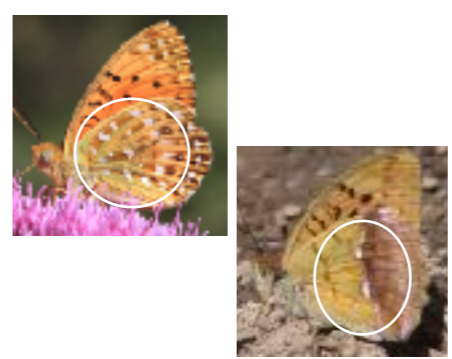
If yes, go to 3 below

with white centred eye-spots in this area?



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

Small silvery spots or stripes like this?



If yes, compare 10 and 11 on page 4

Pale yellow spots or stripes like this ?

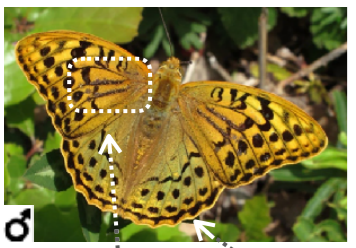


If yes, and size is:
LARGE - compare 4b, 5a on page 3
MEDIUM - compare 7, 8, 9 on page 4

1. Cardinal [*Argynnis pandora*]



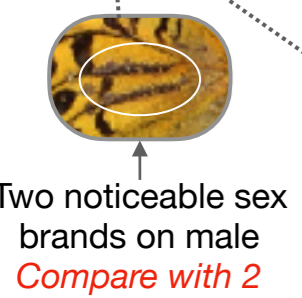
Size is good indicator, usually noticeably larger than all others in this guide



White tips on female antennae *Compare with 2*



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



Two noticeable sex brands on male *Compare with 2*



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



Pale stripes on underside hind-wing are usually narrow and well defined on females. Stripes are less prominent on males, sometimes almost invisible.

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



Usually larger than all species in this guide except 1



Four bold sex brands on male are distinctive *Compare with 1*



Orange/brown tips on female antennae *Compare with 1*



MALE & FEMALE underside

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



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

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)



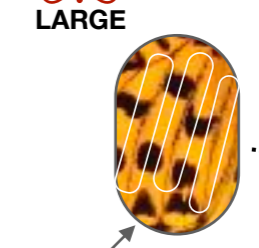
In this form, found across Europe, greyish green or greenish brown replaces the orange colouring on upper and undersides.



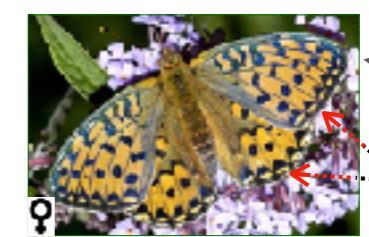
3. Dark Green Fritillary [*Speyeria aglaja*]



Usually similar size to 4 and 5



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



Female usually has a bluish sheen along top and bottom of forewing, and bright wing margins. *Compare 2, 4 and 5*

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

MALE & FEMALE underside



No eye-spots in this area is distinctive *Compare with 4, 5 and 6*

4. High Brown Fritillary [*Fabriciana adippe*]



Usually similar in size to 3 and 5



4a. form *chlorodippe*



4b. form *cleodoxa*



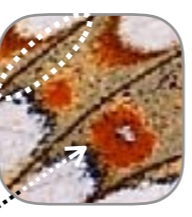
5. Niobe Fritillary [*Fabriciana niobe*]



Usually similar in size to 3 and 4



Note: Females can be darker, see page 5



5a. form *eris*



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

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

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



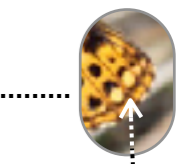
Usually noticeably smaller than 1, 2, 3, 4, 5 and 11

Both sexes usually recognisable by their distinctive shape with concave outer forewing margins and squarish shaped hind-wing. Compare 3, 4 and 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 usually has pale marks near tips of fore-wings

Female is greenish at the base of the wings

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

MALE & FEMALE underside



The large bright mirror like silver spots on the hind-wing are easily seen and instantly identify this species. Compare 4 and 5

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

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

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

Vein colour: All veins lined yellow to brown, very rarely black vs. All veins usually lined black

Eye-spots: usually bold and bright vs. 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

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.

Adippe underside is very variable with many intermediates between these two forms.

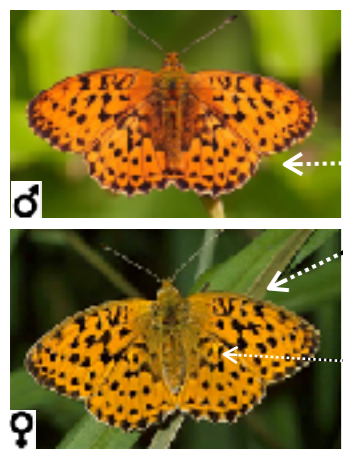
Males and females of this form have the large silver spots replaced by a sandy yellow colour. Veins are still yellow to brown. Compare with 5a opposite

Note: Cleodoxa is found throughout Europe but more common in the south.

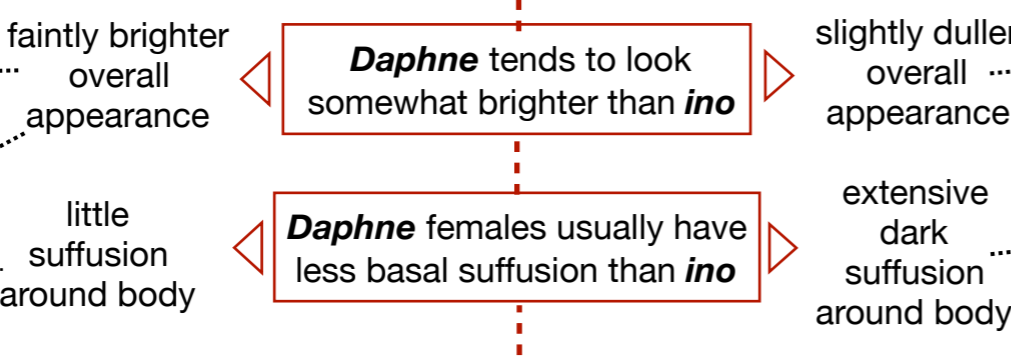
7. Marbled Fritillary [*Brenthis daphne*]



Usually larger than 8 and 9

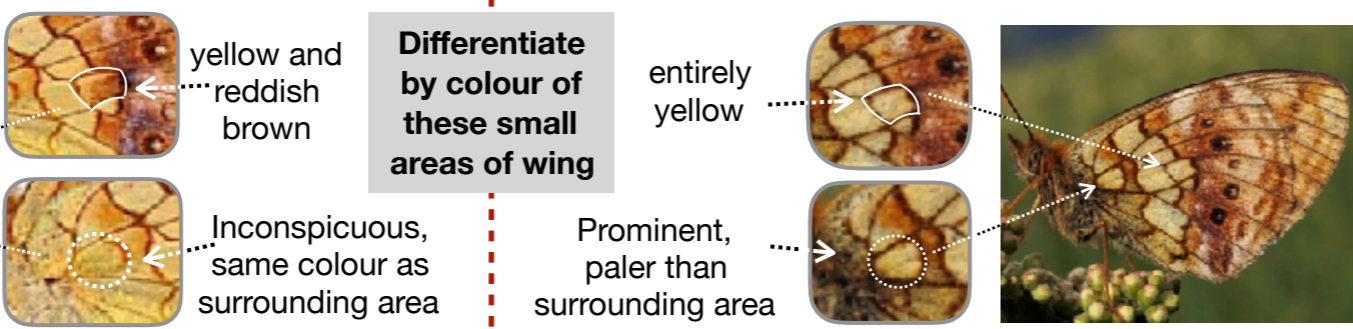


MALE & FEMALE uppersides of these species are very similar with males having no sex brands. Differentiate by:



Daphne* is usually noticeably larger than *ino ***Ino* usually found in wet areas, unlike *daphne***

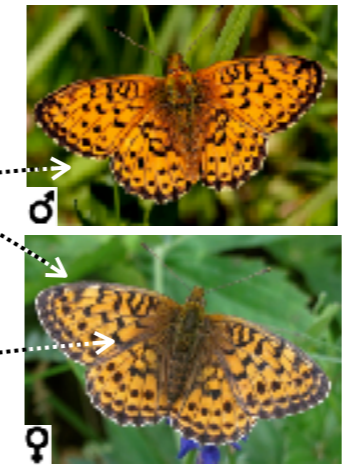
MALE & FEMALE underside hind-wings also similar.



8. Lesser Marbled Fritillary [*Brenthis ino*]



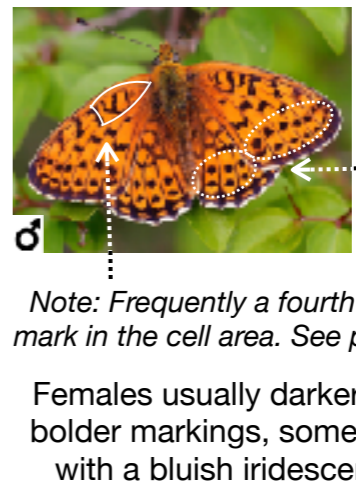
Usually smaller than 7 and similar to 9



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



Usually smaller than 7 and similar to 8



Males have no sex brands

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.

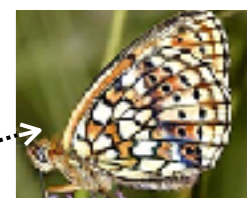


MALE & FEMALE underside



Two rows of solid dark marks parallel to outer edge of hind-wing are distinctive.
Compare with 7 and 8

Note: Yellowish markings variable. Sometimes much paler with hints of blue.



10. Corsican Fritillary [*Fabriciana elisa*]



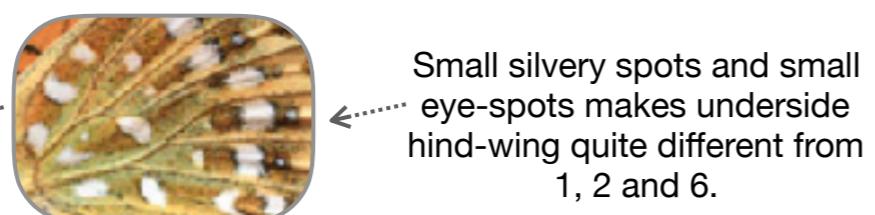
Smaller than 1 and 2, usually larger than 6

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



Faint, incomplete dark markings on upperside of males and females looks quite different from 1, 2 and 6.

MALE & FEMALE underside



11. Pallas's Fritillary [*Argynnis laodice*]



Smaller than 2, usually larger than 6



Two sex brands on male
Compare with 2

MALE & FEMALE underside



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



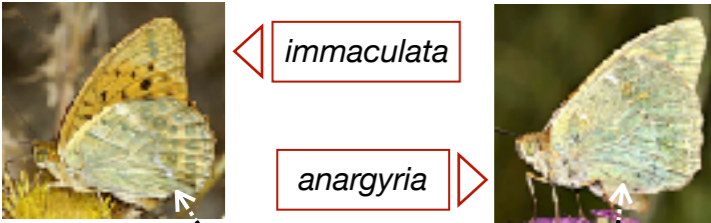
Female has distinctive white triangular marks on fore-wings.
Compare with 2

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

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:



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

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

Dark Green Fritillary [*Speyeria aglaja*]



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



Niobe Fritillary [*Fabriciana niobe*]



Females sometimes much darker in eastern and south eastern Europe.



Queen of Spain Fritillary [*Issoria lathonia*]

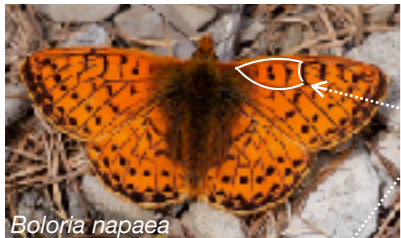


These photographs of females illustrate the considerable variability in the upperside colour and markings of this species.



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.



Upperside

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.



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

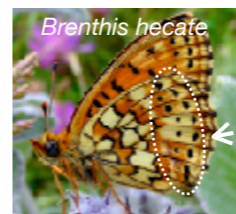


A detailed comparison should readily identify.

Also, *Melitaea* tend to be duller and *Euphydryas* more colourful than the species in this guide.

Underside hind-wing

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



Two parallel rows of dark marks near outer edge

Hind-wing appears divided into **two distinct colour zones**

All three Brenthis species have no significant silver or white spots

Most widespread *Euphydryas* and *Melitaea* are brightly patterned without the parallel marks of *Brenthis hecate*. Unlike *Brenthis*, many have some obvious white spots.



Distribution Maps

● Up to 1950 ● 1951 - 1980 ● After 1980



Cardinal



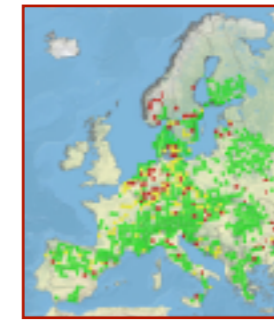
Silver-washed
Fritillary



Dark Green
Fritillary



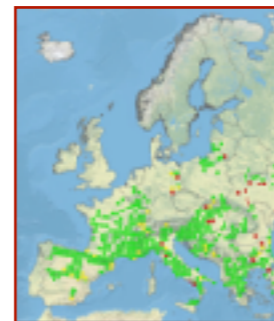
High Brown
Fritillary



Niobe
Fritillary



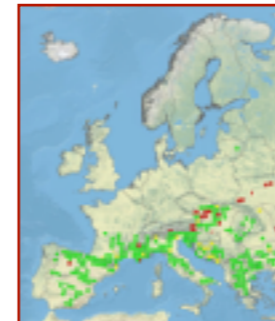
Queen of Spain
Fritillary



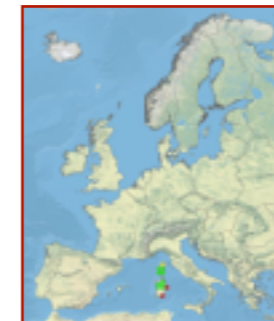
Marbled
Fritillary



Lesser Marbled
Fritillary



Twin-spot
Fritillary



Corsican
Fritillary



Pallas's
Fritillary

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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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