



*Pararge xiphia* on *Musschia wollastonii* ©Sergio Teixeira

**Madeira**

## Field Guide for butterfly identification

Biodiversity is decreasing at alarming rates and butterflies are no exception. The **European Butterfly Monitoring Scheme (eBMS)** aims to collect data to promote the monitoring and conservation of this group of insects. Data collection has never been so important and open volunteer monitoring schemes are the best way to gather large amounts of important ecological data. To this end, monitoring schemes like eBMS rely on thousands of volunteers who systematically collect field data following a defined methodology.

This guide aims to facilitate the task of field identification of **18 butterfly species and 1 diurnal moth species in Madeira**. This guide also serves as a support tool for those involved in the Monitoring of Butterflies through the methodologies standardized by eBMS for all of Europe.

***Counting butterflies will help to protect them!***

## Madeira

Madeira is a group of small volcanic islands located west of Northwest Africa. These islands are home to a large number of endemics. Owing to their distance from the nearest continental areas, these islands are poor in vertebrates but wealthy in flora and invertebrate species, including Lepidoptera, the butterflies and moths. The vegetation of Madeira has developed from the late Miocene Thetysian flora, typically tropical humid evergreen broadleaf forests. These evergreen forests and thickets are in fact the dominant habitat on the island, known as “*laurissilva*”, the Laurel forests. These botanical communities are the main habitat for most endemic butterfly species.

**18 butterfly species** can be found in the Madeira archipelago, of which **4 are endemic** to the island of Madeira. In addition, the Macaronesian endemic *Vanessa vulcania* occurs on Madeira and Porto Santo. Sadly, these endemic butterflies are threatened with extinction and one of them, the Madeiran Large White (*Pieris wollastoni*) has not been seen since 1986. As with many other small islands worldwide, most species are threatened by habitat fragmentation and destruction, as well as competition for resources with newly introduced alien species.

After human colonization, many garden plants from other continents and islands have been introduced on these islands. The permanent flowers and mild climate permit for many butterfly species to thrive throughout the year, making Madeira a good place to visit and observe butterflies.

## Why monitor butterflies?

Monitoring butterfly populations is an important method for measuring changes in the environment. It provides regular, standardised data to assess the conservation status of butterflies and produce *Butterfly Indicators* that can inform European environmental and agricultural policies. Collecting data for the monitoring scheme is an interesting and relaxing way to spend some of your spare time while helping to understand the conservation status of the Madeira Islands butterflies. Madeira’s sustainable future depends on all of us and our small but important contribution.

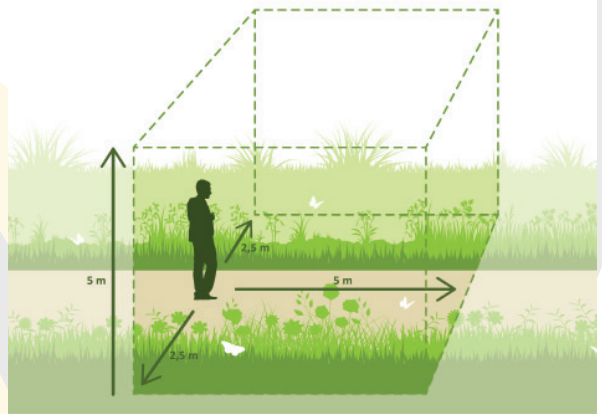
## Methodology to count butterflies

You can count butterflies everywhere in Madeira; in a park, garden, close to the beach, in a forest or in the levadas. Every count is important. Within European BMS (Butterfly Monitoring Scheme) the most used methodology is counting butterflies along **transects**, fixed-routes where butterflies are recorded regularly (ideally every one or two weeks). You can create your transect close to your home or work and visit it frequently.

Another option is to register butterflies with **15-min counts**, counting butterflies for 15 minutes in a given area whenever you want. This can be a path, a delimited area (such as a garden) or simply a fixed point. Madeira has an amazing system of fixed-routes along irrigation channels called, **levadas**, where butterflies can be counted at any moment with one or several 15-min counts. Doing repetitions on the same place will provide more information about butterflies status there and their populations.

## Basic rules to follow during butterfly monitoring:

- Count all butterfly species in an imaginary box, 2.5m to each side and 5m in front and above you
- Walk your transect/route at a slow, constant pace
- The visits should be done during good weather: sunny and warm, with no rain and not too windy
- Report your records to the national coordinator or to eBMS



## Where to submit the data?

You can use the eBMS mobile application, **ButterflyCount**, to record 15-min Counts or transects. It can be installed on [Android](#) or [iOS](#) devices and allows the collection of butterfly counts from anywhere in Europe. Enable your GPS and the app will draw your route while counting butterflies.

Create an account on the eBMS website to count butterflies with the app. If you want to create a fixed transect, you can register it on the eBMS website with the help of the coordinator ([www.butterfly-monitoring.net](http://www.butterfly-monitoring.net))



## How to use the Field Guide

In this field guide, you can find the images of the **18 butterfly and 1 diurnal moth** species recorded in Madeira. They are organized by family, belonging to 4 of the 6 families present in Europe. Every butterfly species has a common English name and a scientific name (written in *italics*). Information is included for each species' flight period, size category, conservation status and occurrence status (see the legend on the back cover of the Field Guide). Butterfly identification is often best done using photographs. Check the diagnostic characteristics highlighted in this guide with the arrows or circles and the remarks to help you with the identification.



*flight like a small humming-bird  
visiting many flowers*

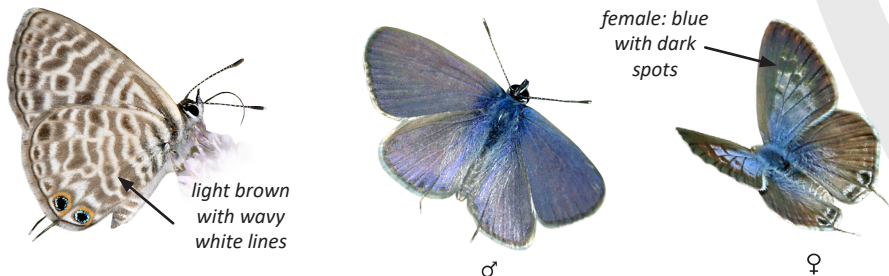
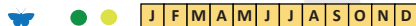
Humming-bird Hawk-Moth  
*Macroglossum stellatarum*



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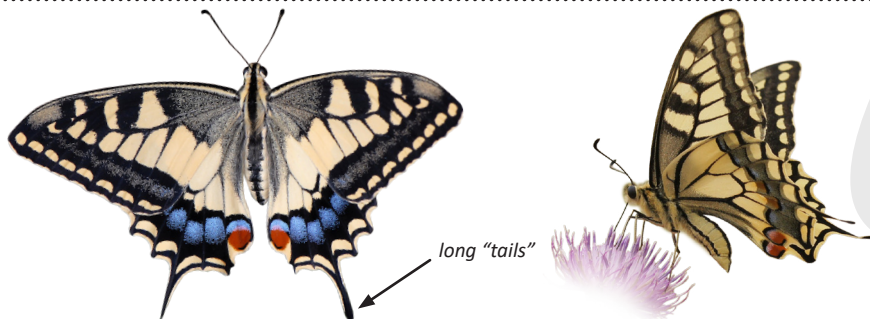
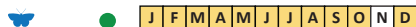
Long-Tailed Blue - *Lampides boeticus*



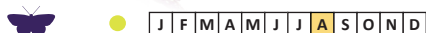
Lang's Short-Tailed Blue - *Leptotes pirithous*



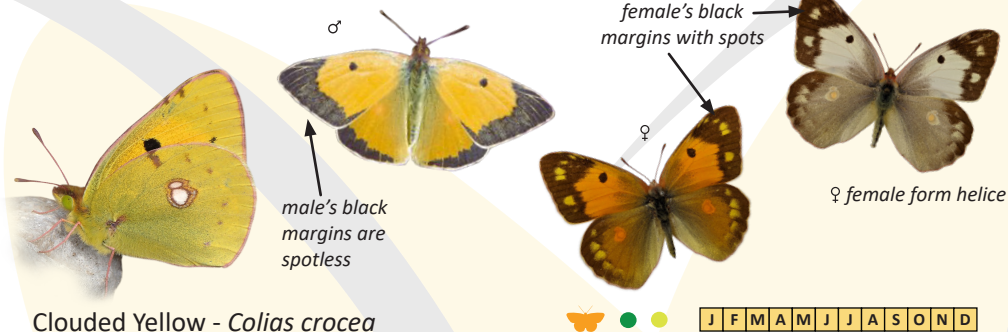
Madeira Small Copper - *Lycaena phlaeas*



Swallowtail - *Papilio machaon*







Clouded Yellow - *Colias crocea*

\*Images from museum individuals



underside view

well defined and elongated black mark



upperside view

female with additional black spots



Madeiran Large White - *Pieris wollastoni*

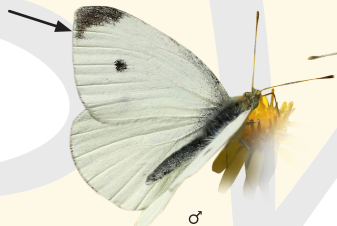


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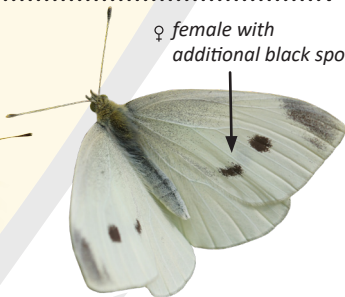
black mark a bit diffuse and not elongated along outer margin



pale yellow



♂



♀ female with additional black spots

Small White - *Pieris rapae*



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♂ male greenish-white



Habitat: lower altitudes in parks and gardens

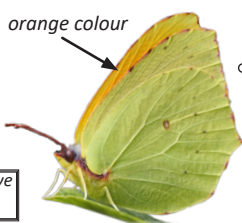
African Migrant - *Catopsilia florella*



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female *G. maderensis* similar whitish colour like *C. florella*



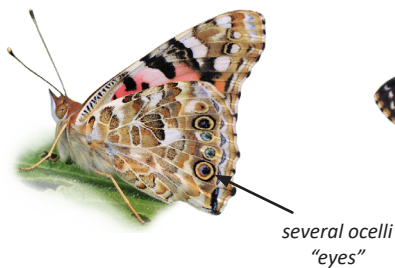
orange colour

Habitat: Mountains above 450 m in laurel forest

Madeiran brimstone - *Gonepteryx maderensis*



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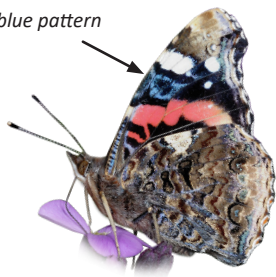


Painted Lady - *Vanessa cardui*

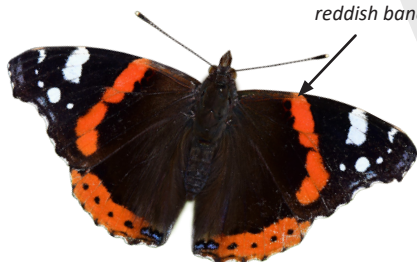


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blue pattern



reddish band



Red Admiral - *Vanessa atalanta*

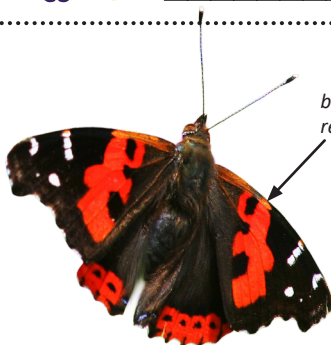


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thin and pale blue pattern



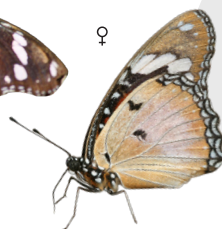
big and irregular  
reddish band



Macaronesian Red Admiral - *Vanessa vulcania*



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Danaid eggfly - *Hypolimnys misippus*



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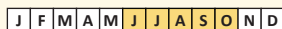


♂

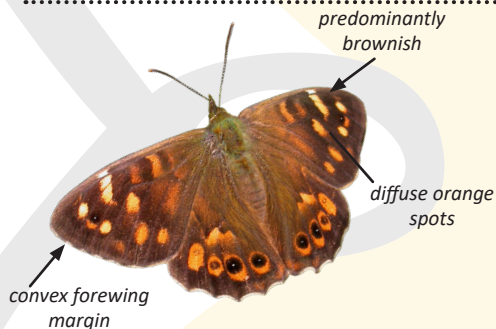
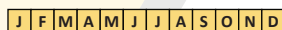


♀

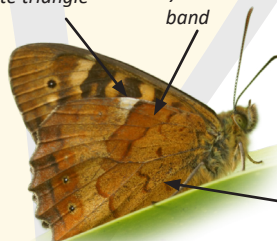
Madeiran Grayling - *Hipparchia maderensis*



Speckled Wood - *Pararge aegeria*

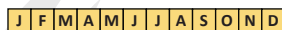


white triangle

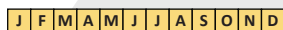


darker underside compared to *P. aegeria*

Madeiran Speckled Wood - *Pararge xiphia*



Monarch - *Danaus plexippus*



large silver spots



Queen of Spain fritillary  
*Issoria lathonia*



Butterfly Conservation Europe and the UK Centre for Ecology and Hydrology (UKCEH) formed the **European Butterfly Monitoring Scheme (eBMS)** to bring together data from different Butterfly Monitoring Schemes of Europe. All member countries share their data annually to the eBMS database, to analyse and produce the population trends of the European butterfly species and European Butterfly Indicators.

Visit the eBMS website, **[www.butterfly-monitoring.net](http://www.butterfly-monitoring.net)** to download this Field Guide, to find out more information about butterfly monitoring and how to submit your butterfly data. If you would like to participate in monitoring butterflies in Madeira, contact the coordinator: Sergio B. Marques Teixeira, [madeira-bms@madeira-fauna-flora.com](mailto:madeira-bms@madeira-fauna-flora.com)

This initiative was born from a partnership between Madeira Fauna & Flora and Butterfly Conservation Europe, aiming to raise awareness about the Madeira archipelago butterfly populations, chiefly its endemic and threatened species, as well as strengthen the data input into the Madeira Butterfly & Moth Monitoring Scheme.  
Go outdoors and start counting!



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Graphic design: Eveline van der Jagt & Cristina G. Sevilleja

ABLE - Assessing Butterflies in Europe  
eBMS - European Butterfly Monitoring Scheme

Conservation Status:  Endangered  
 Critically Endangered

Occurrence Status:  Migrant  Alien  
 Endemic  Native

Flight period: months when butterflies are seen

J F M A M J J A S O N D

Butterfly size:  Small  Medium  Large

Symbols:  Specific characteristics to identify the species Sex: ♀ Female  
♂ Male



Cover photo: Endemic Madeiran Speckled Wood *Pararge xiphia* on the endemic plant Wollaston's Musschia *Musschia wollastonii* ©Sergio Teixeira

