



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 to find out more information about butterfly monitoring and how to submit your butterfly data. If you would like to participate in monitoring butterflies permanently in Spain, contact the national coordinator, Miguel L. Munguira: munguira@uam.es

This guide was funded by the ABLE project (Assessing ButterLies in Europe), a European pilot project.

Authors: Cristina G. Sevilleja (ABLE project officer), Jose Miguel Barea Azcón (Regional Coordinator BMS Spain, Eastern Andalusia), Rocío Fernández Zamudio (Regional Coordinator BMS Spain, Western Andalusia) y Miguel L. Munguira (National Coordinator BMS Spain).

Photography: Paolo Mazzei, Marco Bonifacino, Raniero Panfili and Daniel Morel (www.leps.it); Javier Olivares, Jose Miguel Barea, Albert Vliegenthart and Chris van Swaay.

Graphic design: Eveline van der Jagt

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

Protected species ●

Flight period: months when butterflies are seen

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

Butterfly size:

Small Medium Big

Sex:

♀ Female ♂ Male

Symbols:

→ ○ Specific characteristics to identify the species



Andalusia

Field Guide for butterfly identification



The **European Butterfly Monitoring Scheme (eBMS)** aims to collect data to promote the monitoring and conservation of this group of insects. To this end, it relies on thousands of volunteers who systematically collect field data following a defined methodology.

This guide aims to facilitate the task of field identification of **93 butterfly species in Andalusia (Spain)**. 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 protect them!

Andalusia

Andalusia (87,268 km²) is one of the regions in Europe where the communities of butterflies are particularly rich and unique. It is a typically Mediterranean area that can be divided into three major regions: Sierra Morena (50-1,298 m), Guadalquivir Valley (0-500 m) and Sierras Béticas (0-3,482 m). The landscape is extremely diverse and highlights forest areas dominated by *Quercus* and *Pinus* forests, agricultural areas, arid steppes, scrublands, wetlands, coastal ecosystems and mountain areas.

In those habitats, we find hot spots of biological diversity in the European and Mediterranean context, as well as the highest point in the entire Iberian Peninsula (Mulhacén Peak: 3,482 m).

The total number of species cited in this region is around 145, of which **93 species** are represented in this guide (around 65%). The most common species have been selected together with a representation of the most threatened ones.



Butterfly Monitoring Scheme in Andalusia

Currently, the Butterfly Monitoring Scheme in Andalusia is carried out in 42 localities, where censuses are periodically carried out by transects. The highest concentration of transects is in Sierra Nevada and Doñana. Both Protected Areas are part of the two National Parks in the region.

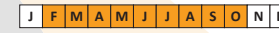
In the Sierra Nevada, work has been underway since 2008 on a butterfly monitoring network coordinated by the Sierra Nevada Observatory for Global Change (www.obsnev.es). This Observatory is a joint initiative of the Ministry of Agriculture, Livestock, Fisheries and Sustainable Development of the Junta de Andalucía and the University of Granada.



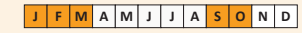
Iphiclydes feisthamelii



Papilio machaon



Zerynthia rumina



Polyommatus golgus



Agriades zullichi



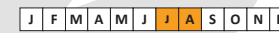
Kretania hesperica



Pseudochazara mercurius




Polyommatus violetae



Euchloe bazae





Colias alfaccariensis 

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



Colias crocea 

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



Parnassius apollo 

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

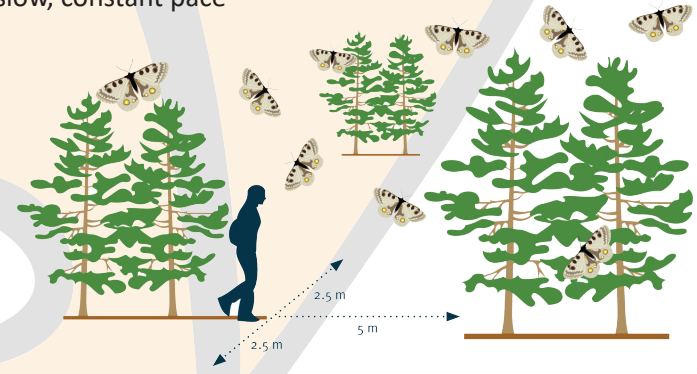
In contrast, the Doñana Biological Station (CSIC) coordinates the work of the Butterfly Monitoring Programme in the Doñana Natural Area. It was initiated in 2007 and is accessible through the Singular Scientific and Technological Infrastructure of Doñana, ICTS-RBD (<http://icts.ebd.csic.es>). The information collected in both Natural Areas, within their respective Monitoring Programmes, is integrated into BMS Spain and the eBMS system, which analyses the data collected throughout Europe.

Methodologies

Transect:

The transect is the most widely used method in the European BMS for monitoring butterflies. It consists of a fixed route that is visited with a certain frequency to record the different butterfly species and their respective abundances. Basic rules to follow:

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



15-min Count:


Another methodology used in eBMS is based on counting butterflies for 15 minutes in a given area. This can be a path, a delimited area (such as a garden) or simply a fixed point. It follows the same guidelines specified for the transect, counting all the butterflies seen as long as the weather conditions are suitable.

The eBMS mobile application, **ButterflyCount**, is used to record 15-min Counts. It can be installed on Android or Apple 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.




For more information visit the eBMS website: www.butterfly-monitoring.net



Anthocharis cardamines 


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



Euchloe crameri 

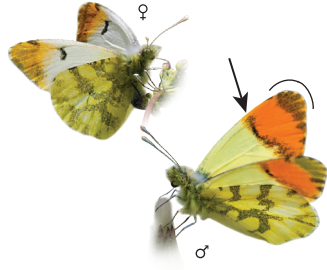
J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---




Pontia daplidice 

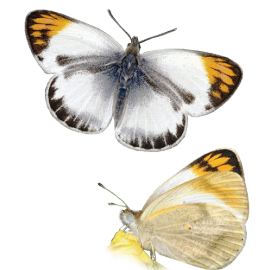
J	F	M	A	M	J	J	A	S	O	N	D
---	---	---	---	---	---	---	---	---	---	---	---


Mickey mouse shape 



Anthocharis euphenoides 


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



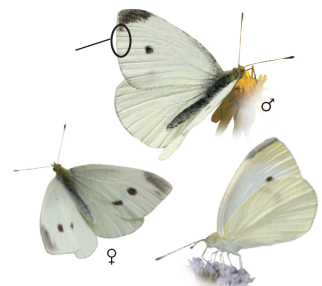
Colotis evagore 


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



Aporia crataegi 

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



Pieris rapae 


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



Pieris napi 

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

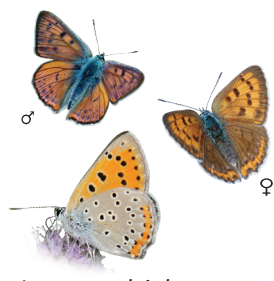


Pieris brassicae 

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



Lycaena phlaeas ♀
 J F M A M J J A S O N D



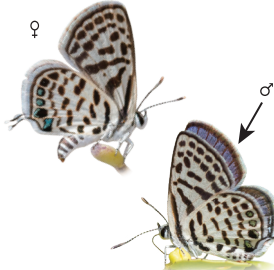
Lycaena alciphron ♀
 J F M A M J J A S O N D



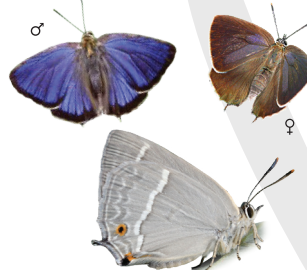
Aricia cramera ♀
 J F M A M J J A S O N D



Lampides boeticus ♀
 J F M A M J J A S O N D



Tarucus theophrastus ♀
 J F M A M J J A S O N D



Favonius quercus ♀
 J F M A M J J A S O N D



Tomares ballus ♀
 J F M A M J J A S O N D



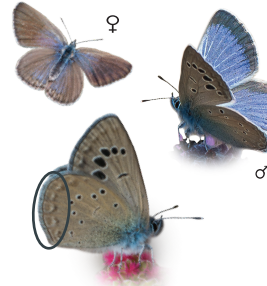
Cacyreus marshalli ♀
 J F M A M J J A S O N D



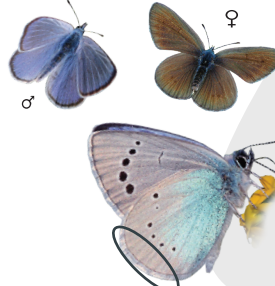
Satyrium spini ♀
 J F M A M J J A S O N D



Callophrys rubi ♀
 J F M A M J J A S O N D



Glaucopsyche melanops ♀
 J F M A M J J A S O N D



Glaucopsyche alexis ♀
 J F M A M J J A S O N D



Carcharodus baeticus ♀
 J F M A M J J A S O N D



Hesperia comma ♀
 J F M A M J J A S O N D



Ochloides sylvanus ♀
 J F M A M J J A S O N D



Muschampia proto ♀
 J F M A M J J A S O N D



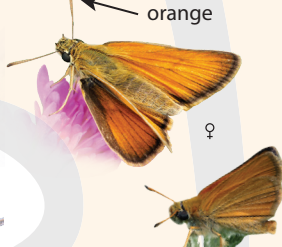
Pyrgus cirsii ♀
 J F M A M J J A S O N D



Spialia sertorius ♀
 J F M A M J J A S O N D



Thymelicus acteon ♀
 J F M A M J J A S O N D



Thymelicus sylvestris ♀
 J F M A M J J A S O N D



Thymelicus lineola ♀
 J F M A M J J A S O N D



Gonepteryx rhamni ♀
 J F M A M J J A S O N D



Gonepteryx cleopatra ♀
 J F M A M J J A S O N D



Leptidea sinapis ♀
 J F M A M J J A S O N D



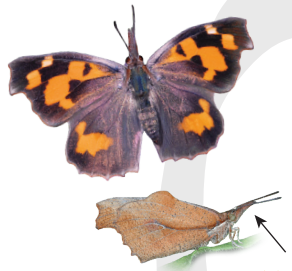
Danaus chrysippus

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



Danaus plexippus

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



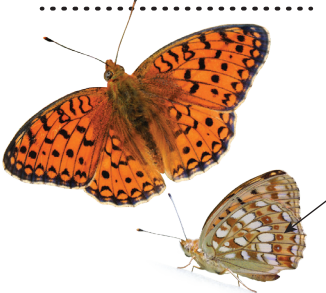
Libythea celtis

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



Argynnis pandora

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



Fabriciana niobe

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



Fabriciana adippe

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



Issoria lathonia

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



Euphydryas aurinia

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



Speyeria aglaja

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



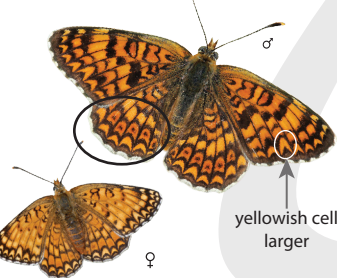
Melitaea celadussa

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



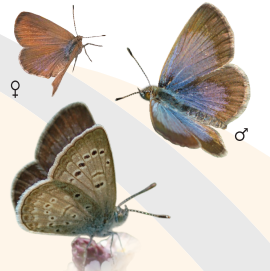
Melitea dydima

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



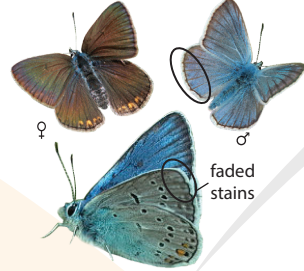
Melitaea phoebe

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



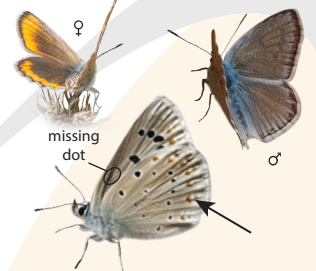
Zizeria knysna

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



Polyommatus amandus

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



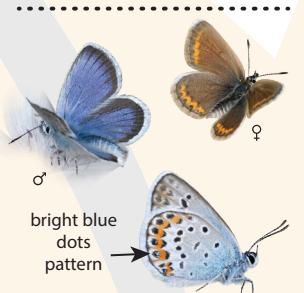
Polyommatus nivescens

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



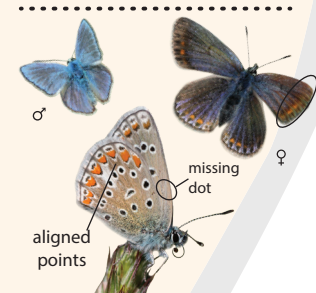
Polyommatus albicans

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



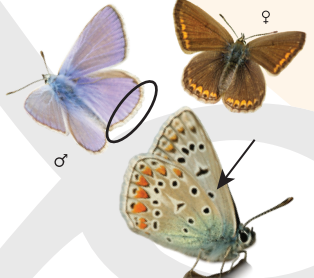
Plebejus argus/idas

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



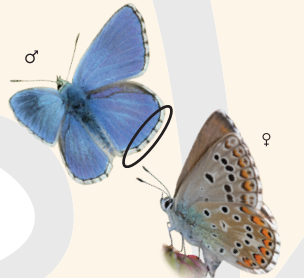
Polyommatus thersites

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



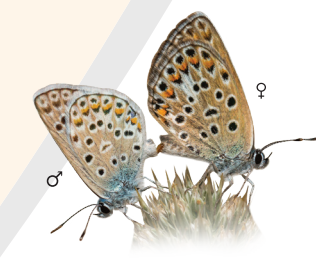
Polyommatus icarus/celina

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



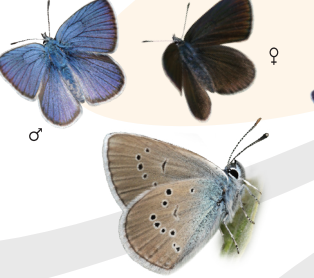
Polyommatus bellargus

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



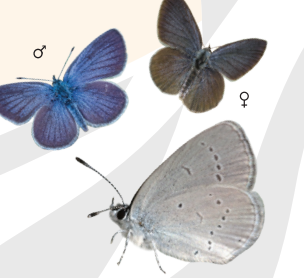
Polyommatus escheri

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



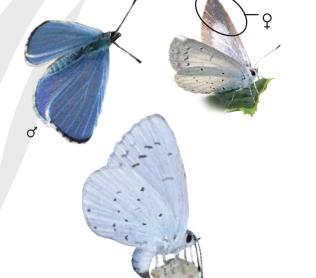
Cyaniris semiargus

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



Cupido lorquinii


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

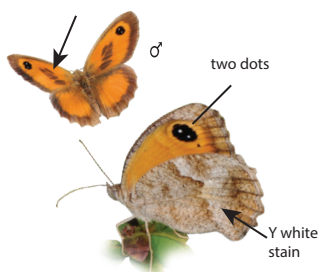


Celastrina argiolus

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



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




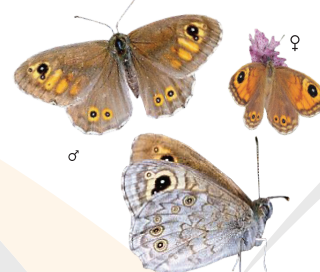
Pyronia cecilia 
J F M A M J J A S O N D




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




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




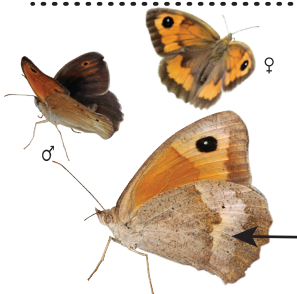
Lasiommata maera 
J F M A M J J A S O N D



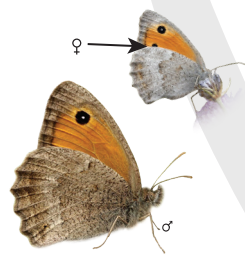
Lasiommata megera 
J F M A M J J A S O N D




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




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



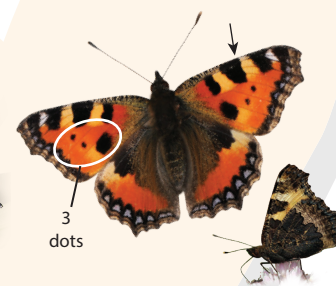
Hyponephele lycaon 
J F M A M J J A S O N D



Polygonia c-album 
J F M A M J J A S O N D




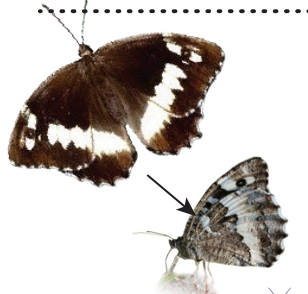
Charaxes jasius 
J F M A M J J A S O N D



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




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



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




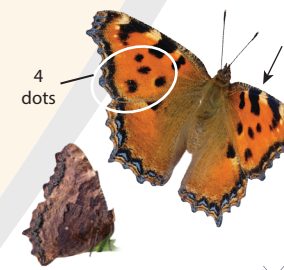
Limenitis reducta 
J F M A M J J A S O N D




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



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




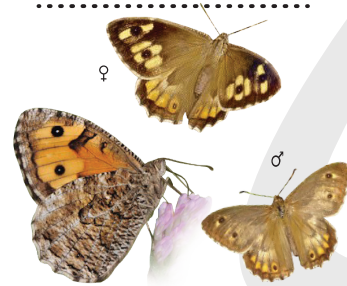
Nymphalis polychloros 
J F M A M J J A S O N D




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



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



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



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



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



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