Issue 23 | May 2018

EUROPEAN BUTTERFLIES GROUP

# eNewsletter

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Butterfly Conservation

Welcome! We are now the **European Butterflies Group** and this is the first newsletter with our new name and logo.

A big thank you as usual to contributors for their excellent articles.

Please do read the Chairman's Introduction on the next page and consider his appeal for volunteers. We badly need extra administrative support for the group to function effectively. If you think you can help, please get in touch with the Chairman. You do NOT need to be expert in European butterflies to help run the group.

A year ago our Anniversary Magazine featured an updated checklist of European butterfly species, based on work by a committee chaired by Rudi Verovnik. The list included 12 new species and I have done some brief notes (on pages 4-6 ) which help to explain the changes. Bernard Watts has written a fuller article explaining the new species ***Melitaea nevadensis*** (Southern Heath Fritillary) on pages 12-14. I would like to include articles in future newsletters on some of the other new species – for instance on the ***Erebia cassioides*** complex (see left). Contributions will be gratefully received, including suggestions of accurate English names for the new species.

Common Brassy Ringlet (***Erebia cassioides***), which I photographed in the Italian Dolomites. *E. cassioides* is now considered to comprise three species.

**Nigel Peace**, Newsletter Editor, May 2018

# Chairman's Introduction

**Appeal for Volunteers**

**by Simon Spencer**

All Butterfly Conservation groups are in the situation where they could do more if they had more volunteers.

The regional BC Groups in the UK do tremendous work clearing scrub on butterfly sites, walking transects and recording butterflies in their area. The European Butterflies Group has the whole of Europe to focus on and though we always work with local butterfly enthusiasts where we can, skilled butterfly expertise is very limited in some of parts of Europe with the highest butterfly diversity and some of the scarcest butterflies. We are already getting more requests for surveys. As I write (March) a small team is surveying for **Greenish Black-tip** (***Euchloe bazae***) in Spain, hoping to extend its known range. Dave Plowman who has recently joined the committee will look for various rare species including **Dil's Grayling** (***Pseudochazara orestes***) in Greece this summer. There is definitely a role for us to do surveys as they are suited to a quick visit as a butterfly holiday but encouraging monitoring and regular assessment of population size is more the focus for Butterfly Conservation Europe and its partners.

It was not that long ago that there were areas of Britain which had almost no butterfly records and the Butterflies for the New Millennium Project encouraged people to record in the least visited places. The result was the Millennium Atlas (Asher, J. et al). Though for example Greece has been well mapped, mainly by the indefatigable Lazaros Pamperis, Italy with the most butterfly species in Europe probably still has more surprises such as the **Scarce Fritillary** (***Euphydryas maturna***) that we surveyed a few years ago and few local butterfly enthusiasts. France now has a number of active regional butterfly recording schemes to which British expatriates and UK holidaymakers make a contribution. The conference that we ran in Digne les Bains in 2013 was for many French butterfly people the first time that they had met.

It is apparent that butterflies are declining or being lost in many parts of Europe due both to land abandonment and intensification of agriculture. Without a baseline we don't know what we have lost. Otakar Kudrna's life work mapping European butterflies at an approximately 50km square level provides a hugely valuable documentation of overall range but if 100 populations were present in a square and 99 were lost, it would still appear as a black spot on the map.

Members of European Butterflies Group can help in many ways.

Firstly, we need to send our holiday butterfly records to the national or regional recording schemes.

## Chairman's Introduction cont.

▸ Secondly, we can participate in surveys or go out and do surveys on our own. Pete Smith surveyed for **Violet Copper** (***Lycaena helle***) in Doubs in Eastern France last summer (see EIG22). It was his own initiative and a very valuable piece of work. EBG can facilitate the collaboration and exchange of information with local butterfly enthusiasts which often makes the visit more productive. In some cases, it can supply detailed site information. There is a huge amount of information on the European Butterflies Group website and room for an awful lot more. If you have knowledge of a particular region or country that we have not covered then please contribute.

The third way people can make a difference is by contributing their time. Members of the committee already do a great deal – welcoming new members, coordinating the annual photo competition and calendar, identifying photographs submitted by email, giving talks, co-ordinating butterfly holiday information, editing the newsletter, and so on and so forth. We need more volunteers however. This doesn't always mean travelling miles to committee meetings or being expert about European butterflies. It means taking on a job that needs doing.

We are particularly short of people who can help administratively with membership-related tasks which will encourage our members to get involved. These are jobs like organising the annual members day, preparing publicity material, and contributing to our facebook page. They are essential jobs for running an effective society with an active membership.

We also have to keep our website up to date. Jude Lock who manages the EBG website lives in France. She spends a great deal of time adding new information and keeping what is there already up to date. I would like to add downloadable pdfs to the website to assist in the identification of difficult groups of butterflies as have appeared over the years in the newsletter. These need creating.

If you would like to help in running the European Butterflies Group we want to hear from you. Most of the committee is retired and of a certain age. We cannot go on for ever! There is a great opportunity for members to develop their expertise by getting involved. Before I started working with others in Europe I would tentatively identify a species from the books on my own. It is only when I had that identification confirmed by someone who really knew their butterflies that my confidence and expertise grew. I am still learning! •

**Simon Spencer**
Chairman, Butterfly Conservation's European Butterflies Group
cerisyi@btinternet.com

# Notices and News

## Contact details

**Chairman:** Simon Spencer
**Email:** cerisyi@btinternet.com
**Tel No:** 01691 648339

**Vice-Chairman:**
Mike Prentice
**Email:** mikeprentice7@gmail.com
**Tel No:** 07831 280259

**Membership Secretary:**
Anne Spencer
**Email:** Rhoslan.anne@gmail.com
**Tel No:** 01691 648339

**Treasurer:** Dudley Cheesman
**Email:** dudleycheesman@icloud.com
**Tel No:** 01458 251451

**Newsletter Editor:** Nigel Peace
**Email:** liz-nigel@hotmail.co.uk
**Tel No:** 01420 85496

**BC Europe liaison:**
Paul Kirkland
**Email:** pkirkland@butterfly-conservation.org
**Tel No:** 01786 447753

**Other Committee Members:**
Martin Davies
**Email:** mdavies854@btinternet.com
Nick Greatorex-Davies
**Email:** nickgdlepman@googlemail.com
Roger Gibbons
**Email:** gibfam@ntlworld.com
Dave Plowman
d.plowman@bronx.co.uk
Marian Thomas
**Email:** bc.brd-nlc-824181@virginmedia.com
Bernard Watts
**Email:**br.watts@btinternet.com
Mike Williams
**Email:** wmbutterflies@gmail.com

**EBG WEBSITE: www.bc-eig.org.uk**
**Website content:** Jude Lock
**Email:** lock.jude@gmail.com
**Website Manager:** Mike Haigh
**Email:** webm@european-butterflies.org.uk
**EBG Facebook Page:**
www.facebook.com/ButterflyConservations
EuropeanButterflyGroup/

## AGM and Members Day, Saturday 1 December 2018

This year's AGM and Members Day will take place at the IBIS hotel in Birmingham (near New Street Station), on the afternoon of Saturday 1 December 2018. Details will be placed on the website nearer the time. •

## Butterfly holidays

If you are contemplating a butterfly holiday, please check out the Holidays section of the European Butterflies Group website (http://www.european-butterflies.org.uk/holidays.html). This is a very comprehensive listing of butterfly holidays in Europe and has been painstakingly compiled by Martin Davies in co-operation with the tour organisers. If you book a holiday as a result of using this service then please mention it to the tour organiser. •

## Survey for Spanish Greenish Black-tip (*Euchloe bazae*)

Three European Butterflies Group members recently visited Spain to help Zerynthia, the Spanish butterfly association, survey the northern population of **Spanish Greenish Black-tip** (***Euchloe bazae***). We are thinking of repeating this early next year (probably the first week in April). Interested members should contact Mike Prentice (mikeprentice7@gmail.com). •

## Some pointers on recent 'splits'

*by Nigel Peace*

The Updated Checklist of European Butterfly Species by Verovnik et al published in the EIG Anniversary Magazine in May 2017 recognised a number of new species. I hope it will be possible to include articles about the taxa concerned in future newsletters. In the meantime, the following notes may help readers who are struggling to work out the new species in advance of the forthcoming butterfly season!

***Zerynthia cassandra*** (**Italian Festoon**)
This taxon has been split from **Southern Festoon** (***Zerynthia polyxena***). The Distribution Atlas of European Butterflies and Skippers by Kudrna et al (2015) states that ***cassandra*** is restricted to the Italian Peninsula and that it is sympatric in NW Italy with ***polyxena***. There is a short identification note on ***f. cassandra*** in the Collins Butterfly Guide (Tolman & Lewington 2008).

***Iphiclides feisthamelii*** (**Iberian Scarce Swallowtail**)
This taxon is widespread in the Iberian Peninsula and also occurs in extreme ▾



▸ southern France. It was formerly regarded as a subspecies of **Scarce Swallowtail** (***Iphiclides podalirius***). It is depicted separately in the Collins Butterfly Guide (Tolman & Lewington 2008) and is already treated as a full species for example in Lafranchis's Butterflies of Europe (2004).

***Iolana debilitata*** (**'Spanish Iolas Blue'**)
This was formerly the Spanish subspecies of **Iolas Blue *(Iolana iolas***), now recognised as a separate species. Its range in Europe is restricted to Spain and it does not overlap with I. iolas which is found from S France eastwards.

***Polyommatus celina*** (**'Southern Blue'**)
An article by Martin Weimers on the separation of this new species from **Common Blue** (***Polyommatus icarus***) appeared on pages 14-15 of EIG 15, which can be consulted on the EBG website (www.european-butterflies.org.uk/downloads/EIG15.pdf).

***Azanus jesous*** (**African Babul Blue**)
This is not a new species but is new to Europe. It is covered in the Collins Butterfly Guide (Tolman & Lewington 2008).

***Euphydryas beckeri*** (**'Iberian Marsh Fritillary'**)
This subspecies of **Marsh Fritillary** (***Euphydryas aurinia***) was elevated to species status in the updated checklist, but the latest word is that it should not be regarded as a separate species after all. It is discussed in the Collins Butterfly Guide (Tolman & Lewington 2008) and depicted separately there.

***Melitaea nevadensis*** (**'Southern Heath Fritillary'**)
This is discussed in the article by Bernard Watts on pages 12-14 of this newsletter.

***Pseudochazara amalthea*** (**'Balkan White-banded Grayling'**)
**White-banded Grayling** (***Pseudochazara anthelea***) has now been split into two species, ***P. amalthea*** and ***P. anthelea***. The two taxa are separately depicted in the Collins Butterfly Guide (Tolman & Lewington 2008). ***P. amalthea*** is the western taxon, found in the Balkans including mainland Greece and Crete. ***P. anthelea*** is the eastern taxon found in Turkey, Cyprus, and several Greek islands of the Eastern Aegean (Lesbos, Samos, Kos, Kalimnos, Chios and Rhodes).

***Erebia arvernensis*** (**'Western Brassy Ringlet'**), ***Erebia neleus*** (**'Eastern Brassy Ringlet'**)
These two taxa are part of the **Common Brassy Ringlet** (***Erebia cassioides***) complex and are now regarded as separate species. The reference cited by Verovnik et al for the change (Schmitt et al. 2016: Species radiation in the Alps: multiple range shifts caused diversification in Ringlet butterflies in the European high mountains. Org Divers Evol) can be downloaded from the web. The authors of this paper state that genetic differentiation within ***Erebia cassioides*** into three geographically delimited groups justifies species rank: ***Erebia arvernensis*** in the Pyrenees, Massif Central and western Alps; ***Erebia cassioides*** in the strict sense ▾



▸ in the eastern Alps and Apennines; and ***Erebia neleus*** in the Balkan mountains and the south-western Carpathians.

***Spialia rosae*** (**'Spanish Red-underwing Skipper'**)

A discussion of this new species can be found on Matt Rowlings' website www.eurobutterflies.com. It is sympatric with **Red-underwing Skipper** (***Spialia sertorius***) and is indistinguishable on external characters but it uses a different foodplant, has a different genetic and molecular make-up and has a much higher upper altitudinal limit. •

**Nigel Peace**
liz-nigel@hotmail.co.uk

## 2019 EBG Calendar Competition

Enter our Calendar Competition for a chance to see your photo in print

The photo competition that we have run for quite a few years now continues to attract plenty of entries and each year the Calendar is sold out.

The competition will be run once again this year by Anne Spencer and entries are required by 1st September 2018. For details of how to enter please go to http://www.european-butterflies.org.uk/events.html#photo. •

Entries please to Anne at rhoslan.anne@gmail.com by September 1st 2018

## News From France

*Contributed by Jude Lock (lock.jude@gmail.com)*

### Regional Butterfly Atlas for Provence-Alpes-Côte d'Azur, France

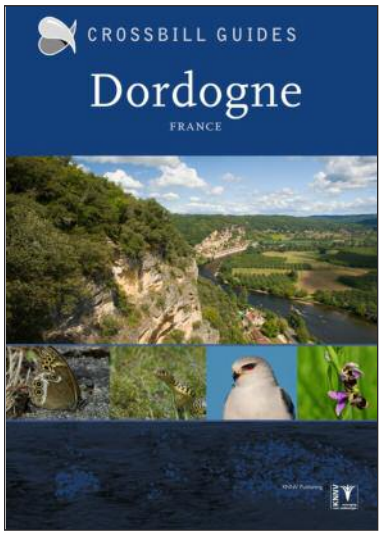

I thank Stéphane Bence from the Conservatoire d'espaces naturels, Provence-Alpes-Côte d'Azur (CEN PACA), for the following information. Stéphane is the European Butterflies Group partner for the region.

The regional atlas is being coordinated by Stéphane, and developed in line with the national inventory, piloted by the National Museum of Natural History (MNHN).

The regional inventory of butterflies and Burnet moths can be consulted on the CEN PACA website here: http://www.cen-paca.org/index.php?rub=3&pag=3_12_2inventaire

The inventory is fed by a network of environmental and nature organisations and individuals, who contribute to the regional database scheme, SILENE PACA. The European Butterflies Group is one of the partner organisations.

If you wish to participate, please don't hesitate to contact stephane.bence@cen-paca.org, with your records. The publication is scheduled for 2019. •

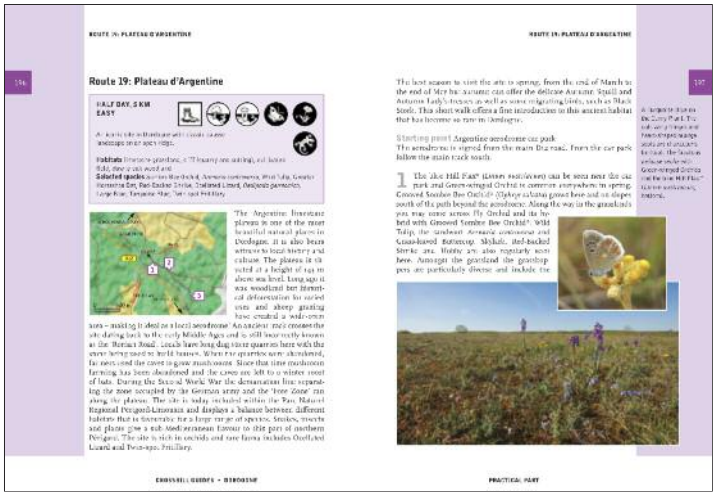



## Crossbill Guides: Dordogne, France

**Authors:** David Simpson and Frank Jouandoudet.
**Publication date:** April 2018.
Paperback, £25.95; 256 pages, 21 x 15 cm; ISBN: 978-9491648137.

This new title in the Crossbill Guides series covers the well-known region of Dordogne in southwestern France. Like all other Crossbill Guides, it poses and answers two key questions: what makes the area so special and how you can experience its uniqueness for yourself. The book describes the flora and fauna, landscape, history and conservation of the region plus 21 detailed routes and around 23 sites with specific suggestions on where and how to find the birds, wildlife and flora.

The Dordogne area in south-west France has a remarkable range of wild landscapes. The beautiful rivers include tidal sections, marshes, cliffs and upland tributary streams set amongst limestone-dominated hills. Elsewhere diverse woodlands, hay meadows, caves, heathlands, arable plateaux plus ancient vineyards and villages also offer visitors great wildlife experiences in what has been called 'the cradle of prehistory'.

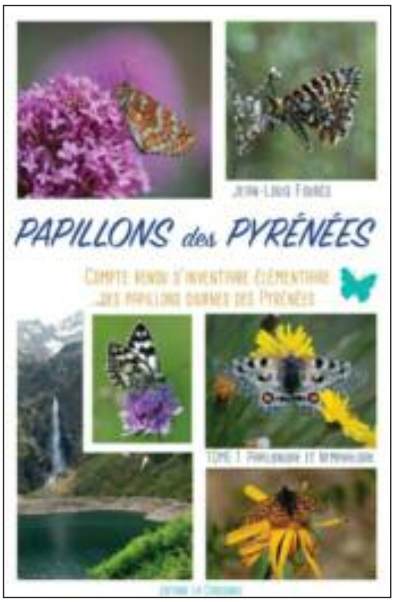



With around 120 species of butterfly recorded, Dordogne is very rich for a French lowland department. This is due in part to the diversity of habitats with a large forest area coupled with relatively low intensity farming. In addition, Dordogne lies at the junction of three biogeographical regions: Atlantic, Continental and Mediterranean. A recent addition to the butterfly list has been the **Woodland Brown** (***Lopinga achine***) found by English naturalists in 2011. Species such as **Cleopatra** (***Gonepteryx cleopatra***), **Safflower Skipper** (***Pyrgus carthami***), **Blue-spot Hairstreak** (***Satyrium spini***), **Sooty Copper** (***Lycaena tityrus***), **Map** (***Araschnia levana***), **Lesser Purple Emperor** (***Apatura ilia***), **Turquoise Blue** (***Polyommatus dorylas***), **False Heath Fritillary** (***Melitaea diamina***) and **False Ringlet** (***Coenonympha oedippus***) are exotic species found in Dordogne and fairly easy to find with a bit of help. And this is where the Crossbill Guide comes in - with routes to follow and sites to explore.

This is a great time to visit Dordogne as records are requested from visiting naturalists for the new Aquitaine butterfly atlas project. Maybe you will be the one to re-discover the **Hermit** (***Chazara briseis***), which was last observed on the causse habitats in the north-west some years ago.

David Simpson is a wildlife guide living in the Dordogne. He is the local contact for the European Butterflies Group, and former nature reserve warden of Ravenglass Reserve in Cumbria. •

The book may be purchased at a discount by EBG members – please follow this link: http://crossbillguides.org/dordogne-ebg The discount will be available until 1st November 2018.




## Papillons des Pyrénées

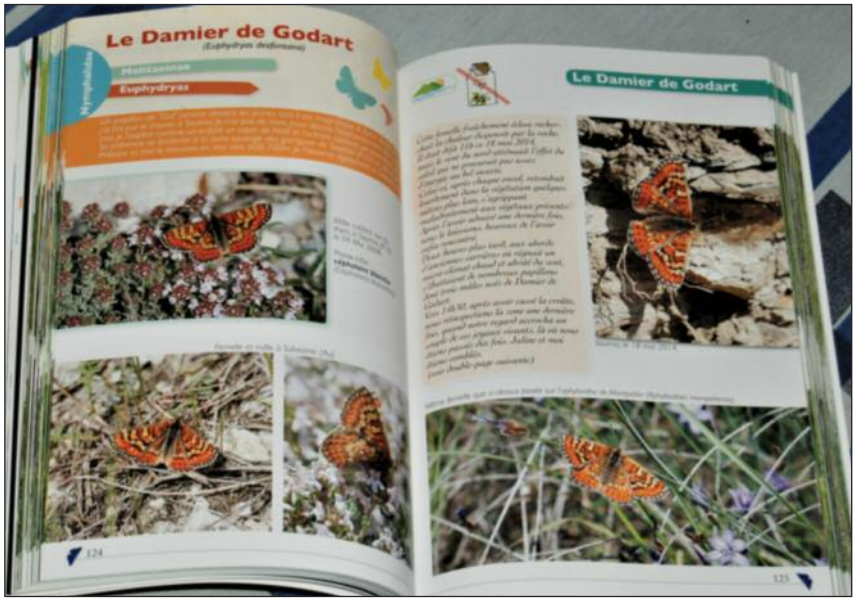
***Compte-rendu d'inventaire élémentaire des papillons diurnes des Pyrénées: Tome 1 Papilionidae et Nymphalidae***

**by Jean-Louis Fourés**

Editions La Cassignole, 2017; paperback 16 x 24 cm, 320 pages; price €34,50. Text in French.

Jean-Louis is a passionate naturalist, sheep farmer and cheese-maker in the Department of the Haute-Garonne, Occitanie (previously Midi-Pyrénées), France. His family originates from Bagnères de Bigorre in the Hautes-Pyrénées. Jean-Louis has spent his life in the mountains and valleys of the Pyrénées where he developed a particular interest in butterflies.

This first volume is a personal testimony to the biodiversity of the Pyrénées. In the book Jean-Louis covers 8 territories of the mainly north-facing side of the mountain chain and includes 91 species of the *Papilionidae* and *Nymphalidae* families.




His personal inventory was carried out over many years and verifies the presence (or absence) of butterfly species within each of the territories, which are, from east to west: Pyrénées-Orientales, Andorre, Aude, Ariège, Haute-Garonne, Val d'Aran, Hautes-Pyrénées, and the Pyrénées-Atlantiques.

More than 600 photographs illustrate the text, including some full-page photographs of butterflies taken within their natural habitat, butterfly landscapes, and family photographs.

Each species page is accompanied by a personal anecdote of an encounter with the butterfly. Jean Louis's observations, knowledge, discoveries and anecdotes are told with humour and poetry, giving the reader the desire to head off into the mountains, with a knapsack on the back!

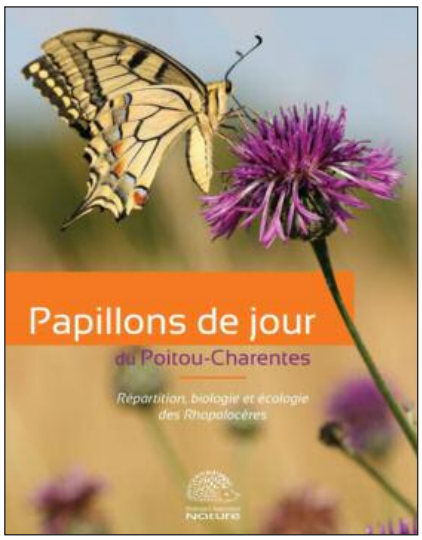

Species are indexed in both Latin and French.

A second book is underway, due to be published in May, and will include the other families.

The book is published by a small new company, Editions La Cassignole, see https://editionslacassignole.com/parutions/papillons-des-pyrenees-tome-1/. It is also available from regional bookshops in France, and from the author at jeanlouis.foures@orange.fr

Here is a YouTube link to a 36 minute video, narrated by Jean-Louis about his life, work, passion for the natural world, butterflies and his book: https://www.youtube.com/watch?v=imL8gZK-K4A&t=11s •

# Notices and News cont.




## Les Papillons de jour du Poitou-Charentes published by Poitou-Charentes Nature

300 photographs, 140 maps, price €30. Text in French.

This book is one of the most recent in a growing number of butterfly atlases covering different regions of France. The Poitou-Charentes comprises four departments in mid-west France – Vienne, Deux-Sèvres, Charente and Charente-Maritime. It is not the first region that the British butterfly enthusiast thinks of visiting to observe butterflies but there are many ex-pats living there and among their friends and relations who visit them, there are no doubt members of the butterfly fraternity who would be interested in the book. In addition, there may well be others stopping over in the region on their way to holidays in the Dordogne, Pyrenees and Spain.

The book is based on surveys comprising 260,000 observations mostly made during the last ten years but includes examination of butterfly collections and records dating back over 150 years. 122 species of butterfly are recorded in the region. Each has been considered in a separate monograph, which includes a distribution map, flight periods, rarity status, habitat types and ecology, complete with many photographs, mostly taken locally by the many contributors that have supplied observations. The text is in French and those with a little of the language may also appreciate chapters on observing and identifying butterflies, the corteges of species, environmental threats and measures of protection. Of particular interest for the visitor, perhaps, is a richly illustrated chapter on 'Promenades naturalistes' indicating key sites in the four departments rich in butterflies and other forms of wildlife.



Two sample pages are reproduced alongside and further sample pages can be viewed on Calmeo, http://fr.calameo.com/read/00537676 3fb901e3 b647a

For more information and details of how to order, see the Poitou-Charentes Nature website, http://www.poitou-charentes-nature .asso .fr/les-papillons-de-jour-du-poitou-charentes/, or email them at: pc.nature @laposte.net •

(Contributed by Neil Wilding neil.wilding@wanadoo.fr)

## Notices and News cont.


### La collection des papillons et les espèces menacées d'Auvergne (The collection of butterflies and endangered species of the Auvergne).

### Les collections du Muséum Henri-Lecoq, Volume VIII - Zoologie.

**Authors:** Philippe Bachelard and Marie-Françoise Faure.
88 pages, 17 x 24 cm; 132 illustrations; price €10.

The Henri-Lecoq Museum in Clermont-Ferrand (https://www.clermontmetropole.eu/bouger-se-divertir/le-dynamisme-culturel/les-musees-de-clermont-auvergne-metropole/museum-henri-lecoq/) has announced the publication of its latest booklet, which is dedicated to the museum's butterfly collections and the endangered species of the Auvergne, France.

The museum houses important Lepidoptera collections totalling 100,000 specimens. These are an important resource for the study of historical butterfly populations, and have been used to establish the Regional List of threatened species for the Auvergne.

Philippe Bachelard is the European Butterflies Group partner for the Auvergne. To order the booklet, please email Dominique Vogt, Régisseur Principal at the Museum, dvogt@clermontmetropole.eu.•

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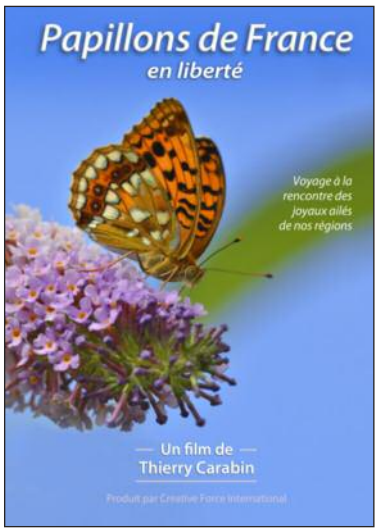



### "Papillons de France en liberté"
### Film by Thierry Carabin

Thierry Carabin spent a large part of his childhood with his father in law Eugène Le Moult in Paris, and it is from this period that Thierry's passion for butterflies originated.

Eugène Le Moult had acquired one of the largest butterfly and insect collections in the world. He had his own publishing house publishing mainly scientific books, including the book he wrote in collaboration with Pierre Réal on the genus Morpho.

After his studies in Paris (languages, philosophy and art history), Thierry commenced a career as a professional photographer.

In 2010, Patrick Blandin, Emeritus Professor at the Muséum National d'Histoire Naturelle, and Gilbert Lachaume, an expert in natural sciences, decided to include photographs as part of their exhibition "Les papillons, joyaux de la biodiversité" (Butterflies, jewels of biodiversity). Thierry contributed a set of photographs entitled "d'aile en aile" (from wing to wing), highlighting the tiny details of butterfly wings often invisible to the naked eye.

After the success of two exhibitions they decided to add a film that would honour the butterflies of France. A film was commissioned and filming began in the spring of 2013.

The film project had several objectives, to include a representative sample of the butterflies of France and to give an overview of their life in their natural habitats. The film-maker wished to approach biodiversity with the aim of encouraging respect for nature, and to also combine scientific interest and aesthetic appeal, whilst at the same time hoping to reach as wide a public audience as possible.

# Notices and News cont.

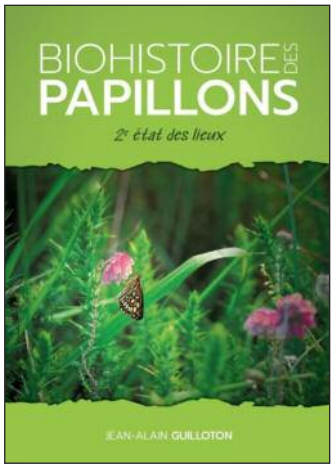
▸ In "Papillons de France en liberté", butterflies were filmed over a five-year period, from sea level up to 3,000 meters of altitude. The 48 minute film features 180 species, including **Spanish Fritillary** (***Euphydryas desfontainii***), **Scarce Fritillary** (***Euphydryas maturna***), **Scarce Large Blue** (***Phengaris telejus***), **Southern Swallowtail** (***Papilio alexanor***), **Provence Hairstreak** (***Tomares ballus***) and **Moorland Clouded Yellow** (***Colias palaeno***), to name but a few.

There are sequences showing butterfly emergence, such as the **Camberwell Beauty** (***Nymphalis antiopa***), the territorial behaviour of butterflies, butterflies in flight, courtship displays, mating, and egg-laying as well as sequences showing the wild flowers of the various habitats. There are aerial and terrestrial views of many magnificent landscapes and of different habitats.

See here for a link to the trailer:
http://www.creativeforceinternational.com/Papillons-de-France.htm

The film is presented in several versions, 48 minutes, 35 minutes and a 20 minute adaptation for showing in schools. Note that it is not currently available on DVD.

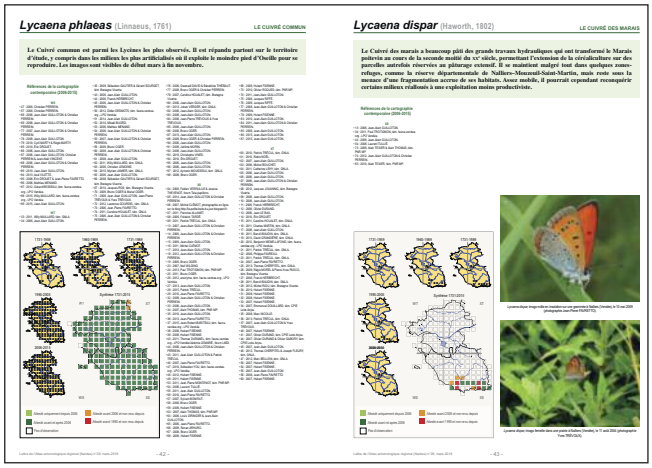
The production company propose the projection of the film followed by a debate, including discussion of biodiversity and environmental issues. •

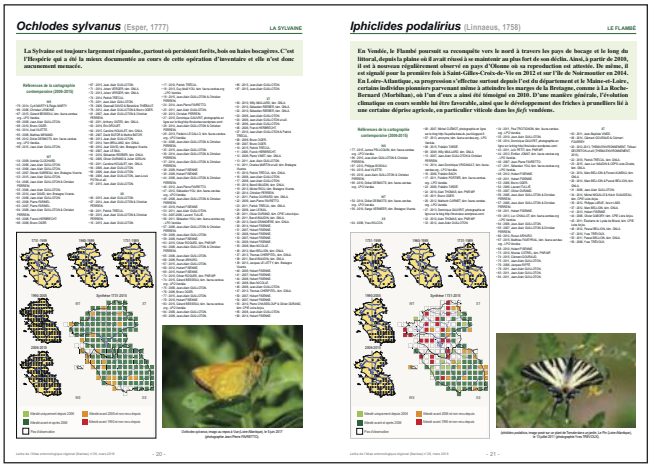



## Atlas entomologique régional (Regional entomological atlas), Nantes

The AER (Atlas entomologique régional), Nantes, has just published the "Biohistoire des papillons, 2ème état des lieux", compiled by Jean-Alain Guilloton. This 120-page colour atlas documents the butterfly recordings from the period 2006-2015 and follows on from the book "Biohistoire des papillons. Diversité et conservation des lépidoptères rhopalocères en Loire-Atlantique et en Vendée" by Christian Perrein (published 2012) which was presented at the conference in Digne les-Bains in 2013.

Details and a link to the order form can be found on the website: www.aer-nantes.fr •



# Southern Heath Fritillary

## The Rise and Probable Fall of Taxon *nevadensis*

**by Bernard Watts**

Higgins (1975) proposed three subspecies for what was then ***Mellicta athalia*** (**Heath Fritillary**) in western Europe:
ssp ***athalia***, most of western Europe not occupied by sspp ***celadussa*** and ***norvegica***;
ssp ***celadussa***, southwestern Europe including Italy and the Iberian Peninsula;
ssp ***norvegica***, clinal from south-central Scandinavia northwards to northern Finland.

He pointed out that, compared to the nominate subspecies, ssp ***celadussa*** differs in details of the male genitalia but has a similar external appearance while ssp ***norvegica*** has indistinguishable genitalia but has a distinctive appearance.

Leneveu et al (2009) used measured DNA sequences, nuclear and mitochondrial, to study the evolution of the lineages of butterflies of the genus ***Melitaea***. Their main aim was to date the divergences and most likely distributions of ancestral populations and relate them to major palaeo-environmental events. By this date, taxonomists generally considered that species of the former genus ***Mellicta*** should be lumped with those in the genus ***Melitaea***.

Leneveu *et al's* studies confirmed the compounding of the genera ***Mellicta*** and ***Melitaea*** and, almost incidentally, found that taxa ***athalia*** and ***celadussa*** were different species, as hinted at by their genitalia. Concerning putative ssp ***norvegica***, see below.

Thus, after Leneveu et al,
***Mellicta athalia athalia → Melitaea athalia,***
***Mellicta athalia celadussa → Melitaea celadussa***.

Heath Fritillary (***Melitaea athalia***)

## Southern Heath Fritillary cont.

▸But, it had been known for a long time prior to Leneveu *et al's* work that ***M. athalia*** (as it then was) has a distinctive appearance on the mountains in southern Spain and accordingly had been named ***nevadensis***, though its rank, whether subspecies or form, was unclear. As it happens, however, the name ***nevadensis*** (Oberthür, 1904) predates and so takes precedence over the name ***celadussa*** (Fruhstorfer, 1910), and since both *now* refer to what is regarded as a distinct species, one must accept this species should be named ***nevadensis***.
Thus,
***Melitaea celadussa*** → ***Melitaea nevadensis*** (**Southern Heath Fritillary**).

**Southern Heath Fritillary** (***Melitaea nevadensis***)

To recognise its distinctive appearance in southern Spain one would have to name it there ***M. nevadensis nevadensis*** and elsewhere ***M. nevadensis celadussa***. To use this refinement or not is a personal choice.

*Further discussion*
Leneveu *et al* found the lineages of ***Melitaea athalia*** and ***M. nevadensis*** diverged about 8 million years ago and that ***M. athalia*** is, in fact, evolutionarily closer to ***M. deione*** (**Provencal Fritillary**) and ***M. britomartis*** (**Assmann's Fritillary**) than to ***M. nevadensis***. Strangely, in the light of this, there is a transition zone between the distributions of taxa ***athalia*** and ***nevadensis*** (ex-***celadussa***) of 100 to 200 km where intermediate genitalia occur, according to Higgins.

The defining character of taxon ***norvegica*** is small size. Such individuals are sporadic but become the norm in the far north. Therefore, it seems appropriate to regard taxon ***norvegica*** as a form.

Leneveu *et al* sampled 65 species in all and often only one example of each. The samples relevant to the present discussion were: one from Sweden (taxon ***athalia***), just north of Stockholm but south of where one finds taxon ***norvegica***; and one from France (taxon ***nevadensis*** (ex-***celadussa***)) near the transition zone but ▾

## Southern Heath Fritillary cont.

▸ on the ***nevadensis*** (ex-***celadussa***) side according to Higgins. The race flying in southern Spain was not sampled.

Since the distinctive southern Spanish race flies more than 300 km from its nearest relatives in northern Iberia, it might turn out that actually it has evolved to a different species. In that case one would have ***M. nevadensis*** in southern Spain and ***M. celadussa*** throughout the rest of southwestern Europe.

There is some support for this possibility in the work of Dinca et al (2015) who 'barcoded' (i.e. measured a length of the mitochondrial DNA of) several examples of what is now ***M. nevadensis*** in Spain, and found a distinct molecular difference between examples from the Sierra Nevada and northern Spain. Since barcoding is a less powerful tool at finding new species than the measurement of nuclear DNA, the results of Dinca *et al* can only be taken to hint at the possibility of the races on the Sierra Nevada and nearby being a distinct species. Furthermore, a small subset of individuals from northern Spain seemed to be the same as those from the Sierra Nevada. •

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**Bernard Watts**
br.watts@btinternet.com

Photos by Bernard Watts

### Postscript

Recently, taxonomists have recognised the name ***nevadensis*** is unavailable in the above context and thus the species referred to as ***M. nevadensis*** when I wrote this article last month should now be ***M. celadussa*** - again!
Verovnik, R., April 2018, Private communication

# Corsica

**Corsica**

**by Marian Thomas**

The island of Corsica has a complex past. It was not incorporated into France until the late eighteenth century, shortly before the accession to power of its most famous son, Napoléon Bonaparte, and today has a degree of constitutional autonomy, ceded as a response to separatist movements. Not since the Byzantine period has it shared an enduring political connection with its neighbouring island of Sardinia. However, a remarkable group of butterfly species are found only on the two islands (or, in a few cases, neighbouring islands such as Elba). These, together with those of Sicily, are often together described as "Tyrrhenian endemics". In this article, the members of this group are referred to simply as "endemics".

The endemic species found on Corsica are: **Corsican Dappled White** (***Euchloe insularis***); **Corsican Swallowtail** (***Papilio hospiton***); **Bellier's Blue** (***Plebejus bellieri***); **Corsican Fritillary** (***Argynnis elisa***); **Corsican Wall Brown** (***Lasiommata paramegaera***); **Corsican Heath** (***Coenonympha corinna***); **Southern Grayling** (***Hipparchia aristaeus***); **Corsican Grayling** (***Hipparchia neomiris***); **Corsican Red-underwing Skipper** (***Spialia therapne***) and **Corsican** (or **Sardinian**) **Small Tortoiseshell** (***Aglais ichnusa***). Bellier's was long considered a subspecies of **Idas Blue** (***Plebejus idas***), whilst the taxonomic status of the red-underwing skipper and the small tortoiseshell is perhaps still the subject of some debate. I've treated them here as separate species on the basis of the revised taxonomic list (Verovnik et al.) published in the EIG anniversary magazine of May 2017.

The extremely local Corsican ***nufrellensis*** subspecies of **Chalkhill Blue** (***Lysandra coridon***), together with its Sardinian counterpart ssp. ***gennargenti***, may have some claim to be regarded as separate species (see the interesting discussion in Lafranchis et al., *La vie des Papillons*, pp352-3), although Verovnik et al. do not split them off. In any event, the presence of a Chalkhill Blue on an island entirely devoid of calcareous soils deserves a mention.

Reflecting geographical isolation (except during ice ages), the butterfly list for Corsica is in fact quite short (roughly the same number as the British list). However, the presence of the endemics, together with a decent leavening of more widespread southern European species, plus the prospect of spectacular scenery and warm, dry weather, made a visit there an enticing prospect. Whilst Sardinia would have offered the opportunity of a couple more endemics, **Sardinian Meadow Brown** (***Maniola nurag***) and **Sardinian Blue** (***Pseudophilotes barbagiae***), we inferred from *Prime Butterfly Areas in Europe* that more of the total ▾


▸ population of Corsican Fritillary may occur on Corsica. Since that was a species we were particularly keen to see, that tipped the balance.

It seemed unlikely that we would be able to see all the endemics in a single visit, since the dappled white is a spring species whilst Corsican Grayling typically does not emerge until late June. In the end, we picked the first week of July (1 – 8), by which time we reckoned Corsican Fritillary should be out in good numbers, Corsican Grayling should be at least starting to emerge, and with a bit of luck Corsican Swallowtail would still be flying in the mountains. The early part of the season in Corsica had been very hot, so timings were likely to be somewhat advanced from normal, and we hoped we'd judged it correctly.

*Day 1 – Col de Teghime*

We had chosen Corte, the old capital of Corsica, as our base, since its location in the northern mountains would afford relatively easy access to a good number of valleys and passes. Before proceeding there, however, the prospect of a hot and sunny afternoon persuaded us to a little exploration at lower altitude, so we set off in the general direction of the Cap Corse promontory which lies at the northeast tip of the island. Climbing into the hills northwest of Bastia airport, we took the first opportunity of a stop at the roadside to try our luck.

Although by now some afternoon cloud was starting to build, this unpretentious spot straightaway started to produce some unpretentious species: **Brown Argus** (***Aricia agestis***), **Common Blue** (***Polyommatus icarus***), **Speckled Wood** (***Pararge aegeria***) (the more orange nominate subspecies), **Gatekeeper** (***Pyronia tithonus***) and **Holly Blue** (***Celastrina argiolus***). Then a rather more orange-looking satyrid caught our attention, and it took only a brief examination to confirm our first endemic, **Corsican Wall Brown**.

We had scarcely had time to get a few "for the record" shots of the Wall than a darker-looking satyrid glided down and sat obligingly on the gravel, wings closed. In some locations the appearance of a fairly standard-looking Grayling might occasion heightened identification-related angst, but here it was straightforward – the Grayling with the standard underside is Southern Grayling, another endemic.

**Corsican Wall Brown** (***Lasiommata paramegaera***)

**Southern Grayling** (***Hipparchia aristaeus***) ▾


▸ Flushed with the success of two endemics at the first stop, we thought we were in for the hat-trick when a rather well-marked Heath presented itself, but brief consideration was enough to establish that this was not the endemic Heath, but rather the southern form of **Small Heath**, ***Coenonympha pamphilus*** f. ***lyllus***. A **Wood White** (***Leptidea sinapis***) picked its way past us and a **Silver-washed Fritillary** (***Argynnis paphia***) brought a further reminiscence of English woodlands, before a **Scarce Swallowtail** (***Iphiclides podalirius***), **Clouded Yellow** (***Colias crocea***) and male **Cleopatra** (***Gonepteryx cleopatra***) dropped in to confirm that a Mediterranean excursion was under way.

**Corsican Grayling**
**(*Hipparchia neomiris*)**

The Col de Teghime (alt. 536m) was our principal target on this exploratory circuit, and a small footpath near the pass proved quite butterfly-rich, including about a hundred Gatekeepers. We were pleased to find a much fresher Corsican Wall Brown and a Long-tailed Blue, but the highlight of the day came with the arrival of an enigmatic very dark butterfly, showing conspicuous flashes of bright orange in flight. Fortunately it settled, and there was no mistaking Corsican Grayling. Wholly distinctive from any other European Grayling, it's a real stunner both at rest (especially the male – colouration is a bit less intense in the female) and in flight. Reflecting that it looked every bit as good as its photos in the books, I was relieved that we'd found one of our prime targets so readily at low altitude, since we were pretty much at the beginning of its typical flight period and I wasn't sure that it would have emerged at the higher altitudes where we were to spend most of our trip.

*Day 2 – Col de Vizzavona*

For our first excursion we chose the main road due south out of Corte, reckoning that the area where the GR20 footpath intersects with the road at the Col de Vizzavona might afford some opportunities for exploration. But before that, just a few kilometres out of Corte, a large layby surrounded by trees looked promising for an impromptu roadside stop. It proved a good pick – areas of scabious and other wild flowers attracting a spectacular show of several **Cardinals** (***Argynnis pandora***) and a **Scarce Swallowtail**, together with **Common Blue**, **Holly Blue**, **Brown Argus**, **Small Copper** ***(Lycaena phlaeas***), **Queen of Spain Fritillary** ***(Issoria lathonia***) and further **Corsican Wall Brown** and **Southern Grayling**. One of the latter showed some upperside whilst hanging on to scabious to nectar, giving a view of broad pale orange bands.

**Corsican Fritillary**
**(*Argynnis elisa*)**

A short way before the col, we made another roadside stop in the Forêt de Vizzavona, where a long stone wall with a flowery bank on top ran alongside the road. Not many butterflies here, but a fast-flying, bright orange, medium-sized individual looked interesting. There aren't too many options for fritillaries here, so Corsican was a distinct possibility. It settled just long enough to show the upperside (with scant black inner markings, discrete black chevrons around the submarginal area and round post-discal spots), which confirmed the identification, permitted us a single distant and blurry photo, then charged off. Further ▾


Silver-studded Blue (***Plebejus argus corsicus***), female

Silver-studded Blue (***Plebejus argus corsicus***)

▸sightings of orange butterflies prompted frantic pursuit followed by, rather more sedately, the additions of **Comma** (***Polygonia c-album***) and **Silver-washed Fritillary** to the day's tally.

Location of the GR20 at the col (alt.1163m) necessitated exploration of a rather large and popular carpark. Examination of it, its stone-strewn surface rising through woods at a rather steep gradient, prompted a change of plan, so I can't say what butterflies may await the more energetic there.

A damper, tree-bordered meadow on the south side of the road by the pass hosted many butterflies, and it was here that we encountered one of the few genuine butterfly identification challenges in Corsica, in the form of a great profusion of *Plebejus* blues. Some very fresh, bright blue, others more worn, both male and female, many of the latter with a very extensive deep blue suffusion on the upperside. At first, it was tempting to believe that we had here both **Silver-studded Blue** (***Plebejus argus***) and the endemic **Bellier's Blue**. But diligent observation, an inordinate number of photographs and consultation of Lafranchis' *Les Papillons de France* forced us to the conclusion that what we had here was the endemic subspecies of **Silver-studded Blue** (***P. argus corsicus***), and only that. The photographs in Lafranchis were most helpful, illustrating the rather washed-out grey look of the underside spots which characterises this subspecies.

*Day 3 – Val de la Restonica*

By now well settled into our surroundings, we opted for a trip shorter in distance but on a trickier road, along the Val de la Restonica, which leads south-west out of Corte. The uphill road is narrow and twisting, with impressive views of the gorges, but few opportunities for stopping, although the sight of three Corsican Graylings spiralling upwards together above the road was impressive. Thus, it was not until we reached the carpark at the end (1260m) that we were able to engage in much searching. (Note that there is a charge for the carpark here.) The habitat here is generally more open than at Col de Vizzavona, as the location is just about on the treeline, and paths afford access up the hillside.

We had only just progressed from carpark to track when, among a number of yet-to-be-investigated blues, we spotted a small orange butterfly which, when settled, was readily identifiable as a very smart Corsican Heath. This site proved to have a lot of that species flying (we saw over thirty in total), but again it was *Plebejus* blues which were most numerous overall. This time, however, **Bellier's** were indeed present, as well as ▾

**Bellier's Blue** (***Plebejus bellieri***), mating pair

Bellier's Blue (*Plebejus bellieri*), male

▸ **Silver-studded**. Although both flying around the same altitude and in the same area, the two species seemed largely to keep themselves in discrete groupings. This was most noticeable as they settled when the sun went in – Bellier's favoured settling on juniper bushes whilst Silver-studded generally perched on broom species.

Corsican Grayling was also present here, along with a few Corsican Fritillaries. One of these was a female which appeared to be egg-laying, or at least testing for sites. We couldn't see any violet plants; in fact, Lafranchis et al. indicate that the life cycle in the wild is still unknown, although captive-bred larvae have used various species of violets. Anyhow, this butterfly was pretty co-operative in allowing us some photographs at close quarters, so the task list was progressing nicely.

*Day 4 - south-east of Corte*

We turned our attention to the area south-east of Corte, where a network of minor roads twists around pine-clad hills and through arid gorges, and we made frequent stops. There did not seem to be huge numbers of butterflies around, but the species interest index was high, featuring both the endemics and more general southern European species. A highlight was our first – and only – sighting of **Corsican Swallowtail**, suddenly appearing as if from nowhere through the pines on a hilltop to nectar avidly on large thistles. Rather darker in general appearance than the European Swallowtail, it gave a clear display of the diagnostic flattened red spot at the anal angle of the upper hindwing, separated from the blue lunules by a strong black line. (The corresponding red spot in *machaon* is of course round, and merges into the blue area.) Soon it was joined by a second, and both of them provided entertainment for a good half-hour before disappearing as swiftly as they had arrived. Two or three brilliant Corsican Fritillaries and a Cardinal promptly appeared to take their places at the bar, then in turn flew off sated after forty-five minutes of indulgence.

Corsican Swallowtail (***Papilio hospiton***)

Corsican Swallowtail (***Papilio hospiton***)

The swallowtail was to prove the last of our endemics for the trip, but a second highlight of the day arrived unexpectedly in late afternoon, when we stopped at about 220m, on a road heading back towards the east coast, to investigate a short track which led between pines to a clearing at the foot of a shrub-covered hillside. In the clearing, we watched a **Southern White Admiral** (***Limenitis reducta***) as it perched in the sun, making intermittent charges ▾

Southern Gatekeeper (*Pyronia cecilia*)

▸out to fly round and investigate – or challenge – anything entering its territory. Occasionally a second Admiral would appear and get the shove-off treatment. The incumbent Admiral had set off again on one of its proprietary circuits when a great dark shape swooped down onto it, like a Stealth bomber. Briefly, the two of them sparred, and from our perch above the action we could clearly see the upperside of the interloper, dark chocolate brown with a broad orange border to the wings. The Admiral retreated hastily to its perch, whilst the **Two-tailed Pasha** (***Charaxes jasius***) (no mistaking that one) charged back up the hillside and was lost to sight. A surprising sighting, as we'd expected this butterfly to be between generations.

We hung around for a bit in the hope of a further show (which wasn't forthcoming), managing to add **Southern Gatekeeper** ***(Pyronia cecilia***) to the tally before heading down to the coast road and back to Corte.

*Day 5 – Val de l'Asco*

The Val de l'Asco is renowned for spectacular scenery and also reputed to boast an abundance of butterflies, so that promised to be worth a visit. It lies to the north of Corte and broadly on a north-east to south-west axis like the Restonica valley, which it also resembles in twisting through a narrow gorge for part of its length. The road through the valley is longer and rises to a higher altitude (1432 m.) than the Restonica road; it is also generally a little broader, with the exception of the extended stretch through the gorge.

Our destination was the ski resort of Haut-Asco. The satnav informed us that the D147 continued beyond the carpark there, but as the tarmaced road appeared to end at the carpark, we decided to start our walk from that point.

Corsican Fritillary (***Argynnis elisa***), mating pair

And so up the gravelled track which the D147 had morphed into, between the wooden chalets, we found a good show of butterflies endemic and familiar, both on bramble and on flowers growing around the houses, including our first **Painted Lady** (***Vanessa cardui***) of the trip.

The most productive areas lay just at the top of the village where, around the stony moonscape of the ski run, patches of grass and wildflowers, interspersed among scrubby trees, were attracting numerous butterflies. It was here that we found probably the greatest abundance of Corsican Fritillary on our trip, together with plentiful Cardinals, Bellier's Blues, Corsican Heaths, Corsican Graylings and, in another first for the week, a few **Bath Whites** (***Pontia daplidice***). A mating pair of Corsican Fritillaries stole the show.

*Corsican Fritillary – a comment on colouration*

It is interesting that the Corsican Fritillaries we saw on on the island don't look exactly like the ones in many of the books. Broadly, whilst illustrations of the undersides are often suggestive of a mini-Dark Green, those we saw gave more the impression of a mini-High Brown. Initially, I wondered whether the ones we were seeing might be older individuals, but this clearly wasn't the case as on examination many of them were in pristine condition. From a little post-holiday research, I noted that the illustrations and photographs showing a more extensive green colouration on the under hindwing seem to be of specimens from ▾


▸ Sardinia. In the individuals which we photographed, the green scaling seems to be channelled in narrow bands either side of (and sometimes over), the wing veins, mainly towards the basal area, together with a more extensive area around the inner margin. The discal area is almost devoid of green scaling, and features a yellow/buff ground colour with prominent chestnut spots circling black-ringed bluish ocelli, whilst in the submarginal area the dominant feature is large silver-white spots and chevrons edged with black and capped with chestnut, again on a yellow/buff ground colour, with only traces of green scaling.

*Day 6 – Col de Bavella*

The absence so far of Small Tortoiseshell – more specifically Corsican Small Tortoiseshell – was interesting, but it is, apparently, not very common. Lafranchis indicates that it is rare in dry places and is confined to the mountains, between 600m and 1500m. Damp places seemed to be in short supply in this hot summer, so we thought we'd just settle for the mountain bit and take the road up to the Col de Bavella (1218m). There might be some damp patches up there somewhere, and anyhow it got a star billing as one of the most scenic roads in the mountains.

Towards the col, the village of Bavella was busy, and we had to drive a little way beyond the pass to find a parking place. This was fortunate, as it afforded a splendid view over rolling purple hills to the northwest, and the opportunity for a walk back towards the pass above banks of open habitat along a path bright with the yellow *Helichrysum italicum*, whose delightful curry-like scent had permeated much of the trip. It was a good angle from which to survey the butterfly activity on the slopes below, with Corsican Fritillary, Corsican Heath and other endemics again featuring, together with about a dozen Clouded Yellows.

**Corsican Heath (*Coenonympha corinna*)** on *Helichrysum italicum*

The area immediately around the pass was characterised by more tree cover, with gaps giving vistas over the sea to the east, the Ligurian coast and the island of Elba (which, as Napoléon had proved, didn't look too hard to escape from). A couple of areas were enclosed to protect the local flora from trampling feet, and here more Corsican Fritillaries were displaying. We made a token gesture towards finding some damp place where a tortoiseshell might lurk by going downhill into an area of more luxuriant grass partly enclosed by trees, but found neither foodplant (an endemic nettle) nor butterfly. As the single generation emerges in June, the species should have been around somewhere, but one might speculate that, given the hot conditions, many of the butterflies might hide away to aestivate shortly after emergence, much as Peacocks often do, before reappearing later in the season then overwintering. Or, more likely, we were just looking in the wrong places.

With one full day left, we considered how best to fill it. We thought it very likely that the red-underwing skipper was between generations. It is, admittedly, described as small and hard to spot, but we had, at various times, made some searches of plausible-looking hot and dry places, at various altitudes, without seeing it. So we thought we'd indulge ourselves by trying to entice down the Pasha we'd seen a couple of days earlier. This necessitated a trip to the supermarket on the way back. But it was here that parsimony got the better of us. Instead of splashing out on the requisite full bottle of pastis, large hand of ▾


▸ bananas and a decent Pouilly Fumé, we settled for half a kilo of rather overripe yellow plums.

*Day 7 – south-east of Corte*

The Pasha was unimpressed by our stingy libation. We squashed the plums onto pine trunks and stumps, waited, left them to marinade in the sun for several hours and made a return visit, but at no point did it reappear. The Southern White Admiral made its forays undisturbed. A Southern Grayling did show some appreciation of our efforts. That apart, the chief point of interest at that site was the sight of four Southern Gatekeepers resting together on one plant, looking as though they were trying to keep out of the heat.

**Great Banded Grayling (*Brintesia circe*)**

For the rest of the day, we meandered around on minor roads at fairly low altitude, noting the profusion of strawberry tree shrubs and stopping occasionally in the faint hope of sighting another Pasha. Southern White Admiral and our first definite **Swallowtail** (***Papilio machaon***) of the trip did show, but mostly at these lower levels things seemed pretty quiet. A little higher up, we stopped near the village of Antisanti and walked up to the tower, around which a lot of Scarce Swallowtails were hilltopping.

Our route to join the main road back to Corte took us via the Col de Morello (alt. 824m). Here, for the first time on the trip, we found all three of the island's Graylings flying together - Southern, Corsican and **Great Banded** (***Brintesia circe***).

*Day 8 – flight home and reflection*

We were conscious that we'd only explored a relatively small part of this singularly attractive island, and had not had time to visit, for example, the coastal lagoons, which host a wealth of birds and dragonflies. However, that provides us with a reason for a further visit, perhaps earlier in the year to give a chance of Corsican Dappled White plus a more concentrated look for the tortoiseshell, which re-emerges from overwintering in April, and red-underwing skipper, the first generation of which should then be on the wing – together with the Pasha.

Postscript: we did, in the event, spot an *ichnusa* a few weeks later, outside Fulham's Craven Cottage ground. It was on a Cagliari shirt, and therefore the Sardinian version, in the correct colours of red and black. Ichnusa is, in fact, the classical name for Sardinia, and also the name of a beer from that island. •


***ichnusa***, at last!

*The Corsican Environmental Office is planning a distribution atlas of the lepidoptera of Corsica. Records can be submitted to Marie-Cécile Andrei-Ruiz, Marie-Cecile.Ruiz@oec.fr, or via their Facebook page, https://www.facebook.com/Papillons-et-libellules-de-Corse-Farfalle-%C3%A8-filangrocche-di-Corsica-1750251115198238/. Marie-Cécile is the European Butterflies Group partner for Corsica.*

**Marian Thomas**

(All photos by Marian Thomas except Corsican Swallowtail upperside and Corsican Wall Brown by Stephen Reisbach)

# Charca de Suárez

## The pond of butterflies: monitoring and conservation of butterflies at the Charca de Suárez

**Authors: José Miguel Barea Azcón, Inmaculada C. Pozo Sáez, Carmen Luna Cabañeros, José Ángel Gavilán Castro & José Miguel Larios Martín**

The Charca de Suárez, in Motril, Granada, SE Spain, is undoubtedly a special place. It forms part of a set of coastal wetlands that are distributed along the Iberian Mediterranean coast, and plays a strategic role in helping to connect the habitats on which the threatened biodiversity of these environments depends. But one of the most special aspects of the Charca de Suárez is its history.

Landscape at one of the lagoons of the Charca de Suárez ('Lirio' lagoon) (photo by José Ángel Gavilán Castro)

Around 1991 Motril City Council began to dry the wetlands of Suárez Pond to build a youth hostel. However, this proposal faced strong opposition from the associations ANADEN and Buxus and from the Alborán Ecologist Group. A group of citizens convinced of the enormous potential of the wetland stood in front of the machinery and camped in the area as a sign of protest against the nonsense proposed by the City Council. After these acts of protest and multitude conversations, an extension of a year was achieved, during which the challenge was to demonstrate the enormous ecological and environmental importance of the Charca de Suárez. The period was employed to organize demonstrations, collect signatures and, above all, explain the value of the wetland to local society through conferences, volunteer campaigns and exhibitions.

The most significant step forward came in 2002, when the Regional Government of Andalusia made an important investment to undertake the first phase of recovery of the wetland. In 2006, a park adapted for public use with municipal protection was opened, which was finalized with the help of European funds (FEDER). Finally, after 16 years of struggle, that urban land became protected, clearly demonstrating the enormous potential of citizen campaigns in promoting initiatives of conservation. In 2009, an agreement was signed between the Ministry of Environment of the Andalucía Government, the Motril City Council and the Buxus Association, which establishes the basis for the management of the wetland and allows its inclusion in the Network of Protected Natural Areas of Andalusia as a Concerted Natural Reserve.

The CNR of the Pond of Suárez is a place with an extremely interesting biological ▼


▸ richness. Among the vertebrate fauna stand out the 159 species of birds, including breeders such as Western Swamphen and Red-knobbed Coot. It is not unusual to spot the striking Mediterranean Tree Frog and even some Mediterranean Chameleons, as well as various species of snakes such as the Horseshoe Whip Snake and the Grass Snake. Among the mammals, there is an interesting population of the elusive Weasel, insectivorous populations such as shrews, and large groups of bats, some of them classified as vulnerable, such as the Greater Horseshoe Bat and the Greater Mouse-eared Bat, which patrol the bodies of water and areas of dense vegetation in search of insects.

*Butterfly monitoring*

Butterflies are prime indicators of environmental change. This is demonstrated by the monitoring networks in which the British are deans but have gradually been expanding and consolidating in the Old Continent and in many other places on the planet. In Spain, the Catalan Butterfly Monitoring Scheme is the main reference, although now the Spanish Butterfly Monitoring Scheme is beginning to act as a catalyst for efforts throughout the national territory, especially in the Network of Peninsular Spanish National Parks.

Butterflies are attractive and, unlike many other groups of invertebrates, catch the attention of the public. It is interesting to see how a group of schoolchildren can understand the meaning of biological diversity and the problems that threaten it through butterflies. In the Charca de Suárez, the main objective of the monitoring of diurnal butterflies is to establish long-term population trends and infer from these trends the evolution of the ecosystems that make up the CNR. The monitoring is part of the statewide monitoring network to which we refer above (the Spanish Butterfly Monitoring Scheme). Working under a network, sharing methods, objectives and procedures has great advantages because it transcends the local character and establishes an interpretation of results on a wider geographical scale.

*The Charca de Suárez butterfly community*

Monitoring is performed on two transects (see Figure 1), using the method proposed by Pollard and Yates. The two transects are located in different environments, which allows us to contrast the response and evolution of each ecological situation. The

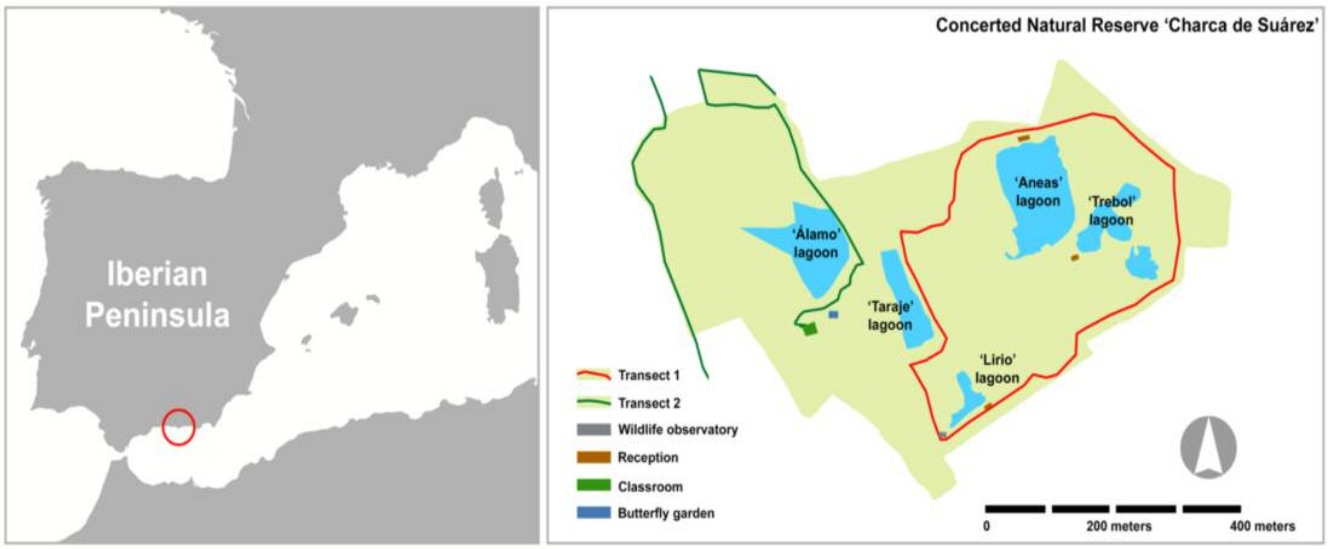



Figure 1. CNR Charca de Suárez and transects designed to evaluate butterfly trends.

## Charca de Suárez cont.

first is situated in the central area of the CNR, where the lagoons surrounded by relatively dense vegetation are the predominant habitat. The other, on the contrary, runs through environments of sparse vegetation, in a recently restored area that is gradually becoming naturalized through management efforts.

To date we have analyzed the first two years of monitoring. In the first year 651 butterflies were recorded and 708 during the second. In total, 18 butterfly species were registered, 14 in 2015 and 16 in 2016. In both years, the most abundant species was **Speckled Wood** (***Pararge aegeria***), followed by **African Grass Blue** (***Zizeeria knysna***), **Small White** (***Pieris rapae***), **Lang's Short-tailed Blue** (***Leptotes pirithous***), **Monarch** (***Danaus plexippus***) and **Clouded Yellow** (***Colias crocea***). In general, the Charca de Suárez community of butterflies can't be considered especially rich in a peninsular context, although it presents levels of diversity equivalent to other coastal environments on the southern edge of the peninsula. However, being a less diverse community should not be considered as less interesting for the purposes that are pursued.

| | J | F | M | A | My | Jn | Jl | A | S | O | N | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Cacyreus marshalli* | | | | | | | ■ | ■ | | | | |
| *Colias crocea* | | | ■ | ■ | ■ | | | | | | | |
| *Danaus chrysippus* | | | | | | | | | | | | |
| *Danaus plexippus* | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| *Gegenes nostrodamos* | | | | | ■ | ■ | ■ | | | | | |
| *Lampides boeticus* | | | | | | | ■ | | | | | |
| *Lasiommata megera* | | | | ■ | | | | | | | | |
| *Leptotes pirithous* | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | |
| *Lycaena phlaeas* | | | | | ■ | ■ | ■ | | | | | |
| *Papilio machaon* | | | | | ■ | ■ | ■ | | | | | |
| *Pararge aegeria* | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ |
| *Pieris brassicae* | | | | ■ | ■ | ■ | ■ | | | | | |
| *Pieris rapae* | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | |
| *Polyommatus celina* | | | | | ■ | ■ | ■ | ■ | | | | |
| *Vanessa atalanta* | | ■ | ■ | ■ | ■ | | | | | | | |
| *Vanessa cardui* | ■ | ■ | ■ | ■ | ■ | | | | | | | |
| *Zizeeria knysna* | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ |
| | 5 | 6 | 8 | 10 | 13 | 10 | 12 | 5 | 4 | 1 | 1 | 3 |

Tabla 1. Checklist of the Charca de Suárez butterflies and months of the year when they are on the wing.

The maximum diversity occurs between March and July, with May being the richest month (Table 1). However, the warm climate during much of the year means that even throughout the winter there is a constant presence of individuals of some species such as Monarch, Speckled Wood, Small White, African Grass Blue or even Painted Lady. Regarding abundance, the greatest number of individuals have been recorded between May and July. The data suggest more stable communities than in colder environments, but with a relatively marked seasonality in which spring is the season when the levels of diversity and abundance are higher.


► *Two iconic butterflies at the Charca de Suárez*

**African Grass Blue** (***Zizeeria knysna***)

Widely distributed at global level but sighted on relatively few occasions in the Iberian Peninsula. Polyvoltine species. We have detected it between December and September. The larvae feed mainly on legumes (*Medicago* spp and *Trifolium* spp.), but also take advantage of Zigofilaceae, Plumbaginaceae and Oxalidaceae. Some data suggests the likely migrant nature of adults.

**African Grass Blue** (***Zizeeria knysna***) (photo by Nigel Peace)

**Monarch** (***Danaus plexippus***)

It is a butterfly of Neotropical origin. The Iberian Peninsula populations could have originated from the arrival of founders with an American origin, perhaps during the nineteenth century. In the Charca de Suárez its presence is confirmed throughout the year. As host plants, it uses the introduced species *Asclepias curassavica* and *Gomphocarpus fruticosus*. Recently it has been noted on the indigenous species *Cynanchum acutum*. All of them belong to the milkweed family (Asclepiadaceae).

**Monarch** (***Danaus plexippus***) (photo by José Ángel Gavilán Castro)

*Conservation actions*

The main conservation action linked to the monitoring of butterflies is the creation of a butterfly garden. This garden, co-financed by the European Union, the Ministry of Agriculture, Food and Environment and the Ministry of Agriculture, Fisheries and Rural Development of the Regional Government of Andalusia, is 10 meters long and 5 meters wide (50 m2). It is built of wood, with part of its walls covered with a mesh that prevents the uncontrolled entry or exit of animals. Inside are large planters for the development of the hostplants of the butterfly species that inhabit the Charca Suárez. Flowering plants have also been included to provide sources of nectar for the adult phases. The food of the butterflies is complemented with pieces of fruit and feeders with liquid enriched with sugar.

Some of the butterflies reared at the butterfly garden will be released to the ▼


Main gate of the butterfly garden, with the poster 'Flying of colors' (photo by José Miguel Barea Azcón)



wild. One example is the **Monarch**. Another species that could benefit in this way is the spectacular **Two-tailed Pasha** (***Charaxes jasius***). This species has breeding sites in the surroundings, associated with cultivation of the cherimoya tree (*Annona cherimola*), but currently it has not been detected in Charca de Suárez. We believe, however, that the CNR will present good habitats for this attractive species that could be added to the list of registered species and thus constitute a new added attraction for the visitor. Finally, we are also working on the breeding of the **Spanish Festoon** (***Zerynthia rumina***). This iconic butterfly is still abundant in certain environments of the coast of Granada and should also be listed in the butterfly species of the CNR.

**Two-tailed Pasha** (***Charaxes jasius***) and **Spanish Festoon** (***Zerynthia rumina***) (both photos by José Miguel Barea Azcón)

Planting of native vegetation and control of invasive species and selective debris to allow the maintenance of diverse habitats and open areas that our butterflies so much like are carried out at the Reserve. The work is essential, because in a scenario of moderate temperatures and humidity throughout the year, the expansion of vegetation makes the environments excessively closed for organisms that prefer heterogeneous landscapes. The homogenization of the Reserve can be counterproductive for the maintenance of part of its biodiversity, so it is necessary to maintain mosaics of natural vegetation where open areas alternate with closed vegetation.

Volunteers working on a butterfly count transect (photo by José Miguel Barea Azcón)

Finally, we must emphasize that the protection of a territory is a substantial tool for the conservation of the organisms and the ecological processes that ensure an adequate ecological functioning. The declaration of the Charca de Suárez as a Concerted Natural Reserve has involved protection of threatened species, habitats and communities. It is very probably that without this protection, the Charca de Suárez and all its inhabitants would no longer exist. •

**José Miguel Barea Azcón** (lead author)
josem.barea@juntadeandalucia.es

***Access arrangements***

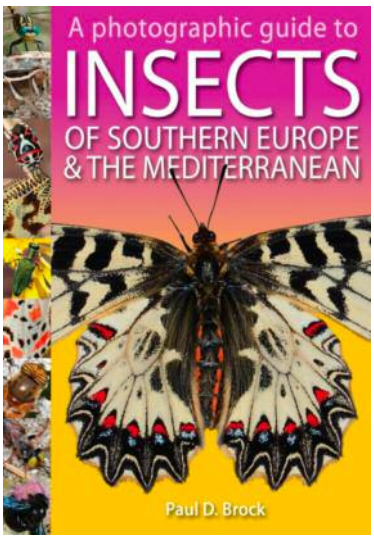
The reserve is open daily but at restricted hours, as follows:

| | Monday to Friday | Saturday and Sunday |
|---|---|---|
| Jan, Nov, Dec | 16:00 to 18:00 | 09:00 to 13:00; 16:00 to 18:00 |
| Feb, Oct | 17:00 to 19:00 | 09:00 to 13:00; 17:00 to 19:00 |
| Mar | 17:30 | 10:00, 11:30, 17:30 |
| Apr, May | 18:30 | 10:00, 11:30, 18:30 |
| Jun, Jul, Aug, Sep | 18:00 to 20:00 | 09:00 to 13:00; 18:00 to 20:00 |

Between March and May access is limited to guided tours at the indicated hours in order to avoid interference to breeding birds.

Further information: http://www.motril.es/index.php?id=1343

# Book Review



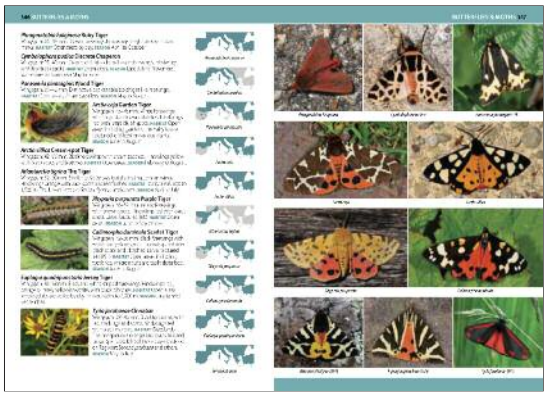

## *A photographic guide to INSECTS of southern Europe and the Mediterranean*

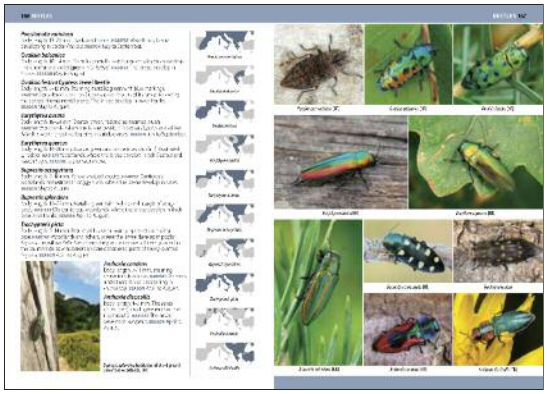
### by Paul D. Brock

Pisces publications, ISBN:978-1-874357-797, price £27.50

This new and eagerly awaited book follows Paul Brock's successful 'Comprehensive guide to insects of Britain & Ireland' (Pisces 2014). A ground-breaking work, it is the first English language book to offer a comprehensive guide to the insects of southern Europe and the Mediterranean. It has over 412 pages and covers 1,500 insect species with more than 2000 colour photographs.

The number of species in southern Europe and the Mediterranean is enormous compared to that of Britain. You would need multiple volumes and a lifetime of research to cover them all.





This concise photographic guide covers representative species from most insect orders, including some endemic species and is an excellent identification aid.

As the sample pages show, the text on one page comprises a succinct species description, plus information on habitat, season and hotspots. There are small distribution maps, and identification photos on the facing page. Where it is thought helpful, for example for butterfly identification, male, female and underside photos are included.

Spain, Portugal and southern France are well covered, and coverage extends east to the Balkans, from the Balearic Islands, Corsica, Sardinia, Sicily and Italy to the Greek islands and Turkey. There are useful appendixes for the species covered in the book, for example references to numerous field guides and species Red Lists.

Paul's particular specialty is Phasmids (stick insects), but he has a wide knowledge of all insect orders. Anyone who has been fortunate to share time in the field with him will be aware of just how knowledgeable and passionate he is.

Butterfly enthusiasts come across many insect species whilst outside the UK, species that catch the eye yet often remain unidentified, including bugs, beetles, ants, bees, wasps, dragonflies, crickets and grasshoppers. This book will be particularly helpful for European Butterfly Group members for the identification and description of these insects.

We are very appreciative for the acknowledgements and references to European Butterflies Group (previously EIG) in the book.

Paul is a scientific associate of the Natural History Museum, London. He has been awarded the J.O. Westwood Medal 2018, from the Royal Entomological Society, for a Phasmids paper which he co-authored. He is working on other books – including 'Stick and leaf insects of the world' (NAP Editions, Paris). •

**Jude Lock**
lock.jude@gmail.com

# Photospot

Any reader who would like to submit a few photographs to conclude subsequent newsletters is most welcome to do so.

**Butterflies of Far East Russia (2): Hairstreaks, White Admirals and Gliders**

**by Nigel Peace**

In the Photospot at the end of the last issue, I presented a few images from my trip in July 2017 to the Ussuri region of Far East Russia. As I explained, the butterfly fauna of the region is not unfamiliar. Of about 225 regularly-occurring species, about 70 occur in western Europe, and another 100 or so belong to genera that are found in western Europe. Only 50 or so are from genera that do not occur in western Europe at all.

Here I present images from two groups – *Theclinae* (Hairstreaks) and *Limenitidinae* (White Admirals and Gliders) – which reflect this breakdown. I hope they may help European readers to see the butterflies of Europe in a wider Palearctic context.

***Favonius orientalis***

## Hairstreaks

**Purple Hairstreak** (***Favonius quercus***) does not reach Far East Russia but several other *Favonius* species are present. They are very similar in appearance to each other and the identification of this photograph as *F. orientalis* is tentative.

Easier to sort out are the *Satyrium* species and we were pleased to find **White-letter Hairstreak** (***Satyrium w-album***) and *Satyrium prunoides*, a relative of **Black Hairstreak** (***S. pruni***).

**White-letter Hairstreak** (***Satyrium w-album***)

***Satyrium prunoides***


▸ A number of attractive Hairstreaks from unfamiliar genera were photographed and three are pictured here.

***Ussuriana michaelis***

***Atara arata***

***Antigius butleri***

## White Admirals and Gliders

We recorded **White Admiral** (***Limenitis camilla***), here of the subspecies *japonica*; a few rather worn **Poplar Admirals** (***Limenitis populi***), at the end of their flight period; and at least 5 other species of *Limenitis*. The key to identifying this interesting group is the presence/absence and shape of the white bar in the cell of the upper forewing.

**White Admiral**
(***Limenitis camilla japonica***)

**Poplar Admiral**
(***Limenitis populi ussuriensis***)

***Limenitis moltrechti***

***Limenitis sydyi latefasciata***

***Limenitis helmanni***


▸ Another genus represented by several species was *Neptis*. We saw **Common Glider** (***Neptis sappho***) and **Hungarian Glider** (***Neptis rivularis***) among the black-and-white species, and two brown-and-cream species with identical upper-sides but slightly different undersides – *Neptis thisbe* and *Neptis ilos*.

**Common Glider** (***Neptis sappho sappho***)

***Neptis thisbe***

***Neptis thisbe***

***Neptis ilos***

Last but not least in this family a mention should be given to the attractive and distinctive *Chalinga pratti*. •

***Chalinga pratti***

**Nigel Peace**
liz-nigel@hotmail.co.uk