

Butterfly Conservation Europe Activity report 2020



Butterfly
CONSERVATION EUROPE

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Photo: Chris van Swaay

Butterfly Conservation Europe Activity Report 2020



BCE on 31 December 2020

Board: Sam Ellis (chair), Chris van Swaay (secretary), Martin Wiemers (treasurer), Miguel López Munguira, Simona Bonelli, Evrim Karaçetin and Lars Pettersson.

European Policy Advisor: Sue Collins

Head of Development: Martin Warren

Advisors to the board: Irma Wynhoff, Josef Settele, Dirk Maes, Aidan Whitfield, Rudi Verovnik and Martina Šašić, Cristina Sevilleja, Mike Prentice

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February 2021



BCE board and advisors in a zoom-meeting, April 2021. From left to right: Aidan Whitfield, Chris van Swaay, Simona Bonelli, Miguel Munguira, , Martina Šašić, Sam Ellis, Mike Prentice (EBG), Cristina Sevilleja, Rudi Verovnik, Irma Wynhoff, Martin Warren, Martin Wiemers, Lars Pettersson, Sue Collins and Dirk Maes. Not on the photo: Evrim Karaçetin and Josef Settele

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Introduction

By Sam Ellis, Chair, BC Europe

A warm welcome to our annual report on the activities of BC Europe during 2020.

Covid-19 had a massive impact on the world in 2020 and BC Europe has had to adapt to new ways of working. The Board met twice during the year, in April and October, but both were held remotely by videoconference. At the meeting in April, after four years Chris van Swaay stepped down as BC Europe Chair and I was invited to take on that role. The Board expressed their appreciation for Chris's hard work and outstanding contributions as Chair but I am pleased to report he has agreed to continue on the Board as Secretary. At the October meeting we welcomed Evrim Karaçetin from Erciyes University, Turkey, to the Board.

As in 2019 our work this year has been dominated by the ABLE project funded under an EU contract. This is by far the largest project that BCE has taken on but we are well supported by our partners (see below). Of course, delivery plans were severely impacted by Covid and all of the planned workshops to train new recorders and partnership meetings had to be held online. However, I am really pleased to report that despite these constraints the objectives of the contract were fulfilled with several new monitoring schemes commencing in 2020. We are now creating a truly pan-European butterfly monitoring network that will yield invaluable data in years to come. See below for more details of ABLE's successes.

Despite the travel restrictions, BCE was very active in 2020 in scoping and developing several new projects, which if successfully funded, should upscale our efforts to conserve Europe's threatened butterflies, moths and their habitats. These include a first-ever European moths Red list and a project to help conserve several threatened endemic butterflies in Madeira. See below for more details of these exciting new developments.



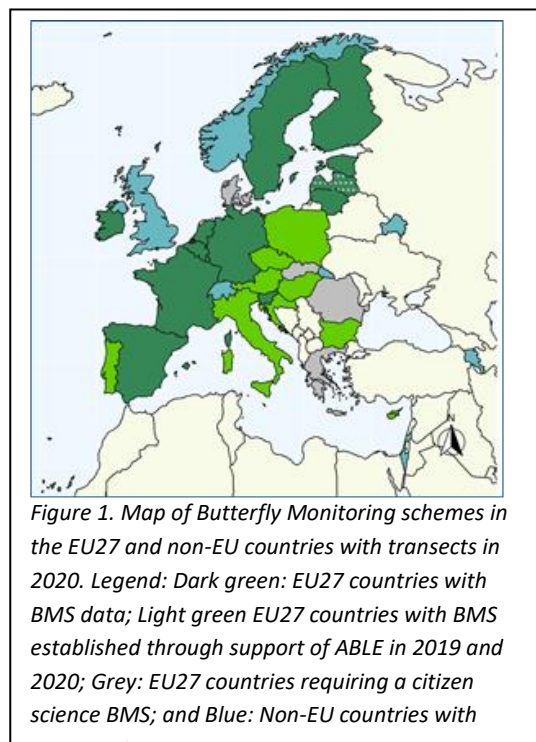
I would like to thank all the BCE Board members and advisors for their hard work and support during the year. The next year, 2021 will be another critical one for conserving Lepidoptera and other insects. We look forward to playing our part in meeting this challenge.

ABLE project

By Cristina Sevilleja, Dutch BC, and Martin Warren, Head of Development, BC Europe

The ABLE project (Assessing ButterfLies in Europe) started in December 2018 and ended in December 2020 being a consortium of the UK Centre for Ecology & Hydrology, Butterfly Conservation Europe, Butterfly Conservation (UK), De Vlinderstichting and Helmholtz-Zentrum für Umweltforschung GmbH (UFZ). A short summary of achievements is given below.

1. The main aims of the ABLE project were to collate butterfly monitoring data across Europe, to facilitate the start of new schemes in the EU, and to develop indicators to help policy design and evaluation.
2. Prior to ABLE, several countries contributed butterfly monitoring data to the European Butterfly Monitoring Scheme (eBMS), but they were concentrated in central and western Europe. As a result of the two-year ABLE project, sixteen new national and regional partners have joined the eBMS data network (Figure 1). Ten EU countries have started new Butterfly Monitoring Schemes (Italy, Portugal, Hungary, Austria, Cyprus in 2019 and Poland, Bulgaria, Czech Republic, Malta and Croatia in 2020). Further support is required to nurture the growth and sustain these schemes.
3. A suite of support materials has been produced, including a Butterfly Transect Manual, which has been translated into six languages and a series of regional butterfly identification guides (Figure 2), helping the countries to do and promote their butterfly monitoring schemes among volunteers. Also, videos have been made explaining how to count butterflies on a transect and PowerPoint presentations have been made available in several languages.



4. More than 20 workshops and training seminars were held in ten different countries involving more than 600 people. During the Covid pandemic, these were held online. Butterfly monitoring was promoted via social media as well as by articles in magazines and through EU level meetings.

5. Butterfly Monitoring Scheme data was collated for 25 schemes across 22 countries of Europe, comprising nearly 14 million counts spanning a 52-year period (1976-2018). Butterflies have been monitored from almost 11,000 separate sampling locations (transects) and, although still highly concentrated in North and Western Europe, the spatial coverage of butterfly monitoring is increasing.

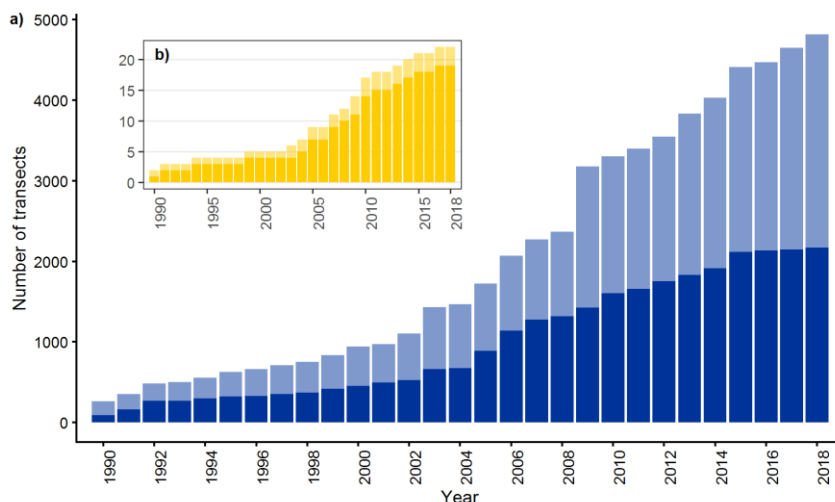


Figure 3. Number of Butterfly Monitoring transects that contributed to the European Butterfly Indicator (1990-2018), where schemes within EU27 are represented in dark blue and non-EU schemes in light blue. b) Number of regional and national Butterfly Monitoring Schemes contributing.

6. A website to support Butterfly Monitoring was developed during the ABLE project (<https://butterfly-monitoring.net/>) and provides a focus for supporting the development of new Butterfly Monitoring Schemes, e.g. is the primary data capture system for Spain, Luxembourg, Italy, Portugal and Austria BMS. The website will help to support the continued growth of butterfly monitoring across the EU.

7. To help monitor rare butterflies and those that occur in remote areas, a new [ButterflyCount app](#) was developed, based on standard 15-min counts. The app has an identification guide and lists of butterflies customised to each country to facilitate recording. This data will be assimilated into the eBMS to help extend coverage and make a more representative scheme. ButterflyCount app is available for [iOs](#) and [Android](#) devices.



8. A new approach for assessing butterfly trends and developing indicators of European butterflies was developed by the ABLE project. This analysis approach was used to update the European Grassland Butterfly indicator and to present new butterfly indicators for widespread species, woodland butterflies as well as butterflies in urban environments, in Natura 2000 areas and as climate change indicators. These indicators are based on data, available for years up to 2018, from 22 national Butterfly Monitoring Schemes from across Europe, most of them members of the European Union.
9. For most of the butterfly species in Europe, particularly rare species, there are not yet enough data to calculate trends. Indicators therefore mainly reflect the status of widespread species for which we do have data (35% of all butterflies in Europe). At the level of individual monitoring schemes within Member States, there is often spatial bias in location of

monitoring sites; recent schemes tend to under-represent agroecosystems and over-represent protected areas for example. Given the constraints of existing Butterfly Monitoring data for the EU, the trends we find are highly likely to underestimate the declines in butterflies overall and particularly trends for rare and threatened species and for those species dependent on agroecosystems. This is due to a deficiency in data for both rare species and farmland transects.



10. The Grassland Butterfly indicator has declined by 22% since 1990 across pan-Europe (Figure 4). Across the 17 Member States with schemes in the EU27 the indicator value is 25% lower in 2018 compared to 1990. However, there is greater uncertainty in the year estimates for the EU27 indicator due to less data being included than for Europe as a whole. Grassland butterflies in the Atlantic biogeographical zone have shown declines over the period 1990 to 2018, mainly due to the intensification and loss of semi natural grassland in these regions.

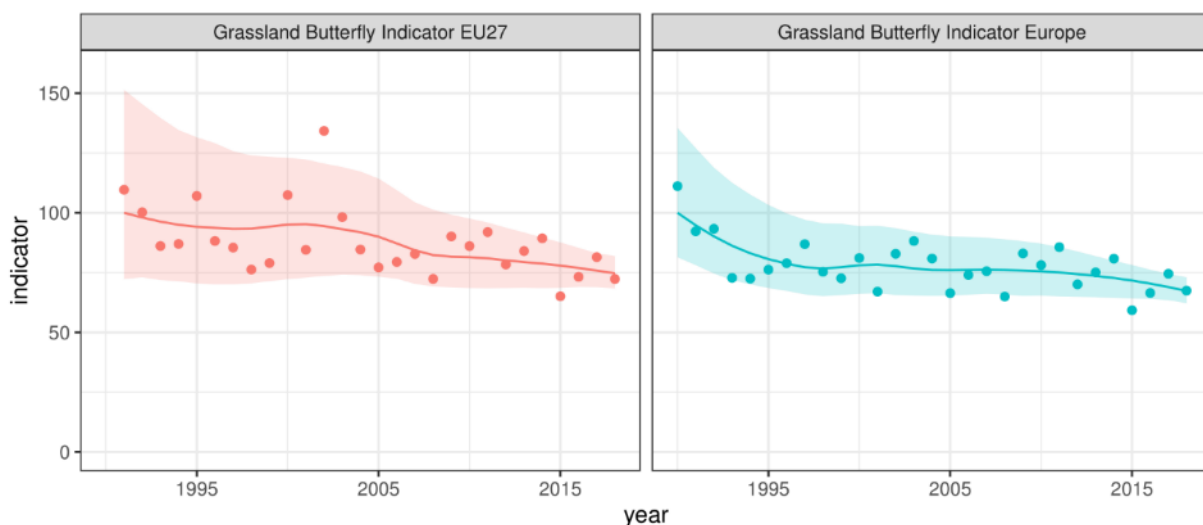


Figure 4: Grassland butterfly indicators for EU27 and Europe. Shaded areas represent 95% confidence intervals.

11. Rare and threatened species were severely under-represented, resulting in indicators which are mainly based on widespread species, classified in the EU Butterfly Red List 2010 as “Least concern”. In the near future there should be extra focus on these rare and threatened species, although counting butterflies in remote areas can be a challenge. At this point help from natural and national parks and other nature reserves could make a difference in future and they could benefit from such specific action. We expect rarer species to be better represented in future indicators as newly developed Butterfly Monitoring Schemes, including those initiated and supported through ABLE, build up monitoring time series.
12. Common and widespread butterflies seem to fare better in urban areas than rural ones. This could be due to data deficiencies, or may be because there is more attention to butterfly-friendly management in urban areas than outside, where intensive agriculture often dominates the landscape.

Lessons learnt include the value of sharing knowledge from established schemes, ensuring broad involvement of citizens/stakeholders, and promoting the value of a Europe-wide scheme. The eBMS provides an invaluable resource to inform EU policy development and evaluate the effectiveness of measures such as the CAP, Habitats Directive, Natura 2000, and the EU Pollinators Initiative. However, continuing financial support is needed from each Member State to develop capacity in existing schemes and start new schemes in countries which do not have one. This will help make a more complete scheme that accurately represents changes across Europe.

For more detailed information of the ABLE project you can download the different reports of every ABLE task and the Executive summary here: [Executive Summary \(pdf in English\)](#); [Report Task 1 - Butterfly Indicators](#); [Report Task 2 - Network Development](#) & [Report Task 3 – Tools](#).



Influencing European policies

Sue Collins, BC Europe Environmental Policy Advisor, summarises a busy year advocating the conservation of butterflies and moths through policy reform and better implementation.

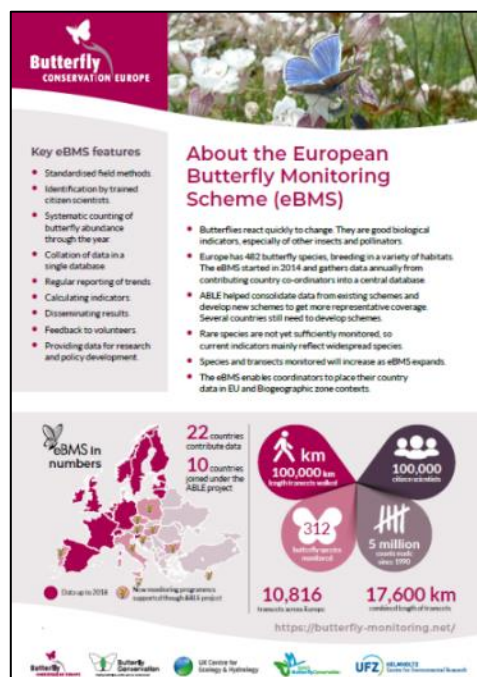
Key areas of work include EU Biodiversity Strategy 2030; EU Green Deal and EU Research Programmes, EU Farm to Fork Strategy; EU Covid Recovery Plans; CAP reform; CAP Strategic Plans; agriculture and forestry policy; the EU Pollinators Initiative implementation; butterfly data, trends and indicators; and use of Art 17 Biodiversity data. This has involved liaison and discussions with BCE Board members, BCE partners, the EU Commission and other NGOs and Stakeholders and participation in EU Webinars and remote meetings at EU level and with MSs.

Specific work topics

1. Responses to EU Consultations on Road Maps for the EU Biodiversity Strategy 2030 (EU BDS 2020); the EU Farm to Fork Strategy (F2F); Implementation of EU BDS 2030 on Ecosystem Restoration: EU Forest Strategy; and the EU LIFE Programme. A Press Notice was produced for BCE and Partners on the launch of the EU Biodiversity Strategy in May.
2. Contributed to EU Webinar in May on the Horizon 2020 proposal for an EU Biodiversity Partnership, which includes the allocation of €104m to biodiversity monitoring and I completed an EU Consultation on this proposal, on behalf of BCE, in June. Also the webinar on the EMBAL project on Monitoring and Assessing Biodiversity on Farmland, which was followed up with participants on how best to link in with butterfly data.
3. EU Webinars on Mapping and Assessing Ecosystem Services (MAES) and the new EU Knowledge Centre for Biodiversity (KCB) in October, during EU Green Week; and on EU Farm to Fork Strategy; and on Horizon 2020 Green Deal Calls
4. Liaised with Vujadin Kovacevic on Pollinator issues and with Monika Verdonck in the EU Parliament re CAP reform, Biodiversity Strategy and butterfly recovery and monitoring. Following a webinar with MEPs on the new Eco Schemes proposed for CAP beyond 2020, I discussed a possible Scheme for grassland and Pollinators with Buglife and Beelife NGOs.
5. As Vice Chair of the European Habits Forum (EHF), I have kept in touch with the Chair and Secretariat on relevant issues. I helped develop the EHF position asking the EU Commission for early publication of ambitious EU Biodiversity and F2F Strategies and implementation of the EU Green Deal, which BCE supported in April. I participated in online EHF meetings with other NGO networks in May and October and the EHF meeting with DG Env on 16 October.
6. Participated in the online EU Nature Directors meeting, chaired by the Croatian Presidency, in early May, and the meeting chaired by the German Presidency, on 27 August on implementing the EU BDS 2030 targets, including species recovery targets. Also contributed to the online EU meeting of CGBN, with the Commission and EU Members States and Stakeholders in late June and late November, and the EU Expert Group on the Birds and Habitats Directive (NADEG) meeting.
7. Participated in the Strategic Advisory Board of EKLIPSE (and EU funded knowledge sharing project) meeting, online, in April and followed up with advice on bringing together evidence

to help Learning from Lockdown and the links between nature and pandemics. This advice was endorsed and sent to DG Research and Innovation.

8. Developed, with BCE Chair, a draft Conservation Knowledge Project (see next section for details) and possible participation in EU Green Deal Horizon 2020 Bids.
9. Submitted comments on 12 December to DG Environment on their 2 NADEG papers on implementing the EU BDS 2030 Protected Areas target and on prioritising for restoration 30% of the species and habitats, listed in the Habitats Directive, which are in unfavourable conservation status.
10. Submitted a response on 17 December to the EU on their consultation on the Taxonomy regulations, which set out the criteria for evaluating sectors contributions to sustainability.
11. In December, wrote to the Head of Natural Resources in DG Environment, on behalf of BCE, supporting the proposal in the review of the EU LIFE Regulation for a new “Small Grants Scheme” for biodiversity projects in the EU. I expressed BCE’s interest (and highlighted BCE’s relevant expertise) in the planned EU Biodiversity Partnership on research and innovation, which will include support for biodiversity monitoring.
12. ABE (Assessing Butterflies in Europe) project work included chairing the ABE Steering Group meetings; leading on implementing the ABE Dissemination Plan; working with Vujadin Kovacevic, DG Environment, and Buglife on implementing the EU Pollinators Initiative; supporting Cristina Sevilleja to sustain and develop monitoring schemes in 10 new countries; contributing to ABE Task D17, linking butterfly monitoring data with other EU datasets to improve conservation effectiveness, including the pilot project on satellite monitoring of grassland condition; drafting an EU Policy Brief and promoting key lessons from the project to DG Environment, DG Agriculture, JRC, EEA and Eurostat.



Future projects

By Sam Ellis, Chair, BC Europe

During 2020 BC Europe contributed to the development of a number of new projects targeted at European Lepidoptera. Much of BC Europe's focus to date has been on butterflies, so we were delighted to join forces with the IUCN, Butterfly Conservation (UK) and De Vlinderstichting to submit a tender to the EU to produce a **European moth Red List**. There are in excess of 8,000 species of moth in Europe and we proposed to target the c. 2,650 macro-moths for assessment as this group have much more distribution data available for analysis.

During 2020, the EU also announced plans to revise existing Red Lists for eleven different taxa. This included a new **Red List of European butterflies**, so we were pleased to be invited by IUCN, along with Butterfly Conservation (UK) and De Vlinderstichting, to be part of the tender for the butterfly re-assessment. At the time of writing, we are still awaiting an announcement of the successful bidders, but both these three-year Red List projects will likely commence in 2021.

The **islands of Macaronesia** are well-known as biodiversity hotspots supporting many endemic species, including six threatened species on the European butterfly Red List. Madeira is home to the 3 most endangered species, the Madeiran Brimstone *Gonepteryx maderensis*, the Madeiran Speckled Wood *Pararge xiphia* and the Madeiran Large White *Pieris wollastoni*. The latter one may already be globally extinct – the only butterfly in Europe in this unenviable category. A recent study showed that declines are ongoing with the proportion of *xiphia* individuals amongst all *Pararge* butterflies having declined from 78% to 25% with the colonist Speckled Wood *P. aegeria* now much more abundant. During 2020, BC Europe, together its partner on the island Madeira Flora & Fauna, has developed a project which aims to identify key areas of habitat for these species, build monitoring capacity amongst local stakeholders, establish a monitoring programme, raise awareness amongst both the local people and tourists, as well as produce Action Plans for the target species. We successfully submitted a first stage application to the EU's Life4BEST programme which funds biodiversity action in Europe's Outermost Regions and will be submitting a full application in 2021.

As well expanding butterfly monitoring in Europe, BC Europe has also been exploring the idea of establishing a **Global Butterfly Index** which could contribute to the Living Planet Index. Together with Butterfly Conservation (UK), De Vlinderstichting, UK Centre for Ecology & Hydrology, we have worked with the Zoological Society of London and the IUCN/SSC Butterfly Specialist Group to scope a project which brings together butterfly monitoring data from across the globe, enabling an index to be produced. We believe the European Butterfly Monitoring Scheme (eBMS) could be adapted to incorporate data gathered using different techniques and we are currently seeking funding to drive this project forward.

BC Europe has also been exploring how it could make available **land management advice** targeted at butterflies across the continent's biogeographic regions. To date this **Conservation Knowledge** project has sourced ecological research on around 100 butterfly species and there many studies on the impact of grassland, woodland and farmland change/management on butterfly species assemblages. We propose to synthesise this research to produce practical guidance enabling land managers to implement appropriate habitat management for either Europe's most threatened butterflies or for species assemblages associated with priority habitat types. We plan to make such advice freely available through an information hub or interactive web tool. We are also currently seeking funding to drive this project forward.

29 years of Butterfly Monitoring in Flanders

By Dirk Maes, Research Institute for Nature and Forest (INBO), Belgium

A butterfly monitoring scheme has been running in Flanders (the northern part of Belgium) since 1991 (van Swaay et al. 1997). The number of butterfly transects has remained much lower than in the UK or in the Netherlands, but thanks to novel statistic techniques, trends can now be calculated for more common species, even with a relatively low number of butterfly transects (Clarke and Dennis 2020). In total, 105 transects have been counted since 1991. One third of the transects are located in an agricultural environment, a quarter in open semi-natural areas, another quarter in woodland and the remaining transects are in urban areas. Over the 29 years of butterfly monitoring, 46 species have been observed, the most abundant being Meadow Brown (*Maniola jurtina*), Gatekeeper (*Pyronia tithonus*), Small White (*Pieris rapae*), Green-veined White (*Pieris napi*) and Essex Skipper (*Thymelicus lineola*).

Six species increased significantly in Flanders between 1991-2019: Red Admiral (*Vanessa atalanta*), Speckled Wood (*Pararge aegeria*), Brimstone (*Gonepteryx rhamni*), Comma (*Polygonia c-album*), Holly Blue (*Celastrina argiolus*) and Orange-tip (*Anthocharis cardamines*) while five others decreased significantly: Meadow Brown (*Maniola jurtina*), Large Skipper (*Ochlodes sylvanus*), Small Tortoiseshell (*Aglais urticae*), Gatekeeper (*Pyronia tithonus*) and Essex Skipper (*Thymelicus lineola*). Woodland-related species show an average increase in abundance of 19%, probably due to a warmer microclimate and the ageing of woodlands. Grassland species, on the other hand, show a decline of almost 12% on average, most probably due to nitrogen deposition leading to habitat deterioration. An extension of the number of butterfly transects in Flanders would increase their impact in Flemish nature policy making and new volunteers are more than welcome.

The full report and a summary article (both in Dutch) can be found here:

Report:

https://pureportal.inbo.be/portal/files/18497739/Maes_etal_2020_DagvlindermonitoringInVlaanderen.pdf

Article: https://www.natuurpunt.be/sites/default/files/documents/publication/natuur.focus_2020-2_dagvlindermonitoring.pdf

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PNAS paper on butterfly declines in Europe

By Martin Warren, Head of Development, BC Europe.

Several colleagues and I recently published a paper entitled "[The decline of butterflies in Europe: Problems, significance, and possible solutions](#)" in a [special issue on insect declines](#) for the Proceedings of the National Academy of Sciences (PNAS). It was based on a paper I gave at a meeting of the Entomological Society of America in St. Louis, Missouri, during November 2019.

The paper reviews changes in the status of butterflies in Europe, focusing on long-running population data available for the United Kingdom, the Netherlands, and Belgium. It describes results from the analysis of [Red Lists of European Butterflies](#) by Dirk Maes *et al.*, and the likely causes of declines. To strike a positive note, the paper goes on to describe the [landscape-scale conservation strategy](#) of Butterfly Conservation (UK) and three case studies in positive conservation from the UK, [Belgium](#) and the [Netherlands](#).

The overview paper by David Wagner *et al.* received good media coverage in the USA, including the [National Geographic](#), and our European paper was covered by several national newspapers in the UK ([Guardian](#), [Telegraph](#) and [Mail](#)), as well [Le Soir](#) in Belgium.

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European Butterflies Group

By Mike Prentice, Chair, EBG

European Butterflies Group is a “virtual” branch of Butterfly Conservation for those members who have a particular interest in European butterflies and moths. EBG regularly organises surveys to assist with the conservation of particularly endangered species and cooperates with Butterfly Conservation Europe in encouraging members to record and monitor whether regularly or on a casual basis when abroad.

Activities originally planned for 2020 included further survey work for Spanish Greenish Black-tip *Euchloe bazae* in northern Spain, for Dil’s Grayling *Pseudochazara orestes* in north-east Greece and a training camp in species identification for Greek National Park staff. Unfortunately due to the COVID-19 pandemic all of these activities had to be cancelled or postponed.

We were still able to offer a research bursary which went to Juan Pablo Cancela a Spanish student attached to a Portuguese university who is studying 13 of the threatened species of the Sistema Iberico (the mountains running from near Burgos almost as far as Valencia). Despite various lockdowns Juan Pablo was able to carry out most of his planned surveys and will complete his delayed fieldwork in 2021.



Euchloe bazae – a target for EBG surveys (photo: Kevin Tolhurst)

Since we were unable to undertake any fieldwork we took the opportunity to update our website (www.european-butterflies.org.uk), which contains a wealth of material and regular news items.

One of our members, Paul Browning, revised and updated his book Butterflies of the Iberian Peninsula (originally published in 2011) and generously allowed us to place a free downloadable copy on the website. This has now been downloaded well over 2,000 times with many from Iberia downloading the book.

Another member, Bill Raymond, has produced photographic guides to various families of European butterflies. Having started with *Gonepteryx* and Pierids, in 2020 Bill has concentrated on the Fritillaries producing three guides to the smaller fritillaries and one for medium and large species. All of these fritillary guides are available individually and they have also been combined into one large downloadable file.

We have also updated the species country lists on the website to comply with the latest approved taxonomy and these are available as downloadable spreadsheets.

Membership of European Butterflies Group continues to grow and EBG now has over 750 members (who are all also members of UK’s Butterfly Conservation). We had planned to extend membership in

2020 to overseas members (for an annual membership cost of €15) but these plans were hit by the pandemic and we now plan this for later in the Spring of 2021.

If overseas travel is possible in 2021 we plan to undertake further searches for both broods of Danube Clouded Yellow *Colias myrmidone*, complete the surveys for Spanish Greenish Black-tip *Euchloe bazae* and visit Greece to search for Dil's Grayling *Pseudochazara orestes*.



Website

Unfortunately, the BC Europe website was hacked during 2020 and we had to take it offline. The most secure and cheapest solution was for us to recreate it as part of the De Vlinderstichting website. The [new website](#) contains many of the features of the old website, but is still incomplete. We hope to continue updating during 2021.

Social media

Our social media following continues to grow steadily: our Facebook page now has nearly 3,300 followers (www.facebook.com/ButterflyConservationEurope) and our Twitter (@europebutterfly) account has grown to over 2,200 followers. We are very grateful to Cristina Sevilleja and Sue Collins for running these accounts.

Acknowledgements

We are very grateful for the ongoing financial support of Butterfly Conservation (UK) and Dutch Butterfly Conservation (De Vlinderstichting). We would also like to thank the Board and Partners of BC Europe who give their time freely.

