



NEWSLETTER

Issue 8
October 2010

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Part 2 of Newsletter

We are pleased to include an extract of Bernard Watts 'European Butterflies a portrait in photographs' on the Alcon Blue (*Phengaris* = *Maculinea alcon*)
This document will be sent as a pdf titled: **Part II – Autumn 2010_alcon-brw.pdf**

INTRODUCTION

Editorial

As I mentioned in the last newsletter Butterfly Conservation Europe (BCE) has now completed the Red List of European Butterflies using the new standardized IUCN¹ criteria. These are available on the IUCN website See <http://ec.europa.eu/environment/nature/conservation/species/redlist> or the link on EIG website: <http://www.bc-eig.org.uk/Newsletters.html> where you can download the Red List Report for free as a .pdf. This massive piece of work was led by Chris van Swaay and is a major achievement for BCE. It covers all butterflies in Europe either in the EU27 countries but also continental Europe which includes Turkey west of the Bosphorus and Russia up to the Urals. It will set conservation priorities for some time to come.

The new IUCN criteria are designed to be applicable to all taxa and depend very heavily on accurate assessments of change in the last 10 years. Whereas UK or Dutch transects can provide such data, in southern and particularly Eastern Europe quantitative information is conspicuously lacking. There are transect schemes in only 14 countries. As the report suggests, where trend data are lacking then it is very difficult to mark the species as anything other than stable and 'this probably underestimates the true rate of loss at a European Scale'. Apart from trend there are other criteria, but when these use the 'number of individuals' and are applicable at the same time to Blue Whales and to butterflies one begins to wonder. Very few butterfly species have sufficiently few individuals or sufficiently limited area of occupancy to qualify as endangered. A good example of a species that does is the Odd Spot Blue (*Turanana taygetica*) restricted in Europe to a few hectares in the Peloponnese and to Western Turkey. This species is considered Endangered. It also demonstrates another essential prerequisite of the listing process: getting the taxonomy right. *Turanana taygetica* is no longer considered the same species as the other Odd Spot Blue (*Turanana endymion*) that occurs in Eastern Turkey etc. Before the split it was not considered endangered in the 1999 Red Data Book (Van Swaay and Warren, 1999) as the European population was considered just an outlier to a range that was essentially outside Europe.

Apart from species of highly restricted distribution which can be included on this criterion alone such as *Polyommatus* = *Agrodiaetus humedasa*, *P. orphicus*, *P. neophiptamenos* etc, island endemics especially from Madeira and the Canaries feature prominently. Many arctic species appear on the threatened list such as Polar Fritillary (*Boloria polaris*) (Vulnerable) and Dusky-winged Fritillary (*Boloria improba*) (Endangered) as they are perceived as highly threatened by global warming. In these cases I suspect that there is accurate quantitative trend data to back this up.

Comparisons between the IUCN Red List and the 1999 Red Data Book are instructive. Several species that were of concern in the Red Data Book are of least concern in the new Red List. These include Bavius Blue (*Pseudophilotes bavius*), Warren's Skipper (*Pyrgus warrenensis*), Marsh Fritillary (*Euphydryas aurinia*), Aethrie Fritillary (*Euphydryas aethrie*) and Asian Fritillary (*Euphydryas intermedia*) amongst others. Even Scarce Fritillary (*Euphydryas maturna*) and Violet Copper (*Lycaena helle*) are only Near Threatened in Europe but only Least Concern for the EU27 countries although their populations have declined dramatically over the last century and are still declining outside the EU27, the few remaining western European populations are relatively stable. Though the IUCN Red List will be very important for setting priorities for the conservation of butterflies it cannot be considered exclusive and that all species of Least Concern are safe. I am glad to see the Hermit (*Chazara briseis*) now listed as Near Threatened and that the Danube Clouded Yellow (*Colias myrmidone*), one of the most threatened butterflies in Europe is Endangered. *Colias myrmidone* is the first species, as far as I know, to have a European Species Action Plan.

I hope EIG can help increase our knowledge of the most endangered butterflies in Europe. In this newsletter we have reports on Sudeten Ringlet (*Erebia sudetica*) (Vulnerable), Macedonian Grayling (*Pseudochazara cingowskii*) (Critical), Dil's Grayling (*Pseudochazara orestes*) (Vulnerable) and Higgin's Anomalous Blue (*Polyommatus* = *Agrodiaetus neophiptamenos*) (Near Threatened). An EIG trip to look for Danube Clouded Yellow (*Colias myrmidone*) (Endangered) is planned. We hope to organise EIG trips to survey for other Red List species in the future and are very willing to send self-funded groups

¹ International Union for the Conservation of Nature

of volunteers to assist local butterfly people with their work. We need more volunteer leaders. We need more local partners. The whole exercise has demonstrated the importance of detailed information on range and area of occupancy and the need for long term quantitative data on abundance. We have many ex patriot UK citizens with an interest in butterflies living abroad. They all need to be doing transects.

Now that the BCE Taxonomy committee has managed to get a degree of consensus on European butterfly taxonomy (see article by Rudi Verovnik and Martin Wiemers in this issue) we intend to use the new list as our standard reference source for all articles in EIG newsletters and all EIG reports. This is a major achievement and all members of the committee must be congratulated. I am also impressed by how DNA studies can shed light on this taxonomy.

We have produced a version of the BCE list with English names for those of you who insist on English names. The scientific names are the consensus view of the best taxonomists in Europe and not up to us to change. There are some gaps in the English list despite the best efforts of a number of people including Peter Eales, Eddie John, Rob Parker and Neil Thomson all of whom must be thanked for devoting much time to it. We welcome suggestions for the gaps. The full list is published on the BC-EIG website as a download at <http://www.bc-eig.org.uk/Species.html> We will add a field so that it can be sorted in taxonomic order and a few notes at a later stage. A plea to all EIG members is to start using the scientific names. They are shorter and universal! A field trip with a butterfly expert with whom you have no common language can be very rewarding.

BCE has finally got some funding for its work in Europe for both the excellent work of Sue Collins on the on the EU policy front but also for expanding and consolidating the organisation. See http://www.bc-eig.org.uk/files/Download/BCE_Newsletter_Sept_2010.pdf Where you will also see that the Prime Butterfly Areas (PBA) of Serbia has been completed following on from the very successful Prime Butterfly Areas of Bulgaria. It would be nice to see PBA's for all countries of Europe particularly those with a high proportion of Red List species like Greece.

There are reports in this issue of the three official 2010 EIG Trips and you will have had notification of the trips planned for 2011. The Pyrenees trip 9th to 16th July already has several people coming. The EIG trip to look for the Danube Clouded Yellow (*Colias myrmidone*) in Slovakia and Romania is looking good. Mike Williams will circulate information on his trip to Montenegro shortly. We would encourage others to lead EIG trips and we need more local partners who would value our assistance.

EIG Website and Photo ID Service

We intend to offer a Photo ID Service on the EIG Website where members of the public can email photographs. We get a few of these anyway. Nick Greatorex-Davies will get the photos in the first instance and I am sure he would appreciate some help especially with places and species he is not familiar with.

You will have noticed that the Country Pages on the EIG website have been reformatted and that there is a new one for Hungary. The information now appears as a .pdf file which you can save. More are promised and should appear shortly. Many thanks to Neil Thomson our web master who has put in a lot of hard work on this.

Wanted: Butterfly Surveyors for Romania

Those of you who have visited Romania will know that there are still lots of traditional hay meadows and lots of wildlife. An organisation working there has asked us for help with a butterfly survey. They have botanists, herpetologists and bird people going there to do surveys but as yet no butterfly people. You can find out more about the project in Csik. There are details of the Mountain Hay Meadow project at <http://www.mountainhaymeadows.eu/>. They should be able to provide cheap basic accommodation. Anyone interested should contact Barbara Knowles barbara.knowles@yahoo.co.uk . It would suit a couple of friends that are familiar with Romanian butterflies or at least SE Europe butterflies. I would love to go there myself but I don't have time next year. A brochure for tourists on the area can be found at <http://www.poganyhavas.hu/menu.php?menu=turizmus&almenu=12&lang=en>.

Simon Spencer
Chairman

Dates for your Diary:

EIG AGM Saturday 20th November in Cambridge

As usual we will have a short AGM as part of the BC AGM. This normally takes place after the conclusion of business. We will also have a stall which will be manned during coffee and lunch breaks. Hope to see you there. We hope to have a special guest for you to meet: the winner of the 2010 Marsh Award for lifetime achievement for Lepidoptera conservation and research in Europe.

National History Museum Visit will be on Friday 11th February 2011 contact:
Nigel Peace: liz-nigel@hotmail.co.uk

The launch of Mapping European Butterflies 2 by Otakar Kudrna will be at Natural History Museum on Wednesday 28th September 2011 – details to follow.

EIG 2011 Calendar

We had a very good response for the competition and a lot of photographs were sent in - a big thank you to all who submitted photographs. Unfortunately some of them were not up to the standard required for printing or were inadequate resolutions etc., (see newsletter No 7 EIG Calendar Competition – April 2010) The calendar will hopefully be advertised on BC website soon and will go on sale at the AGM on 20th November - £8.00 each or 2 for £15 and also available by post (+£1 pp) by ordering from Anne Spencer email: apatura.metis@yahoo.co.uk Cheques made payable to Butterfly Conservation. Numbers are limited so order now. We hope to run a competition next year for the 2012 Calendar.

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European butterflies – the taxonomy update

Butterflies, and European species in particular, are among the best studied groups of animals, therefore one might think that their taxonomy is well established. However, this is far from the truth as almost each prominent taxonomist in Europe would write down a slightly different list. Additionally, during the last two decades we have seen an enormous amount of new information gathered through molecular studies, giving new insights into the taxonomy of European butterflies. That led us, the BCE Taxonomy group, to re-evaluate the most commonly used species list of Karsholt & Razowski (1996), taking into account changes in the more recently published list of Kudrna (2002). It should be noted, that these two lists differ from the taxonomy in the widely used field guides like Tolman & Lewington (1997) and Lafranchis (2004). Our aim was to establish a widely accepted list forming the basis for evaluating the threat status of European butterfly species, therefore majority of the most prominent butterfly taxonomists were invited to join the group. The list that was formed is a compromise accepted by all the experts involved and is based on all new available relevant information gathered from the literature or unpublished data from our own research programs. The list was finalized in autumn 2009 and, given the rate of new findings, could already be considered outdated. It has recently been used for the new European Red List of Butterflies (Van Swaay et al. 2010).

In order to understand our decisions two important concepts must be explained. First is the one of the concept of the species, which encompasses a wide array of species definitions linked to theories of speciation and evolution. The most widely used one is the classical biological species concept which is based on reproductive isolation. Although the paradigm behind it is sound, the reproductive isolation is hard to test. In strictly allopatric species (species with non-overlapping ranges) the evaluation of reproductive isolation is rather academic, as the species do not have any chance to meet in nature, and lab experiments only provide a limited indication of natural processes. With increasing use of molecular approaches another concept has gained popularity – the phylogenetic species concept. It defines species as separate lineages. This separation is usually, but not necessarily caused by fragmentation of the species range. Due to lack of gene flow the separate populations become ever more different – both due to adaptation to their specific environment and due to random accumulation of mutations. The latter can be evaluated using different molecular techniques, with DNA sequencing being the most commonly used. Based on the genetic differences (number of changes in DNA sequences) phylogenies showing the relationship between species and also higher taxa can be constructed. That leads us to the second concept – that of monophyly. Monophyletic assemblages of taxa are those that include a common ancestor and all its descendants, and is what preferably the taxonomic hierarchy should reflect. Opposite to that is polyphyly indicating assemblages of non related taxa. Somewhere in between is paraphyly where the taxa belong to a common ancestor, but not all descendants are included. A well known example of that are the reptiles, which should include birds to be monophyletic. Names of paraphyletic taxa with long history of usage are still widely used and this is not entirely disapproved of by taxonomist worldwide.

In producing the new European butterfly list we have followed a conservative approach, preserving the taxonomy as it was in case of doubt and insufficient additional information. For taxa of conservation concern with ambiguous taxonomic status we have applied the precautionary principle and provisionally kept them as distinct species.

One of the most important changes in the new list is the omission of several genera, which were mostly lumped with others in order to achieve their monophyly. Such cases are:

- The genera *Agrodiaetus*, *Plebicula*, *Meleageria* and *Lysandra* had already been lumped with *Polyommatus* by Karsholt & Razowski (1996). Most of these sub-genera are monophyletic, but their exclusion from the genus *Polyommatus* would make this genus paraphyletic. Additionally the genitalia in this large group of species are very similar and intergeneric hybrids (like the one between *Polyommatus daphnis* (Meleager's Blue) and *Polyommatus coridon*) (Chalk-hill Blue) are known. This decision is firmly supported also by molecular data.

- The genus *Maculinea* (Large Blues) is now lumped with *Phengaris*. This might be the most prominent omission of a genus name which has been widely used by the scientific community especially due to its importance for conservation. The reason behind the decision is again retaining the monophyly of the genus *Phengaris*, which includes all species of *Maculinea*. It should be noted that a submission to the ICZN commission to retain the name *Maculinea* is currently being processed.

- Maybe even more evident to the general public is the omission of the monotypic genus *Inachis*, but molecular data firmly confirm its lumping with the genus *Aglais* with very low genetic differentiation among its species.

The second group of changes is the lumping of previously recognized separate species:

- The most prominent example is the *Polyommatus eros* group. Molecular studies have shown that the *P. eroides* (False Eros Blue) is only a lowland form of *P. eros* (Eros Blue), and *P. menelaos* (Taygetos Blue), despite disjunct distribution and different coloration of the upper side of the wings, is genetically also identical to *P. eros*.

- *Polyommatus andronicus* (Phalakron Blue) is a similar example to the above mentioned one with no significant genetic differentiation from *P. icarus* (Common Blue). On the other hand the morphologically also very similar NW African populations of *P. icarus* genetically clearly belong to a separate species, *P. celina*. The occurrence of this newly discovered species in Europe was doubtful at first, and only after the species list was finalized, unequivocal evidence for its existence in the Canary Islands was obtained. Therefore it will have to be included in the next update.

- In the subgenus *Agrodiaetus* of the genus *Polyommatus*, taxonomy is highly problematic, as speciation processes are very fast due to chromosome fragmentation. For several nominal species pairs no evidence of genetic differentiation was observed. Several taxa like *P. exuberans* (Verity's Anomalous Blue), *P. virgilius* (Italian Furry Blue), *P. ainsae* (Forster's Furry Blue), and *P. agenjo* appear to represent only local populations, and are not considered as separate species.

- Another remarkable example is the *Phengaris rebeli* / *alcon* (Alcon Blues) case, where molecular studies clearly showed that these two taxa are only ecotypes of a single species. As the description of *P. alcon* predates the one of *P. rebeli* the name *P. alcon* is retained.

There are also some additions to the list, based on genetic differentiation of subspecies or even cryptic species:

- One of the most marked examples is *Lycaena bleusei*, which was considered a subspecies of *L. tityrus*, but has now been shown to be very dissimilar genetically.

- Several island species have also been raised to species level, due to their sometimes considerable genetic differentiation. One such case is *Euchloe belemia* (Green Striped White), whose populations in the Canary Islands have recently been separated as three distinct species each of which is endemic to one of the islands.

- Much less information is available for *Plebejus pylaon* group (Zephyr Blues), where sound molecular data are still lacking, however both morphological differentiation, isolation of the taxa and their different conservation status have tipped the scale into direction of considering them as separate species.

Although it would be much more convenient for the users, the taxonomy of European butterflies will remain fluid, and given the speed of new discoveries, it will require regular updates at least every 5 years. Certainly some decisions made during our update will be proved wrong, however we consider the list as a step in the right direction.

Rudi Verovnik & Martin Wiemers

Acknowledgments

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Agricultural Change and its implications for Butterflies in the Eastern French Pyrenees

The Eastern French Pyrenees - the region from the department of Ariège and going further east into Pyrenees Oriental, from the foot hills right to the high peaks dividing France and Spain is a very poor region of France financially and one of the most backward agriculturally. As late as the early 1980's and in a few cases up until the early 90's hay was being cut and collected by hand, using carts pulled by oxen. However since then the region has been catching up very quickly. Now there are tractors everywhere and big baling machines to make hay and big bale silage.

The history of this region is very interesting as one hundred and fifty years ago the region was overpopulated. The mountain sides were a lot less wooded and there were many terraces built up the steep slopes where people grew crops. Hamlets were built high up valley sides where people lived in the summer, there they grew their crops and tended to their animals that were even higher on the summer grazing pastures. Over the last hundred years the region has become very depopulated. Woodland has once again grown up on many of the abandoned terraces and also on many abandoned meadows and that process can still be seen to be going on today, providing very rich but of course temporary butterfly habitat.

Comparing pictures from just forty years ago with today it is alarming to see the extent to which the woodland is invading abandoned meadows. This abandonment of land is a continuing process with increasing mechanisation. The first to be abandoned is the highest land, furthest from the village and the most difficult to manage because of the impossibility of getting agricultural machinery there. Progressively lower areas have been abandoned as mechanisation has changed from hand pushed motorised cutters to tractors and to baling machines. In general steeper areas tend to be abandoned leading to succession and woodland invasion whereas flatter areas are being managed more intensively.

Another problem is the age structure of the farmers, in one particular valley the youngest is in his mid fifties and there are no youngsters coming along to take their parents' place. The life is hard and so the farmer's children mostly choose to go and live in a town or city when they grow up. There are however a number of young people moving into the area to farm, these are of a mix of nationalities and come to escape from modern life. They lead very simple precarious lives, often just scraping a living making cheese or other produce. They keep the land in a more traditional way, their aim is to live in harmony with nature. These people need all the encouragement they can get, however the system is against them.

There is a strong tendency for farms to get bigger, this pressure is obviously economic but also the chamber of agriculture is very much in favour of bigger more modern farms using modern techniques. They are not very interested at all in organic farming.

If we split the region into three we can look at things in a little more detail

FOOTHILLS: a limestone ridge running along the back of the mountains has traditionally larger farms than in the mountains. The foothills have a relatively low proportion of woodland and arable agriculture, being mostly permanent grassland, and are either used for rough grazing (steep hillsides, rocky areas) or hay meadows. These steep hillsides and rocky meadows are the refuges where butterflies will survive, but the extensive meadows which at present support a wide variety of butterflies are giving cause for concern. The traditional time of cutting for hay (late May) is deemed to be too late by modern agriculture which advises cutting earlier to have an improved digestibility and hence value for the animals. Worse still is silage making, which cuts the grass even earlier. Add to this the efficiency of modern machinery at cutting, cutting very low and the speed with which it can all be done, in just a few days rather than over two or three weeks or more as previously. Also in the past land was often left fallow from time to time or sometimes just lightly grazed for two or three weeks in autumn.

Nowadays the emphasis is on maximum utilisation, and everything is used all the time. So cutting earlier means annual plant species do not have time to sow their seeds and so they become very much rarer. The whole botanical composition of the meadows changes. For example a very common and visible plant family in these meadows is the *Rhinanthus* species - the Yellow Rattles. These are annuals so are adversely affected by early cutting and this is easy to see. Also *Rhinanthus* is semi parasitic on grasses so their presence reduces the vigour of grass growth, helping keep the sward open. I have known this area for eleven years now and meadows that were once full of *Rhinanthus* species are now almost devoid of them, the sward becomes grass dominated often with a lot of *Lolium perenne*, perennial Ryegrass also with *Crepis* and *Hieracium* species, (Hawksbeard and Hawkweed) species. The numbers of Leguminosae (pea family) and other plants such as *Succisa pratensis* (Devils bit Scabious) and *Centaurea* species (Knapweeds) become very much reduced or even disappears altogether, leaving a very much impoverished habitat for butterflies.

These changes have come about just through intensification of use and the change of time of cutting. Add to that the fact that the use of chemical fertilisers is spreading ever closer to this area and it is only a matter of time until the farmers here start using fertilizers to "improve grassland". Then even the poorest meadows that would have retained some measure of value for butterflies will be ruined.

MID ALTITUDES: The situation here is very different from valley to valley. There is often a ten fold decrease in the number of grazing animals leading to scrub and woodland invasion however in some places over-grazing is the problem. Where there is a good road up to high altitudes there can be a very high density of grazing animals transported up there. Whereas areas that require one or two hours of climbing by foot are abandoned. There is a massive amount of woodland encroachment, some mountainsides are now solid high forest where fifty years ago there was a mosaic of woodland, grassland and cultivation.

In other valleys entrepreneurial farmers are taking over the whole valley bit by bit as the older people retire. They play the subsidy system, they abandon all the land not easy to manage with modern machinery and intensively use the rest. In some areas old steep hay meadows are being grazed in spring and autumn instead of being cut and the results look good. However even here scrub and woodland slowly encroaches.

Why was it that our ancestors did not over graze pastures like we do today? Two reasons, over grazing could ruin a pasture for subsequent years with undesirable weeds growing up. Secondly and not so well known, in the days before effective worm treatments, if you grazed land too intensively you risked a parasitic worm problem which would lead to massive losses in productivity and also to mortality of animals. Even the organic farmers with whom I deal with who manage their land at lower stocking density than most modern farmers have to use a wormer at least once a year to avoid parasitic worm problems. Suggesting that they too are still over stocking the land in comparison with the early part of the last century. These worm infestations were an effective limit on overstocking before modern chemicals became available. I have a friend who hand milks seven cows and makes organic cheese, he has 18 hectares of reasonably productive land. Modern farmers would put at least fifteen cows on the same piece of land:

THE HIGH MOUNTAINS: This is the area least affected by modern changes, yes grazing pressure has generally decreased, but there are populations of wild animals such as *Rupicapra rupicapra*, (the Isard) and the introduced *Marmota marmota* (the Marmot) which are now widespread.

If one considers the implications for butterflies then firstly I should say with perhaps one exception I do not think that these agricultural changes will lead to the regional extinction of butterfly species, however their distribution will become very much more restricted. *Euphydryas aurinia* (the Marsh Fritillary), is a species widespread and locally common throughout the region at present using a range of habitats from dry limestone to very damp meadows. In the foothills where there is a superb

mosaic of grassland habitats it pops up all over the place. Often at low density, just one or two being found, then in some places it is very common. Obviously marginal habitat in the first instance then in some places highly suitable habitat. The butterfly takes the opportunity when a particular area becomes highly suitable and it flourishes. It survives well because of the healthy metapopulation structure seemingly so vital for the long term survival of this species. Metapopulations of a whole assemblage of butterfly species are very healthy in these foothills, often being widespread.

Another example is *Maculinea arion* (Large Blue) which also occurs throughout the region, even up to over 2000 metres. But here in the foothills it is the nominate form *Maculinea arion arion* and in the mountains proper it is form *obscura* forming an altitudinal cline. For one species in particular *Maculinea alcon*, all the known colonies in the whole region are in these foothills. What will happen if most of the meadows become agriculturally improved, or even if just the modern more intensive type of utilisation without fertilizer continues. We will start to have the same phenomenon as in most of Europe, islands of wildlife refuge surrounded by a sea of modern agriculture. Will we see with this isolation the extinction of for example *Euphydryas aurinia* from the foothills just as occurred in the south of England many years ago now. What will become of the already rare *Maculinea alcon* with increasing agricultural intensification. It is found in boggy areas where its foodplant *Gentiana pulmonanthe* grows. Will these areas be drained, will agricultural run off change their character and suitability for *Gentiana pulmonanthe*? Will it become extinct in the region? I believe this is a very real possibility.

Hamearis lucina, (Duke of Burgundy Fritillary), is a species curiously only found above 950 metres altitude, despite there being loads of suitable looking habitat at lower altitudes. It is very much a woodland edge butterfly here, usually just turning up in ones and twos; I have only once found more than that in any one small area. At this altitude much land has been abandoned. When we searched where it was documented by Nabakov, we found only tall forest. Whole mountain sides have become closed canopy tall forest, in these areas *Hamearis lucina* will certainly not be found. Colonies are becoming ever more isolated, will this isolation ultimately lead to local extinction. The answer will often be yes. In England we know that this species started off as a woodland butterfly and its refuge populations today are found on chalk downland. Where will the refuge populations be in this area of the Pyrenees, are there any suitable refuge areas there? Yes, I believe I have found one such area. Should extra resources be aimed at such areas and indeed should a special effort be made to identify such areas for all important species?

Maculinea rebeli The Mountain Alcon or Rebeli's Large Blue is found at over 1000 metres altitude on limestone where its foodplant *Gentiana cruciata* grows. It is a perennial. From my observations it does not tolerate shade very well, I have watched it disappear under encroaching light woodland cover. I know of five sites, all in the same general area and I am sure there must be more sites, it's just a question of having the time to go and look and the vastness of the survey area. One site consisted of just five plants in a well grazed meadow; the plants were all covered in eggs. On another site, where there is the scrub encroachment, I counted just 12 plants last year and 15 this. Of the fifteen about half were being heavily swamped by *Brachypodium pinnatum* and *Rubus fruticosus* and had no eggs on them at all. This meadow does not seem to have been grazed in recent years and the situation here is getting desperate. Should I care about an individual colony or should I be campaigning to keep the general area grazed? In general I am against small nature reserves in the mountains; it is the landscape scale conservation which must be encouraged. However, here we have a species known to live in small colonies, a flagship species that we should be able to do something about by reintroducing grazing. I am at present talking with Nature Midi Pyrenees about trying to manage this site.

Lycaena helle the Violet Copper is a species that has benefited from a reduction in grazing pressure, it likes sward with tussocky grass or dead organic matter (mats of dead sedge leaves for example) on the ground, presumably for pupation sites for the over wintering chrysalis which I have unfortunately so far not found. It only flies over 1000 metres altitude. Scrub and woodland encroachment is fairly slow at this altitude in the very damp prevailing conditions. However, the total lack of grazing in some places has produced dense monocultures of *Molinia coerulea* (Purple Moor

Grass) tussocks or a monoculture of *Filipendula ulmaria* (Meadow Sweet). Light grazing ensures that *Polygonum bistorta* (Bistort) can survive providing superb egg laying habitat amongst the *Molinia* tussocks and stands of *Filipendula*.

The area of distribution of this rare butterfly is around 500 square kilometres, this sounds a lot but in comparison with the size of the mountains it is tiny. However provided at least light grazing continues, which it should do, it is not under threat.

In France there is no site protection system such as occurs in the UK with sites of special scientific interest. There are two amateur organisations in the region concerned with wildlife conservation, but these rely totally on the goodwill of landowners. In France the only protection system comes in the form of Park National and Reserve Natural, where they are more concerned with planning control and hunting control than species conservation. The Park National in the Pyrenees is in the high mountains, the same goes for the Reserves Natural. There would be no hope of getting that type of declaration in the foothills.

Most nature conservation in France concentrates on nature reserves, trying to reconnect isolated habitat patches, to reconnect the landscape, improve metapopulation structure and survival of species. Here today there is a landscape that is still largely intact, with healthy metapopulations and a great variety of all manner of wildlife. We need to think about landscape and butterflies, to determine what should be done to prevent the destruction of this landscape by modern agriculture. For example should a ring be put round the region and within it the use of chemical fertilisers, herbicides and insecticides are banned. This seems like a good idea to me.

Should organic farming be more highly encouraged? Yes organic farming is definitely a good thing but this is not the be all and end all, even organic farmers can try to use every spare corner as much as possible to maximise profits.

Should people taking on small mountain farms be paid a minimum wage, ensuring that they can at least survive without too much worry, so leaving them to get on with running the farms in a low intensity way and if they succeed in making a profit they can keep it? So making them custodians and keepers of the land, there to keep it beautiful for tourists more than to be economically productive units.

I know I am far from the first person to say this but should the subsidy system be changed? Should we change it from a headage basis, as it currently is in France, to an area basis, setting limits on stocking density, timing of certain operations such as hay making, and how short the sward is cut?

It is clear that modern agriculture and its system of subsidies only destroys wildlife. For years many people have been saying the Common Agricultural Policy badly needs reforming, yet each year there is a stalemate and nothing changes. I know the French are totally against changing it, but if we want truly to talk about nature conservation on a landscape scale then the Common Agricultural policy must be reformed.

Graham Hart

Monitoring the Sudeten Ringlet in Switzerland



A group of nine EIG members, organised by Mike Williams, met up for a week in the Bernese Oberland in July 2010 to carry out monitoring work on the **Sudeten Ringlet** (*Erebia sudetica*).

The Alps are, of course, the focus of diversity for *Erebia*, and Switzerland, nestling at the core of the range, hosts no fewer than 26 species. Of these, the endemic subspecies of *sudetica*, *E. sudetica inalpina*, is amongst the most restricted in distribution, occurring in only a few square kilometres in the Grindelwald area. In Europe as a whole, the species is spread over a wide range, from the Massif Central

to the Carpathians, but occurs in only a handful of geographically isolated mountain populations. The IUCN Red List (2010 version) classifies it as vulnerable, with a decreasing population trend.

Our team leader for the week was Agneta Heuman, a conservation biologist with the Swiss conservation foundation Pro Natura, whose current projects include the Sudeten Ringlet. On our first evening, comfortably installed in the characterful traditional farmhouse which was to be our base, we listened as Agneta described our programme for the week, the threats to the butterfly, and the work which Pro Natura was promoting to address these. The mountain valley outside was looking somewhat sodden after a day of traditional Alpine rain, but better weather was, we were assured, forecast for the next few days.

The Sudeten Ringlet is a species of the middle, rather than the highest, altitudinal range, flying (in Switzerland) between about 1100m and 1900m. In common with many montane species, it has presumably benefited over the centuries from human intervention, as areas which would otherwise now be thick conifer forest were cleared and maintained to give the characteristic herb-rich meadows which provide a home for a huge diversity of insect life. Now, however, changes in agricultural use and practice threaten to disturb this tranquil relationship. Different issues arise at the lower and higher altitudes respectively.



Sudeten Ringlet (*Erebia*)

At the lower levels, the threats are, in essence, variations on the familiar theme of increased intensification and mechanisation, but with an Alpine twist. First, there's the question of mowing regimes – cutting too early and too comprehensively will deprive the adults of nectar sources to sustain them during their July core flight period, adversely affecting reproduction rates. Secondly, and intriguingly, there's the question of the micro-topography on which the larvae depend for survival from spring meltwaters. Traditional Alpine pastures have an uneven surface, with plenty of hummocks and mounds giving a little elevation. The females lay their eggs on these, so the overwintered larvae are protected from drowning when the melting snow floods out in spring. But modern agricultural equipment and frequent mowings can level out the surfaces, leaving the larvae with no refuge from the meltwaters.

At the higher levels, in contrast, the problem is that of under-use. As traditional pastures are abandoned, succession to invasive scrub deprives the butterfly of the open meadowland habitat on which it depends.

Pro Natura initiated a conservation project for the Sudeten Ringlet in 2008, working with local farmers and other landowners to promote habitat management beneficial to the butterfly. Our mission was to carry out transect surveys at relevant sites, generating information on butterfly numbers which could then be used in assessing the effect of these conservation efforts. We would also investigate other locations, where the species had not previously been recorded, to see if it was present there.

We had the privilege of being joined, for the major part of our stay, by the Swiss *Erebia* expert, Peter Sonderegger. For those of us used to struggling with the field identification of this daunting tribe, Peter's skills at distinguishing them were as impressive as they were enviable. But this represented just a tiny fraction of his enormous knowledge, accumulated over decades of painstaking study (including, as he related to us, night-time expeditions into the mountains to study the feeding larvae) and distilled into the definitive work on the subject, *Die Erebien der Schweiz* (2005).



Meeting SUS volunteers engaged in conservation work



Looking for the Sudeten

The Swiss weather forecast proved accurate, as we awoke on the Sunday to clearing skies, and enjoyed benevolent conditions for the duration of our fieldwork. Over the next few days, we investigated a range of sites in the Grindelwald area, at various altitudes, in search of the Sudeten. To general gratification, it didn't prove hard to find, a very respectable individual presenting itself for identification virtually at the start of our first walk. The butterfly then seemed to be giving us time to get our eyes in on our first transect series, as we saw relatively few Sudetens (but numerous other species) until the last part,

when they started appearing in substantial numbers – probably concentrated towards the path, as the cutting of the adjoining meadows was just beginning. It looked as though the modified mowing regime, leaving some areas uncut, was showing benefits. From then on, we found the butterfly in encouraging numbers at its various sites. Many were very fresh individuals, with pristine and intense dark chocolate brown and deep orange coloration.

Fascinating as the montane Ringlets may be, at first blush ploughing through a meadow full of them with a brief to identify and enumerate the lot might seem like the stuff of transect walkers' nightmares. But in practice it wasn't so hard, as under the tutelage of our expert Swiss leaders we were able to direct our attentions to the particular range of species to be expected in each area and habitat, and to the possibilities for confusion present there. So we didn't have to fumble through the field guide from *Erebia ligea* to *Erebia pandrose* each time. Special thanks in

this connection are also due to the **Lesser Mountain Ringlelet** (*Erebia melampus*). Although unnervingly similar to its Sudeten cousin and widespread in the Swiss Alps, it considerably avoids the locations where the Sudeten is found.

Identification of the *Erebias*, and of various others of the species present (which we were recording as well), did nevertheless require the use of nets, and this attracted questions from walkers and other passers-by. Assuring them that we weren't collecting or harming the butterflies (it was encouraging to see that they were concerned about this) also gave us the opportunity to explain what we were doing, and to spread the message about the Sudeten, the uniqueness of the local subspecies, and the importance of conservation measures for it. Agneta also took the opportunity of speaking to farmers and other landowners we met, encouraging them in the measures they were taking to help the butterfly. Indeed, her exemplary enthusiasm in raising the profile of the Sudeten and its needs reached a wider audience with the publication of a big article in the local newspaper, online and in print, featuring our trip and the scrub-bashing work for the Sudeten also being done that week by volunteers from the Swiss conservation foundation SUS (which is a bit like the UK's BTCV).

It was good to meet the SUS party one morning, at their base in the high pastures. Observing them at work later on, as they laboured in the sun to cut back encroaching alder scrub whilst we did our counts on a circular transect, it was clear we had the easier part of the deal.

On one walk, we succeeded in extending the recorded distribution of the Sudeten into an adjoining grid square from one of its established locations. A further trip to a more distant site, where it has never been recorded but there is suitable habitat, didn't find any – it may be that the intervening mountain ridge effectively blocks its passage.

Our progress through the list of sites, and the continuing sunshine, allowed us to leave the Sudetens in peace for a day whilst we ventured to higher altitude, where we added **Dewy Ringlelet** (*Erebia pandrose*), **De Lesse's Brassy Ringlelet** (*Erebia nivalis*) and **Silky Ringlelet** (*Erebia gorge*) to our already impressive rollcall of Ringlets, and some characteristic species such as **Glandon Blue** (*Agriades glandon*), **Eros Blue** (*Polyommatus eros*), **Alpine Blue** (*Albulina orbitulus*) and some high-altitude fritillaries to our already long list of "others". Then a final day with the Sudeten and its companions, at the end of which (with rain clouds now massing overhead) we bade farewell to Peter, off to further his research into another of his interests, the micromoth genus *Depressaria*.

Not a day too soon had we completed our fieldwork, as the final full day of our stay was wet, again in the Alpine sense of the word. So our excursion into the neighbouring Lauterbrunnental, beloved of Romantic poets, afforded us plenty of close-up views of torrents in full spate. Keats and Byron would have been in raptures. We were pretty happy too, after an excellent week in a majestic landscape with a superb butterfly show.

Marian Thomas

Fundraising Tour to Slovenia (1)

The first week of August saw the EIG facilitated tour to Slovenia, profits from which were to be 100% donated to the Hungarian Natural Heritage Trust. The trust is working to conserve butterflies and moths in the Orseg National Park in western Hungary.

We arrived in Ljubljana late on the Saturday afternoon, were met by our guides Lajos, Marci and Safi and had dinner en route to our first hotel. The weather had been mixed in the previous few days but the forecast was good for at least the next couple of days. Sunday dawned bright and sunny and we headed for the highest tarmac road in Slovenia. We were immediately confronted by identification problems with both Erebias and Skippers – what turned out to be



Lorkovic's Brassy Ringlet (*Erebia calcaria*)

Lesser Mountain Ringlet (*E. melampus*) had upper forewing spots that were only visible on the photograph. A skipper caused much discussion – was it Dusky Grizzled (*P. cacaliae*), Warren's (*P. warrenensis*) or Large Grizzled (*P. alveus*)? To some extent the latter debate was never truly settled. However, there were several Shepherd's Fritillaries (*B. pales*), further "textbook" Lesser Mountain Ringlets and some were lucky to see Alpine Blue (*A. orbitulus*). We also did very well for alpine birds, with Wallcreeper (*Tichodroma muraria*), Alpine Chough (*Pyrrhocorax pyrrhocorax*), Alpine Accentor (*Prunella collaris*) and Water Pipit

(*Anthus spinoletta*) all being seen. After a couple of hours we descended a few hundred metres in altitude and were rewarded with many Lorkovic's Brassy Ringlets (*E. calcaria*), an endemic to this area. Another *Erebia* was also to generate much debate over the next 24 hours, although most eventually agreed on Yellow-spotted Ringlet (*E. manto*). A final species for the day was Styrian Ringlet (*E. stirius*), strangely enough caught in the bar of the hotel with no apparent suitable habitat nearby.

The following day saw further good weather as we headed over the Vrsic Pass and those who chose coffee rather than butterflying at the top were rewarded with a pristine Camberwell Beauty (*N. antiopa*)! However, most also saw Blind Ringlet (*E. pharte*) and Silky Ringlet (*E. gorge*). The day ended with us arriving at our next hotel on Lake Bohinj. The weather forecast for the next few days was somewhat changeable so we decided to stay lower down and search for Woodland Brown (*L. achine*), which Lajos eventually managed to locate. However, the real highlight of the site was the several hundred Silver-washed Fritillaries (*A. paphia*), including several *valezina*, often nectaring six to one flower head. A few of us also saw a late Poplar Admiral (*Limenitis populus*). In the afternoon we headed to another site but the cloud increased and the highlight was a single Water Ringlet (*E. pronoe*).

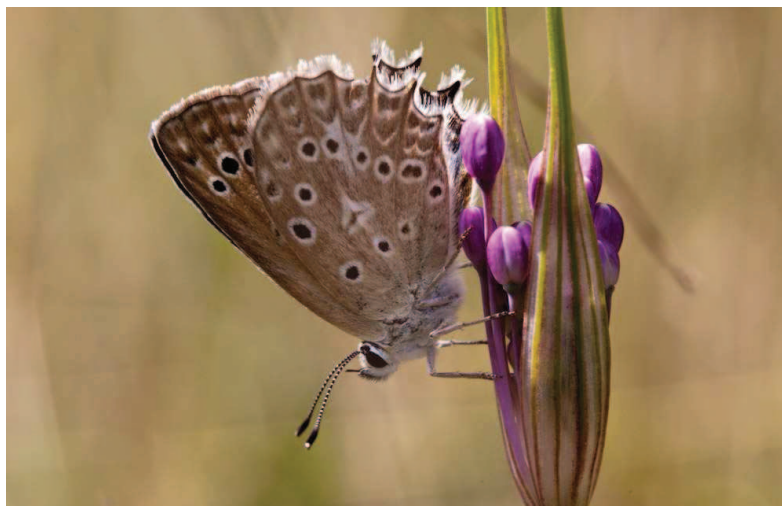


Silver-washed Fritillaries (*A. paphia*)

The forecast was changeable for the next day too so we decided not to use the cable car, especially as we were not likely to add any new species. We took a short detour to see Lake

Bled then climbed a pass on the opposite side of the mountain to the previous afternoon. Here we found Water Ringlet in abundance, along with a very photogenic female Mountain Green-veined White (*P. bryoniae*). En route to our final hotel we visited a couple of lowland bogs, the highlights being dragonflies rather than lepidoptera.

The weather seemed to be getting worse, so for the next day we headed for the karst region and the coastal hills, trying to find the sun. We were very successful, getting good butterfly weather until around 4pm, when the rains descended. Butterflies included False Grayling (*Arethusana arethusia*), Meleager's Blue (*M. daphnis*) and Dryad (*Minois dryas*) in good numbers and photographable. Also seen were Mountain Small White (*Pieris ergane*), Provencal Short-tailed Blue (*E. alcetas*) and Gatekeeper (*P. tithonus*), the latter relatively uncommon here. The following day we headed for the nearby Mount Nanos and although initially the weather was good, it clouded over and then turned to rain not long after lunchtime. The coffee and freshly made apple strudel at the summit hotel were most welcome! The butterfly highlight was possibly the large number of Alcon Blue (*M. alcon*) eggs on Cross-leaved Gentian.



Meleager's Blue (*M. daphnis*)



Mike Williams presenting a cheque to Safi

The return flight was quite late for those of us returning to the UK, so we were able to have an extended visit to the Lake Cerknica area. Starting in the surrounding hills, we looked for further Poplar Admiral, but the number of butterflies in general was very low. It seemed that the heavy rains had maybe taken their toll and there was a feeling that the season was ending early. A highlight was Lesser Marbled Fritillary (*B. ino*). Descending down to the lake, which is actually ephemeral and largely non-existent in summer, we looked for Large Copper (*L. dispar*) to no avail, but found good numbers of Purple-edged Copper (*L. hippothoe*) and bad numbers of biting insects. Then it was off to the airport, where most of us boarded a flight home, leaving four of our party to undertake a few days' extension to the Orseg NP in Hungary.

The tour (with extension) recorded over 90 species of butterfly and **raised over 10000 euros** for the Hungarian Natural Heritage Trust – a fantastic result! Many thanks go to Lajos, Marci and Safi for all their hard work in making the tour **such** a success.

Neil Thompson

ELG Fundraising trip to Slovenia and Orseg (2)

The whole purpose of the trip to Slovenia was to see some unusual butterflies such as the *Erebia* spp and others associated with mountain tops etc and to raise money for the Hungarian Natural Heritage Trust, which is based within the Örségi Nemzeti National Park. So if we are going so close to the trust's land and we have the time why not go and have a look! So the four of us bade farewell to our colleagues who were returning to Blighty, and to Lajos who was remaining in Slovenia, returned to our minibus and set off across Slovenia, crossing the Hungarian Border we immediately stopped and had a "small" meal of traditional Hungarian food, even Safi couldn't eat it all; I need say no more. However, food and accommodation were excellent even if one of our members was allocated the honeymoon suite to stay in and another of our group said it was more like a "tarts boudoir"; my only question was how he knew?

We spent the next three days exploring the land owned by the trust and some other meadows which were still managed in the traditional way by local farmers; we also looked at some meadows where the management had ceased completely and where degradation of the habitat was happening all too rapidly. There is some good news in as much as the Trust has bought some land where management had ceased and where degradation was happening but by reintroducing a mowing regime restoration was now happening. It is worth remembering that these are not natural habitats, they are man-made and so need constant maintenance. The meadows display a variety of aspect, degree of slope, dampness and mowing regimes and thus have variations in fauna and flora. However, it was quite possible to see **Dusky Blue** (*Maculinea nausithous*) and **Scarce Large Blue** (*Maculinea telejus*) flying together in good numbers in the same meadow and to hear that nearby meadows contain **Alcon Blue** (*Maculinea alcon*) and **Large Blue** (*Maculinea arion*) although we did not see the latter as it had gone over for this year.

In three days we saw 56 species of which 15 were new additions to the trip species list. Included in this were some butterflies to die for on the British List such as **Brown Hairstreak** (*Thecla betulae*) and second-brood **Small Pearl-bordered Fritillary** (*Boloria selene*). **Large Copper** (*Lycaena dispar*) were quite common in the meadows as were **Short-tailed Blue** (*Everes argiades*) which were everywhere, the females posing for photographs whilst the males were less inclined to sit and bask. Of the skippers **Silver-spotted Skipper** (*Hesperia comma*) was ubiquitous and **Tufted Marbled Skipper** (*Carcharodus flocciferus*) were also widespread in small numbers, two **Large Chequered Skippers** (*Heteropterus morpheus*) were also found. Other highlights included two successful hunts to look for **Common Glider** (*Neptis sapho*), a second brood **Nickerl's Fritillary** (*Mellicta aurelia*) which is very unusual at least in this area of Hungary. It was nice to see so many **Map** (*Araschnia levana*) flying amongst the woodland glades and on the edges of other woodland, and some **Purple Hairstreaks** (*Neozephyrus quercus*) around the tops of the trees, either the Oaks on which they breed or others where they seek aphid "Honeydew". A slightly bizarre sighting was of a **Camberwell Beauty** (*Nymphalis antiopa*) which had been killed by a car but was in good condition and had been brought in to confirm the sighting and also so that it could be kept.

The Trust is trying to fulfil a vital piece of work for lepidopterists everywhere by saving the habitat required by the Large Blues (*Maculinea* sp.) on a landscape scale and coupled with their decline in other parts of Europe this is very important work and they deserve what support we can give them. Certainly I would love to go there again if the opportunity arose especially if I get the same bedroom to stay in.

Martyn G. Davies

EIG Trip to Mt Phalakron, Greece



Dil's Grayling (*Pseudochazara orestes*) Mt. Phalakron
Photo: Nigel Peace

Last year Anne and I visited Mount Phalakron on the Greek/Bulgarian border in our campervan. We left before the flight period of several species that we had hoped to see so we decided to go back by air this year (2010). Taking a small EIG group to survey for two of these rare endemic species Dil's Grayling (*Pseudochazara orestes*) and Higgins Anomalous Blue (*Polyommatus* (= *Agrodiaetus*) *nephiheptamenos*) seemed a good idea so we were joined by Maurice Avent, Vera Forsyth and Nigel Peace.

Last year we had camped near the village of Volakas and we found a nice set of apartments there on the internet. Easyjet flights to Thessaloniki and car hire that only just avoided being completely stymied by the Greek truck driver dispute that stopped petrol deliveries for several days, completed our arrangements. We even managed to see Little Tiger Blue (*Taurucus balkanicus*) on our journey to Mt Phalakron. Despite torrential rain the first night we had lovely weather and a very enjoyable trip. We were joined for the first few days by Lazaros Pamperis, author of the 'Butterflies of Greece' (for review see EIG 7), who knew the area well and who showed us various sites where he had found *orestes* in the past literally pointing to the exact locations. We had a wide range of species including Eastern Large Heath (*Coenonympha rhodopensis*), Escher's Blue (*Polyommatus escheri*), the local race of Chalkhill Blue (*Polyommatus coridon phillippi*) which in the past has been considered a separate species, noted the local form of Common Blue (*Polyommatus icarus andronicus*) which DNA studies suggest is not a separate species though it seems larger and brighter than other *icarus* flying in the same place.

The first really good day took us to one of the peaks of Phalakron, above a really tatty ski centre. Here we saw no less than 4 anomalous blues including the very local Higgins Anomalous Blue (*Polyommatus* (= *Agrodiaetus*) *nephiheptamenos*). The word *nephiheptamenos* means 'flying in the clouds' an apt description for a species normally found on the tops of mountains where even in good weather there is usually lots of cloud. The others were the widespread Ripart's Anomalous Blue (*P. ripartii*), the newly described Phalakron Anomalous Blue *P. eleniae* and Anomalous Blue (*P. admetus*).



Vera Forsyth, Nigel Peace, Maurice Avent, Simon Spencer at the base of Mt. Phalakron

We spent quite a lot of time agonising over identification. The fringes and the white stripe are critical. Black Ringlet (*Erebia melas*) was also present.

A day out to the Rhodopi added more species with Lesser Spotted Fritillary (*Meliticta trivia*) being widespread. We had Chequered Blue (*Scolitantides orion*), Common Glider (*Neptis sappho*) and False Grayling (*Arethusana arethusa*). We were also lucky to get petrol on the way home.

By the end of the week we were really worried about not finding *P. orestes*. The habitat is changing rapidly. At one of Lazaros's sites near the main road, there was evidence of abandoned sheep or goat grazing with rusty feeding troughs in the long grass but no animals at all. Higher up cattle grazing for beef is replacing sheep and goat grazing for milk. Goats, being browsers, used to keep the scrub and juniper in check. It is likely that scrub growth will become much thicker very soon particularly where there is no grazing at all. Though goat herds and sheep flocks still exist in the area their number must have declined very rapidly in this century. EU agricultural statistics on the other hand show sheep and goat numbers in Greece as static!

Each day we went out all day surveying for *P. orestes* guided by Lazaros's instructions as to where we might find it and tapping on the underside of bushes and trees to disturb it. On the very last afternoon of our week on Phalakron I was called over by Nigel Peace with far greater urgency than usual to come and see a butterfly. Having just seen Great Sooty Satyr (*Satyrus ferula*) in almost the same place I was not very hopeful. It was very definitely Dil's Grayling *P. orestes*! It was the only one we saw. This species is an IUCN Red List vulnerable species that is endemic to Europe.

After a hard week of butterflying we moved down to the coast and enjoyed a few days in the delightful town of Olympiada and a bit of a holiday. Maurice and I managed to get our list up to 95 and I had two new species, Freyer's Grayling (*Hipparchia fatua*) and Tree Grayling (*Hipparchia statilinus*), making 5 Graylings for the trip.

A real thank you to Lazaros Pamperis for giving up his time to come and get us started. I only hope that his wonderful new book, which has sold well in Greek, will stimulate interest in butterflies in Greece. They have so much but most of it is very poorly protected.

Simon Spencer

At last, the Macedonian Grayling (*Pseudochazara cingowskii*).



Macedonian Grayling (*P. cingowskii*)

On 19th July 2010 Bernard Watts, Roland Rogers and myself boarded the plane bound for Thessaloniki, planning to travel on by rail to Skopje the following day. Our key 'target' on this trip was to see and photograph the highly localised Macedonian Grayling (*P. cingowskii*). Bernard and I have both spent many summers travelling to the remotest and often very beautiful parts of Europe in our quest to see and photograph all the continents' species in their natural habitats. The Macedonian Grayling was one of a very small number of species

that had so far eluded the camera. We had rather little information to go on, and were unsure whether we had even got the dates right.

The journey was somewhat eventful, but at last we were on the road in a hire car that Bernard had booked, and arrived at our destination – the village of Pletvar – at around 2.30 on the 20th July. The 1745 metre peak of Mt. Kozjak overlooks the road to the north, and the lower slopes are easily accessed from the roadside. Nearer the road the grassland was more rank and showed signs of past cultivation. This area abounded with common butterflies and other insects (including, as Roland discovered, fine Ascalaphids and ant-lions), but a steeper and higher band of more



Slopes of Mt. Kozjak

sparse grassland with rocky outcrops and sparse low-growing juniper bushes attracted our attention. It was here that we found our first examples of *cingowskii*. In common with other 'browns' that occur on scree and similar rocky habitats, *cingowskii* seems to be very alert for sounds, and my first attempts at photography failed – probably due to the insects' taking flight at the sound of the camera shutter. Two females of *cingowskii* were noticed nectaring from a species of *Dianthus* and these proved more accommodating. Other species flying in this habitat included other 'browns' such as *Brintesia circe* (the Great Banded Grayling), *Chazaria briseis* (the Hermit), *Lasiommata maera* (the Large Wall Brown), *Hipparchia semele*(?) (the Grayling), *Melanargia galathea* (the Marbled White) and *M. larissa* (the Balkan Marbled White). Also flying here and on the lower slopes were the 'anomalous blues' *Agrodiaetus admetus* and *ripartii*, *Pseudophilotes vicrama* (the Eastern Baton Blue), *Lysandra coridon* (Chalkhill Blue), *Lysandra bellargus* (Adonis Blue), *Colias crocea* (Clouded Yellow), *Leptidea duponcheli* (Eastern Wood White), *Pieris ergane* (Eastern Small White), several pyrgine skippers and other species.

On July 23rd, after exploring some of the many superb montane habitats in Macedonia, we returned to Pletvar for another look at *cingowskii*. After heavy rains on the previous day, numbers seemed to be down, but we still had no difficulty locating good numbers. Females seemed to divide their time between ovipositing among rocks, resting on rocks, and nectaring on flowers – most often on *Dianthus* sp., but also on a pale greenish scabious, and a yellow

composite (*Asteraceae*) flower with entire pale green leaves whose dense hairs gave it a silver-white appearance. On settling they occasionally flicked open their wings briefly to reveal the 'typical' Grayling pattern, but with pale cream-yellow post-discal bands whose pale colour is held to distinguish this species from very close relatives that occur locally in Greece and the Balkans. Males were more inclined to perch on exposed rocky outcrops, and appeared to be territorial, flying up to intercept other males that strayed into their 'air-space'. Both sexes tended to seek shelter among rock crevices or under shrubs in the heat of the day. Very noticeable was a particular pattern of wing-damage that particularly afflicted males. This took the form of a large chunk missing from the anal angle of both hind wings. We had noticed a number of lizards (presumably the Common Wall Lizard – *Podarcis muralis*) lurking among the rocks, and speculate that these lizards are predators of the butterflies, particularly exploiting the territorial behaviour of the males.

The complexities of our outward journey were as nothing compared with the return. Roland and I had bought our tickets for the return rail journey to Thessaloniki at Skopje station. We were duly on the station platform at 6.00am for our train south. Numerous other benign and helpful Macedonians waited with us until the train finally arrived around 7.30 am. About half an hour into our journey the train guard arrived. After sadly inspecting our tickets and shaking his head he departed, only to return some time later with an English-speaker. He informed us that our tickets were bus tickets, and this was a local train going no further than the border with Greece. However, we were in luck as an 'express' train would arrive at the border soon afterwards and we could transfer to that. At the border we were introduced to the station-master, who explained that the express train was currently running four hours late. However, he could (and did!) find us a taxi. We were driven at breakneck speed through a storm to end all storms down to Thessaloniki airport, where we discovered our flight was suspended because of an air-traffic controllers' strike. Astonishingly, this was eventually resolved, and we in fact got home both safely and on time!

Much more goes into getting some photographs than just pointing the camera!

Ted Benton

Skiathos – Greece 4th – 18th June 2010

My wife and I went to Skiathos for a family holiday first and foremost, but having arrived there you can't fail to notice the butterflies which are in profusion everywhere. Wherever we went on this small island were butterflies in profusion. Skiathos is to be found in the Aegean Sea close to mainland Greece; it is a member of a group of islands known as the Northern Sporades. Skiathos is not the largest of the group but was the only one with an area of land suitable to build an airport.

The main road runs from the capital Skiathos Town in the south-east to Koukounaries in the south-west and has an excellent bus service known as the "Sardine Run" for what quickly became obvious reasons. We stayed near bus stop 13, accommodation is known and located in the minds of visitors by the nearest bus stop.

It boded well when the first butterfly which appeared at our small hotel was a **Two-tailed Pasha** (*Charaxes jasius*) and the hotel was visited frequently by a number of butterflies including **Brimstone** (*Gonepteryx rhamni*) and the closely related **Cleopatra** (*Gonepteryx cleopatra*); **Swallowtail** (*Papilio machaon*) and the **Scarce Swallowtail** (*Iphiclides podalirius*) also turned up frequently. Later I discovered that the hotel had its own resident **Southern White Admiral** (*Limenitis reducta*) and I was able to point it out to some of the other guests who wondered what I was doing with my camera hanging over walls and apparently photographing bushes. Having shown them this beautiful butterfly and told them about it I was quizzed and regaled for the rest of the fortnight with questions about "What was it?" they had seen that day and "had I found anything else of interest", the butterfly guide was most useful for raising interest and answering queries.

So what did I see? Within the limitations of lack of transport and very dodgy knees I still managed to find much to photograph. **Meadow Brown** (*Maniola jurtina*) was everywhere, as was **Small Heath** (*Coenonympha pamphilus*). **Wall Brown** (*Lasiommota megera*) was also widespread throughout the island with out being common, and I recorded a few **Speckled Woods** (*Parage aegeria*). Despite repeated searches for other blues and coppers I only managed to find **Common Blue** (*Polyommatus icarus*), **Holly Blue** (*Celastrina argiolus*), **Brown Argus** (*Aricia agestis*) and **Small Copper** (*Lycaena phlaeas*) and one worn specimen of **Lang's Short-tailed Blue** (*Leptotes pirithous*) amongst the Lycaenids. A hire car and a drive along the Panorama Road did, however, yield a good number of **Ilex Hairstreak** (*Satyrrium ilicis*) nectaring at a woodland edge on Bramble; they had chosen a good spot to feed as the view was spectacular! **Small White** (*Artogeia rapae*) and **Southern Small White** (*Artogeia mannii*) appeared to be present, the latter with its more extensive black on the upperside forewing and a dusting of dark grey scales over their undersides although this was almost completely missing in a few individuals. **Eastern Bath White** (*Pontia edusa*) was also widespread and common and there were plenty of **Clouded Yellow** (*Colias croceus*) which would helpfully stop and nectar instead of charging around everywhere at 100mph.

Mallow Skipper (*Carcharodus alceae*), **Large Skipper** (*Ochlodes venatus*) and **Sage Skipper** (*Muschampia proto*) were found but some specimens were very worn and identification had to wait until I was able to consult a European expert! **Southern Comma** (*Polygonia egea*) was widespread throughout the island, but **Red admiral** (*Vanessa atalanta*) were the only one of the wanderers in residence when we arrived. However, towards the end of our second week we took a boat trip to the two neighbouring islands of Skopelos and Alonissos which resulted in an experience I won't forget in a hurry. Whilst sitting in a taverna (where else would you sit in Greece?) on the harbour at Alonissos I noticed a few **Painted Lady** (*Vanessa cardui*) which were the first I had seen, they were flying around and feeding on the flowers in the ornamental, civic flower pots dotted around. Closer watching and I noticed that those feeding were flying off inland and were being replaced by others flying into the harbour off the sea. The boat we took

back to Skiathos was greeted by literally hundreds of these butterflies flying north up the Mediterranean Sea and heading for the islands. To the south of the islands there are many miles of open sea and whilst other islands, mostly Greek, lie between the coast of N. Africa and the Northern Sporades the island hopping journey is still considerable.

Finally despite a number of visits to other islands I had never managed to see a **Camberwell Beauty** (*Nymphalis antiopa*) in Greece before, probably they had already gone into hibernation before school summer holidays enabled me to get there. So let this be a warning to you, check the butterflies around and keep your camera handy when you are trying to change out of wet swimming shorts! There I am hopping around on one leg when the wife says "That's a big butterfly, I don't remember seeing one like that before" Two of them, sat on the path. Yes I did manage to get a very poor photograph but at least you can tell what it is! The problem was that without any trousers on I didn't like to go too far from the shelter of the car!

Not a holiday island with a rich butterfly fauna, its small size precludes that, although it was a great place for a holiday. No doubt with greater freedom of movement and visits at different times of the year the list would have become larger. What is certain, however, is that what butterflies they have on the island they have in profusion and you didn't have to go far before you saw one of the swallowtails or a beautiful yellow and orange male Cleopatra and that makes it all worthwhile.

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Finding Apollo in the Julian Alps

I visit Slovenia most years; in 2010, I was accompanied by three English friends who had not been there before. After experiencing the wonders of the karst limestone grasslands and a couple of rainy days on the Adriatic coast, we set off for the Alps on 21 June - the longest day. Our route took us up the valley of the turquoise-coloured River Soča. A few kilometres above Bovec, we stopped by a footbridge over the river and walked across to a couple of small meadows. To our surprise we found a male **Apollo** (*Parnassius apollo*) clinging to a scabious flower in the wind. One of my companions, Ron Donaldson, ex English Nature, took the matter in hand (literally), holding the stem of the flower steady and taking a picture of this magnificent butterfly with his iphone.



Vid displaying a **Marbled Fritillary** to members and guests of the Slovenian Butterfly Society (photo: Ron Donaldson)

A few days later, on 25 June, Ron and I had the opportunity to visit the Soča valley again with a small, but enthusiastic group from the Slovenian Butterfly Society (DPOMS), led by Rudi Verovnik. Our main objective was to check areas where **Apollo** had been seen in the past, but the first butterfly we saw in the car park was a **Marbled Fritillary** (*Brenthis daphne*) conjured up by Rudi's eight-year old son. Our quest started in earnest near the village of Žaga, where we clambered up a narrow rocky trail leading through light woodland to some meadows.

We saw three **Apollos** in flight, all males. I found **Chequered Blue** (*Scolitantides orion*), which Rudi informed us shares the same foodplant as **Apollo**: stonecrop *Sedum album*.

The second locality we visited was an imposing, south-west facing scree slope at Log Čezsoški overlooking the River Soča. I was able to show the group a **Sloe Hairstreak** (*Satyrium acaciae*), a species which had not been seen in this area before. Disappointingly, we saw just one **Apollo** flying along the scree slope where, six years previously, Rudi had seen scores.

The slope had become overgrown with scrub, shading out the *Sedum*. We met a local farmer who explained that the grazing herd of goats used to be 200, but was now 10. In spite of Rudi's vocal urgings to "eat", these animals seemed content to laze in the shade of some small trees.

I was asked to lead the group to the place where Ron and I had found **Apollo** earlier in the week, further up the valley near the village of Soča - a new locality for the species. As we crossed a footbridge over the river, we were rewarded by a male **Apollo** flying in to greet us!

A few weeks later, I was back in Slovenia again, with Dutch friends, to visit our friends from Ljubljana. On 24 July, they took us to the source of the River Soča, which emerges from a cave in the rock face above the village of Trenta. The final approach was made possible only with the aid of a steel cord hammered into the rock. Fortunately, I had been distracted by an **Apollo** visiting flowers on a nearby area of scree, where I photographed it.

The Slovenian Butterfly Society is monitoring the populations of **Apollo**. It seems that, with the continued decline in traditional grazing, the butterfly will not fly again in its previous abundance.

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Male **Apollo** in the upper Soča valley, Slovenia (photo: Ron Donaldson)

In search of the Scarce Fritillary

Our holiday in June this year was spent in Eastern France, in the Haute-Marne Department. Although not an area noted for its butterflies, it proved to be of great interest, with one or two 'special' species enlivening our visit.

For instance, we discovered an old limestone quarry, long filled in and, at this season, a riot of wild flowers. On this dry site, several kilometres from the nearest open water, we watched a female **Large Copper** (*Lycaena dispar*) sitting amongst the grasses advertising her presence. Very soon, a worn male arrived and courting commenced. However, she eventually rejected the poor old boy, who then sat in a dejected state nearby. Several other females were noted in the vicinity.



Scarce Fritillary (*Euphydryas*)

A friend had told me before our visit of the presence of **Scarce Fritillaries** (*Euphydryas maturna*) on a site in Burgundy, so we drove there via the Plateau de Langres, an area of rolling hills, oak woods and small picturesque villages. A stop by a disused railway track gave me the chance to see **Chestnut Heath** (*Coenonympha glycerion*) and several interesting varieties of **Common Blue** (*Polyommatus icarus*). Later, during our picnic stop by the roadside in one of the woods, we saw a **Chequered Skipper** (*Carterocephalus palaemon*), **Large Grizzled Skipper** (*Pyrgus*

alveus) and a dark butterfly which led me quite a dance along the roadside but which eventually proved to be a **Woodland Brown** (*Lopinga achene*). We found this declining species to be quite frequent in this area.

We arrived at the **Scarce Fritillary** site in early afternoon, and were rewarded at once by the sight of several specimens taking up salts from the margins of a puddle in the car-park. We walked up the ride through the woods, and found both this fritillary and the **Woodland Brown** to be numerous. The fritillaries, freshly emerged, were eager to take up salts from any likely source, including animal droppings and my wife's arm! We must have seen over 50 of them during our visit, a most attractive butterfly rather like **Marsh Fritillary** (*Euphydryas aurinia*) but brighter.

Amongst the many other species seen at this site were **Reverdin's Blue** (*Plebejus argyrognomon*), **False Heath Fritillary** (*Melitaea diamina*) and **Southern White Admiral** (*Limenitis reducta*). Several of these were attracted to animal droppings along the track. A large stand of strongly scented Valerian drew in a few butterflies, notably **Black-veined White** (*Aporia crataegi*) and **Lesser Marbled Fritillary** (*Brenthis ino*).

Altogether, a successful and interesting trip to a little known area of France.

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Orseg National Park, Western Hungary – May 2010

The butterfly survey of this 30x30km park is ongoing, with 2 EIG members visiting just 7 of the 2x2km tetrads between 25 and 30th May 2010. Our briefing by Horvath Balint included aerial photographs of each square, a list of priority species and overall species lists for us to fill in for each square.



Large Copper (*Lycaena dispar rutilus*)

The first meadow of abandoned agriculture was full of Heath Fritillaries (*Mellicta athalia*), and then Large Coppers (*Lycaena dispar rutila*) – 14 species in 300 metres. Into woodland, which is mainly commercial planting of Scots and Corsican Pine, with a scattering of Oak, Hornbeam, Aspen, Acacia and Hazel. The wider (30 – 40m) rides were populated by Small Pearl-bordered Fritillaries (*Boloria selene*), Common Glider (*Neptis sappho*), Chequered Skipper (*Carterocephalus palaemon*) and Sooty Copper (*Lycaena tityrus*). Narrow rides (20m) were zero butterfly zones.

In an adjacent square the habitat for two Large Coppers was new (3 years old) ditches each side of a cycle track. Cultivated fields started within 2 metres of the flowery ditches. Just nearby on an old, unmetalled forest track Short-tailed Blues (*Everes argiades*) were found (photographic evidence provided). The extensive Pine

and Hornbeam forest nearby had more deer than butterflies. There was active forestry management in all these areas.

It was surprising to our English perspective that the Duke of Burgundy (*Hamearis lucina*) was not on the priority list, we found it in so many glades in Hungary. One area near Szentgyorgyvölgy we were directed to survey was a line of ditch and hedge. This produced Eastern Short-tailed Blue (*Everes decoloratus*) and Black Hairstreak (*Satyrium pruni*). Another nearby target was the edge of a maize field. Just when we thought zero butterflies would be the result, a Scarce Swallowtail (*Papilio podalirius*) and then, at wood edge, a Common Glider (*Neptis sappho*) appeared. Spare a thought for the farmer here as the Golden Rod (*Solidago*) had completely dominated the non-ploughed areas (zero butterflies). Also, Acacia dominated the wood edge to where the maize started.

Another target was to search for the Woodland Ringlet (*Lopinga achine*) in a series of very (too?) narrow glades. No luck. However, we found 15 Common Gliders and 2 colonies of Duke of Burgundy there. Meadows nearby had been cut (we assume under National Park control) and we found Small Pearl-bordered Fritillaries in these.

For us, a confusing butterfly was the Large Wall Brown (*Lasiommata maera*). Many small all black upper-sides males were in evidence which looked rather like the Northern Wall Brown (*L. petropolitana*) which does not occur in Orseg.

A day's visit to Szakonyfalu Forest and wet valleys added records of Clouded Apollo (*Parnassius mnemosyne*), Woodland Ringlet (*Erebia medusa*), Small Pearl-bordered Fritillaries and Chequered Skippers. At Velemer, the sun went in but waiting by the bridges over a drainage ditch was worthwhile as Large Coppers appeared with a flash of sun. Lovely flowery meadows showed huge numbers of Heath Fritillary, Common Blue (*P. icarus*), Sooty Copper, Chestnut (*C. glycerion*) and Pearly Heaths (*C. arcania*). Clouded Apollo also showed up at the low altitude of 200 metres.

Our last square in Oriszentpeter had flowery meadows with a host of butterflies including several Large Coppers, Dingy Skippers (*Erynnis tages*), Small Pearl-bordered Fritillaries, Eastern Short-tailed Blue and hedges with a Black Hairstreak (*Satyrium pruni*) colony. Management was much in evidence here to retain the meadow species richness.

There is a real need for more people to carry out surveys and other work in the National Park and Hungarian Natural Heritage Trust lands with months of interest guaranteed in this butterfly and moth unique damp zone. We ran a blacklight over a small moth trap which showed mainly UK familiar species. Double Line (*Mythimna turca*) and Silver Barred (*Deltote bankiana*) were new species to us.

The hospitality given to us at the Hatarcsarda, the accommodation and speciality restaurant at Bajansenye, was so very warm and genuine we came away with a great love for Hungarian people. The Hungarians are great eaters and we enjoyed our wild game goulash, roast trout and Orseg soup. Our thanks go to Szabolcs Safian (Safi) for his introduction there and to his inspiration to help Hungarian butterflies and their habitats. This visit would not have happened but for EIG and Mike Williams wonderful visit in July, 2009, so our thanks go to all the team.

Lawrie and Bridget de Whalley

Mike Williams is hoping to take a small group to Hungary next March to search for Brown Hairstreak eggs as part of ongoing recording work in the Orseg National Park. Provisional dates are 18th – 23rd March 2011 and please contact Mike: email mike@stagborough.fsnet.co.uk if you're interested. Hopefully, the first Spring butterflies will also be on the wing including overwintering Camberwell Beauties.

The Butterfly Year

We have only received one contribution to what should be a roundup of the highlights of the season around Europe.

The late Butterfly season in Provence (Var)

The early season (March-April) has been very cold and wet and when we arrived in Var on 13th April the butterfly season seemed to be about two weeks late. There was a spell of five days or so at the end of April when it was sunny and 25C and butterflies started to emerge, albeit at low density, but since 30 April the weather has been exceptionally poor, cold (even as low as 10-15C some days) and very wet and is currently forecast (as at 7 May) to continue like this for the next five days. We have normally seen 50-60 species by the end of April, but this year only 35.

Of course, if there is a prolonged spell of hot weather, everything may catch up and get back to "normal". But if anyone is planning to travel to the region to see a particular species, it may be wise to get local information, or at least to make allowances for retarded flight periods.

Roger Gibbons

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The following pages on

Maculinea alcon (Alcon Blue)

are an unmodified extract from chapter 5.12 of the publication *EUROPEAN BUTTERFLIES: A PORTRAIT IN PHOTOGRAPHS*.

This extract is available as a free download at:

www.butterflyeurope.co.uk

If you have any **queries** about the publication etc. please contact me personally at

butterflyeurope@btinternet.com

The **notation** used for identifying wing-pattern elements is also available as a free download from the above web-site.

Because chapter 5.12 contains pages on *Maculinea arion* (Large Blue), *M. telejus* (Scarce Large Blue) and *M. nausithous* (Dusky Large Blue), some **cross-references** in the present extract cannot be followed.

Introduction

Taxonomy and Systematics

The four species in the group are:

Maculinea arion (Large Blue);

Maculinea alcon (Alcon Blue);

Maculinea telejus (Scarce Large Blue);

Maculinea nausithous (Dusky Large Blue).

There is also a fifth taxon in Europe, *rebeli*, with controversial status. It has been regarded as a subspecies of *M. alcon*, which it resembles, or as a distinct species. However, recent studies have concluded there is no genetic reason to separate taxon *rebeli* from taxon *alcon* at species rank. I shall discuss this point more fully in the section on *M. alcon*, where taxon *rebeli* is included.

All the species range across Europe reaching Central Asia (*M. alcon* and *M. nausithous*), and the Far East (*M. arion* and *M. telejus*).

As described in ch. 5.0, there seems to be no established phyletic case for the recent trend of including the present four *Maculinea* species in the genus *Glaucopsyche*. The 'true' *Glaucopsyche* species are dealt with separately in the Green-underside Blue Group, ch. 5.13, an arrangement which fairly reflects the very marked difference in appearance between those species and the species in the present group.



M. nausithous



M. arion



M. alcon



M. telejus

Large Blue Group

General

As their common name implies, the species in this group are large, with wing-spans *up to* twice those in the Short-tailed and Little Blue Group (*Cupido* spp) which are some of the smaller species. In the field the difference appears much larger than a mere factor of two, presumably because the corresponding factor of four in wing-area is what impresses the eye when the insects are in flight.

The association of Polyommata spp with ants is at its extreme in the *Maculinea* spp which are parasitic on ants, usually *Myrmica* spp. The *Maculinea* larvae (and other stages) spend part of their life in the ants' nests where they develop at the expense of their larvae. In the case of *M. alcon*, the ants feed the butterfly larvae to the detriment, often extreme, of their own. The larvae of the other three species devour the ants' larvae.

The extreme relationship with ants is one of the common factors that unites the *Maculinea* species. Other similarities between the species are: their generally large size, all being larger than most other Polyommata species in Europe; and the uns pattern of spotting that is to some extent similar, particularly in *M. arion*, *M. alcon*, and *M. telejus*, as shown below. In particular there are no uns submarginal orange marks.

Apart from the above similarities, no other features are consistently similar in the present group. Interestingly, the only species in the present group using the same foodplant are *M. telejus* and *M. nausithous*, but the latter has the least similar appearance of all.

Overview

The unss of *M. arion*, *M. alcon* and *M. telejus* have standard antediscal and postdiscal spots, and disco-cellular marks. The submarginal bands consist of more-or-less complete double rows of black marks without orange marks between them. There is also some degree of laddering in the fringes.

The latter two features are much bolder on *M. arion* and so, together with its larger size, it is easy to distinguish.

The unss of *M. alcon* and *M. telejus* are very similar, but the more sharply curved row of postdiscal spots on both wings of *M. alcon* compared to *M. telejus* is a useful distinguishing feature, nearly always reliable. It is shown in more detail in the section on *M. telejus*.

The uns ground-colours and the amount of basal blue flush are unreliable ways to discriminate between *M. alcon* and *M. telejus*.

M. nausithous, however, is quite different: there are no antediscal or submarginal spots and the uns ground-colour is medium- to dark-brown.

Alcon Blue**Large Blue Group*****Maculinea alcon*****Taxonomy and Systematics**

I shall treat *M. alcon* as having two subspecies in Europe:

M. a. alcon;

M. a. rebeli.

There is, however, some difficulty in deciding how to regard these very closely related and similar taxa.

One well established fact is that most races of the *alcon*-complex use one of two different foodplants, *Gentiana* spp that favour different habitats (see below). Consequently, based on food-



shall suppose these taxa to be local races of one or other of the above subspecies of *M. alcon*.

One reason for recognising taxon *alcon* and taxon *rebeli* as subspecies here is to enable some exploration of whether they really are consistently different in appearance.

Distribution

M. alcon ranges from northern Spain and France across most of Europe south of the Baltic, through the Balkans to northern Greece and into Asia. It is found north of the Baltic in southern Sweden, but is absent from most of Italy and the Mediterranean Islands.

Foodplant and Habitat

The foodplant is one of several *Gentiana* spp, particularly *G. pneumonanthe* (Marsh Gentian) in bogs and marshes or *G. cruciata* (Cross Gentian) in drier, grassy areas. Less commonly, the foodplant may be *G. germanica* (Chiltern Gentian) found only in calcareous, dry habitats.

Thus, if one adopts the view that there are two eco-subspecies, *M. alcon alcon* is found in damp habitats using *G. pneumonanthe* and *M. alcon rebeli* is found in drier areas using *G. cruciata* or, sometimes, *G. germanica*. Another consequence of the habitat types is that colonies of ssp *alcon* are most commonly found at low altitude, and ssp *rebeli* at higher altitude.

Flight-time

The single brood flies from late June to early August, depending on location.

Variation, Identification and Similar Species

The two subspecies of *M. alcon* are similar.

The male ups has medium-blue ground-colour with reasonably narrow and uniform dark wing-borders and no postdiscal dark spots. The fringes are white and without any perceptible laddering.

The female ups is a deeper-blue, heavily and extensively suffused with dark scaling in the discal, postdiscal and submarginal regions. There are a number of postdiscal dark spots, usually obscured by the dark scaling. Some fringe-laddering may be visible.

The unss of both sexes are similar. The postdiscal dark spots, outlined in white in the usual way, are quite small on both wings. There are also some similar unhw antediscal spots and a disco-cellular mark on both wings. There are partial submarginal bands on both wings: the row of inner dark marks is a complete series of black spots; the outer row is effectively absent; and there are no orange marks.



reason to separate taxon *alcon* and taxon *rebeli* at species level. I therefore assume taxon *alcon* and taxon *rebeli* are the same species, both being *M. alcon*.

A second fact is that taxon *alcon* exists in scattered populations across Europe as does taxon *rebeli*. Although the known sites for taxon *alcon* and taxon *rebeli* are different, their overall distributions are largely overlapping. This does not conform to the common idea of geographical subspecies occupying two entirely different geographical regions where they have some consistent morphological difference(s), but does conform to another type of subspecies, the ecological subspecies (eco-subspecies) discussed in the General Introduction. It may be added that it seems inappropriate to think of taxon *rebeli* as a form of *M. alcon* because neither is in any obvious way subordinate to the other, as also discussed in the General Introduction.

Therefore, I suggest, if one wishes to retain the idea that there is a distinction worth retaining on the basis of foodplant and habitat, one should treat taxon *rebeli* as an eco-subspecies of *M. alcon* as is done here. Taxon *alcon* then becomes the nominate subspecies.

In addition to differences in habitat and foodplant, there are reportedly differences in the wing-patterns of ssp *alcon* and ssp *rebeli*, but in my experience these are not entirely consistent. This is recognised by Bálint (1996) who names two taxa in the Carpathian Basin related to *M. alcon*, taxon *tolistus* and taxon *xerophila*, with certain characteristics that distinguish them from either of the above subspecies of *M. alcon* as they appear in western Europe. I



Maculinea alcon**Large Blue Group****Alcon Blue**

In my experience, the uns ground-colour varies from pale-grey to medium-brown, with the latter being more common in eastern Europe.

Certain supposed differences between ssp *alcon* and ssp *rebeli* are described by most authors. Except where stated otherwise, the following list is taken from Higgins and Riley (1980).

On the male ups: ssp *alcon* has a dull, pale, dusty-blue ground-colour and dark borders, one to two mm wide; ssp *rebeli* has a brighter-blue ground-colour with narrower and better-defined borders, and the fringes often have slight laddering.

On the uns of both sexes: ssp *alcon* has a light-brown ground-colour and no basal green-blue flush; ssp *rebeli* has a grey-brown ground-colour, with more-distinct spots and a slight basal flush. A further feature (Fernández-Rubio, 1991) is that in Spain the uns spots are larger on ssp *alcon* than on ssp *rebeli*.

On the female ups: ssp *alcon* has a heavy, dark suffusion, sometimes with dark-blue in the basal region and obscure disco-cellular and postdiscal spots on the upfw; ssp *rebeli* has a basal blue flush and distinct disco-cellular and postdiscal spots on the upfw.

In the rest of this section, the above three paragraphs will be referred to as the standard description of the differences between the subspecies. It is not wholly successful, since a considerable number of inconsistencies can be pointed out in the pictures that follow. Because of these contradictions, it seems that wing-patterns are an unreliable way of separating the two subspecies.

There are no entirely similar species in the present group. The upss of *M. arion* (Large Blue), *M. telejus* (Scarce Large Blue) and *M. nausithous* (Dusky Large Blue) are very different in having postdiscal spots. The uns of *M. arion* is much more boldly marked, too, than *M. alcon*. The uns of *M. telejus* is similar to *M. alcon*, but the row of unfw postdiscal spots is less

curved on the former (see p. 22).

Outside the present group, there is some similarity to *Iolana iolas* (Iolas Blue), ch. 5.13, which is also very large, but has a very pale uns, a brilliant, gleaming-blue ups in the male and a distinctive, nearly-straight row of unfw postdiscal spots. Also, it is closely associated with *Colutea* (Senna) bushes. These differences are enough to make correct identification easy in the field.

The only other similar large species outside the present group is *Meleageria daphnis* (Meleager's Blue), ch. 5.4, whose males also have a pale-brown uns ground-colour, but the sub-marginal marks are quite different and there is a cusp in the wing-margin at the end of vein p3 like an incipient tail. The female of *M. daphnis* is very different.

Photography

It is very important to check out which foodplant is present if one is interested in identifying the supposed subspecies or, even better, to observe ovipositing taking place; the *Gentiana* spp are large enough to be found easily. The foodplant used might often be useful, too, in distinguishing females of *M. alcon* and *M. telejus* (Scarce Large Blue), if pictures of only the uns can be taken. As mentioned, details of the differences are described in the section on *M. telejus*, p. 22.

The most reliable way a photographer can identify the subspecies is to find out from experts which one actually flies at a given site. It is then informative to check if the information agrees with the taxon suggested by the eco-subspecies approach.

The butterfly is easy to see and has no difficult habits. As with other Large Blue spp, if it will not open its wings when at rest, try again early the next day.



Alcon Blue

Large Blue Group

Maculinea alcon

22 July 1995; Soria, Spain (all pictures on this page)

ssp *alcon*

These pictures were taken at a well known site for ssp *alcon* in Provincia de Soria, Spain. The site consists of a small, damp patch (less than 50 m square) on a sloping, dry pasture-field. From a distance, the patch showed bright green against the straw coloured grass of the rest. At the lower boundary of the field is an inaccessible wet area with long vegetation where possibly the main population was breeding. Nevertheless, ovipositing was observed in the damp patch on *Gentiana pneumonanthe* (Marsh Gentian), the foodplant of ssp *alcon*.

Males at this site (above, left and right) have a pale-to-medium blue ups ground-colour and quite-wide, black wing-borders.

Females (left and right) have a dusky-blue colour on the basal region of the upfw, reaching as far as the disco-cellular mark. Beyond this point the wings are effectively all black and any postdiscal spots or submarginal marks are just about entirely obscured. The upfw disco-cellular mark lies just in the blue region of the wing on this insect.



The unss of both sexes are very similar: the ground-colour is pale grey-brown; the postdiscal spots are well formed on both wings, but the antediscal spots on the unhw are irregular in size; there is a small unfw cell-spot; and the submarginal band has definite, but not prominent, inner dark marks, absent or faint outer dark marks and no orange marks; and there is a faint basal blue flush of limited extent.

As may be seen, there is always one unhw antediscal spot, but the other smaller spots may be wholly or partly absent.

The dark uns spots etc. are larger than those on ssp *rebeli* (next page).

The above ups and uns features agree with the standard description, except for the presence of the faint basal blue flush that should be absent.

Comparing *M. alcon* with *M. arion*, the latter is larger and has much bolder submarginal dark marks and, usually, a more extensive unhw basal blue flush.



The female (right) is ovipositing on *Gentiana pneumonanthe* (Marsh Gentian) before the plant is in flower.

The flower of *G. pneumonanthe* (left, also printing at 2 times life-size on A4), has three visible ova of ssp *alcon*. It was photographed at a later date in a different year (06 August 1994) when no adults were seen because, presumably, the flight-period had finished.

Comparing *G. pneumonanthe*, shown here, with *G. cruciata* (Cross Gentian), shown later, p. 15, it may be seen that the leaves of the former are narrower and the plant is altogether less robust.

When the picture shown later of ssp *rebeli* on *G. cruciata* was taken, that plant was not in flower.



Maculineaalcon

Large Blue Group

Alcon Blue



04 July 1991; subalpine meadow at 1400 m in the central Pyrenees, Spain (all pictures on this page)

ssp *rebeli*

The site is an authentic *ssp rebeli* site, with a population of literally many thousands.

The male ups ground-colour is slightly deeper and richer than that of *sspalcon* at the Soria site, and the ups dark wing-borders are of similar breadth. This disagrees with the standard description that *ssp rebeli* is "brighter blue with borders narrower and better-defined".

The male uns ground-colour (right) is grey-brown with smaller spots than *sspalcon*, which

agrees with the standard description. The unhw basal blue flush is perhaps more extensive than on *sspalcon*, which also agrees with the standard description.

The female uns (left) is very similar to the male, and as with the male has smaller spots than *sspalcon* from Soria, agreeing with the standard description. There is a very slight basal blue flush, agreeing with the standard description.



The ups dark suffusion slightly obscures the postdiscal spots on the female (right), but almost entirely obscures them in the other female (below left). The latter disagrees with the standard description.

The picture (below right) illustrates the large size of *M.alcon* compared to most other Polyommatinae species. Here it is alongside *Plebejusargus* (Silver-studded Blue), ch. 5.10.

The uns (above) and the others that follow of *sspalcon* and *ssp rebeli* show the sharply curved row of postdiscal spots, that distinguishes *M.alcon* from *M.telejus* (Scarce Large Blue). In particular, spot pd4 on the unhw and on the unfw, where visible, conform to the test given on p. 22.



Alcon Blue

Large Blue Group

Maculinea alcon

04 July 1991; same site as previous page, Pyrenees, Spain (above and right)

ssp rebeli

Ssp rebeli flies on the subalpine meadows in the foreground and the near middle distance, where the meadow vegetation is long. Even so, the ants must thrive because the butterfly population was very large.

The female (right) is perched on the foodplant, *G. cruciata* (Cross Gentian), where three ova are visible.



12 June 1997; a lowland meadow in Côte d'Or (see next page), east-central France (left and right)

ssp rebeli

The insects from this site are identified as *ssp rebeli* because the foodplant being used seems to be *G. cruciata* (Cross Gentian).

The uns of this female has a rather-brown ground-colour and almost no basal blue flush, which, if anything, fits the standard description of *ssp alcon*.

The quite-blue ups and visible upfw postdiscal spots are, however, characteristic of *ssp rebeli*.



Maculineaalcon

Large Blue Group

Alcon Blue



12 June 1997; same site as bottom of previous page, Côte d'Or, east-central France (left and right; above)

ssp rebeli

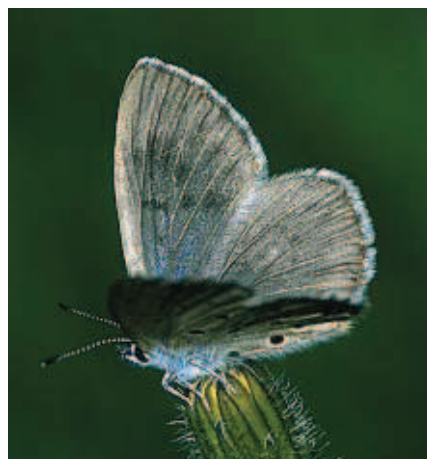
The dark ups of this female, which more-or-less obscures the postdiscal spots, is characteristic of *sspalcon* in the standard description, and so are the bold uns spots etc., and the rather brown ground-colour.

Since the ups of the first female from this site (at the bottom of the previous page) agrees with the standard description of *ssp rebeli*, and this one agrees with *sspalcon*,

it seems one cannot rely on the female ups to distinguish the subspecies.

The variability of the female upss shown from this site is quite usual elsewhere, too, in my experience.

The preceding pictures were taken at the site pictured above: a sloping, flower-rich pasture with places where concentrations of the foodplant, *G. cruciata* (Cross Gentian), grew.



11 July 1996; roadside bank in the hilly country between Nürnberg and Regensburg, S Germany (right)

ssp rebeli

The site is illustrated on the next page.

The foodplant being used was *Gentiana cruciata*, as shown in the picture of this female.

The row of ups postdiscal spots and the disco-cellular mark are obscured, however, which favours *sspalcon* according to the standard description.



Alcon Blue

Large Blue Group

Maculinea alcon

30 June 1997; a roadside bank in the hilly country between Nürnberg and Regensburg, S Germany (above)

The site itself is a dry, calcareous slope, rich in flowers, but immediately across the road is the floodplain of a small river, with damp fields and marshy places. However, the females were observed to be ovipositing on *Gentiana cruciata* (Cross Gentian), the usual foodplant of *ssp rebeli*. The electricity pylon is built on a level, man-made terrace where a small amount of the foodplant was growing, but not elsewhere so far as I could see.



11 July 1996 (left and right) and 04 July 1994 (below right); as above, S Germany
ssp rebeli

The pictures (left and right) are of the same male. It has a clear-blue ups, with fairly-narrow dark wing-borders, and the hw fringe is partially laddered, all of which favour *ssp rebeli*, according to the standard description, but the small upfw disco-cellular mark is not usual on either subspecies of *M. alcon*.



The uns ground-colour of this male is quite brown, but on the other male (right) the ground-colour is pale-grey. It is hard to believe the colour difference is not mainly genuine, so these pictures warn against relying on the uns ground-colour to distinguish the subspecies.



05 July 2000; a dry, open, grassy area with flowers, SW Hungary (left; three pictures at the top of the next page)
ssp alcon?

Although the pictures were taken in a dry and flowery area, there was an extensive marshy area close-by where *Gentiana pneumonanthe* (Marsh Gentian) was growing. It is assumed, therefore, that the insects found were *ssp alcon*. *M. telejus* (Scarce Large Blue) was also found here, see p. 24.

Only males were photographed in the drier area, perhaps because of the flowers, and presumably the females were in the marshy area where most of the foodplant grew.
cont. on next page



Maculinea alcon

Large Blue Group

Alcon Blue



cont. from previous page

The male ups (bottom of previous page) is similar to *ssp alcon* and *ssp rebeli* elsewhere, for there seems to be little real difference between the male upps. The uns of the same male (left) might easily have been thought to be female from the position of the abdomen if it were not for the ups picture and the foreleg, which is shown in another picture but not printed here.

The female (right) has slightly bolder spots, a slightly darker uns ground-colour and a stouter abdomen than the male. The position of the abdomen is typically female.



Despite the small size of the insect (left) the sharp curvature of the unfw postdiscal row tends to rule out *M. telejus*, an example of which from this site on this date is shown later, p. 24. The markings are close to those of the male above, and one must suppose it to be a semi-dwarf insect.



12 July 1999 (right) and 28 June 2008 (left; below, left and right); a warm, south-facing, flowery slope at 550 m with fairly-long vegetation near woodland, Bakony Hills, Hungary
ssp rebeli (xerophila)

This is an authenticated site for the taxon *xerophila*. The foodplant being used was *G. cruciata* (Cross Gentian), so this taxon may be regarded as a race of *ssp rebeli*. This race is known for being generally dark.

The July date was at the end of the flight-period, for all the insects then were worn.

The male ups (above right) has extensive vein-darkening, perhaps in part due to

wear. The uns colour is unreliable because, unfortunately, the picture has been recovered from a very underexposed original transparency. The picture of the male (above left) is reliable and has a grey uns ground-colour.



The female ups (right) is almost entirely dark but the illustration in Bálint (1996) has more blue, similar to the standard description of *ssp rebeli*. The vestigial ups blue scaling on this female is, however, typical of several others seen.

The female (left) has a very brown uns ground-colour, quite different from the male and very different from the standard description of *ssp rebeli*. The ground-colour is the same on all females photographed.



Alcon Blue

photo: Ted Benton, mag. approx.

Large Blue Group***Maculinea alcon***

19 July 1999; marshy meadow, about 50 km S of Budapest, Hungary (left and right)
ssp *alcon*

The foodplant of ssp *alcon* was growing in the wetter areas of this site.

The male uns (right) is similar to those shown on the previous page, but the printed colour is unreliable because the original was very underexposed. In contrast, the male uns (left) is less boldly marked and has a browner ground-colour than the males on the previous page. (The original of this picture is better than the version printed here due to my unsatisfactory copying process.)



23 July 1996; grassland at about 400 m in the Bükk Mountains, N Hungary (right)
ssp *rebeli*

This male is assumed to be ssp *rebeli* because of the dry habitat and because it fits the distribution maps given by Bálint (1996) for taxon *xerophila*.

The bright-blue ups and sharply-defined borders fit the standard description of ssp *rebeli* and the grey uns ground-colour is appropriate too.

The dark unhw spots etc. seem to be faint or absent, so there might be some difficulty in distinguishing this insect from *Iolana iolas* (Iolas Blue), ch. 5.13, unless one notices that the row of unfw postdiscal spots curves away from the wing-margin as one traces the curve from the costa towards the inner wing-margin; on *I. iolas* the opposite occurs.



03 July 2008; a meadow in woodland at 450 m in the eastern Carpathians, NW Romania (left; below, left and right)
ssp *rebeli*

This female was seen ovipositing on the *Gentiana cruciata* (Cross Gentian) plant (below, printing at life-size on A4). A few ova are just visible.

The ups is extremely dark with no blue suffusion as such, just a scattering of blue scales. The white mark on the upfw is not a proper pattern-element. The total obscurity of the postdiscal spots etc., fits better with the standard description of ssp *alcon*.

The uns ground-colour is quite brown, as seen on a number of insects shown before.



Maculineaalcon

Large Blue Group

Alcon Blue



03 July 2008; same site as bottom of previous page, NW Romania (left and right; below, left and right)

ssp rebeli

One male (left and right) is more worn than the other (below, left and right). However, allowing for this they are similar.

The uns ground-colour is quite brown, like that of the female from this site already shown.

There are some small differences in the sizes of the uns postdiscal spots and in the visibility of the submarginal marks. Although these differences are not large they are as great as many illustrations show for the difference between *sspalcon* and *ssp rebeli*.

Taking into account all the pictures shown, there seems to be little consistent difference between the two subspecies across Europe and such differences as there are do not correlate well with the standard description, except, perhaps, in western Europe. Quite possibly the standard description originates from descriptions of western races.



14 July 2008; verdant gully at 1800 m in the southern Pirin Massif, SW Bulgaria (right)

ssp rebeli?

Because of the altitude this insect is presumed to be *ssp rebeli*, but the foodplant was not observed. And although very flowery, the habitat was generally quite dry.

This male is very similar to the insect above from Romania, and tends to confirm a general tendency for browner uns ground-colours in eastern Europe.

Another generally similar *M.alcon* was photographed, but more worn and with larger uns spots etc. The sex could not be identified, but one might presume it to be female from the larger spot size.

