

## Reading the Map

Neil Hulme



**Male**

Photo © Neil Hulme

When I first saw the tweet reporting a Map butterfly in Dorset, linked to finder [Steve Smith's excellent blog](#), I immediately became interested in its origin, particularly given the high levels of vagrant activity observed over the last two years. When the next report indicated a sizeable population, interest gave way to excitement and I became optimistic that we might be seeing an attempt at natural colonisation of the UK, which is almost inevitable as the species continues to expand its range in northern Europe.

Steve was criticised in some quarters for first reporting the event, allowing a relatively small group of people (a couple of dozen) in on the secret, before changing tack and suppressing the news, to use a birding term. Steve has already explained this apparent U-turn, which was based on the advice he initially received about the species, ruling out the possibility of a natural arrival, followed by discussions suggesting that this was far from certain.

For the first two days Steve believed that this was most likely a release, having been told that the Map is a non-migratory species and hence a poor candidate for Channel hopping. This is one of the many myths repeated on social media which need to be challenged. Irrespective of the debatable origin of these particular butterflies, the Map will get here under its own steam in the not-too-distant future. If non-migratory species were incapable of making significant gains in terms of their geographic distribution, we would have far fewer species on the planet than we do. I've already commented in another thread about the historical records of some of our more sedentary species on e.g. lightships; even the most unlikely species are on the move when environmental stimuli trigger adventurous dispersal behaviour. In 2011 Chalk Hill Blues ventured nearly 30 Km across the Sussex Weald during a population explosion. The Purple Emperor invaded Sweden in the early 1980s and is now spreading north. In 2006 Silver-spotted Skippers skipped 18 Km across the Sussex Downs. These are not migratory species, and nor are those which have spread from the Midlands to Scotland in just a few years. Matthew Oates' motto is "never underestimate a butterfly (or caterpillar)", but we always do, every time.

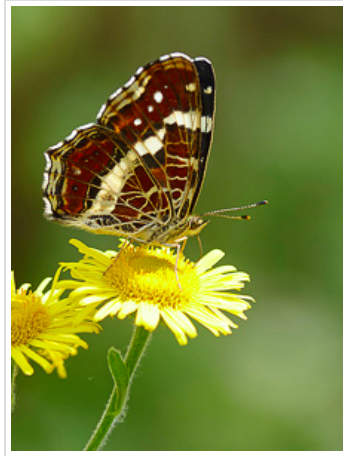
By the evening of 8th August I was planning to investigate the Dorset Maps. At this point I didn't know Steve and wasn't privy to any more information about their whereabouts than anybody else (other than the local birders who had already been alerted). I immediately knew where the site was, given the original wording on Steve's blog, so I set off the following morning. I hadn't realised the traffic congestion problems in this neck of the woods, so it was early afternoon before I introduced myself to Steve and was getting up-to-speed with events. At this point Steve and co-finders Brian Arnold and Derek Haynes were still assuming this to be a release, based on the advice they had been given.

Although I won't be reaching any firm conclusions, it is worth airing the reasons why I suggested to them that this might represent a natural colonisation, not least because the thought processes address some of the misconceptions held about butterflies in general, and particularly the Map.

Before I go on to discuss the evidence for natural colonisation versus captive bred release, I must clearly differentiate my own musings from the official views of Butterfly Conservation. On the evening of 9th August I contacted the scientific staff at BC HQ to report on what I'd seen and my interpretation of the data. A number of staff visited the site and for a while at least it seemed to us that a natural colonisation might have occurred.

However, as widely reported, an individual subsequently came forward to admit an accidental release. The view at BC is that this individual is indeed responsible for the presence of these butterflies, and I agree that this is the most likely explanation. Sadly, these days it is seldom possible to be 100% certain about what is going on with some of these events, and irresponsible releases continue to muddy the water and hamper studies of butterfly distribution and their movements in response to climate change. Please don't do it, not least because the release of alien species is an offence under the Wildlife and Countryside Act 1981.

## Natural Colonisation?



**Female**

Photo © Neil Hulme

So what was the evidence, albeit circumstantial, that these Map butterflies might represent a natural colonisation, before the guilty party owned up?

After visiting the site on a number of occasions, and after looking at photographic records in detail with Steve Smith, we know that at least 20 individual Map butterflies were flying here. Examination of their condition and advancing signs of wear and tear indicate an age variation of probably 7 - 10 days between adults. Detailed analysis of individuals versus time and precise location suggest that the emergence was ongoing over several days. Despite some comments made on social media, the presence of more than 20 adults is highly unlikely to be attributable to the progeny of a single pairing. If butterflies habitually produced this many offspring, populations of most species would increase exponentially, and they don't. Sadly, for many species the reverse is true. Only in exceptional circumstances, such as the aforementioned Sussex Chalk Hill Blue population explosion in 2011, does the number of offspring significantly exceed the well documented ratio which generally leads to an approximate status quo. Generally speaking, a pair of butterflies will give rise to a pair, with periodic fluctuations above and below the norm.

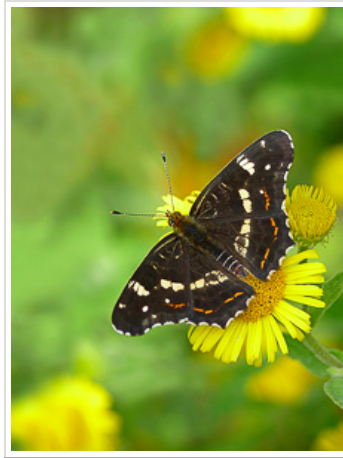
If this was a natural event it was therefore most unlikely that these butterflies were the progeny of a single vagrant female, arriving in the spring of 2014. The potential for a primary, current movement of Map across the Channel was a complete non-starter, given some of the above details. Also arguing strongly against the possibility of a spring vagrant is the different behaviour observed between broods in the Map. Scientific research demonstrates quite clearly that dispersal behaviour is very much a feature of the second brood (note: the species is trivoltine in some areas), aided by a heavier build in thorax and associated musculature, and larger wing area. So it would be necessary to look further back for a rational explanation of events and population structure.

The previous brood would have been on the wing in northern France during the first week of August 2013. When I recalled what was happening during the first week of August 2013 I became more confident that something very exciting might be happening here. It was that week when more than a million butterflies crossed the Channel, including large numbers of Long-tailed Blue and *gorganus* Swallowtail. Around that time other species such as Queen of Spain and Monarch were making cameo appearances, although most voyagers were the more run-of-the-mill Whites. This was one of the biggest such events since 1945 and to me it looked very much like a smoking gun. An August 2013 arrival would certainly account for the population we observed here. It would also mean that the species had already overwintered successfully.

Returning to the oft quoted claim that the Map is a sedentary, non-migratory species that couldn't possibly have made the journey here, let's look at some facts. The highly respected Dutch butterfly scientist Chris van Swaay recently provided figures for the colonisation of new territory by this species in Europe. In 15 years it over-ran the Netherlands at c. 20 Km per year. It is currently moving through Finland at c. 60 Km per year. This is a butterfly on the move, and fast. It will fly over water too, having colonised a number of islands off the mainland European coast, including Jersey. Don't believe claims that this is a weak, puny species. I've watched it battering the living daylights out of Red Admiral and performing some remarkable feats of aerial competence (more in the section on behaviour).

So could the Map have made the journey to Dorset unassisted by Man? In my opinion, yes, without any doubt whatsoever. However, that doesn't mean that it did so on this occasion.

## Captive Bred Release?



**Male**

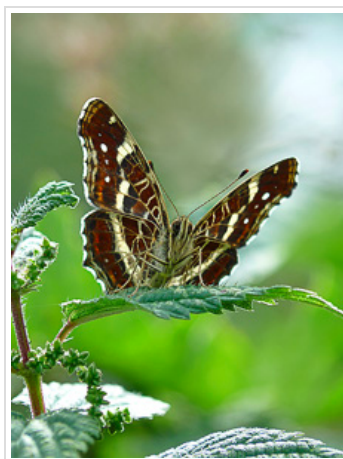
Photo © Neil Hulme

Someone has come forward and admitted to releasing these Map butterflies. That should be the end of the story, but it isn't quite that simple. Assurances of confidentiality were given to this individual, so I can't say too much about this confession, but I'm personally very confident that the details of the story as told are untrue. Others have speculated as to why this might be, and they may well be correct. The thing about this admission which bothers me is that all such events involving vagrant species in recent years have rapidly become surrounded by rumours, silly claims and unverifiable stories. So how reliable is a story admitting to a release when it is clearly not true? When the Queen of Spain set up home briefly at Minsmere we heard "I know the guy who's admitted it, but I can't tell you any more". Well, I know the guy too, and he told me that he admitted it to you just to wind you up. And so things quickly descend into a childish "he said/she said". When the Queen of Spain set up home briefly at Chichester we heard "they've been released deliberately to counter the planning application to develop the site for housing". The problem here was that the planning application was submitted a year after the butterfly had disappeared, requiring that Earth go into a reverse spin cycle to be true. This species doesn't exert any legal influence on a planning application anyway. This sort of nonsense tells us nothing about the ability of butterflies to make incredible journeys for the long-term good of the species. It merely confirms some of the darker sides of human nature. Butterflies will continue to migrate and they will continue to disperse, as they always have done.

My own view is that, yes, this is most likely the work of the individual who came forward, but after doing something irresponsible in the first place, he's then gone on to preclude a definitive judgement by making a complete hash of his admission. At this point all Recording Officers will be pulling their hair out or heading to Beachy Head. To reiterate, the official BC position is that this is an accidental release. My own view is that the butterflies were probably released, but that there remains an element of doubt.

One thing that does come out of this episode very clearly is the damage that is potentially done by releasing non-native species. The perpetrator claims to have been studying the influence of climate change on the Map. Through his actions we are prevented from studying the effects of climate change on the Map. If you know someone who is considering releasing Meadow Fritillary, Marbled Fritillary or European Swallowtail in the UK, please try to dissuade them.

## Behaviour



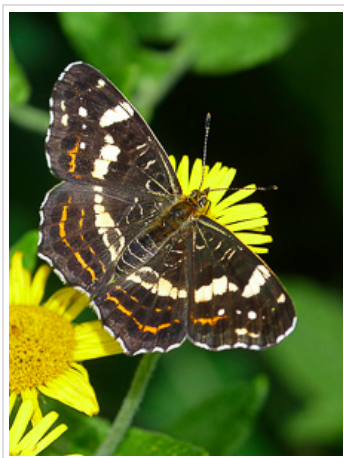
**Male**

Photo © Neil Hulme

On the three days I visited the site I personally saw 17 individual specimens of the Map. Their condition varied from scale-perfect to well

worn and individuals of this species appear to lose their condition very rapidly, rather like Mountain Ringlet, Chequered Skipper and Marsh Fritillary.

The best way of differentiating the sexes is abdomen shape (short and plump in females, long and thin in males) and behaviour, with males being typically aggressive and pugnacious. There is only slight sexual dimorphism, with females being slightly larger and having more broadly rounded wings. The degree to which the orange stripes are developed across the rear wings is also helpful, but not foolproof. Generally females have two such stripes and males just one, or a very weakly developed second stripe. However, it is the overall bolder nature of these stripes which usually signifies a female.

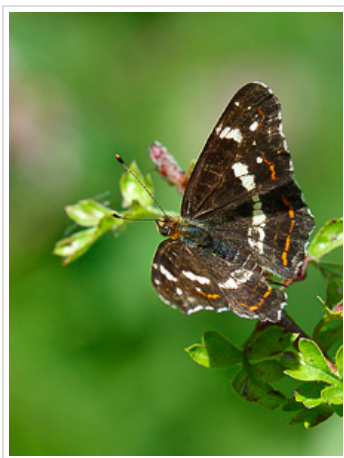


**Female**

Photo © Neil Hulme

Both sexes seem to spend much of the morning and first hour of the afternoon nectaring, during which time they can be remarkably elusive. Fleabane, Marjoram, Thistle, Cow Parsley and Convolvulus were all used as nectar sources.

At around 1.30 pm the males started to congregate at leks, becoming very visible for the remainder of the afternoon. These leks seemed to move in response to factors such as wind direction and position of the sun. The males are very aggressive and behave in a similar manner to Duke of Burgundy. When two male Maps clash they spiral upwards vertically to heights in excess of 20 metres, before returning to their perches on the sunny side of bushes and small trees. Other species which they attacked vigorously included Red Admiral (which they particularly dislike!), Comma, Holly Blue, Common Blue, Speckled Wood, Meadow Brown, and Green-veined White. One male took risks by chasing a Southern Hawker.

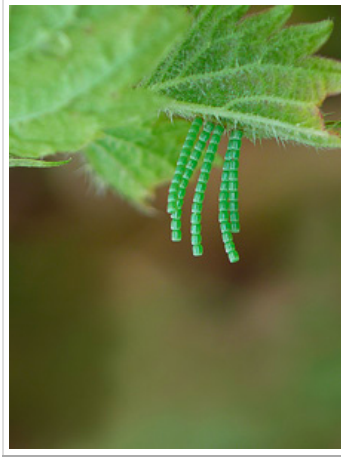


**Male**

Photo © Neil Hulme

Activity stopped quite early on most days, usually around 4.30 pm, although males were observed as late as 5.45 pm on occasions. Butterflies were seen going to roost in Blackthorn at a height of 3 metres, and in Sycamore at a height of 8 metres. This species requires real warmth to get it going, so becomes inactive before most other species under cloud cover, and similarly reappears after most other species when the sun reappears.

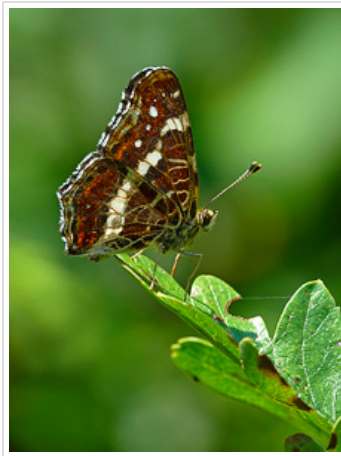
One female was observed egg laying. The bright green eggs are laid in strings attached to the underside of Nettle, mimicking the plant's flowers. The observed batch consisted of five strings comprising 10, 11, 12, 13 and 13 eggs.



**Egg strings**

Photo © Neil Hulme

## The Future



**Male**

Photo © Neil Hulme

A number of people have asked me whether the Map will manage to survive the winter and appear in its very different spring livery next year. On balance I would say it is unlikely, although we might see one or two individuals. The news of egg-laying was publicised very quickly, so it was no surprise to see known collectors working the site a couple of days later. Whatever you think of collectors, they are undoubtedly very knowledgeable and well connected people. Although their thorough searches of the local nettle beds for eggs might have been fruitless, the gregarious caterpillars will be easy meat - 'the cat is out of the bag', so I'm not concerned about the now redundant sensitivity of mentioning eggs in my account.

It is inevitably going to be a knife-edge situation when a new species first arrives on a landmass outside its current geographical range, so this is an example of when collecting can potentially play a critical role in determining the outcome. As a general rule the activity of collectors is small beer when compared with the crimes we commit against the countryside. The degradation of sensitive habitats has been the main issue for many decades. Sadly, from a commercial point of view, British Maps will be worth more if the event is short-lived.

## Summary

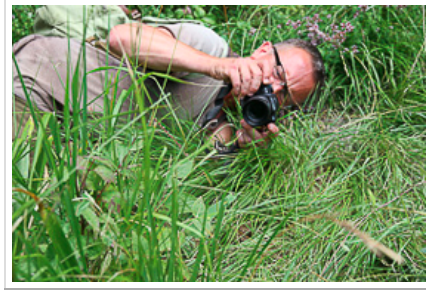


Photo © Steve Smith

From a personal perspective I have enjoyed watching this species immensely. The Map has a chequered history in the UK and we should probably treat it with a little more respect. When it does arrive here we should welcome it with open arms. The English Channel presents a real challenge to new colonisers and a number of false starts are likely before a new species becomes established. That might mean that a level of secrecy and suppression is necessary while the species gets a foothold, meaning that everyone will be able to enjoy watching the new arrivals in time. I can fully understand that many have a burning desire to tick a new species, but one only has to look at the habitat damage caused at Stockbridge Down when Black-veined Whites were (almost certainly) released there to appreciate that compromises must sometimes be made. Butterflies are different to birds, so we should take their differing needs into account when these exciting events occur. Butterfly Conservation has just released some guidelines to Branches, to assist with the handling of tricky events such as this. Those guidelines put the needs of the butterflies first.

Not least, I've enjoyed meeting some very interesting and knowledgeable people as the Map story has unfolded. Steve Smith is primarily a birder, but after seeing (admittedly not finding) *gorganus* Swallowtails on his local cliff tops, and the rare and stunningly beautiful Painted Lady ab. *rogeri*, my advice to his local mates is to stand as close to him as possible next summer.