



Summer of the Painted Lady

Below: The desert in bloom last winter in the Atlas Mountains, Morocco, providing food for Painted Lady caterpillars... and for camels.



BOB GIBBONS

Summer 2009 will be remembered for its abundance of Painted Lady butterflies, estimates putting the number in the UK as high as a billion. **Richard Fox**, Butterfly Conservation's Surveys Manager, tells the story so far...

Here in the UK there has historically been little way of predicting whether a year is going to turn out to be good for the Painted Lady or not. Certainly the preceding year is no guide because this butterfly cannot normally survive our winters and we are dependent upon immigration each spring and summer to re-colonise our islands. However, with an ever expanding network of observers and internet technology, the amazing arrival of Painted Ladies during May and June this year had been anticipated for months in advance.

The first indications that something extraordinary was happening came towards the end of

March. Constantí Stefanescu, organiser of the butterfly monitoring scheme in Catalonia, Spain, and some colleagues undertook an expedition to Morocco to try to locate the Painted Lady's winter breeding grounds. The Painted Lady is a true nomad and, in our part of the world, is found from North Africa in the wintertime through to northern Europe in the summer. Rather than staying put and finding ways to survive inclement seasons, as most butterfly species do, the Painted Lady is constantly on the move. Its life-cycle doesn't stop for winter cold or summer heat and drought, because each successive generation of butterflies migrates to places where the current climate is suitable.

SUMMER OF THE PAINTED LADY

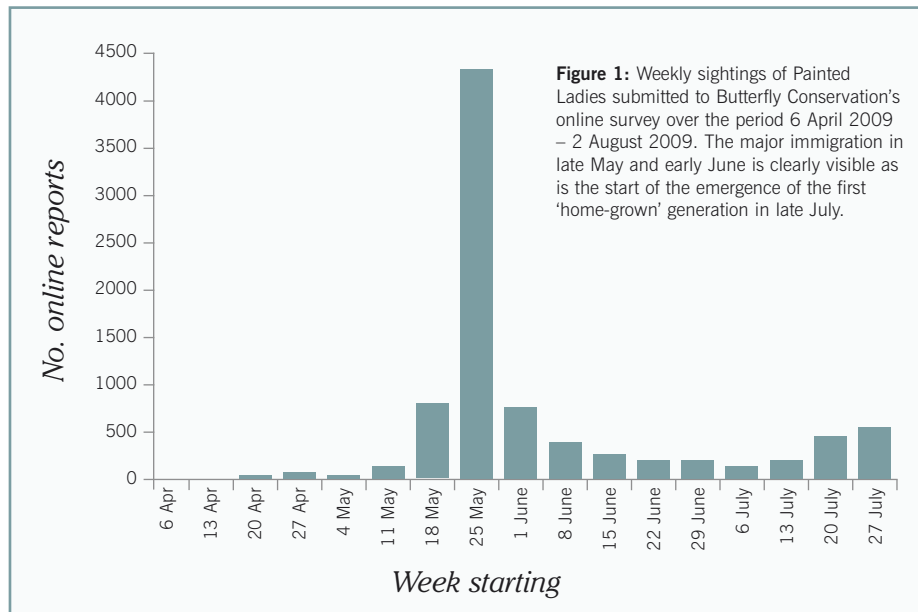


Figure 1: Weekly sightings of Painted Ladies submitted to Butterfly Conservation's online survey over the period 6 April 2009 – 2 August 2009. The major immigration in late May and early June is clearly visible as is the start of the emergence of the first 'home-grown' generation in late July.

Thus, like the Wildebeest following rainfall and fresh grazing across the African plains, the Painted Lady roams across whole continents seeking plants for its caterpillars to eat throughout the year.

Winter rain and snowfall was plentiful in Morocco this year and the countryside in the valleys and foothills of the Atlas Mountains was lush and green. Near the town of Taroudant in the Souss Valley, some 100 miles south-west of Marrakech, the scientists found what they were looking for. On a small patch of fallow land, typical of many such fields in the valley, they estimated 150,000 Painted Lady pupae, most of which had already emerged. It appears that the Souss Valley area is one of the sources for the Painted Ladies reaching Europe and the UK (at least this year). Over the following days, thousands of butterflies were observed migrating northwards across Morocco and by the second week of April, huge numbers had crossed the Mediterranean and arrived in southern Europe. The migration out of Africa took place over many weeks. Reports from Gibraltar, Spain, the Balearic Islands, southern France and Corsica all spoke of vast influxes of Painted Ladies during much of April and May. Geoff Carefoot, in southern France, recorded up to 130 per minute passing through his garden on 27 April, all moving unerringly north-east. The migration was still going on there, albeit at a lesser level, on 1 June. Not surprisingly, Geoff commented that he had "never seen such a movement in 45 years butterfly watching".

Below: Hundreds of thousands of caterpillars were found at a site in Cornwall.



BARRY OFIELD

Many other observers echoed this sentiment.

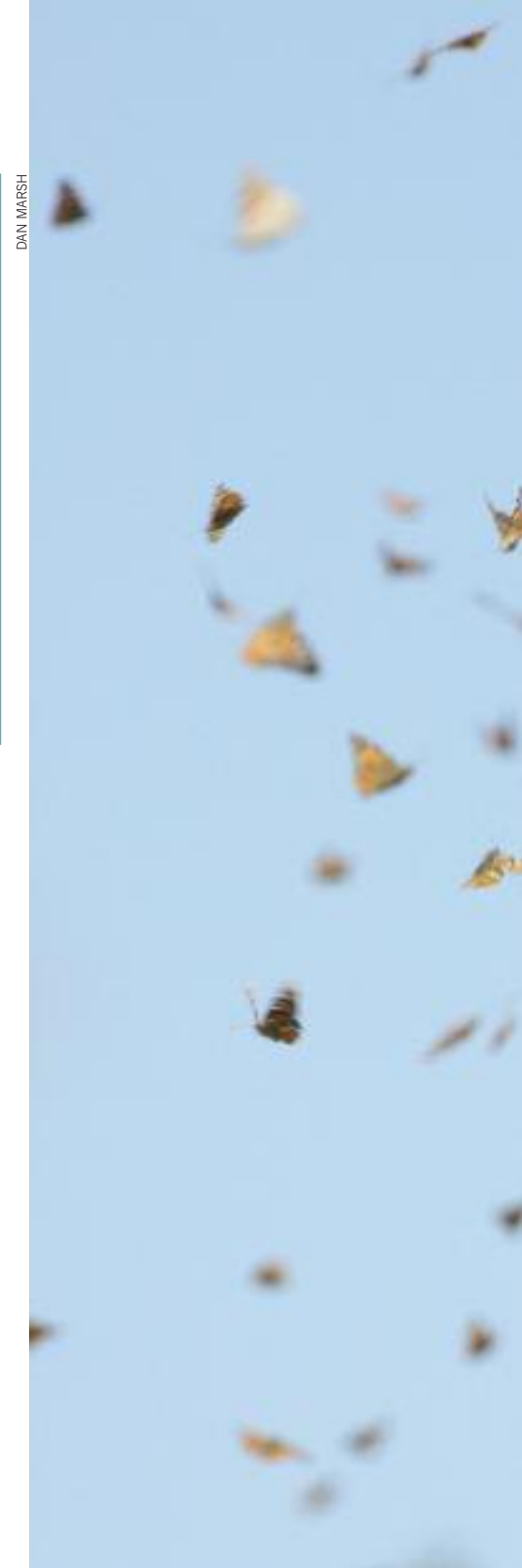
Some of the first African migrants reached the UK too, involving journeys of at least 1,000 miles – that's quite a feat for creatures with wingspans of 7cm or less. Butterfly Conservation's online survey of Painted Ladies received over 50 sightings during April, mainly from southern Britain and with numbers increasing as the month came to a close. Cornwall fared well with hundreds of Painted Ladies being reported from coastal paths in late April and during May. Interestingly, many of these immigrants were very pale, typical of Painted Ladies that have developed in relatively hot climates.

However, these were clearly only a tiny fraction of the Painted Ladies streaming northwards at this time. For a time in early May it seemed that unsettled weather was blocking the northward progression of the majority of butterflies although, by now, it seemed inevitable that Britain and Ireland would receive a mass immigration at some point.

850 mile front

A report of 100 Painted Ladies at Portland Bill, Dorset, on 22 May marked a shift in the situation and proved to be the start of something big. The weather settled into fine, sunny, high pressure and a huge migratory front of Painted Ladies started to arrive. This front was at least 850 miles wide and resulted in the simultaneous arrival of butterflies in South West England, through southern parts of The Netherlands and central Germany to Poland. Over the subsequent bank holiday weekend, southern counties of Britain were deluged in an uncountable flood of butterflies, from central London to the wildest stretches of coast. I expect that many readers will remember vividly for years to come where they were when they witnessed the Painted Lady immigration.

Typically, sightings were of butterflies flying fast and low, invariably northwards, in streams (with butterflies a minute or two apart) rather than swarms. The counts continued to rise over the next few days, with some people recording thousands of butterflies passing by each hour. By this stage, some of the arriving insects



DAN MARSH

looked very fresh, suggesting that they might have been the first offspring from Painted Ladies that had bred in southern Europe. Nevertheless, reports from Mediterranean countries confirmed huge numbers of larvae and pupae still in development, promising more migrants to come.

The media were quickly embroiled in the excitement too. Television news, BBC *Springwatch* and all of the newspapers were keen to cover the phenomenon, keeping Butterfly Conservation staff and volunteers busy and providing a great opportunity to promote our online survey for the Painted Lady and Humming-bird Hawk-moth. The sightings



Above: Field of Painted Ladies.
Left: A Painted Lady swarm on Jersey at the end of May.

spectacular sightings of caterpillars to come. Several people found aggregations of thousands of Painted Lady caterpillars, but the most amazing discovery was by Barry Ofield and Malcolm Lee in Cornwall. At the end of June, in two 'thistly' fields near Port Isaac, they discovered half a million caterpillars in just seven and a half hectares. The scene was set for a bumper emergence of 'home-grown' Painted Ladies.

Then things took a turn for the worse. The 'barbeque summer' fizzled out in weeks of unsettled, cloudy and wet weather. The development of the next generation of Painted Ladies was well underway as this change in the weather set in and, sure enough, large emergences of butterflies were noted towards the end of July. Whenever the sun shone Painted Ladies were about, but their opportunities for breeding and egg-laying must have been more limited. Overcast, damp weather is far from ideal for their life-cycle development, so the next 'home-grown' generation, set to emerge in September, is likely to have been much reduced as a result.

There has been much speculation about whether 2009 will be the best year ever for Painted Ladies in the UK. We won't know the answer until all of the data are collated early next year. Certainly the immigration event in late May and early June was extraordinary and may well have been the largest ever recorded here.

Even more uncertain is what will happen to the butterflies now autumn is turning to winter. We know that they will not survive here and theory would suggest that they should migrate southwards to continue their breeding cycle, as does the closely related Red Admiral. However, in contrast to the latter species, there are very few observations of Painted Ladies flying south and leaving Britain and Ireland in the autumn. If they do fly south why isn't it seen and reported? One suggestion is that the butterflies may fly up into the sky to make use of faster winds at high altitude to assist their journey and are thus out of sight to recorders on the ground. Another possibility is that people simply haven't been in the right place at the right time to witness the departure of Painted Ladies from our shores. With your help we hope 2009 will be the year when some light is shed on this long-standing mystery. Please log all your Painted Lady sightings on the Butterfly Conservation website.

flooded in, with around 1,440 reports of the butterfly submitted for the Spring Bank Holiday weekend alone. This compares to approximately 500 online records for the whole of 2008.

On Saturday 30 May, Butterfly Conservation organised a timed migration count (the first of its kind in Europe), with hundreds of volunteers spending two hours counting Painted Ladies. Around 20,000 butterflies were counted at over 180 sites from west Cornwall to northern Skye. Using this data Professor Chris Thomas estimated that there were probably 15 million Painted Ladies present in England and Wales alone in just two hours on that Saturday.

The immigration into southern areas

continued on into June, but the scene of the excitement shifted to northern parts. By the end of May, the migratory front had reached all corners of Britain and Ireland in large numbers – including St Kilda where the influx provided the first sightings of any butterflies for two years. Many butterflies were continuing north and north-west and the first sightings from Iceland came at the beginning of June. On the continent, large numbers of Painted Ladies had reached Finland by this time.

Not all of the Painted Ladies continued relentlessly northwards. Some stopped and began to breed. Egg-laying was noted widely as far north as Glasgow in late May and there were some