

Adastra Report 2018

2018 will be remembered for the long, hot summer but while we were slapping on the sunscreen it was easy to forget that there had been a cold start to the year. Our first butterfly sightings were recorded on 10 January (**Red Admiral** *Vanessa atalanta*, **Comma** *Polygonia c-album* and **Brimstone** *Gonepteryx rhamni*) but the 'Beast from the East' soon arrived and ensured that any butterflies considering getting up early from their hibernation had better turn over and hit 'snooze' for a bit longer. Indeed as the cold winter hung around into the spring, it appeared many butterflies were having a lie-in. By April it was obvious that we were having a late start to the butterfly year. Our first 2018 **Orange-tip** *Anthocharis cardamines* sighting for example was 14 April compared to 25 March in 2017; a more typical emergence date for this species.

Butterfly Conservation's 'Fritillaries for the Future' project came to an end in March 2018. Over the past three years Neil Hulme has led the project which has created the open woodland habitats which are vital to the target species: **Pearl-bordered Fritillary** *Boloria euphrosyne* and **Small Pearl-bordered Fritillary** *Boloria selene*. Both these species have suffered drastic collapses in numbers over the past few decades associated with lack of appropriate management in our woodlands. The **Small Pearl-bordered Fritillary** which vanished completely from Sussex in 2013 has been successfully reintroduced into the Butterfly Conservation reserves at Park Corner Heath and Rowland Wood in East Hoathly. Several reintroductions of the **Pearl-bordered Fritillary** are currently underway, all conducted of course in accordance with the 'BC Code on Introductions and Reintroductions 2010' and with all the necessary permissions.

In June the news broke of another butterfly introduction in Sussex; albeit one which seems to have occurred a long time ago. David Cook had discovered a large population of **Black Hairstreak** *Satyrrium pruni* at the Ditchling Common Country Park. This species has never occurred naturally in Sussex but a very large group of colonies developed in Surrey during the second half of the 20th century, following a 1952 introduction (much of the habitat was ultimately destroyed).

Black Hairstreaks have a very restricted distribution in the UK that follows a line of clays between Oxfordshire in the south-west and Cambridgeshire in the north-east. Like the **Brown Hairstreak** *Thecla betulae* their main larval foodplant is **Blackthorn** *Prunus spinosa* although **Wild Plum** *Prunus domestica* is also used.

There have always been rumours of **Black Hairstreak** being present in the county. Some possible sightings earlier this century on the northern edge of our county made us wonder whether some of these introduced Surrey populations had survived and managed to hop over the border into Sussex but this was never confirmed.

In the summer of 2017 three elderly, late season **Black Hairstreaks** were recorded at Ditchling Common and during 2018, a survey was undertaken to determine the significance of these sightings and the status of the species locally. The presence of a large population (maximum day counts up 98) was confirmed, extending over at least 1.3 km of suitable habitat at Ditchling. The species may have spread to other areas within this landscape.

The history of the Surrey introduction indicates that the spread of even large, healthy populations may be a very slow process, moving at only c.1 km per decade (Thomas & Lewington 2014). The size and spread of the Ditchling population suggest that it was established long ago.

It is entirely feasible that this species has remained undetected for this long while, due to its very small size and unobtrusive appearance, elusive habits, short flight season and the typical pattern of boom-and-bust which renders it almost invisible in some years, even on the best sites. This year the species has appeared in unprecedented numbers across its natural homeland, probably reflecting the advantageous conditions for larval and pupal development through May.

The male butterflies are using **English Oak** *Quercus robur* as 'Master Trees' and both sexes descend to sit on **Bracken** *Pteridium aquilinum*, both to sunbathe and feed on honeydew. Although the condition of the males deteriorates rapidly, many females (slightly larger and more orange-brown on the underside) are still hatching and a patient search should reveal these. The best area to observe the species is the corridor of **Blackthorn** centred on TQ33441813, but the butterfly can be found on almost every suitable stand of the plant within the country park. Looks like we're going to have to add an extra chapter to 'The Butterflies of Sussex'.

If you read this report in the annual *Adastra* publication you'll know I'm always rambling on about the impacts of weather and climate on the fortunes of our 45 butterfly species. In the past few years our butterflies have endured a rollercoaster ride as our climate veers from one record breaking meteorological event to another. Nothing gets my blood pressure rising more than a mild, wet winter which can have a devastating impact on our butterflies, the majority of which pass the winter months as caterpillars at ground level where they are vulnerable to damp conditions. You'd expect the cold winter of 2017/18 would have returned my heart rate to normal. Surely I'd relax in the knowledge that the long, warm summer would give our butterflies the perfect opportunity to meet and mate? It wasn't long before Richard Fox (Associate Director for Recording and Research at Butterfly Conservation) had me pouring a large brandy to steady my nerves.

In the middle of the heatwave Richard noted "The glorious sunshine is perfect for adult butterflies to get on with their lives, finding mates, visiting flowers, dispersing to new areas and, most importantly, laying eggs. Their offspring, the caterpillars that will hatch in the next few weeks, will need fresh green plants on which to feed - if the plants have withered and died in the drought, then caterpillars will starve and the next generation of butterflies will be much reduced. 1976 itself was a great year for butterflies, but the long drought, which had its origins back in 1975, took a heavy toll on this butterfly bonanza and numbers crashed the following year. The wider countryside species didn't fully recover until 1984, while the specialist butterflies, those that require particular nature-rich habitats such as chalk grassland or heathland, have never recovered from the double whammy of the drought and the large-scale destruction of such habitats that was rife in that era."

In light of Richard's comments it was rather concerning to watch the Sussex landscape turn so quickly from green to yellow during the summer's drought. We didn't have to resort to the standpipes of '76 but by the end of the year the Met Office had declared that the summer of 2018 had become England's hottest summer on record. At Anchor Bottom near Upper Beeding for example **Adonis Blues** *Polyommatus bellargus* flew in notable profusion in the spring yet by the summer the **Horseshoe Vetch** *Hippocrepis comosa* on which their caterpillars feed was dry and withered. We'll be watching as always to see how our species fare in 2019.

Michael Blencowe, Sussex Butterfly Conservation