

# Another New World

Mapping the Brown Hairstreak in Sussex *Michael Blencowe*



In the long, cold winter of 2010/11 a team of Branch members embarked on a remarkable journey of discovery. Clutching their maps and magnifying glasses they braved deep snow and plummeting temperatures in their search across the county. What they discovered was a new world, invisible to even the most observant lepidopterist: the hidden kingdom of the Brown Hairstreak.





Perfect habitat for finding  
Brown Hairstreak eggs  
Intrepid egg-hunters doing  
their stuff

**The Brown Hairstreak** is one of our most elusive butterflies. I can still remember the thrill of my first ever sighting when one landed on a blackthorn in front of me at Harting Down in 2005. I have never seen another. Adult Brown Hairstreaks start to emerge in late July and immediately fly to the high tree-tops where they congregate on 'master trees'. The males remain there, feeding on honeydew, and rarely descend. Most records of this species are of chance encounters with a mated female who, once she has descended from the canopy, will skip along a hedgerow searching for a suitable spot to unburden herself of an egg. In between bouts of egg-laying she can remain very inactive.

Our 2010 Brown Hairstreak season started on 25<sup>th</sup> July when Andrew Guest recorded the butterfly at the RSPB's Pulborough Brooks reserve – one of the county's well known Hairstreak haunts. The furthest to the west was recorded at Nyewood by Shirley Wright. Our furthest east was in the centre of Brighton where Jeremy Burgess was "amazed to find a rather tatty Brown Hairstreak which settled for a while on a leaf" while he worked in his garden near Withdean Park.

The Steyning Rifle Range proved a popular destination for Hairstreak watchers. Here, Branch members have worked closely with the Steyning Downland Scheme that manages the site and a 'Butterfly Reserve' area has been created, aimed at providing habitat for this species. Another unusual record came from Graeme Lyons who "noticed a medium brown butterfly struggling along in the open" at Woods Mill on 14<sup>th</sup> October and "was amazed to see it was a tatty female Brown Hairstreak" – an extremely late record that gives this species a lengthy flight period of 83 days in Sussex in 2010.

The adult butterfly was recorded in just 29 of the county's 1023 tetrads (2km x 2km squares) in 2010, but just how rare is this butterfly in Sussex? We hoped our 2010-14 Sussex Butterfly Atlas Project would shed some light on the true distribution of this species but we were aware that due to its elusiveness it would be difficult to record accurately. Apart from the few 'known' sites where master trees can be observed it seemed that recording it was a case of being in the right place at the right time. However, there is another way...

Unlike the adult butterfly, the eggs of the Brown Hairstreak are easy to find. Typically laid on low blackthorn and other *Prunus* species, these intricate, miniature miracles of engineering are rather obvious in the winter against the dark background of a bare blackthorn branch or sucker. And finding an egg is, of course, proof that a female had been present at that site in 2010.

To encourage participation in a county-wide survey we launched the 'Brown Hairstreak November to Easter Egg Hunt'. Using our popular Branch website we encouraged other recorders to look at the blackthorn in their area. A 'How to Find Brown Hairstreak Eggs' webpage was created, leaflets were printed and a special event was organised at the Rifle Range to educate attendees in the art of egg hunting.

The survey would be my first time looking for these eggs. As I approached my first blackthorn bush on 27<sup>th</sup> October I was apprehensive at how easy it would be to find a 1mm egg on a 100m hedge. Within a few seconds I had my answer.

A typical Hairstreak egg hunt involved driving around the lanes of Sussex – ideally



Brown Hairstreak eggs  
on a blackthorn stem

An egg-laying, female  
Brown Hairstreak







Viewing Brown Hairstreak  
eggs under a microscope  
←  
Egg hunting at Steyning  
Rifle Range →



alongside a navigator with an OS map on their lap directing you to an east-west footpath. If this footpath is running alongside an east-west hedge then exit the car and check for blackthorn on the south side of this hedge. Sometimes the hedge will be nothing but blackthorn; other times a few blackthorn suckers will be all that you find. Either way, first check any suckers which rise from the ground close to the hedge. If this is unsuccessful check low down on the actual hedge. Target the forks at the junction between current and previous year's growth and at the bases of blackthorn spines. And that's really as far as this guidance goes because by now you should have found an egg. In some cases this method gave us a result literally seconds from exiting the car. More time was often spent looking for a suitable place to park the car than it was finding the eggs themselves! Once an egg was discovered we headed off to the next tetrad.

**"I was thrilled that other Sussex BC members were also taking up the challenge."**

Soon I started to receive emails from folk who were spending their weekends amongst the blackthorn. Among this group two individuals deserve special mention for their ceaseless searching. Martin Kalaher is a real pioneer. After discovering eggs in his Storrington garden he was determined to find a continuous line of tetrads leading right to the Hampshire border 35 km away and so, like all good pioneers, he headed west.



Richard Roebuck established himself as an expert egg hunter and, after putting Henfield on the Hairstreak map, expanded his empire and recorded eggs in many more squares across Sussex. I joined them both individually on a few occasions and, although never acknowledged, there was rivalry in the air when we approached each blackthorn hedge. They always beat me to the discovery of the first egg.

It made sense to start our search where adults had been reported to give us a better idea of their distribution in these areas. Initial searches were based around Henfield, Steyning and Storrington. With hand lenses and enthusiasm our recorders embarked

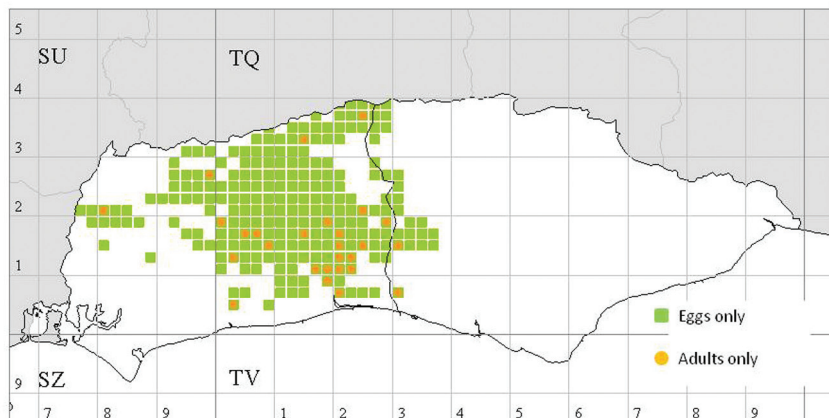


Egg-hunters: Richard  
Roebuck & Martin Kalaher  
Typical Brown Hairstreak  
habitat

on some frenzied recording in new territories and our tetrad map quickly expanded – sometimes at a spectacular pace. On some Sunday evenings email reports from egg-hunters arrived which added 30 new tetrad squares for the map. Blocks of squares merged, gaps were targeted and filled and by the end of 2010 we had established a ‘core area’ of Brown Hairstreak distribution in the county. Finding eggs within this area was relatively easy – you were rarely working a hedge for more than ten minutes until eggs were located - an indication of high population density.

This expansive area stretched from Steyning in the south all the way to the Surrey border and from Burgess Hill in the east across to Midhurst in the west; an area of approximately 900 square kilometres (347 square miles). Within this area we can almost guarantee that any suitable blackthorn hedge you search will contain a Brown

## Brown Hairstreak records 2010 (and Jan/Feb 2011)



Hairstreak egg. Or to look at it another way; if you had stood next to any suitable blackthorn hedge anywhere within this area in August or September 2010 a female Brown Hairstreak would have eventually flown past you. This was not a butterfly of small isolated communities as our records of the adult would suggest. Rather this is a butterfly whose distribution mirrors the distribution of its food plant as closely as any other 'non-specialist' species (in this respect the Brown Hairstreak is unusual; rare and/or nationally localised species normally fall into the 'habitat specialist' category). Eggs were found everywhere there was blackthorn; quiet bridleways, alongside dual carriageways, village greens, recreation fields and roundabouts.

There was one exception; 'The Balcombe Triangle'. Here, on the northeast edge of the core area the geology, landscape and habitat change. Wealden Clay turns to Tunbridge Wells Sandstone, open agricultural land turns into dark plantation woodland and the blackthorn becomes hard to find. Large areas of woodland and plantation dominate and, despite many hours of searching this area we could not find eggs. Meanwhile, north of here Vince Massimo had discovered a northeast passage and continued pushing east on the Wealden Clay along the county border north of Crawley.

On 11<sup>th</sup> January 2011, Martin Kalaher made it to the Hampshire Border and planted a Brown Hairstreak flag at SU7620 - our most westerly egg. Here, in the west of the county he had discovered what appears to be a separate colony of Brown Hairstreaks centred around Harting Down. He has, so far, been thwarted in his attempts to expand it or find a link back to the core area. This colony no doubt extends into Hampshire and it would be interesting to see if our neighbours to the west can pick up the baton and extend this discovery into their county. Although our survey was limited to Sussex we can see that the range of the species extends into Surrey on a wide front. Again, future work in Surrey could establish just how far it goes.

You will notice from our map that it would appear that the Brown Hairstreak has an aversion to East Sussex. Historically there have been very few records for this species in



this county. Hours of searching here over the winter confirmed its absence – but more surveying will be undertaken in the east in future years. We did, however, manage to extend the butterfly's range along a finger of Wealden Clay to Plumpton train station, but try as we might we could not find eggs further east.

After this defeat in the east, in early February we returned to the perimeters of the core area. We filled in a few gaps and tried to extend our borders; however our weary egg-hunters were no longer reporting as many victories in the hedgerows. The time it was taking to find an egg started to increase; sometimes squares were searched for hours before an egg was found. I started receiving more and more negative reports from tetrads. Of course for species distribution mapping a negative result is as important as finding an egg, but it is nowhere near as exciting. The buds had now started to appear on the blackthorn - the 'golden age' of Hairstreak egg hunting was over. I knew it would have to end one day – but had not anticipated reaching this stage of the survey until 2014. It is a testament to the contributors that we have mapped such a large area of the county in just three months.

There will no doubt be more opportunities over the rest of the Atlas survey period to find more squares but I have the feeling that the majority of the work has been done. In this short time we have ended up with more than just an insight into Brown Hairstreak distribution. We have learnt a lot about the ecology of this species, egg-laying site and habitat preferences, egg predation and we have formulated recommendations for hedgerow management. Our conclusions will form a future report.

As I write this in late February we have recorded the Brown Hairstreak in 234 tetrads – almost a quarter of Sussex. Brimstones are starting to appear and another butterfly year is about to begin, but a part of me can't wait for the blackthorn to lose its leaves again in the autumn.

Thank you to all who have contributed to this survey. Aside from the individuals mentioned above thanks go to our egg-hunters: Sally Milne, Susie Milbank, Dave & Penny Green, Clare Jeffers, Tom Timberlake, Ryan Mitchell, Alf Simpson, Matthew Sennitt, Peter Atkinson, Bob Foreman, Steve Teale, Susan Suleski, Anna Grist, Barbara Woods, Robin Bassett, Richard & Ruth Black, Sherie New, Dan Hoare, Jonathan Wood, Margaret Hibbard and Neil Hulme.



**Photos:** Michael Blencowe, Neil Hulme,  
Richard Roebuck and Bob Eade  
**Distribution map:** Clare Jeffers