

Upper Thames Branch Winter Egg Surveys

Here in Butterfly Conservation's Upper Thames Branch we are unique in having all five British hairstreak butterflies within our region. Four of the five species over-winter at the egg stage, the odd one out being the Green Hairstreak (*Callophrys rubi*) which does so as a pupa. One very important aspect of our annual butterfly recording effort takes place during the winter months when we carry out regular searches for eggs of our two local "specialities", the **Brown Hairstreak** (*Thecla betulae*) and **Black Hairstreak** (*Satyrrium pruni*). While it is also possible to find eggs of the rather more widespread White-letter Hairstreak (*Satyrrium w-album*) on elm and Purple Hairstreak (*Neozephyrus quercus*) on oak, our efforts are concentrated towards the two less common blackthorn-feeding species.



Brown Hairstreak eggs



Black Hairstreak eggs

The once widespread Brown Hairstreak declined significantly during the twentieth century and is now a UK BAP (Biodiversity Action Plan) species that exists in only seven or eight population centres spread across the southern half of England and Wales. Our local population, one of the smallest by area, is centred roughly on Bernwood Forest and straddles the Buckinghamshire and Oxfordshire border. On the wing from late-July until early-October, the butterfly itself can be very difficult to find because of the amount of time it spends up in the tree canopy.

The Black Hairstreak exists exclusively on the band of heavy clay soils lying between Oxford and Peterborough. Although significantly less abundant than the Brown Hairstreak, the butterfly currently has no UK BAP status because its population is seen as being relatively stable. Our local colonies account for about half of the entire range of the species and are spread across a number of discrete sites between Oxford and Milton Keynes. The butterfly has a very short flight period, lasting for about three weeks in June, but its relatively sedentary lifestyle on the blackthorn means that it can be much easier to see than the Brown Hairstreak.

Searching for eggs of the Brown Hairstreak during the winter months is the best method of establishing the range and health of the species. Once the leaves have dropped, the creamy-white bun-shaped eggs are relatively easy to find on recent blackthorn growth simply using the naked eye, although it is worth checking each egg with a x10 hand lens because there are a couple of species of moth whose eggs can fool the unwary.

While Brown Hairstreak eggs are occasionally laid above head height, the female's preference is often for young suckers, sometimes with the eggs being found only inches above ground level. A sunny aspect, sheltered from the prevailing south-westerly wind, usually offers the best chance of success during egg searches.

In direct contrast, because so few are ever found, searching for Black Hairstreak eggs is more of a "fun thing to do" than an activity which serves much practical purpose! The eggs are particularly difficult to spot, even to the practiced eye. Having more of a grey-white colour and shaped a bit like a doughnut, they somehow seem to be far better camouflaged on the blackthorn. The butterfly is also less fussy about where the eggs are laid. While some have been found in similar positions to those of the Brown Hairstreak on the younger blackthorn growth, others have been discovered on quite broad stems well inside a thicket and occasionally on branches at well above head height.



Searching for Brown Hairstreak eggs at Marston Meadows, Oxford



A Black Hairstreak egg survey under way at Finemere Wood, Bucks

Our Brown Hairstreak egg searches have evolved into three different kinds of activity. Checking out ("re-egging") the already known extent of the butterfly's range is generally a solitary occupation, involving a few individuals travelling around on their own in their cars, looking for a likely roadside spot in a particular kilometre square, finding an egg and then moving on to the next square. This is how the majority of the distribution map is reconfirmed each year.

Finding new squares on the edge of the range can be a combination of this technique and the use of organised "hit squads", groups of branch members sent in to scour the hedgerows of a particular area, sometimes at the request of a landowner keen to add the species to his or her plans to gain environmental stewardship payments.

The third activity is an annual "transect", involving a group search of specific hedgerows at a particular core location. These sites include the Otmoor RSPB reserve and Shotover Country Park in Oxfordshire as well as Wildlife Trust meadows at Bernwood and Rushbeds in Buckinghamshire. The events are normally advertised as field trips on the website and in the branch newsletter. Some of them can yield well in excess of a hundred eggs for just a couple of hours' work. At Otmoor every egg is tagged so that the hatching process can be monitored from the beginning of April onwards.



Young blackthorn suckers being scrutinized at Bernwood Meadows, Bucks

Our Black Hairstreak egg searching is usually confined to one annual visit to Finemere Wood in Bucks, from which even our experts go away quite happy if a single egg is found. It is true to say that we tend to find more Black Hairstreak eggs by accident during searches for the Brown than we ever do during our dedicated searches for the Black!

If you'd like to try your hand at looking for eggs then why not come along to one of the advertised searches? If you enjoy it and would like to get further involved, speak to the leader on the day or contact one of our two Species Champions, Dave Wilton for the Brown Hairstreak or Stuart Hodges for the Black Hairstreak. You would be most welcome to join us.

2008-9 Winter Season

Our egg searches during the winter of 2008-9 were remarkable for a couple of reasons. Perhaps the most significant of these was Tony Croft's discovery at Rushbeds Wood on 1st December of Black and Brown Hairstreak eggs on the same blackthorn stem. His unique picture appears below.



Black and Brown Hairstreak eggs
at Rushbeds Wood

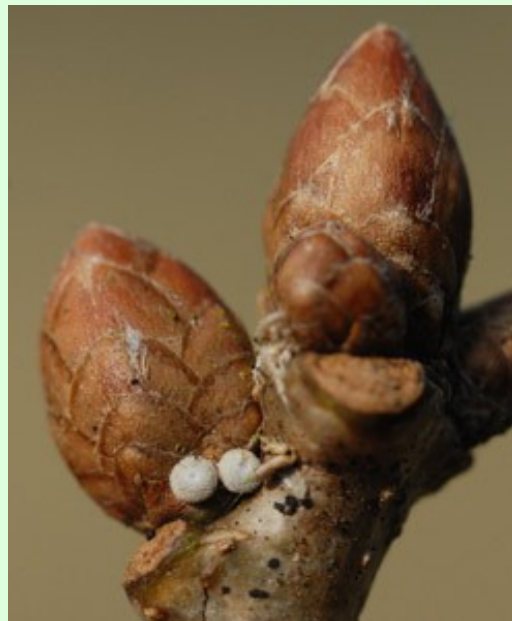
The old textbooks tell us that these two butterflies have different requirements for egg-laying when it comes to the condition of the blackthorn but this photograph tends to dispel that theory! Unfortunately, none of these three eggs survived. When Tony checked them again in mid-January they had been predated and only parts of the shells remained. All three had been eaten, possibly by another insect such as an earwig. Does anyone know for sure what might have caused this damage?



The same three eggs, now eaten!

Our Brown Hairstreak egg searches continued in the normal pattern, with 210 kilometre squares being "re-egged" from the previously known range of 255 squares (all of which have been confirmed since 2004). Because only three or four people are actively involved in this process it is usually the constraint of time rather than any particular difficulty in finding eggs that dictates how many kilometre squares are reconfirmed in a particular year. However, it is true to say that eggs seemed rather harder to track down on the western side of the distribution map this season due to many of our "banker" hedgerow sites from previous years having been subject to the butterfly's worst enemy, the flail.

Two completely new squares within the City of Oxford had been added during the 2008 adult flight season, with confirmed butterfly sightings at the Trap Grounds (by Rupert Sheppard) and in Headington (by Steve Woolliams). Eggs were discovered in seven further new squares during the winter, taking the total to 264. Two of these egg finds were made by Dave Wilton in the vicinity of Westcott, Bucks and they prompted a "hit squad" visit to nearby Kingswood on 21st March, this being the next obvious area to search. Sure enough, three Brown Hairstreak eggs were discovered in two additional kilometre squares. This extension of range in the north-eastern corner of the distribution map takes the butterfly ever closer to the woods of the Claydon Estate which do have historic Brown Hairstreak records. While at Kingswood the group couldn't resist checking some low-hanging oak branches and, sure enough, two Purple Hairstreak eggs were found in no time at all.



Purple Hairstreak eggs found at Kingswood

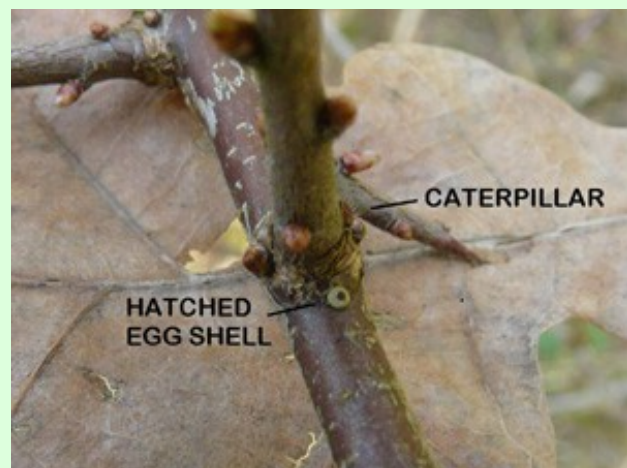
The other three Brown Hairstreak egg finds that produced additional kilometre squares for the map were in Oxfordshire. One was a roadside discovery near Islip by Dave Wilton. Another was again within the City of Oxford, at Great Meadow near St Catherine's College. After four years of searching in that particular area, David Redhead was particularly pleased that his perseverance had paid off. The third, highly significant, discovery was in Wytham Woods to the west of Oxford. There on 18th February Tony Croft found four eggs on some blackthorn on the eastern slope of Wytham Hill, quite some distance from historic records for the species which date from the 1980s and come mostly from the south and west of this large woodland complex owned by Oxford University. Tony subsequently returned to the same site and found another three eggs. "Hit squad" visits to surrounding areas failed to uncover any further eggs (Wytham is not over-endowed with suitable blackthorn) so, for the moment at least, this exciting find appears to remain divorced from the bulk of the main population by some three kilometres.

Our early group "transect" searches went ahead as planned. On 8th November Slade Camp at Shotover produced 26 eggs and on 11th December a search along the northern edge of Shotover Country Park produced a further 25, each showing a slight increase over the previous year's counts. On the other hand, Otmoor on New Year's Day produced less than 60 eggs altogether and only 37 on our target hedge, which was a rather disappointing total when compared to previous years.

The next search, on 10th January at Rushbeds Wood, had to be cancelled due to a heavy overnight hoar frost which made the chance of finding any eggs very remote indeed. Thankfully Tony Croft rose to the challenge and completed the search there on his own over the next few weeks, resulting in a very pleasing total of 149 eggs along the wood's southern edge, more than double last year's count. A planned search at Bernwood Meadows on 7th February also had to be called off due to inclement weather but the next one on 13th February went ahead as planned in the grounds of Bullingdon Prison near Arcott and produced 100 eggs, a good total for the site. The search at Bullingdon was notable for the number of eggs found above head height, with 10% of the total being above two metres (the highest was measured at 2.4 metres). The final group search was at a very muddy Marston Meadows in Oxford on 13th March. David Redhead completed this survey on 29th March for a final count of 40 eggs, almost double last year's total.

In February Dave Wilton carried out our annual check of the hedgerows at Lapland Farm (adjacent to Rushbeds Wood) for a total of 170 eggs, while during March he managed to complete the Bernwood Meadows count with 460 eggs found, another healthy total. With the exception of Otmoor, egg numbers at these "transect" sites were better than expected and seemed to show that two wet summers have not had a detrimental effect on the butterfly.

Black Hairstreak egg discoveries began back on 20th June 2008 when Dave Wilton watched a female lay a doublet on the edge of Howe Wood near Dorton, Bucks. These two eggs were monitored regularly and a visit on 13th January found that the twig on which they were laid had survived the roadside hedge being trimmed, but only by a matter of inches. One of the eggs had disappeared, perhaps being knocked off as the flail passed by, but the survivor had hatched successfully by 23rd March. Dave also found a single egg along the drover's lane at Lapland Farm, while Tony Croft discovered three at Rushbeds Wood (including the doublet shown in the picture earlier) and three at Whitecross Green Wood. At Whitecross Green Wood on 21st March Tony happened to be in the right place at the right time and managed to get a picture of a hatched egg together with the newly emerged caterpillar which was still hunting for a flower bud in which to hide itself away. This may well be the only occasion on which the first instar caterpillar has been photographed in the wild.



Newly-emerged Black Hairstreak caterpillar at Whitecross Green Wood

Our annual organised search for Black Hairstreak eggs took place at Finemere Wood during the morning of 21st March. In two hours of searching by the intrepid team illustrated below, just three eggs were discovered, one of which had already hatched. The team's discoveries were all at waist height or lower and in similar positions to where one would expect to find Brown Hairstreak eggs, so the stepladders were surplus to requirements on this occasion!



The 2009 Black Hairstreak egg survey team at Finemere, stepladders at the ready!

These three finds took the year's total Black Hairstreak egg count to 12, which is the first season that we've ever achieved double figures. Neither of the two unhatched eggs at Finemere had emerged by 8th April.

Dave Wilton, April 2009