

Black Hairstreak *Satyrrium pruni* in Cambridgeshire, September 2006
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1.0 Introduction

The Black Hairstreak *Satyrrium pruni* is one of the UK's most elusive butterflies found exclusively in Blackthorn *Prunus spinosa* thickets in a small part of the East Midlands (Asher *et al.*, 2001). The adults reside in the canopy of trees and dense scrub, feeding on honeydew secreted by aphids and rarely descending. They are at their peak of activity between 12.00 and 14.00 on warm sunny days during their short flight period from mid-June to mid-July (Asher *et al.*, 2001). The species UK BAP status is a 'Species of Conservation Concern' as it has seen a steady decline during the twentieth century and is now reduced to around 45 sites.

Cambridgeshire lies at the northern end of the Black Hairstreak's distribution and had four definite colonies with four further possible colonies as identified by Thomas (1975). A further six woods were also suggested for surveying as they fell within the main range of the Black Hairstreak and contained suitable habitat in the early 1970s. These were: Riddy Wood, Lady's Wood, Raveley Wood, Upton Wood, Perrywest Wood, and Lymage Wood. Black Hairstreak have been observed most years at both Monks Wood and Brampton Wood with strong colonies still present. There are far fewer records from the other seven woods since 1975 but Black Hairstreak have been recorded from four of them since 1997.

Thomas (1975) observed that most Black Hairstreak colonies occurred in woods larger than 20 ha with a 10ha wood being the smallest to support a colony. The size of the breeding areas varied greatly from the smallest one where they breed on a very small stand of Blackthorn to others of 9 ha of pure Blackthorn. Thomas (1975) classified suitable habitat into three categories: poor, medium and good. Good habitat consisted of scrub, sheltered hedges and edges, and glades and rides. Medium habitat was assessed as glades, rides, sheltered edges and sheltered hedges. Poor habitat was seen as semi-open canopy and exposed edge. The aspect was also found to be important with 13 out of 36 colonies having a south facing aspect. South-west facing and west facing aspects were the next most common with six and five colonies

respectively. North-west facing sites had three, north three, north-east one, east three and south-east two colonies respectively.

Thomas (1975) observed that there were no records of new woods being colonised and the Black Hairstreak seems to have a very poor power of dispersal as there are several records of introduction from nearby colonies succeeding but Bevill's Wood has now been recolonised from Monks Wood with adults being recorded in 2004 and 2005 (Greatorex-Davies, pers. com.).

The aims of this study were to investigate whether Black Hairstreak still occur in Cambridgeshire in woodlands including Monks Wood and Brampton Wood and if so where the colonies were. The woods with no records of Black Hairstreak but suggested by Thomas (1975) for investigation were also assessed for suitable habitat and searched for adults where time allowed.

2.0 Methods

2.1 Egg searches

Finding Black Hairstreak eggs is very difficult, Thomas (1975) suggested on average he was finding one egg per day while searching two or three year old growth of Blackthorn at a height over 1.5 m above ground level. Using the same technique eggs were searched for at Monks Wood and Brampton Wood around the areas where most adults have been observed. Ladders were used to reach the top of the Blackthorn scrub where required.

2.2 Habitat survey

The availability of Blackthorn scrub was assessed during late April and early May when the plants are in full flower. All the woods with possible Black Hairstreak colonies and the woods suggested by Thomas (1975) were visited and the main areas of Blackthorn were recorded.

2.3 Adult survey

The adult surveys were carried out when the weather conditions were suitable for a butterfly transect to be walked (Pollard & Yates, 1993). The surveys were conducted, where possible, as Thomas (1975) suggested with three visits to each site: at

approximately five day intervals near the beginning, at one-third through, and at two-thirds through the flight period. A standardised count period of one hour per area of habitat was utilised where possible and a steady walking pace used at all times, with counts taking place between 10.30 and 16.30. The tops of the trees and scrub were scanned with a pair of binoculars and all adults observed were recorded on a standardised form.

3.0 Results

3.1 Egg searches

An egg search took place at Monks Wood in late January when four people searched for 8 person hours but found no Black Hairstreak eggs. A second search took place at Brampton Wood on Wednesday 1st February when seven people searched the main glades for 21 person hours and once again found no Black Hairstreak eggs. No further searches were thought worthwhile as eggs could not be found at the sites with the two strongest colonies.

3.2 Habitat survey

A survey of all the woods which may have possible colonies or suitable habitat was conducted between the 4th and 10th May 2006. All 13 woods were assessed using the criteria of size, distance from the nearest known colony, habitat type and amount of habitat. These assessments were used to prioritise the adult searches.

3.3 Adult survey

Several woods were searched during the main flight period, after training events at Glapthorn Cow Pastures (Northants) where over 50 observations of Black Hairstreak were made including two mating. A second event took place at Brampton Wood where over 40 observations were recorded at 5 sites. Adults were observed at Bedford Purlieus (15) at three sites and Castor Hanglands (13) at 5 sites. Here adults have been observed fairly frequently over the last few years with 10 seen in 2003, over 1 seen in 2004 and about 9 seen on the 21/6/2005 (C. Gardiner, pers.com.).

The timed survey at Brampton Wood on the 19/6 had the most observation this year since monitoring began with 91 being seen over the five sites (Dickerson, 2006a). Black Hairstreak was also recorded at Brampton on three occasions between 25/6 and

4/7. A timed count at Aversley Wood once again had negative results (Dickerson, 2006b) as in 2004 and 2005 (Dickerson, 2004a; 2005a). Due to lack of habitat and negative results at Orton Woods in 2004 and 2005 (Dickerson, 2004b; 2005b) no count took place in 2006.

On the BMS transect at Monks Wood eight adults were seen on the 12/6, the most ever recorded, and on a walk around the wood on 16/6 approximately 50 were seen (N. Greatorex-Davies, pers.com.). Eight were also seen on the transect in Bevills Wood, with three being seen on the 15/6 (N. Greatorex-Davies, pers.com.).

4.0 Discussion

Black Hairstreak has been confirmed in five woodlands in Cambridgeshire in 2006, one of these, Bedford Purlieus, for the first time in 40 years. The habitat at Warboys and Wistow Woods look sufficient to support a colony and further surveys will take place in 2007. The area on the eastern side of Bedford Purlieus also need investigation in 2007 along with Wennington Wood, Riddy Wood, Perrywest Wood and Lymage Wood.

Little habitat is now left at Orton Woods and Aversley Wood and although extensive survey work has taken place at these sites in 2004/5/6, no Black Hairstreak have been recorded. This suggests that they have been lost from these woods. It is possible that they remain in very low numbers, but as 2006 seems to have been the best year for Black Hairstreak since at least 1999, this may not be very likely.

Good numbers remain at several sites including Monks Wood, Brampton Wood and Castor Hanglands. They seem to be widespread within these woods and are thus relatively safe. Other good news is that Bevills Wood has now been recolonised, presumably from Monks Wood and numbers seem fairly strong at Bedford Purlieus. The other wood which may be colonised in the future is Upton Wood which is only about 1-1.5 km from Monks Wood, just across the A1M. With 2006 being such a good year it may well be worth rechecking Upton Wood in 2007.

Thomas (1975) suggested that the record at Hamerton Grove was dubious and that the other woods suggested such as Lady's Wood, Upton Wood and Raveley Wood may

be too small. The results from the 2006 survey suggested that Thomas was correct. Wennington Wood, where Black Hairstreak was last recorded in the early 1950's, will be surveyed in 2007. The habitat survey this year suggested that this was still the case, so there may be little prospect of finding Black Hairstreak there in 2007.

5.0 Conclusions

The situation in 2006 could be classed as no worse than the one found by Thomas in the early 1970's. Then there were only two strong colonies at Monks Wood and Brampton Wood. Now there are those two plus Castor Hanglands and maybe even Bedford Purlieus. By 1975, small colonies were thought to be at Aversley Wood, Castor Hanglands, and possible colonies at Bedford Purlieus, Warboys and Wistow Woods and Orton Woods, although he was unsure about all of them. Now a small colony exists at Bevills Wood and possibly Warboys and Wistows Woods and Aversley Wood. So overall two large colonies have been gained, and small colonies are now one with two more needing to be confirmed.

All the other sites suggested by Thomas (1975) are either too small or lack enough suitable habitat, or both. Management at Aversley Wood might reverse the lack of habitat there and this needs consideration. Positive management is in place at Brampton Wood, Monks Wood and Castor Hanglands but needs discussing at Bedford Purlieus once the extent of the colony there is established.

Monitoring work via the BMS transect is taking place at Monks Wood, Bevills Wood and Castor Hanglands. This is not ideal as Black Hairstreak are often not observed on transect walks due to spending most of the time in the canopy, but is better than no monitoring at all. No ongoing monitoring is taking place at Brampton Wood and Bedford Purlieus and this should be considered. Monitoring at sites such as Aversley Wood and Warboys and Wistow Woods, where sympathetic management may take place in the future, should be considered.

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