

Butterfly
Conservation

HERTFORDSHIRE & MIDDLESEX BRANCH

**PURPLE EMPEROR PROJECT
PROGRESS REPORT
2004 & 2005**



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&
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Front cover

Male A.iris showing virtually no purple iridescence at Martin's Green car-park ~ 16th July 2005
Photo: Mick Velasco

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1 ~ Introduction

This is our third report concerning the Butterfly Conservation, Hertfordshire & Middlesex Branch, Purple Emperor Project, which began in 1999, and covers activities in 2004 and 2005.

Our own intensive surveys for sallow-rich habitat and male assembly areas has led to the discovery of *A.iris* in all five main woodland complexes in the two 10km squares TL20 and TL30. Other observers have continued to record *A.iris* in the Ruislip, Tring and Broxbourne areas, with reports of further singles coming from 2-4 other locations, where we hope the presence of colonies will soon be confirmed. Of particular interest was the discovery of a very active assembly area at Northaw Great Wood in July 2004.

Purple Emperor appears to be well established in various well-wooded areas of Hertfordshire and rural Middlesex, and would seem likely to have an interconnected network of colonies forming a sustainable metapopulation which may cover a larger area than is presently known. This is a very favourable situation, but one that may only persist given positive management for sallows over the coming decades.

We have continued our conservation efforts throughout, and are encouraged by recent Forestry Commission strategies regarding sallows and broadleaved woodland. Other project partners have helped surveys to go ahead and encouraged favourable management in various ways. The draft Purple Emperor Species Action Plan has been developed through 2005 as part of the Herts Biodiversity Action Plan.

To raise awareness regarding both Purple Emperors and woodland Lepidoptera in general, the Branch was able to support, via the Heritage Lottery Fund, 'Awards for All' grant scheme, the publication in 2005 of a leaflet entitled 'Woodlands for Butterflies and Moths'. The leaflet has been widely distributed, and various bodies such as Royal Forestry Society, Countryside Land & Business Association, Hertfordshire County Council and Herts & Middlesex Wildlife Trust, have been very helpful in sending leaflets to the many individuals who may be able to have a direct influence on the management of woods across our area.

We were also very pleased to present our work concerning *A.iris* assembly areas and landscape, with Matthew Oates, at Butterfly Conservation's 5th International Symposium in April 2005, where the theme was *Lepidoptera as Indicators of Biodiversity Conservation*.

Details of all these items are given in this report, as is more information we have gathered concerning the historic and present status of *A.iris* elsewhere in the Eastern Region.

We would like to thank the Hertfordshire Natural History Society for supporting the production of this report, and the Hertfordshire & Middlesex Branch of Butterfly Conservation for supporting its distribution to those with key woodland management roles and influence in our area.

1st edition ~ February 2006

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2 ~ Contributors

We would like again to thank the many people who have helped in so many ways with this project, such as: watching for *A.iris*; writing sightings reports; giving information that has helped with the study; for allowing access to private woodland; and for considering positive habitat management. We hope that all contributors' names have been included – thank you to everyone!

We would especially like to thank all woodland owners, managers and neighbours who are helping with the project, and:

Nigel Agar	Sharon Hearle (Eastern Regional Officer, BC)
Lynda Alderson (Rothamsted Research)	Hertfordshire Natural History Society
Liz Anderson (Hertfordshire Biological Records Centre)	Hertfordshire & Middlesex Branch of BC
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Jim Asher (BC, Upper Thames Branch)	Malcolm Hull
Paul Ashton	Heidi Hutton (Countryside Management Service)
Toby Austin	Colin Jacobs
Colin Ayres	Christine James (Welwyn & Hatfield Council)
Charles Baker	Trevor James
Helen Bantock	Paul Jarczewski (previously Countryside Management Service)
Andy Barker (BC, Hampshire & Isle of Wight Branch)	Brian Jessop
Glen & Moira Barnes	Colin Jupp
Gary Bolton	Ken King
Pat Bonham (BC, Norfolk Branch)	Howard Mendel
David Booth	Keir Mottram
Nigel Bourn (Head of Species Conservation, BC)	John Murray
Nick Bowles	Michael Newlands
David Bradnum	Matthew Oates
Malcolm Bridge (BC, Surrey & SW London Branch)	Don Otter
Lee Browne	Barry Palfrey
The management and staff of Celtic Harmony	Rob Parker (BC, Suffolk Branch)
Peter Christian	Steve Pash
Tony Clancy	Val Perrin (BC, Cambs & Essex Branch)
Jane Clarke (HMWT)	Christine Philips
Peter Clarke	Colin Plant
Country Land & Business Association	Ann Piper
Paul Coyston	Barry Prater (BC, East Midlands Branch)
June Crew	Geoff Purbrick
Alistair Crosby (Woodland Trust)	Royal Forestry Society
Jonathan Crozier	Mike Rubin
Fred Currie (Wildlife & Conservation Advisor, Forestry Commission)	Nick & Angela Sampford
Jeremy Dagley (Forest Ecologist, Epping Forest, Corporation of London)	Brian Sawford
Brian Dawton	Martin Shepherd
Dennis Dell (BC, Upper Thames Branch)	Christine Shepperson
Barry Dickerson (Hunts Lepidoptera Recorder)	Mike Slater (BC, Warwickshire Branch)
Peggy Dimes	Kevin & Sandra Standbridge
Joan & Marcus Dixon (Herts Woodland Forum)	Russell Stebbings (University Museum of Zoology Cambridge)
Robin Dryden	Colin Sturges
Andrew Easby (HMWT)	Lissa Smith
Colin Everett	Susie Turner
Ricky Flesher	Tony Tipper & Annabelle Tipper
Kay Fitzgerald (Three Rivers District Council)	Mick Velasco
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Jonathan Forgham	Ken Willmott
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Ian Gibbon (Woodland Officer, Hertfordshire County Council)	Gordon Wyatt (English Nature, Essex, Hertfordshire & London team)
Roger Gibbons	
Douglas Goddard (BC, Beds & Northants Branch)	<i>BC = Butterfly Conservation</i>
David Gompertz	
Clare Gray (HMWT)	
Nick Greatorex-Davies	
Michael Hammerson	
Jack Harrison	

3.1 ~ Additional historical notes and reports concerning *A.iris* in Hertfordshire

In the last two years, we have concentrated our research into looking at historic areas beyond Hertfordshire and Middlesex and this is included in Section 7 of the report. Whereas Hertfordshire had very few documented historic records, reports from several of the other counties in the Eastern Region were quite prolific and the woods where they were seen may still, possibly, hold colonies. However, there are still a few local reports to add.

Purple Emperor at Knebworth ~ 1940 and 1950 [tetrad centred on TL230230]

Tantalising snippets continue to filter through to us about the woods in this complex in the last century. With only hearsay records from Foster, we know that Roger Ferry had seen *A.iris* in these woods in the 1950s and in the autumn of 2004 we heard of another report. This came from Andy Barker who is Chairman of the Hampshire & Isle of Wight Branch and whose parents live in Hertfordshire. Andy thought his uncle, who now lives abroad, had seen *A.iris* in the woods, but unfortunately his uncle confirmed in his reply that he personally had never seen them there.

The following are the exact details provided in his letter of December 2004 (to Andy Barker)

Michael Newland's observations:

"Dave (his brother) and I often went to Watery Grove where the Purple Emperor was said to live, but we never saw one."

I presume this relates to the mid to late 1940s and into the early 1950s.

Andy Barker

January 2005

Purple Emperor at Astonbury Wood, 1978 [TL277213]

Jonathan Crozier

Since our research began we had tried to make contact with Jonathan Crozier, to find out more about his 1978 sightings at Astonbury. Just as we wrote the 2003 report we made contact but he then went away again. In April 2004 we received the following letter:

Glad you found the relevant *Apatura Iris* reference via Daphne [Coates]. After going through a mass of dead files, I'd come to the conclusion that I must have thrown the original notes away. Last week I found them poked in the bookcase where they always used to be!! Unfortunately there is no additional information. I do remember that I was very close to the male on the ground who was sat on some wet gunge. There was no doubt about the identification as I was very familiar with the butterfly from my encounters in SW France, not to mention a single specimen in NW Greece. I had the thrill of a single male sitting on my sweaty sock and sucking up the moisture. Sorry I can't be of more help.

All the best

Jonathan Crozier

April 2004

3.2 ~ Extracts from the Hertfordshire & Middlesex Branch of Butterfly Conservation's Annual Butterfly & Moth Reports for 2003 and 2004

Hertfordshire & Middlesex Butterfly & Moth Report for 2003

John B. Murray & Andrew Wood

Purple Emperor

First seen: 28th June at Tring Park (Brian Jessop)

Last seen: 26th July at Tring Park (Brian Jessop)

Peak date: 12th July at Tring Park

Maximum number seen: 5 at Tring Park (Brian Jessop)

Mean index of abundance: 13

Change in abundance since 2002: 333% increase

Recorded in: 9 tetrads (1.8% of those covered)

Range change since 2002: 28% expansion

"What an exciting year for the Purple Emperor. Predictably the flight season started early, with Brian Jessop's sighting (above) the earliest ever recorded for Hertfordshire. Lissa Smith's 21st June sighting at Tring, initially reported as White Admiral, may have been a Purple Emperor one being reported the same day in Surrey. First sightings from the cooler woodland areas of central and eastern Herts. were on 29th June, when we observed heightened activity, including territorial behaviour at several sites, which continued throughout the flight period. Although Nick Sampford didn't see one at Broxbourne Wood until 5th July, his perseverance was rewarded with the dream photo on 9th July, on the cover of this report. We were out and about in Hertfordshire looking for potential and historic sites. We had been convinced that Purple Emperors were still in the Wormley Wood complex, and much to our delight and surprise on 8th July in far from sunny conditions we observed territorial behaviour over the woodland complex. Over the next few days, patient observation by Brian Dawton and Martin Shepherd was also rewarded with sightings near shallows in the south half of this complex. We had identified the Box Wood/Ermine Street area as being a probable locality, and on 13th July Kevin and Sandra Standbridge saw a male on a sap run on Ermine Street, and on the 16th, Richard Andrews watched a male on the ground for nearly 30 minutes in the middle of the woodland complex. But the climax to the season came when Ron MacMurdie saw one sitting in a clearing at Forty Hill, Middlesex. This falls within the historic range, the most recent previous report being from Martin Catt, who in 1976 was shown a dead male from a shed at Whitewebbs Park (Goodyear & Middleton 2003). We can only repeat Murray & Wood (2000): "It is well worth patiently exploring salix-rich woodland from the end of June, particularly concentrating on tall oaks that stand above the rest of the canopy on high ground or hillocks". The help of so many is much appreciated, and please keep sending us your news and sightings in 2004" – Liz Goodyear & Andrew Middleton, Purple Emperor Species Co-ordinators.

Hertfordshire & Middlesex Butterfly & Moth Report for 2004

John B. Murray & Andrew Wood

Purple Emperor

First seen: 29th June in South Hertfordshire (Andrew Middleton)

Last seen: 3rd August at Northaw Great Wood (Liz Goodyear)

Maximum number seen: 3 at various sites

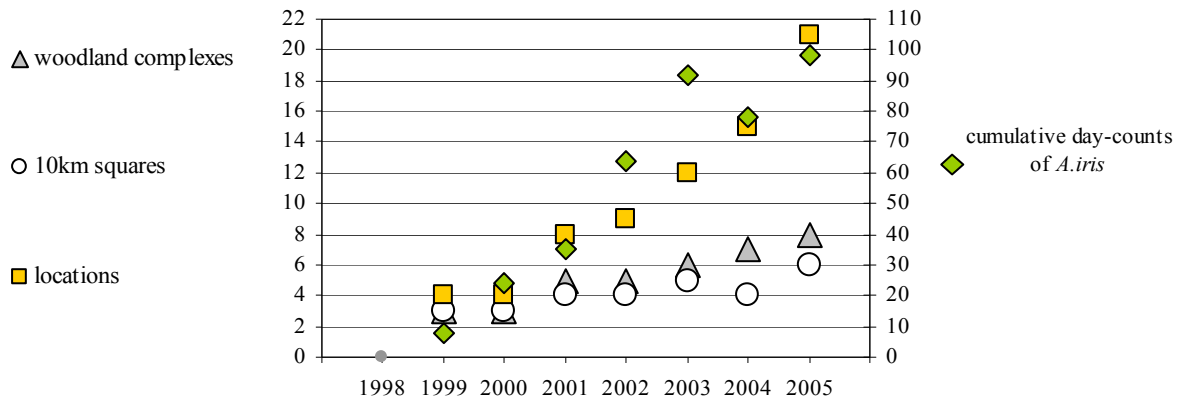
Recorded in: 9 tetrads (1.8% of those covered)

Range change since 2003: no change

Since our study began seriously in 2000, we now know that the Hertfordshire emergence is usually a few days later than the warmer southern counties. The first reports from the south of England came on 27th June but we didn't see anything until 29th June. By then the weather had deteriorated and it took a whole day of persevering to get our first sightings. Over the next few days only a scattering of reports came through, but David Bradnum saw a grounded male in the Broxbourne Wood NR on 3rd July. The weather remained poor and Purple Emperor watching was difficult, but Glen and Moira Barnes (6th) and Kevin and Sandra Standbridge (9th) both saw Purple Emperor in the central part of the Broxbourne Woods complex. Sandra was able to take a photograph of a female roosting on a flower head. A field trip to the Broxbourne Wood NR on 10th July started sunny but the air temperature was cold and it took some time for the day to warm up. We were rewarded with the sight of a slightly battered male enjoying the delights of some "dog's muck" before it rained. On 17th July, in late afternoon, we visited Broxbourne Common on the east side of the Broxbourne Woods complex. The site has all the right credentials: high point, field edge and veteran oaks. As we walked under the oaks, we saw a Purple Emperor fly through a small gap and perch on a silver birch - we had found another territory! The next day, there was another field trip at Broxbourne, but this time it rained all morning. However, during a short spell of sunshine a female flew in to feed at a sap run for 40 minutes. The final highlight of our season came on the 22nd July when we visited Northaw Great Wood and found a new territory. The level of activity here, so late in the season, indicates that this is probably a major territory. The only previous sighting at Northaw was of a single in the 1960s. The last sighting, on 3rd August, was of a lonely male, flying around its territory, that eventually lost out to a hungry Spotted Flycatcher. Despite difficult weather conditions through much of July 2004, it was recorded at all post-1998 woodland locations, apart from Forty Hall, Enfield, where a singleton was seen in 2003. The cumulative day-count total of 78 was, as expected, slightly below that for 2003 (92), an exceptional year weather-wise, but a respectable number was still seen. Due to continued surveying in TL20 and TL30, total woodland complexes, and locations therein both increased slightly for a fifth consecutive summer. Its presence was confirmed in all five woodland complexes in these two 10km squares, and our surveying led to the discovery of two further assembly areas. Other observers at Ruislip, Middlesex and Tring Park also recorded the species. Considering the five years it has taken to develop some basic understanding of the species' distribution in TL20 and TL30 we believe there is potential for Purple Emperor to be present, and still to be found, in at least one or two 10km squares elsewhere in Herts. (Andrew Middleton & Liz Goodyear, Purple Emperor co-ordinators)

4 – Surveying and results to 2005

Chart 4.1 ~ Recorded numbers and distribution of *A.iris* in Herts & Middx 1998-2005

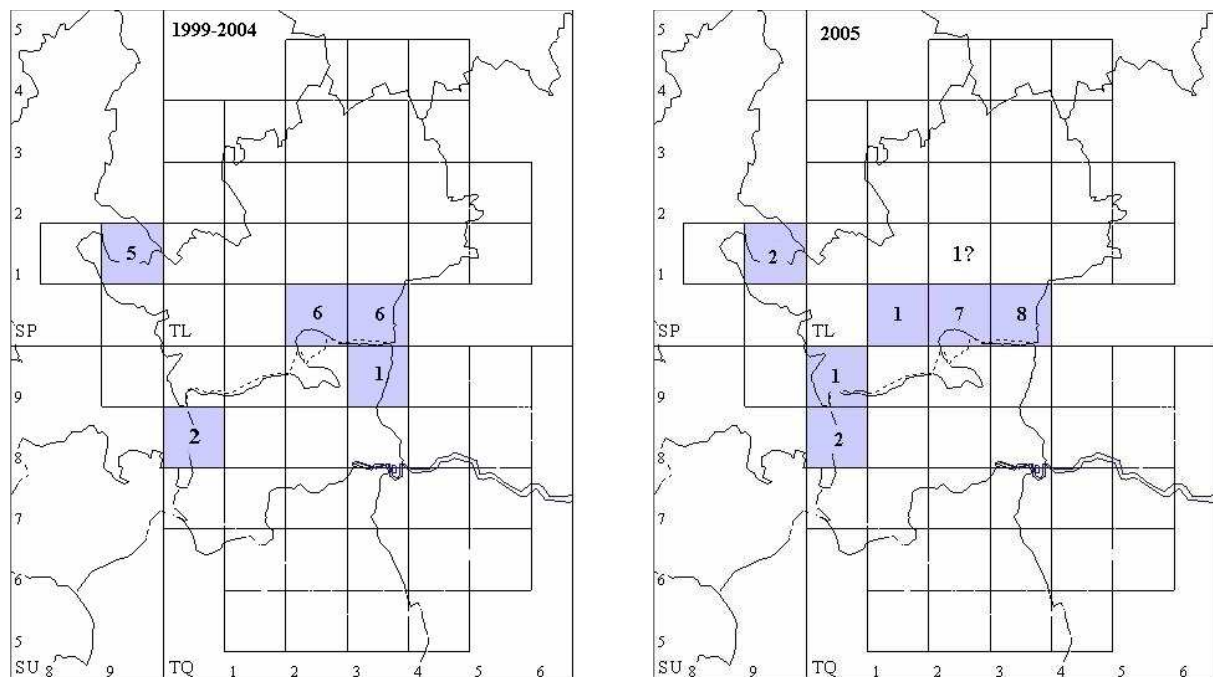


A.iris was recorded in all post-1998 Hertfordshire and Middlesex woodland complexes during both 2004 and 2005, apart from Forty Hall, Enfield, where a single was seen in 2003. Perhaps by way of interest generated by the project, singles were also reported from sallow-rich habitat in at least two new 10 km squares. Probable sightings came from a further two 10 km squares in central Hertfordshire, and we would dearly wish to see the presence of *A.iris* confirmed beyond doubt in these old haunts. The cumulative day-count total was slightly lower for 2004 due to poor July weather, but rose again in 2005.

Due to continued surveying in TL20 and TL30, total woodland complexes, and locations therein, both increased slightly for the fifth and sixth consecutive years. The presence of *A.iris* was confirmed in all five woodland complexes in these two 10km squares, and our surveying led to the discovery of two further assembly areas. The species was again recorded by observers other than AM & LG at Ruislip, Middlesex, at Tring, and in the Broxbourne Woods complex.

Considering the six years it has taken to develop some basic understanding of the species' distribution in TL20 and TL30, we believe there is potential for *A.iris* to be present, and still to be found, in a few more 10 km squares elsewhere in Hertfordshire, and possibly also in Middlesex.

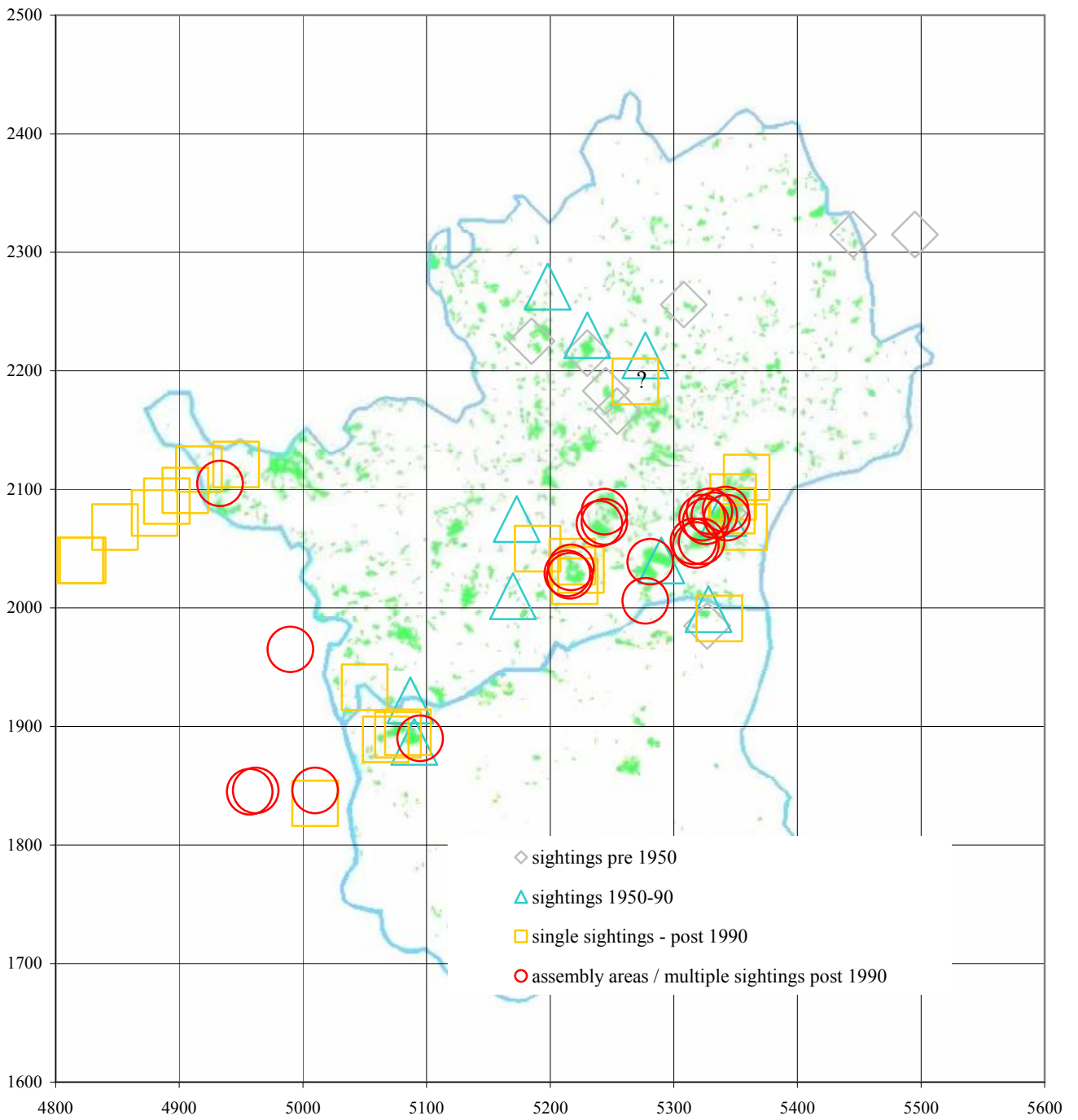
Map 4.1 ~ 10 km recorded distribution of *A.iris* in Hertfordshire and Middlesex in 1999-2004 & 2005



The number in each 10 km square is the peak cumulative day-count for all locations in that square.

Map 4.2 ~ Distribution map for Hertfordshire and Middlesex

4 km wide markers indicate possible landscape distribution and meta-population; green = woodland.



5 ~ Overview of the *A.iris* 2004 & 2005 flight seasons in Hertfordshire and Middlesex

Chart 5.1 ~ *A.iris* numbers and sightings/flights in 2004

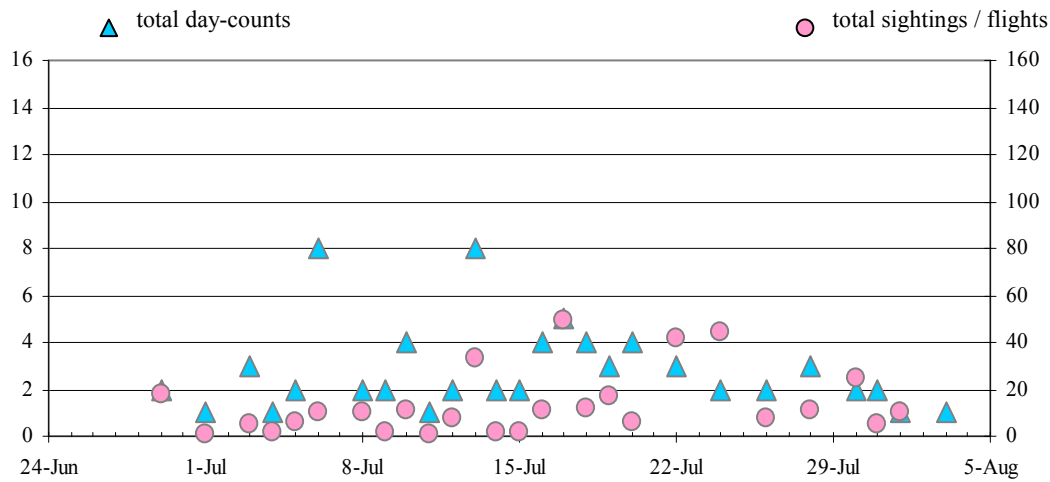
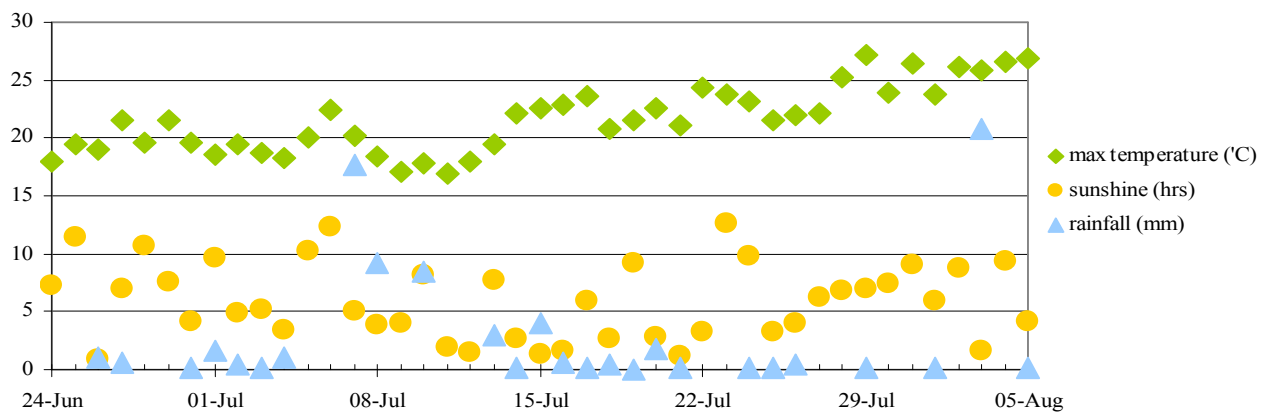


Chart 5.2 ~ Weather data for July 2004 ~ Rothamsted Research



Weather during July 2004 was relatively dull and the flight season was hard work, with 14% less sunshine than the 30 year average, however temperatures and rainfall were near normal. The simple mean for the flight period was 14th July (17th July 1999-2002, 9th July 2003; see Section 9). Chart 5.1 shows the flight period continuing strongly through the second half of July and into early August, which was mainly due to the discovery of a relatively active territory later in the season.

Chart 5.3 ~ *A.iris* numbers and sightings/flights in 2005

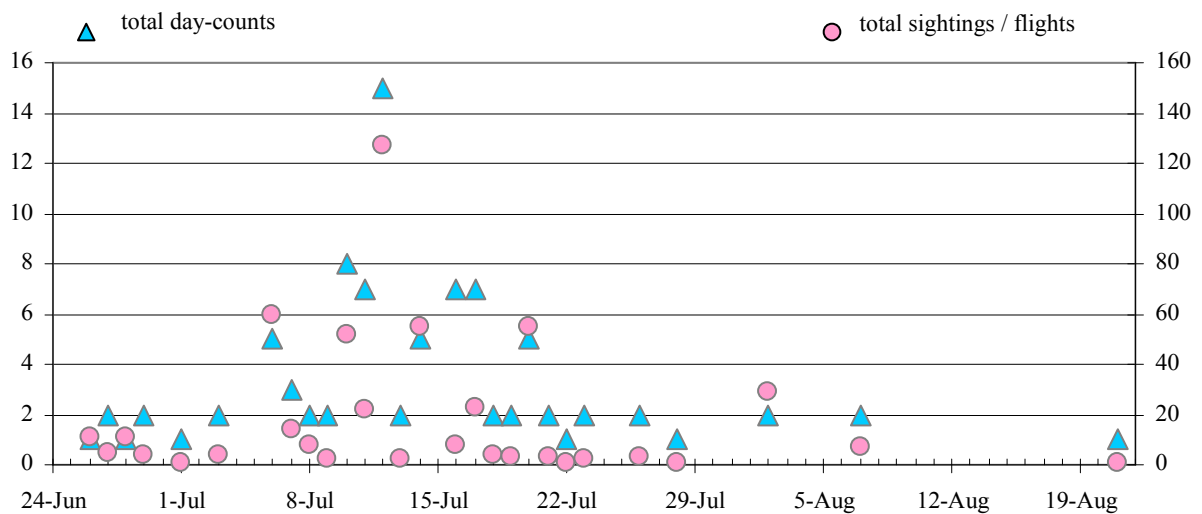
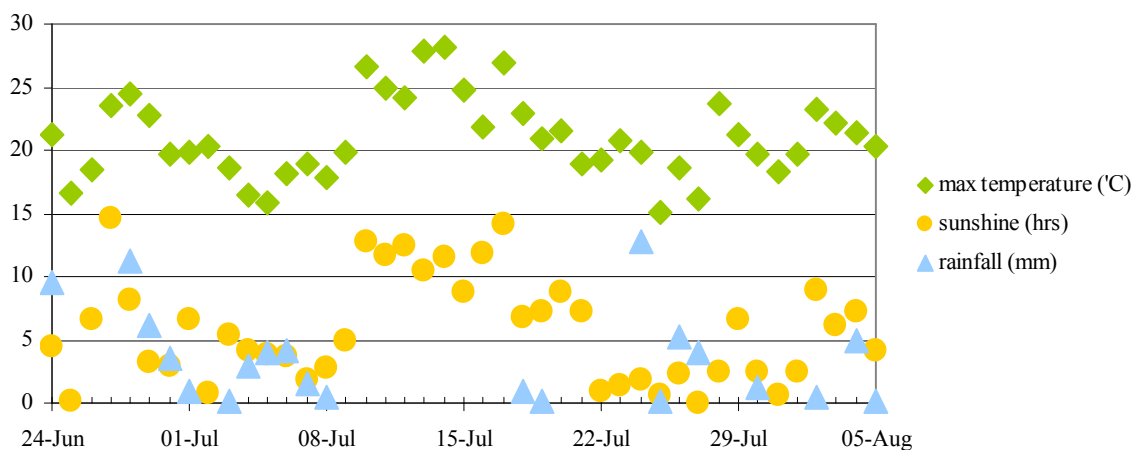


Chart 5.4 ~ Weather data for July 2005 ~ Rothamsted Research



In 2005, after a period of very unsettled and unpredictable weather at the beginning of July, it was interesting to note that there was a full week of sunshine from the 10th until the 18th. It was during this period of fine weather that most territorial activity occurred with consistently good sightings throughout the week, which peaked on the 13th. From the 18th until the end of July there was another long period of unsettled weather and most observations from then on were at the new territory found in 2004, or the occasional female seen in the vicinity of fallows.

6 ~ Individual location accounts ~ indexed by 10 km square [decad]

Note from authors ~ when we started writing our reports we identified each site by letter in the order they were found. However over the course of 6 years, these sites have multiplied and reports from sites away from identifiable woodland complexes have increased. We have therefore decided that for this and future reports, sites will be allocated to their relevant 10 km square [decad] and only sites that remain confidential will be named by their original letter. Charts and tables in this section will not be numbered but referred to by name. Potential sites will also be discussed under Section 6 in their relevant 10 km square.

- 6.1 TL10 Main town St. Albans
 - 6.1.1 Tyttenhanger Lakes

- 6.2 TL20 Main towns Hatfield and Potters Bar
 - 6.2.1 Site A
 - 6.2.2 Site C
 - 6.2.3 Site H
 - 6.2.4 Site F
 - 6.2.5 Northaw Great Wood
 - 6.2.6 Fir and Ponds Wood (HMWT Reserve)

- 6.3 TL30 Main towns Broxbourne, Hoddesdon and Cheshunt
 - 6.3.1 Broxbourne Wood Nature Reserve
 - 6.3.2 Claypits Wood
 - 6.3.3 Bourne Wood
 - 6.3.4 Broxbourne Woods Complex; central woodland area
 - 6.3.5 Broad Riding Wood / Broxbourne Common
 - 6.3.6 The Danemead Reserve (HMWT) / Martin's Green Car-park
 - 6.3.7 Ermine Street / Box Wood area
 - 6.3.8 The Wormley Woods Complex

- 6.4 TL11 Main towns Harpenden and Wheathampstead

- 6.5 TL21 Main town Welwyn Garden City
 - 6.5.1 Datchworth area

- 6.6 TL31 Main towns Hertford and Ware
 - 6.6.1 Haileybury College / Hertford Heath / Goldings Wood

- 6.7 TL12 Main towns - fringes only of both Hitchin and Luton, Bedfordshire

- 6.8 TL22 Main town Stevenage

- 6.9 TL32 Main town Buntingford

- 6.10 TL 41 & TL42 Main towns Sawbridgeworth and Bishops Stortford

- 6.11 SP91 Main town Tring
 - 6.11.1 Tring Park
 - 6.11.2 Tring and the wider landscape

- 6.12 TQ08 Main town Ruislip
 - 6.12.1 Ruislip Woods National Nature Reserve

- 6.13 TQ09 Main town Rickmansworth
 - 6.13.1 Stocker's Lake, near Rickmansworth

- 6.14 TQ19 Main town Northwood

- 6.15 TQ38 & TQ39 Main towns Borehamwood, Barnet & Enfield
 - 6.15.1 Forty Hall Country Park, Enfield, Middlesex and neighbouring areas

6.1 ~ TL10 [main town St. Albans]

TL10 has several areas of woodland within its boundaries and there are a few historic reports from woods in the square. Sallows are also visible on several road verges but we still have many woods to visit in the area.

6.1.1 ~ Tyttenhanger Lakes

TL192050

In May 2005, we visited Tyttenhanger Lakes as there were records of Grizzled Skipper at the site in 1997. Although we didn't see any suitable habitat for Grizzled Skipper, what we did see was a lot of sallow and our immediate thoughts were *A.iris*! Tyttenhanger Lakes is quite close to Sites A, C and H as the 'crow flies', and could be expected to be well within a reasonable dispersal and colonisation distance of these known colonies. There are also some nice small woods adjacent to the lakes, which might hold a territorial area.

Tyttenhanger Lakes is very popular with fishermen and birdwatchers and on the 3rd July 2005 we received this exciting email from Peter Christian. Peter was with Ricky Flesher and David Booth, all keen birdwatchers. This is their report:

'Ricky and I were at Tyttenhanger today when Ricky picked up a large butterfly (ostensibly black and white at first sight) flying around the top of an Ash tree (this was behind what is called Nettle Hill if you know the site). Eventually it settled and we got good views of the upperside which clearly showed a broad white band across the upper wing with a couple of smaller white patches towards the tip. The hindwing had a continuation of the white band and a clear orange eye on the trailing edge. We didn't get a good view of the underside. There was no obvious "purple-sheen" visible from the angle we were looking at.

It's a long time since I have seen either White Admiral or Purple Emperor - but having looked in my books and on the web am fairly certain it was a Purple Emperor.

I have emailed you because I don't know how sensitive the record is and before putting it on the Herts Birding Email group wanted to check with you.

We also had a Hairstreak that landed right next to the presumed PE for a couple of seconds - but couldn't locate it again after that. Initial thoughts were White-letter Hairstreak ... but on checking again when I got home I now suspect that it was a Purple Hairstreak i.e. was very pale on the underwing (all that I saw) and the orange markings were also quite pale and didn't stand out clearly.

Apologies for the amateurish nature of my observations but I haven't really paid much attention to the butterflies at Tyttenhanger before (mostly because I don't see that many ... apart from the common and easily recognisable!).'

Regards

Peter Christian

3rd July 2005

The butterfly was seen on the north side of Garden Wood and our feeling is that it was probably a female that had perhaps recently emerged from one of the many sallows in the area. A visit to the area in November 2005 reconfirmed that sallows are abundant. We have informed Hertfordshire Biological Records Centre (HBRC), Forestry Commission (FC) and the landowner of 6.2.3 (Site H) that *A.iris* had been seen here. Although no territorial area has been located, the map shows at least three high points nearby. For Garden Wood and The New Plantation, the high points are on Coursers Lane to the south east, and for Coppice Wood to the north, along White Horse Lane. All these points could be watched without trespass, although new gravel extraction work along Coursers Lane may make viewing more difficult. The high points on Coursers Lane are at present quite easy to view and the canopy of Garden Wood can be viewed with comparative ease from an adjacent bridle path. From Coursers Lane, the woods of Sites 6.2.1: 6.2.2 and 6.2.3 are visible and there is an outside chance that *A.iris* might fly from Tyttenhanger to these higher points. However, the fields between are devoid of hedgerows and one feels that if *A.iris* is established at Tyttenhanger, any territorial activity would probably develop at a high point in an adjacent woodland.

According to the Butterflies of Hertfordshire (*Sawford, 1987*), *A.iris* was reported from the Oaklands area of St. Albans in the 1950s. This is the only record discussed in the book that we have been unable to follow up or find the original source for the data.

Historic and potential areas for *A.iris* ~ other areas surveyed in 2004 and 2005 (formerly Section 7) Bricket Wood Common

In 2003, Malcolm Hull was able to comment on the **Bricket Wood Common** management plan and included in these comments was the importance of retaining and encouraging sallows. There are no historical records of *A.iris* from this site to our knowledge, but its location in a triangle between known *A.iris* colonies in TQ08 and TL20 gives added reason for this site to be monitored. Recent management has resulted in a flush of young sallow growth in open areas and along rides, and this could strengthen any population of *A.iris* already present in the landscape, or increase the potential for colonisation over coming years; regular visitors Malcolm Hull and Colin Everett are well-prepared should *A.iris* appear. Unfortunately there is no obvious, single high point at Bricket Wood to search for territorial activity, and much of the wood lies on a plateau through its middle, with poor external visibility and a relatively closed canopy aspect!

Silver-washed Fritillary has been seen at this site in 2004 and 2005, and on the 10th July we joined Malcolm Hull and Colin Everett on a butterfly field trip at Bricket Wood, where the group was also successful in seeing a Silver-washed Fritillary. We watched the skies throughout our enjoyable walk around the complex but no *A.iris* was observed, however we are hopeful that within a few years, given increasing amounts of sallow, a sighting may be made.

We would suggest that all woods in TL10 have potential for holding a colony of *A.iris* and that they should all be visited pre-season to assess sallow density and potential territorial areas, and are then re-visited during the peak flight period in July.

6.2 ~ TL20 [main towns Hatfield and Potters Bar]

*TL20 is a well wooded 10 km square in south central Hertfordshire and it was here in 1999 that we had our first sightings. We have found *A.iris* to be present in every major woodland complex here and it is probably also to be found in some of the smaller woods in the area.*

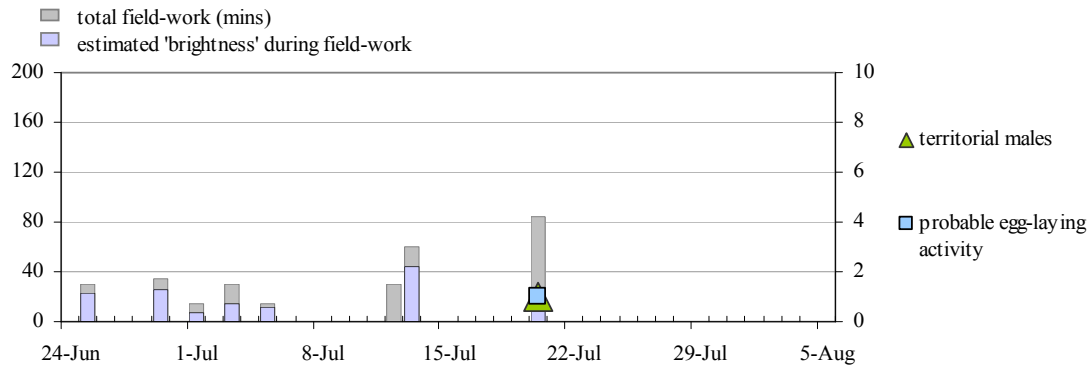
Sites A, C and H are three small woods that form part of a larger woodland complex.

6.2.1 ~ Site A

2004

Due to the rather difficult weather conditions during the 2004 flight season, observations over the canopy during suitable conditions were limited, so no conclusions can be drawn as to the level of territorial activity here in 2004. A watch at the secondary territorial area on 20th July 2004 from 11.40 am to 12.45 pm in rather dull conditions yielded a female in low flight at 12.09 pm and a male flying from a birch towards the primary territory at 12.33 pm.

A.iris activity recorded at Site A in 2004

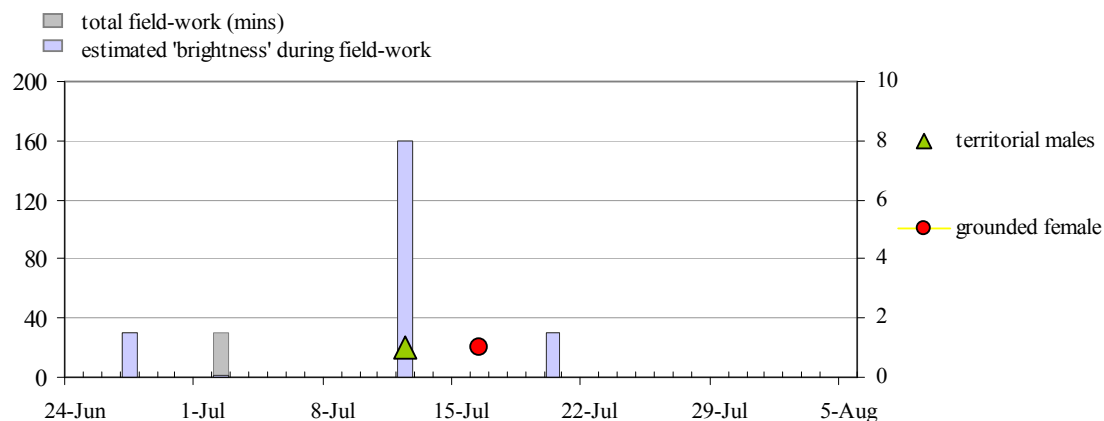


2005

Only one prolonged visit was made, when territorial activity was just past its peak. As in 2004, just one male was observed, once in flight across the wood canopy. However, the owner of the wood reported accounts of two female sightings on the 16th July 2005.....

'My brother had a sighting of a female grounded on the track in a damp area; there was some bird damage to the wing. Then in the afternoon the woodman saw one or another female grounded on the main track not far away at around 3.30 pm'

A.iris activity recorded at Site A in 2005



Activity has now been recorded for seven consecutive years (at least) at this assembly area but sightings are far fewer than when we first started recording here.

There is concern that since our first observations on this Site of Special Scientific Interest (SSSI) in 1999, sallows are slowly being lost through competition and habitat succession. We are aware that English Nature (EN) has been approached with regard to the condition of one of the access tracks through the wood. This could lead to opportunities for creating age diversity and regeneration alongside the track which passes through a sallow-rich area. At the time of writing this report (November 2005) no significant work appears to have been undertaken.

Since 1999, we have undertaken a small amount of thinning each year around some of the stronger sallows, which has seen a number of trees thicken out. Of the c.10 'fence-post' sized sallow stakes placed in 'open' areas in the spring of 2004 and 2005, most of those relocated appear to have taken, with growth being both out of reach of grazing muntjac and above the bracken competition.

6.2.2 ~ Site C

2004

After the encouraging increase in sightings reported in 2003, 2004 was rather disappointing, although as stated elsewhere the weather was probably a contributing factor. However, we are still concerned that no work has been done to clear around willows or encourage them along the main rides, despite reassurances in spring 2004 that this would happen. The situation reached its climax in July when we asked a representative of the FC to inspect some recently implemented forestry work supported by a FC grant.

The site was monitored from the third week of June but our first sightings did not occur until 29th June, a few days after the first reports came from the slightly warmer southern counties. Unlike 2003, only limited territorial activity was observed and the only sightings of clashing males occurred on the 13th July. The 13th was the only date when it can be noted that activity was good, although most activity occurred before 1pm and only one series of clashes was observed at the 'master tree'.

As suggested by Matthew Oates (*Oates et al., 2005*) 'In particular, on many days males failed to reach some territories distant from main breeding grounds in any numbers. Instead, they often got stuck in glades etc. below these main territories, and I suspect that a lot of males spent an unusually high amount of time searching willow stands for females.'

Matthew's comments do not strictly apply to Site C, in that here much of the breeding ground is thought to be close to the 'master tree' but the probability that a lot of 'the action' was going on unseen by observers is quite likely. We have always felt that visibility at Site C is good but only if the males are visiting the 'master tree'. We can only speculate as to what goes on above the tree canopy out of our vision. Probable egg-laying activity was observed on two occasions but no 'pairing' activity was noted.

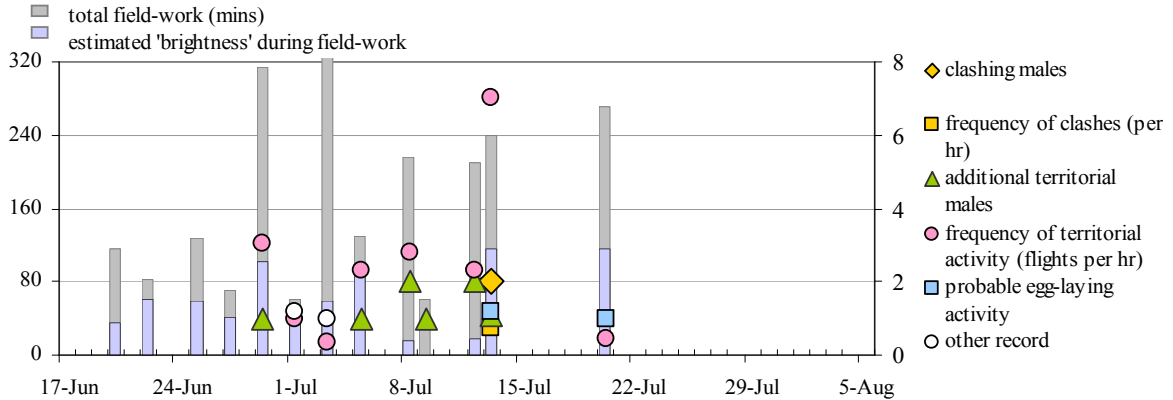
Without doubt though, the most spectacular events occurred on 8th July when AM watched the territory on his own. The day had started in relative normality, with some sunshine and several territorial flights from two males. At 14.03 pm a male perched on a facing side high up in the 'master tree' with its wings open. By 14.13 pm, darkened clouds were approaching and the butterfly closed its wings. Over the next 20 minutes the tree was battered by torrential rain and strong winds as a localised summer thunderstorm hit this part of Hertfordshire. This was captured by AM on video and to his amazement the butterfly remained in exactly the same exposed position throughout the storm. Around 15.15 pm it became a bit brighter and the butterfly opened its wings only to close them again when more rain arrived. At 15.55 pm AM finished his survey but returned early the next morning to find *A.iris* still where he had left him the previous afternoon.

2005

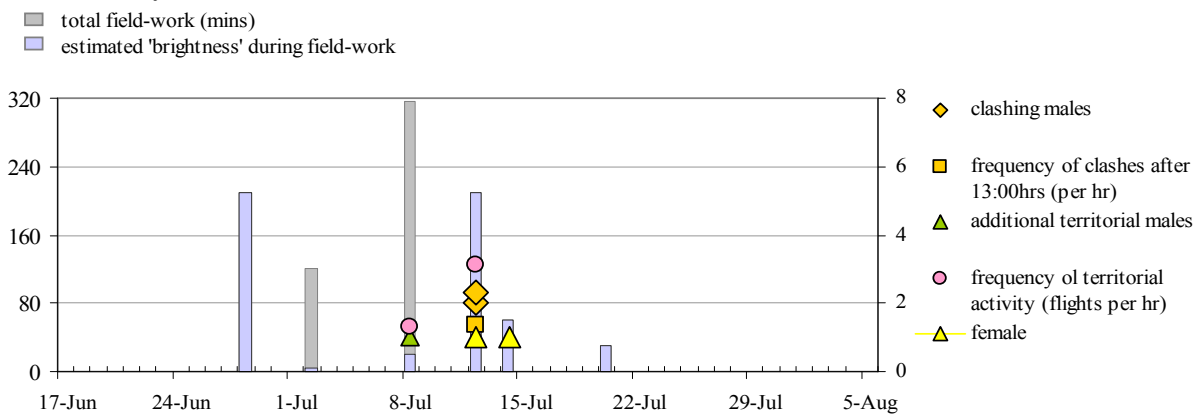
2005 was again a disappointing year, reminiscent of previous years in two ways: that of 2000, when the 'master tree' was observed for the first time after a period of bad weather; and 2001, the 2002 season after the willows were felled. The site was visited on 11th July, only two days after the peak date for observations but already activity appeared to be on the wane, just as observed in 2000 a few days after the initial sightings. The alternative or contributory factor, declining willow numbers, may be as illustrated in 2001, when virtually no activity was observed as a result of the loss of willows. The situation is worrying, in that numbers at all sites in this complex are decreasing as each year passes. In our opinion, we have not been able to encourage any positive management (by autumn 2005) around the remaining willows despite reassurances that this WILL take place, and many of the willows that showed great promise of providing good breeding habitat for the future are being lost due, as we predicted, to competition from the surrounding tree canopy. Matthew Oates, on visiting this site and complex with us in July 2005, thought *A.iris* may well have gone from here in 10 years, given the decline in willows.

Of note and not for the first time, males were seen to be patrolling the canopy of the North Wood rather than use the 'master tree'. On the 11th July, after leaving the clearing LG walked along the field edge of the North Wood and stopped opposite a large ash and immediately saw two flights from a large male. This is very similar to previous years (2001 and 2003), when territorial males have been seen to patrol over the wood canopy. This may be because the actual 'master tree' is too exposed on these days and they are using less prominent but more sheltered trees instead, although this would need more study. It was however, nice to note the increased frequency of White Admiral sightings in the clearing in both 2004 and 2005.

A.iris activity recorded at Site C in 2004



A.iris activity recorded at Site C in 2005



Selected notes on observations at Site C in 2004

This table illustrates the amount of patience that is required to monitor a territory

Date	Notes taken on the day	Description
29 Jun 04	<p>~ 11:40-16:55hrs 30% sunshine, 11:40hrs, cloudy on arrival. 11:50hrs, sun. 11:57hrs, large butterfly flew out around front of willow and disappeared. 12:00-12:15hrs, 75% sun. 12:08hrs, male <i>A.iris</i> flew up from willow and away. 12:22hrs, briefly behind willow. 12:15-12:30hrs, 100% sun. 12:30-12:45hrs, 50% sun. 12:45-13:00hrs, 25% sun. 13:10hrs, 1 male <i>A.iris</i> hornbeam to 'master tree'. 13:11hrs, <i>A.iris</i> around 'master tree', perch, flight away to right. 13:15hrs, 50% cloud. 13:30hrs, 75% cloud. 13:30hrs, from 'master tree' right, out of trees and back. 13:45hrs, 50% sun 13:33hrs, from hornbeam over to north wood, very brief. 13:35hrs, from 'master tree', up and back. 13:40hrs, flew from right to centre of 'master tree', unsure of final direction. 13:41hrs, second flight same individual? Same route, rather dull conditions. 14:00hrs, 75% sun.</p>	Males seen ~ at least one

Date	Notes taken on the day	Description
29 Jun 04	<p>continued</p> <p>13:45hrs, brief movement right side. Previous movements unusual as <i>A.iris</i> flew to centre but disappeared as if returning right through tree. Felt only one butterfly despite it not obviously returning to right hand side.</p> <p>14:00hrs, right from higher front, then perched wing band visible, brief video footage.</p> <p>14:15hrs, 80% cloud, <i>A.iris</i> still perched, appears to be feeding, during cloud almost flat, very exposed part of tree (right side), struggling in breeze and almost out of sight, still perched in improved sun to 14.40hrs, when flight behind tree, not vigorous, probably perched out of view.</p> <p>14:15-14:30hrs, 80% cloud.</p> <p>14:30-14:45hrs, 90% cloud, and westerly wind.</p> <p>14:45-15:00hrs, 90% cloud.</p> <p>15:00-15.15hrs, almost 100% cloud, just occasional brighter moments.</p> <p>15:30-16:30hrs, 100% cloud, close to rain.</p> <p>16:20hrs, <i>A.iris</i> flicked right (right side) 90% cloud, not sunny but brighter.</p> <p>16:45hrs, 50% sun, brighter but sun now lower over clearing.</p> <p>16:55hrs, end of survey, cloudy again.</p>	
13 Jul 04	<p>~ 11:00-15:50hrs 50% sunshine</p> <p>11:15-11:30hrs, 20% cloud.</p> <p>11:25hrs, small <i>A.iris</i> flew across clearing from sallows – looked briefly at ‘master tree’ and flew towards South wood.</p> <p>11:30-11:45hrs, 10% cloud.</p> <p>11:40hrs, right > left over clearing and beyond ‘master tree’.</p> <p>11:42hrs, from behind LG large individual into ‘master tree’, right lower side.</p> <p>11:43hrs, out and around back to ‘master tree’.</p> <p>11:44hrs, across clearing in sallow (in front of hornbeam) – assumed male.</p> <p>11:45hrs, across top of this sallow.</p> <p>11:45hrs, right ‘master tree’ > back across hornbeam around clearing over north wood.</p> <p>11:46hrs, brief by sallow.</p> <p>11:45-12:00hrs, 10% cloud.</p> <p>11:50hrs, circled around hornbeam, past ‘master tree’ and over to south wood</p> <p>12:05hrs, floated off ‘master tree’, then fantastic clash – one over clearing back to ‘master tree’, other one back in for fight. Similar size wouldn’t give up high over ‘master tree’ back ‘master tree’. Clashing again > split up, 1 around ‘master tree’ then perched and 1 possibly near hornbeam. Flight > perched, flight > away towards lower ash end clearing.</p> <p>12:10hrs, small <i>A.iris</i> over clearing, right > left over sallow</p> <p>12:11hrs, from hornbeam towards ‘master tree’.</p> <p>12:12hrs, around sallow – female showing banding into sallow > across clearing and back > sallow – flight low.</p> <p>12:13hrs, flight down clearing from south.</p> <p>12:15-12:30hrs, 30% cloud no sightings.</p> <p>12:30-12:45hrs, 30% cloud.</p> <p>12:31hrs, flight across hornbeam.</p> <p>12:31hrs, flight right > left over clearing.</p> <p>12:45-13:00hrs, 50% cloud.</p> <p>13:00hrs, over clearing and back to north wood</p> <p>13:05hrs, right > left.</p> <p>13:09hrs, over clearing to north wood, 2 clashing from north wood across end clearing, flight across north end of clearing to north wood.</p> <p>13:12hrs, left > ‘master tree’.</p> <p>13:15hrs, cloud conditions worsening.</p> <p>13:35hrs, float corner of N end of clearing across north clearing right > left</p> <p>13:38hrs, right > left clearing in front of ‘master tree’</p> <p>13:39hrs, across sallows right to left north end clearing</p> <p>13:45hrs, white admiral seen</p> <p>14:40-15:00hrs, watch woods from field edge, no activity. Cloud conditions worsen</p> <p>15:00hrs, return to clearing</p>	<p>Males seen ~ three</p> <p>Females seen ~ one</p> <p>Behaviour indicative of site selection for egg-laying</p>

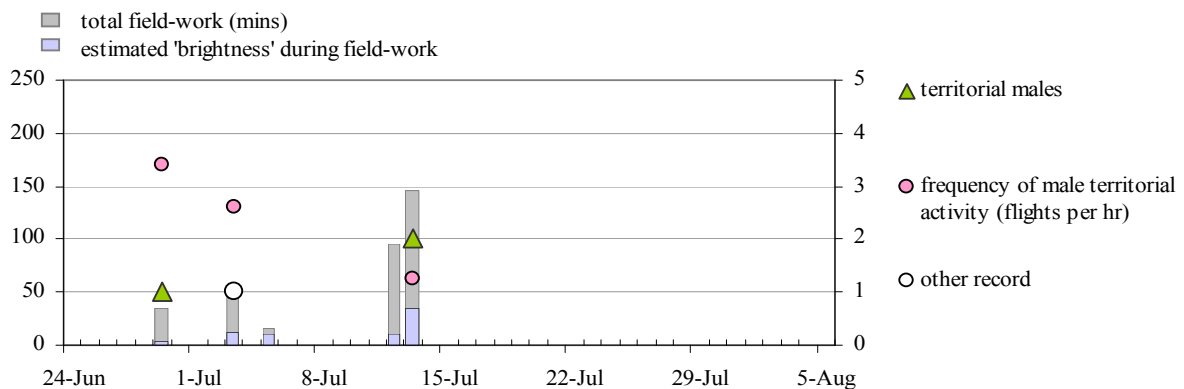
Selected notes on observations at Site C in 2005

Date	Notes taken on the day	Description
12 Jul 05	~ 10:50 – 14:45hrs, 100% sun, 20+°C	Males seen ~ at least three
	10:45hrs, arrived on site and walked up to 'master tree.'	
	11:26hrs, started watching 'master tree.'	
	11:47hrs, male flight over back of 'master tree' from area of hornbeam.	Females seen - one
	12:34hrs, male flight over large willow and ash, small insect.	
	12:52hrs, flight across clearing South wood.	
	13:05hrs, flight from 'master tree' and back and then along bridle path scrub towards fields.	
	13:12hrs, male flight around 'master tree' and over South wood. Second flight towards 'master tree' and thought to perch on low branches but not seen again.	
	13:29hrs, flight in distance.	
	13:31hrs, flight across top of north end of clearing.	
	13:38hrs, two chasing into 'master tree' from area of hornbeam clashing over clearing from ash at end. Almost simultaneously two appeared to be clashing on south side of 'master tree' and one individual visible in background still.	
	13:47hrs, flight across clearing from set-a-side.	
	13:52hrs, small butterfly seen to flight down side of clearing, into willow and out, a very small individual but through binoculars seen to be a female <i>A.iris</i> .	
	14:15hrs, leave clearing to go to top of set-a-side and walked slowly down wood edge. Stopped in field opposite large willow and immediately had two flights from a large male. Entered wood and tried to view canopy but no more sightings – point of entry is only a few metres from the 'master tree'.	
	14:45hrs, left site.	

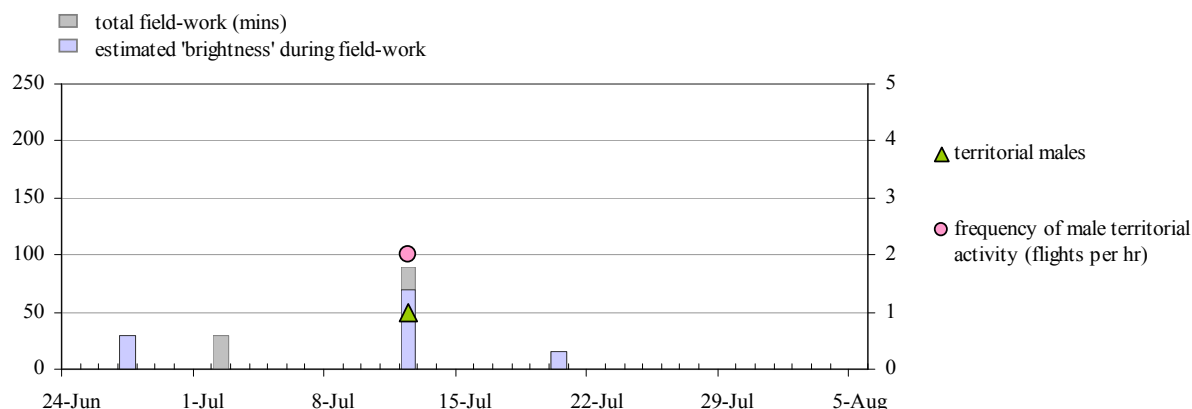
6.2.3 ~ Site H

In 2004 and 2005, poor weather conditions meant that we were only able to spend limited time monitoring Site H, however, a territorial presence was confirmed in this private wood and has now been recorded here for the third and fourth consecutive years. We have only seen clashing males on one occasion in July 2003, and one wonders whether this could actually be a secondary territory? Whilst it may be we just haven't been there at the right time, as elsewhere in the complex, the willow-rich panel towards the far, and lower, side of the wood, must now be maturing, and willow numbers will undoubtedly be in decline. In November 2005, we looked across to the panel from a nearby road and it was quite apparent that the panel is now quite mature and that its willows will now be in decline. The panel does not appear to have been thinned as yet, so there may be some future opportunity to give a little more room to a number of willows if thinning is undertaken.

A.iris activity recorded at Site H in 2004



A.iris activity recorded at Site H in 2005



6.2.4 ~ Site F

2004

Not having surveyed Site F in 2003, for our visit here on July 6th 2004 we were lucky to choose one of the best days weather-wise in early July of that year. The day also turned out to be one of heightened activity for *A.iris* with a minimum of five being by far the highest number we have recorded here. *A.iris* was seen in three separate woods within the complex and it would appear that territorial activity was occurring in two in 2004.

Summary for 2004

3 Purple Emperors towards north wood (2 males, possibly 3, 1 female) ~ 11:15-12:13hrs

1 Purple Emperor central wood – 12:50hrs

1 Purple Emperor south wood (male) – 16:00hrs

Minimum total 5 Purple Emperors

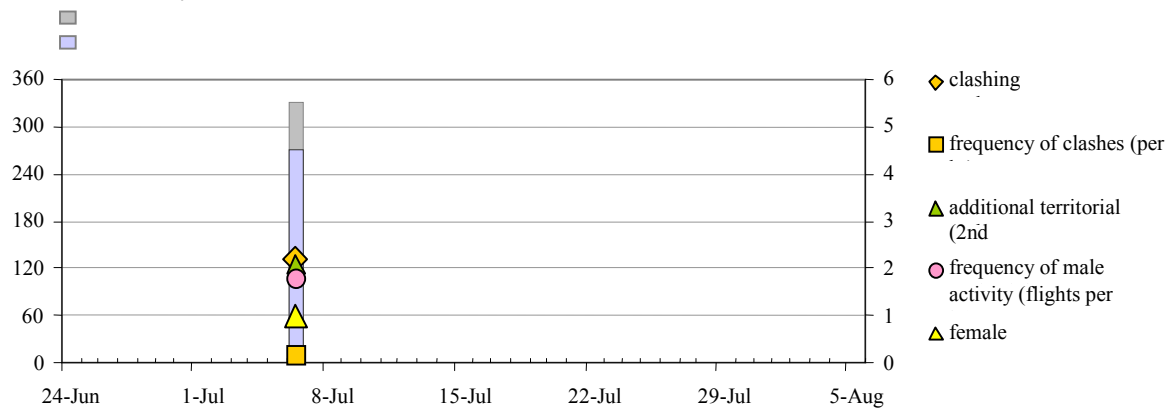
2005

The poor weather at the beginning of the 2005 flight period, meant that finding a good day to visit Site F for the first time was a bit of a hit and miss affair. After arranging access on the 6th July 2005, we were dismayed to see so much cloud cover and toyed with whether we should even visit. In the end, as is the correct response, we decided we wouldn't see anything if we stayed at home and arrived on site at 11.45 am. We ended up recording one of our most exciting days of *A.iris* activity, which included the sight of three males clashing together. Despite several periods of dull weather, *A.iris* flew on every available opportunity. It was also nice to see a male flying and perching briefly in the gap that had also been occupied in 2001, when we first visited. None were seen in the south wood this year. No female observations were made.

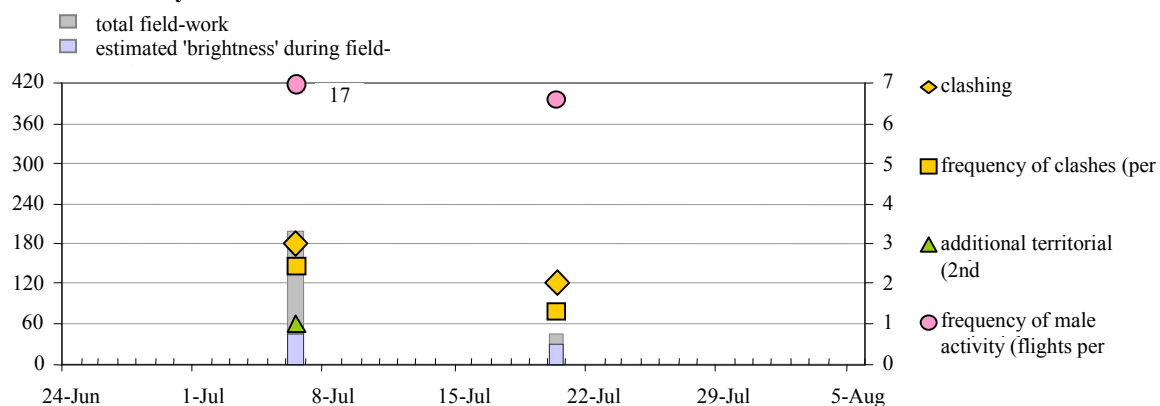
A second visit was made on the 20th July, accompanied by Matthew Oates, and again despite generally poor weather conditions, we were almost immediately able to observe a male flying in a territorial manner around one of the veteran oaks during a bright spell.

A.iris has been recorded here every year the site has been monitored, i.e. since the first sightings in 2001, then 2002, 2004 and 2005. The species seems to enjoy, and perhaps benefits from, the numerous veteran oaks at this site, the older trees possibly having more sap runs. Since our visit in 2001, and particularly in 2005, we have been able to observe good activity throughout the flight period and in relatively poor conditions. The woods in this large complex are managed favourably for *A.iris* and many sallows are now being retained especially alongside tracks. We know that the species will be cared for at this site, which is very encouraging.

A.iris activity recorded at Site F in 2004



A.iris activity recorded at Site F in 2005



Selected notes on observations at Site F in 2004

Date	Notes taken on the day	Description
06 July 2004	~ 10:45-17:15hrs, c.20°C, still. Mostly 100% sunshine, apart from 13:00-15:00hrs when 50-75% sunny. Light N breeze developed, however clouds arriving from SW. 10:45hrs, investigated track along north side of central wood, which is lined with some willows and leads to some veteran oaks. 11:15hrs, walked north along track lined with veteran oaks towards north wood. Purple Hairstreaks active at ground level. 11:34hrs, one male Purple Emperor circling between 3-4 veteran oaks, quite fast, circled low around us. Seen 2-3 times over about 1 minute. 100m further north, Purple Emperor, large and dull, probably female, flew north between veteran oaks. Walked down to north wood, then returned slowly up track. 12:07hrs, one male Purple Emperor over oaks. 12:12hrs, two male Purple Emperors met and clashed briefly over oaks. 12:13hrs, one male around oaks at same location. 12:50hrs, returning towards central wood, one possible PE briefly disturbed from top of oak along north side of wood, then one certain PE flew west from this oak area. 12:57-15:45hrs, watched for territorial activity around prominent oaks, edges and high points of central wood. 15:45hrs, large butterfly seen around a lime along north edge of south wood. Entered wood to investigate, and eventually a male Purple Emperor in high territorial flight between same lime and adjacent oak at c.16:00hrs. Watched until 16:40hrs but no further sightings. Walked back to central wood and finished surveying at 17:15hrs when cloudier.	Five in total.

Selected notes on observations at Site F in 2005

Date	Notes taken on the day	Description
06 July 2005	~ 11:45-17:00hrs in total, c.16+°C, windy from NW, total c30% sun from 14:00hrs mainly. Clusters of trees, identified by letters A, B, C and D. 11:45hrs, arrived on site. 12:15hrs, sun, 2 brief flights W side (B), brief flight to top of oak x 2, 1 flight N side of oak (C). 12:28hrs, 75m down track 1fl W >E high (D). 12:30-13:15hrs, duller. 13:46hrs, flight (C), flight (A), flight (C). 13:52hrs, brighter - clashes of two in (B) (west) x 4 occasions. 13:53hrs, flight (C), flight B. 13:56hrs, flight (B), flight (B) from (C), clash (B), 3 clash in (B). 13:58hrs, flight (B) to right and back left, 1 flight (B), flight background of (B). 14:00hrs, 1 flight (A). 14:01hrs, 1 flight over top of oak (A). 14:05hrs, sun, flight (B) x 3, clash (B). 14:08hrs, flight west of (B). 14:09hrs, cloud, flight (B) by field. 14:14hrs, flight left of (B), struggling against wind. 14:17hrs, brighter with fresh wind, 14:18hrs, sun, flights to right of oak around and away, 14:19hrs, 2 flights (B), 1 flight low to left, chased Purple Hairstreak and perched on right side oak. 14:21hrs, flight (C), north side. 14:22hrs, cloud. 14:35hrs, brighter. 14:38hrs, flight right of (C), and behind - long flight - smaller one in new flight and away, flight almost continuous around tree larger and smaller individual 14:42hrs, duller. 14:45hrs, brighter, 2 flights (C), 1 flight (C), 1 flight (C), flight to (B) > to right, flight (C). 14:49hrs, flight (C), perched flight (B) to perch. 14:50hrs, flight away from perch. 14:52hrs, flight from S > clash, 2nd clash, 1 flight (A), flight to tree x 2, flight south. 14:55hrs, 1 perched. 14:59hrs, 1 long flight (C). 15:03hrs, duller and end of survey around veteran oaks. Moved on to the central wooded area >	8 clashes of 8, 1 clash of 3, c. 46 flights. Flights generally around veteran oak by track, all sides and off over adjacent wood. Favoured main oak, gap to west, gap to north, straggly oak, east side and all over top of oak.
	15:10hrs, watched veteran oaks NW corner, then moved to east side by site of first sighting, in 2001, which was sheltered on this windy day. 15:32hrs, male seen in gap next to conifer by oaks, then seen again and perched. 15:35hrs, flight over tree into wood 15:48hrs, left central wood. Moved on to the southern wooded area >	1 male 3 flights
	15:50hrs, arrived by wood, watched various gaps in vicinity of 2004 sighting. 17:00hrs, by now 90% sunshine but still windy (NW) and cool c.16+°C – no sightings	No sightings
20 Jul 2005	~ 13:02-14:00hrs in total, 90% sun, c.22°C max strong west wind. With Matthew Oates 13:05hrs, 2 flights E side probably 2 seen, cloudy. 13:20hrs, small faded individual flew into N. 13:20hrs, 3 flights N gap. 13:36hrs, clash N gap. 13:48hrs, moved to central wooded area > Watched central wooded area for 20 minutes and left site – no sightings.	2 males 5 flights 1 clash

'One of the highest places in the complex is near the car-park on the Ridgeway, and it is an area that should be monitored during the flight season.' (Goodyear & Middleton, 2003)

Woodland description ~ This 120 ha country park is located off the B157 road near Cuffley. The wood comprises mainly oak, birch and hornbeam with areas of ash, sycamore and sweet chestnut and there is a great variety of flora and fauna. The wood has a resident warden and visitor centre, and in addition, picnic areas, woodland trails and a horse trail. Declared a SSSI in 1953 and as a Country Park in 1968, Northaw Great Wood is managed by Welwyn Hatfield Council (www.welhat.gov.uk). The main east-west ride through the centre of the wood may have potential areas where some sallow regeneration could mature. More sallows can be found beside Grimes Brook, with lower numbers through the eastern section of the wood, where several large sallows have been retained in a newly coppiced area of hornbeam towards the County School Camp.

2004

Nature of observations ~ Following our studies of *A.iris* over several years in Hertfordshire, we had identified the most likely general areas for territorial activity at Northaw, but had not yet begun surveying, other than a brief July visit in a previous summer. Our walks through Northaw Great Wood had revealed a moderate number of sallows over a wide area, however not enough to encourage us to make it a priority.

'However, the final highlight of our 2004 season came on the 22nd July. The morning had been spent in a site meeting with the Forestry Commission, where we were trying to address our concerns at some management decisions that were being implemented at one of the private sites. This is an on going saga, which never seems to be resolved, even after 5 years! We decided to visit Northaw Great Wood; every year we intend to, but this was our first serious visit. We started watching by looking across to the highest point - the first sighting wasn't immediate. First AM saw a large butterfly fly over the trees, then a few minutes later LG also saw a butterfly fly along the tree-tops, but this time she could see the purple. We walked into the wood and a male was seen flying across a small gap in the canopy. Further investigation led us to a slightly bigger gap and over the next 10 days we were able to watch some fantastic territorial behaviour here. The level of activity so late in the season indicates that we had found a major territory. Our sighting on the 3rd August 2004 was our last of the season. With yet more rain forecast and thunder rolling in the distance, we watched a lonely male Purple Emperor flying around the territory. Unfortunately, he wasn't the only creature about. A family of very hungry Spotted Flycatchers had also taken up residence and our last memory of 2004 was of this leaf-like object struggling to keep up its patrols only to eventually lose out completely. For four years we had been telling everyone how important Northaw was as a 'link wood' between our known complexes but even we couldn't believe what we had just seen this year [2004]. Whilst the last and only known sighting here had been in the 1960s, the wood is one of the most walked in Hertfordshire and the abundance of sallows in the vicinity of the highest point is low, so our findings were rather unexpected'

Liz Goodyear & Andrew Middleton
Autumn 2004

In fact, having now found the assembly area, it appears to be the 'strongest' to date of those we have found. We are both convinced that its position in the landscape, being at a high point that dominates a wide area, leads *A.iris* to be gathered here from far around, and perhaps not just Northaw Great Wood.

This development confirms two particular themes that are apparent to us ~

- That *A.iris* can be extremely difficult to detect, this particular assembly area being in a very well-used wood, not far from the warden's residence, visitor centre, main entrance, car-park, main road and private gardens.
- That *A.iris* works on a landscape scale

Considering that *A.iris* occurs at least in all five major woodland complexes in TL20 and TL30, and that it is acknowledged that sallow-rich habitat may be used beyond the boundaries of a wood where a territory is found (Willmott, *var.*; Matthew Oates, *pers. com.*; Goodyear and Middleton 2003, 2004), appropriate conservation measures should not be restricted just to specific woods, but should be considered throughout the adjoining landscape.

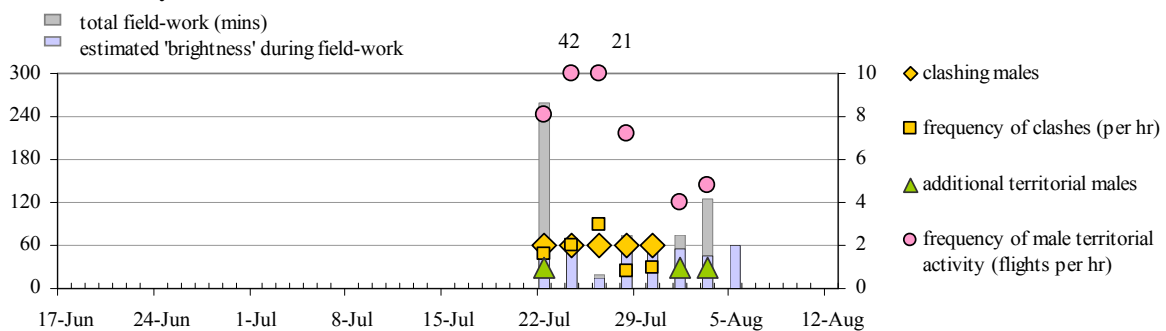
Description of the territorial area ~ The general assembly area appears to be a c. 1 ha stand of well spaced oaks, with ash and chestnut, at a high point by a woodland edge. The primary area is a canopy gap between ash and oak, however, *A.iris* has been seen to patrol and perch on other trees within the general area which may tend to be 'secondary' in nature. The majority of the clashes appeared to emanate from the primary canopy gap, with chases seen over the canopy and along the woodland edge as far as 100 m away.

One must also appreciate that we did not locate this territory until a week after the peak activity date in Hertfordshire, and that the level of observations so late in the season lead us to assume that this territory is 'big'. We also had our last sighting in Hertfordshire here on 4th August, when a lonely male was doing its best to keep on territory, but was thwarted by a family of very hungry Spotted Flycatchers. Images of this leaf-like object endeavouring to fly around the gap will remain with us for many years.

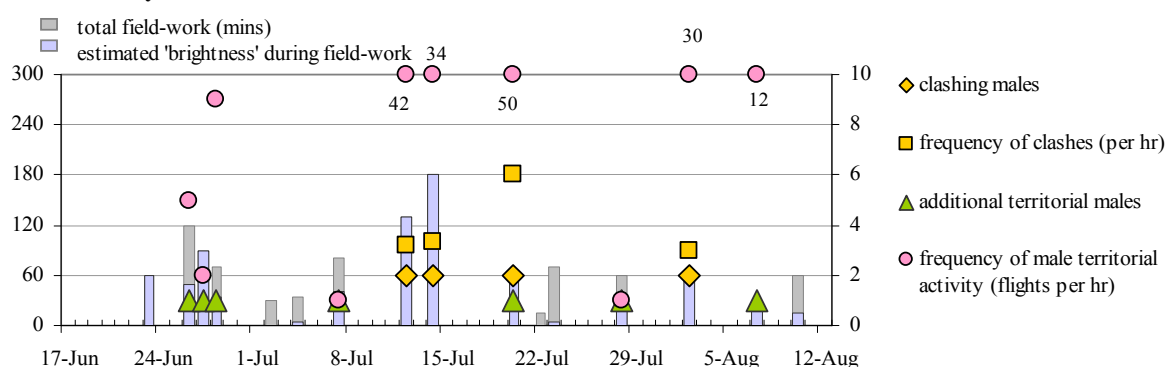
2005

In 2005, we continued to monitor this very important site. Despite no reports from other counties we visited the site on the 23rd June 2005, in perfect hot and sunny conditions but no *A.iris* was observed. The first reports came from Surrey the next day when Ken Willmott saw a male at Bookham Common. AM visited the site on the 26th June and after a short period of sunshine, the first of the year was seen. Single males were seen until the end of June when poor weather conditions took over and very little was observed until the weather improved. From this point on, activity remained excellent throughout July even when most other sites had been vacated. There is no doubt that this site is exceptional, and it remained active until at least the 7th August. Of note is that no *A.iris* has been seen elsewhere in the wood. Welwyn & Hatfield Council is in the process of preparing a management plan for the wood and the needs of *A.iris* will be considered. Ideally the creation of additional wide rides, lined with willows, could create an excellent focal point for visitors and would be a great way of promoting the butterfly in this very popular wood.

***A.iris* activity recorded at Northaw Great Wood in 2004**



***A.iris* activity recorded at Northaw Great Wood in 2005**



Selected notes on observations at Northaw Great Wood in 2004

Date	Notes taken on the day	Description
22 July 2004	~ 13:20-17:40hrs, LG & AM visited high spot at Northaw Great Wood, observing high oaks around garden from 13:20hrs. 14:04hrs, 2 large dark butterflies chased from right to left over canopy at north end of garden. Soon after, two chased R > L towards taller oaks low over the canopy, white banding seen. 14:28hrs, entered wood and worked area from north end. 14:43-15:00hrs, 5 flights in various places ranging over canopy of several oaks and large ash trees, also seen perched on north oak. 15:00-15:32hrs, dull then slightly brighter, 15:43hrs, <i>A.iris</i> circled in dull weather. 15:44hrs, flight – tatty individual (LG observations now from south canopy gap.). 15:56hrs, flight across gap, poss. different individual, flight appears from R now not L. 16:13hrs, flight perch centre, then flight > perch R, 16:21hrs, long flight W then perch. 16:26hrs, flight across gap R then back L, 16:27hrs, long flight down fence line and reappear S end. 16:29hrs, flight over sycamore, 16.30 flight S > N, flight around canopy. 16:31hrs, 2 flight, two individuals whole and part wing. 16:51hrs, flight > oaks S end, 17:02hrs, long flight around ash & perch, 17:03hrs, flight on to ash, flight > ash. 17:09hrs, flight > ash, again disturbed by hairstreak. 17:11hrs, flight around ash, v. dull weather 100% cloud, 2nd flight 17:24hrs, flight > perch ash, long flight > perch ash, and again, flight to oak, flight > ash, flight > ash. 17:30hrs, flight > ash, 2nd <i>A.iris</i> arrives in gap, clash and chase out of gap west, 1st returns, then 2nd back into gap area, and back out in another chase. 17:31hrs, clash – both butterflies in perfect condition, therefore 2 plus damaged individual. Some size difference, one slightly smaller. 17:32hrs, both return and clash, 100% cloud, 1 returns to gap and perches. 17:34hrs, long flight > ash, 17:36hrs, chase flight > perch, cloudy and muggy. 17:37hrs, flight, flight. 17:40hrs, finish survey.	3 males present c.35 flights around assembly area, mostly in south canopy gap. Plus seven clashes of two recorded, but observations in best location only from around 15:00hrs.

Selected notes on observations at Northaw Great Wood in 2005

Date	Notes taken on the day	Description
12 Jul 2005	~ 16:30-18:40hrs, c. 27°C, light N, sunny, 16:30-17:00hrs, 19 flights mainly to ash, also after Purple Hairstreak. 17:00-17:30hrs, 25 flights, 3 clashes of 2. 17:30-18:00hrs, 26 flights, 2 clashes. 18:00-18:40hrs, 23 flights, 2 clashes, last clash 18:20hrs. 18:34hrs, last flight.	2 probably 3 present Total 93 flights 7 clashes 130 mins - 43 flights per hr or every 1min 23 secs, clashes 3.2 per hr. Max. 3 males 44 flights 6 clashes 44 flights per hr, 6 clashes per hr 1 male 6 flights
20 Jul 2005	~ 14:50-15:50, strong west wind, 90% sun, c. 23°C, With Matthew Oates Most sightings in flight, wind into gap hence activity and perching displaced over ashes, only occasionally perching on usual oaks and ashes.	
7 Aug 2005	~ 13:45-14:15hrs, c. 30min, sunnier for last 20 mins, 14:09hrs, flight, flight > middle oak. 14:12hrs, flight x 2, 14:13hrs, flight to oak w 14:15hrs, flight around W oak, in fairly good condition.	

6.2.6 ~ Fir and Ponds Wood (HMWT Reserve)

Fir Wood TL276011 and Pond Wood TL278005

Woodland description ~ Fir and Ponds Wood comprises two woods and had been part of Enfield Chase. It is leased to the Herts & Middlesex Wildlife Trust (HMWT) from the London Borough of Enfield. Fir Wood is adjacent to Coopers Lane between Potters Bar in the west, Cuffley to the east and with the village of Northaw to the north. Pond Wood is accessed by walking through Fir Wood and the southern boundary is the M25.

The woodland of Fir Wood is mainly oak and hornbeam but little willow, whilst the highest point is by the road at 114 m. Pond Wood is a very mixed wood with a large ancient meadow, ponds and the Turkey Brook. Some parts are very damp and the ponds are lined with willows and reeds.

Nature of observations ~ For some years we have been interested in the woods in the southern half of TL20 and TL30 that are adjacent to the M25, despite no previous records from this specific area. We decided to visit the Reserve as well as Hook Wood in the autumn of 2004, and it was the combination of a high point and the number of willows in Pond Wood that made us feel that this complex could hold a colony of *A. iris*. We immediately informed the HMWT of our thoughts, to ensure that no negative management was undertaken before we could survey the reserve during the flight period.

We decided that this site had to have priority and we visited the woods on the 11th July 2005, the day after the first intense activity had been observed. By chance we met David Gompertz, the Reserve Warden, as we arrived and whilst AM watched the gap between the two woods, LG went with David to monitor the area around the pond for female activity. AM watched the gap between 11.30 am and 12.30 pm as he felt males might cross this constricted point to fly up to the high point, but nothing was seen to cross except two Red Admirals and a number of Purple Hairstreaks. The absence of any male crossing the gap made AM target the edge of Pond Wood, the highest point for this wood, and at 1.30 pm AM was positive that a male had flown around the highest oaks. With David and LG, we returned into Pond Wood and looked at the canopy but nothing was seen and David had to leave. We then monitored the ridge at Fir Wood but returned to watch the edge of Pond Wood and at 14.35 and 14.45 pm, AM saw 2 flights of a male and at 14.55 pm LG was able to confirm these as definitely *A. iris*. We entered the wood at the point where we felt that the males were seen and LG saw 4 flights around the oaks although visibility was difficult. There are a lot of oaks, with small canopy gaps but finding the exact one to watch was hard!

Although we only visited the wood once during the flight period, the confirmation that this complex did hold a colony, as we had predicted, was very satisfying. It was also very interesting to note that the *A. iris* was actually using the high point of the lower wood rather than the highest point in Fir Wood, but in 2006 this might be different and until this site is monitored for several years we won't know for certain which high point is preferred. Again it also proved how successful the method of monitoring by watching a woodland canopy from some distance can be, and wherever possible this method should be used.

Historic and potential areas for *A. iris* ~ other areas surveyed in 2004 and 2005 (formerly Section 7)

There are now few woods in TL20 with or without public access that we haven't visited and found *A. iris*, but there is every probability that the butterfly could be found in some of the smaller woods with more limited access. For this reason it is important that all woods in TL20 are managed favourably for *A. iris*.

Essendon and Little Berkhamsted area

In the autumn of 2004 we looked at some of the woods in the **Essendon area**. Essendon, with a high point of 111 m just south of the village along the B158, could certainly be another area worth visiting. We did find some willows in the woods and hedgerows but not that many. Specific likely areas may be difficult to identify or to observe, and it wouldn't be certain from which primary direction the butterfly might come. Despite its potential for a territorial area, it would be hard to monitor and we probably won't give this area priority.

Woods in the vicinity of **Little Berkhamsted** could also hold potential but we haven't studied this area so thoroughly.

6.3 ~ TL30 [main towns Broxbourne, Hoddesdon and Cheshunt]

TL30 is a well wooded 10 km square in south east Hertfordshire. The Broxbourne Woods and Wormley Woods complexes are contained within this decad. *A.iris* has been found throughout these complexes and may well be present in some quite small woods.

Broxbourne Woods and Wormley Wood Complex

In the autumn of 2005, a new network of paths was completed with an all ability surfaced trail through the conifers at Broxbourne Wood Nature Reserve being opened in October. Three new leaflets have been produced to publicise the woods, their history, and the new walks and trails, and Purple Emperor is mentioned with illustrations in the leaflets. We feel that this is some recognition of our work in the area in promoting Butterfly Conservation and the Purple Emperor butterfly.

6.3.1 ~ Broxbourne Wood Nature Reserve ~ part SSSI

TL326073

2004

Although several Purple Emperors were again grounded along the main ride to the delight of onlookers and photographers, mainly in the first half of July, sightings overall were at a much lower level than in 2003. This was due mainly to the inclement weather, with observers discouraged by long periods of cloud and rain between any brief spells of brightness.

Female activity suggesting egg-laying was seen again around the shallows along the main ride, and one female fed at a sap run on a small oak for 40 minutes during the second Butterfly Conservation field trip. We also encountered a female on 15th July, on a very dull day. One was seen to fly from a silver birch onto *S. cineria* at around 4.40pm and we assumed to egg-lay. We managed to find it, however, it was so dull, the butterfly remained motionless and was still in the same place when we walked back past an hour later. Males were seen again flying over the shallows and around the oaks, but observations of male flight activity was very much reduced on 2003, almost certainly on account of the weather. Sightings in 2004 constituted the fourth consecutive year of records from the reserve.

The charts indicate what we regard as the absolute minimum numbers reported on each day on the reserve, although no doubt on some days more individuals may have been encountered. A few of the figures for weather and observation times have been estimated from limited information, but most are from moderately accurate day-notes. We would very much appreciate all records and notes, negative or positive, from anyone visiting the reserve during the flight season. All data and resulting reports are passed to the reserve managers to help conservation efforts here and elsewhere.

2005

A.iris continued to lure butterfly watchers to Broxbourne Wood Nature Reserve, but like 2004, proved at times to be very elusive, and sightings of grounded males were few. Several females were however observed either egg-laying or taking moisture from the ground. This appears to happen more often when conditions are very hot, as does the occurrence of sap-run feeding. The first field trip of the year on Saturday 9th July was a disaster, the weather started cloudy but even when the sun started to shine around 1 o'clock, *A.iris* made virtually no appearance apart from a very fleeting glimpse at 4.15 pm! However, the field trip on Sunday 17th July was completely different with several females being seen, and then in the afternoon three females were seen feeding at a sap-run with a fourth individual thought to be a male joining in.

This particular quite modest oak with several small sap runs has been used in previous years and is the only 'feeding tree' we have noted so far. We feel that on this particular occasion in 2005, the butterflies may have also been taking advantage of shading from the extreme heat. Finding trees with sap runs is not hard, just look for hornets and other butterflies flying around the tree and follow them!

A female was observed egg-laying on the 17th, and it was possible to see the egg laid on the mid-rib through a telescope. The unhatched egg was monitored for several days and had developed its dark purple ring by the 28th July. On the 2nd August, AM found the first instar larva was found on an adjacent leaf tip of the same spray of willow, with its forebody raised from the leaf. On the 7th August, the larva had moved to the tip of another adjacent leaf, where it was in a rather unusual position. It then raised its tail-end to release excrement, before returning to a 'normal' position of raised body and head. It was not seen again after this date despite several searches by AM over the next week (see photos at end of 6.3.1).

Another observation of note was made on the 19th July by June Crew, Keir Mottram and his companion. They were near the pond when a female landed on the path between the seat and pond. It was in an exhausted condition and died in front of them, still in remarkably good condition. June delivered the female to LG that evening and it will join the male that Richard Andrews found a few days earlier (see 6.3.4 Broxbourne Woods complex).

One reason why the Broxbourne Wood NR is so popular with observers is the relative ease with which sightings can be made, given some patience. The sallows that line the ride leading from the west car-park however are now quite mature. The ride in places now tends towards a corridor with very little light and little opportunity for butterflies to nectar. Over the next few years the sallows will become increasingly more prone to damage and will in time need to be cut back for safety reasons if nothing else. They will not last forever, and it is important that an informed programme of sallow management is implemented. New sallow-rich habitat in the Reserve needs to be encouraged and linked to the existing areas. The new trail through the conifer belt is a wonderful resource, but the conifers are tall and there are no sections wide enough to ensure that ride-side vegetation and nectar sources are available.

For example, some suitable successional habitat could be created by removing some of the *leylandii* beside the eastern main ride, and cutting out a 'box junction' at the ride junction at its eastern end. This simple exercise would create a new area of habitat for butterflies to nectar, and for foodplants to develop for the future.

Although the charts indicate that *A.iris* was seen on several occasions, these reports do not necessarily indicate extensive sightings and many were just brief glimpses of a butterfly. Only time will tell whether this apparent reduction in sightings is due to a decline in habitat or simply the difficult weather conditions in 2004 and 2005.

In the spring of 2005, we were sorry to say goodbye to Paul Jarczewski of Countryside Management Service (CMS). Paul took up a new post with the Woodland Trust in the South East of England and we wish him well. We first contacted Paul in the spring of 2000, when we were only just beginning to discover *A.iris* sites in Hertfordshire. He immediately listened to us and involved us in many opportunities to discuss management on the Reserve and helped with several joint field trips. However, we were equally pleased to meet Heidi Hutton in July 2005, who now has the CMS responsibility for the Reserve.

On another occasion this summer, we met Catherine Wyatt at Broxbourne Wood NR. Catherine is the new Biodiversity Action Plan Officer (BAP), and during our visit she was able to see *A.iris* for the first time.

Notes on selected observations at Broxbourne Wood Nature Reserve in 2004

Sat 3rd July 2004

'I see from your webpages that you picked up the sighting of Purple Emperor on Saturday from Birdguides. I put the record out, but not having any internet access at home, couldn't email you sooner. I couldn't believe my luck - it was the first time I'd been looking for emperors anywhere (I moved down to Herts from Norfolk in October), it was pretty windy, and not exactly warm either. Anyway, after over 90 minutes of searching, and only 4 White Admirals to show for it, the Emperor appeared. Initially it glided round me and my girlfriend, landed in an oak for a minute (showing purple gloss), and then came down to some animal droppings on the path, where it fed for at least ten minutes. Then it was up into the canopy again, and not seen for the next ten minutes.'

David Bradnum

Sat 10th July 2004~ Broxbourne Wood NR Field Trip: We set up the signage (thanks to CMS for the laminated signs) and arrived by 'the bench' at about 9.45am, only to learn that the early-birds had already seen a female at 9.30am. By 11am, and with the sun still shining, around 40 expectant people lined the main ride from the car-park. A report came through that a male had been seen on the outer path near the hemp agrimony, so naturally most deserted their leaders to go and see it, and some were lucky. But whilst the faithless were away, a male flew down the ride and to the delight of the remaining few, alighted on the track to enjoy the pleasures of some fresh dog's muck. It stayed on the track for nearly 20 minutes, during which time Liz was able to jog off and bring the crowd back in time to enjoy great views, as it flashed purple and fed vigorously with its large yellow proboscis. The predicted showers arrived in the form of a

downpour, at which point most sensible people, being well satisfied, left for home. Some greedy stalwarts hung on for more, but were rewarded only with the briefest of sightings when conditions brightened.

Fri 16th July 2004

Two sightings of female Purple Emperor this pm, at 2.50 and 3.15pm: one was also seen to fly to a large oak further up the hill.

Tony Clancy

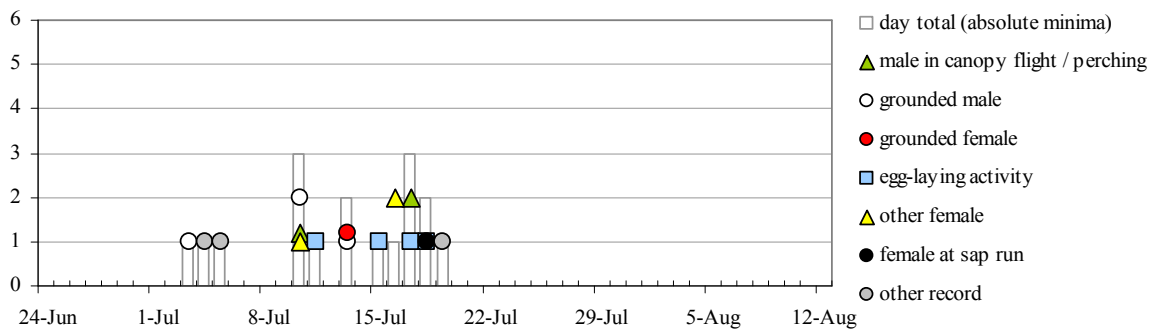
Sun 18th July 2004 ~ Broxbourne Wood NR Field Trip in conjunction with Countryside Management Service: Despite the rain, about 25 people were present in the morning, hoping for the sun to shine. Paul Jarczewski (CMS) led a popular walk around the reserve, whilst others enjoyed the few butterflies that could be seen, but understandably people drifted away as the hours passed. However, after some minutes of brighter sunshine around 2pm, two Purple Emperors appeared around the canopy, one of which dived into the trees and was then seen to feed at an oak sap run for 40 minutes. As the weather brightened, butterfly activity and observer numbers increased, and a while later, one of the female Purple Emperors was seen flying around the willows and gave a fantastic aerial display. We then suggested a visit to Broxbourne Common.

Mon July 19th 2004

'I was also there yesterday morning; arrived about 10.30 and a single male Purple Emperor was visible, mainly sitting in the trees, with one or two soars between branches, though not attracted to the banana skins left on the ground for it. Alarmingly, at about 11.00, while it was sitting in full view, wings folded, about 20ft above the ground, we saw a flurry in the foliage behind where it was sitting, and the Purple Emperor was not seen again (at least, not up to the time I left at about 11.45). It may, therefore, alas, have been eaten by a bird!'

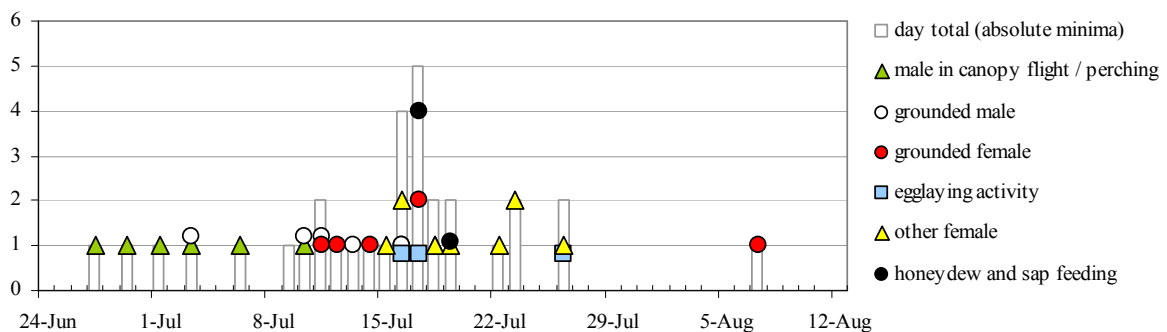
Michael Hammerson

A.iris activity recorded at Broxbourne Wood NR in 2004



2005

A.iris activity recorded at Broxbourne Wood NR in 2005



Wed July 6th 2005

'We went to Broxbourne Woods today and had 2 sightings of a Purple Emperor; one at 1.45 and one at 2.15 when the sun came out. They were high up in the trees not far from the seat. Sandra had her 400 mm lens so took a couple of not very clear shots.'

Sandra and Kevin Standbridge

Sat July 9th 2005 ~ Broxbourne Wood NR Field Trip: We arrived just after 9 am in cloudy conditions and it remained cloudy to around 1 o'clock. Despite some serious sun, no Purple Emperors were seen until 4.15 pm when a very brief sighting was made after most people had gone home! The territory at Broxbourne Common also produced only one flight - rather disappointing for the 30 people who came along. White Admiral and Purple Hairstreak were seen in good numbers. Archie Lang whilst walking around the edge of the reserve, it pretty sure he saw a Silver Washed Fritillary.

Sun July 10th

'I almost, but not quite, had better luck than Mike in Broxbourne last summer. I had only just opened the car door when a PE landed some twenty metres away. By the time I had got the camera ready, it had gone. I then met up with Mike and he had bagged his first PE within a quarter of an hour! I didn't manage a single picture of one that day.'

Jack Harrison

'Hello there. :) It was maybe mid morning. It spent quite a bit of time on the path sucking up salts as you can see in the picture. Every now and then it would briefly fly off and land at another spot on the path nearby to grab more salts. At one point it did briefly land on a lady's leg. She made sure I told her friend about it who would otherwise not have believed her apparently. Then late morning it flew back up into the trees. I was told that early-mid morning and early evening are best times to see the Purple Emperor as they spend the hotter parts of the day in the trees. That day was the first and only time I have ever seen a Purple Emperor. I'll have to look there again next year.'

Mike Rubin

Fri July 15th 2005

'At the usual spot by the seat in Broxbourne Wood NR, a female Purple Emperor appeared from over the canopy and settled on a fir tree 15 - 20 ft up. It remained for 30 seconds or so wings spread sunning itself, before disappearing over the trees again. Time was 3.15 pm.'

Richard Bigg

Sun July 17th 2005 ~ Broxbourne Wood NR Field Trip in conjunction with Countryside Management Service: What a difference a week makes! Today was fantastic, 9.50 we had our first sighting of a probable male Purple Emperor circling around, then 10.45 a female was seen honeydew feeding. 11.15 we had a grounded female near the dip taking moisture and dead on cue just before 12, a female was seen egg-laying. The egg was visible through a scope. From then on there were several other reports of females and a further grounding at 2.05. However, the highlight of the day started to unfold around 2.15 when a member from Suffolk saw a female at a sap run in an oak tree near the car park. It was then confirmed that were two together. Barry Palfrey from Beds & Northants Branch took a photo of the synchronised wings of two females side by side. We thought this was good then at 3.15 three females were confirmed in the tree. Then finally four when a very tatty (possibly male) individual joined in the fun. Left just before 5 o'clock.

Liz Goodyear and Andrew Middleton and many more very contented people including the 16 participants of the CMS Butterfly Walk who joined us for part of the morning.

Mon July 18th 2005

'Broxbourne Wood NR today, a couple of us had at least 2 sightings of Purple Emperor - one at 10.15 am - the person with me (Les who is warden of wood at Stevenage) thought it was a female but it was going like a train and the other sighting was at 11.40 am of a female that landed on oak next to the willow where the female was laying eggs yesterday.'

June Crew

Tues July 19th 2005

'Good view of a male Purple Emperor this afternoon at Broxbourne Woods. It was flying over the main ride a few yards from the west car park and settled on the trunk of a fairly young oak tree. It walked about on the bark just below the canopy but was chased off by a couple of hornets. It circled and returned to the same point. Either it was near a hole occupied by hornets or there may have been a lesion on the bark with a leak of sap that attracted both the hornets and the Purple Emperor.'

Nigel Agar

Sun August 7th 2005

'Dropped in on Broxbourne Wood NR and saw one tired female Purple Emperor plus a poor image taken today of a first instar Purple Emperor larva, which appeared to have hatched by 2nd August (laid 17th July on a nearby leaf). A nectaring white admiral was also seen here today by two other observers.'

Andrew Middleton



Egg seen laid on the mid-rib of a
sallow leaf on 17th July 2005

Photo: Andrew Middleton



Same egg having developed its dark
purple ring by 28th July 2005

Photo: Andrew Middleton



First instar larva observed on 7th
August 2005

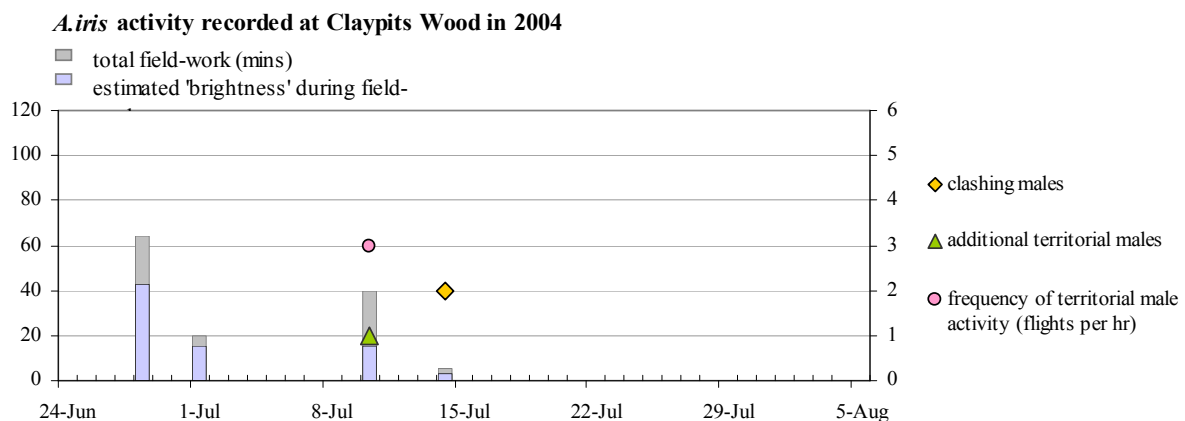
Photo: Andrew Middleton

All photographs taken through a telescope

6.3.2 ~ Claypits Wood SSSI

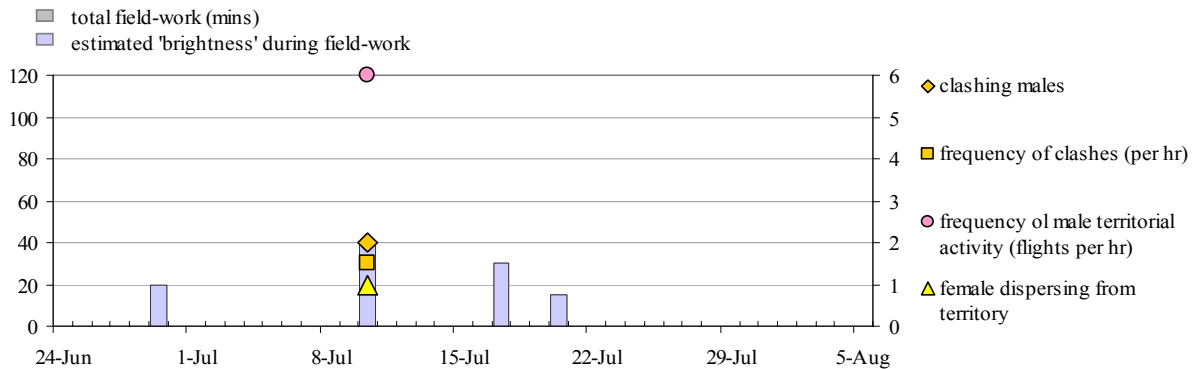
2004

Territorial activity was noted for the second consecutive year over this private wood, viewed by looking across from the Pembridge Road, just where the road enters Brickendon Green by the golf club entrance and village sign. Helen Bantock drew a blank on 27th June, then AM had a probable brief sighting on 28th June. One was seen by several people during the late afternoon of 10th July after the Broxbourne Wood Field Trip, then two were noted chasing over the canopy during very brief observations on 14th July. Future monitoring, given more time and better weather conditions, should be rewarded with some spectacular aerial clashes as seen in 2003.



2005

A.iris activity recorded at Claypits Wood in 2005



Activity was only noted on one day in 2005, although it was probably being used on other occasions. The difficulties that we encountered with viewing territorial activity in 2005 were repeated here, due in part to the weather conditions that made activity peak so quickly. We stopped to watch Claypits Wood on the 10th July, after having been at Bourne Wood during the early afternoon. We met Tony Clancy and Brian Dawton and started to watch the territory at 3.30 pm. It was hot and sunny and at 3.40 pm we had three flights with a clash at 3.47 pm. However at 4.05 pm a female was seen floating over the canopy of the assembly area; it then flew down the side of the wood, and then drifted over the cropped field towards us on the roadside. The female then flew slowly around two road-side trees, and continued to drift down the hedge, slowly towards Broxbourne Wood NR we presumed. It was almost certainly a freshly mated female, and this was the first time that we had seen this type of female behaviour so clearly.

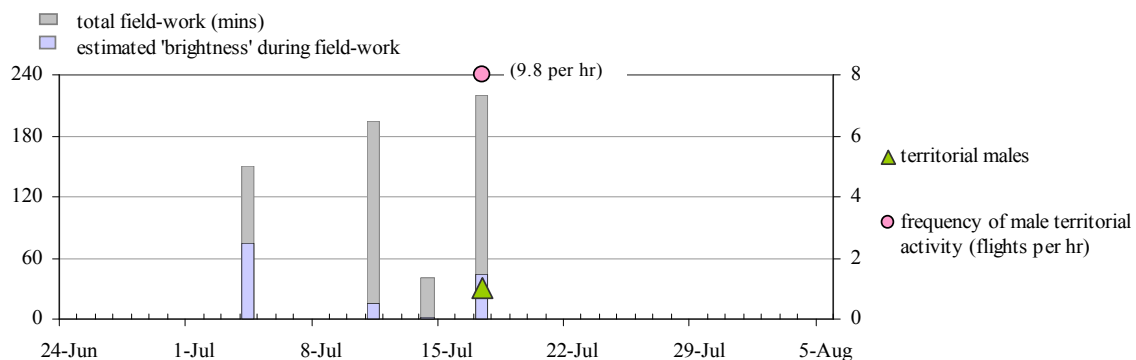
6.3.3 ~ Bourne Wood

Important notice: Bourne Wood is a private site but is open to visitors by pre-arranged booking for an adult entry fee of £5. Full details of opening times and charges can be found on the Celtic Harmony website www.celticharmony.org.uk

2004

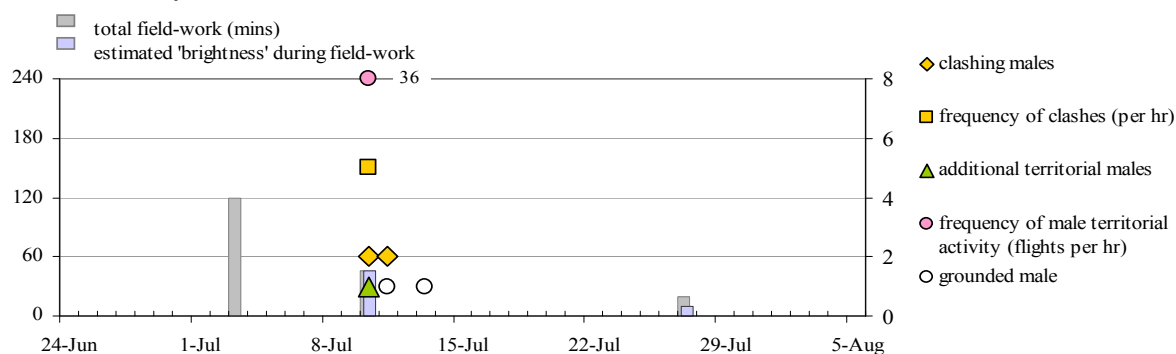
A combination of poor weather conditions and limited access, meant that in 2004 we were limited to confirming that the canopy 'bowl' was occupied in 2004, its fourth consecutive year; during suitable weather conditions male territorial flights were observed every 2-3 minutes. Andrew Wood visited early in the flight season on 4th July from 1.15 to 3.45 pm but saw no sign of *A.iris*.

A.iris activity recorded at Bourne Wood in 2004



2005

A.iris activity recorded at Bourne Wood in 2005



It has been possible for the public to visit this wood and view the territory during July of both 2004 and 2005, as part of on-site activities arranged by Celtic Harmony, when LG and AM have led butterfly walks. Although the first walk in July 2005 coincided with a wet afternoon, the second was a considerable improvement. It was sunny and we just happened to be on site the day the *A.iris* flight period really kicked off.

We were also able to show several of the Celtic Harmony staff the territory, and enlist their help in recording. We are grateful to Megan Blackmore for her reports of sightings that occurred in the following days, which appear to show an increase in males making unusual appearances.

On Monday 11th July at 9.50 a male was seen at the Chieftain Roundhouse, 4-5 sightings of flights around peak of roof, then perching between flights low down (in doorway). 10.20, a male made multiple flights around the same roundhouse and perched. At 11.00 this routine was repeated and it was seen perching on the door. At 12.40 2 males were seen clashing above the oaks near animal pen. Megan and helper, Garnet, also had news of two 'groundings' on people, plus a clashing day over the trees. On the 11th, a male came down on Arthur's leg, and then a few days later a male landed on a blonde schoolteacher's head around 11! News from Megan Blackmore in conversation with Andrew Middleton

When we first found this site, Celtic Harmony was quite a small affair, and not staffed every day. With the site now being occupied most days, there is a greater probability of *A.iris* being seen.

Selected notes on observations at Bourne Wood in 2004

Date	Notes taken on the day	Description
17-Jul 04	~ 12:15-15:55hrs, 22°C, dull from 12:00-15:00hrs, then slightly brighter, overall probably 20% sunshine. Mostly cloudy though, and cloudy for first sightings. 14:28-32hrs, 6 flights 14:57hrs, 4 flights 15:00hrs, 3 flights 15:00-13hrs, 17 flights, including several long flights around territory 15:23hrs, 1 long flight 15:27hrs, 1 long flight, then duller 15:43hrs, 1 flight 15:48hrs, 1 flight 15:52hrs, 1 flight 15:54hrs, 1 flight 15:55hrs, end of observations	Males seen ~ one

Selected notes on observations at Bourne Wood in 2005

Date	Notes taken on the day	Description
10-Jul 05	~ 13:45-14:30hrs, and five minutes around 15:15hrs. <i>c.</i> 25°C, light N, sunny all day. <i>A.iris</i> seen by day visitors and Megan Blackmore.	Males seen ~ three
	13:48hrs, 2 flights.	27 flights
	13:49hrs, clash to right.	11 clashes in 45 minutes.
	13:50hrs, clash one from left.	2 clashing regularly and
	13:51hrs, clash from centre.	high and north of
	13:51hrs, flight right.	territory
	13:54hrs, clash.	
	13:57hrs, 4 flights, perched.	
	13:59hrs, 2 flights.	
	14:07hrs, 2 clashes, 1 flight.	
	14:13hrs, 1 flight.	
	14:15hrs, 5 flights.	
	14:17hrs, 1 clash, 2 clashes.	
	14:24hrs, 2 clashes, 3 flights.	
	14:15hrs, 1 flight	
	14:28hrs, 5 flights.	
	14:39hrs, 2 flights, end of survey whilst we lead walk.	
	15:15hrs, 5 minutes watching with 5 flights. One clash also showed a third male out to the left.	
	Left site.	

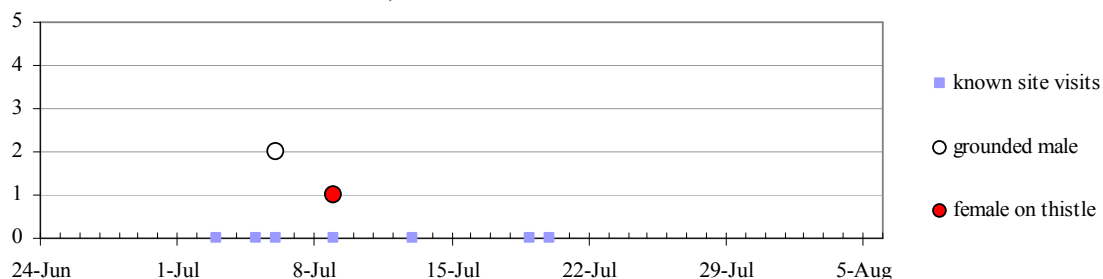
6.3.4 ~ Broxbourne Woods Complex; central woodland area

The woods covered in this large area include the privately owned Cowheath, Brambles and Highfield Woods.

2004

Both male and female *A.iris* were encountered grounded or at low level along the main east-west ride during the early part of the flight period.

A.iris activity recorded at Broxbourne Woods Complex, central area, in 2004



No chart has been prepared for 2005.

2005

Several observers, including Kevin and Sandra Standbridge, made visits to this part of the Broxbourne Woods complex, but *A.iris* was considerably more elusive this year. However, Richard Andrews continued his ability to be lucky and after visiting Broxbourne Wood NR on the 10th July, he walked towards Cowheath Wood and, near the culvert where his 2003 sighting had been, he found a dead male on the ground by a puddle. The dead male had suffered a crippled wing during emergence, and would have been unable to fly or feed. The dead butterfly will go to the County Collection at Hitchin and will fill the gap that A.H. Foster was so keen to fill at the beginning of the 20th Century (see 2002 report for full details). The female that June Crew found in the Broxbourne Wood NR a few days later will join it (see 6.3.1).

Notes on selected observations from the Broxbourne Woods Complex; central woodland area 2004

6th July 2004

‘Having looked at the website and seen that Goose Green car park was a good starting point for looking for both White Admirals and Purple Emperors, my wife and I went there on the 6th July 2004. We walked south down Ermine Street ride and then turned right at the first junction. Between 1.15 and 1.30 pm we had three sightings of two male Purple Emperors. The first was of a male drinking from a puddle - we watched it for approx. 5 mins and I took photographs. It flew off and we carried on down the ride. We then saw the second male ‘feeding’ on a small piece of horse dropping - bright yellow tongue. It flew and then landed on a large horse dropping (both were dry rather than fresh) and fed. More photos taken. We watched for approx 5 mins, during which time it flew around my legs before returning to the dropping, and we left it feeding. Good numbers of White Admirals (and other butterflies) were seen and photo’ed and we also saw a deer. An excellent outing.’

Glen & Moira Barnes

9th July 2004

‘Started in Goose Green Car Park at 9.45 am and went north up Ermine Street, nothing of interest, very cloudy no sun. We then went South towards the ride past the pond which we went up on Monday, to start with, little activity however when we reached the dip near the end, before the big climb to the crossroads, Sandra saw a butterfly come from the shallows on the right hand side, it then flew over my head and landed on an unopened thistle about a foot off of the floor. It was a female Purple Emperor. It landed at 10.50 am and stayed on the same thistle until 12.10 pm. It had been very cloudy until then and had stayed closed. When the sun’s rays came out, it opened immediately and stayed that way until 12.25 pm, when it flew up high over the pine trees to the left. The exact position was 25 feet approx. before the puddle at the bottom of the dip. We returned this evening at approx. 6.00pm, very sunny but no sign however we did see approx. 20 plus Purple Hairstreaks flying around the top of the oak trees having a jolly time.’

Kevin & Sandra Standbridge

2005

Jul 12th 2005

‘Sandra and I parked at Goose Green today, arrived 10.15 and walked towards Broxbourne Woods, We had 4 sightings of Purple Emperor, the first at 10.35 flying around us and then went up high, it was a quarter of the way down the path. The second was at 11.15 when one landed half way down, took picture but not close to it and it flew up straight away. The third was at 11.35 was at the top of the hill before dip flying high. Last sighting was on our way back near where the second sighting, again flying high.

We decided to go back about 4.30, whilst we did not see any Emperors, we did find a dead male, it was near the end of the path half way up the last hill, very mangled, appears to be being used by motorcycles which is a shame.’

Kevin and Sandra Standbridge

6.3.5 ~ Broad Riding Wood / Broxbourne Common SSSI

Centred on TL343075

The area covered in this section is to the west of Ermine Street but south of the Central area discussed in 6.3.4

‘We didn’t manage to visit this part of the Broxbourne Woods complex during the 2003 flight season. However, there is willow-rich habitat in adjacent areas, and it seems a good place to search for territorial activity.’ (Extract from the 2003 progress report – Goodyear & Middleton, 2004).

In 2004, we were delighted to locate territorial activity around the veteran oaks at Broxbourne Common, situated as it is, on a high point by a woodland edge. The site has all the right credentials. See *The Hertfordshire Purple Emperor* (Goodyear & Middleton, 2003) for details of previous sightings and habitat assessments for these woodlands. The Spital Brook area nearby is willow-rich, and the HMWT manages its own reserve along the brook in Danemead Wood (see 6.3.6).

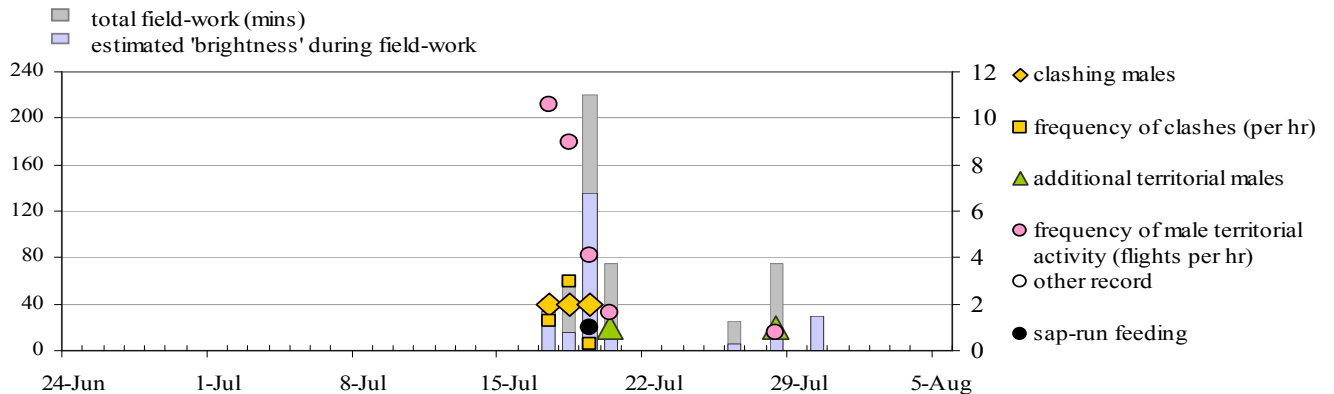
2004

On 17th July 2004, we arrived at Broxbourne Common around 4.30 pm and started to walk slowly under the veteran oaks, looking at all the gaps for short periods of time. We had visited the site in 2002, and watched what we thought were the most obvious gaps then, but nothing was seen that year. As we walked we stopped under a small gap adjacent to a massive veteran oak and almost immediately we saw a male *A.iris* fly across the gap and perch on an adjacent silver birch. However, after prolonged observations, we found that this small gap tended to be used in the late afternoon, but during the early part of the afternoon, *A.iris* could be seen, albeit with some difficulty through the foliage, to be flying around the top of the crown of this giant veteran tree. The males were making use of any available sunshine and as the sun dropped in the sky, they took advantage of the different angle of the rays and started to use different parts of this tree and the adjacent trees. A male was also observed feeding at a sap run on another of the old oaks.

In the late afternoon of the 18th July 2004, we took a Field Trip group on to Broxbourne Common. The sun was quite weak after earlier rain, but we watched patiently and then suddenly a male Purple Emperor flew around the gap, and perched up. Through our binoculars we could only see the top of its wing tips and antennae but then it then became apparent that there were two males perched a few feet apart. It was only when a Purple Hairstreak flew through the gap, causing one of the males to chase it, that the second male became aware of the other's presence. They then clashed and re-perched and eventually, after several weak flights and clashes, one of the males managed to evict the other.

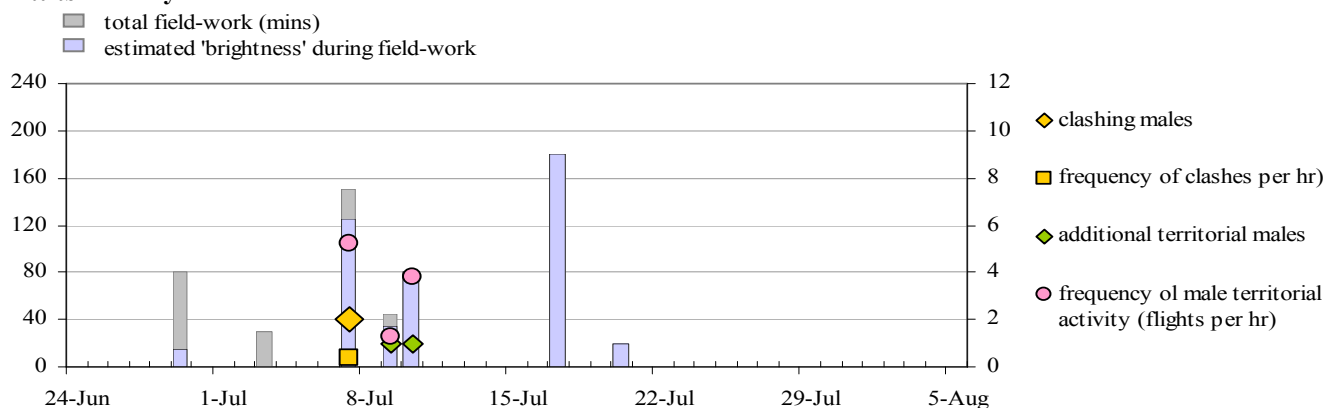
Also of interest was an observation of a White Admiral nectaring on Sweet Chestnut flowers nearby.

A.iris activity recorded at Broxbourne Common in 2004



2005

A.iris activity recorded at Broxbourne Common in 2005



Having found the territory in 2004, we returned in 2005 with the expectation of seeing some good activity. It can be seen from the two charts how different the two years were, and despite visiting the territory on days when peak activity was being observed elsewhere in Hertfordshire, very few male flights were observed. On most occasions when we visited at the end of the day, which we had found in 2004 to be the

most successful time, Purple Hairstreak were always seen in good numbers. A minimum count of 15 was noted on the 7th July 2005 and on the same day a Purple Hairstreak and Ringlet were observed nectaring on a Sweet Chestnut flower side by side.

However, the day we least want to remember was the 29th June 2005, when we arrived mid afternoon with the expectation of seeing *A.iris*. What we were unable to see was the horizon, and that the sky had turned black. At around 3.30 pm, we noted that the sun had gone in and some rain started to fall so we sheltered under the branches of the massive veteran oak. Instead of easing up, the rain got heavier and heavier, with the addition of thunder and lightning. The realisation that we were at the highest point and under the tallest tree (which also had several ancient lightning strikes down its trunk) made us make the decision to retreat as quickly as we could to the car. We were absolutely drenched and when we got to the car, AM remembered he had an umbrella in his bag all the time! When the rain stopped, instead of going home to dry out, we returned to the territory as the sun was now shining but nothing appeared to be flying that day.

We hope that in 2006 and 2007, with more favourable weather conditions, we will continue to see good numbers of males on territory.

Selected notes on observations at Broxbourne Common in 2004

Date	Notes taken on the day	Description
18-Jul 04	~ 16:25-17:25hrs, dullish conditions c. 6-8 observers after attending earlier field trip at Broxbourne Wood NR – see 6.3.1 16:25hrs, arrived under newly found gap. 16:55hrs, first sightings as one male seen in gap, perched on top of younger oak, then second male found to be perched two feet away on another leaf spray. 17:10hrs, Purple Hairstreak flies past and males one and two lift off in pursuit, all three circle in low clash in gap. The two males appeared to be unaware of each other's presence until this chase. They return to the younger west oak. 17:15hrs, still perched 17:13hrs, two clash in gap, then single flight. 17:16hrs, long clash of two, one probably seen off further away. 17:22-17:25hrs, four gap flights of a single male. 17:25hrs, end of survey.	Males seen ~ two

Selected notes on observations at Broxbourne Common in 2005

Date	Notes taken on the day	Description
7-Jul 05	~ 15:10-17:12hrs, bright intervals, turning into reasonable sun, broken with occasional cloud. Very breezy, 17° C. 15:10hrs, arrived under territorial area. 15:30hrs, 1 flight struggling in wind 15:30-15:48hrs, 7 flights. 15:48hrs, two chase out of territory towards nearby house. 15:57hrs, flight across top of oak and perched. 16:08hrs, flight across top. Then no more sightings until 16:54hrs when a flight from right, and second flight. 17:00hrs, flight after Purple Hairstreak. 17:12hrs, cloud and end of survey Good activity over bracken from other butterfly species noted.	Males seen ~ two

The Danemead Reserve is classified by English Nature as Wormley-Hoddesdonpark Woods North - Unit 9

Danemead Reserve is situated to the west of Ermine Street and is about 100 metres from the Martin's Green car-park on Cock Lane. Part of the site is open grassland, which is now grazed by the HMWT 'flying flock' of sheep. However, the site has a network of three parallel ditches, which run into Spital Brook and were probably used to drain the site. They appear on the old Ordnance Survey map for the area. The ditches are now clogged and the site is presently about 2/3rds wet woodland and is willow-rich.

In the autumn of 2004, we became aware that some work was about to be undertaken on the Reserve, involving erecting a new fence in the middle of the reserve, as the Trust was going to extend the grazing paddock. Of concern to the Trust and us was that some willows would have to be felled. We met Andrew Easby of the Trust and it was agreed that we should conduct a survey and report of the willows on the Reserve, so that their management could be incorporated into a new management plan. The site is a SSSI and several rare species of beetle can be found in the wet woodland, with some associated with the aspens. These remain an important consideration when managing the reserve. The survey was conducted during January and February 2005.

Key points identified in our subsequent report to the HMWT were:

- **Numbers & species**

248 willow records were made on the reserve, estimated to be equivalent to 152 large willows (see 2002 report for methodology), representing a significant habitat resource for *A.iris* in the eastern section of the Broxbourne Woods complex. The majority of the willows present were believed to be *S. caprea*. Although all areas of the reserve hold valuable quantities of willow, the SE quarter in the new grazing compartment (44%) and the SW quarter (23%) were found to be especially important.

- **Condition**

Many of the willows had collapsed, whereas some had enough light to regrow, others were being out-competed by, in particular, birch, oak and aspen as secondary woodland develops. In very general terms, many of the willows having collapsed and regrown, the general age group would be 25-40 years, perhaps some are older still. In February 2005, significant younger growth and age diversity was absent. We estimated that *c.*15 years ago the willow equivalent (236) may have been 55% higher than now.

- **Clearance and pollarding**

With an ageing willow thicket as found on the Reserve, we suggested that gradual regeneration would be desired to increase age diversity and provide a continuance of willow habitat over coming decades.

As part of the Grazing Project the HMWT took on board our suggestions that some of the willows should be pollarded in the new paddock. This has already helped make an excellent start on regenerating these important willows in this part of the Broxbourne Woods complex. The selected area is large enough to allow plenty of light to encourage strong regrowth. Luckily, it also coincides with two of the 20 m x 25 m willow recording blocks. Although surveying was undertaken during the clearance work which made calculations difficult, we estimated that approx. 25% of the willow equivalent in the SE quarter was pollarded, or approx. 12% of the total for the reserve.

We suggested pollarding the willows for several reasons, but one important consideration was that the sheep had been browsing the willows in the original compartment and if the willows had been coppiced the new growth would have been extremely attractive to the sheep. Although several people have commented on the odd looking willows, the growth has been very promising as our photographs clearly illustrate.



View of the willow pollards in the new grazing paddock ~ February 2005

Photo: Andrew Middleton



View of the willow pollards in the new grazing paddock ~ July 2005

Photo: Andrew Middleton

Although at the time of the work no *A.iris* had been observed in the Reserve we were able to assure the Trust that these willows would be used by the *A.iris* colony found in this part of the complex, with butterflies almost certainly flying uphill a few 100 m from the Reserve to use the Broxbourne Common territory (see 6.3.5).

However, we then met the Reserve Warden, Mick Velasco and he told us about a probable sighting he had of a female *A.iris* in 2004. Although we have to reserve judgement because of his comment that the butterfly at one point appeared to be nectaring, we are pretty certain that at least one of the sightings he had that day was a female. This is his report:

'On 24 July 04 I met Dr Ken Moody at Danemead to take him on a tour of the reserve and show him the huge numbers of Broad-leaved Helleborines. It was money from his mother's estate that enabled the Trust to buy the reserve. On our tour we came across a family who were looking at the butterflies on the damp meadow. We chatted to them and they told me that Purple Emperors had been seen in Broxbourne Wood and asked if I'd seen any at Danemead? I said I had never seen a Purple Emperor, let alone at Danemead.

The following week on 1 August 04, I was doing my usual walk around the reserve. I was standing in a small open area just outside the fenced grazing area when I saw a large butterfly fly down into the area and settle on a willow tree nearby. I thought it was a White Admiral at first but as I got closer I could see it was a species I'd not seen before. As I was trying to get my camera out of its case it took off and flew up over the tree canopy towards the Scout Camp.

I then walked into the central glade and stood next to the large Blackthorn at the eastern end of the glade. While I was watching the Brown and Migrant Hawks patrolling along the edges of the glade I saw a large butterfly come down over the trees and land on the brambles near to me. It appeared to be feeding on the nectar of the flowers. I used my binoculars to try and make an ID but it did not open up its wings. I decided to try and take a photo but as I don't have a very good zoom lens I had to get closer to it but before I could get a good shot it took off again but this time it only flew a short distance and landed on a willow on the southern side. Once again I crept forward to try and get a good shot but needless to say I disturbed it and it took off again and flew up over the tree canopy towards the scout camp. I did not see the butterfly again during my visit. The time of day would have been between 11-12 am.'

Mick Velasco
March 2005

However, just under a year later on the 16th July, Mick's luck improved and again Dr. Moody was involved. This time Mick did have his camera ready as his superb photo, illustrated on the front cover clearly illustrates!

'I've finally seen a Purple Emperor although not on Danemead but very close. I was at Danemead this morning to meet up with Prof. Ken Moody to look at the Broad-leaved Helleborines. I had walked to Danemead along the Spital Brook valley and on reaching Ermine Street I went over to the bridge that takes you on to Danemead to look at the Butterflies on the brambles by the dried up pond. Among the many Meadow Browns and Ringlets I saw a tatty looking White Admiral. I carried on up to Martin's Green Car Park to meet Ken and his wife. We were also waiting for Ken's cousin to arrive who was driving down from Manchester but she was delayed. I told Ken I'd seen a White Admiral, which he was keen to see so we walked down to the bridge by the dried up pond to see if it was still there. We actually counted 3 White Admirals on the bramble flowers and flying up into the surrounding trees but all had various damage to their wings.

After taking a few photographs we walked back up to the car park to see if his cousin had turned up yet, which she had. Whilst she was parking her car I was trying to take a photo of a Gatekeeper I had seen at the edge of the car park when Ken called out that a good looking White Admiral had just landed on the floor of the car park behind me. I turned around to try and get a good shot with my camera but the angle was not so good. Fortunately it took off and landed quite close to me so I started to take some photos. As I viewed it through the zoom lens I realised that the markings were completely different to the White Admiral I had seen earlier plus it seemed much larger. I told Ken that it was our lucky day and that I was pretty sure it was a Purple Emperor! As I took some more photos the light caught it at a different angle and I was able to see the purple iridescence.

I managed to take 8 photos but most aren't that good so I've attached the 3 best ones. For your records the time of day was 11.30 am and the map ref: TL347077. Whilst we walked around Danemead I didn't see any Purple Emperors although we were mostly concentrating on the flowers. I'm visiting the reserve again tomorrow so with luck I might get to see another!'

Mick Velasco
16th July 2005

Mick did return the next day but didn't see one! We would suggest to anyone interested, that they visit this part of the complex, as we are sure that female *A.iris* may, with patience, be seen on the Reserve and we know that the HMWT would certainly like to encourage everyone to visit this very interesting and slightly different part of the Broxbourne Woods complex.

We would like to thank the Herts & Middlesex Wildlife Trust for being so quick to respond to our concerns and involve us in this project.

6.3.7 ~ Ermine Street / Box Wood area

TL348095

Several people are known to have visited this area during the 2004 and 2005 flight periods but *A.iris* has not been seen since the sighting in 2003. We would like to encourage people to continue searching the area north of the Goose Green car-park, as there will doubtless be at least a small territory to be found somewhere near a high spot in the north-east quarter of the Broxbourne Woods complex, perhaps towards the radio mast, and/or by some nearby woodland edge of the main Broxbourne Woods complex (see Section 6.6.1 for news of a sighting at Haileybury College a few years ago).

Visits to this area were made in 2004 and 2005 by:

Glen & Moira Barnes, Martin Shepherd and Kevin & Sandra Standbridge.



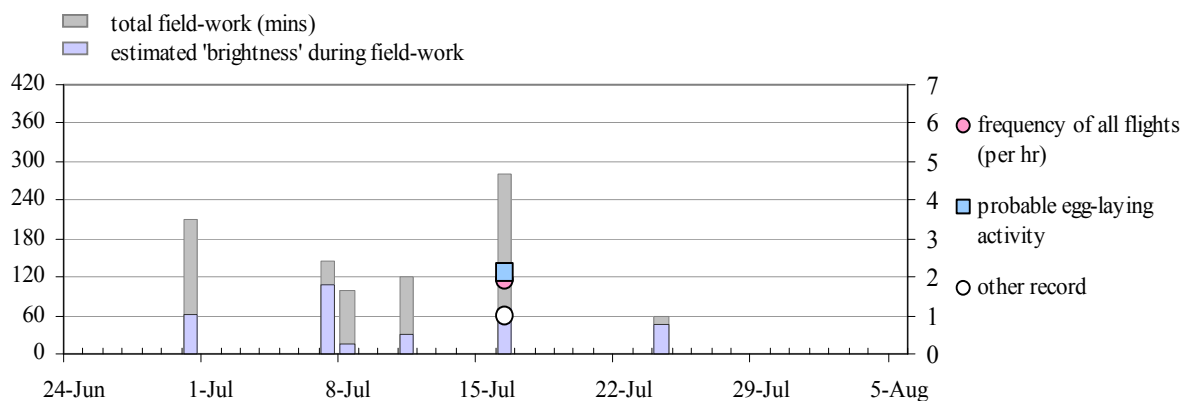
Male *A.iris* seen in the Broxbourne Woods complex on 6th July 2004
Photograph: Glen Barnes

Difficult weather conditions in 2004 and 2005 meant that it was not possible to look effectively for territorial activity over the canopy, as in 2003. However, an access ride forming part of the new Broxbourne Woods complex footpath trail has been cut through a relatively young sallow-rich area of Derry's Wood in the winter of 2003-4. This new path allowed us to watch for female activity around the canopy edge, and record the species in Wormley Woods for the second and third consecutive years. Our observations again confirmed that strong colonies of *A.iris* can be supported by the canopy foliage of rather tall salallows growing within panels where human collectors of larvae are unable to reach.

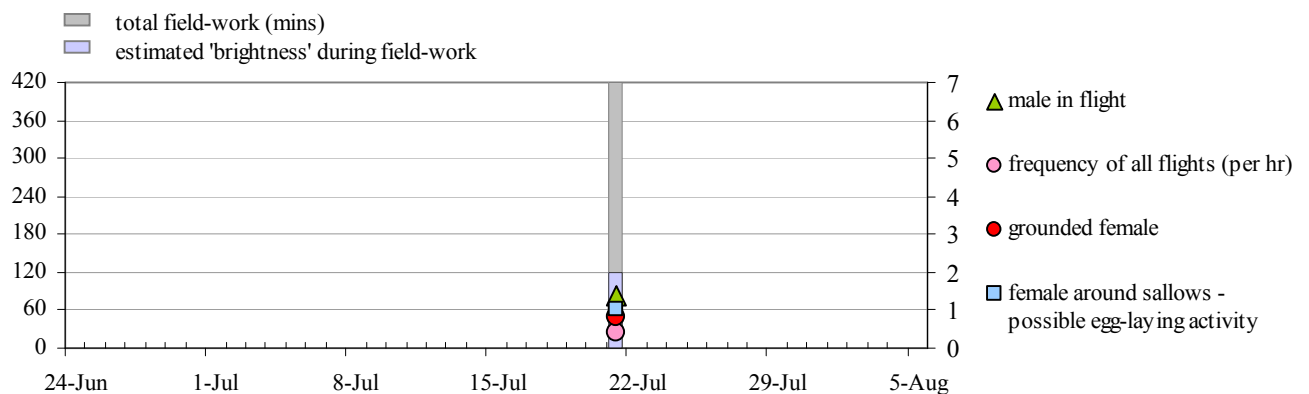
2004

On the 16th July 2004 we chose a very dull day to make a visit to the south side of the Wormley Woods complex, and were delighted to find the path, which allowed us to view the canopy salallows with such success. We had also spent some time trying to locate a territory along the ridge and on the 19th July, we visited the top north west corner known as Old Grove, where the wood meets the Pembridge Road. There is a massive Turkey Oak in the corner and we found a convenient field edge vantage point and started watching. Suddenly we saw a butterfly fly around the tree canopy and our hopes began to rise that perhaps at last we had found another territory for this difficult wood. Once inside the wood, we located the point where this butterfly had been seen but it became apparent this wasn't *A.iris* but a Red Admiral. This was one of the first times this species of butterfly had been seen behaving in a similar manner to *A.iris* but certainly wouldn't be the last time. A serious note of caution should be stated here, that Red Admirals do, rarely, behave in a very similar manner, and can be confused with *A.iris* from a great distance, but when you have seen both flying together in the same territorial area, there is a difference, and although we get excited when we see one, we now quickly realise our mistake.

***A.iris* activity recorded at Wormley Woods in 2004**



***A.iris* activity recorded at Wormley Woods in 2005**



2005

We made only one visit to Wormley Woods in 2005 and this was quite late in the season. We were able to confirm that *A.iris* was present for the third year running with a surprise sighting of a grounded female.

We are now pretty certain that these woods must contain several territories probably scattered along the central ridge, but finding just one is proving to be extremely difficult. The first territory was found in 2003 by looking across to the woodland canopy from a field edge location but we don't feel able to continue monitoring the wood from this point. It is therefore essential to try and locate the territory from inside the wood. We monitored the canopy from the many small gaps near the pond on our visit in 2005 in quite good conditions although late in the flight period. We also watched all the gaps along a line of mature oaks along the central ridge, which runs along the ditch line that separates the younger Derry's Wood and the more mature northern section of woodland. Whilst, once again, no sightings were made, we will continue our search for territories in this complex.

The Wormley Woods complex is an excellent place to see butterflies, especially around the southern entrance to Derry's Wood where a junction clearing was made some years ago; we wish more people would come to the complex to search out *A.iris*.

During the last year, Neil Chamberlain moved on from his post as the Woodland Trust officer responsible for Hertfordshire and Middlesex, and we would like to welcome his replacement, Alistair Crosby. We hope to have a meeting with Alistair in the early part of 2006, to discuss favourable management of this complex for *A.iris*, and other butterflies and wildlife.

Selected notes on observations at Wormley Woods in 2004

Date	Notes taken on the day	Description
16-Jul 04	~ 12:35-17:15hrs, c.22°C, light SW, fairly cloudy, bright spells, c.25% sunshine. 13:20-13:22hrs, 0% sun, some brightness, 2 flights of a large female in fresh condition along new willow ride, egg-laying in willow canopy foliage, mostly goat willow <i>Salix caprea</i> , also some <i>S. cinerea</i> , at 20ft heights until 13:22hrs when lost to view. Visited c.5+ willows, and may have laid/investigated 15+ leaves. 13:22hrs, smaller second <i>A.iris</i> , perhaps male, briefly around willows. 13:43hrs, 1 large female over ride. 14:02hrs, 1 large female. 14:07hrs, 1 large female egg-laying in <i>S.caprea</i> . 14:40hrs, 1 possibly two fast moving smaller <i>A.iris</i> (males?) over willows by ride. 16:42hrs, 1 large female around willows, 2 flights, settled and sunning itself, quite worn. 17:15hrs, end of survey.	Minimum 2 females and 1 male; possible maximum of 3 females and 2 males.

Selected notes on observations at Wormley Woods in 2005

Date	Notes taken on the day	Description
21-Jul 05	~ 11:00-18:00hrs, cloudy and c. 16°C until 13:30hrs, slightly brighter, then brighter around 15:00hrs. 15:05hrs, willow ride a female on ground and low vegetation, flew off along ride. Then walked to old territory on crown by pond, none seen, returned to willow ride 16:00hrs, 100% sun arrives along willow ride 16:35hrs, one flight of unknown sex along ride, one female circled willows immediately afterwards. LG searches centre woodland ridge for territorial activity. No White Admirals seen.	Minimum 1 female and 1 possible male

Historic and potential areas for *A.iris* ~ other areas surveyed in 2004 and 2005 (formerly Section 7)

Broxbourne Woods complex

The sheer size of the Broxbourne Woods complex makes it quite probable that several more territories are still waiting to be found around the edge of this huge bowl. Some might be occupied every year, others might not, but it's well worth trying to find new areas that might have territorial potential.

Bencroft Wood

With Wormley Woods adjacent, there is every chance that *A.iris* would be found in this section of the Broxbourne Woods Complex.

Considering the size of the Broxbourne Woods complex, it's hard to think that there is room for any other woodland, but TL30 still has more areas of woodland with potential.

Blackfan Wood / Morley Grove

Morley Grove is just west of the Brickendon Grange Golf Course and part covers the Ponsbourne Tunnel. Blackfan Wood is to the west of the Hertford north loop line and as the 'crow flies' both these woods are short distances from Claypits Wood and the Broxbourne Woods complex.

Even the most up-to-date Ordnance Survey maps are incorrect, as Blackfan Wood is shown to be quite extensive, but in truth much has been felled and is now used as horse paddocks. The remains of Blackfan Wood appear to be grazed by cattle, which is quite encouraging. We first found this area of woodland by accident when we were surveying for potential Grizzled Skipper sites in March 2005. We got completely lost and found ourselves in Morley Grove walking along a ride that has been cut through the wood underneath the telephone line that goes over the tunnel. Morley Grove is quite derelict in places and we found some good areas of tallows. Once we reached the public footpath, we walked along the track that goes between Pembridge Lane near the Garden Centre and the village of Bayford. The track is lined with mature oaks and a few tallows, and there is a high point by some houses. We returned very late in the flight period to this area, which we feel may have some potential as a territorial area, but we didn't see anything other than a Red Admiral behaving badly!

Bayford Wood

Diane Andrews visited this wood late in the 2004 flight period but didn't see anything. We have visited this wood out of season to assess tallow density and although density isn't that high, there could still be potential for a territory to be found somewhere in the wood.

Great Groves

Great Groves is just east of Bayford Station and is owned by Herts Woodland Forum members Marcus & Joan Dixon. The wood was recently featured in an article in the Times newspaper written by Derwent May. We visited the wood as their guests in January 2003 but noted few tallows, although the Bayford Brook runs along the west edge. Tallows can be found around the station entrance though. Some prominent trees in the wood are visible if walking along the footpath that goes beside the railway line.

Theobalds Park / Cuffley area

We started visiting this area in 2003, investigating several of the woods that run parallel to the M25 (see 2003 report for more details). For some time we have felt that *A.iris* could be present in this area and the sighting in 2005 in neighbouring TL20, at Fir and Pond Wood (see 6.2.6), has continued to encourage us. In addition, the 2003 (see 2003 report) sighting at Forty Hall could be linked to this area.

Although not visited in 2005, several visits were made in 2004 where we watched prominent trees near the entrance to the conference centre. On two occasions large butterflies were seen flying across the canopy, but we were never able to confirm the species, although there is a high probability that they were Red Admirals.

This area is rarely visited by butterfly observers and we feel it deserves continued monitoring.

6.4 ~ TL11 [Main towns Harpenden and Wheathampstead]

TL11 is a relatively poorly wooded 10km square in central Hertfordshire, although there are still a few woods that should be visited.

Symondshyde Great Wood

Although both AM/LG have made visits to this wood on a casual basis, it was not until the autumn of 2005, that we made a visit to assess potential. Our initial reaction was that it had low potential, but as we walked around the complex, taking in as many of the public footpaths as possible, we began to have second thoughts. There are areas when willow numbers are good, in particular along the public path that goes west to east through the centre as well as in Titnol's Wood. Our feeling now is that this wood has some potential for locating *A.iris* if present, and one reason for this is the landscape. Symondshyde has several good highpoints but the highest point is where Hammond's Lane enters the wood from the west. The location is classic with a field edge / garden / mature oaks and the landscape just comes up to this point from across a wide area of countryside. This is a similar situation to Northaw Great Wood (see 6.2.5), where adjacent habitat does not look promising but *A.iris* is using the wider landscape, however willow numbers in the Symondshyde area are probably lower.

Other woods that need a visit are those north of Wheathampstead, around Lamer Park and Ayot St. Lawrence. As a result of the *Woodland Leaflet* mailshot, one woodland owner in this area has contacted LG and given permission for us to visit their wood.

6.5 – TL21 [Main town Welwyn Garden City]

Despite Welwyn Garden City taking up a large part of this decade, there are several important areas of woodland in this 10 km. There have been several historic reports from this decade and we have been monitoring woods in the area since our studies began. The proximity to sites in TL20 make this a decade to be watched

6.5.1 ~ Datchworth area

TL269191

On the 17th July 2005, we received this email from Lee Browne:

‘OK, I was walking along at about 4.30pm when a huge black butterfly flew past my face. I watched it for about 30 seconds as it flew around within 10 and 50 feet of me, even at this distance I could see it was a large black butterfly with white bands on its wings. It looked like a White Admiral but much larger, and with a powerful wing beat and soaring flight. Now here's the weird bit I wasn't in a wood but walking down a road in Datchworth! And it was flying up and down in front of a row of houses, at one point it almost flew into an open window! Now I've never seen a Purple Emperor before but I have seen loads of White Admirals and I'm 90% sure this wasn't one. If I had to break it down I'd say 70% Purple Emperor, 20% Exotic (Swallowtail or Birdwing), 10% White Admiral. There are some trees nearby, a couple of large oaks, ash and various others but I could see no willow, although the houses in this area do have large gardens with lots of trees, I even walked down to the nearest wood to have a look about and found willow growing but no sign of Purple Emperor? Might be worth people keeping an eye out in the area (Bramfield, Mardley Heath and Harmergreen Wood).’

Lee Browne
July 2005

A second email from Lee came 30 minutes later – “I just took a look at the Purple Emperor photos in the photo house page [website] and I have to say I'm almost 100% sure it was a female Purple Emperor!!!!”

It seems certain that Lee saw a female Purple Emperor, and in a 10 km square we have been searching over several years due to its potential. Our initial thought was that it had perhaps wandered from the Bramfield Woods complexes which is approx 2 km* (see below), but when one studies the map, we also realised that the location in Datchworth was only 2 km away from Astonbury Wood, where there was a sighting in 1978 (see 3.1 and 6.8); 2 km from Mardley Heath (see below) and the south edge of the Knebworth Woods Complex (see 6.8) is 5 km away. These historic and landscape factors make Lee's report all the more interesting and exciting. (*Distances quoted relate to the shortest distance between the point of the sighting and the closest point of the wood named. This does not necessarily mean where the best habitat might be.)

Bramfield Wood and Park Wood

Since our studies began we have visited **Park Wood, Bramfield** every year and every year we come home convinced that one day we will see *A.iris* in this wood. A three hour visit was made on the 14th July 2004, but we had no luck despite watching the rides and canopy. Our experience at Northaw Great Wood led us to think that if we are going to detect any territorial activity, we might need to be monitoring high points away from this wood in the wider complex. Because of the richness of adjacent habitat, we have been concentrating our surveying on the high point within Park Wood. Therefore in 2005, we decided to look at the high points in and around **Bramfield Wood** and the area by the water tower near Bull's Green. The complexities of the flight period in 2005 meant that we ended up watching these high points on days when the probability of seeing a male territorial flight was rather unlikely, but we still persevered. We still feel that this complex of woods must hold a colony of *A.iris* and we will continue to visit them.

Mardley Heath / Sherrardspark Wood

These two areas of woodland are managed and maintained by Welwyn and Hatfield Council and at the request of their Ecology Officer Christine James, we visited both sites during 2005. We had hoped to make two visits to each site but weather conditions hindered our surveying.

Mardley Heath ~ we had visited Mardley Heath in 2003, and made an assessment of willow, which we felt was moderately favourable. We visited on 15th July 2005, when in a normal year territorial activity could still be expected, but we were not optimistic. The air temperature was cooler than the preceding days and there were some periods when it was quite cloudy. We arrived at the car-park and immediately saw a spectacular sap run on a relatively young oak, on the edge of the car-park. The sap was pouring out and a Red Admiral was taking full advantage of this food source. We then walked across the Heath and down towards the A1M motorway, watching the edge willows at all times for possible female activity. At 12.40 we drove to the highest point by the motorway bridge and whilst AM watched the trees on the west side of the embankment, LG monitored the canopy over the wood to the east of the motorway. Although Purple Hairstreaks were observed, no *A.iris* was seen, but we still feel that this area does have potential.

Sherrardspark Wood ~ we continued to this site from Mardley Heath and for AM this was his first visit to the area. Sherrardspark Wood appears to have few willows, but we think there is potential within the landscape and in particular along the motorway embankments, adjacent woods and beside the River Lea which is nearby. What Sherrardspark Wood does have is a high point of 128 m on the northern edge and this was the area we targeted. There are some amazingly tall trees here, mostly Turkey Oak, which line the road that leads to Digswell Place. We spent nearly two hours here on the 15th July, and watched the row of oaks, and several gaps just to the south of road. Again, apart from Purple Hairstreak no other butterflies were observed in the canopy, but we will try and visit this site again. We have learnt the absence of adjacent willow does not necessarily mean the absence of *A.iris* especially if we have another landscape situation.

We can only re-iterate the importance of all areas of woodland in TL21 for having the potential to hold a colony of *A.iris* and would continue to suggest that anyone living in the area should try and visit some of the woods during the flight period.

6.6 ~ TL31 [Main towns Hertford and Ware]

Although not as well-wooded as its southerly neighbour TL30, the decade of TL31 contains some important adjacent areas of woodland including Balls Wood.

6.6.1 ~ Haileybury College / Hertford Heath / Goldings Wood

TL359110

In February 2005, Malcolm Hull was manning the branch sales stand at the Lea Valley Bird Fair when Peggy Dimes came along to the stand and told him that about eight years ago she had seen a Purple Emperor at Haileybury College. This is the first known report from TL31 and means that the woodland areas adjacent to TL30 (Ermine Street / Boxwood see 6.3.7) probably hold a colony. Just to the north of Haileybury College is **Goldings Wood**, which from the A10 appears to have little potential, but we may be wrong. Kevin and Sandra Standbridge live in the area so we hope that they will be looking here in 2006. A visit to the area in January 2006, indicated that Goldings Wood has little willow but there is willow in the area and of particular note is that the area is close to the A10 and many road-edge willows.

In October 2005, LG wrote to Peggy Dimes and the following report was received:

'I'm returning your map with information as requested. I am still hoping to see another Purple Emperor.

'X' [marked on attached map] - Large oak tree nearby and was sitting underneath beside entrance to wood [Goldings Wood]. It was during August*, but regret I cannot remember the year – except it was more than 6 years ago. And a hot day, 11-12am.

I belong to the Hertford Company of Archers and am in that area 3/4 times a month at least. I am still hoping to see another Purple Emperor. (At the right time of year it is a great place for dragonflies) I regret I did not observe its sex. (It took only a few seconds to fly past into the wood and I was so surprised to see such a rarity) but from your comment [LGs] - and its colour – it was male.'

Peggy Dimes
October 2005

**Authors' note: In conversation Peggy said it was August because it was during the school holidays but the summer holidays for Haileybury School start quite early in July, and as an example summer term 2005 ended on 1st July (www.haileybury.herts.sch.uk), and it may be possible that her sighting could have been in July.*

Balls Woods is a HMWT Reserve, adjacent to Ermine Street [Elbow Lane] and is well-known for its White Admiral population. Its location just north of Box Wood / Ermine Street (see 6.3.7) makes the potential for a sighting here in the future look good. Andrew Wood walks a transect at Balls Wood and during spring 2004 undertook a willow survey. Unfortunately he found that willow numbers were disappointing, however there is a good high point to the east of Elbow Lane, which he has started to monitor. Willows regeneration should be encouraged in any future management plans.

Despite noting potential in woods **north of Ware** in our 2003 report, this area has not been visited by us during the flight period. Another area of interest to us is the scrubby woodland south of **Waterford Heath**. The old gravel extraction site, near the railway line, has some old 'ponds' which, although now dried up, were once wet and are now rich in *salix* species including *fragilis*. A railway tunnel just south of the pit goes through the hill, which rises up steeply from the River Beane. An unusual area to associate with an *A.iris* colony but one never knows.

6.7 ~ TL12 [Main towns - fringes only of both Hitchin and Luton, Bedfordshire]

An historic area for A.iris with several important woodlands.

The **Hitch Wood area** continues to fascinate us, with its tempting history of *A.iris* sightings as recently as 1987 (see 2002 report for full details). Although we didn't visit the area in 2004, Ian Woiwod has also taken on the challenge. Here are his two reports:

2004

'I made 3 visits to the Hitch Wood area this year:

5th July walking through the wood to the clearing with the cottage. 15 minutes in clearing. Total visit about 45 minutes no butterflies recorded from 16:30.

7th July approached from the south past Park Wood, Foxholes Wood and Pinfold Wood. Total visit about 1 hour around midday (12:00-13:00), quite good weather but only in patches, 8 butterfly species seen.

13th July approached through Hitch Wood to clearing. Total visit about 1.5 hours 11:30-13:00. Only new species was a Purple Hairstreak.

Sorry no PEs seen but I still think it's a possibility in the area. Foxholes Wood seemed promising for breeding and the weather was far from ideal.'

Ian Woiwod
November 2004

2005

‘Just to report that I have made two trips to Hitch Wood looking for PEs. The first was on 12th July from 5.30-6.30 pm and the second was on the 14th July from 12:45-14:15. I didn’t see any PEs but I still think there’s a possibility. I was concentrating on the area around the isolated gamekeepers’ cottage on the southern edge of the wood as this is where one was seen before and it is at the top of the hill. The only butterflies of note were some purple hairstreaks, although there were plenty of the other common browns, skippers and *vanessids*. I see that you were looking around there yesterday [17th July] without any luck.’

Ian Woiwod

July 2005

Ian’s conviction that the area could still holds a colony is echoed by ourselves. We visited Hitch Wood on 17th July 2005, taking in a wide area. We walked through to Chalkleys Wood, then Foxholes Wood and finally Hitch Wood itself. We watched several gaps in the canopy around the Lady Grove high point. Then we walked out of the wood and along the entire south-west edge. Again we stopped at all suitable points and watched and waited but nothing was seen.....At the entrance off the B651 to the ‘historic’ Stagenhoe Lane, there are two lodges at a high spot on the woodland edge; one has classic territory characteristics of tall trees backing onto the garden. Over the winter we will try and contact house-owners where they may, possibly, have a classic territory on their back door step!

In 2005, we also heard from an experienced recorder, who wishes to remain anonymous, that very early in the flight period whilst walking in a wooded area in the Whitwell neighbourhood, saw what they were sure was *A.iris*. Although the observer was surprised at the early date, being a few days prior to the ‘first’ on 26th June, the observer is familiar with *A.iris* and certain of the sighting. Unfortunately no further details were forthcoming.

Of concern is the recent announcement that the Luton Airport expansion will include the removal of the cluster of mostly deciduous woodlands to the east of the current airfield. This we understand would include Withstocks Wood, Birch Spring, Sloughs Wood, Burnt Wood, Sewett’s Wood, Hurst Wood, Limekiln Wood, and the Shotmore Plantation. These are areas we have never visited, so are unable to comment on whether any of them could be maintaining an *A.iris* colony. We certainly would like to have the opportunity of assessing these private woods.

Trevor James, in an email (November 2005) to all County Recorders, stated “The loss of even a small area of this relatively small bit of landscape would jeopardise the survival of larger raptors like these, along with other fauna. The flora of the woodlands is typical of that on the Clay-with-flints in this area: not especially exciting, but nevertheless typical of ancient semi-natural woodland. Individually the woods are not large, but collectively they are a highly important part of the woodland environment in the Luton area. I doubt if any really exhaustive work on most of the entomology has been done. It is interesting that the *Neuroptera* appear to be of importance. This would indicate other value. It would be useful, probably to carry out a full and detailed study (and to demand that the Airport Authority do likewise).”

6.8 ~ TL22 [Main town Stevenage]

The bulk of this 10 km is covered by Stevenage but to the east is the important Knebworth Woods complex and to the west a few small woods, including Astonbury Wood.

Like Hitch Wood (see 6.7), we still feel certain that the **Knebworth area** could maintain a colony of *A.iris*. Although we haven't visited the woods during the flight period in either 2004 or 2005, Peter Clarke has been surveying the area, and reports from 13th July 2004 as follows:

2004

'I enjoyed the butterfly meet in Broxbourne Woods on Saturday and what a thrill to see 2 Purple Emperors (my first ever). I learnt quite a lot about this species over the last few days from reading your excellent report and the help given on the trip itself.

Today I decided to visit Knebworth Woods (the weather forecasters predicted today to be the best day of the week so I'd better make the most of it). I started off from Norton Green at about 10:00hrs and walked along the track south towards the woods. Every now and then I would stop and look up through the binoculars to the tops of the tallest oak trees. I did see a Purple Hairstreak but nothing else significant. I got to the gap where the pipeline runs and turned left into a meadow (very bumpy here!). I stood about halfway into this meadow close to the western edge from about 10.15 until 10.45 to view a line of tall oaks along the SW edge of Watery Grove (TL228227). Looks quite promising but no luck.

I continued along the meadow towards the gate but instead of going into the field I entered Cannocks Wood (a bit naughty of me I know!) in a SSW direction. Initially quite shady but soon you will see a lot of bramble to the right of the track. Within about another 20 yards you will enter a clearing (or glade!) and immediately on the left is a large mass of bracken. I decided to go round the edge of the bracken and position myself about halfway inside the clearing (perhaps 15 yards away from the wood edge). My intention was to stay here for half an hour (10:55 until 11:25hrs) to again view the oak tree tops along the SE facing wood edge (TL228225). For whatever reason (11:00hrs) I turned round to look over the bracken and there it was - this large dark butterfly with white bands flew rapidly just over the top of the bracken. It appeared to have settled on the bracken towards the other side but I lost track of it. I stood waiting for at least 15 minutes in the hope of seeing it again. I am not sure if I saw it again because I saw what looked a little smaller than the first sighting and this observation makes me think it was a White Admiral. Either way it is certainly good news and the site is worthy of further investigation. Since I have this week off I may visit this area again in the next few days if the weather is favourable.'

Peter Clarke
13th July 2004

2005

Peter took time off from work to look in 2005, and took on board all our suggestions as to when to visit and where. These are his reports:

'I have this week off to search for the PE in the Knebworth Woods complex! I visited the area today [11th July 2005] walking down Norton Green Lane to the meadows either side just before the gate. From the much larger meadow on the eastern side of the track I went a little way into Cannocks Wood.

Overall between 10:30 and 12:45 I saw 8 Purple Hairstreaks and 17 Marbled Whites but unfortunately no PE or White Admirals. Between 12:30 and 12:45 I spoke to a chap (looks like he was taking a lunch break!) who was walking Norton Green Lane. I don't know his name but he sends dragonfly records to you. Anyway, you might recall that last summer I observed a large white-banded butterfly in Cannocks Wood on 14th July (see previous entry) but wasn't sure whether it was a PE or a WA. I was telling this gentleman about this and he said that it is known that White Admirals fly around in that area of the wood so it is probable that is what I saw!

Weather looks promising for the rest of the week.'

Peter Clarke
11th July 2005

'I did go again yesterday and today to the Knebworth woods but with no luck I am afraid. I decided today to look at some different tall trees in Watery Grove (viewed from the lane). I also went into Cannocks Wood (just beyond the meadow adjacent to Watery Grove) in particular the large clearing where there is a large area of bracken to the left as you come in. I stationed myself at the edge of the bracken about the two-thirds of the way round so that the sun was directly behind me (at about 2pm) and watched a couple of tall oak trees ahead. No luck there either. However, at 11.50 am when entering the clearing I managed to see a White Admiral (I was hoping it might have been a female Purple Emperor!) close to the ground. That is one bit of good news because records show that this species is rare in the complex (well at least in the last 30 years or so).'

Peter Clarke

14th July 2005

We do hope that Peter will persever, and be lucky – he certainly deserves it for his hard work and help with the project. Peter visited the woods in 2005 on the 11th, 12th, 13th and 14th July and watched prominent trees in Watery Grove and Cannocks Wood. Ken King who walks the Knebworth Park transect also maintains a look out for *A.iris* on his weekly walks in the area.

6.9 ~ TL32 [Main town Buntingford]

There is very little woodland of significance in this 10 km square apart from the 'historic' area around Walkern, however there are many small woods which when added up could still be important.

We have made no visits to any woods in this 10 km since 2003, however Trevor James kept us informed about a visit he had made to **St. John's Wood**.

'I was in St John's Wood at Walkern a week or two ago, and the main rides in that have been cleared back over the last few years, leaving some nice, mature oaks next to open space, with plenty of willow. Did not see an Emperor, but it does look very possible if it survived in the area since the 1950s.'

Trevor James

July 2004

6.10 ~ TL41 & TL42 [Main towns Sawbridgeworth and Bishops Stortford]

Both these 10 km squares have many isolated woods and fall within an historic catchment area.

We have not visited either of these 10 km squares during the flight periods of 2004 or 2005, although we still believe this area has potential.

However, we did visit **Hatfield Forest (TL51 & TL52 in Essex)** in January 2004, which is a National Trust Estate and just south of Stansted Airport. We thoroughly enjoyed walking around Hatfield Forest and noted many willows and came away feeling that this too could maintain a colony of *A.iris*. We know that Matthew Oates would like that.....Since then we have met a few people that are recording butterflies there and been in touch with the new Careership Warden who is in charge of the butterfly monitoring. We hope that one day we will hear that they too have *A.iris*. Anyone that uses Stansted Airport on a regular basis must have noticed how many willows line the roads in the area? It's the predominant tree species.

6.11 ~ SP91 [Main town Tring]

A mixed decad with two major woodland complexes situated along the Chiltern chalk ridge and the Vale of Aylesbury - additional discussion is included on SP80 and SP90

6.11.1 ~ Tring Park (Woodland Trust)

SP930105

2004

Brian Jessop was not able to complete a full series of transects in 2004, however on his Saturday 31st July transect Brian saw two *A.iris* take off from the territory. On another visit specifically for *A.iris*, none were encountered, however two Silver-washed and one Dark Green fritillary were some consolation. Unfortunately Allen Beechey had moved away from the area, so we were no longer receiving his additional reports.

Two other reports came via the Upper Thames Branch website on **Sunday 18th July 2004** although unfortunately none again were seen. We had met Tom Dunbar at the Upper Thames Branch Species Champion Day and he had purchased a copy of our first report with great enthusiasm.

“Charged off up Tring Hill with Tom and Ros, more or less a waste of time! Found the site mentioned in the PE study near the 2 Buddleias and sallows but nothing doing! In fact there is a worrying lack of any butterflies up there!”

Ali Latham

“The weekend at least showed some consistency with a visit to Tring Park across the County border in Hertfordshire with Ali Latham and Rosaline Dunbar. This is a known site for Purple Emperor. Some very ‘likely’ PE territories were found but no Purple Emperors were seen.”

Tom and Rosaline Dunbar

2005

2005 produced more reports than 2004, with Brian Jessop being joined by Philip Woodward and Colin Sturges in seeking *A.iris*. All sent in their news. The site was also visited by Tom Dunbar but with no success.

Sun 10th July

‘On a visit to Tring Park this morning I saw numerous butterflies but was particularly pleased to see a female Silver Washed Fritillary gliding down one of the paths that leads up to the wood at about 10-45 and then saw a male perched on a lime tree branch near some brambles at about midday. Unfortunately no sign of the Purple Emperor ‘

Philip Woodward

Mon 11th July 2005

‘I managed to get up to Tring Park by mid afternoon in search of more butterflies today, particularly concentrating my attention on the wooded ridge at the top of the escarpment. I skirted around the main path and the clearings with the sallows and brambles several times without any luck but at 3-45pm I hit the jackpot. I was walking along the main path of the woodland when I decided to double back into an area of lime trees opposite the path that runs into a clearing. I could see from a distance that a large butterfly was flying just off the ground and on closer inspection I saw a beautiful FEMALE PURPLE EMPEROR (no purple coloration) feeding off salts from the ground. It settled there for only about 30 seconds before flying off into the wood but I savoured every moment. This was my first sighting of this butterfly here since 2003 and it was in exactly the same spot as I had seen a female Purple Emperor in 2002. I really believe you have to be in the right place at the right time to spot this very elusive species but it was a very thrilling and special experience to see this butterfly again. I looked around the same area for another hour but made no further sightings.’

Philip Woodward

Fri 15th July 2005

'Just spent a couple of hours in Tring Park. At about 5.00, I got a glimpse (no more than 1/2 a second) of something black with a thick diagonal white mark flying into the tree next to me about 10 feet off the ground. Spent the next 45 minutes there but without luck (and starting to doubt it!). Moved on to a clearing and low and behold there she was again (Purple Emperor): moving lazily and perching on the lime tree leaves no more than 15 feet off the ground. Had her in the binoculars for about 15 seconds and no sign of any purple. That was about 6.00 and though I spent another 45 minutes there, I didn't see her any more.'

Colin Sturges

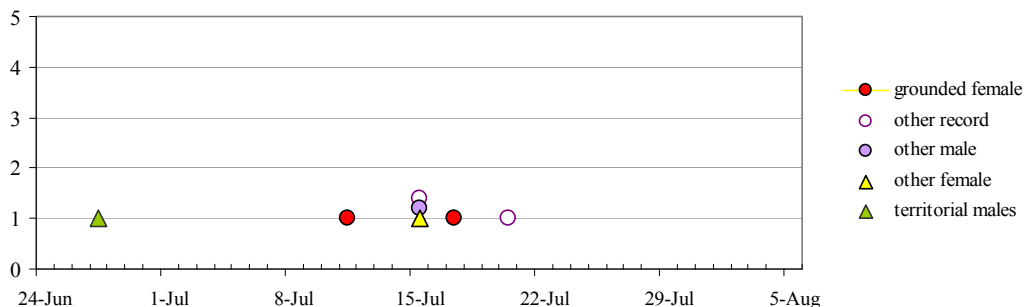
Sun 17th July 2005

'Tring Park: this morning between 11.00 and 12.00: saw no PEs or SWFs. However, just past 12.00 on the steep path from the monument back up to the gate, one female Purple Emperor on the ground, then disturbed her again at the top, by the gate.'

Colin Sturges

No chart has been prepared for 2004.

A.iris activity recorded at Tring Park in 2005



6.11.2 ~ Tring and the wider landscape

Between SP933136 & SP948120

The Grand Union Canal

In 2002, Nick Bowles told us about a report he had received from along the canal bank. We now know that there has been a second sighting, in 2003 by Richard Tomlin, further along towards the Buckinghamshire border. This news came via Ched George who reported that the sighting was approx. mid-way between Tring Station and Bulbourne, in the canal cutting. The importance of canal-side sallows is probably not sufficiently appreciated and British Waterways is not an organisation that we had yet considered contacting. However, it is encouraging that the importance of water-side sallows and willows has been highlighted by the Environment Agency when asked to comment on the Draft Hertfordshire Purple Emperor SAP in 2004.

The Hertfordshire/Buckinghamshire border [SP80 and SP90]

Dennis Dell is Purple Emperor species champion for the Upper Thames Branch and is looking at all the woods in the vicinity and in particular the **Wendover Woods Complex**. As part of his own study, Dennis asked Nick Bowles to also look at some of the woods on the western edge of Tring Park, close to the Buckinghamshire border, but no *A.iris* were seen. In recent years, there have been sporadic reports from Wendover Woods (1998), Coombe Hill (2002) and Whiteleaf Hill near Princes Risborough (2003). These woods stretch out along the Chiltern Ridge, and continue through to Tring Park and the Ashridge Estate, but from this point north woodland decreases and chalk downland becomes more apparent.

All these areas need far more study and the probability that *A.iris* is using the landscape on a very large scale has to be considered. Management for the species has to be sympathetic and will involve many different organisations and authorities covering Hertfordshire, Buckingham and possibly Bedfordshire!

Historic and potential areas for *A.iris* ~ other areas surveyed in 2004 and 2005 (formerly Section 7)

The Ashridge Estate (National Trust)

Beyond Tring Park, we have been asking people to look at other woods in the area and this year Don Otter who works for the National Trust on the Ashridge Estate took up this challenge. The Ashridge Estate is a massive complex of woodland north of Berkhamsted and straddles the Hertfordshire, Buckinghamshire and Bedfordshire borders. It's sometime hard to decide which branch a record should be submitted to! The size of the complex is daunting with the high point running through the centre, and we agreed with Don it was 'like looking for a needle in a haystack.' We hope that he will continue to look in 2006 as this area forms part of such an important landscape. We visited the area in May 2005, and noted that willows were not too conspicuous but *A.iris* could easily be present, given its low-density presence through many other woods on the Chiltern Ridge.

Other potential areas

We can only emphasize the importance of considering all the woods in this decadal. Between Hemel Hempstead and Tring, the landscape is scattered with small woods, although some are in Buckinghamshire. The A41 and parallel roads are lined with willows and even if the woods themselves are not willow-rich, the landscape is.

We will continue to work with Dennis Dell and the Upper Thames Branch in this very important area (see also 6.12 ~ TQ08 and 6.13 ~ TQ09).

6.12 ~ TQ08 [Main town Ruislip]

Despite part of this 10 km being in the Greater London area, it is a remarkably well wooded decadal with some fascinating records. Ruislip Woods National Nature Reserve is being classified in this report as one site despite sightings in separate woods in different 2 km squares.

6.12.1 ~ Ruislip Woods National Nature Reserve

Centred on TQ072895

Ruislip Woods NNR continues to receive good coverage from recorders and an encouraging number of sightings have been reported, especially in 2005. We would like to thank both Ched George and Steve Pash for keeping us well informed of the latest news.

Although we had visited Ruislip Woods in the autumn of 2003, with an intention of visiting during the flight period, this is yet to happen. We hope that this can be addressed in 2006!

We had confirmation that Purple Emperor were present at Ruislip in 2004, and that territorial activity was observed on 6th July 2004 at a high point adjacent to the complex.

Sightings in the Ruislip Woods National Nature Reserve, 2004

Date	Number	Recorder
27th June	1 probable	Steve Pash
6th July	2 males, possibly 3	Steve Pash

27th June 2004

'I had one possible sighting at Park Wood, Ruislip on Sunday afternoon. Unfortunately I can not confirm this sighting as it was only a fleeting glimpse. I hope to spend a bit of time in the Ruislip woods over the next few weeks, weather permitting.'

Steve Pash

6th July 2004

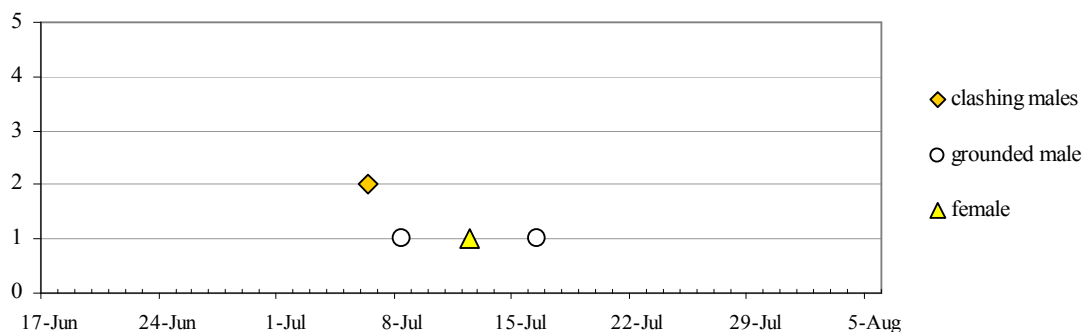
'About 50-100 metres from the radio mast in Park Wood. The day was sunny and warm so I headed to the Ruislip woods to search for Purple Emperors. I viewed Park Wood from Ruislip Lido where I could clearly see several trees which stood taller than the others at the high point of the wood. I decided to head for these viewing all suitable trees on route. At approx. 11:00hrs a male PE flew over my head towards a large area of willow in an open area in Park Wood known as Grub Ground. Initially I thought it settled on the willow

but after subsequent searching decided it probably flew over into the taller oaks. I then proceeded in the direction of the radio mast at St Vincent's Hospital where I knew I could view the tall trees from the road and car park. I stood here for about half an hour with no success then walked back into Park Wood following the path skirting the hospital grounds. At 12:45hrs in a small clearing in the wood I saw a male PE flying around the canopy, this was joined by a 2nd male. I observed them chasing each other for about 10 minutes when at times they dropped fairly low but never settled low down. They did on occasions settle on the oaks but not for long. At one point the two PEs chased a Large White. This behaviour suggested to me they were in territory. Unfortunately soon after the clouds moved in and I did not see them again. Subsequent visits proved negative with no more sightings here or anywhere else in the woods. I have searched this area of Park Wood previously with no success. Grub Ground, where I saw the 1st male this year is where Ched and I saw a female in August 2003. This is possibly the best area to search in future as you have a lot of sallow with good viewing areas. I found this year very frustrating because often I would set off to the woods (15 minute walk from my home) to find by the time I got there it was cloudy or raining. There were times however when the weather was suitable but still no success.

Anyhow, other species are doing well in the Ruislip woods complex particularly White Admiral and Ringlet (which did not exist here until a few years ago). Marbled White sightings are also increasing. I hope you had a good summer.'

Steve Pash

A.iris activity recorded at Ruislip Woods in 2004 & 2005



2005

In 2005, we received more reports from Ruislip, with additional news that one was seen in Bayhurst Wood Country Park, a new area. Several other people visited the complex, principally to see the abundant White Admirals, but none were luckily enough to find *A.iris*. However, there were no reports of territorial activity despite Steve Pash's efforts to find an assembly area.

'I saw a female PE on Tuesday 12th July 2005 at 13:00 along the main ride in Park Wood, Ruislip. The same spot I saw a male in 2003. That same day another was seen by John Edwards at approx 14:30 in Bayhurst Wood Country Park [TQ067779] (part of the Ruislip Woods complex). As far as I am aware this is the first record for this wood. Last week [Friday 8th at 9.15am] a male PE was seen on the ground in a clearing in Park Wood known as Grub Ground by the assistant woodland ranger [Derek Foreman].

Male PE in Park Wood (Grub Ground) Ruislip on Saturday 16th July. Initially seen flying low to the ground then up to the canopy where it settled near the top of a mature Hornbeam at 14:30.

Last Thursday afternoon (14th July) I spent 4.5 hrs searching for PE in Ruislip woods without success. Good numbers of White Admirals, Meadow Brown, Gatekeeper, Small Skipper, Comma and L & S Whites. Ringlet have spread from Poors Field to Grub Ground and St Vincent's Hospital area of Park Wood. Red Admiral and Peacock on edge of Copse wood and 2 Marbled White in the field adjacent to the south side of Copse wood.'

Steve Pash

July 2005

It is pleasing to learn that observers are trying hard to track down territorial activity at Ruislip and have made solid progress on which they can continue to build in 2006. July 2004 was far from the best year to find an assembly area, although we found 6th July to be one of the best days, but we can only encourage observers to try again next year to further their knowledge of how the site may work. Observations of low level chasing may indicate a 'warm-up' area, from where the males may move over the canopy to a higher spot later in the afternoon. Although this usually begins around 1 pm, we have found that at some locations, heightened male activity can get underway slightly later than expected, from 2 pm, depending on weather, local topography, and the proximity of sallows and warm-up areas. We would expect there to be a particular favoured spot in the canopy which would be occupied by one or two males for at least a few days every year, but it may be hard to pin-point. Recorders at Ruislip will no doubt persevere and learn more about *A.iris* at Ruislip, and we wish them every success.

Black Park (Buckinghamshire)

Centred on TQ010835

Black Park is in Buckinghamshire and falls within the Upper Thames recording area but is in TQ08. It is close to the M25 and about 4 km from Uxbridge and the Middlesex boundary. We were aware that there had been a report from the complex in 2000, then the Upper Thames website began to post news of *A.iris* sightings there in 2005. We contacted Dennis Dell who put us in touch with Robin Dryden, who has been responsible for most of the reports. He had been helped by Dennis and given best advice on finding *A.iris*, which he had taken on board with excellent results. We have also given him some advice on finding territorial activity, although with no obvious highpoint, and with much of the site on a plateau, we can only suggest moving outside the complex and try somehow to view across the canopy. Pinewood Studios is to the east of the complex and it is from this side that we would suggest the search begins.

Windsor Park (Berkshire)

SU9374

Windsor Park is in SU97, the 10 km square immediately south of TQ08, and again falls within the Upper Thames recording area. Windsor Park is in Berkshire but is close to the grey area of the Surrey/Berkshire border and the Watsonian Vice-county of Middlesex. Although several towns north of the Thames are now part of Surrey, they are also considered to be in Middlesex and as such Butterfly Conservation members here belong to the Hertfordshire & Middlesex Branch and not Surrey [with South-west London]. There have been several reports in the past from Windsor (1996, 1997, 1999 and 2001), and again this year one was seen at the same location as previous reports (*pers. comment* Dennis Dell). This corner of the map, which includes Berkshire, Surrey and Middlesex is probably unlikely to produce any Middlesex records, but another area that is intriguing is the little corner of Surrey at Egham, which is very close to Windsor Park. There are no historic records to our knowledge but LG became aware of this area after her daughter Sarah, started university at Royal Holloway in the autumn of 2005. Royal Holloway is part of the University of London and sited at Egham and near the River Thames and the historic site of Runnymede. The town is only a few metres above sea level but the land rises sharply so that where the Kingswood Halls of Residence at Coopers Hill (SU999718) lies, there is a high point of 83 m. Although LG's daughter has no intention of looking for *A.iris*, the flight period is in any case out of term time! There are sallows around the halls of residence and it may be reasonable to assume that there are sallows and willows by the River Thames - it would be truly exciting if this were an *A.iris* site!

Although neither the Millennium Atlas (2003), nor a battered copy of a Surrey Butterfly Report for 1998 that LG had acquired, showed any *A.iris* reports from this part of Surrey, LG decided to contact the Surrey Recorder, Malcolm Bridge. On the 9th December 2005, LG received this amazing email from Malcolm, in response to the enquiry that LG had made!

'Sorry for taking a long time to answer your query. The first *Levana* search showed nothing from the area around Egham but subsequent enquiries and searches have revealed three sightings, two in 1991 and one in 1996 - all by David and Jean Dell. They were close to Coopers Hill/Runnymede at Langhams Pond.

There were singletons on 23 July and 2 Aug. 1991, and more than one (B) on 25 July 1996. Grid ref. in each case TQ005719. Your daughter overlooks the site so I would be interested to learn if they are still there.

Best wishes'

Malcolm Bridge

6.13 ~ TQ09 [Main town Rickmansworth]

A well wooded decad, that is split between Buckinghamshire, Hertfordshire and Middlesex.

6.13.1 ~ Stocker's Lake, near Rickmansworth

TQ050933

On the 21st August 2005 LG received a phone call from Susie Turner to say that on the previous day she had seen a Purple Emperor at Stocker's Lake. This is her report:

'Dear Liz,

It was delightful to talk to you this afternoon, a reward, as it seemed to me, for getting soaked through on a wild goose chase this morning at Stockers Lake.

Yesterday, in glorious English summer weather, I walked along the southern side of Stockers Lake, a nature reserve managed by the Herts and Middx Wildlife Trust. It is an old gravel pit which has filled with water, and lies between the Grand Union Canal and the River Colne. I hoped to see plenty of butterflies as last year there had been lots of peacocks, painted ladies, tortoiseshells and red admirals round the lake. In particular, the buddleias near the pumping station had been busy with butterflies. I saw, however, only a few speckled woods and large whites.

Staring disconsolately at the empty buddleia, I noticed suddenly a strange dilapidated looking butterfly, very ragged and tattered. The scales seemed very thin and it was clearly on its last legs. Despite its sorry state, I was at once aware that this was a creature that I had never seen before. Out with my digital camera but, alas, I had overdone the photos of goldfinches on thistle seeds and my battery was flat. I turned in desperation to my sketch pad and quickly drew what I could see, not as much as I would have liked but a record of something at least. I was most struck first by the size, bigger than anything I had come across before. The length of the forewing seemed to me to be about 4 cm. Then I was delighted to see a blue sheen on the upperside. Wow! I could also see two different sized white spots near the apex of the forewing and further larger white markings on the forewing, with a broad white stripe across the middle of the hindwing. The general colour was a dark brownish black.

When I got home I looked it up in my book. Was it really a purple emperor? The next morning I spoke to a friend, very keen and knowledgeable about butterflies and who had taught science. She was sure that it couldn't have been anything else. We decided to rush back and retrieve the remains of this dying beauty. The weather was English summer weather again, but the other face of it. It was bucketing with rain.

We feasted on blackberries, sat in the hide admiring the ducks' indifference to the rain and returned home empty handed.

Thank you for believing me and for your enthusiasm, and for telling me so much about the habits of these incredible butterflies.'

Susie Turner

Northwood, Middlesex.

22nd August 2005

Susie had made contact with LG thanks to a friend of hers who knows Ann Piper. Ann is a member of the Branch committee and suggested Susie rings LG with her news. However, what was even more extraordinary was that Ann, who lives in **Maple Cross** (TQ027921), was talking to a neighbour about this sighting, when the neighbour then informed Ann that she too has seen a Purple Emperor nearby! The neighbour, Christine Philips, saw an *A.iris* probably about 1998 on a footpath near Birch Drive. The path goes behind the Hawthorns to the local school, which made Ann even more astounded as she walks this path regularly. There is a high point noted on the map at Horn Hill showing 106 m. Maple Cross is less than 4 km from Stocker's Lake and although Ann feels the habitat around Maple Cross isn't that good, there are doubtless numerous tallows around Stocker's Lake and the other reservoirs, rivers and canals in the area. The Colne Valley is lined with reservoirs and lakes formed as a result of gravel extraction. LG then saw that the Upper Thames Branch have a report of *A.iris* from '**Chalfont St. Giles SU990965**' in 1997, which is about 4 km from Maple Cross. However, the grid reference is some distance to the north in Little Chalfont, which is nearly 6 km from Christine Philip's sighting. This would still suggest that *A.iris* may be using a large area of the landscape, possibly by forming very low-density populations which are extremely hard to detect on an annual basis.

Bishop's Wood Country Park (TQ067918) lies in a direct line between Stocker's Lake and the north tip of the Ruislip Woods complex (Copse Wood). Ched George had visited the wood and contacted LG in the spring of 2005 to say how interesting it was and that he felt it had potential for *A.iris*. Ched visited the wood in both 2004 and 2005, but without luck although White Admiral was seen. This was his report on hearing of the Stocker's Lake sighting:

'Sadly, the only date that I visited Bishop's Wood this year was on July 1st. Last year I looked on July 15th, only finding the usual abundance of White Admirals (8). There are many ideal sallows here although the rides are hemmed in to prevent good viewing in many places. Two areas have good visibility and I should have done more. There are plenty of sallows between Bishop's and Stockers. Harefield Grove is private but has sallows away from the conifers. Old Park Wood contains plenty outside of the Trust reserve and there are masses along the lanes on the east bank of the Grand Union canal and in the Summerhouse Lane Chalk pit, Harefield. Unfortunately the viewing area above the pit is a definite no-go area but the pit base has easy viewing. The Stockers observer must be very pleased.
Cheers,
Ched George
August 2005

In November 2005, we decided to visit TQ09, a deced that until then had not been included in our surveying, although AM had visited Whippendell Wood in the late 1990s and noted few sallows. On an extended bicycle ride, the day started early in **Whippendell Wood**, where we parked in the car park off Grove Mill Lane (TQ078982) which is one of the high points. The wood seemed very popular with dog walkers but quite noticeable in this section was the absence of sallows. There was no sallow around the car park, which was also unusual. Our initial intention was to ride around the wood and then drive to the Bishop's Wood Country Park. This didn't happen as we found ourselves cycling through the Golf Course to the east and down to the Grand Union Canal. So impressed were we with the amount of *salix* species along the canal embankment that we ended up cycling south down the towpath and looking at the habitat as we went! Our earlier assumption that the canal-side would be sallow rich was an under estimation, sallows and crack willows were everywhere. After about 3 km we left the canal and cycled across **Croxley Common Moor**. The area was still low lying and as we continued on towards Moor Park, sallows could still be found. As we journeyed on we took a short cut through the Moor Park Estate and eventually reached the high point at **Batchworth Heath**, which is close to Mount Vernon Hospital and **Bishop's Wood Country Park**. To reach the entrance to the Country Park it was necessary to cycle past the wood to the main entrance. As we cycled along we noted several edge oaks that could have potential for being a territory. We found Bishop's Wood to be exactly as Ched George had said, with some good sallows. We also noticed a few areas where it may be worthwhile viewing the sallows, in preference to searching for a territorial high point. Certainly a wood with good potential. (This is not a wood to visit unaccompanied). We left the wood and made our way back to the Grand Union Canal and again we could see immediately that sallows were still abundant. As time was against us, we decided not to visit Stocker's Lake on our return, although AM has been there in the past and it is thought to be rich in *salix* species. In the autumn of 2005 we conducted two cycle tours of decads, which has enabled us to get a good impression of the landscape rather than just sampling smaller areas of habitat.

Although our visit to **Whippendell Wood** was rather brief, our initial assessment was 'not *salix*-rich', but with sallows beside the canal being so abundant, there is still the possibility that *A.iris* might be making use of the high points in the complex. We feel the wood still deserves to be surveyed, as do many of the small woods within this 10 km square, as it's almost certain that *A.iris* has been flying in this deced for some time, considering the 1960s report from Mike Majerus (see 2002 report).

6.14 ~ TQ19 [Main town Northwood]

*A 10 km square with no recent reports but does contain some important areas of woodland that should be considered for *A.iris**

We visited **Oxhey Wood** (see 2002 report) for the first time on 24th July 2004 as we had been invited by Three Rivers District Council to lead a field trip at the opening of the nearby Prestwick Road LNR. As Oxhey Woods was just down the road, we decided to spend some time walking around the woods after the field trip. The day was very warm and sunny, a change from much of that July. We parked in a car-park at TQ105924 and walked across the B4542 that splits the wood in two, and then up to the highest point. The high point is just behind some houses on Oxhey Drive and very conveniently situated on a public footpath. If ever we had seen potential for a territory this was it, however aerial photos had lead us to believe that the adjacent woodland was not suitable and appeared in the photos as relatively high canopy with little age diversity. However, we were pleased to see that the south section of the wood has in recent years undergone some major clearance and thinning, and had a moderate number of willows ranging from very young regeneration to mature trees. We can only reiterate the potential that this wood has and how important it is that this wood is managed favourably and surveyed in the summer of 2006.

Its proximity to the north-eastern edge of the Ruislip Woods complex is significant as are the historic reports from the area.

6.15 ~ TQ29 and TQ39 [Main towns Borehamwood, Barnet & Enfield]

Being fairly suburban, these decades have little woodland except on the northern edges of Barnet and Enfield. Their importance relates to historic records and a sighting in 2003 at Forty Hall. The two 10 km squares are adjacent to TL20 and TL30 and for that reason are also important.

6.15.1 ~ Forty Hall Country Park, Enfield, Middlesex and neighbouring areas Centred on TQ335990

Although we received the exciting report in 2003 of a grounded male *A.iris*, (see 2003 report) none have been reported since. It may be possible to obtain a sighting around the abundant crack willows along Turkey Brook, although we have yet to have a sighting in this kind of habitat. Extreme patience and the whole of July may be required.

AM and LG have continued to visit **Forty Hall** and nearby woodland and in particular **Whitewebbs Park Country Park** (TQ325995). Our feeling is that Whitewebbs Park is the most likely place to find territorial activity and in particular along the wood edge on Whitewebbs Road near Sloemans Farm. Attempts to look for territorial males were made on two occasions in 2005. The first visit was on the 11th July, the same day that we found the new territory at Fir and Pond Wood (see 6.2.6). We arrived quite late in the afternoon and walked along the wood edge and watched many of the gaps that can be found at this point, but views are restricted. Our second visit was on the 14th July, and again we watched all the gaps and stood on the other side of the road. On this occasion we were momentarily excited by two Red Admirals clashing in a gap and flying over the canopy. We have tried to contact the farmer at Sloemans Farm to gain access and our belief is that it is essential to be able to view over the canopy to pick up male flights. Without a high-lift taking observers up beyond the canopy, the only realistic way of achieving this is by viewing from outside the wood.

There are several other small woods in these two decades, which could maintain a small colony. An interesting wood that we visited during our 2005 Grizzled Skipper site visits was **Scratchwood** (centred on TQ200950), which is sandwiched between the M1 and A1 at Stirling Corner. The ground flora was very good with both Ramsons and Wood Anemones being found. Honeysuckle was also present and some willow was located. A very nice high point on the north side of the wood with mature oaks made us feel that this was a wood that could be worth visiting, had we the time or others the time and inclination. This is not a site to visit unaccompanied.

7 ~ Beyond Hertfordshire and Middlesex: the Eastern Region

This is a new section dedicated to discussing our work in the Eastern Region and of our continued attempt to raise awareness of *A.iris*' potential presence. From the beginning we have always been interested in knowing more about the species' historic distribution in the Eastern Region, as it is so relevant to Hertfordshire. For this reason we have tried to collect as many papers together as possible, and read all the species accounts from the various County Atlases. Until now our research was restricted to the Appendix, but here we have included some notes on our studies and visits within the body of the report. Extracts from some of the county atlases and the various papers we have found can still be found in Appendices I to V.

However, we must firstly reiterate the following statement that was issued by Matthew Oates, Ken Willmott, Dennis Dell and ourselves in the 2005 Master Tree Project Progress Report.

Introductions -

On the subject of releases, it has become clear that a number of introductions have taken place in recent years outside the butterfly's current known range. 'Unofficial' releases were recently undertaken in east Suffolk and at three sites in Warwickshire, and came to light only by chance. An 'official' introduction is currently taking place in Essex, though its sanction is by no means unanimous.

This report's authors do not believe that this approach is appropriate for five principle reasons. Succinctly, these are –

1. This is a highly mobile butterfly whose powers of colonisation appear to be very good.
2. It is undoubtedly under-recorded, especially outside its core areas, not least because it is capable of existing at very low population density.
3. Poorly reported releases will only confuse the survey and monitoring base on which conservation effort depends, and will devalue the role of butterflies in informing us about climate change. Sadly, releases are invariably poorly reported, if not clandestine.
4. We should have more faith in the Purple Emperor: it is quite capable of colonising suitable habitat at edge of range.

We see no reason why management of individual complexes and landscapes should not enable the species to both strengthen its existing colonies and increase its distribution to the natural climatic and geographic limits. Much of our effort is directed at encouraging favourable management and raising awareness as to the species' ecological needs.

Now, more than ever before, is the time to withhold on introductions. The authors therefore distance themselves from attempted introductions and support breeding, particularly outside known areas.

As we have started to learn more about the history of *A.iris* in the Eastern Region, we have also become aware that releasing rare butterflies is more common than we ever appreciated. The thought that it was restricted to a lone person breeding just a few specimens and then, rather than put them on the end of a pin, releasing them into a random wood is not the case. These releases are big, and arranged through groups of individuals that are apparently able to breed 100s of *A.iris* in one year and then release them into woods whether or not they may be present. It undermines our work completely regarding surveying and positive management. We know that *A.iris* can survive at very low densities for many years without detection, suggesting the species may already be present in regions where releases proceed. One problem is that when *A.iris* is seen at a 'new' location, everyone just says 'It's a release!'

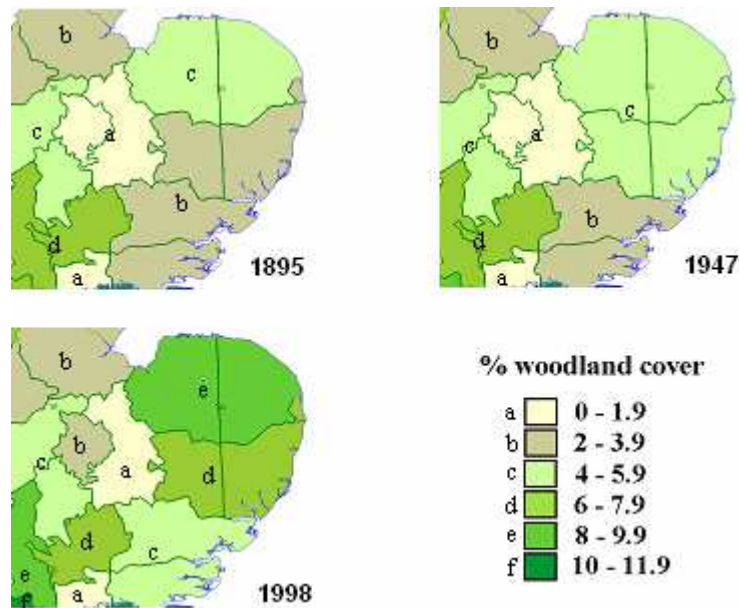
As per the Butterfly Conservation *A.iris* Species Action Plan (Bourn 2000), favourable landscape scale management of woodlands and linking habitats for sallows is considered to be the appropriate conservation action. This approach, when coupled with significant increases in woodland cover and a gradual change to broadleaved woods, both encouraged primarily by the Forestry Commission, should be very positive for the species' status in the Eastern region (see the following FC maps).

Introduction

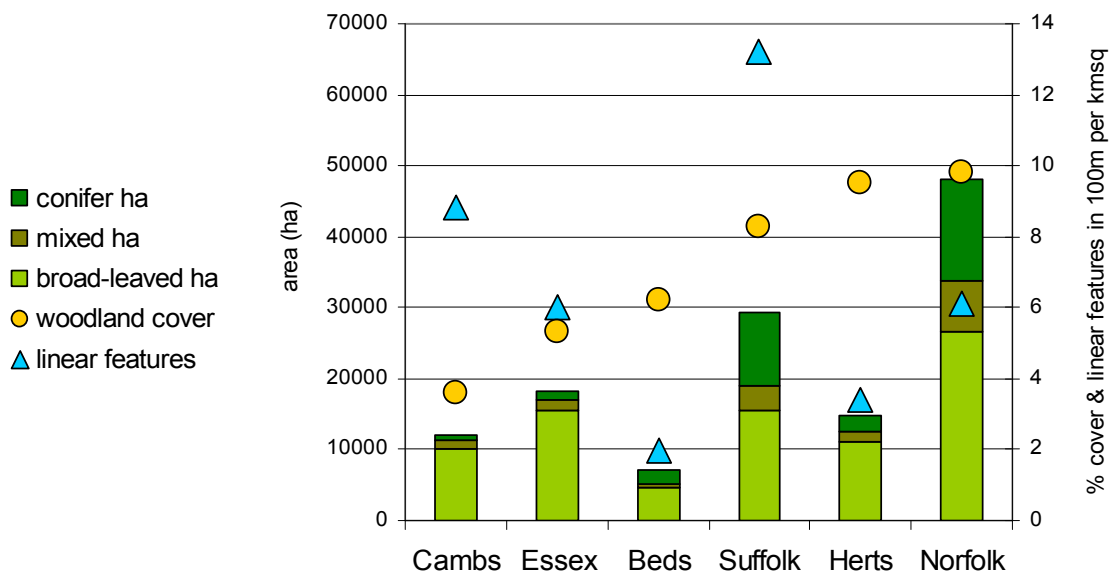
In February 2005, we were asked by Sharon Hearle, Butterfly Conservation's Eastern Regional Officer, to give an hour's presentation on Purple Emperor at the Regional Conservation Day. So that we could give a true picture of the distribution (past and present) in this region, we contacted the relevant County Recorders and asked them if they could let us have all the Purple Emperor records that they were aware of. We would like to thank Charles Baker (past Bedfordshire Recorder), Pat Bonham (Norfolk Recorder), Val Perrin (Cams & Essex Surveys Officer), Nick Greatorex-Davies (CEH), Barry Dickerson (Hunts Lepidoptera Recorder), Rob Parker (Suffolk Recorder) and for their 100% co-operation in this endeavour.

Our talk gave details of all the sightings in the Region, how they related to each other, and the change in woodland structure that had occurred over the last 100 years. We used the recent Forestry Commission audit (FC 2002) to illustrate the changes.

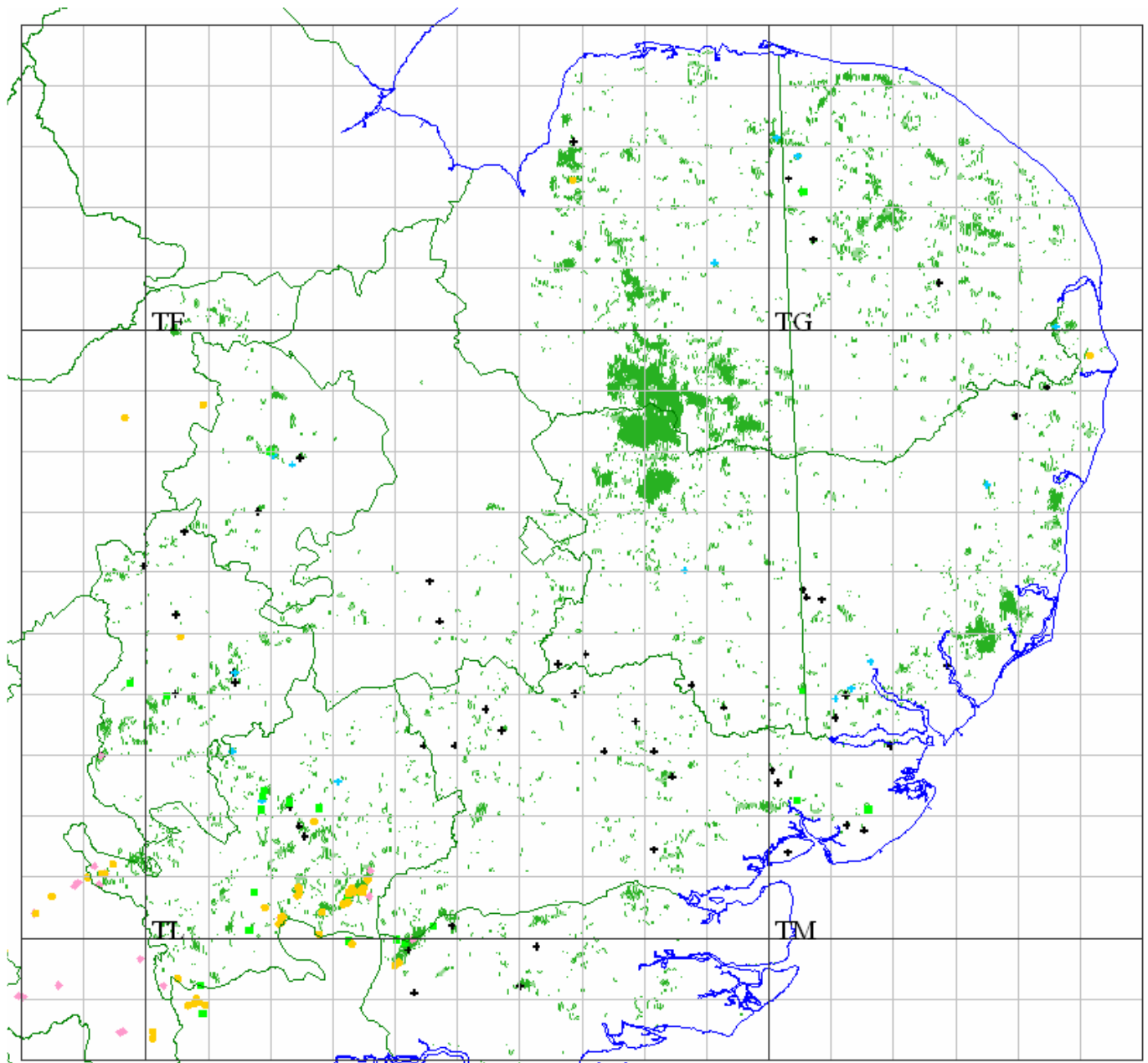
Woodland cover over 100 years in the Eastern Region © Forestry Commission Audit 2002



Woodland structure analysis in the Eastern Region © Forestry Commission Audit



Historic records of *A.iris* in the Eastern Region



Purple Emperor Anglia Region

- + <1900
- + 1900 - 1949
- 1950 - 1989
- ◆ 1990 - 1999
- >2000

7.1 ~ Essex

Additional information ~ Dr. Val Perrin

We had already undertaken considerable research into the historic Essex records, which were included in the 2002 Report. Essex benefited from some very detailed historic data compiled by E.A. Fitch in 1891 for his Lepidoptera of Essex, which was published in the Essex Naturalist (Vol.5; 74-108). The Butterflies of Essex by David Corke hadn't given us any new information and Val Perrin confirmed there had been no recent reports to his knowledge. However, detailed in The Larger Moths & Butterflies of Essex (*Emmet & Pyman, 1985*) is information of an individual seen at Weeleyhall Wood in 1956

The only comparative recent record accepted by the GUIDE as fully authentic concerns one at Weeley in 1956

Then on 20th August 1983, one was found in a house at Wivenhoe (*Firmin & Goodey, 1992*). These two reports are relatively close to each other and can be linked to historic reports in the area.

Unfortunately, in April 2005, we were alerted to a plan to introduce c. 100 adult *A.iris* in July 2005 in a wood near Braintree. This wood had already had Silver-washed Fritillary and Wood White introduced and it was planned to introduce *A.iris*. Sharon Hearle approached the Essex Biodiversity Partnership who were involved with the project and gave them full details of our work only miles away across the Hertfordshire/Essex border. Our understanding is that the Essex Biodiversity Partnership has subsequently withdrawn their support. The Cambridge and Essex Branch of Butterfly Conservation was informed some years ago of the project and following national guidelines they too had given no support. At the time of writing this report, we do not know if the release was undertaken.

We continue to believe that *A.iris* must be present in Essex. One only has to see the extent to which the species was present in the late 1800s in comparison to the seemingly poorer situation in Hertfordshire at the time, to feel that considering the difficulty of locating *A.iris* now in Herts that there are likely to be some discrete colonies present in Essex. We continue to visit Epping Forest during the flight period, but with a high point stretching almost continuously along a ridge for several miles, it's almost impossible to find the right place to look.

7.2 ~ Bedfordshire

Additional information ~ Charles Baker

Charles Baker, co-author of Butterflies and Moths of Bedfordshire and author of the butterfly section, (see Appendix I for a complete transcript of the section on Purple Emperor) compiled a list of the Bedfordshire records that he was aware of, which has drawn us to the conclusion that *A.iris* may still be present especially along the wooded ridge that starts just north of Leighton Buzzard and crosses Bedfordshire in a north easterly direction towards Sandy. There are many woods along this ridge with King's Wood, Heath and Reach (close to the Buckinghamshire border), being a very likely candidate complex. Below is detailed a quite recent and significant sighting which Charles Baker forwarded to us that helps confirm our thoughts.

19 July 1995, King's Wood, Heath and Reach - Grid Ref: SP926297. Seen by Chris Ward. His report was "Seen for a period of approx. 2 minutes, with binoculars, flying around in oak tree canopy. Also seen stationary for a period of approx 15 seconds, perched on oak leaf, when underwing views were obtained. I have also seen this species this year in Finemere Wood, Bucks."

Although some distance from the known sites in Buckinghamshire, Bedfordshire is sandwiched on three sides with counties where the species is present, Hertfordshire and Northamptonshire being the two other counties.

7.3 ~ Cambridgeshire and Huntingdonshire

Additional information: Val Perrin, Barry Dickerson & Nick Greatorex-Davies

These two counties, now combined, form the modern Cambridgeshire with some areas more associated with Fenland landscape and certainly not an area one would consider *A.iris* habitat. Although we are not aware of any recent reports there are some important woods around Huntingdon, from where over 100 years ago *A.iris* was reported. The last known report came from Monk's Wood just over 40 years ago in 1964. The woods in this area can certainly be described as fragmented, and isolated in an agricultural landscape which is devoid of hedgerows. It is genuinely hard to believe that the species could still be found in this habitat but one should not totally dismiss the possibility.

Surprisingly, the Victoria County History for Cambridgeshire and the Isle of Ely also mentions sightings near Cambridge and at Doddington. Doddington, however, is a village in the north of the county in the Fens between Chatteris and March and we have not been able to locate any suitable woodland that might have been associated with this sighting.

Newman also mentions woods near Peterborough and it is important to remember that woods in the Peterborough area are within a short distance of Oundle and of a report received by Douglas Goddard, the Northamptonshire recorder, in 2004 of two being seen at Aston Wold, the home of the late Dame Miriam Rothschild (*Goddard, 2005*). The proximity to the Northamptonshire sites also gives the northern woods of Cambridgeshire extra significance.

7.4 ~ Suffolk

Additional information ~ Rob Parker

Suffolk has provided several historic reports, with some specimens reaching the collections of the Natural History Museums of London and the University of Cambridge. Most reports came from the woodlands around Ipswich. In the spring of 2005 we obtained a copy of the section relating to *A.iris* that had been included in the The Suffolk Atlas 1986 by Mendel and Piotrowski (see Appendix IV for a complete transcript of the section on Purple Emperor). The extent to which *A.iris* had been seen in Suffolk was revealed and far exceeded what we knew, and one sighting proved to be extremely interesting

The few 20 th century sightings away from the woodlands of the south-east of the County are; " <i>A very ragged ♂ taken (on rotten rabbit guts!) 29 September</i> ", 1946 at St. Olaves [H.E. Jenner].....

When we first contacted Rob Parker of the Suffolk Branch, he came back with no news of recent reports but then he remembered something. In 2003, he had received a second hand report of *A.iris* being seen at Flixton, a small village north of Lowestoft and close to the River Waveney. The report came via Colin Jacobs, but the recorder was Colin Ayres. Colin lives in the village and in conversation with LG, the following report was compiled

Notes on telephone conversation with Colin Ayres of Ivy Cottage, Flixton, nr Lowestoft, NR32 5PF on 30th January 2005 and a subsequent call on the same day

Rob Parker emailed to say that he had heard of a report of Purple Emperor being seen in 2003 by Colin Ayres reported via Colin Jacobs. After writing to Mr Ayres via Colin Jacobs, Mr Ayres rang on Sunday 30th January 2005 – I subsequently rang back. We had a very long and interesting chat.

Unfortunately, due to a plumbing disaster, all this notes books/logs were in his loft and he hadn't found the entry for the sighting but remembered it was in 2003 – he thinks it was probably July but this couldn't be confirmed initially. He has kept logs since 1950. He was later able to confirm that the date was the 11th July 2003.

The Purple Emperor was seen on 11th July in the afternoon. It was flying up and down his garden at about 6 feet, and only briefly perched once on dogwood. He said he had plenty of buddleia but it did not stop on that – he confirmed it was mid afternoon and later confirmed it was 3.15 pm. His wife was indoors painting, the paint was blue and she went outside to wash the brushes. She called her husband to say there was a large blue butterfly in the garden. He commented that she must be "seeing things" because of the blue paint! He had never seen anything like it before. They do not have any pets and in particular no dog, so it wouldn't have been attracted by dog muck. Initially Mr. Ayres said he saw it on two occasions but

later admitted that he only saw it once and got this sighting confused with the two White Admiral sightings he had also seen.

There is no doubt that the butterfly he saw was a Purple Emperor, but he accepts that he couldn't be able to tell whether it was one that had been released and he accepts that could always be a possibility. He has also seen white admiral and could tell the difference – there is honeysuckle.

Near to his house is Flixton Decoy. Colin Ayres was able to confirm that the west side is waterlogged. Comprises rhododendron, alder and birch. The west end is mainly Scotch pine and mature beech trees but there is also a smallish area of sallow. However, the *Carr* is full of sallow, which hold their own in the damp conditions. Between Beccles, Lowestoft and Worlingham [historic record] there are masses of sallow, and much of the area no one visits due to its inaccessibility. Mr Ayres couldn't confirm whether it was *Caprea*, *cineria* or *fragilis*. He said there was very little oak though.

He had learnt '*his apprenticeship*' under Harold Jenner at Herringfleet – there was an area they called the 'Wilderness' and it used to be home to Silver Washed and High Brown but the bracken had taken hold and when Mr Jenner became old and "crotchety" the area couldn't be managed, Mr Ayres married and moved on and couldn't help Mr. Jenner any longer.

Additional notes from second telephone call:

Mr. Ayres log read "66 degrees F at 11.30 cloudy, then mainly sunny but clouding over later. Sparrowhawk seen in morning. Joyce (his wife) rushed in to say there was a blue butterfly in the garden." He went out and also saw it. His notes said something to the effect that there was no alternative but Purple Emperor. At the time of the sighting it was sunny, wind W > NW. Mr Ayres also mentioned that there was a wooded high point at Camps Heath, which is south of Flixton. I imagined that it would be similar to that at St. Olaves by the River Waveney but looking at the aerial photos it isn't that obviously high or wooded there.

Liz Goodyear
January 2005

What is so interesting about this report is that when LG looked up the previous report from the area, it became immediately obvious that the recorder responsible for the 1946 sighting was Harold Jenner, the scout leader that 'taught' Colin Ayres. Unfortunately just as we contacted Howard Mendel to see whether he had any additional notes on Harold Jenner, Howard went abroad for several weeks, so it is still hoped that perhaps in our next report we will be able to include some more information. We understand from Rob Parker that the two Colins did look again this year for both White Admiral and Purple Emperor but with no success.

We visited the Flixton area on 19th July with Rachel Goodyear, it was a sunny day but already relatively late in the season. We drove through Great Yarmouth and took the road towards Blundeston. We quickly realised that we were not on the correct road for Flixton but continued towards Somerleyton and Herringfleet. What we noticed was the amount of mature woodland that was visible and although the area doesn't have any significant highpoints, the landscape is still quite undulating and not flat as one would presume being so close to the Norfolk and Suffolk Broads. We found Flixton and decided on a circular walk around Flixton Decoy [a small lake, and possibly used in the past to capture wild ducks] that also took in part of Flixton Marshes. We were able to walk around the Decoy on a slight incline and could look across the wooded area that had grown up around the lake. There were mature oaks and several prominent trees, which looked like they had potential for being a territory. Being a wet landscape it was not surprising that there was also an abundance of sallows and crack willows beside the marshes. We were impressed! Unfortunately we did not see anything but were not disappointed. Although LG and Rachel had to leave early, AM stayed and continued to walk back around the Decoy and further along the footpath that goes beside the marshes. This is certainly an area that deserves to be watched.

We understand that other areas of Suffolk were visited in 2005 with the hope of finding *A.iris* and we are fairly confident that more sightings may yet be reported in time.

7.5 ~ Norfolk

Additional information ~ Pat Bonham

LG has a particular interest in Norfolk as she lived there for several years and her mother and brother still live at Horning.

Until 2004, *A.iris* had not been seen in Norfolk since the 1970s when it is thought that the remaining colony at Foxley Wood near Bawdeswell had become extinct after enduring many years of totally inappropriate woodland management including the felling of the master tree at one point. Apart from Foxley Wood there were historic reports from other woods in the vicinity, as well as Surlingham, near Norwich and in the west of Norfolk near Dersingham. These were reported in the Victoria County History and in the *Butterflies of Norfolk in the 19th and 20th Centuries* by Ted Ellis. Ted Ellis, a renowned Norfolk naturalist had published the paper in the Transactions of the Norfolk and Norwich Naturalist Society in 1984. (*see Appendix V for a full transcript*). Pat Bonham sent LG a copy as well as another interesting paper by Chris Wild and Paul Ashton, titled *The History of the Purple Emperor butterfly in Norfolk - with special reference to Foxley Wood*. With amazing luck and thanks entirely to the internet, LG was able to contact Paul Ashton at the University of Lancaster and Paul kindly sent a copy of a second paper by Chris Wild that gave even more detail of the historical status of *A.iris* in Norfolk. Unfortunately both these papers are too long to reproduce but a section relating to the history *A.iris* is included in Appendix V. The second paper was entitled '*The historical status of the ancient woodland butterfly, fauna of central Norfolk - with special reference to the Purple Emperor and Five Fritillary species and their re-establishment in Foxley Wood*. [1996], which was an unpublished dissertation.

It was apparent from all these papers and reports that although there were no specific records, some people in Norfolk knew of other woods that held colonies of *A.iris* and there is even rumour that they can be found in another wood in central Norfolk.

Unfortunately there was no more information on the report from Dersingham and the historical paper has not as yet been read, although available in the London Natural History Museum Library. Our interest in the Dersingham report started as a result of an email from Pat Bonham in July 2004, when he told us that *A.iris* had been seen in a wood in the west of Norfolk and in this same historical catchment area. The Sandringham Estate is also within the same 10km square but Pat receives very few reports from this massive tract of private land. The wood where the sighting was made is private but has a public footpath going through the centre. Below is a copy of our report to Pat Bonham following a visit to this private wood a few days later. We have removed reference to its location.

Purple Emperor *Apatura iris* sighting

Seen in a woodland complex in West Norfolk on 26th July 2004

Report on visit by Andrew Middleton and Liz Goodyear (29th July 2004)

On 26th July 2004, a Purple Emperor was seen by Tony Tipper in woodland in West Norfolk. His daughter Annabelle passed the report to Pat Bonham, Butterfly Conservation Branch Recorder for the Norfolk Branch. [Text removed].

On 29th July 2004, Andrew Middleton and Liz Goodyear met with Mr. Tipper and Pat Bonham and were shown by Mr. Tipper where his sighting had been made. He is now retired and worked in the Botany department of the National Museum of Wales for many years and had always had an interest in fauna too. He was a member of a lepidopterists club in the museum in his early years there and has had experience of Purple Emperor, White Admiral and many other butterfly species.

Mr. Tipper confirmed that he was walking along the path, when at 2.20 pm, a male Purple Emperor came down through the conifer canopy to about 10 feet above his head and circled around him and then flew off. *Full confirmation of the heights seen would be appreciated from Mr. Tipper*. We have no doubt that his identification is correct - he saw a purple sheen and white banding; it was also large size *c.*2¾ inches. Mr. Tipper is a keen walker and does not own a car and each week he likes to take a long walk around the countryside in the Kings Lynn area, the one on 26th was around 11 miles he said.

We arrived at *c.*11.30 am and were immediately aware that signs at the entrance of the wood stated that this was conservation area and that several native species were being introduced including red squirrel and would we please keep to the path and keep dogs on lead. The public footpath was fenced with a single wire. All rides that intercepted the path were blocked and a sign indicated that there was no right of way.

The first section of the path was mainly tall conifers with no deciduous wood left. The sighting was made by an oak but unfortunately, this was actually one of the lower points of the wood and would not have seemed a likely place to have a territory although there was the possibility of a sap run being present. Perhaps because Mr. Tipper may have been wearing a blue hat and as a result of the long walk sweating – both might have attracted the male towards him. We have observed and had reports of males circling around people in a similar manner at Broxbourne Woods NR and this is well known behaviour.

We then walked further north into the adjoining tetrad where the woodland was younger and contained more deciduous trees. We were expecting to find numerous sallows in this section especially as there were several ditches forming the compartments. Numerous silver birch and rowan had been retained but no sallow were visible. If Purple Emperor had been introduced into the wood, the removal of sallow would indicate a total lack of knowledge of the species. A large sallow was present in the garden of a house that backed onto the northern side of the woodland. We then followed a footpath that took in a small section of the northern edge and one large sallow was seen on an adjacent ride. We climbed a stile leading into a field and were slightly surprised to see that barbed wire was across the top of the stile. The Babingley River was nearby and numerous White Willows were visible with some sallows in the hedge/ditch lines. This fact and that a large tree was still standing in the wood, led us to feel that the sallow had been removed from the wood and that it wasn't that none had ever been present. There was quite a good sprinkling of mature oaks.

Having found no sallow we returned to observe the point where Mr. Tipper had had his sighting and then walked back through the wood to the road. We walked up the road towards the A148 and observed some very prominent mature roadside oaks returning back to the tree at around 2.20 pm to watch the tree again at the same time of the original sighting.

Whilst watching two Norfolk branch members joined us – we were looking at the map when some dog walkers passed.

Conclusion

- We do not feel that this particular wood could maintain a colony
- However the high point along the south side of the wood could have significance as a territorial area for several woodlands in the vicinity. There were several prominent trees
- Although no sallow was seen in the areas of woodland that we visited, the A149 towards Kings Lynn had an abundance of sallow along the verge and this could be duplicated in other woods in the area – the member we met mentioned abundant sallows in certain areas of relatively nearby deciduous or mixed woodland.
- We feel that Purple Emperor could be present in this area despite no other recent reports. The proximity to the Sandringham Estate where no regular monitoring takes place could be significant.
- It could take several years for a repeat sighting, although others might be lucky and a second sighting could be confirmed next year
- Purple Emperor are very able fliers and the possibility that this particular male had travelled some distance should not be discounted
- We have a theory that males do tend to wander near the end of the flight period when females are in short supply as this is often when they are seen out of habitat
- The possibility of this being a released specimen from 2004 is unlikely as these captive specimens are bred in a microclimate and emerge early in the flight period or before.

Action

- Find out who owns wood, and ask for permission to visit and survey habitat and suitability for butterflies without mentioning species
- When known, ask what native species have been released
- Ask permission to monitor for butterflies next year – would anybody do it or be able to do it if permission granted? It would require a great deal of time and patience.
- Try and locate the original source and date for the entry in the Victoria County History of Norfolk where Dersingham is discussed
- Encourage other branch members to look next year.

Liz Goodyear & Andrew Middleton
July 2004

Sharon Hearle was able to make contact with the landowner, who confirmed that no butterflies had been released. He also gave permission for the site to be visited in 2005. On the 16th July, LG and AM met with Sharon Hearle and Norfolk Branch Chairman Judy Dunmore. Unfortunately Pat Bonham was unable to attend. On arrival the weather was sunny but it was a windy day and rain was forecast for later in the day.

It had been agreed that we would meet the gamekeeper, who was one of the most knowledgeable and wildlife conscience people we have had the privilege to meet over the years. The landowner takes wildlife management very seriously and although the land is private with limited access we went away very assured that he cares greatly about the environment. After some discussion with the gamekeeper, we were taken to an area of woodland a short distance from where Tony Tipper had had his sighting. This was a different area of woodland with a set-a-side field immediately adjacent. The wood was relatively wet and there was an abundance of sallow. AM went into the wood and was also able to confirm more sallow was present. We watched the sallow rich wood edge for territorial behaviour or a possible female presence and apart from probable Red Admirals pretending to be *A.iris* nothing else was seen. The strong wind was not in our favour.

We were then shown some other areas of woodland and returned to our cars. Sharon and Judy left but AM/LG were able to take advantage of a raised reservoir embankment to get a superb view across the woodland edge at its highest point. We watched this for some time and also went into the wood at the highpoint where again we observed Red Admirals. By this point the weather was deteriorating and we felt that it was time to call it a day but we still feel that this part of West Norfolk could maintain *A.iris* and we hope that one day one will be reported.

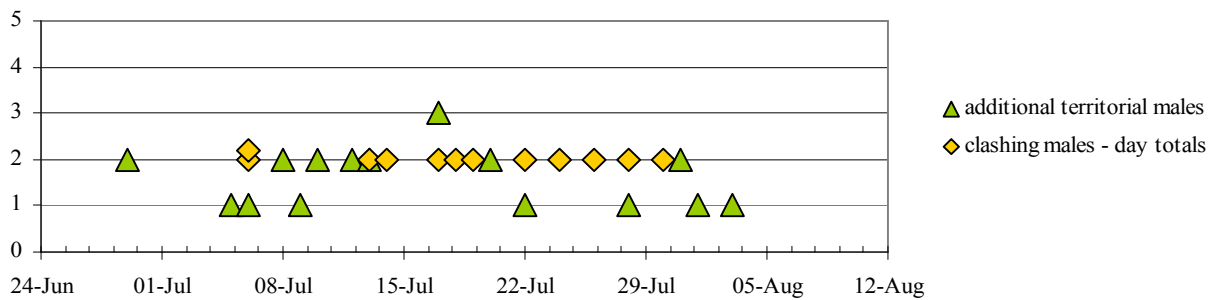
There is still great potential elsewhere in Norfolk. The abundance of sallow beside the rivers that form the Norfolk Broads must be an important factor although the comment by Chris Wild and Paul Ashton in about disease might be an important limiting factor?

‘However, it is possible that larval survivorship may be limited there by the widespread condition in the foodplant known as chlorosis, which, it is suggested, may render the foodplant unpalatable to the larvae. Chlorosis occurs when roots are located in waterlogged anoxic conditions leading to the inhibition of uptake of the minerals magnesium and iron and can be recognised by the characteristic yellow colour of leaves.’

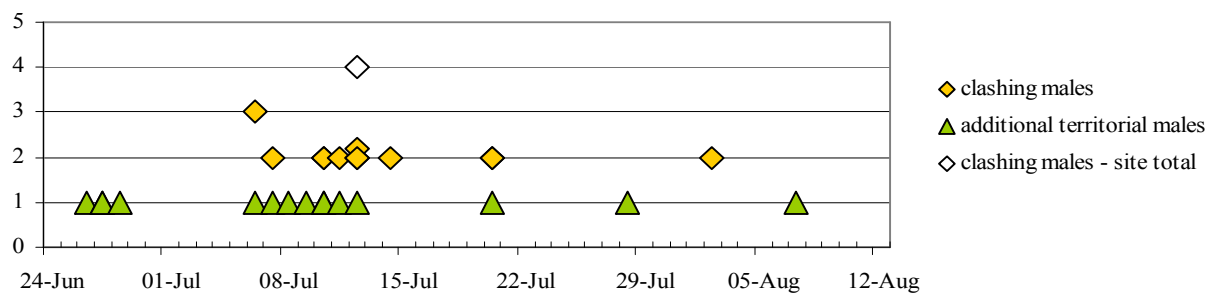
Chris Wild & Paul Ashton; see *The History of the Purple Emperor butterfly in Norfolk* - with special reference to Foxley Wood (Wild & Ashton, 1996).

8.1 ~ Male territorial activity

A.iris male territorial activity in 2004



A.iris male territorial activity in 2005



The charts for 2004 and 2005 show the effects of weather during the flight period on observations of territorial activity. The first strong territorial activity in **2004** was recorded during hot sunny weather on 6th July, with clashes at two sites, but showery and dull conditions followed for the next week, reducing activity and making monitoring difficult. However, temperatures increased steadily from mid-July (see 5), and although it tended to be dull, activity was still recorded even in overcast conditions. However, in **2005** settled hot and sunny weather from July 10th to 17th after a period of unsettled weather, coincided with the peak time for male territorial activity. It seems fairly clear that whilst in 2004, male territorial activity was extended through July by the rather dull weather, in 2005, a week of perfect conditions spanning the peak period of activity meant that most of the territorial activity was soon through. Overall, although poorer weather can be frustrating, it probably helps in monitoring the known sites as well as surveying for new assembly areas. For when the sun does eventually shine or temperatures rise sufficient for some activity, it is more likely to be picked up. When given perfect weather, it can be a struggle to monitor all known sites, let alone survey for new ones.

Both charts indicate activity through the second half of July, however this is biased by the finding of a relatively active assembly area at Northaw in 2004, with few recorded at previously known sites after the 20th. We have felt that territorial activity started at around 1 pm (as per Willmott *various*) and based this on the data we had collected. However, where sallow-rich habitat is near the territory, clashes are occasionally seen from 12 noon, probably because the males are already in the vicinity. Generally though, where sallow-rich habitat is some distance away, activity mostly begins from around 1 pm.

Territorial area elements (number of locations = 12)

High point	12
Wood edge (0-100m distance)	12
Group of trees	11
Master tree	1
Strong canopy gap element	7
Strong closed canopy element	4
Total sites with oak	12
Veteran oak	2
Oak, ash, also birch	3
Predicted assembly area	9
Territorial area with secondary or temporary territorial area nearby	3
[Territorial activity on a broad front over sallow breaks]	[2]

8.2 ~ All other activity

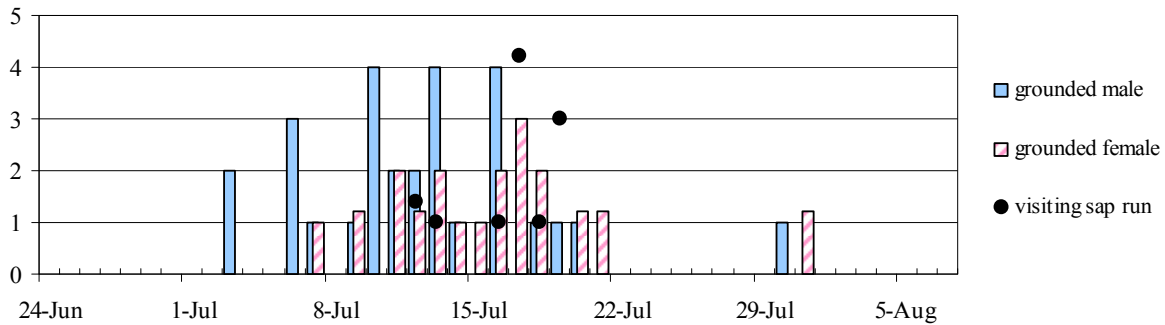
Please see the 1999-2002 and 2003 reports for notes on activity that are not repeated here.

Number of sites where other activity observed, 1999-2005

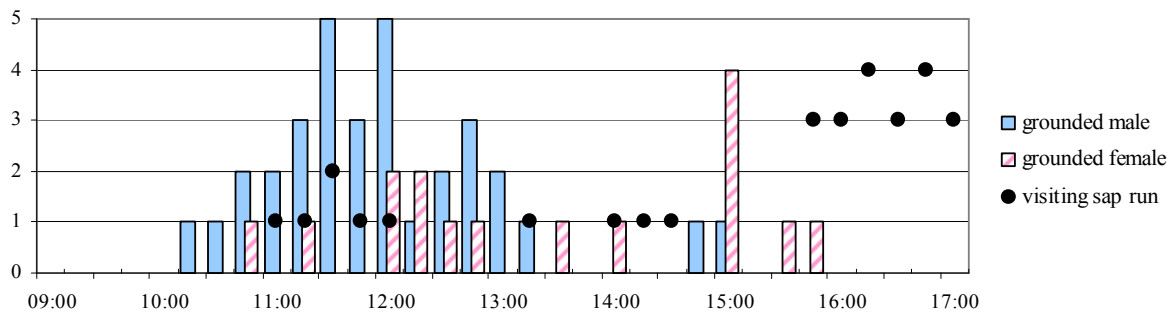
	Sites
Grounded male	8
Grounded female	5
Sap run feeding	3
Female flight from or to a possible honeydew / dropping-off site	3
Pre-pairing flight? (female with a male close behind)	3
Pairing activity (not yet observed)	0
Female dispersal from assembly area	2
Female displaying probable egg-laying behaviour around sallows	7
Egg & larva seen	1
Wandering <i>A.iris</i> (away from typical woodland situations)	6

8.2.1 ~ Grounding; 8.2.2 ~ Sap-run feeding (timing given for 15 minute intervals where known)

Date grounded or at sap run, 1999-2005



Time grounded or at sap run, 1999-2005



Male Grounding ~ Grounded *A.iris* identified as males were observed in 2004 and 2005 at Broxbourne Wood NR (6.3.1), Broxbourne Woods Complex central woodland area (6.3.4) and the Ruislip Woods NNR (6.12.1). Most observations fitted into the usual time slot of between 10 and 12 am. However, there were exceptions to this rule in 2004, with one particular male reported by Diane Andrews, which was known to have been on the ground from 11.45 am until 13.30 pm.

Diane Andrews reported that they arrived around 12.30 on the 14th July [2004] at Broxbourne Wood NR (6.3.1) and as they were walking along the ride they met a photographer. There was a grounded male on the ride. Diane and her husband, Richard observed it from 12.57 to 1.30 but the photographer had watched it from 11.45. Another couple came along and said they had seen it at 10.30 but it isn't known for certain whether it was the same individual on all occasions. Two dogs also went past it and it didn't budge.

Another grounded male was observed by **Glen & Moira Barnes** in the Broxbourne Woods Complex central woodland area (6.3.4) on the 6th July 2004.

'Between 1.15 and 1.30 we had three sightings of two male Purple Emperors. The first was of a male drinking from a puddle - we watched it for approx. 5 mins and I took photographs. It flew off and we carried on down the ride. We then saw the second male 'feeding' on a small piece of horse dropping - bright yellow tongue. It flew and then landed on a large horse dropping (both were dry rather than fresh) and fed. More photos taken. We watched for approx 5 mins, during which time it flew around my legs before returning to the dropping, and left it feeding...'

Female Grounding ~ A substantial number of certain females has also been seen grounded from 1999 to 2005, on both wet and dry surfaces, and especially in the Broxbourne Wood NR (6.3.1). Here they have been seen several times, especially, on damp areas formed in the dip of the main ride, seemingly taking moisture during hot weather, but they have also been seen to alight on dry areas of track. Grounded females were also encountered in 2004/5 at Tring Park, Wormley Woods and Site A. A more unusual report of a female came from **Sandra & Kevin Standbridge** on the 9th July 2004, seen whilst they were walking through the Broxbourne Woods Complex central woodland area (6.3.4).

'Sandra saw a butterfly come from the willows on the right hand side, it then flew over my head and landed on an unopened thistle about a foot off of the floor. It was a female Purple Emperor. It landed at 10.50 am and stayed on the same thistle until 12.10 pm, it had been very cloudy until then and it had stayed closed, when the sun rays came out, it opened immediately and stayed that way until 12.25 pm, when it flew up high over the pine trees to the left'.

8.2.2 ~ Sap run feeding

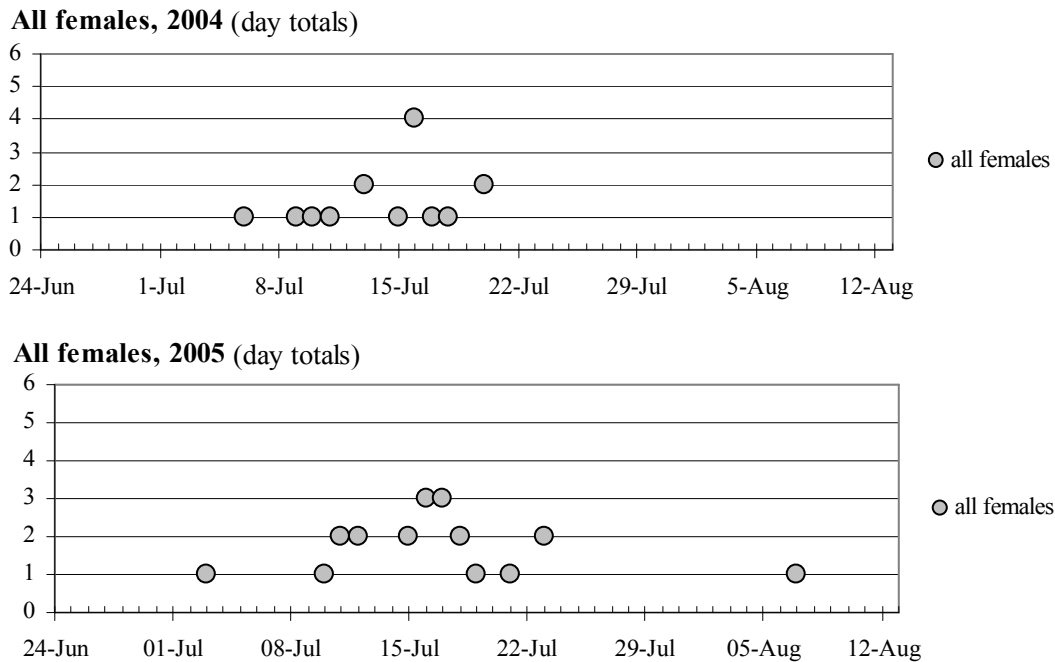
In 2004, sap run feeding was observed on two occasions. The first report was on the 18th July at Broxbourne Wood NR during one of the field trips organised there. Around 2 pm a female flew down and into the trees alongside the ride. She alighted about 15 feet up on a relatively young oak, and remained at the sap run for over 40 minutes giving all the onlookers an excellent view. On the 19th July at Broxbourne Common a male was seen to fly low through the oaks and land on one of the many veteran oaks around 1.15 pm. This was a relatively brief visit but we are now beginning to feel that veteran oaks are very attractive to *A.iris* in part as a source of very 'rich' sap runs.

In 2005, up to four Purple Emperors frequented a medium sized oak at Broxbourne Wood NR during the hot afternoon of 17th July, and were thought to be both sap-run feeding and shading/roosting. This oak, with its small sap-runs often attracting hornets, was also seen to be used for sap-run feeding on 12th July 2003. Future checks will hopefully confirm that it is a regular 'feeding tree' (see 6.3.1, and 8.2.3 2003 report). The sap-run timing chart (previous page) shows some interesting gathering of observations from 11-12 am and 4-5 pm.

A female *A.iris* on the 'feeding tree' at Broxbourne Woods NR on 21st July 2005
Photo: Paul Coyston



8.2.3 ~ Other female activity

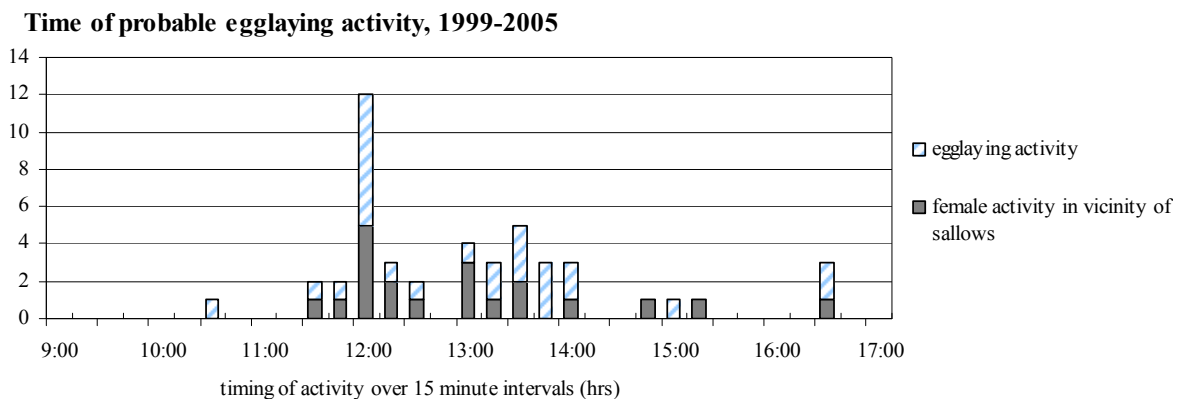


The total number of female sightings has slowly increased since the beginning of the study in 1999, to *c.* 19 in 2005. First female sightings in 2003-5 have been 5-7 days after the first observed male. Female activity in 2004 and 2005 has been centred around mid-July, peaking on the 16th in both years. A time-lag between peak observations of male and female activity is especially obvious when comparing the respective charts for 2005 (in 8.1 & 8.2.3 above).

Honeydew feeding and dropping-off points ~ Tony Clancy observed a female fly to a large oak on the 16th July 2004 at 3.15 pm. We can speculate whether this was for honeydew or sap-run feeding, or to 'settle and roost on a future dropping-off point'. Whilst females have been seen probing willow leaves, we have no certain records of honeydew feeding. It would be interesting were we able to make more observations of activity associated with oaks, other than male territorial activity.

Pre-pairing flight with a male, rejection and mating ~ there were no observations of any of these specific activities in 2004 or 2005. However, in 2005 a female was seen to disperse westwards from the Claypits Wood territory over an adjacent arable field to the hedgeline (6.3.2). This is the second sighting of a female that appears to have been dispersing from an assembly area where there are few, if any, willows in the vicinity. On a third occasion, a female was seen to approach an assembly area at half canopy height, from where the male descended, the pair then departing together in close proximity (see reports for 2003: 6.4 & 8.2, and 2004: 8.1).

Female showing behaviour indicative of egg-laying



The southern section of Wormley Wood NNR (6.3.8), probably produced some of the most interesting records to date of female activity. A new footpath network has been created throughout the complex and as a result of this a track has been cut through an area of perhaps 30-40 year old willow. This allowed good views of canopy willow, and on the 16th July 2004 females were observed using these particular willows for egg-laying. Many papers have been written about preferences for egg-laying and it has been stated many times that ride-side willows are the preferred choice. However, the canopy of these tall willows, made visible for the first time, was being used with just the same enthusiasm as any ride-side willows we have observed to date. The chart below emphasises how egg-laying frequently begins at noon in good weather conditions, and how watching willows around this time can generate a sighting.

A rather ragged female was observed at the Broxbourne Woods NR on 15th July 2004. It flew onto a willow from a silver birch at 4.40 pm in the afternoon, in relatively dull conditions. Video footage shows the abdomen came down but when we returned about an hour later after a visit to other areas of the complex it was still in exactly the same place and motionless.

Other female behaviour ~ of interest was Kevin and Sandra Standbridge's sighting in the central area of the Broxbourne Woods complex on the 9th July 2004, when a female was observed to fly down onto a thistle and roost on its flower-head in dull weather for over 1½ hours (see 6.3.4).



A female *A.iris* seen roosting on a thistle head on 9th July 2004
Photo: Sandra Standbridge

Weather conditions and observations ~ There is no doubt that the poor weather conditions of 2004, especially in the earlier part of the season, put off people from looking and sightings from other observers were down on previous years. We have always emphasised the importance of being in the field whatever the weather conditions. We would not have observed three males clash simultaneously at Site F (6.2.4) on the 6th July 2005, if we had not decided to go out, despite a very poor weather forecast. Although the day was predominately dull and fairly cool, only brief moments of sunshine were needed to see males clash. Observations of female activity at Wormley Wood on the 16th July 2004 would never have been made if we had stayed at home because it was raining! The females became active almost immediately the rain stopped. This also happened at Broxbourne Woods NR (6.3.1) on the 18th July 2004 where for much of the morning it rained, but through the patience of several observers at the field trip to stick it out, they were rewarded with the sight of a female at a sap run and the aerial display of another female a short while later.

8.2.4 ~ Wandering *A.iris*

There were no contenders for this category in 2004 in Hertfordshire or Middlesex. However, the report from West Norfolk in 2004 (7.5) could fall into this category but until more is known about this area of Norfolk and more time spent watching the area, we can't be certain what the true situation is.

An 'out of habitat' female *A.iris* in the Datchworth (6.5.1) area on 17th July 2005 suggests how mobile the species can be, as does the sighting from Tyttenhanger (6.1.1) on 3rd July 2005, where it seems possible that *A.iris* may have been able to colonise an area with increasing numbers of willows.

8.2.5 ~ Dead *A.iris*

Three dead *A.iris* were recorded in 2005, all from the Broxbourne Woods complex (6.3). On the 10th July 2005, Richard Andrews found, along the main ride in the centre of the complex (6.3.4), a dead male whose right wing had not expanded fully, and was likely not able to fly. On the 12th July 2005, Kevin and Sandra Standbridge found a 'mangled' male, again along the ride in the centre of the complex (6.3.4). As they have noted, motorcycles and quad-bike traffic is very much on the increase in the last 2-3 years along the few rides in the Broxbourne Woods complex, as elsewhere. Grounded *A.iris* may have to be fortunate to avoid being squashed in these areas if traffic increases. Finally on 19th July 2005, June Crew and Keir Mottram saw a female that seemed to be in fairly good condition die in front of them in Broxbourne Wood NR (6.3.1). This followed several days of high temperatures (*c.*25-30°C), so it may have been brought on by the lack of moisture, although the same conditions would also have been good for egg-laying. The first male and the female will be presented to the Hitchin Museum to fill the empty gaps in the county collection.



The dead male *A.iris* found by Richard Andrews showing the crippled right wing
(The butterfly was photographed at two different angles ~ one angle shows the iridescence, the other doesn't)
Photos: Andrew Middleton

9.1 ~ Notes on weather in 2004 & 2005

Chart 9.1.1 ~ Annual weather data ~ During the years to July 2004 & 2005, overall temperatures remained high relative to the 1970s, 80s and 90s, being close to average figures since 2000. Compared with 1970-2000, total sunshine was slightly higher for 2004 and normal for 2005, whilst rainfall was a little lower for 2004 and normal for 2005.

Chart 9.1.2 ~ Accumulated day-degrees ~ The longer term (cf. 20-30yr) trend of higher recent temperatures continued in 2004 and 2005 at similar levels to the study period 1999-2003. Increases in accumulated day-degrees by season were again highest during the winter months. The exceptional temperatures of June 2003 were not repeated, and flight season temperatures remained close to the long term norm.

Chart 9.1.3 ~ July weather ~ Compared with 1970-2000 levels, temperature and rainfall in July 2004 and 2005 were fairly normal, whilst sunshine levels were slightly lower in both years. The 2004 and 2005 flight seasons are discussed in more detail in 5.

Chart 9.1.1 ~ Annual weather data for the study period, 1999-2005

All met-data from Rothamsted Research

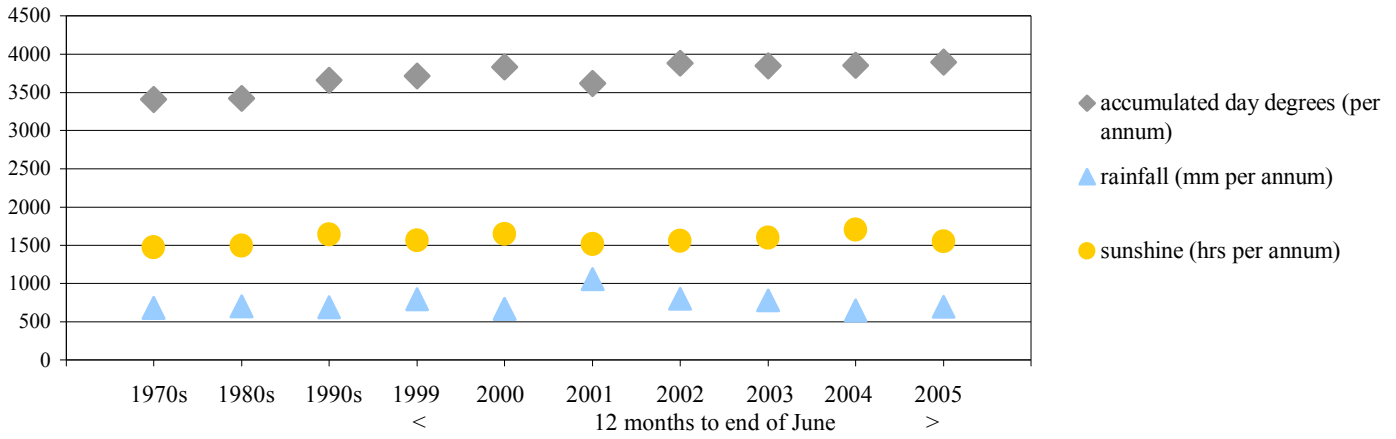


Chart 9.1.2 ~ Accumulated day-degrees by season

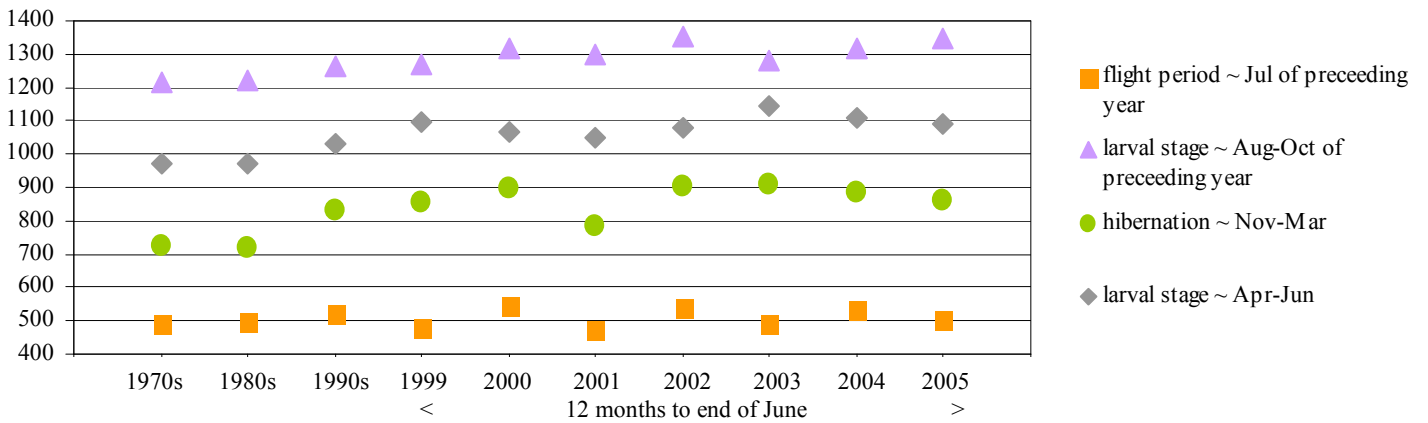
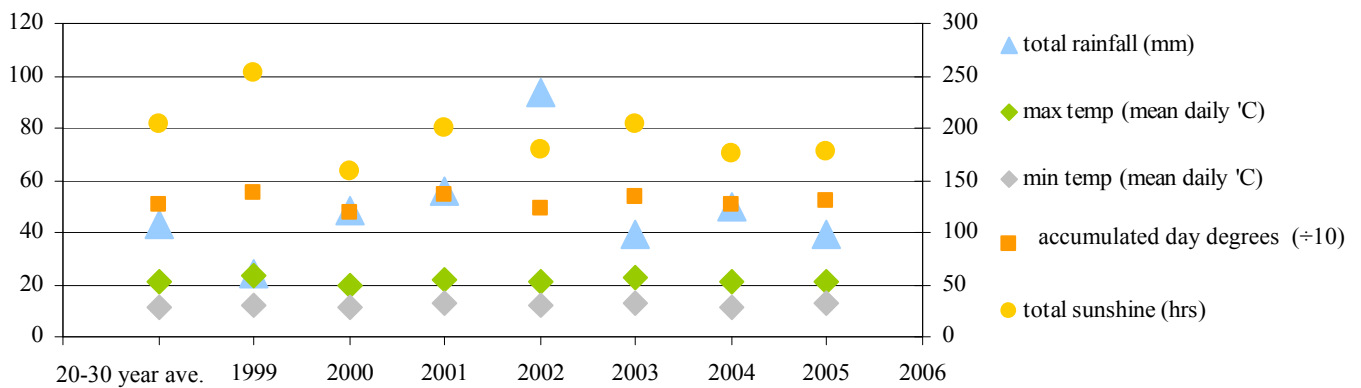


Chart 9.1.3 ~ July weather

temperature, rainfall & acc. day degrees

sunshine



9.2 ~ Comparing temperatures and timing of flight seasons (phenology)

Met-data from Rothamsted Research

Chart 9.2.1 ~ Comparative accumulated day-degrees over 12 months of life-cycle, August to July

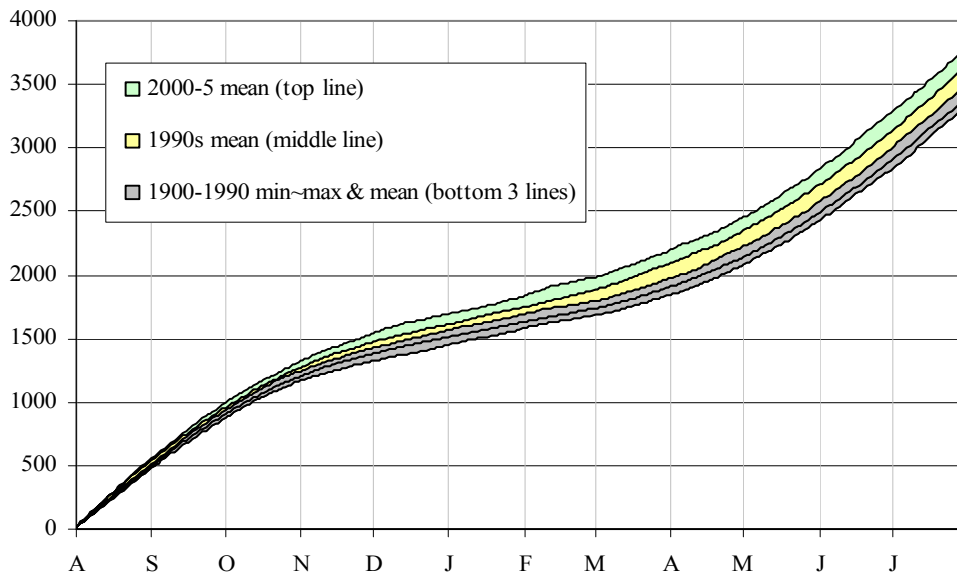
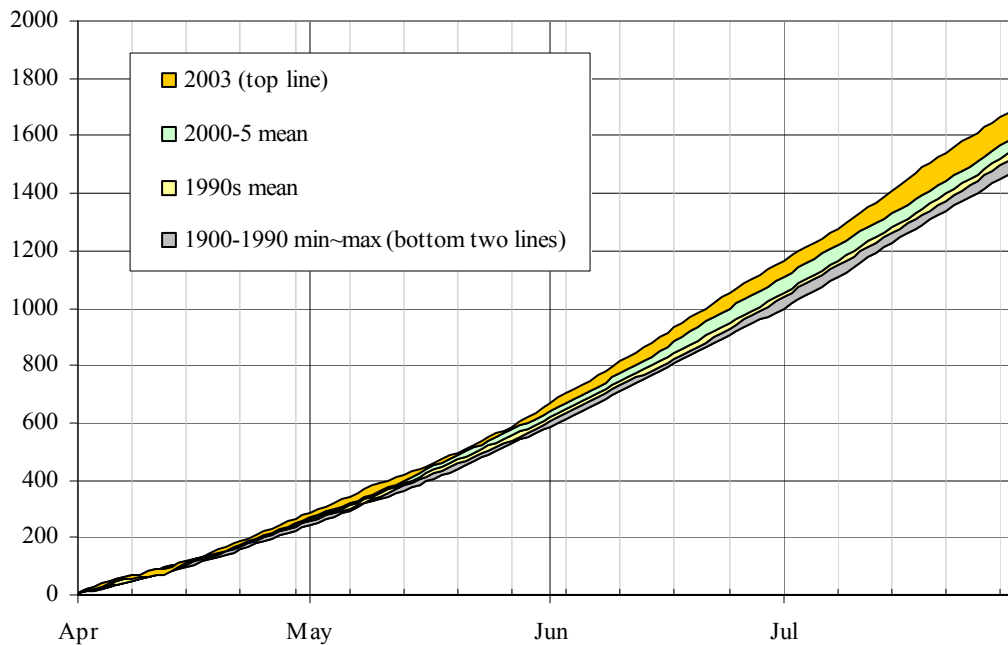


Chart 9.2.2 ~ Comparative accumulated day-degrees, April to July



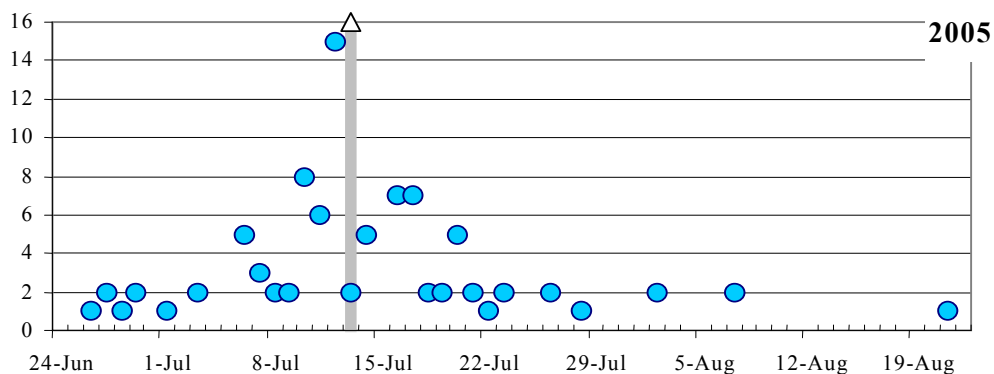
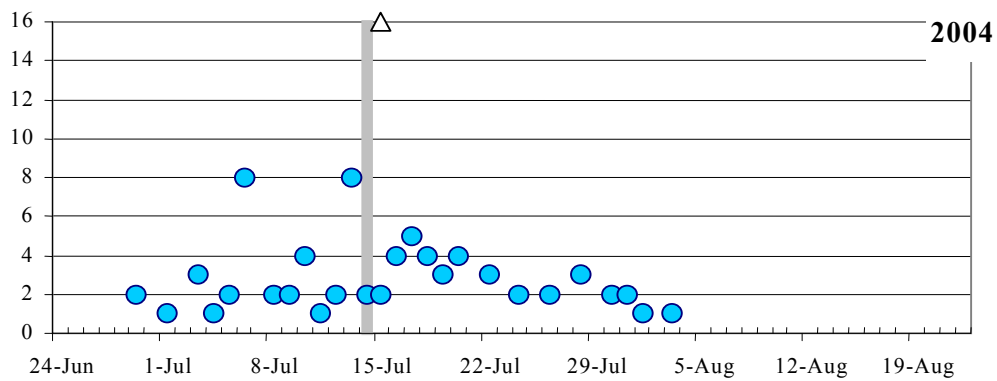
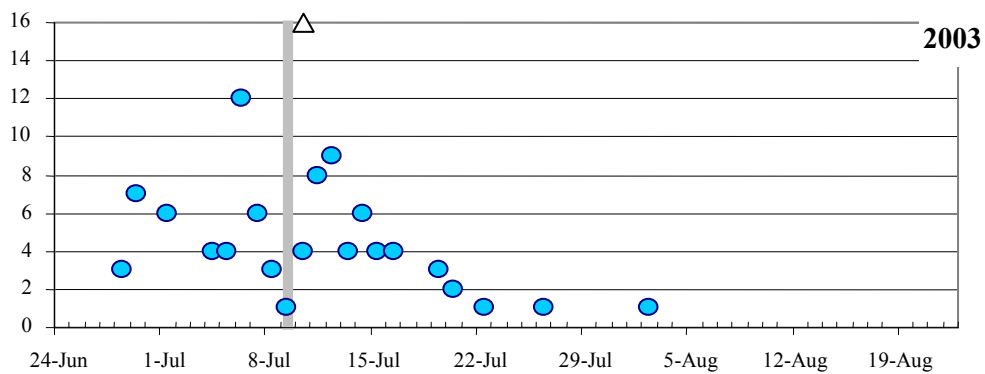
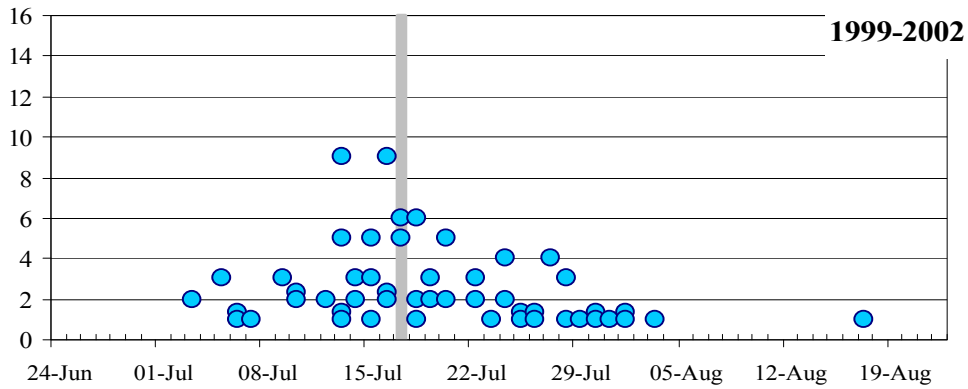
Charts 9.2.1 & 2 illustrate the significant increases in temperatures recorded over the last 15 years or so, with further increases since 2000, 2003 being an exceptional year. Much of this additional heat has been accumulated during the winter, although there have been smaller increases from April to June, when larvae develop to pupation.

Charts 9.2.3-6 (below) illustrate the recorded flight periods for 1999-2002, 2003, 2004 & 2005 in Hertfordshire and Middlesex. Each point refers to a cumulative day-total of individuals seen (estimated minima) for one day in one year. The vertical grey lines indicate simple means for each dataset.

The 'predicted' mean dates (triangle symbol) use the simple mean date for 1999-2002 as the model for the 12 months accumulated day degrees (3509 acc. day-degrees), to project mean dates for 2003- 5.

Discussion ~ So far, for 2003-5, the predicted mean dates have all been within one day of the recorded mean. Were this to be statistically significant, it may suggest a mean flight date of 22nd July for the 1990s, and 3rd August for 1900-89, which is quite late compared with a mean of 15th July since 1999. As the species is towards the edge of its northern, climatic restricted, range in our study area, it seems reasonable to believe that *A.iris* is benefiting from higher temperatures in recent years.

Charts 9.2.3-6 ~ comparative flight charts with simple mean date (grey bar) and 'predicted' mean date (triangle), 1999-2005



10 ~ Conservation and project developments

Site A ~ The small-scale thinning here over the last three years has been moderately successful in allowing selected sallows to thicken out, and work as continued on a small scale here, i.e. one days' work, early in 2005. Of the five 5ft willow stakes put out in the 2003-4 winter in open spaces, three were relocated in December 2004, and all had taken. This seems to be a fairly reliable way of establishing new sallows on a small scale, especially where there is competition from bracken and/or heavy muntjac grazing.

Site C ~ We hope that favourable management can be established here through a new agreement.

Danemead Reserve (6.3.6) ~ The Hertfordshire and Middlesex Wildlife Trust Reserve, Danemead Common, lies just to the north-east of the Broxbourne Common assembly area and contains valuable habitat. A willow survey was completed in early 2005 to guide future management decisions favourably for sallows and *A.iris* (see 6.3.6).

Wormley Woods Complex (6.3.8) ~ During recent thinning and access work in the southern areas of Wormley Woods, mostly in the winter of 2003-4, good numbers of canopy sallows have been retained.

Ruislip Woods NNR (6.12.1) ~ During the summer of 2004, we became aware that *A.iris* had not been considered in the site's recently published management plan for 2003-8. Ruislip Woods is the only site in Middlesex where *A.iris* is presently seen on an annual basis and where a colony is known to be supported, therefore in line with the Butterfly Conservation *A.iris* Species Action Plan, we hope that *A.iris* will be a consideration in future management decisions here.

Biodiversity Action Plan for Hertfordshire: Species Action Plan for Purple Emperor

Catherine Wyatt took over the position of Hertfordshire County Council BAP Officer during 2005, after the post had remained empty for much of 2004. The Purple Emperor Species Action Plan draft was revised during 2005, and various bodies commented on the draft during the year. We hope to see the Species and Biodiversity Action Plans taken forward successfully with the various partners from 2006.

Our actions as Butterfly Conservation, Herts & Middx Branch, *A.iris* Species Co-ordinators

We have continued to undertake positive actions as best we can, i.e. by providing information and advice to those involved with woodland management, and by writing reports, surveying, monitoring, leading field-trips, completing conservation tasks and giving presentations. In April 2004 we visited the Forestry Commission at Brandon and were very encouraged by their support for retaining woodland sallows. The Forestry Commission also paid a special visit in July 2004 to one of our sites to support us with our management concerns.

We were pleased to present at the Butterfly Conservation National AGM in November 2004, with Matthew Oates, regarding Purple Emperor territorial activity, and we presented our work at the Eastern Region Conservation Day early in 2005. We also presented our work on *A.iris* assembly areas, with Matthew Oates, at Butterfly Conservation's 5th International Symposium in April 2005. Matthew is also co-ordinating the national Master Tree Project, and the associated report can be downloaded from Butterfly Conservation's main website. We also gave a presentation at the Herts Environmental Forum, regarding butterflies and moths, in November 2004.

We hope our efforts will encourage others to search for colonies of *A.iris* elsewhere within the historical range of the species. The field trips arranged by the Hertfordshire & Middlesex Branch of Butterfly Conservation and led by us continued to be very popular.

'Woodlands for Butterflies and Moths' leaflet

An important development was the publication of a 'Woodlands for Butterflies and Moths' leaflet by Butterfly Conservation, Hertfordshire & Middlesex Branch, with the support of a Heritage Lottery Fund, 'Awards for All' grant. One of the aims of the leaflet is to encourage favourable management for woodland butterflies, in particular, *A.iris*, and the following bodies have been very helpful in distributing c.2,500 of the leaflets to potentially key bodies and individuals involved with woodland management in our area.

Country Land & Business Association; Community Forest Association; Countryside Management Service; Herts & Middx Wildlife Trust; Herts Woodland Forum; Herts Woodland Officer / HBRC; Royal Forestry Society; Welwyn & Hatfield Council; Woodland Trust.

11 ~ References & other sources of information; website links; abbreviations; taxa.

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Website links

- Butterfly Conservation ~ www.butterfly-conservation.org
- Butterfly Conservation Hertfordshire and Middlesex Branch ~ www.hertsmiddx-butterflies.org.uk
- Butterfly Conservation Upper Thames Branch ~ www.upperthamesbutterflies.co.uk
- Celtic Harmony ~ www.celticharmony.org.uk
- English Nature ~ www.english-nature.org.uk
- Essex Field Club ~ www.essexfieldclub.org.uk
- Haileybury School ~ www.haileybury.herts.sch.uk
- Herts & Middlesex Wildlife Trust ~ www.wildlifetrust.org.uk/herts
- Lancaster University ~ www.lancs.ac.uk
- London Borough of Hillingdon ~ www.hillingdon.gov.uk
- London Natural History Museum ~ www.nhm.ac.uk
- Multimap.com ~ <http://multimap.com/static/photoinfo.htm>
- Nick Sampford Wildlife Photography ~ http://mysite.freemove.com/nick_sampford
- Old-Maps.co.uk ~ www.old-maps.co.uk
- Ordnance Survey Get-A-Map ~ www.ordnancesurvey.co.uk
- Welwyn & Hatfield Council ~ <http://www.welhat.gov.uk>

Abbreviations used within text

Andrew Middleton	AM	Herts & Middlesex Wildlife Trust	HMWT
<i>Apatura iris</i>	<i>A.iris</i>	Hours	hrs
Biodiversity Action Plan	BAP	Liz Goodyear	LG
Butterfly Conservation	BC	Metre	m
Confer	cf.	Minutes	mins
Countryside Management Service	CMS	National Nature Reserve	NNR
English Nature	EN	Number	n
Forestry Commission	FC	Regional Action Plan	RAP
Geographical Positioning System	GPS	Site of Special Scientific Interest	SSSI
Hectare	ha	Species Action Plan	SAP
Hertfordshire Biological Records Centre	HBRC	United Kingdom	UK

Scientific names of taxa referred to in text

Ash	<i>Fraxinus excelsior</i>	Lime family	<i>Tiliaceae</i>
Aspen	<i>Populus tremula</i>	Meadow Brown	<i>Maniola jurtina</i>
Beech	<i>Fagus sylvatica</i>	Migrant Hawker	<i>Aeshna mixta</i>
Birch sp	<i>Betula spp.</i>	Chinese Muntjac	<i>Muntiacus reevesi</i>
Blackthorn	<i>Prunus spinosa</i>	Oak	<i>Quercus spp.</i>
Blue Tit	<i>Parus caeruleus</i>	Oak Eggar	<i>Lasiocampa quercus</i>
Bramble	<i>Rubus spp.</i>	Painted Lady	<i>Cynthia cardui</i>
Bracken	<i>Pteridium aquilinum</i>	Peacock	<i>Inachis io</i>
Broad-leaved Helleborines	<i>Epipactis helleborine</i>	Purple Emperor	<i>Apatura iris</i>
Brown Hawker	<i>(Aeshna grandis)</i>	Purple Hairstreak	<i>Neozephyrus quercus</i>
Comma	<i>Polygonia c-album</i>	Ramsons	<i>Allium ursinum</i>
Common/Grey Sallow	<i>Salix cinerea</i>	Red Admiral	<i>Vanessa atalanta</i>
Crack Willow	<i>Salix fragilis</i>	Ringlet	<i>Aphantopus hyperantus</i>
Dark Green Fritillary	<i>Argynnis aglaja</i>	Rowan	<i>Sorbus aucuparia</i>
Elm	<i>Ulmus spp.</i>	Scots Pine	<i>Pinus sylvestris</i>
Gatekeeper (Hedge Brown)	<i>Pyronia tithonus</i>	Silver-washed Fritillary	<i>Argynnis paphia</i>
Goat or Pussy Willow,	<i>Salix caprea</i>	Small Skipper	<i>Thymelicus sylvestris</i>
Great or Broad-leaved Sallow		Small White	<i>Pieris rapae</i>
Goldfinch	<i>Carduelis carduelis</i>	Sparrowhawk	<i>Accipiter nisus</i>
Greenfinch	<i>Carduelis chloris</i>	Speckled Wood	<i>Pararge aegeria</i>
Green-veined White	<i>Pieris napi</i>	Sweet Chestnut	<i>Castanea stiva</i>
High Brown Fritillary	<i>Argynnis adippe</i>	Thistle sp	<i>Cirsium sp.</i>
Holly Blue	<i>Celastrina argiolus</i>	Turkey Oak	<i>Quercus cerris</i>
Honeysuckle	<i>Lonicera spp.</i>	White Admiral	<i>Limenitis camilla</i>
Hornbeam	<i>Carpinus betulus</i>	White Willow	<i>Salix alba</i>
Hornet	<i>Vespa crabro</i>	White-letter Hairstreak	<i>Satyrrium w-album</i>
Large White	<i>Pieris brassicae</i>	Wood Anemone	<i>Anemone nemorosa</i>
		Wood White	<i>Leptidea sinapis</i>

Appendix I ~ Bedfordshire

Extract from the *Butterflies and Moths of Bedfordshire* [1997]
By V.W. Arnold, C.R.B. Baker, D. V. Manning and I.P. Woiwod
Bedfordshire Natural History Society

The Purple Emperor species account is reproduced with the kind permission of Charles Baker, author of the section on butterflies.

Subfamily *Apaturinae*

Purple Emperor *Apatura iris* (Linnaeus) (1585)

The only British species, the Purple Emperor, is probably extinct in Bedfordshire, despite sporadic records. Although larger (wingspan 70 –92mm) the adult bears a superficial resemblance to White Admiral, but the larva is quite different being slug like in shape, cryptically coloured and without prominent spines.

Pre VCH: Charles Abbot's notebook (MS1) contains extensive notes on the Purple Emperor which are worth quoting in full:

Papilio Nymphalis Iris Purple Emperor. Thirty at least seen at Clapham P. Wood on 10th of August 1799 soaring very high. 12th one took his station on an oak tree to the Putnoe Gate for an hour. I could not take him the poles of the net being too short. 13th one settled on a low hazel bush and another on a high oak but missed both. 14th saw thirteen flies. 15th^h staid [sic] at home on account of a very boisterous wind. 16th Saw one which settled as before on a low hazel bush but lost him after two efforts." (in pencil after this "Bad management"). "Never saw any more after the 16th."

Following this written in pencil in a less tidy hand, presumably J.C.Dale's:

'Robt Barnes of the Bedford Militia told me that he helped Dr Abbot beat some larvae - that he bred them & I had 4 from his cab. (female) of which I gave to Mr Stephens. Therefore after the year 1800 Mr Barnes went with me to C. P. Wood &c & Mr Bucklow of Swan Inn, Bedford.'

J.C. Dale (MS2) recorded obtaining one male and one female from Abbot's collection but these specimens no longer exist. T. Orlebar Marsh notes (MS1) include a reference to Abbot finding the Purple Emperor in King's Wood, Houghton Conquest in 1800.

Stainton (1857) gives Clapham Park Wood as a locality but it is not clear whether he was merely repeating previous records. The North Herts Museum contains a specimen from Southill in 1894.

VCH: 'Recorded at Clapham Park Woods by Professor Westwood (1849) on the authority of the Rev. W.T. Bree'.

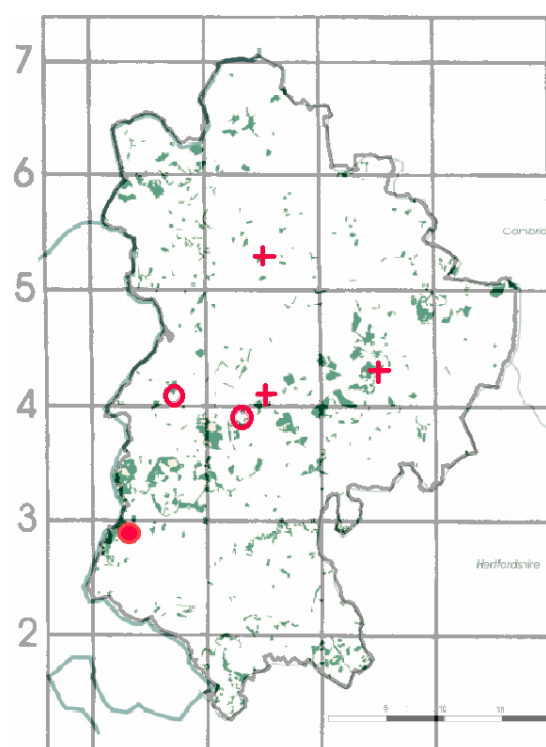
Post VCH: H. Nicholls was reported in 1915 as commenting that Bedfordshire was "once a noted county for Purple Emperor, now rather rare" (Anon, 1915). A manuscript of a butterfly report read by A.H.Foster to the Letchworth Naturalists Society in around 1916 notes that the Purple Emperor 'has been taken in the woods near Southill' but gives no further information. Foster (1937)¹ mentions its occurrence in Southill and Warden Woods "fifty years ago". Although West (1948) wrote that "it certainly occurs in Bedfordshire woods as Worley's, Swineshead and Halsey", he subsequently (1949) indicated that he had seen no records since the 1900s. Kershaw (1954) writing of King's Wood, Heath and Reach said "Not seen for some years" but did not note the source of any earlier records.

There have only been three modern sightings of this magnificent butterfly. These were on 11 July 1984 in Marston Thrift, in 1987 in Reddings Wood, Ampthill and on 19 July 1995 in King's Wood, Heath and Reach. There has been much speculation on the origin of these individuals, whether they had been released or were wanderers from one of the colonies in Buckinghamshire or Northamptonshire. One can only hope that with improvements in the management of some woods, Bedfordshire will once again become "a noted county" for the Purple Emperor.

Flight: July and August.

Larval Foodplants: Sallow, sometimes grey sallow and crack willow

¹ Should be Foster 1934 as in *Natural History of the Hitchin Region – 1937 is the date of Foster’s Herts Lepidoptera List*



Historic *A.iris* distribution in Bedfordshire

- New 1990 – 1996
- 1977 – 1989 (still present 1990 – 1996 hatched symbol)
- 1977 – 1989
- + VCH or before but not later (c.1900)

This map has had woodland complexes added using data from the Forestry Commission 2002 Audit.

Appendix II ~ Cambridgeshire

Victoria History of the County of Cambridgeshire and the Isle of Ely [1938]

Lepidoptera

by J. C. F. Fryer

Apatura iris, Nr. Cambridge (*F., Intell.*, no 23, 1856, and *A.H.W., E.M.M.*, xx,131, 1883). Doddington Wood ² (*F.L.*).

² We have been unable to trace Doddington Wood. The only village with that name in Cambridgeshire is in the fens which, would not appear to be an appropriate area for *A.iris*. Searches of historical maps and information requests have drawn a blank and has lead us and others to believe this may in fact be an error. The reference *FL* needs further investigation.

Appendix III ~ Huntingdonshire

Victoria History of the County of Huntingdonshire [1926]

Lepidoptera

by J. Omer-Cooper

Apatura iris, L. The Purple Emperor is still to be seen occasionally in the woods but is much scarcer than it was formerly. Mr. Farren tells me that he saw more than 50 one day in June 1887, in Monks Wood.

Apatura iris, L. (W.T. Mellows); Brampton Wood (Rev. G. H. Raynor); Monks Wood (G.A.R.?), (William Farren), (Major S. Maples), (?Mr. J. Peed), Beville’s Wood (Mr. Russel James).

Appendix IV ~ Suffolk

Victoria History of the County of Suffolk [1911]

Lepidoptera

by Claude Morley & Rev. E.N. Bloomfield

The lovely White Admiral occurs annually in several of our woods, and in some years most horrible slaughter of this innocent is made, the collectors (who cannot be called entomologists) gleefully bring one or even two hundred specimens home at a time; but the grand Purple Emperor is still very much rarer, and has hardly been seen of late, though recorded from around Ipswich, Beccles, Stowmarket and Sudbury.

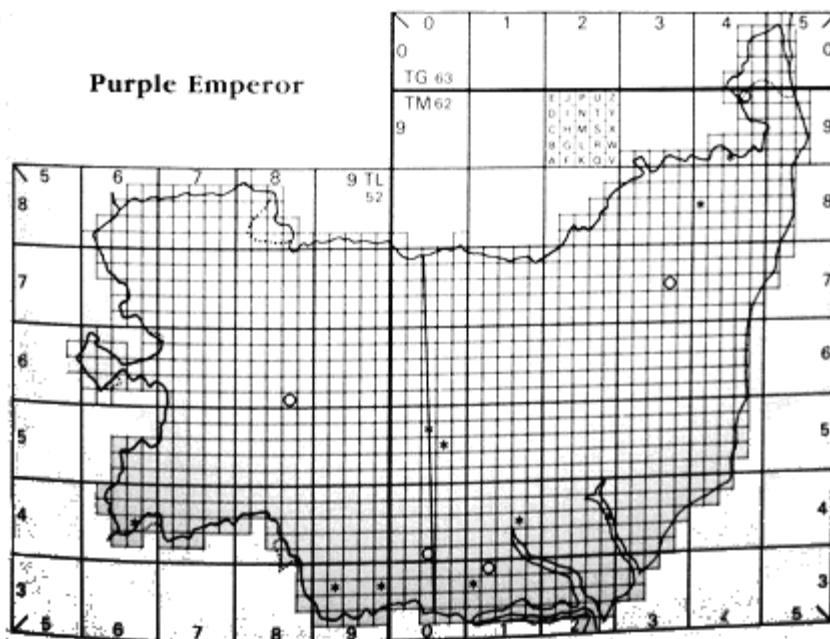
[Bloomfield, Edwin Newson, 1827-1914]

[Morley, Claude, 1874-1951]

The Butterflies of Suffolk [1986]

by H. Mendel & S. H. Piotrowski

Purple Emperor species account is reproduced with the kind permission of Howard Mendel



One of the largest and most handsome of the British butterflies, the Purple Emperor is, unfortunately, still sought after by collectors. The females are larger, but lack the iridescent purple-blue sheen of the males, which makes them so attractive.

The Purple Emperor is a woodland species, still widely distributed though generally rare in the south midlands and southern counties, but no longer found in Suffolk. It was last recorded here in 1959, though there are a very few unconfirmed sightings since that time, some of which were almost certainly misidentified White Admirals.

In the 19th century the Purple Emperor was quite common in Suffolk. It was known from Badley (Jermyn, 1827; "Hull, Old Hall and Dodnash and Raydon Woods" (Jermyn, 1827); and was "tolerably abundant in Raydon Wood [where] I once got eight larvae in one day" (Postans, 1858). There are records from Stowmarket (Stainton, 1857), "Bentley, Coombs, etc. H. H. Crewe; Redisham and Worlingham Parks – W. M. Crowfoot, in Old-hall Wood very rare, Haverhill – William Gaze; [and] Assington Wood, near Sudbury – John Grubb" (Newman, 1870-71). In addition to these Morley (1937a) knew of a specimen taken at Waldringfield in 1878 in the collection of A.P. Waller, and a record from Needham Market, attributed to H. Lingwood.

Newman (1870-71), repeating an earlier note in the *Entomologist*, wrote that it was “so common near Ipswich in 1868 that many of our collectors have taken eight or ten dozen each – Garrett Garrett”. Perhaps an exaggeration, and the account by Frohawk (1934b) that Garrett “made the sensational capture of no less than sixteen male and two female Purple Emperors” and that “other local collectors at that time also took proportionately many specimens” is more accurate. Garrett took his specimens on a “Mountain-ash at Bentley Woods”, where Frohawk (1941) remembered “in the hot July of 1881, there watching five *Iris* playing about the top of an Oak”.

By the turn of the century it had become rarer in Suffolk, though still survived in its old haunts. In the woods to the south of Ipswich the Purple Emperor was seen “flying high amongst the leaves of an oak-tree in Bentley Woods” in 1933 (Butters, 1934) again in 1935 (Morley 1937a) nearby at Belstead in 1940 (Simpson, 1940) and finally at Bentley in 1941 (Webster, 1941). Interestingly one was seen in Ipswich itself, at Christchurch Park in 1933 (Spencer, 1933). “Mr. Bernard Harwood bred two males from larvae that he had taken in Raydon Wood during the early summer of 1919” (Gilles, 1934) and the species was seen there on a number of occasions in the 1950’s and finally in 1959, when two eggs were collected and reared, producing two males (Beaufoy 1960 and 1970).

The few 20th century sightings away from the woodlands of the south-east of the County are; “A very ragged ♂ taken (on rotten rabbit guts!) 29 September”, 1946 at St. Olaves [H.E. Jenner], one seen “in the woods at or close to Walpole during July 1946” (Morley, 1948) and a male seen at Nowton in 1947 [R. F. Eley].

Purple Emperors are on the wing from the second week of July and throughout August, and spend much of their time above the tree tops. They are, however, attracted to carrion and animal droppings and such baits have long been used to tempt them by collectors. Beaufoy (1953) describes how a “male Purple Emperor was seen feeding from the decaying flesh” of a dead hedgehog hung up for the purpose in Raydon Wood. Adults on emergence tend to gather round a particular tree, often an Oak (the “master Oak”) though not necessarily so, and here pairing takes place, and the aerial dog-fights of the males may be seen. The females lay their eggs on the leaves of Sallows, *Salix caprea* L. or *S. cinerea* L., in sheltered areas, often along rides, and it is on these bushes that the unusual horned larvae feed.

The Purple Emperor may be found in a variety of woodland types and is increasingly found in conifer woodlands. Perhaps one day it will again be seen in Suffolk.

Appendix V ~ Norfolk

Victoria History of the County of Norfolk [1901]

Lepidoptera

by Charles G. Barrett

Apatura iris

Foulsham, Dersingham, but rare.

Formerly at Whitlingham,

Not scarce Foxley Wood

[Volume One edited by H. Arthur Doubleday]

[Volume Two edited by William Page]

Butterflies of Norfolk in the 19th and 20th Centuries

by E. A. Ellis

Transactions of the Norfolk and Norwich Natural History Society 26:321-334 [1984]

Introduction

The second half of the 18th century saw the beginning of a renaissance in the study of insects in Norfolk and local entomologists contributed records which became embodied in the major works on the British insect fauna in the early part of the following century. These contain some of the earliest references to the county’s butterflies. The first catalogue of particular regional interest was given by C. J. and James Paget in their Sketch of the Natural History of Yarmouth published in 1834, which included thirty-one butterflies. We next come to C. G. Barrett’s annotated list of Norfolk Lepidoptera published as a supplement to the Transactions of the Norfolk

and Norwich Naturalists' Society, 1873-4, in which most of the significant records up to that time were embodied. Only a few additions were made in Barrett's subsequent lists in the same Transactions, 111, 683, 1884; IV, 691: 1889 and VI, 553, 1899. In the present century there has been a scatter of miscellaneous observations pertaining to butterflies in the Transactions, the Entomologists' Monthly Magazine, The Entomologist, the Entomologists' Record etc., whilst many useful records were published in a series of consecutively numbered notes entitled Norfolk and Suffolk Wild Life, in the Eastern Evening News, from 1932 to 1938. Popular interest in our butterflies has been reflected in the correspondence columns of the Eastern Daily Press in the last fifty years and this has also been examined during the preparation of this account. Old collections, several of which are now in Norwich Castle Museum, are important in helping to verify past records, but also bear witness to instances of over-collecting in the case of some rare and local species. In recent years county entomologists have given much attention to mapping the distribution of our butterflies, both in connection with a national survey and for the biological records centre at Norwich Museum. A Norfolk branch of the British Butterfly Conservation Society is now active in undertaking habitat surveys and taking practical steps to ensure the survival of these insects.

Norfolk's extensive coastal dunes have been least affected by environmental threats and continue to afford sanctuary for their butterflies, while the grass heaths and forest rides of Breckland have been increasingly important refuges for many species which have lost ground elsewhere through agricultural pressures. The surviving relics of our formerly extensive heaths suffer only too commonly from fires, but many commons provide varied terrain favourable to butterflies of grassland and scrub, as do derelict railway tracks, some country church yards and old meadows. The fact that the greater part of the fens flanking the Broads is in the ownership of conservation bodies has so far ensured the survival of the indigenous Swallowtail, while some other species also benefit in a variety of habitats provided within the reserve boundaries. Wayside banks and hedges have tended to suffer from pollution inimical to butterflies and their larvae as road traffic has increased and the in management of farmland, involving hedge destruction, the use of pesticides and heavy machinery and the substitution of seeded grasses for former, herb-rich hay meadows and pastures, has virtually eliminated resident butterflies from large parts of the countryside. Finally, we have seen the decimation of most of the county's old deciduous woodlands in the 19th century, and this has resulted in the near or total disappearance of their special butterflies such as the Silver-washed Fritillary and Purple Emperor.

Climatic influences commonly determine the fortunes of butterflies from year to year and the effects of unfavourable weather can be disastrous for species whose residual population is small. On the other hand, we have seen great increases in some species take place following hot summers. When dull, rainy weather persists in the breeding season, butterfly activity is halted and there are few opportunities for mating. Hibernating species suffer losses through premature restlessness in very mild winters.

The effects of predation by birds and mammals on our butterfly larvae have not been evaluated, but could be significant in the case of rare and severely localised species. We have evidence of many butterflies being taken on the wing by Swallows, Spotted Flycatchers, Wagtails, Warblers and House Sparrows and occasionally by Great Tits, Robins, Kestrels and Jays. The most spectacular slaughter of these insects is witnessed amongst the butterflies attracted in large numbers to the flowers of *Buddleja davidii* in gardens where Swallows abound. Predation by insects appears to be fairly minimal except when Hornets concentrate attention on Small Tortoiseshells, Red Admirals and Peacocks at buddleja flowers and slaughter hundreds in some instances. Dragonflies, common wasps and the flower-haunting crab spider, *Misumena vatia* also attack butterflies and hibernating Peacocks have been reported killed by house spiders and mice. The effects of hymenopterous and dipterous parasites on butterflies in local habitats have not been studied in any depth, although almost total decimation of Large White larvae by the braconid *Apanteles glomeratus* is commonly witnessed. Viruses, bacteria and moulds take toll of eggs, larvae and pupae from time to time.

Butterflies are prone to be dispersed widely by strong winds and through the operation of thermals in hot summers. We have also seen some evidence of intentional movements away from local haunts by male Brimstones while the females remain behind, a habit which promotes out-breeding.

It is not uncommon to see Small and Green-veined White butterflies assembling to imbibe moisture from lakesides, wet sand on the seashore and liquid manure in farmyards. The Green-veined White will sometimes find honeydew from aphids attractive and I have twice found numbers of this species trapped by round-leaved sundews on Buxton Heath, Hevingham. The Red Admiral may often be seen drinking sap oozing from old trees and visiting Camberwell Beauties have been noticed behaving in this way, while these two species, along with the Comma, are much attracted by rotting fruit.

Except in the Swallowtail, no endemic local race has been detected here, although it was at one time held that the Chalk-hill Blue population formerly existing at Ringstead Downs differed slightly from others in Britain. Early and late broods of several species tend to differ in their colouring here as elsewhere and aberrations tend to occur

most frequently in hot summers. As populations of once common and widespread species become fragmented and isolated they could well develop differences and this aspect of future behaviour deserves attention, even in respect of still common, but declining species as the Meadow Brown.

The order and naming of species in the following list is in accord with Kloet and Hincks Check List, Part 2, Lepidoptera, revised edition, 1972.

ANNOTATED LIST OF SPECIES.....

Purple Emperor *Apatura iris* (L.)

Barrett (1874) listed sites for this at Foulsham, Dersingham and Foxley Wood and stated that it had occurred earlier at Whitlingham. In its chief stronghold, Foxley Wood, its survival has been menaced by unsympathetic management in recent years and it may well have become extinct there since 1974. There have been reports of its presence in two other localities in the north of the county, but its future here must now be very uncertain.

An Atlas of Norfolk Butterflies

1984-1988

by M. R. Hall

Norfolk Branch: British Butterfly Conservation Society

Discussed under history

Despite diligent searching during the years of the survey for both the small pearl-bordered fritillary and pearl-bordered fritillary, and to a lesser extent the purple emperor, it has not been possible to verify their continued existence within Norfolk. All of these three species were regarded as being of either “*very uncertain*” or “*very local*” distribution by Ellis (1984). It was, in fact, those very comments that encouraged the search for the species.

The History of the Purple Emperor Butterfly (*APATURA IRIS* L.) in Norfolk - with special reference to Foxley Wood

by Chris Wild & Paul Ashton

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Introduction

The Purple Emperor butterfly is a widespread species occurring throughout western Europe and temperate Asia to Japan (Emmet & Heath, 1990). In Britain, it is a rare and declining species inhabiting the deciduous woodlands of southern England. The species is now thought to be extinct in East Anglia and the Midlands and has been lost from many broad-leaved sites in southern England (Wild, 1996). Known viable populations are now essentially confined to Hampshire, Wiltshire, Berkshire, Sussex and Surrey. The life history of the species has been documented by Heslop, Hyde & Stockley (1964), Reid (1984) and Willmott (1997), the content of which he later summarised and updated (1994).

The butterfly is a canopy species feeding on tree saps, honeydew, mineral salts from mud puddles, mammal droppings and corpses, and only occasionally visits flowers for nectar. The adult emerges in early July and is on the wing until late August (Heslop, Hyde & Stockley, 1964). The butterfly is sexually dimorphic both in morphology and behaviour; males converging on focal point trees often located in the highest part of a wood, and females after copulation disperse over the woodland to locate suitable foodplants for oviposition (Willmott, 1994). Eggs are laid on goat willow (*Salix caprea*) and common willow (*Salix cinerea*). The insect overwinters usually as a 3rd instar larva.

History in Norfolk

There have been relatively few records of this species in Norfolk where its distribution was highly fragmented. This possibly reflects the paucity of large deciduous woodland in this area since pre-Norman times. The butterfly was mainly confined to the ancient woodland sites of central Norfolk, with a few isolated records from the north and east of the county. Barrett (1874) lists the following, localities for the species: Foulsham (2 km from Foxley and Hindolveston), Dersingham, Foxley Wood, and (formerly) from Whitlingham. Durrant (pers. comm.) stated that the species was known from West Bradenham Hall Great Wood (near Dereham) in the 1930's by Mr. Bagnall-Oakley. In addition, Ellis (1984) states that there were recent reports from two other unspecified

localities in Norfolk, one of which was probably Swanton Novers Woods. Ellis was aware that this site, where it had previously been reported to be present, had been searched by local naturalists. The species also probably occurred during the past in other ancient woodlands such as Hindolveston Wood and Hockering Wood.

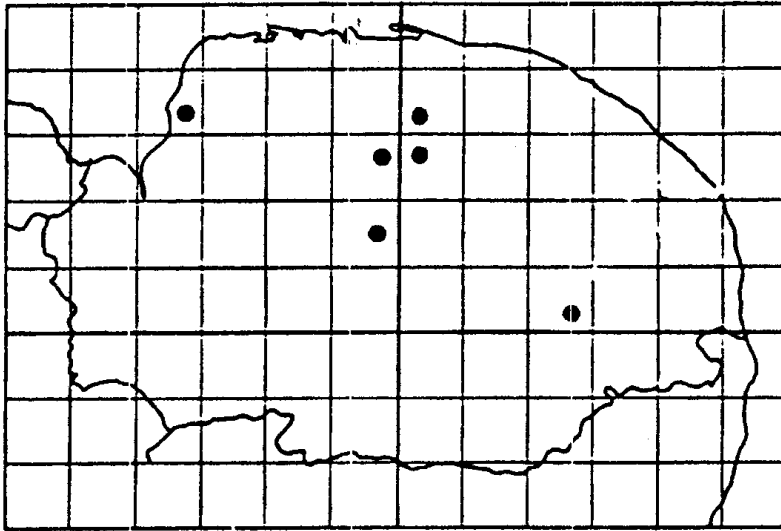


Figure 1. Recorded distribution of *Apatura iris* in Norfolk

Surprisingly perhaps, there are few records of this species from the Norfolk Broads, an area that would seem to offer a favourable environment with its abundance of oaks and sallows. Mason (1973) stated that it was known from there together with the White Admiral (*Ladoga camilla*) but did not give any specific records. Barrett's 19th Century, record from Whitlingham south of Norwich is the nearest record, albeit an isolated one. However, it is possible that larval survivorship may be limited there by the widespread condition in the foodplant known as chlorosis, which, it is suggested, may render the foodplant unpalatable to the larvae. Chlorosis occurs when roots are located in waterlogged anoxic conditions leading to the inhibition of uptake of the minerals magnesium and iron and can be recognised by the characteristic yellow colour of leaves.

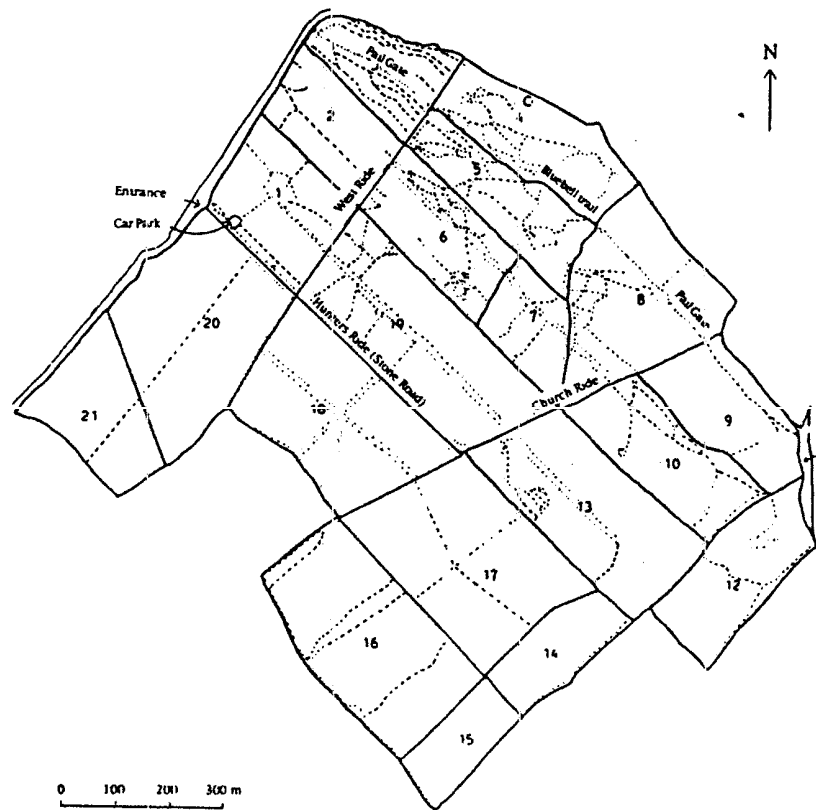
History in Foxley Wood

The first record for Foxley Wood was given by Barrett (1874) who stated that it was the primary stronghold for the species in the county. Frank Norgate (unpubl.) made extensive notes in his diary during 1876 from his visits to the Wood and the butterfly was evidently common at that time with up to ten individuals cited as being seen on a single morning.

K.C.Durrant (pers. comm.), who has regularly visited the wood since the early 1920's stated that the species was common in the wood until 1938 when the master oak was felled. This was located to the north of the wood near to the summit in what is now compartment 8 (see fig.2). The tree was described by Durrant as being exceptionally tall at around 80 ft and was emergent from the surrounding forest. It had an aged, spindly appearance with no lower branches below 30 ft. The remaining upper branches were short without spreading outwards giving the tree a very tall, thin profile. The tree could easily be seen emerging from the canopy from the Themelthorpe-Bawdeswell road north of the wood. The bole at waist height was 1 metre in diameter. The population was said to have diminished after the tree was felled and no new assembly point for the male imagines was found. In 1946 the species was seen again but in lesser numbers than in pre-1938 seasons.

Mr D.Ruthven (pers. comm.) began visiting the wood in the mid-1940's. In about one of every three visits during the flight period, he saw a male fly up from the gamekeepers gibbet, then located at the junction of West Ride and Hunter's Ride (stone road). Moreover, males could be encountered virtually anywhere in the wood. After the 1950's the species was said to be in its twilight days when decreasingly few were seen. R.J.Hornby (unpubl.) found larvae in the 1960's at the following sites: the ride between compartments 16-17, and within compartments 2,3,5,6 and 17. Hornby said the butterfly '*could be seen flying in any part of the wood around tall oaks, ash and birch trees*'

Figure 2. Map of Foxley Wood: rides and compartments



In the mid 1960's a new master oak had been discovered by D. Ruthven but this was also felled prior to the Forestry Commission intervention which began in 1968. Following the spraying, felling and coniferisation of part of the wood around 1970, few individuals were seen. The last reliable record was that of a singleton by D. Ruthven in 1974.

In 1980 a specimen was reported by the gamekeeper to J. Barkham but its identification was in doubt, possibly being confused with a large individual of the White Admiral (*Ladoga Camilla*) (Barkham, unpubl.).

According to S. Ward (pers. Comm.) in the early 1980's Dr. Ted Ellis made extensive searches for the Purple Emperor in suitable localities, and in particular Foxley Wood, but to no avail. A re-introduction was attempted at Foxley Wood when several imagines were reared from purchased stock. Hand pairing was attempted and released into large flight cages but no gravid females were obtained and the experiment was abandoned.

Relevant References to this text

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 Mason, C.F., 1973. *Broadland*, 79-98. In *Nature in Norfolk* (Norfolk Nat. Trust), Jarrold & Sons, Norwich.