



Butterfly
Conservation

Saving butterflies, moths and their habitats

Hertfordshire and Middlesex Branch

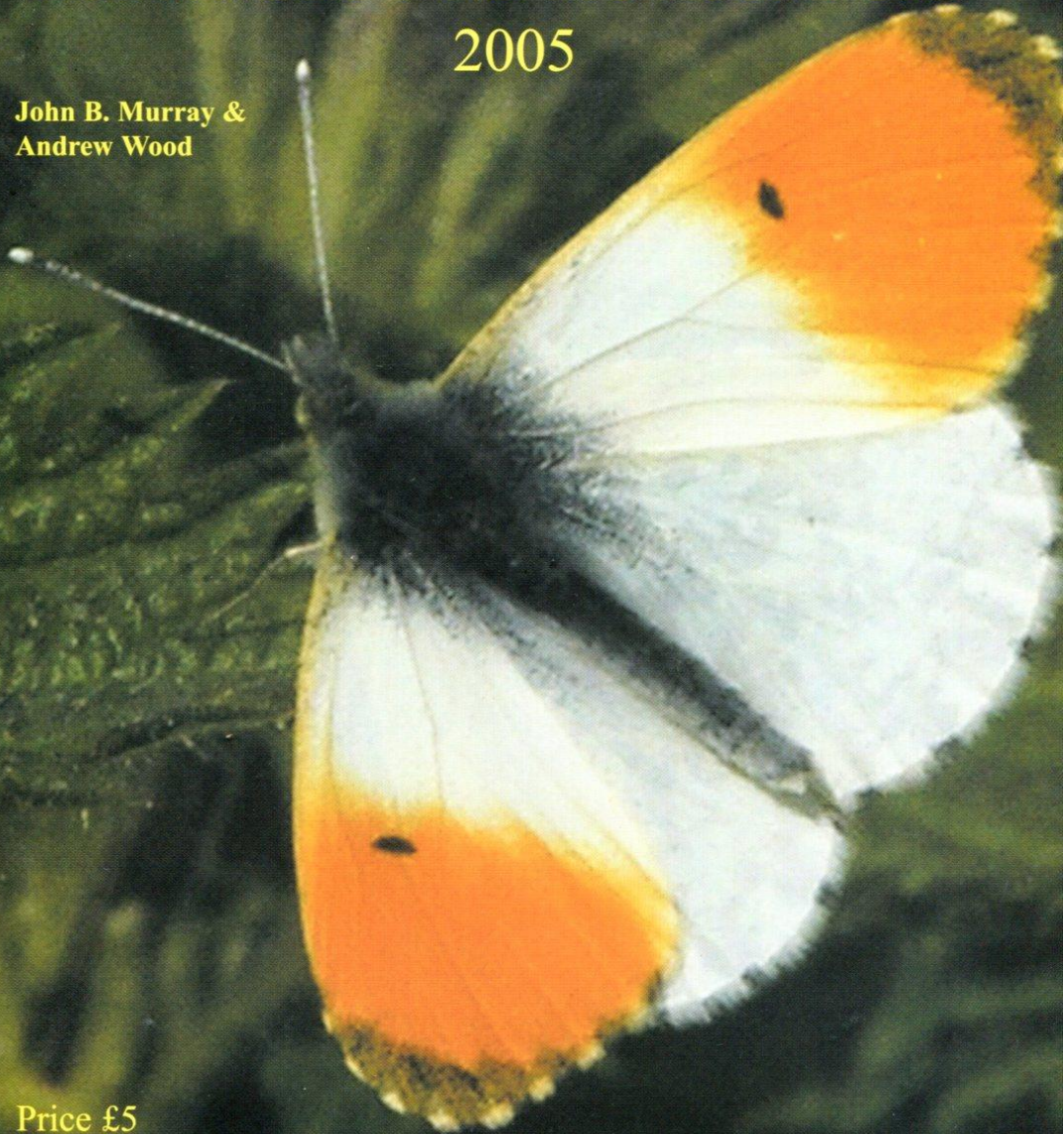
<http://www.hertsmiddx-butterflies.org.uk/>

HERTFORDSHIRE AND MIDDLESEX BUTTERFLY AND MOTH REPORT 2005

**John B. Murray &
Andrew Wood**

Price £5
to non branch members

April 2006



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Cover: Orange Tip Photo by: Andrew Wood

Hertfordshire & Middlesex Butterfly and Moth Report 2005

<http://www.hertsmiddx-butterflies.org.uk>

Introduction

2005 has been the first year of the new five-year butterfly mapping period that will finish at the end of 2009. The decade coordinators have responded well, and we have managed to cover 380 tetrads, or 64% of the total, which is excellent. This compares with only 344 tetrads in 2000, and 307 tetrads in 1995, the first year of our first 5-year survey, so we are definitely off to a flying start this time. Do try and concentrate on the spring period this year, as this is a time that often gets neglected, and we are especially interested in detecting new or unknown locations of the rarer spring species such as Green Hairstreak, Dingy Skipper and Grizzled Skipper. Up-to-date coverage maps, recording forms and other information can be found on the website at <http://www.hertsmiddx-butterflies.org.uk>. The new team for the data entry have again helped greatly by managing to get the huge amount of new records into the computer early, and as a result we have managed to get back on track with this report, which should be on your breakfast table five months earlier than last year.

John Murray

Contributors

The following is a list of those from whom butterfly records relating to 2005 have been received, together with the number of tetrads from which observations were received, the number of records and the number of transect walks carried out. Moth recorders are listed separately in the moth report at the end of this volume.

<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>	<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>
Nigel Agar	8	15		Tony Clancy	1	1	
Brian Anderson	2	5		Peter Clarke	10	35	23
Liz Anderson	1	18	18	Ian Clayton	1	9	
Michael Anderson	1	1		Bob Clift	1	26	26
Sue Anderson	3	7		Alan Cockburn	1	35	
Diane Andrews	24	81		David & Jean Cooling	6	6	
Richard Andrews	1	1		Ashley Cox	1	1	
Lorna Arnold	1	17	17	Paul Coyston	1	2	
Toby Austin	1	2		Robert Cripps	1	1	
Glen Barnes	1	1		Evelyn Crisp	2	21	
W Barnham	1	42		R.E. Cross	1	86	
John Bater	1	19	19	Andy Culshaw	2	32	26
Alan Beale	4	130	130	Brian Dawton	3	3	
Roy Beddard	1	13	13	James Delhanty	1	67	
Michael Berthoud	1	13	13	Dennis Dell	1	1	
David Bevan	1	12	12	Peter Diment	1	1	
Richard Bigg	9	33	22	Derrick Dorken	1	59	
David Booth	1	1		John Eborall	19	33	
Nick Bowles	2	7		Ian Edwards	1	4	
A Brown	1	21		John Edwards	1	1	
D Browne	1	9		Cherry Eggleston	1	2	
Lee Browne	7	14		Graham Elcombe	1	1	
Darrel Bryant	1	1		Henry Ellis	2	2	
J Burnell	1	1		Alison Etherington	1	1	1
Clive Burrows	3	12		Colin Everett	26	33	2
Donald Butter	4	4		Jane Fielding	1	104	
Robert Callf	12	183	17	Jim Fish	2	7	
P Campbell	1	15		Kim Fleming	4	8	
Rita Capodici	1	16		Ricky Flesher	1	1	
Glen Castle	2	2		Derek Foreman	1	1	
Celtic Harmony Staff	1	2		Val Fullforth	4	47	41
Dave Chandler	3	4		Diane Furley	1	17	17
Violet Chandler	1	26	26	Nicholas Furtek	5	21	
Trevor Chapman	16	34	2	Andrew Gaskin	2	2	
Steve Chilton	2	4		Jacqueline George	3	10	
Peter Christian	1	1					

<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>	<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>
Roger Gibbons	4	3		J I Orbell	1	2	
A Goldsmith	1	10		John Overington	1	1	
David Gompertz	1	4		Andrew Palmer	2	4	
Terry Goody	15	37		Simon Papps	1	1	
Liz Goodyear	51	94		M. Parker	1	12	
Rachel Goodyear	1	1		Nigel Parsons	4	10	
Peter Gould	1	1	1	Steve Pash	2	3	
John Grayley	1	18	18	G. Pearman-Jenkins	1	12	12
A Green	2	13		Michael Pearson	1	49	49
K.Greenway	1	3	3	Malcolm Penn	1	1	
Kathy Hall	1	21		M & Christine Penn	1	1	
Ian Hardy	8	8		Steven Penn	3	3	
Richard Harrington	1	2		Jez Perkins	1	2	
Harrow Nat His Soc	2	2		Ann Piper	17	49	
Jean Hayes	2	24		Stuart Pittman	4	14	
Michael Healy	22	132	5	Brian Price	1	1	
Martin Hicks	1	26	26	Roger Prue	1	25	25
Audrey Hind	3	11		Geoff Purbrick	1	1	
John Hollingdale	5	36		Ken Purdey	2	2	
Neale Holmes-Smith	2	44	44	Rupert Pyrah	9	31	
Andy Holtham	1	24	24	Simon Rasch	2	3	
Rob Hopkins	1	1	1	Judy Raymond	1	26	22
Horsenden Rangers	1	1	1	Alan Reynolds	3	3	
David Howdon	3	53	51	Phil & Carrin Rhodes	1	1	
Malcolm Hull	11	53	21	Andrew Riche	1	1	
Dave Hutley	1	1		Ann Rix	1	25	25
John Hutson	5	5		Emma Robbins	1	5	5
David James	1	1		M.H. Rogers	1	7	
Paul Jeffrey	1	23	23	Donald Rooum	1	26	26
Brian Jessop	16	114	40	Joy Rowley	2	3	
Linda Jonas	1	12		Mike Rubin	1	1	
Vivienne Kendall	1	17		Angela Sampford	1	1	
Steve Kiln	1	9		Nick Sampford	10	17	
Jon King	54	112		Tom Sampford	2	2	
Ken King	1	24	22	Simon Satchell	1	1	
Michael Kings	1	1		Andrew Self	1	8	8
John Kreeger	1	1		Martin Shepherd	3	5	
Steve Lane	7	17		S Showell	1	22	
Sue Lawrence	1	9		Ian Small	1	1	
Mr Lawson	1	1		Charles Smith	1	8	8
Sheila Lee	1	13		K & S Standbridge	2	4	
Julie Leonhardt	1	13		Sandra Standbridge	3	4	
Phil Lumley	1	25	25	Robert Stroud	1	1	
Terry Lyle	1	18	18	Colin Sturges	2	5	
A Maguire	1	1	1	Mike Taylor	1	26	26
Guy Manners	2	2		Jim Terry	2	2	
Tina Maryan	1	12		Nicola Thompson	1	21	
Simon Mercer	1	18	18	Phil Townsend	1	1	
Andrew Middleton	58	198		Susic Turner	2	2	
Dick Middleton	2	2		Mick Velasco	1	1	
Gerallt Morgan	1	1		Gavin Vicary	1	26	25
John Moss	12	107	44	David Waterhouse	1	7	
June Crew	1	1		Pat Watt	1	24	24
Keir Mottram	13	39	13	Robert Watts	1	1	
Tony Moverley	3	24		Giles Whalley	1	1	
John Murray	30	50	19	Robin White	1	1	
Ken Murray	1	1		Leslie Williams	2	15	15
Roger Newbold	3	3		Jan Wilson	1	1	1
Malcolm Newland	2	61		Ian Woiod	1	1	
Margaret Noakes	1	21	21	Andrew Wood	22	179	49

Name	Tetrads	Records	Transects	Name	Tetrads	Records	Transects
Jane Wood	2	6		Stephen Wood	1	1	
Jenny Wood	1	1		Phil Woodward	1	2	
Kate Wood	1	2		Jane Worroll	1	19	19

Archiving: all original observations received for the project will be archived at the Museum Resource Centre, Bury Mead Road, Hitchin, Herts.

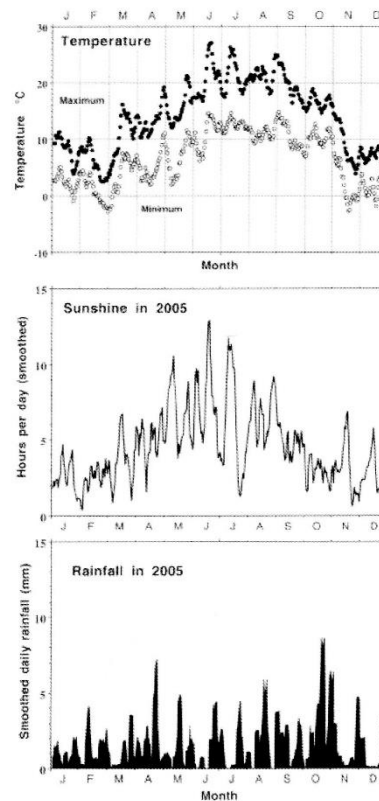
2005 Overview

Altogether an average year, with a more or less even split between significant increases, decreases and unchanged. **Peacock** and **Red Admiral** ventured out in a mild January, and a sunny spell in mid-March brought out dozens of **Brimstone** and **Comma**, as well as **Small Tortoiseshell** and **Small White**, both of which had an indifferent year, and even a couple of **Holly Blue**. **Large White** and **Green-veined White** both had reasonably strong spring broods, though **Orange Tip** showed a slight drop compared to 2004. **Speckled Wood** had a long and reasonably strong year. There was good news for **Green Hairstreak**, **Dingy Skipper** and **Grizzled Skipper**, all of which showed an increase in numbers, though they are still at very low levels. **Brown Argus** and **Common Blue** both did better this year, though **Small Heath** remained about the same and **Small Copper** unfortunately declined again. Migrants were a disaster: there were pathetically few **Painted Lady** arriving in May, and only eight sightings of **Clouded Yellow** all year. **Large Skipper** showed a very slight improvement, **Small Skipper & Essex Skipper** were about the same as last year, but **Meadow Brown** did very well. **White-letter Hairstreak**, **Ringlet** and **Gatekeeper** also had a good year, but **Purple Hairstreak** and **Marbled White** showed little change. **White Admiral** and **Purple Emperor** both emerged early, the latter the earliest ever, and expanded their range. **Chalkhill Blue** had another good season, but both **Dark Green Fritillary** and **Silver-washed Fritillary** were disappointing after last year's encouraging reappearances, though Silver-washed does seem to have bred at some sites. After its last colony disappeared in 2003, **Small Blue** put in a strange and inexplicable appearance in St Albans in August, and **Wall** turned up sporadically at three widespread locations. The warm October spell allowed Meadow Browns to linger later than ever before, and sunny spells in November and December brought out a lot of late Red Admirals and other Vanessids.

Weather in 2005

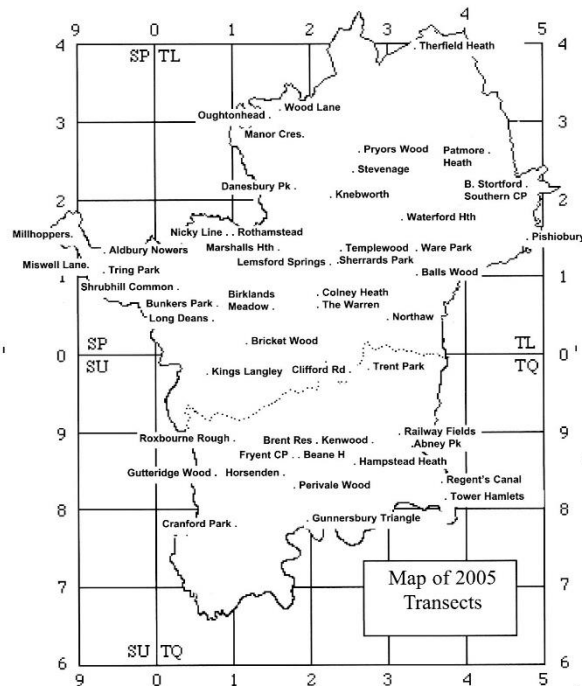
Graphs of temperature and rainfall are shown here, recorded in John Murray's garden at Marshalls Heath. These are supplemented by records from Rothamsted Experimental Station during absences, and the sunshine graph is from Rothamsted data alone. All graphs are smoothed as 5-day moving means.

Overall, 2005 had average temperatures, a cloudy second half of the summer and below average rainfall, but without any prolonged dry spells. January was sunny and mild, February cold, but with temperatures rising dramatically to mid-March, which was sunny and warm. The transect season in April began cool with variable amounts of sunshine, but after a wet spell, temperatures again shot up briefly at the end of the month, only to fall again in a distinctly cold May. In the middle of June, we had our sunniest and hottest period of the year, but at the end of the month, a prolonged cloudy spell sent temperatures plummeting until the end of the first week of July. Mid-July was the main hot sunny period in which the summer species took wing, but was followed by another miserably cloudy period in which sunshine dropped to below winter levels. August was wet, and temperatures were below average until the end of the month, when there was a short sunny warm spell, but temperatures fell steadily throughout September. October and early November were remarkably warm, but this was also the wettest period of the year. Both mid-November and mid-December produced remarkably sunny, dry periods, but with average temperatures.



Transect results

Transects are the main method of measuring how butterfly populations change with time. The technique is simple, involving walking the same set route every week in good weather throughout the summer months, and noting down the numbers of each species of butterfly seen within about 5 metres. The method is described later on under "How to record butterflies", but for full details, write to John Murray for a transect package.



Name	Grid reference	Organiser	Species	Duration	Completeness 2005
1. Abney Park	TQ336868	Karen Byers	13	56 mins	13 weeks missing
2. Aldbury Nowers	SP952159	Martin Hicks	27	73 mins	Complete
3. Balls Wood	TL344106	Andrew Wood	19	35 mins	1 week missing
4. Beane Hill	TQ199873	Leslie Williams	16		3 weeks missing
5. Birklands Meadow	TL168053	Liz Anderson	18	25 mins	Complete
6. Bishops Stortford	TL473193	Bob Clift	18	48 mins	Complete
7. Brent Reservoir	TQ213873	Andrew Self	19		5 weeks missing
8. Bricket Wood	TL131009	Malcolm Hull	24	99 mins	3 weeks missing
9. Bunkers Park	TL079058	Michael Pearson	22	76 mins	2 weeks missing
10. Clifford Road	TQ260967	Diana Furley	9	39 mins	6 weeks missing
11. Colney Heath	TL203057	John Moss	19	42 mins	2 weeks missing
12. Cranford Park	TQ 101779	John Grayley	20	67 mins	1 week missing
13. Danesbury Park	TL230170	Pat Watt	20	36 mins	2 weeks missing
14. Fryent Country Park	TQ195876	Leslie Williams	16	88 mins	4 weeks missing
15. Gunnersbury Triangle	TQ201786	Kathy Hall	13	38 mins	3 weeks missing
16. Gutteridge Wood	TQ091843	Ann Rix	15		1 week missing
17. Hampstead Heath	TQ264870	Adrian Brooker	14	41 mins	10 weeks missing
18. Horsenden Hill East	TQ163844	David Howdon	19	46 mins	Complete
19. Horsenden Hill West	TQ163844	David Howdon	19	41 mins	Complete
20. Kenwood	TQ271874	Mike Taylor	16	53 mins	Complete
21. Kings Langley	TL068039	Violet Chandler	21		Complete
22. Knebworth Park	TL221208	Ken King	20		4 weeks missing
23. Lemsford Springs	TL222122	Neale Holmes-Smith	17	26 mins	2 weeks missing
24. Long Deans	TL073048	Michael Pearson	19	42 mins	1 week missing
25. Manor Crescent	TL196285	Val Fullforth	12		5 weeks missing
26. Marshalls Heath	TL161149	John Murray	20	37 mins	Complete
27. Millhoppers	SP900149	Margaret Noakes	21	45 mins	5 weeks missing
28. Miswell Lane	SP914117	Brian Jessop	18	19 mins	7 weeks missing
29. Nicky Line	TL116140	Michael Healy	14	45 mins	Complete
30. Northaw Gt. Wood	TL280040	Jane Worroll	13		6 weeks missing
31. Oughtonhead Tr 13	TL169303	Phil Lumley	20		1 week missing

Name	Grid reference	Organiser	Species	Duration	Completeness 2005
32. Patmore Heath	TL443257	Gavin Vicary	22	29 mins	1 week missing
33. Perivale Wood	TQ159837	David Howdon	18	34 mins	Complete
34. Pishiobury Park	TL480135	Judy Raymond	18	75 mins	4 weeks missing
35. Pryor's Wood	TL265265	Andy Holtham	13	24 mins	2 weeks missing
36. Railway Fields	TQ317881	David Bevan	16		Complete
37. Regents Canal	TQ363824	Donald Rooum	5		Complete
38. Rothamsted Farm	TL121137	John Bater	16	42 mins	6 weeks missing
39. Roxbourne Rough	TQ120875	Paul Jeffery	20	59 mins	3 weeks missing
40. Sherrards Park	TL230135	G. Pearman-Jenkins	11	39 mins	12 weeks missing
41. Shrubhill Common	TL036072	Roger Prue	20	85 mins	1 week missing
42. Stevenage	TL246234	Peter Clarke	20	78 mins	3 weeks missing
43. Templewood Vale	TL235144	Neale Holmes-Smith	16	26 mins	4 weeks missing
44. The Warren	TL204053	John Moss	19	34 mins	4 weeks missing
45. Therfield Heath	TL348401	Alan Beale	13	8 mins	Complete
46. Therfield Heath 2	TL333395	Alan Beale	18	12 mins	Complete
47. Therfield Heath 3	TL333396	Alan Beale	8	6 mins	Complete
48. Therfield Heath 4	TL353404	Alan Beale	22	13 mins	Complete
49. Therfield Heath 5	TL349398	Alan Beale	23	24 mins	Complete
50. Tower Hamlets	TQ365 823	Terry Lyle	19	82 mins	4 weeks missing
51. Trent Park	TQ285965	Robert Callf	22	58 mins	9 weeks missing
52. Tring Park	SP930105	Brian Jessop	27	88 mins	5 weeks missing
53. Ware Park	TL347143	Andrew Wood	19	36 mins	1 week missing
54. Waterford North	TL317154	Richard Bigg	22		4 weeks missing
55. Wood Lane Pirton	TL140310	Val Fullforth	23		4 weeks missing

Species is the number of species recorded on the transect in 2005, *Duration* is the average time the transect took to walk, and *Completeness* gives the number of weeks out of the 26 between April 1st and September 29th when the transect could not be walked.

Transect Roundup

Abney Park Cemetery TQ 336 868

First walked: 1999 **2005 recorder:** Karen Byers

Good to hear that this transect, not heard of since 2002, has been walked again this year, though ten weeks were missed. 13 species were seen, including Purple Hairstreak and Common Blue.

Aldbury Nowers SP 952 129

First walked: 1992 **2005 recorder:** Martin Hicks

"Aldbury Nowers continues to be one of the county's premier butterfly sites with another excellent year in respect of both populations and species richness. Another determined effort was made to record well within the optimal flying periods and this resulted in over 3,500 sightings, 17% more than 2004, of 29 species, one more than last year. There were small but consistent numbers of Grizzled Skipper and slightly more Green Hairstreak than previous years, and although Dingy Skipper was not recorded on the transect it was seen on the site. The key rarities are therefore still present, along with other uncommon species such as Dark Green Fritillary, Chalkhill Blue and White-letter Hairstreak. Good numbers of Essex, Small and Large Skippers were present and large numbers of Brimstone throughout almost the whole survey period. Small Copper numbers were down compared to 2004, along with Marbled White and Gatekeeper. Brown Argus, Common Blue and Small Heath numbers increased, as did Meadow Brown, reaching over 1,700 sightings, whilst Ringlet numbers were stable. It is hoped to continue some winter grazing, and management during winter 2005/6 has continued selected scrub and bramble removal." (Martin Hicks). Brimstone, Green Hairstreak, Brown Argus and Dark Green Fritillary all had higher totals here than at any other transect.

Balls Wood TL 344 106

First walked: 1994 **2005 recorders:** Andrew Wood & Rob Hopkins

"Not such drastic change on the transect in 2005. There was considerable scalloping of the ride at the start of section 4 so that for about half its length it is now about 20 metres wide. Paths have been mown, making access very easy for

transect walking; unfortunately for trail bikes as well. Overall numbers are down... to near 2002 levels. Spring numbers were very good, some species having ten-year highs, but from midsummer onwards numbers were lower and trailed off quickly towards the autumn. Most browns did well, but the Speckled Wood declined. Thanks to Rob Hopkins for the work HMWT undertook to make the wood a much easier and pleasanter place to walk around." Andrew Wood (Wood 2005a). White Admiral, Speckled Wood and Ringlet all had higher totals here than at any other transect.

Beane Hill TQ 199 873

First walked: 1988 **2005 recorders:** Leslie Williams, Michael Berthoud, Simon Mercer

"It is probable that the butterfly fauna has gradually changed over the past twenty years as woodland has been established on the fields of rough grassland. A network of paths through the woodland provides variety for wildlife and people. Barn Hill Conservation Group volunteers have also been active in growing a maze planted with willow and Alder Buckthorn. Brimstone numbers on the transect in 2005 were the highest yet recorded. Generally however 2005 was a year of low numbers for many species; and the single Small Tortoiseshell recorded on the transect reversed the slight recovery of recent years." (Leslie Williams)

Birklands Meadow TL 168 053

First walked: 1996 **2005 recorders:** Liz Anderson & Charles Smith

"I had a baby in May so Charles Smith did weeks 6 to 13 for me" writes Liz Anderson. High totals of Large Skipper were seen here, and the small population of Marbled White survives, four being seen this year.

Bishops Stortford Southern Country Park TL 473 193

First walked: 2004 **2005 recorder:** Bob Clift

"This is my 2nd year of recording and it was certainly different. Where were all the Painted Ladies, Peacocks & Red Admirals? The Common Blues and Small & Essex Skippers were also less abundant, but the Gatekeepers certainly tried to make up for their absence, and I even had my very first sighting of a Marbled White." (Bob Clift)

Brent Reservoir TQ 213 873

First walked: 2000 **2005 recorders:** Andrew Self, Roy Beddard & Ian Ellis

"It was a below average year at Brent Reservoir with lower numbers for just about every species. This was most likely due to cooler conditions for a lot of the transects, and indeed, flying times were also shorter. There were few migrants all year with no Painted Ladies, and Red Admirals were only seen on five days. The only positive was Gatekeeper which yet again set a new record with 246 on the July 16th transect, this compares to our first transect in 2000 when the peak count was 75." (Andrew Self)

Bricket Wood TL 131 009

First walked: 1997 **2005 recorders:** Malcolm Hull & Colin Everett

"Another good year with butterfly numbers continuing to rise to another record total. Strong showings from White Admiral, which continues its long term comeback. Peacock, Comma, Large & Essex Skippers, Gatekeeper, Meadow Brown, Ringlet and Marbled White all recorded their highest totals in the nine years the transect has been running. White-letter Hairstreak and Clouded Yellow were both seen, for only the second time during this period, although the former is a confirmed resident in the wood. Silver-washed Fritillary was seen for the second year running. Although only a single adult was recorded on the transect, there were other sightings in the wood and signs it is breeding there. Small Copper, Brown Argus and Painted Lady were absent this year. Brown Hairstreak remains elusive. Other butterflies with poor years included Small White, Small Tortoiseshell and Holly Blue (particularly second brood)." (Malcolm Hull). Totals of Large Skipper and Purple Hairstreak were higher here than at any other transect.

Bunkers Park TL 079 058

First walked: 1999 **2005 recorder:** Michael Pearson

"The final index total of 2734, from 22 species, is the highest year's total for the transect. Record high numbers were recorded for Large Skipper, Comma, Speckled Wood, Gatekeeper & Meadow Brown. Marbled White, which has for five years shown a year-on-year increase, experienced its first annual drop in numbers, albeit by only two sightings. Common Blue, which in 2004 suffered a collapse in numbers, recovered strongly, particularly during the 2nd brood, but was still well below the record year of 2001." (Michael Pearson) This year, Bunkers Park has regained the title of highest Common Blue numbers of any transect, after losing it last year to Bishops Stortford at the other end of the county.

Clifford Road Allotments TQ 260 967

First walked: 1995 **2005 recorders:** Diana Furley & Lorna Arnold

As in 2004 Gatekeeper was by far the commonest species; not surprisingly for an allotment site the whites are the only other group of butterflies recorded in significant numbers.

Colney Heath Common TL 203 057

First walked: 1992 **2005 recorder:** John Moss

"Much scrub was removed from the Heath last winter, followed by a rolling programme of mowing, with no obvious raking until September. Sheltered stretches of bramble where butterflies used to nectar on the transect route have gone. Meadow Browns were well up, but most other butterflies except Common Blue were well down, including skippers and whites. The cold spring and the increased management may have combined with the dry summer, which inhibited ground flora regeneration, to produce this decline. Certainly butterflies almost disappeared after the August mowing." (John Moss).

Cranford Park TQ 101 779

First walked: 1997 **2005 recorders:** John C. Grayley, Emma Robbins & Alison Etherington

A substantial increase in overall numbers here, largely accounted for by a more than doubling of Meadow Brown numbers from 254 to 591. However Small and Essex Skippers fared less well with big falls compared to 2004. More importantly the Small Copper bucked the general trend here with 2005 showing a 350% increase.

Danesbury Park TL 230 170

First walked: 1996 **2005 recorder:** Pat Watt

"Numbers were low, but better than last year. The two most abundant species are Gatekeepers and Meadow Browns, and their numbers had increased. In June I saw some Small Heath butterflies; the first time since 2000. I suspect it was the summer weather that affected the numbers as the management had remained the same" (Watt 2005). After ten years, this is probably the last year that Pat will be walking this transect, as she is hoping to move to Cambridgeshire.

Fryent Country Park TQ 195 876

First walked: 1986 **2005 recorders:** Leslie Williams, Michael Berthoud & Simon Mercer

"2005 was one of the less exciting years, and in some weeks few butterflies were seen on the transect. The hay meadows were not harvested for hay in 2005 but were flail cut later in the year. Habitat creation and management by Barn Hill Conservation Group continued on the Sunday morning projects, with particular emphasis on hedgerow restoration and diversity, the planting of old varieties of fruit trees and of Alder Buckthorn." (Leslie Williams)

Gunnersbury Triangle TQ 201 786

First walked: 1999 **2005 recorders:** Nicola Thompson, Kathy Hall & A. Brown

"Of the 20 species noted since 2000, 14 were seen this year, a total of 442 adult butterflies. Gatekeepers and Speckled Woods were the most commonly sighted species. We counted only one Common Blue and 2 Brimstones. There were no Small Heaths and the solitary Ringlet seen last year was absent" (Kathy Hall)

Gutteridge Wood TQ 091 843

First walked: 1990 **2005 recorder:** Ann Rix

In many ways 2005 is a copy of 2004 with very little change in overall numbers or individual species apart from more Brimstones and a complete absence of Holly Blues for 2005.

Hampstead Heath TQ 264 870

First walked: 1978 **2005 recorders:** Richard Payne, Adrian Brooker

There were unfortunately 12 weeks missing for 2005, so abundances cannot be listed for most species this year. This is a shame, as this transect is an important site in the original Butterfly Monitoring Scheme (Pollard & Yates 1993) and is also by far the earliest and longest-running in our branch area and provides the only information on abundances here prior to 1986.

Highdown TL 140 310

See Wood Lane Pirton (below).

Horsenden Hill East & Horsenden Hill West TQ 163 844

First walked: 2003 **2005 recorders:** David Howden & Andy Culshaw

"The Horsenden population of White-letter Hairstreaks seems to be doing well although evidence from the transects suggests it has moved towards the west side of the site. Numbers of vanessids (except Peacock) were low - in particular only one very late Painted Lady was recorded in 2005 (not on transect). Holly Blue had a good year overall, April being an especially good month. The small colony of Marbled White did not show up on transects and I'm only aware of one record of the species at all from 2005 on these sites." (David Howden). Horsenden Hill West had higher numbers of White-letter Hairstreak than any other transect in the entire branch area.

Kenwood TQ 271 874

First walked: 2005 **2005 recorder:** Mike Taylor

A new transect in the grounds of Kenwood House, comprising woodland edge and old meadow and pasture. The most interesting records are a strong population of Purple Hairstreak, 25 being seen, and also 8 Small Coppers. Healthy numbers of grassland species, especially Large Skipper, Meadow Brown and Gatekeeper are also present.

Kings Langley TL 068 039

First walked: 1997 **2005 recorder:** Violet Chandler

Dave Chandler writes: "*Violet Chandler, 82 years of age, gets an awful lot of pleasure out of watching butterflies... the highlight of the year was on 16th July when I was gardening and spotted a White-letter Hairstreak on a rose bush. I haven't seen White-letter Hairstreak in the garden and its surroundings since 1968, when full-grown English Elms grew in the hedgerow nearby.*"

Knebworth Park TL 221 208

First walked: 1996 **2005 recorder:** Ken B. King

"*Generally a good year. The timing was different but numbers were up and for the first time the count exceeded 1000 on a single transect walk. One rewarding feature of the year was a return of a few Brown Argus and also Small Heath. This was in addition to a continuing increase of Marbled White. Numbers of White-letter Hairstreak continue to rise.*" (Ken King). The count noted by Ken was of 1197 butterflies counted on 16th July, when the walk took him 85 minutes. In my experience this is truly exceptional, and more than half our transects last year did not even attain this total in the entire year! Can anyone else beat it in any previous year? The year's total was 5840 butterflies, amongst which no less than five species totals are higher than any other transect: Small Skipper, Essex Skipper, Orange Tip, Painted Lady and Meadow Brown.

Lemsford Springs TL 223 121

First walked: 1998 **2005 recorder:** Neale Holmes-Smith

"*The highest number of butterflies recorded since the transect started in 1999. The main increase seems to be in the "Red" species and Speckled Wood & Gatekeeper.*" (Neale Holmes-Smith)

Long Deans TL 073 048

First walked: 2003 **2005 recorder:** Michael Pearson

"*Overall, 2005 was a better year than 2004, but not as good as 2003. Brown Argus and Ringlet were recorded for the first time, Common Blue put in a late appearance, being seen first in week 10, five weeks later than in 2004, however it was present in good numbers during the season, particularly during August & September. Other species which had a good year included Peacock, Gatekeeper and Meadow Brown.*" (Michael Pearson). The Peacock count at this transect was higher than any other transect this year.

Manor Crescent TL 196 285

First walked: 2001 **2005 recorder:** Val Fullforth

"*Holly Blues were flying most days; higher numbers of whites, Brimstones, Comma and Peacock, but no Painted Ladies seen this year anywhere. No Speckled Wood (a possible sighting one day) or Marbled White in 2005.*" (Val Fullforth).

Marshalls Heath TL 161 149

First walked: 1989 **2005 recorders:** John Murray, Trevor Chapman & Michael Healy

Whichever way one looks at it, this site is not doing well. From annual totals of around 2000 to 3000 during the 1990s, we are now down to 1289. The big drop came in 2002 after much of the grassland had disappeared under scrub and fireweed, but steady scrub clearance and felling of encroaching trees since then have greatly improved the habitat, and the heath has now returned to a similar structural state to the late 1980s. But the butterflies seem reluctant to return. Skippers have halved this year, as have all the whites except Large, though the Browns have shown not too much change. Worst of all, both Brown Argus and Small Copper have gone, after fair numbers last year. Perversely in view of the tree felling, White-letter Hairstreak have chosen this year to return. One can only keep faith and persevere with the right things as far as management goes, whilst secretly cherishing the hope that we really do know what we are talking about, and that the butterflies will eventually agree.

Millhoppers SP 900 149

First walked: 1998 **2005 recorder:** Margaret Noakes

"*2005 proved to be a year significant in the increase of Common Blues, but sadly not of Small Coppers. We had an update of our original botanical survey and have been able to identify the abundance of our grass species, which are clearly reflected in the large numbers of our grassland butterflies. This has also enabled us to plan our grazing regime, now in its third year (although this must always depend on the goodwill of the cattle farmer).*" (Margaret Noakes)

Miswell Lane SP 914 117

First walked: 1999 **2005 recorder:** Brian Jessop

"No comparison can be made because so many weeks were missed in 2004. Brown Argus, Common Blue and Painted Lady were all recorded. Small Tortoiseshell were way down but Peacocks and Commas were up. The Browns did quite well; skippers were down slightly and the whites all up." (Brian Jessop)

Nicky Line TL 116 141

First walked: 1994 **2005 recorder:** Michael Healy

"A reasonable year, no Common Blues or Skippers (two probable Essex Skippers in August just off the transect) but quite good for Holly Blue and Comma. One Marbled White very welcome. This is positively my last return from this transect – neither my eyes nor my legs will be up to it by next season" (Michael Healy). If you live in Harpenden and can take over this long-lived transect, please let John Murray or Michael Healy know.

Northaw Great Wood TL 280 040

First walked: 1999 **2005 recorder:** Jane Worroll

"Jane has this year initiated a new transect route (Northaw Great Wood New extended transect) to monitor areas of hornbeam coppice as the vegetation changes. Surveying by Liz Goodyear and Andrew Middleton has highlighted the importance of the wood for the Purple Emperor. This factor does not show up in the transect results – key trees are not on the transect route! Ongoing work to restore glades and clearings in the wood will try to enhance the habitat for these butterflies by coppicing and by establishing new willow around the margins of clearings and along rides" (Christine James)

Oughtonhead Transect 13 TL 169 303

First walked: 2005 **2005 recorder:** Phil Lumley

This is a new transect, not the same route as the old one, so no year to year comparisons can be made.

Patmore Heath TL 443 257

First walked: 1996 **2005 recorder:** Gavin Vicary

"Undoubted highlight the return of the Small Heath – twelve seen after an absence of three years. Hopefully benefitting from the reintroduction of grazing." (Gavin Vicary)

Perivale Wood TQ 159 837

First walked: 2005 **2005 recorder:** David Howdon

"As this is a new transect for 2005 it is hard to make comparative statements, however the same general trends as for the neighbouring Horsenden Hill apply. Perivale Wood's population of White-letter Hairstreaks remains (but failed to make a showing on transects) a much smaller population than that on Horsenden Hill." (David Howdon)

Pishiobury Park TL 480 135

First walked: 2003 **2005 recorder:** Judy Raymond

Gatekeeper numbers reached a total of 854 for the year, a higher total than at any other transect in the entire branch area.

Pryor's Wood TL 265 265

First walked: 2000 **2005 recorder:** Andy Holtham

"Last year the grassland adjoining sections 2 & 3 was completely bulldozed over by developers. This year vegetation has returned, contrasting with the start of the 2004 season when there was just bare earth. Otherwise there have been no significant developments to the wood that I am aware of. Overall, butterfly numbers are similar to 2004, which were well down on 2003. Speckled Wood numbers were down again – the fewest I have ever recorded – which is disappointing. On a positive note, Ringlet numbers increased significantly after a sharp decline last year, returning to 2002/2003 levels." (Andy Holtham)

Railway Fields TQ 317 881

First walked: 1997 **2005 recorders:** David Bevan, Keir Mottram & Jan Wilson

"With Keir Mottram's great help, we again had a "full house". A good year, our highest total number of butterflies (625) since I started the transect in 1997. This was largely due to yet another increase in Gatekeeper numbers – from 198 to 261. Another highlight of the year was the welcome arrival of the Ringlet on July 12th – a new butterfly for Railway Fields – and only the second recent Haringay record. They may well be overlooked elsewhere in the borough. More welcome news was the sighting of a Brimstone ovipositing on alder buckthorn for the second consecutive year." (David Bevan)

Regents Canal TQ 356 830

First walked: 2001 *2005 recorder:* Donald Room

This east London transect is again dominated by Small White, almost to the exclusion of any other species.

Rothamsted Farm TL 121 137

First walked: 1991 *2005 recorders:* John Bater & Phil Gould

A fall overall compared to 2004, mainly accounted for by a drop in Small White numbers but it is good to see a 50% increase in Small Tortoiseshell on this arable farm transect.

Roxbourne Rough TQ 120 875

First walked: 1999 *2005 recorder:* Paul Jeffery

"Very short season, truncated at both ends. Terrible for Skippers but I did see a couple of very late Large Skippers. Commas are fairly strong here, but I only saw one of the hibernating brood, but plenty in the summer. This is likely to be my last year of doing the transect as I am likely to move away from London in 2006". (Paul Jeffery)

Sherrards Park Woods (Reddings) TL 230 139

First walked: 1999 *2005 recorder:* Gwyneth Pearman-Jenkins

Only one transect from this complex was received this year: from Reddings, and this unfortunately had 12 weeks missing. There appear to be similar totals and species as last year. Gwyneth remarks on 8th May: *"a marked lowering of light on the transect due to trees being nearly in full leaf"* which is presumably the case for most of the season, explaining the low numbers recorded.

Shrubhill Common TL 036 072

First walked: 2001 *2005 recorder:* Roger N. Prue

"In the last 12 months the mowing of the grassland has continued. Not recording Brown Argus was a particular disappointment, but the weather wasn't brilliant during their flight period. Large Skipper, Ringlet, Marbled White and Small/Essex Skipper numbers were reduced considerably in 2004 as a result of the mowing regime. In 2005 numbers were similar except for the Ringlet, which has again decreased significantly. On the other hand, Meadow Browns increased from 254 to 722. Hopefully, next year Ringlet numbers will recover a little." (Roger Prue). The Small Tortoiseshell total for the year was higher here than at any other transect.

Stevenage TL 246 234

First walked: 1993 *2005 recorder:* Peter J. Clarke

This is a transect with generally high totals but 2005 saw a 25% drop compared to 2004. Particularly noticeable were drops in common species such as Meadow Brown, Speckled Wood, Small White and Essex Skipper. However Purple Hairstreak was recorded here.

Templewood Vale TL 235 143

First walked: 1998 *2005 recorder:* Neale Holmes-Smith

"Highest number of butterflies since the transect started. A doubling of numbers for both Gatekeeper and Meadow Brown is gratifying and may be due in part to the extended margins of unmown grass" (Neale Holmes-Smith).

Therfield Heath TL 348 401

First walked: 1988 *2005 recorder:* Alan J. Beale

As last year, Alan Beale has walked 4 shortish transects in addition to the original "Rifle Range" transect. He writes: *"A big drop in numbers for the Church Hill transects. This was probably due to the grazing of 120 Sussex ewes all through the month of June whilst the caterpillars are most active. There was hardly any plant life on the hill for the rest of the season, so no foodplants."* Nevertheless, Chalkhill Blue numbers were higher here than at any other transect, and it was also the only one where a Clouded Yellow was seen this year.

The Warren TL 204 053

First walked: 1991 *2005 recorder:* John Moss

"Most of the Warren was mowed mid-May and September, followed eventually by raking. Eggs and larvae may have been destroyed. Drought inhibited ground flora, which was not as lush and floriferous as 2004. Butterflies were down almost 33% on 2004, with only Gatekeeper showing a slight increase. However, there were still good numbers of Small Heath, Meadow Brown, Small/Essex Skipper and Common Blue. Brimstone appeared in April and a single Marbled White in July." (John Moss).

Tower Hamlets Cemetery Park TQ 365 823

First walked: 1999 **2005 recorders:** Terry Lyle, K. Greenway & A. McGuire

"On July 10th one male Small Heath, a new species for the park, was recorded on the transect. I caught it, so identification was proof positive" (Terry Lyle). Despite its unpromising situation in Central London, this transect shares with Knebworth the distinction of having higher totals than other transects for 5 different species: Large White, Small White, Green-veined White, Holly Blue & Comma.

Trent Country Park TL 288 966

First walked: 1998 **2005 recorder:** Robert Callf

"A hay cut was taken for the first time in 3 years. The fact that the grass had not been cut for so long probably resulted in the huge increase in Small Skippers. Small Heath increased slightly with very good numbers in May & June and a smaller 2nd brood in August. Small Copper and Common Blue were well down on last year; White-letter Hairstreak was recorded in 3 sections – an encouraging sign. A Marbled White was seen on July 17th and a Painted Lady on July 19th, both in section 2, but not during a transect walk. These additions make a total of 24 species this year. I will not be walking this transect next year". (Robert Callf). If you can take over from Robert, please contact him, or John Murray. This is an important site, and this year recorded higher totals than other transects for both Small Copper and Small Heath.

Tring Park SP 930 105

First walked: 1996 **2005 recorder:** Brian Jessop

"Tring Park seems to have done well. Numbers are up but species are down by 3 on last year. All Skippers did much better, especially Dingy and Grizzled. Clouded Yellow never showed at all. One Purple Hairstreak was seen and Small Coppers were slightly down. Common Blue, Brown Argus and Purple Emperor all did better. No Fritillaries were seen and Painted Lady never showed itself. Meadow Brown nearly trebled and Small Heath doubled in numbers. The chalk grass downland is beginning to turn to scrub in areas. The Park warden has changed – work has to be done soon as the scrub encroachment is affecting the Dingy and Grizzled Skipper areas. I do some scrub clearance, but the area is too large to be done alone." (Brian Jessop). Higher totals of Dingy Skipper, Grizzled Skipper and Marbled White were recorded here than for any other transect in the branch area.

Ware Park TL 347 143

First walked: 1996 **2005 recorder:** Andrew Wood

"There was little change to farming practices or path maintenance this year. In winter 2004-5 the power way leave alongside section 11 was cleared after several years, letting much more light in, and the hedgerow was coppiced down to about one metre high at several points. Perhaps surprisingly, overall numbers were up 33% in what seemed to be a generally poor year. The big increases were Small/Essex Skippers, Small White, Red Admiral, Comma and Meadow Brown. No Small Coppers were seen but the Small Heath returned for the first time since 1998. However, the White-letter Hairstreak has now been absent since the same year, although there is still plenty of Elm." Andrew Wood (Wood 2005b). The total Red Admiral count for the year was higher here than at any other transect.

Waterford Heath North TL 317 154

First walked: 2000 **2005 recorder:** Richard Bigg

"Scrub is increasingly shading out lower-growing flowers and vegetation, including the wild strawberry, in a number of places. Some clearance would be beneficial. The Management Committee, however, are reluctant to hold work parties, as I understand it due to health & safety liabilities. The number of species recorded was similar to 2004 (22) including a single Purple Hairstreak on a different section from last year. The Grizzled Skipper count was up - double that recorded in the last two years. Meadow Brown, Gatekeeper, Brown Argus and particularly Small Heath all had a very good year. Small Copper continues to hang on with a single individual seen at the same spot over a period of five weeks." - Richard Bigg.

Wood Lane Pirton TL 140 310

First walked: 2005 **2005 recorder:** Val Fullforth

This transect follows much of the route of the Highdown Transect (not Tingley Wood), not walked regularly since 2000. Unfortunately, the Wall butterfly was not seen, and so may have died out, but 23 species, including 5 Chalkhill Blue, were recorded. Val Fullforth writes: *"Large & Small Whites certainly predominate over other species. On 12th August, numbers were noticeably reduced due to severe hedgecutting on the right hand side of the latter section of the transect, particularly at the top end where Brown Argus, Chalkhill Blue, Small & Large Skippers were prevalent. Hedge cutting towards the middle section of the transect was resumed during mid-September"*.

Annual totals

The table below summarises the results of each of the transects above except those which were walked too few times for totals to be meaningful. It gives the sum of the weekly totals for each species for the entire year, corrected for any gaps in the record. Figures in *italics>* indicate poor coverage, and where coverage is too poor or non-existent for a particular species, a question mark has been entered. The weekly transect data is also used in the species accounts later on, where it is presented as an abundance graph for the season.

	Abney Park	Alibury Nowers	Balls Wood	Brans Hill	Blandford Meadow Blaker Road	Southern County Park	Brent Reservoir	Bricket Wood	Bunkers Park	Clifford Road Abolments	Cobsey Heath	Cranford Park	Dansbury	Fyent Country Park	Guinnessbury Triangle	Guttridge Wood	Hampstead Heath	Horsenden Hill East	Horsenden Hill West	Kenwood	Klips Langley	Knebworth	Leamford Springs	Long Deans	Manor Crescent	Marsalls Heath	Millhoppers	Miswell Lane	
Small Skipper	97	75				28	102	96	54		61	37			18	31			43	16	28	2	459	14	9	90	4		
Essex Skipper	89	69				66	11	57	3				91			3			8				1067			50	40		
Small Essex Skipper			5	10													15					100	2	7			1		
Large Skipper	47	98	9	68			30	143	40	3	3	27	5	23		19	3	13	17	24	1								
Dingy Skipper																													
Guzzled Skipper																													
Clouded Yellow																													
Brimstone	3	134	3	16	2	3		119	1							15	32		4	6	19	5	16	8	1	31	13	13	16
Large White	57	37	37	20	35	152	41	59	22	24	8	62	23	30	28	18	27	17	19	7	59	104	19	19	107	45	28	31	
Small White	55	57	32	46	27	91	46	43	85	106	49	49	16	18	108		25	20	45	59	95	72	5	40	75	50	39	49	
Green-veined White	32	32	109	43	19	18	137	161	124		45	93	30	88	11	41	2	24	42	42	13	121	213	35	16	73	82	129	
Orange Tip	1	21	38	16	10	16	25	25	99		7	58	4	22	13	5	9	3	26	1	15	86	53	16	7	24	5	20	
Green Hairstreak		6																											
Purple Hairstreak	2	1					23	45			3	2						10	7	25							7		
White-letter Hairstreak								1										23			1	4				2			
Small Copper		23			3		5		7		3	21					4	5	11	23	8	2	28	21			2		
Small Blue																													
Brown Argus		119									3											3						1	
Common Blue	3	213	2	4		110	21	6	297		34	8	3	3	2	5		1	7			17	1	68		11	21	1	
Chalkhill Blue																													
Holly Blue	44	1	1	4	9	1	12	10	5		4	59	6	2	35				6	26	14	13	11	3	3	60	21	8	8
White Admiral		32						28																					
Purple Emperor																													
Red Admiral	6	10	4	2	2	5	6	18	2	2	3	38	8	3	6			4	3	9	4	9	3		4	0	3	12	
Painted Lady											1											3						1	
Small Tortoiseshell		6		1	2	58	8	5	33	3	15	12	4	6			1	1	3	8		8	52	31	22	4	3	23	
Peacock	9	48	68	20	13	18	31	82	67	5	23	91	17	24			27	18	17	21	16	32	51	37	104	18	18	15	
Comma	6	25	23	6	6	4	16	53	8		14	29	16	4	13	14	9	10	12	13	12	43	31	13	16	10	9	12	
Dark Green Fritillary		1																											
Silver Washed Fritillary								2																					
Speckled Wood	84	7	354	125	9	2	59	124	67	10	13	161	36	58	71	167	41	68	42	50	7	86	26	8		107	111	67	
Wall																													
Marbled White	245				4	1	24	52	61				9								4	24		34			6		
Gatekeeper	3	257	290	95	148	267	551	580	413	122	110	298	353	119	105	182	92	172	370	112	95	777	78	103	23	223	154	167	
Meadow Brown	15	1137	299	191	78	345	379	357	1387	3	490	591	427	1362	27	176	99	314	1021	259	62	2381	22	728	1	429	336	62	
Small Heath		140									39	122	4									1	5				110		
Ringlet		178	565			5		40	9				8									8	290	10	2	2	72	3	
Total butterflies:	288	3639	2095	601	445	1193	1526	2103	2723	282	921	1766	1063	1718	436	704	368	748	1734	686	410	6805	542	1237	360	1289	1063	478	
Number of Species	13	27	19	16	17	18	19	24	22	9	19	20	20	16	13	15	14	19	19	16	21	24	17	19	12	20	21	16	
Time Taken	56	73	35		25	45		99	70	39	42	67	35	88	38														

Regional Indices

compiled by Leslie Williams

This index uses transect data from eight long-running transects (four in Hertfordshire and four in Middlesex, though the index has been depleted by the loss of two of the Hertfordshire transects in recent years). The transects are Hampstead Heath 1978-2005, Fryent Country Park 1986-2005, Beane Hill 1988-2005, Gutteridge Wood 1990-2005, Gobions Woodland 1990-2001, South Mimms 1990-2000, Aldbury Nowers 1992-2000 and 2002-2005, and Marshall's Heath 1992-2005. The indices are set at 100 in 1990, or the first year of record for a species. Note that for any one species the indices are relative from year to year, not from species to species. Indices may be less reliable for localized and less frequent species.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Small & Essex Skippers	227	199	97	114	127	254	236	74	102	67	111	90	121	141	92
Large Skipper	58	201	161	180	140	91	80	54	77	50	77	138	161	77	89
Dingy Skipper	0	0	100	150	0	0	200	0	0	100	NA	150	0	600	0
Grizzled Skipper			100	75	0	0	200	0	75	100	NA	0	250	150	300
Clouded Yellow						100	0	20	0	420	0	30	0	0	0
Brimstone	183	317	294	268	155	224	243	324	297	475	243	237	166	321	332
Large White	62	427	107	107	68	16	97	156	53	69	56	76	64	88	67
Small White	220	427	120	350	406	227	550	220	113	163	228	241	178	376	211
Green-veined White	55	250	72	101	96	66	178	258	67	63	73	172	82	168	115
Orange Tip	70	90	90	47	77	43	93	84	46	78	58	58	41	122	81
Green Hairstreak		100	144	310	166	77	310	266	144	116	NA	77	17	6	28
Purple Hairstreak		100	120	40	60	310	150	300	475	205	80	65	65	130	70
White-letter Hairstreak		100	100	50	50	700	400	500	150	175	481	0	0	0	150
Small Copper	40	15	3	11	15	36	32	11	4	3	2	1	12	40	15
Small Blue		100	0	0	0	0	0	0	0	0	NA	0	0	0	0
Brown Argus		100	32	118	373	548	468	127	289	570	NA	76	62	213	378
Common Blue	48	41	20	41	39	35	49	15	26	14	10	5	15	17	27
Chalkhill Blue							100	0	0	0	0	0	0	100	300
Holly Blue	12	1	0	0	4	26	3	6	2	1	4	6	1	7	4
Duke of Burgundy		100	20	80	20	0	0	0	0	0	NA	0	0	0	0
White Admiral								100	100	0	0	0	0	0	0
Red Admiral	90	179	101	63	190	164	85	111	81	191	89	142	140	64	102
Painted Lady	17	25	0	17	11	655	8	20	9	31	0	101	208	70	0
Small Tortoiseshell	150	761	206	93	187	273	475	137	102	21	23	10	16	36	12
Peacock	130	372	249	147	196	329	245	384	328	409	214	192	93	155	192
Comma	142	365	124	145	224	196	188	169	152	185	135	127	187	187	128
Dark Green Fritillary		100	0	0	0	100	0	0	0	0	NA	0	0	100	100
Speckled Wood	117	208	236	363	212	116	204	259	277	298	222	299	312	194	170
Wall Brown	21	9	4	8	3	2	0	0	1	0	0	0	0	0	0
Marbled White		100	151	211	136	91	99	174	308	387	NA	120	81	306	196
Gatekeeper	87	71	38	58	61	69	63	55	66	68	72	56	49	96	86
Meadow Brown	193	101	48	74	88	121	117	137	131	120	55	42	120	80	97
Small Heath	59	30	9	8	2	15	33	20	9	5	NA	7	1.7	10	24
Ringlet	0	100	271	419	138	49	96	96	170	246	NA	194	183	278	272

Species Mapping

Area covered by the survey

A map of the boundaries of our survey area is shown on the inside back cover (bottom left). For Hertfordshire we are using the present County boundaries as the limits of our survey, whereas for Middlesex, we use the old Watsonian Vice County boundaries. This includes most of Central London north of the Thames, the River Lea forming the easterly boundary, so that places such as Stepney, Westminster and Fulham are all within the survey area, as are Sunbury, Staines and Heathrow in the west.

Built-up areas cover more than 10% of Hertfordshire, and about 70% of Middlesex; these are shown as stippled areas in the map on the inside back cover. Such areas obviously provide few possibilities for butterflies to breed, but much of the rest of the area is covered by arable farmland where modern techniques, particularly spraying with insecticide and weedkiller, also restrict butterfly breeding. Nature reserves where butterfly breeding is encouraged constitute less than 1% of the total area, so most butterflies recorded in this report will be surviving wherever they can on untended scraps of land, woodland edges and those road verges left uncut in the summer months.

A total of 594 *tetrads* (a tetrad is a 2 x 2 km square, its borders being the even-numbered kilometre lines of the National Grid shown on Ordnance Survey maps) lie within the survey area, or have more than half of their area within it. 414 of these lie in Hertfordshire, and 180 in Middlesex.

Observer coverage

Tetrad squares recorded

Observations have been received from 380 tetrads in 2005, or 64% of the total (**inside back cover, top left**). This year we are showing maps of records from 2005 only. When using the species distribution maps later, comparison with this map will give some idea as to how any recorder bias affects apparent distribution. The number of species recorded in each tetrad in 2005 is shown in the map at **top right, inside back cover**.

Butterflies of 2005

The following sections are species - by - species accounts of butterflies seen (or in some cases not seen) in Hertfordshire and Middlesex during 2005. Each species is headed by a distribution map of the tetrads in which it was recorded, a flight diagram comprising mean weekly numbers, dates of first and last sightings, and various values indicating how well the butterfly fared in 2005.

The **numbers on the maps** indicate the maximum number of butterflies seen in each tetrad by one observer at any one visit throughout the year. Thus if an observer sees, for example, 25 Small Skippers on one morning and returns to find 25 the same afternoon, or the following week in the same tetrad, then 25 is the value recorded for that square, provided no one else sees a higher total at other times during the year. A few observers gave lists of butterflies for given sites without any indication of numbers seen. In such cases one sighting only is logged for that square, which is usually far too small. Please try and note numbers of butterflies seen, and other information as indicated on the branch recording sheets, which can be downloaded from the website at: <http://www.hertsmiddx-butterflies.org.uk/>

The **Peak date** listed for each species is determined from the transect data only. The date when the highest numbers of a given species were observed on each transect count is averaged. This average has been weighted according to the numbers seen at each transect, so that sites with the highest populations contribute most to the determination of the mean date. If the species is bivoltine or trivoltine, the highest peak on the average curve is selected, and the date of highest numbers for that brood only is averaged. Where numbers are low an overall peak date cannot be sensibly determined, whereas for some species such as the Speckled Wood which have several peaks throughout the year, the highest peak may be quite different from place to place.

The **Maximum number seen** records the greatest number seen in 2005 at one locality at one time out of all records for Hertfordshire or Middlesex. It may represent the number of butterflies seen on one Buddleia bush, for example, or within the confines of a garden or field, or the number seen during a transect walk. If the period of observation takes longer than one hour, however, the hourly rate only is used, and an asterisk* is placed after it.

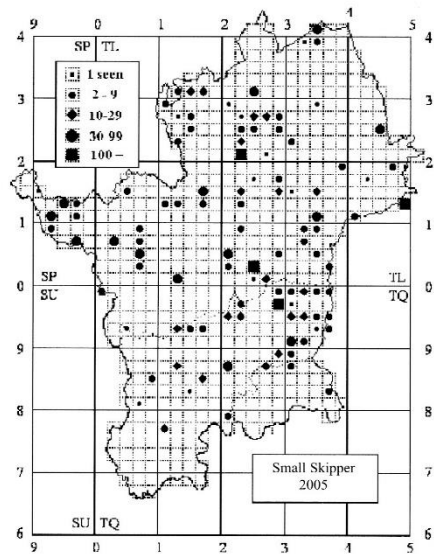
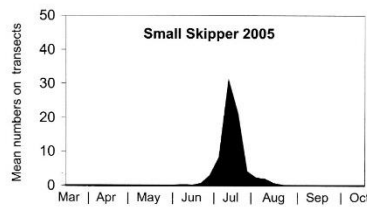
The **Index of abundance** for a given species is the mean of the sum of the weekly totals seen on transect walks where the butterfly has been recorded. The **Change in abundance since 2004** is the percentage change in abundance averaged for those transects for which 2004 data is also available. For example, twice as many butterflies as last year is given as a 100% increase; a quarter of last year's total is a 75% decrease. Again there is much variation from site to site for many species, but the average gives the best overall indication of the general state of that species within the region as a whole. Note that a comparison of the two years' indices of abundance will not always give the same change in abundance, as many of the 2005 transects on which this figure was based were not walked in 2004. Values in brackets are unreliable due to the small sample.

The **number of tetrads** in which the species was recorded in 2005 is also given, together with the same value expressed as a percentage of those tetrads actually visited by recorders.

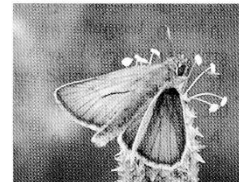
Finally, the **Range change since 2004** is given for some species, which compares the percentage of visited tetrads in which the species was found in 2004 and 2005.

Small Skipper *Thymelicus sylvestris*

First seen: 8th June at Gobion's Wood (Linda Jonas)
Last seen: 23rd August at Aldbury Nowers (Andrew Middleton)
Peak date: 13th July
Maximum number seen: 232* at Knebworth on 11th July (Ken King)
Mean index of abundance: 67
Change in abundance since 2004: 5% increase
Recorded in: 105 tetrads (28% of those covered)
Range change since 2004: 7% contraction



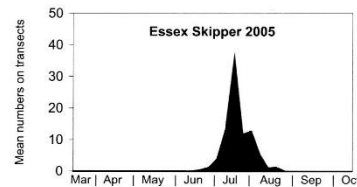
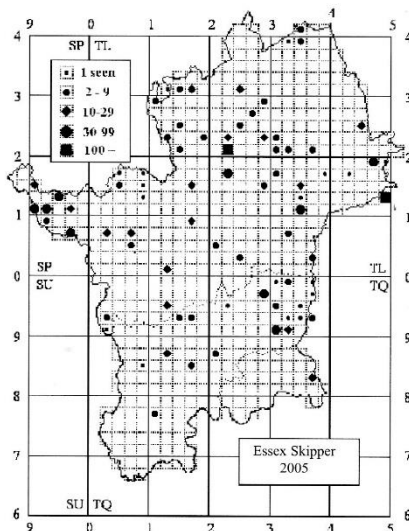
There is no significant change in numbers overall this year, but this species does seem to be particularly sensitive to changes in mowing regimes, much preferring long uncut grass, and this is reflected in the conflicting results for some sites. "A hay cut was taken for the first time in 3 years. The fact that the grass had not been cut for so long probably resulted in the huge increase in Small Skippers" reports Robert Callf from Trent Country Park, whilst Roger Pruc again records that "Small/Essex Skipper numbers were reduced considerably in 2004 as a result of the mowing regime" at Shrubhill Common. This mowing regime was instigated in 2004 in an attempt to maintain the chalkland flora there. There is a similar story at Marshalls Heath, where restoration of the heathland has resulted in a shorter sward than used to be the case in the 1990s, and numbers have plummeted.

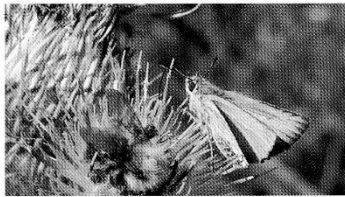


Small Skipper
 Photo: Andrew Wood

Essex Skipper *Thymelicus lineola*

First seen: 17th June at Danesbury Park (Pat Watt)
Last seen: 29th August at Patmore Heath (Gavin Vicary)
Peak date: 17th July
Maximum number seen: 283* at Knebworth on 16th July (Ken King)
Mean index of abundance: 52
Change in abundance since 2004: 13% decrease
Recorded in: 78 tetrads (21% of those covered)
Range change since 2004: 3% contraction



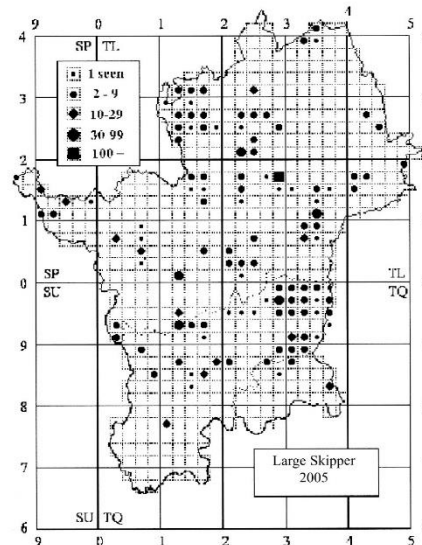
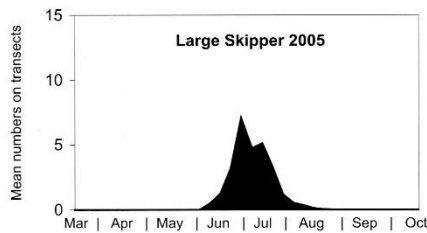


Essex Skipper
Photo: Andrew Wood

"The Essex Skipper seems to be replacing the Small Skipper" writes Paul Jeffery of the Roxbourne Rough transect over the past few years. The same has happened at Knebworth and Danesbury transects, but the opposite seems to have occurred at Aldbury Nowers, Marshalls Heath and the Warren this year. At Bunkers Park, the position seems to be worse: "Only one Essex Skipper was positively identified; this species has declined sharply every year since 2001." Both Small & Essex Skippers are certainly less widespread than formerly, and have been recorded at about half the number of sites visited in 1996-7, when they peaked at 40-50% of recorded tetrads.

Large Skipper *Ochlodes venata*

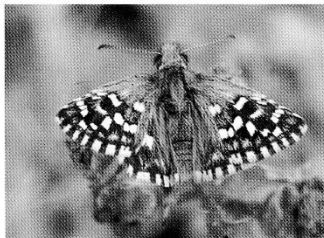
First seen: 4th June at the Warren (John Moss)
Last seen: 23rd August at Aldbury Nowers (A.Middleton)
Peak date: 2nd July
Maximum number seen: 38* at Trent Park on 18th June (Robert Callf)
Mean index of abundance: 30
Change in abundance since 2004: 7% increase
Recorded in: 114 tetrads (30% of those covered)
Range change since 2004: 10% expansion



This species seems to be doing rather better than its two commoner cousins, with a slight improvement over 2004. Looking further back, the transect data show considerable variability from year to year, but no clear trend in the long term:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Balls Wood:		93	176	257	82	50	83	107	143	99	196	98
Fryent Cntry Park:	135	94	35	25	14	15	1	10	37	75	7	23
Patmore Heath:			2	3	10	5	6	2	3	8	4	5
Stevenage:	34	19	46	21	40	53	12	14	95	106	39	49

However, there does seem to be evidence of a contraction in range in the past ten years. This species is often missed, being small, brown and fast flying. It should be looked for on road verges, waste ground and rough grassland in the second half of June.



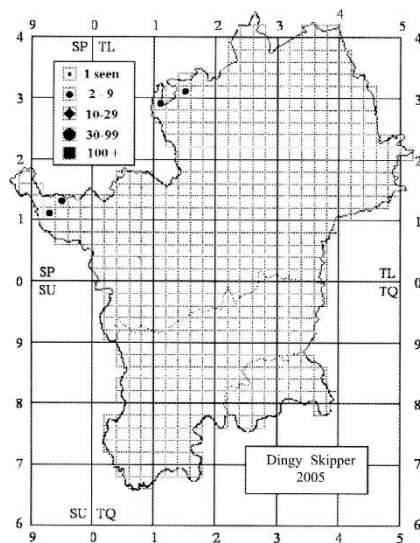
Grizzled Skipper
Photo: Andrew Wood



Large Skipper
Photo: Clive Burrows



Dingy Skipper
Photo: Richard Bigg



Dingy Skipper *Erynnis tages*

First seen: 3rd May at Hexton (Liz Goodyear)
Last seen: 17th June at Tring Park (Brian Jessop)
Peak date: 4th June
Maximum number seen: 8 at Telegraph Hill on 17th May (Liz Goodyear)
Mean index of abundance: 24
Change in abundance since 2004: 380% increase
Recorded in: 4 tetrads (1% of those covered)
Range change since 2004: 28% expansion



This species has shown a substantial increase in abundance for two years running, however the transect numbers on which this conclusion are based are low, so that although at Tring Park, for instance, it has the highest total since the transect began in 1996, it was not recorded on the transect at Aldbury Nowers, although it was seen there at other times on four occasions. Casual records show a nearly threefold increase since last year at the six sites where it was seen, so hopefully we are talking about a significant increase this year. In the long term, it has shown considerable fluctuations characteristic of tiny and vulnerable colonies:-

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Aldbury Nowers:	2	0	0	2	0	0	1	0	2	0	6	0
Tring Park:			0	10	3	22	9	13	16	7	4	24

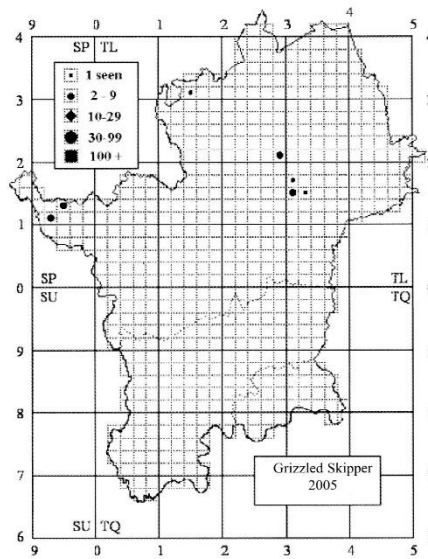
Aldbury Nowers and some other colonies appear to be intermittent and may be at least partial overflows from adjacent colonies in other counties. Andrew Palmer, the new Dingy Skipper co-ordinator, is initiating a programme to study this and other aspects of this species' ecology and needs. All sightings this year and last year have been from the chalk, and there have been no records from the gravel pits, woodland rides and grasslands of central and southern Hertfordshire where it used to be seen. This is a similar scenario to what happened to the Wall in the 1990s before its last known colony disappeared two years ago. To monitor populations during our planned efforts to put this species on a surer footing, there is a need for further transects such as those at Highdown and Telegraph Hill to be walked consistently so that we have a more accurate idea of how the species is faring. Andrew Palmer, the Dingy Skipper co-ordinator, writes: "2005 may go down as a relatively good year for Dingy Skipper nationally with counts up on 2004 and a number of new colonies being found. But in Hertfordshire the species is confined to just 5 known sites and has been for the last 6 years or so. Nationally the butterfly has been declining for the last 20 years and is now the subject of a focussed conservation effort by the branch which aims to increase our understanding of its habitat requirements. This will hopefully ensure that it is well catered for both on its current sites but also on nearby sites in line with our long-term aspiration of supporting its expansion."

Grizzled Skipper *Pyrgus malvae*

First seen: 30th April at Waterford (Andrew Middleton)
Last seen: 22nd June at Waterford (John Moss)
Peak date: 26th May
Maximum number seen: 13 at Tring Park on 15th May (Brian Jessop)
Mean index of abundance: 18
Change in abundance since 2004: 489% increase
Recorded in: 8 tetrads (2.1% of those covered)
Range change since 2004: 155% expansion



Like the previous species, there is good news at last, especially after the long term declines highlighted in last year's report. Numbers have at least doubled at the widely separated transects of Aldbury Nowers and Waterford, and at Tring Park they have increased more than tenfold. It has also been reported from 7 sites this year, as opposed to 4 in 2004. However, similar changes at widely separated locations with different biotypes tend to be indicative of factors outside our control such as weather or parasite activity, so whether this increase means anything in terms of long term prospects is another matter – in the past, numbers rose in 2001 only to fall steadily up to last year. The conservation subcommittee have decided to concentrate on developing a conservation strategy for three of our rarest declining species: Dingy Skipper, Grizzled Skipper and Green Hairstreak. This will concentrate on individual species ecology and appropriate specialized habitat management, but any long term success must depend upon whether landowners and managers can be persuaded to put the necessary habitat restoration/creation, management and maintenance into practice.



Swallowtail *Papilio machaon*

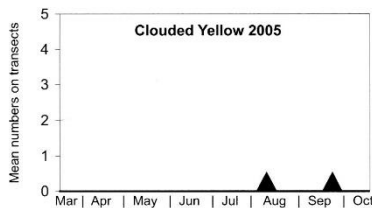
Sole record: 8th May at Syon Park (Keir Mottram)

Recorded in: 1 tetrad (0.3% of those covered)

Range change since 2004: No change

For the third year in succession, we have a single sighting of this species, the British race (subspecies *britannicus*) of which only breeds in the Norfolk Broads. Keir Mottram was taking part in a London Natural History Society field trip to look for spiders in the water meadow at Syon Park, when by the path a Swallowtail was spotted, which Keir describes as “*moribund: not dead, but as good as*”. Its condition and position suggests that this must have been an escape from the butterfly house there, but there have been four other sightings of this butterfly in our area since 1995 for which there doesn't seem to be any pattern: 20th May 1998 at Bedfont Lakes, 5th May 2000 at Rothamsted, 15th July 2003 in Harpenden and 3rd August 2004 at Welwyn Garden City. Although captive bred escapes or releases cannot be ruled out, it seems quite possible that one or more of these could be genuine migrants of the continental race *gorganus*, which in the past has been established for years at a time in Kent (Ford 1945), and which appeared at several localities in southern and southeastern England between 1995 and 1999 (Asher *et al* 2001). Chris Doncaster's 2003 photograph of the one in his Harpenden garden, shown on page 31 of the 2003 report (Murray & Wood 2004) seems paler than Norfolk specimens and has other characteristics of the continental race. The early May dates are about a month earlier than the main early June Norfolk emergence, and the July and early August sighting are considerably earlier than the small Norfolk second generation emergence that starts in mid-August.

Clouded Yellow *Colias croceus*



First seen: 10th July at Brentham Meadows (John Eborall)

Last seen: 24th October at Patmore Heath (Gavin Vicary)

Peak date: 30th August

Maximum number seen: 2 at Park Street on 23rd August (Michael Kings)

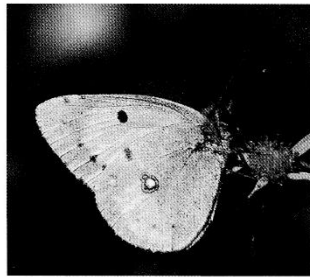
Mean index of abundance: 1

Change in abundance since 2004: 36% decrease

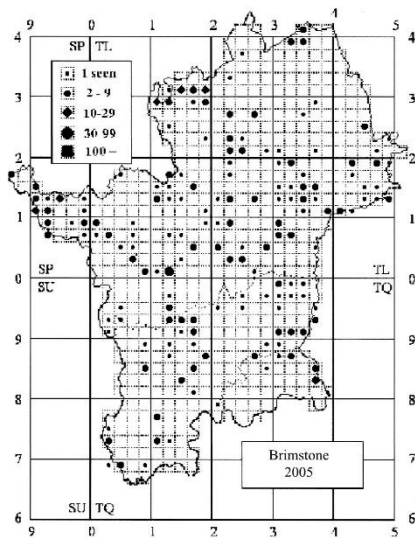
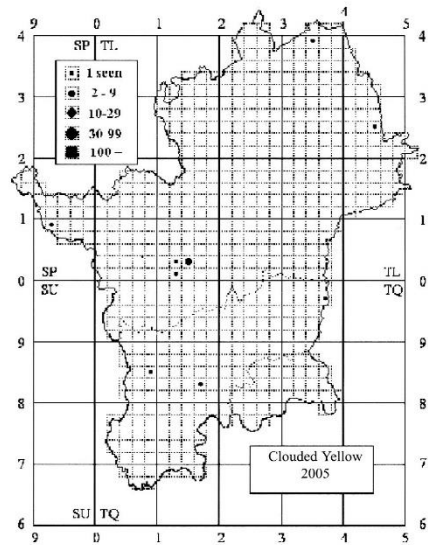
Recorded in: 8 tetrads (2% of those covered)

Range change since 2004: 56% contraction

A very poor year indeed for this migratory species, along with other migrants apart from Red Admiral. Both the transects and other mapping records make it the worst year for this species since 2001. The only evidence of breeding were "two Clouded Yellows on the large patch of rough ground between the M25 and Frogmore Ponds" seen by Michael Kings.

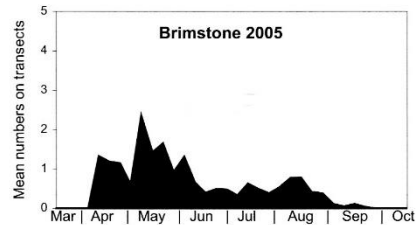


Clouded Yellow
Photo: Alan Downie



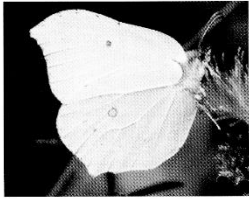
Brimstone *Gonepteryx rhamni*

First seen: 16th March at 12 localities
Last seen: 27th October at Ware (Andrew Wood)
Peak date: 1st May
Maximum number seen: 18 at Bricket Wood on 1st May (Malcolm Hull)
Mean index of abundance: 17
Change in abundance since 2004: 5.4% increase
Recorded in: 158 tetrads (42% of those covered)
Range change since 2004: 8% expansion



The planting of alder buckthorn at several sites in London has paid dividends for this species. "A Brimstone ovipositing on alder buckthorn for the second consecutive year." (David Bevan at Railway Fields). The transect results since 1994 confirm this, with colonisations at both Beane Hill and Hampstead Heath, but this is against a background of gradually rising numbers in Hertfordshire too:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beane Hill:	0	3	0	1	3	1	5	2	4	7	12	16
Bricket Wood:				49	131	80	72	39	34	47	147	119
Hampstead Heath:	0	5	3	7	9	4	6	9	15	14	13	32
Nicky Line:	1	5	3	1	11	0	17	1	4	3	6	8



Brimstone
Photo: Clive Burrows



Large White
Photo: Jane Wood

Large White *Pieris brassicae*

First seen: 11th April at Knebworth & Ponders End (Ken King & A.Middleton)

Last seen: 27th Oct at Ware & North Mymms (Andrew Wood & Jane Fielding)

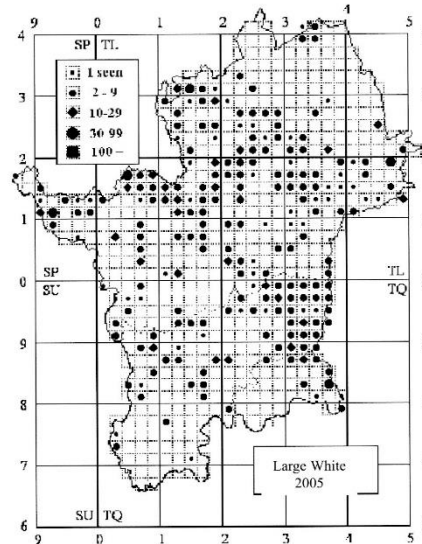
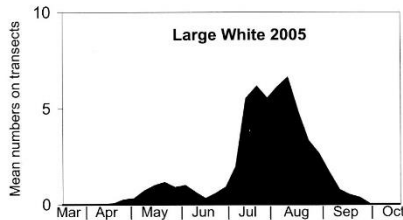
Peak date: 3rd August

Maximum number seen: 52 near Markyate on 7th August (John Murray)

Mean index of abundance: 51

Change in abundance since 2004: 11% decrease

Recorded in: 225 tetrads (59% of those covered)



"Almost a duplicate of 2004 in numbers and flight period" (Wood 2005a) writes Andrew Wood, referring to the Balls Wood transect. Elsewhere, a slight decrease in abundance coupled with a slight expansion in range is indicated, but these are borderline significant values. The population seems to be fairly stable, and the range has been between 50% and 60% since the turn of the millennium. The spring brood was proportionately slightly larger than last year, though still low compared to 2002, 2000 and 1998.

Small White *Pieris rapae*

First seen: 18th March at Wheathampstead (Vivienne Kendall)

Last seen: 7th November at Ware (Andrew Wood)

Peak date: 17th July

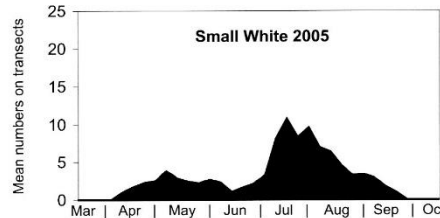
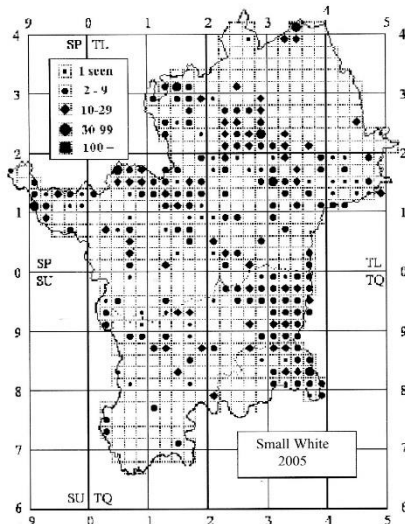
Maximum number seen: 56 at Therfield Heath on 29th July (Alan Beale)

Mean index of abundance: 72

Change in abundance since 2004: 30% decrease

Recorded in: 225 tetrads (59% of those covered)

Range change since 2004: 5% contraction



Similar to, but slightly worse off than the Large White in terms of change in abundance and range, though Small White is distinctly the commoner of the two. The range of this species in our area over the years has shown a 40% oscillation, with peaks in 1997 and 2003, and a low point in 2000, when it was recorded in only 53% of recorded tetrads, and the transect results show a similar picture:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cranford Park:				403	48	39	12	41	57	93	59	49
Railway Fields:				59	71	19	21	30	27	48	40	35
Rothamstead Farm:	67	142	112	293	101	78	47	45	56	224	222	125
The Warren:	126	103	120	83	12	17	8	18	26	71	46	44

The overall impression is of a declining population, though recent high totals at Rothamsted go against this trend.



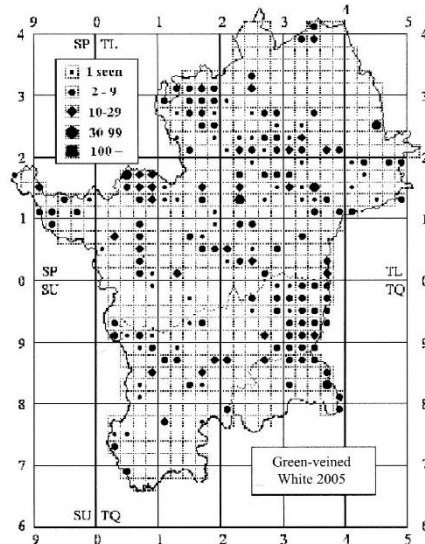
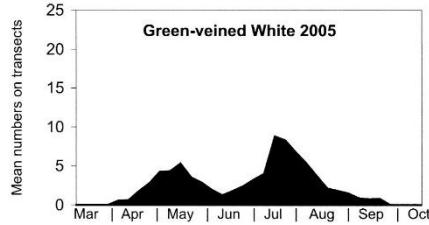
Small White
Photo: Andrew Wood



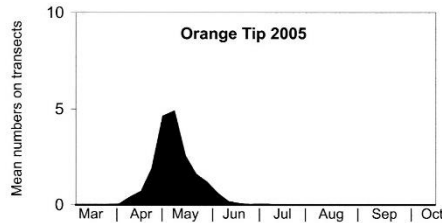
Green-veined White
Photo: Richard Bigg

Green-veined White *Pieris napi*

First seen: 2nd April at Bunkers Park (Michael Pearson)
Last seen: 29th September at Brent & Tower Hamlets (Roy Beddard & Terry Lyle)
Peak date: 20th July
Maximum number seen: 54 near Markyate on 7th August (John Murray)
Mean index of abundance: 68
Change in abundance since 2004: 26% decrease
Recorded in: 182 tetrads (48% of those covered)
Range change since 2004: 20% contraction



"Whites all did better with the exception of Green-veined White" writes Brian Jessop of Tring Park. At Balls Wood, Andrew Wood remarks "numbers dropped by 30, but such fluctuations are unlikely to be significant. The numbers are well above the mean for the last 10 years" (Wood 2005a). Interestingly, this species had a comparatively strong spring brood, proportionately the strongest since 2000, and the overall flight pattern and numbers are similar for both years.



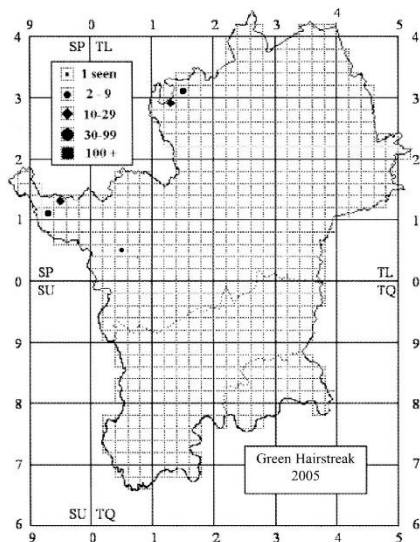
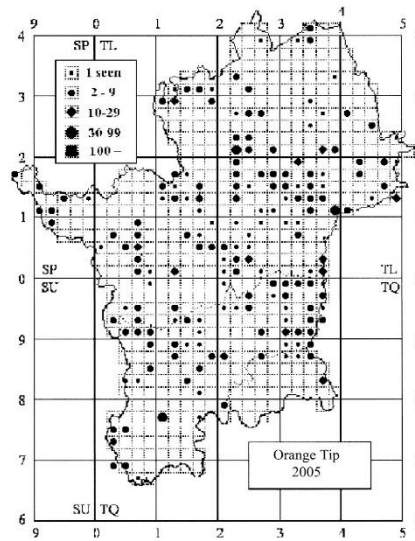
Orange Tip *Anthocharis cardamines*

First seen: 3rd April at Broxbourne Wood (Ian Clayton)
Last seen: 6th July at Knebworth (Ken King)
Peak date: 4th May
Maximum number seen: 35 at Cranford Park on 12th May (Emma Robbins)
Mean index of abundance: 20
Change in abundance since 2004: 18% increase
Recorded in: 172 tetrads (45% of those covered)
Range change since 2004: 18% contraction

"A slightly better performance than last year" writes Malcolm Newland (Hemel Hempstead), and referring to Ware Park, Andrew Wood notes "a longer flight period stretching from mid-April well into June" (Wood 2005b). This species is the only one of the whites to show an increase in numbers from the transect data, though matched with an equal apparent contraction in range! It has in general shown rather more stability in numbers and range over the years, a characteristic of single-brooded butterflies (Pollard & Yates 1993).

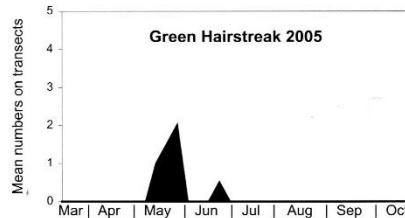


Orange Tip
Photo: Andrew Wood

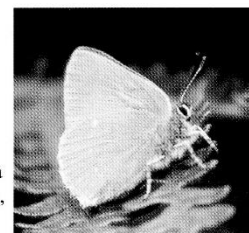


Green Hairstreak *Callophrys rubi*

First seen: 1st May at Tring Park (Brian Jessop)
Last seen: 17th June at Tring Park (Brian Jessop)
Peak date: 25th May
Maximum number seen: 15 on 2nd May at Aldbury Nowers (Liz Goodyear)
Mean index of abundance: 5
Change in abundance since 2004: 400% increase
Recorded in: 6 tetrads (1.6% of those covered)
Range change since 2004: 91% increase



After the dangerously low levels of 2004, this year numbers have started to rise. The 400% figure above may look impressive, but this is on the basis of a single butterfly counted at Aldbury Nowers last year, and just five this year! However, 5 were also recorded on the transect at Tring Park after none in 2004, and numbers recorded by casual observers have risen by remarkably similar percentages, with a total of 56 reported as against only 7 throughout the entire branch area last year. Green Hairstreak is a butterfly that has turned up at all sorts of unexpected localities from London to the Chilterns over the past 20 years, so the present more intensive survey of our branch area that we are carrying out up to 2009 will hopefully turn up more sightings of this species, that used to be the most widespread of the hairstreaks. If you can help, we do need people to visit tetrads that are still blank on the map of recording visits on the inside back cover. You can check on updates of this map by visiting the branch website at <http://www.hertsmiddx-butterflies.org.uk>.



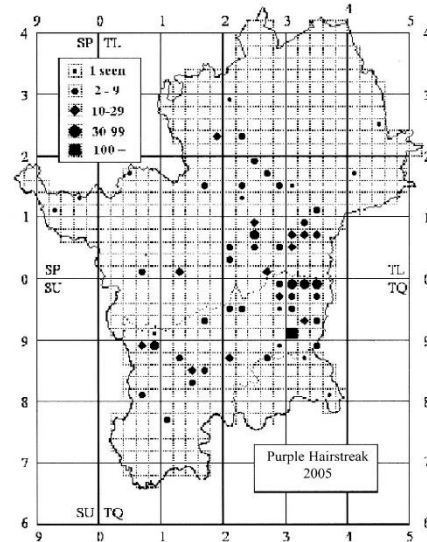
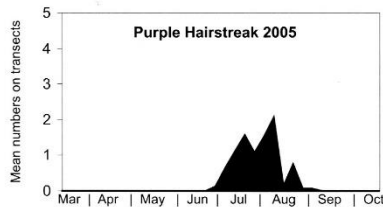
Green Hairstreak
Photo: Andrew Wood

Brown Hairstreak *Thecla betulae*

Egg searches this winter at Bricket Wood and Jersey Farm, St Albans and Uxbridge Common, Middx have revealed nothing. On the plus side, the populations in Bucks & Surrey both had very good years. There are new egg records from Cheam in South London and Dorton in Bucks, both closer to our branch area than records for many years. It is a mobile species, which has shown an ability to colonise suitable habitats. These habitats are now plentiful in S & W Herts. It is well worth keeping an eye out, particularly for the eggs during winter on south facing blackthorn edges. Eggs are white, pin-head sized and to be found on recent growth, often near a thorn and usually below a height of 4 ft (Malcolm Hull)

Purple Hairstreak *Quercusia quercus*

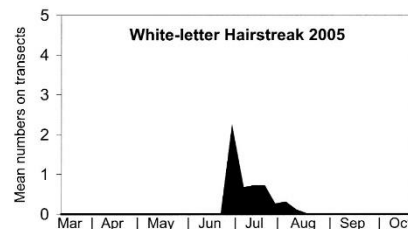
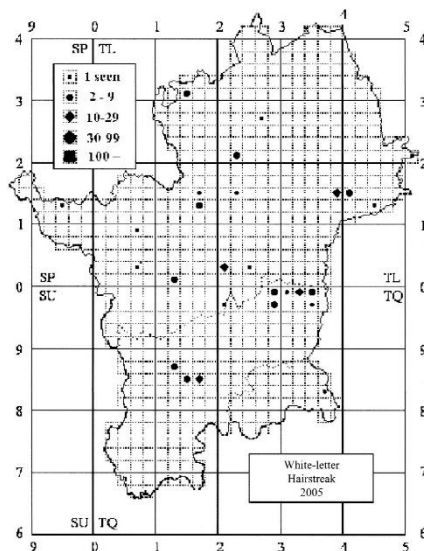
First seen: 22nd June at Crews Hill (A.Middleton)
Last seen: 4th September at Bricket Wood (Malcolm Hull)
Peak date: 7th August
Maximum number seen: 51 at Bulls Cross on 9th July (Andrew Middleton)
Mean index of abundance: 8.5
Change in abundance since 2004: No change
Recorded in: 57 tetrads (15% of those covered)
Range change since 2004: 2.5% expansion



Nigel Agar makes some interesting observations late in the season on August 21st: "I was watching a rather battered looking Purple Hairstreak hovering low over the muddy waters of the infant River Purwell where it enters a culvert under the East coast Main line at the point where it forms from a confluence of the Ippolitts Brook and Ashwell Brook at Ninesprings, Hitchin. Why would a butterfly, normally associated with the tops of oak trees, suddenly take an interest in brooklime and water cress deep in a dank ditch? There are some oaks, now fairly mature, growing high on the railway bank above. There seems to be a tendency for hairstreaks to behave untypically towards the end of their lives and turn up in gardens and on camp sites which of course is where we might see them at this time of year – but why do they do it?" This species has shown no significant change in either abundance or distribution since 2004.

White-letter Hairstreak *Satyrrium w-album*

First seen: 22nd June at 4 sites near Enfield (Robert Callf & Andrew Middleton)
Last seen: 9th August at Stevenage (Steve Lane)
Peak date: 1st July
Maximum number seen: 18 at Horsenden Hill on 26th June (Andy Culshaw)
Mean index of abundance: 5
Change in abundance since 2004: 42% increase
Recorded in: 27 tetrads (7% of those covered)
Range change since 2004: 81% expansion



White-letter Hairstreak has done well this year for the third year running, and has reappeared at some old sites: "One seen on *Buddleia* on 28th July. First time since 2001" (Malcolm Newland, writing of his garden). It appeared at Marshalls Heath 3 times in July, also for the first time since 2001, and at Bricket Wood Transect for only the second time in 9 years, whilst from Violet Chandler's garden in King's Langley, Dave Chandler reports: "the highlight of the year was on 16th July when I was gardening and spotted a White-letter Hairstreak on a rose bush. I haven't seen White-letter Hairstreak in the garden and its surroundings since 1968, when full-grown English Elms grew in the hedgerow nearby". It has also done well at established sites: "The Horsenden population of White-letter Hairstreaks seems to be doing well although evidence from the transects suggests it has moved towards the west side of the site" (David Howdon), "Numbers of White-letter Hairstreak continue to rise. I am not sure if this is more butterflies or rather more idea of when to see them and recognise their behaviour. There are two clear areas, and both have elm that has a trunk diameter of about 6 cm." (Ken King at Knebworth). After some ups and downs and a run of bad years in the late 1990s, this is good news for a species that is still causing unease nationally.

Small Copper *Lycaena phlaea*

First seen: 2nd May at Aldbury Nowers (Liz Goodyear)

Last seen: 1st November at Beech Farm (Jim Terry)

Peak date: 6th August

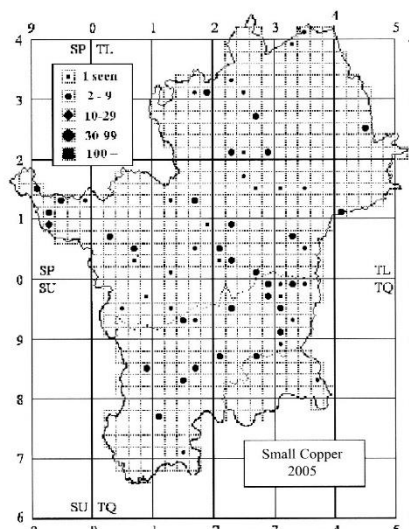
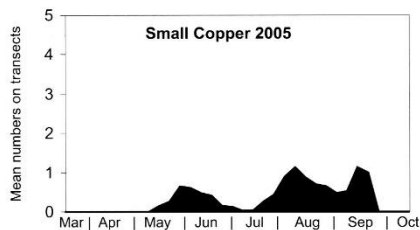
Maximum number seen: 14 near Tring in 21st August (Brian Jessop)

Moran index of abundance: 11

Change in abundance since 2004: 40% decrease

Recorded in: 59 tetrads (16% of those covered)

Range change since 2004: 47% contraction



Another drop in numbers and disappearances from many sites is not good news for a species that has been a cause for concern for many years now. No less than 14 transects where it has been recorded in the past drew a blank this year, and only one – Cranford Park – showed a substantial increase. This species does seem to fluctuate, being comparatively numerous and widespread in the mid- to late nineties, at a low point at the turn of the millennium, recovering up to 2004, and this pattern seems to reflect the situation nationally (Greatorex-Davies and Roy 2005).

Small Blue *Cupido minimus*

Sole record: 3rd August at St Albans (Colin Everett)

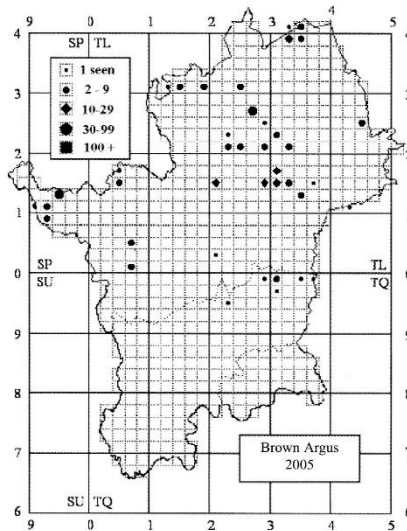
Maximum number seen: 1

Recorded in: 1 tetrad (0.3% of those covered)

Range change since 2004: not seen in 2004

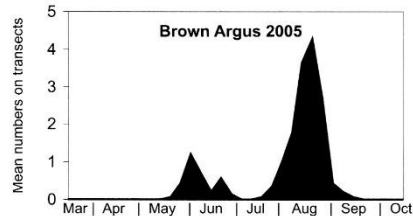
Although this butterfly probably became extinct in the county in 2003, the following curious sighting was reported by Colin Everett on August 3rd: "A female Small Blue (*Cupido minimus*) was, to say the least, an unexpected find in St Albans!!! When first seen fluttering above the pond in the wildlife garden at the Grebe House headquarters of the Herts & Middlesex Wildlife Trust, the butterfly was not unlike a small Purple Hairstreak in the contrast of silver and brown. At rest with wings closed, the underwings were similar to Holly Blue but more silver-grey than sky-blue. The upperwings were seen at close range for some time and were an unadorned chocolate-brown with no hint of blue; the abdomen was markedly slender. A male Holly Blue seen ten minutes later looked enormous by comparison. Although I have yet to discuss this directly with the HMWT, this is, I presume, an inadvertent translocation resulting from the importation of some good chalk downland turf or sub-soil! That this should have produced a second brood is of further interest." To deepen the mystery, Tim Hill, conservation manager at the Trust, describes the creation of the bank as follows: "The garden, including the chalk bank was created in 1982. Chalk and brick rubble were used to create the bank, compacting it as it was built. Blocks of limestone were incorporated to simulate natural outcrops. It appears the bank was seeded with sheep's fescue and red fescue. Typical flowering plants were grown on from seed in pots then transferred into the chalk bank. There is no mention anywhere of translocations from existing chalk

grassland sites." Andrew Palmer, Small Blue co-ordinator, writes: "The date indicates that this butterfly came from the second brood. As far as we know the nearest colonies are as much as 20 Km to the north-west which would make this a long-distance migrant for what is a highly sedentary species. The National Species Action Plan says that "adults rarely move more than 40 metres...some longer movements have been recorded, including a few of over 1 Km between neighbouring sites and vagrants have been recorded...as far as 17 km from known colonies" (Small Blue Species Action Plan, Butterfly Conservation, 2000). Hopefully this butterfly travelled from an as yet unknown colony, so all those living near the St. Albans area are encouraged to pay particular attention to any small silvery-brown butterflies that they encounter."



Brown Argus *Aricia agestis*

First seen: 9th May near Hertford (A. Middleton)
Last seen: 17th September at Aldbury Nowers (Martin Hicks)
Peak date: 17th August
Maximum number seen: 29 at Aldbury Nowers on 28th August (Martin Hicks)
Mean index of abundance: 21
Change in abundance since 2004: 22% increase
Recorded in: 41 tetrads (11% of those covered)
Range change since 2004: 28% expansion



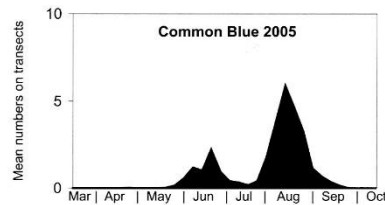
Nice to see this species expanding and increasing in numbers for the third year in succession. However, the change in abundance listed above is dominated by its doubling of numbers at Aldbury Nowers, where totals are far higher than anywhere else – most other transects show a drop in numbers, and it has disappeared altogether from some sites; at Marshalls Heath this has happened for the first time since the species was first identified there:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Marshalls Heath:	2	33	27	29	2	5	11	2	2	12	11	0
Patmore Heath:			30	21	2	26	6	1	1	4	11	8
Smallford Lake:				24	12	6	14	2	1	0	10	0
Tring Park:			40	61	6	4	6	6	2	14	19	17

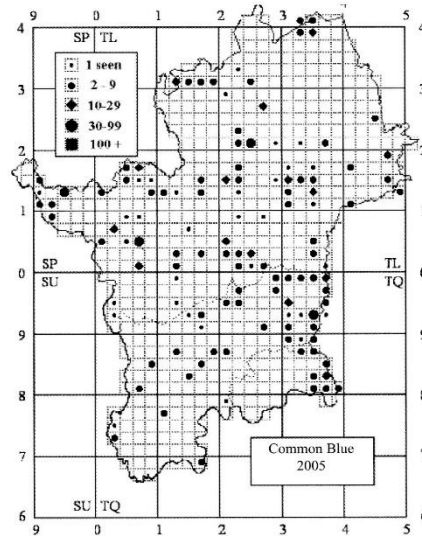
But the expansion in range does seem to be real, and though never matching its abundance and appearance at large numbers of sites across northern Hertfordshire 1996-1997, the range has held reasonably steady since 1998. What this means in terms of the species' future remains to be seen.

Common Blue *Polyommatus icarus*

First seen: 17th May at 4 locations
Last seen: 16th October at Tower Hamlets (Keir Mottram)
Peak date: 9th August
Maximum number seen: 45* at Bunkers Park on 21st August (Michael Pearson)
Mean index of abundance: 33
Change in abundance since 2004: 27% increase
Recorded in: 127 tetrads (33% of those covered)
Range change since 2004: 13% expansion

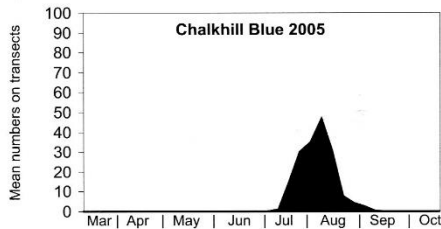
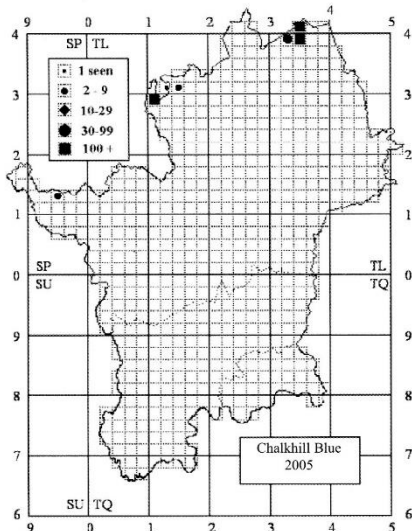


The increase in numbers of this species seems to be most pronounced at open grassland sites in the west of Hertfordshire, particularly Aldbury Nowers and Bunkers Park, which may be partly due to local factors: "A relevant factor may be that the meadows, previously cut for hay during late July, in 2005 were not cut until late September" (Michael Pearson, referring to Bunkers Park). However, unlike Brown Argus, most other sites also showed an increase. As well as being more common and numerous than the Brown Argus, over the years the Common Blue has shown less oscillation in range, and since 1995 no overall contraction, suggesting that the longer term contraction since the 1970s and 1980s (Murray & Wood 2005) has been arrested. In the end however, this species depends on the fortunes of its foodplants, particularly birdsfoot trefoil, which has disappeared from many localities as a consequence of scrub encroachment, tree planting or weekly summer mowing.



Chalkhill Blue *Lysandra coridon*

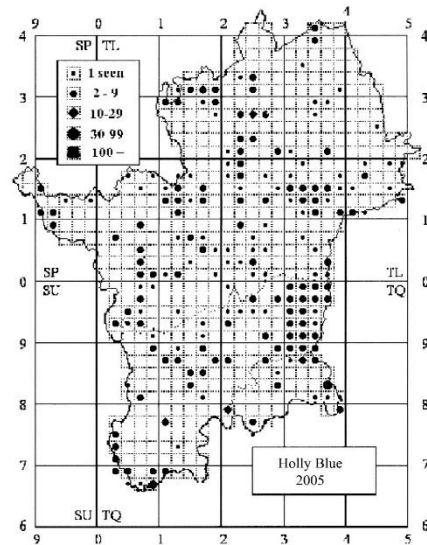
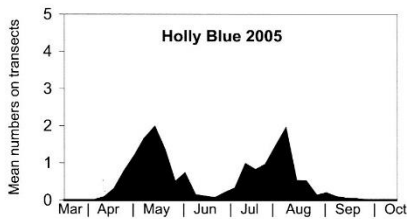
First seen: 10th July at Therfield Heath (Alan Beale)
Last seen: 9th September at Therfield Heath (Alan Beale)
Peak date: 6th August
Maximum number seen: 168 at Therfield Heath on 6th Aug. (Alan Beale)
Mean index of abundance: 201
Change in abundance since 2004: 1% increase
Recorded in: 7 tetrads (1.8% of those covered)
Range change since 2004: 49% expansion



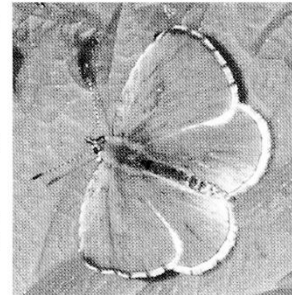
This species continues to thrive at its known sites, and they were again seen at Aldbury Nowers, where Martin Hicks reported their appearance on August 2nd. On August 21st, Malcolm Hull saw 4 Chalkhill Blues, (2 male & 2 female) there, located in two distinctly separate parts of the reserve: "Great to see them again at Aldbury Nowers on 2 separate occasions. Restoration work on this site by HMWT and the introduction of grazing seems to be paying dividends". There is a similar encouraging picture at Hexton Chalk Pit: "never seen so many butterflies in one place locally; must have been over 1000 Chalkhill Blues there on 6th August" (Stuart Pittman). Alan Beale, who walks the Therfield Heath transects, reports on the effects of grazing: "A big drop in number for the Church Hill transects. This was probably due to the grazing of 120 Sussex ewes all through the month of June whilst the caterpillars are most active. There was hardly any plant life on the hill for the rest of the season, so no foodplants. The sheep are still on the heath but mainly away from butterfly areas." The condition of this site, an SSSI, was described as "unfavourable, declining" by English Nature in 2004 due to undergrazing (Warrington 2005), so presumably this is a response to that assessment. Alan will be unable to continue the transect in 2006, so if you are able to help monitor this important site, especially during July and August, then please contact John Murray (contact details on the back cover).

Holly Blue *Celastrina argiolus*

First seen: 17th March at Hitchin (Val Fullforth)
Last seen: 16th October at Tower Hamlets (Keir Mottram)
Peak date: 8th May
Maximum number seen: 28* on 8th August at Tower Hamlets (Terry Lyle)
Mean index of abundance: 16
Change in abundance since 2004: 6.5% decrease
Recorded in: 192 tetrads (51% of those covered)
Range change since 2004: 6% contraction



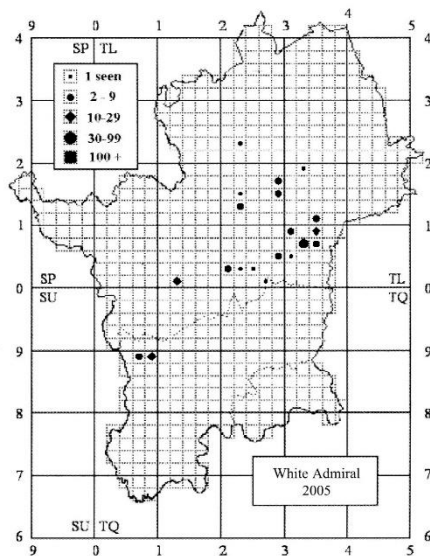
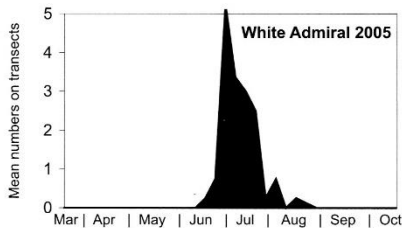
In the past, a 6-year cycle of fluctuating numbers of this species has been linked to its common parasite, the Ichneumon wasp *Listrodromus nychthemerus* (Revels 1994). But in the past few years, it is clear that we can no longer talk about a 6 year cycle, but simply fluctuating numbers. Perhaps its parasite has suffered a decline, or perhaps some other factor has become involved. Overall, there was little difference in numbers or range since last year, but large numbers were seen at some sites, notably St Nick's churchyard, Stevenage, after lunch on 12th May, reported by Lee Browne: "I was unable to count the butterflies as there were just so many! By just standing in one place and looking around me I could see at least ten Holly Blues; at one point I stood in front of an ivy bush which had six on it. As an estimate I would have to say that in one hour I saw up to 100 Holly Blues, the large number probably due to the huge amount of both Holly and Ivy growing in the churchyard"



Holly Blue
 Photo: Andrew Wood

White Admiral *Limenitis camilla*

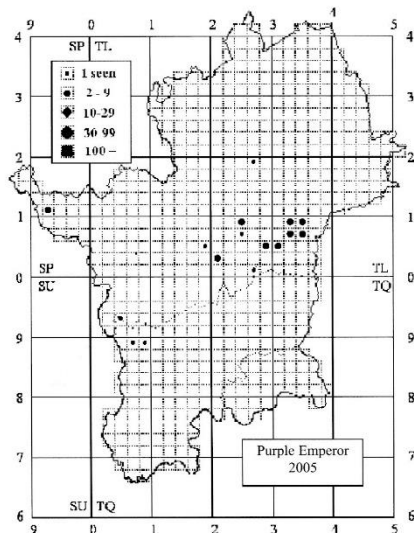
First seen: 19th June at Broxbourne Wood (Ian Clayton)
Last seen: 15th August at Balls Wood (Rob Hopkins)
Peak date: 26th June
Maximum number seen: 20* at Broxbourne Woods on 27th June (Nick Sampford)
Mean index of abundance: 17
Change in abundance since 2004: No significant change
Recorded in: 20 tetrads (5% of those covered)
Range change since 2004: 70% expansion



“After last year’s big increase, the maintenance of numbers in a generally undistinguished summer is very pleasing. There were no very late examples, but it was on the wing from late June well into mid August” (Andrew Wood, White Admiral species coordinator). It is good to see the continuing expansion in range of this species, which is turning up repeatedly in new sites, or at sites where it has appeared earlier in the last century. Sunny woodland clearings with plenty of honeysuckle are ideal for this species, and Christine James, writing of Northaw Great Wood, notes that “White Admiral is found along both transect routes and benefits from the large quantities of honeysuckle found throughout the wood”.



White Admiral
Photo: Andrew Wood



Purple Emperor *Apatura iris*

First seen: 26th June at Northaw Great Wood (Andrew Middleton)

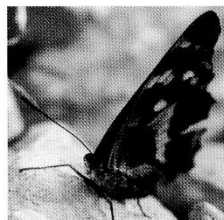
Last seen: 21st August at Stockers Lake (Susie Turner)

Maximum number seen: 5 on 12th 17th & 20th July (several observers)

Mean index of abundance: 3

Change in abundance since 2004: No change

Recorded in: 15 tetrads (4% of those covered)



Purple Emperor
Photo: Jane Wood

This species had a good start, with the earliest ever emergence, beating the 2003 record by two days. Our Purple Emperor coordinators have continued their extensive searching for new sites and recording of known ones (Goodyear & Middleton 2005); the dynamic duo report as follows: “Purple Emperor continued to do well in 2005. With all known woodland colonies confirmed, and taking sightings from new areas, the species was recorded from an impressive 21 locations and 8 woodland complexes spanning six 10km squares. Hopefully, this will encourage us all to search for this rather elusive species in salix-rich woodlands elsewhere in Herts and Middx. Full details can be found in our 2004/5 progress report (Goodyear & Middleton, 2006).

The first seen was a male at Northaw on 26th June, followed by a trickle of sightings to 3rd July, when Ricky Fleisher and Peter Christian, and later David Booth, saw a female flying and settling high on an ash tree at Tyttenhanger, an area with a good supply of willows. This year, a spell of fine settled weather from July 10th to 18th coincided with the peak of male activity, which quickly fell away during such ideal conditions. On 11th July we managed to locate a male circling tree-tops at Fir and Pond Woods, a salix-rich area managed by the Herts & Middx Wildlife Trust. The same day, Peter Clarke tried again without reward at Knebworth, an historic location. The Branch field trip to Broxbourne Wood NR on the 17th July was a great success, with flights, groundings of females and egg laying seen through the day, all outdone for those who lingered by up to four Purple Emperors sap-run feeding and shading together in a small oak in the late afternoon. On such a busy day for Emperors, Lee Browne saw an almost certain dispersing female in flight by houses in the Datchworth area. Purple Emperors were again reported from the Ruislip Woods complex by several recorders. Records were also received from nearby Bayhurst Country Park, a new area. Lastly, Susie Turner saw a worn male on 20th August at Stockers Lake, where salix is distributed over a wide area to the NW of Ruislip. Three dead specimens were recorded in Broxbourne Woods in July. Richard Andrews found a male with an incompletely expanded right wing on 11th; on 12th Sandra and Kevin Standbridge found a mangled male on a track increasingly used by motorbikes, and Keir Mottram and June Crew watched a female expire on 19th.

To encourage favourable woodland management for butterflies and moths, including Purple Emperor, the Branch has produced a ‘Woodlands for Butterflies and Moths’ leaflet, thanks to a Heritage Lottery ‘Awards for All’ grant, and this has been widely distributed. We were also pleased to be invited to present our Master Tree Project work, with Matthew Oates, to the Butterfly Conservation 5th International Symposium in April 2005.” (Andrew Middleton)

Red Admiral *Vanessa atalanta*

First seen: 12th January at Vicarage Farm, Enfield (Robert Callf)

Last seen: 19th December at Much Hadham (M.H. Rogers)

Peak date: 16th September

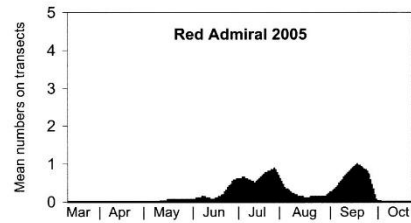
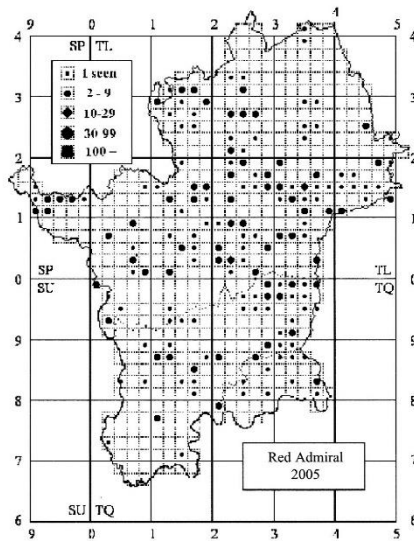
Maximum number seen: 15 at Ware Park on 12th & 27th September (Andrew Wood)

Mean index of abundance: 8.6

Change in abundance since 2004: 72% increase

Recorded in: 160 tetrads (42% of those covered)

Range change since 2004: 25% expansion



"A very good year despite it generally being a poor migrant year. The high September numbers suggest successful local breeding. It also seemed that ivy began flowering earlier than usual this year and the large amount on the later sections of the transect were a great attractant". (Wood 2005b, referring to Ware Park). There was scant evidence of a return flight in October: "1 Red Admiral, heading south" by Richard Middleton at Hillingdon. This species hung on very late this year. After the lull in August and the unusually large late summer emergence in September, there were 14 late sightings reported after the usual November 9th deadline for submission of records, including Mrs M.H.Rogers' sighting on 19th December: "so flabbergasted by the Red Admiral today... seen first warming up on a brick wall in full sun; then feeding from a winter jasmine flower against the same wall". The temperature maximum was only 8°C on that day. Cherry Eggleton's fascinating article (Eggleton 2005) in the December newsletter includes a description of this species breeding in a central London street and then emerging as late as 5th November. Temperatures were unseasonably high around this time (18°C on 30th October and 15°C on 8th November), so presumably these late butterflies were opportunistically taking advantage of this.

Painted Lady *Cynthia cardui*

First seen: 2nd May at Waterford Marsh (Ian Hardy)

Last seen: 2nd November at Horsenden Hill (David Howdon)

Peak date: 28th June

Maximum number seen: 3 at Enfield on 27th May (Robert Callf)

Mean index of abundance: 1.3

Change in abundance since 2004: 63% decrease

Recorded in: 31 tetrads (8% of those covered)

Range change since 2004: 62% contraction

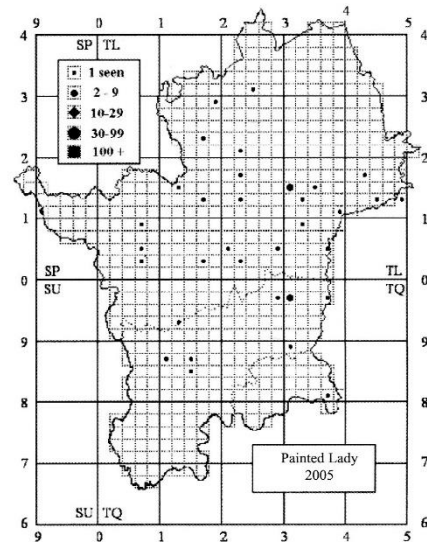
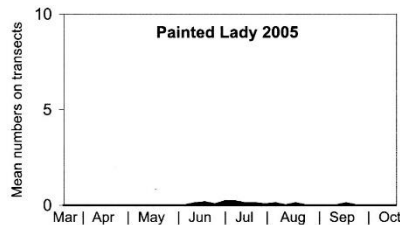




Photo: Andrew Middleton

2005 was not a great migrant year, but one of the few Clouded Yellows reported was this rather battered specimen photographed at Brimsdown in north east Middlesex.



Photo: Andrew Middleton

This is a Purple Emperor egg laid high up on the midrib of a willow leaf in Broxbourne Woods during 2005. The eggs are very small and difficult to locate. This picture was taken through a telescope



Photo: Andrew Middleton

The egg hatched into this tiny first instar larva which is seen feeding on the willow leaf. At this stage the larva is only a few millimeters long.



Photo: Andrew Middleton

The larva of the White Admiral is rarely seen, but quite by accident Andy Middleton found this full grown one in Wormley wood in the Broxbourne Woods complex on 30th May 2005.



Photo: Andrew Wood

The female Brimstone is less often seen than the male. This one was laying eggs on Buckthorn on the Meads near Ware on 21st April 2005.



Photo: John Murray

This picture shows the important task of cutting and raking on the Marshall's Heath reserve in September 2005. It is important to cut grass to help keep down scrub that can shade out the smaller flowering plants. Raking to remove cuttings is important to ensure that they do not rot and increase the fertility of the land.



Photo: Andrew Middleton

The Dingy Skipper is one of our rarest butterflies, it is also our most moth like and brilliantly camouflaged when wrapped around a seed head as seen above at Telegraph Hill on 10th May 2005.



Photo: Andrew Wood

Clearwings are day flying moths that are rarely recorded. The use of artificial pheromones to attract males has made them easier to record. On the left is a Red-belted Clearwing attracted to a lure by the River Lea near Ware. On the right is an example found by Ian Small in his garden without using lures. Both during June 2005.



Photo: Ian Small

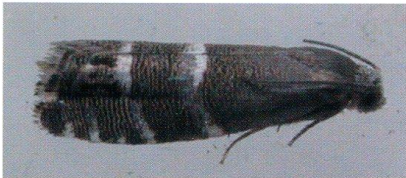


Photo: Andrew Wood

These two tortrix moths *Cydia cosmopherana* (left) and *Cydia colicolana* (right) are both associated with Scots Pine. Both were recorded in 2005 in Bengeo and each is only the second ever Hertfordshire record..



Photo: Andrew Wood



Photo: David Howdon

The pink and yellow moth (above left) is a pyralid moth called *Oncocera semirubella* and is the first Middlesex record. It was photographed on 21st July at Greenford in west Middlesex.



Photo: Andrew Middleton

The Small Mottled Willow (left) is an occasional migrant to our area. Two were recorded in 2005. This fresh looking one was recorded at Ponders End, Middlesex on 4th September.



Photo: Andrew Wood

A number of moth species' larvae live in webs spun on the food plant. Sometimes these webs can cover quite large areas. This web created by the Spindle Ermine covered several metres of Spindle hedging along Sacombe Road north of Hertford in 2005. The hedge was completely defoliated (left). The actual larva feeding on a less damaged stretch of hedge is shown on the right.

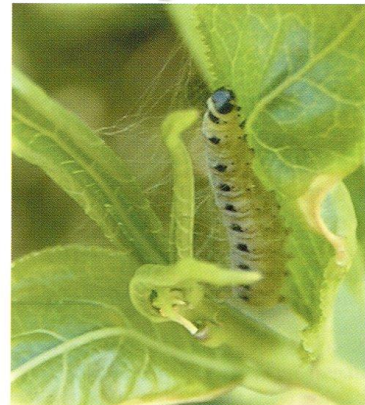
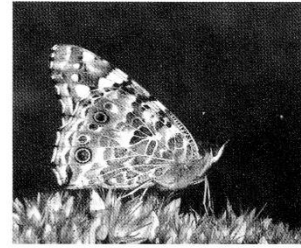
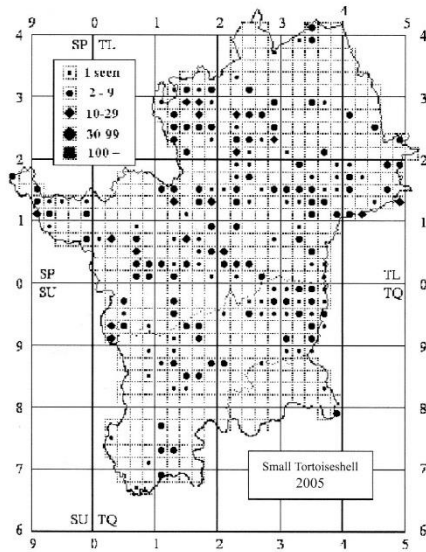


Photo: Andrew Wood

"No Painted Ladies seen this year anywhere" writes Val Fullforth at Hitchin, and many other recorders also drew a blank. Diane Andrews saw one "on a bugle plant at the entrance to Rye Meads on that very hot day, May 27th" and the flight graph above indicates a very sparse scattering of such sightings reaching a maximum in June, but breeding success must have been very poor because in August there was really no home-bred generation worthy of the name.

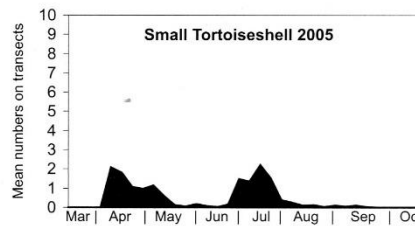


Painted Lady
Photo: Clive Burrows



Small Tortoiseshell *Aglais urticae*

First seen: 15th March at Welwyn Garden City (Ian Small)
Last seen: 19th November at Hatch End (John Kreeger)
Peak date: 7th July
Maximum number seen: 26 near Charlton on 10th July (John Murray)
Mean index of abundance: 18
Change in abundance since 2004: 48% decrease
Recorded in: 188 tetrads (49% of those covered)
Range change since 2004: 18% contraction



This once ubiquitous species has not done so well this year. Malcolm Hull writes: "Numbers fell again. At Folly Lane, its best site locally, the max count was 16 on 28 March, only a tenth of the level 5 years ago. No sightings at all in my garden, where for many years it was the most common species. Summer adults were almost non-existent. One possible reason may have been early hibernation. I found one firmly glued to the ceiling of my loft on the morning of 16 July" Malcolm Newland comes to a similar verdict: "only eight seen in total, dismal and worrying".

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Colney Heath:	9	38	43	64	29	15	9	3	6	16	29	15
Kings Langley:				39	5	17	3	3	3	62	49	8
Knebworth:			12	186	47	30	53	21	20	25	379	52
Ware Park:			239	238	84	38	34	3	9	31	28	25

Camberwell Beauty *Nymphalis antiopa*

Sole record: 5th August at Digswell (John Overington)
Recorded in: 1 tetrad (0.3% of those covered)
Range change since 2004: Not seen in 2004

Nice to report a sighting of this very rare migrant, not seen in our area since 1998: "Saw a Camberwell Beauty on August 5th in garden in Digswell, near Welwyn North station. Definite sighting, and our first in the U.K. Sorry no photos" (John Overington). 1995 was the largest U.K. immigration of this species since 1872, and 8 were seen in our branch area. It seems to have bred here and may well have survived the winter (there was one confirmed case in the U.K.) because 4 were seen in Herts & Middx in 1996 and one each in 1997 and 1998, but there have been none since.

Peacock *Inachis io*

First seen: 13th January at Weston (Alan Cockburn)

Last seen: 11th December at Baldock (Andrew Middleton)

Peak date: 17th April

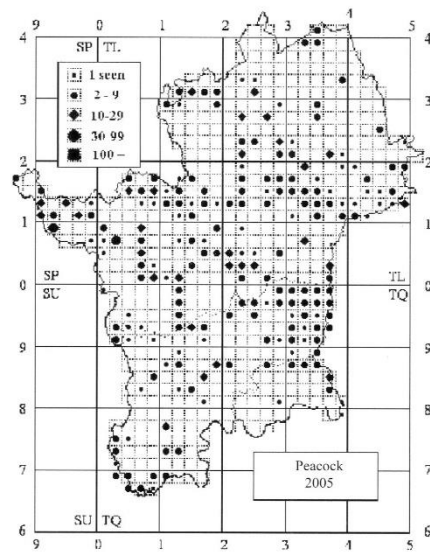
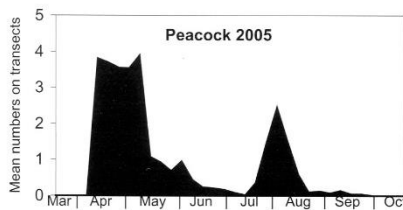
Maximum number seen: 40 near Tring on 8th August (Brian Jessop)

Mean index of abundance: 33

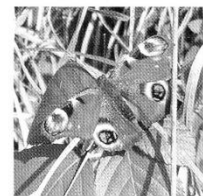
Change in abundance since 2004: 22% increase

Recorded in: 207 tetrads (54% of those covered)

Range change since 2004: No significant change

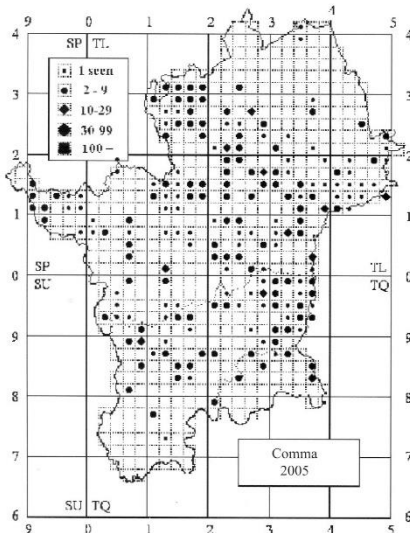


Another increase for this widespread species, “recovering from a low point in 2003” (Malcolm Newland). “The July emergence was smaller with fewer seen in any one week” (Wood 2005a), and it is clear from the flight diagram that the spring emergence was strong and long by comparison. Before 2002 the summer brood was always the strongest, but it has been smaller virtually every year since, perhaps accounting for the generally lower numbers. Nationally, it has shown an overall increase since 1976, though there has been a general decline in the summer brood from a high point in 1996 down to about average numbers now. “Not a common sighting in the West End, but I saw one flying south at speed outside Dickens & Jones in Regent Street on a bright sunny lunchtime on 29th April”. (Malcolm Hull)



Peacock

Photo: Andrew Wood



Comma *Polyommatus c-album*

First seen: 16th March at six localities

Last seen: 12th November at Hemel Hempstead (Malcolm Newland)

Peak date: 12th July

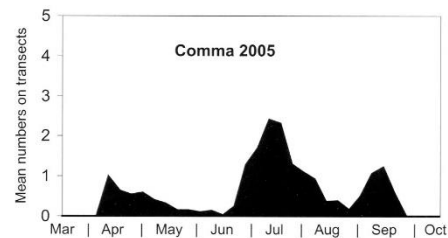
Maximum number seen: 13 at Balls Wood on March 18th

Mean index of abundance: 20

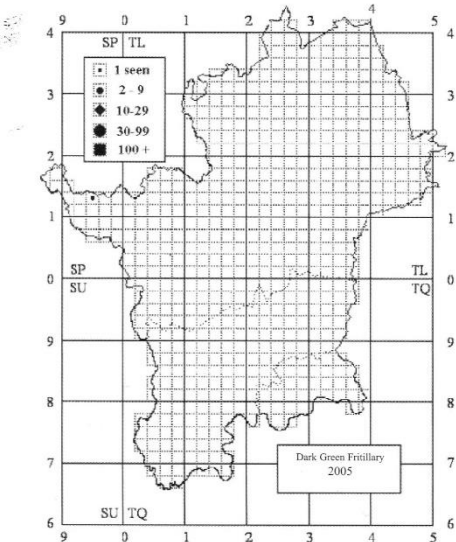
Change in abundance since 2004: 11% increase

Recorded in: 200 tetrads (53% of those covered)

Range change since 2004: 26% expansion



A fairly good year for this butterfly. "The over-wintering individuals were thin on the ground but those that were around seem to have bred successfully as there were good numbers from mid July to the end of September, so spring 2006 should be good". (Wood 2005b) On 10th April, Nick Bowles wrote "I saw a Comma lay on a blackcurrant in my garden this afternoon, in Tring, Herts. A single egg on the upper surface of a semi-shaded leaf about 50 cm from the ground in a mixed hedge". Although Nettle is the most common plant selected by this species, Emmet & Heath (1990) list currant among 4 alternative foodplants. If you haven't already done so, I strongly recommend reading Cherry Eggleton's interesting and amusing article on attracting and rearing this species and others in her street in central London, in the December newsletter (Eggleton 2005).



Dark Green Fritillary *Argynnis aglaja*

Sole record: 11th July at Aldbury Nowers (Martin Hicks)
Mean index of abundance: 1
Change in abundance since 2004: 33% decrease
Recorded in: 1 tetrad (0.3% of those covered)
Range change since 2004: 57% contraction



Dark Green Fritillary
 Photo: Alan Downie

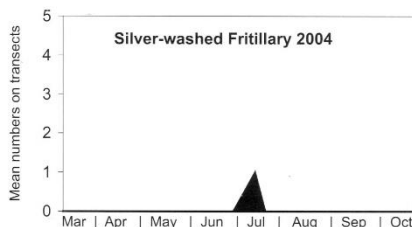
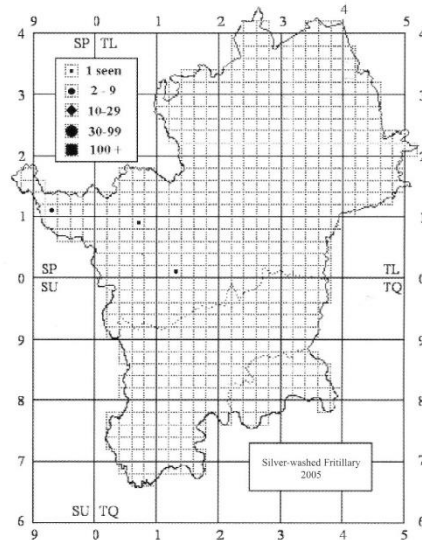


Silver Washed Fritillary
 Photo: Richard Bigg

A disappointing year after the four sightings last year, but good to see at least one record for our two counties. This species has been rising to well above average numbers elsewhere in the country in recent years, so it just requires the right habitat in sufficient quantity for it to settle and breed here. Hopefully if the present active conservation work at Aldbury Nowers, Tring Park and Therfield Heath continues, then we may see a return of a species which was once secure at several sites along the chalk of north Hertfordshire, as well as other sites such as Northwood, Copse Wood and Enfield in Middlesex (Plant 1987).

Silver-washed Fritillary *Argynnis paphia*

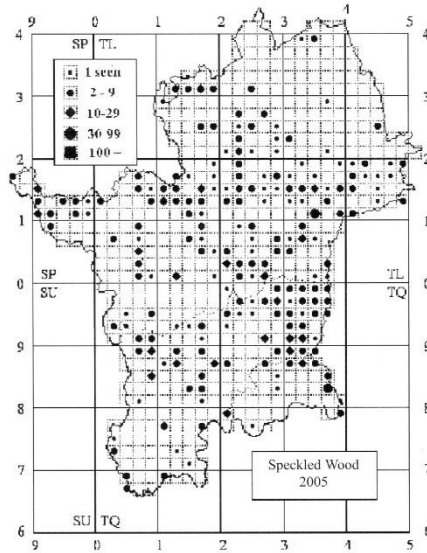
First seen: 10th July at Bricket Wood (Colin Everett)
Last seen: 11th August at Hemel Hempstead (Malcolm Newland)
Peak date: 10th July
Maximum number seen: 1 on all occasions
Mean index of abundance: 1.5
Change in abundance since 2004: 71% decrease
Recorded in: 3 tetrads (0.8% of those covered)
Range change since 2004: 57% contraction



This species has unfortunately not maintained the recent increases following its sudden reappearance in our area in 2003. It still seems to be breeding here, but there was a total of 7 sightings at 3 sites, as opposed to 25 sightings at 10 sites last year.

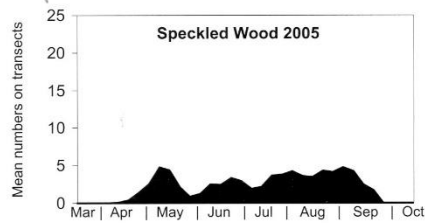
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Tetrads seen:		1	1	2	0	0	1	2	0	3	11	3
Bricket Wood:	0	0	0	0	0	0	0	0	0	0	2	2
Tring Park:			0	0	0	0	0	0	0	0	9	0

Bricket Wood accounted for most reports: "I had only 2 sightings this year, both in Bricket Wood on 9 and 10 July (one on the transect & one the following day on the branch field trip). Both sightings were in the same place, about half a mile from the area of last years sightings. It was probably the same individual, a male. Colin Everett's sighting of a female at Munden Spring, part of the Bricket Wood complex, is probably more significant." (Malcolm Hull). Perhaps the most surprising locality was Malcolm Newland's Hemel Hempstead garden on both August 3rd and 11th: "Very worn specimens; possibly the same one, which nectared on Buddleia Lochwich. Amazingly lucky to see them!" The other locality was Tring Park, where Phil Woodward saw one on 12th August.



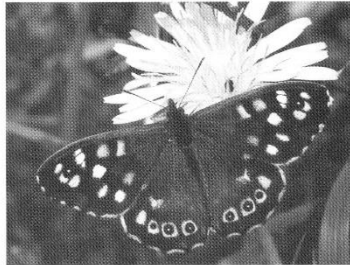
Speckled Wood *Pararge aegeria*

First seen: 2nd April at Railway Fields (Keir Mottram)
Last seen: 28th October at Alexandra Park (Dennis Dell)
Peak date: 4th September
Maximum number seen: 39 at Balls Wood on 1st May (Andrew Wood)
Mean index of abundance: 76
Change in abundance since 2004: 6.6% decrease
Recorded in: 207 tetrads (54% of those covered)
Range change since 2004: 4% expansion



"Speckled Wood numbers were down again – the fewest I have ever recorded – which is disappointing" (Andy Holtham, Pryors Wood). "Speckled Wood numbers have dropped, I fancy because of the lopping (not felling) of *Cypripedium calceolifolium* in the public park" (Paul Jeffery at Roxbourne Rough)

"Another butterfly whose numbers seem to be dwindling locally. Bricket Wood used to be its stronghold and numbers dwarfed all other species. First numbers fell there - it's now only fourth most common - and now seen only in ones or twos elsewhere in the district. Unusual behaviour I've not seen before - one seen nectaring on ragwort at Bricket Wood. Another roosted overnight in my kitchen on 16 June." Malcolm Hull

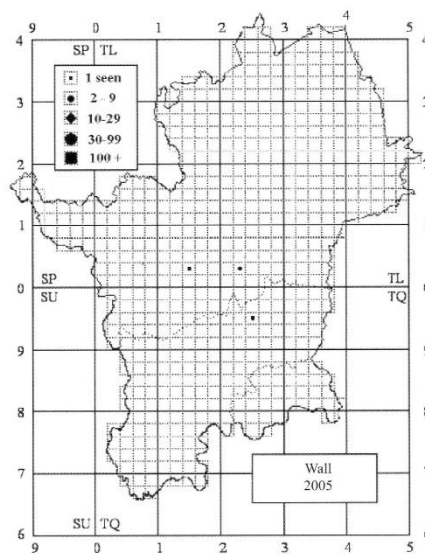


Speckled Wood
 Photo: Alan Downie

Wall *Lasiommata megera*

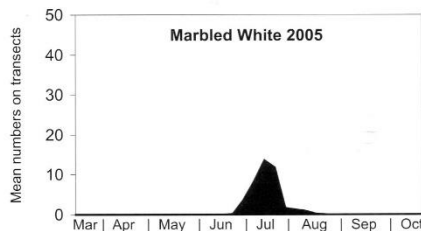
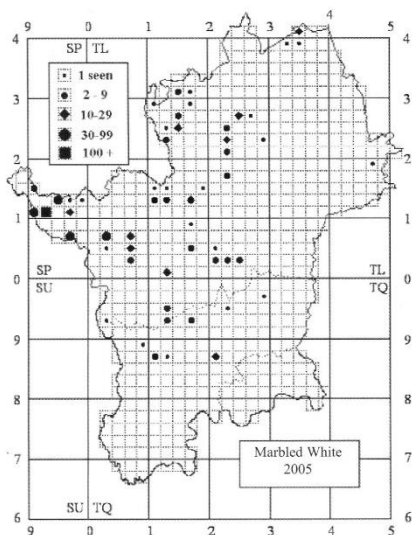
First seen: 11th June at Hanstead Wood (Henry Ellis)
Last seen: 8th August at North Mymms (Jane Fielding)
Maximum number seen: 1 on each occasion
Recorded in: 3 tetrads (0.8% of those covered)
Range change since 2004: 91% expansion

Val Fullford walked the Wood Lane Pirton transect this year, which covers the last remaining colony of this species in the entire branch area, but unfortunately did not see a single specimen. She managed only 16 weeks, and although the spring brood was poorly covered, the summer brood weeks were virtually complete and walked in good weather. The last singleton was recorded here in 2003, and it is starting to look probable that we have lost the final breeding colony of this species in our area, so that we have yet another extinction to add to the three that have occurred in the past ten years. However, odd examples of this butterfly do keep turning up at widespread localities, and this year there were 3 reported: at Barnet, at North Mymms and also Hanstead Wood ("a new small community woodland project in the grounds of HSBC Management College in Bricket Wood" writes Henry Ellis).



Marbled White *Melanargia galathea*

First seen: 23rd June at Bunkers Park (Michael Pearson)
Last seen: 21st August at Aldbury Nowers (Malcolm Hull)
Peak date: 11th July
Maximum number seen: 59* at Tring Park on 11th July (Brian Jessop)
Mean index of abundance: 45
Change in abundance since 2004: 18% decrease
Recorded in: 55 tetrads (14% of those covered)
Range change since 2004: No significant change



The slight drop in numbers is offset by the news that this species is continuing to extend its range further east. "Had my very first sighting of a Marbled White" writes Bob Clift from his Bishops Stortford transect, indicating that the avant-garde of this species has now spread right across Hertfordshire. This sighting is 10 km further east than any previous record in our area. It continues to spread elsewhere: "On 12th July, two roads from my Ruislip home I pass a Marbled White, but assume mistaken identity as I have never seen one here in 35 years. 30 minutes later I am taking a picture of one in my garden!" (Nicholas Furtek). Reports from London are not so encouraging: "The small colony of Marbled White did not show up on transects and I'm only aware of one record of the species at all from 2005 on these sites." (David Howdon, Horsenden Hill)



Marbled White
 Photo: Pat Watt

Gatekeeper *Pyronia tithonus*

First seen: 19th June at Broxbourne Wood (Ian Clayton & Sue Lawrence)

Last seen: 3rd September at Knebworth (Ken King)

Peak date: 23rd July

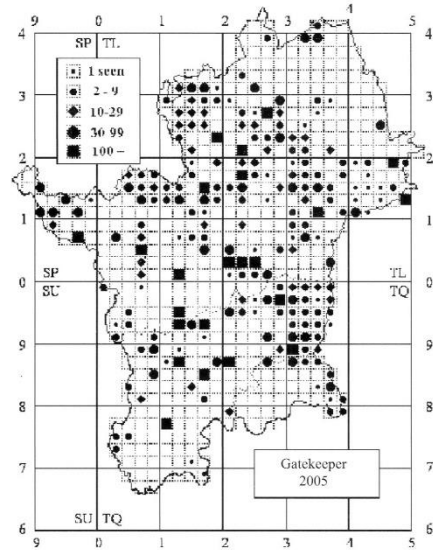
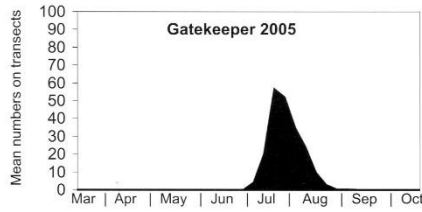
Maximum number seen: 173* at Gobions Wood on 17th July (John Hollingdale)

Mean index of abundance: 234

Change in abundance since 2004: 9.5% increase

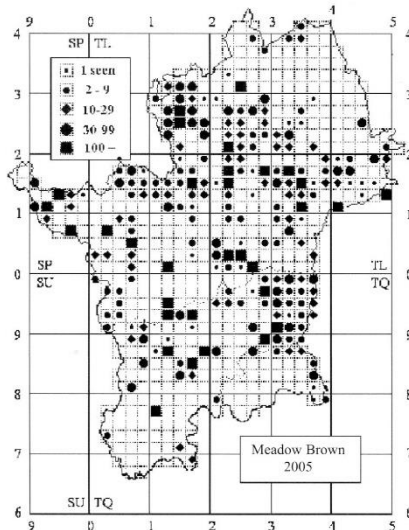
Recorded in: 221 tetrads (58% of those covered)

Range change since 2004: 14% expansion



This butterfly is on a roll at the moment, with an increase in abundance for the third year running. As last year, it was particularly noticeable in London and the suburbs, as reflected in Kathy Hall's comments from Gunnersbury Triangle: "Throughout July, clouds of Gatekeepers were spotted over the path by the large meadow, the larvae feeding on the grasses nearby" and David Bevan's from Railway Fields "yet another increase in Gatekeeper numbers". The overall longer-term picture from transects is also of generally increasing numbers:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Clifford Road:	31	158	22	72	49	156	95	210	19	104	176	122
Danesbury Park:			427	254	256	342	305	414	268	324	239	353
Gutteridge Wood:	226	278	321	289	201	136	84	54	50	110	175	182
Railway Fields:				4	3	15	36	51	75	83	198	261



Meadow Brown *Maniola jurtina*

First seen: 6th June at Gunnersbury Triangle (N.Thompson & K.Hall)

Last seen: 16th October at Aldbury Nowers (Malcolm Hull)

Peak date: 13th July

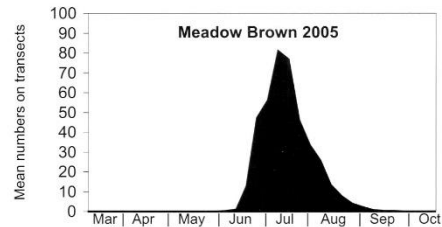
Maximum number seen: 335* on 11th July at Knebworth (Ken King)

Mean index of abundance: 453

Change in abundance since 2004: 51% increase

Recorded in: 232 tetrads (61% of those covered)

Range change since 2004: 12% expansion



Meadow Brown had a good year in 2005, with large numbers building up in early July in several places. "Huge numbers of Meadow Browns this year, numbers sighted during transect walks increasing from 254 to 722" (Roger Prue at Shrubhill Common). More surprising were the very late sightings made at chalk downland sites, firstly by Brian Jessop at Tring Park on 7th October, and then, incredibly, on 16th October by Malcolm Hull, who writes: "I was struck by the abundance of Meadow Browns at Aldbury Nowers on my visits in late August & early September. They were prolific at Bricket Wood this year, but all finished by mid August. But on the chalk it was a different story with counts of over 50 on both 21st August & 3rd September. Could this be because there are more nectar sources on chalk at this time of year? The real surprise was the late sighting on 16th October, when Michael Pearson led a working party to cut and burn grass & scrub. Retreating up the slope to escape a pall of smoke I was amazed to see a late Meadow Brown, flitting round in the grass. It looked faded, but was still in good enough shape to fly off at speed as I approached." This is by far the latest ever recorded in our area, beating Brian Sawford's previous record of 8th October 1995 by 8 days.

Ringlet *Aphantopus hyperantus*

First seen: 14th June at Pishiobury Park (Judy Raymond)

Last seen: 9th August at Shrubbs Wood (Brian Jessop)

Peak date: 5th July

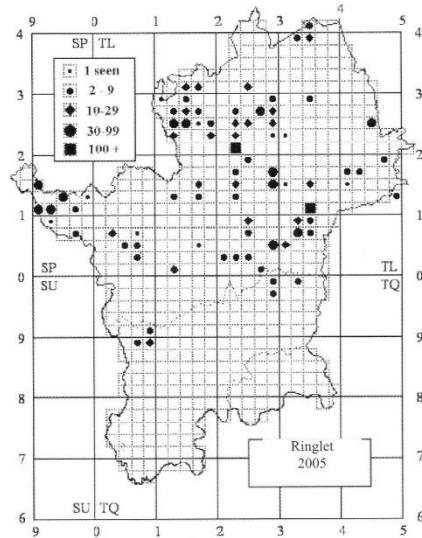
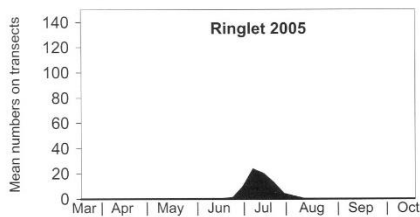
Maximum number seen: 195 at Balls Wood on 3rd July (Andrew Wood)

Mean index of abundance: 76

Change in abundance since 2004: 3% increase

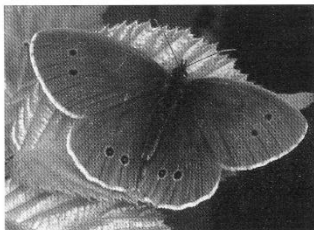
Recorded in: 78 tetrads (21% of those covered)

Range change since 2004: 21% expansion

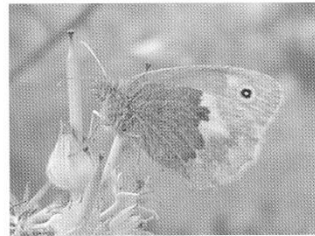


The slight increase in abundance is probably insignificant, but after last year's setback this species is certainly maintaining the higher populations following some years of strong increases and expansion in range in both counties. At some transects it is now the commonest species, such as Balls Wood: "With the decline in Speckled Woods, Ringlet has regained the most common species crown, making up over 25% of all butterflies recorded" (Wood 2005a). However, conditions at other sites, particularly where mowing has increased, show the opposite: "Ringlet numbers have again decreased significantly" (Roger Prue at Shrubhill Common). Taking a longer view, it is certainly a lot more numerous now than it was ten years ago, and has colonised many sites:

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Balls Wood:		49	168	390	296	265	375	364	545	882	559	565
Danesbury:			0	0	0	1	0	12	3	10	6	8
Knebworth:			5	83	96	204	247	?	224	299	285	290
Stevenage:	3	14	0	17	36	94	38	138	82	250	53	178



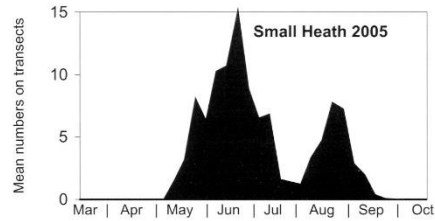
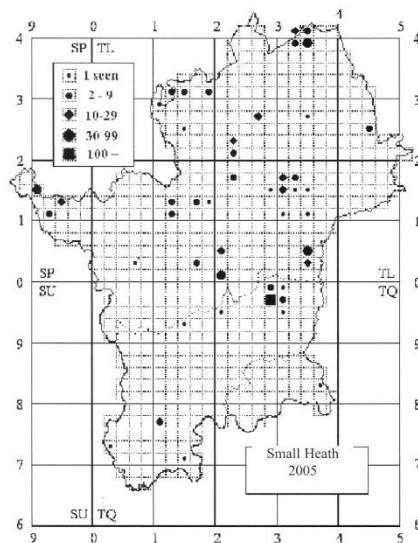
Ringlet
Photo: Alan Downie



Small Heath
Photo: Andrew Wood

Small Heath *Coenonympha pamphilus*

First seen: 7th May near Hertford (A.Middleton)
Last seen: 24th September at Therfield Heath (A.Beale)
Peak date: 20th June
Maximum number seen: 161* at Trent Park on 18th June (Robert Callf)
Mean index of abundance: 105
Change in abundance since 2004: 4.8% decrease
Recorded in: 47 tetrads (12% of those covered)
Range change since 2004: 13% expansion



No significant change as far as numbers go, but it definitely seems to have expanded its range and has reappeared at some sites such as Danesbury Park: "In June I saw some Small Heath butterflies; the first time since 2000" (Watt 2005), Patmore Heath: "12 seen after an absence of 3 years. Hopefully benefitting from the reintroduction of grazing." (Gavin Vicary) and Ball's Wood: "A return to the wood for the first time since 1996. It was seen in September in the area of dry grass near where Hornbeams were pollarded in 2003. This has led to more light here and it is hoped this unusual habitat in this generally damp wood will continue to thrive" (Wood 2005a). It has also reached the very centre of London this year: "On July 10th one male Small Heath, a new species for the park, was recorded on the transect." (Terry Lyle at Tower Hamlets).

Unusual sightings

Heath Fritillary *Mellicta athalia*

"On 25th June, I counted 7 Heath Fritillary at Park Wood, Ruislip. There is a lot of Cow-wheat there". Brian Day. This species was introduced here in 2004 (not very successfully) and 2005, but this introduction was not supported by Butterfly Conservation, as it broke the insect reintroduction code.

Silver-spotted Skipper *Hesperia comma*

Malcolm Hull reports a possible sighting of this species on August 21st:

"When I reviewed the new Upper Thames Branch Atlas earlier this year I was intrigued to see a recent record for Silver Spotted Skipper close to the Herts border. Having liaised with Richard Soulsby, the UTB Silver-spotted Skipper species champion the location was confirmed as Ivinghoe Beacon, although the 2 records could not be confirmed as accurate, possibly being misidentified Large Skippers. So I set off today to look for Silver-spotted Skipper at Ivinghoe Beacon and to see if I could repeat Nick Bowles' sighting of Chalkhill Blues at Aldbury Nowers.

At Ivinghoe in one hour I saw 70 Chalk hill Blues, one Essex Skipper and two Small Skippers, but no Silver-spotted Skipper. At Aldbury Nowers I saw 4 Chalkhill Blues, (2 male & 2 female), located in two distinctly separate parts of the reserve. I also saw one very worn looking Small Skipper and one very fresh Silver Spotted Skipper. The butterfly I saw was superficially similar to a Large Skipper, about the same size. The upper sides were the same orangy colour, but darker towards the tips. The undersides were marked with bright white spots. It was nectaring on wild basil in an area of short grazed chalk turf with patches of bare soil all around. (The same area in fact where we saw most of the Grizzled & Dingy Skippers on the branch field trip I led in May) I got a good look at it for about 15 seconds & saw both upper & undersides of the wings clearly. I then had a second sighting a few minutes later for another 5 seconds, probably the same individual. I have seen Silver-spotted Skippers before, but not for some years. I am very familiar with Large Skippers and am certain this was different. The fact it was such a fresh looking individual, the date and location all seem right. I had studied the photos in Tomlinson & Still over lunch & am confident this is a correct identification. Unfortunately the trusty Coolpix has been packed off to Japan for repairs, so no photo available. I see no reason not to publicise the location if others want to look, which was at the foot of the slope in the northern clearing, along the Ridgeway towards Pitstone Hill." Elizabeth Goodyear and Andrew Middleton searched the same clearing two days later, but found only a solitary Large Skipper.

How to record butterflies

Butterfly Mapping

Butterfly mapping is probably the most enjoyable form of recording there is. It can only be done in fine, warm weather, and it gets you to different places you would never otherwise think of visiting, and gives you the best opportunity of making important discoveries. There is nothing more satisfying than a long summer's day, a pub lunch and dozens of beautiful butterflies at site after site in far-flung corners of the countryside.

2005 was the first year of a new 5-year project to map the distribution of butterflies in Hertfordshire and Middlesex, in which we shall be concentrating on getting as good a coverage as possible. This means that rather than visiting the same site every week, you should aim to find a new tetrad (2 x 2 km square) each time you record. Borders of tetrads are marked as the even numbered grid lines on Ordnance Survey maps; if you are not sure where tetrad boundaries lie near you then write to John Murray for information. Try and make sure that the places you visit have not been recorded by others. There are already more than 50 transects in which butterflies are recorded every week, so do not visit sites in the same tetrad as these. There is also a map on the website under "mapping challenge" that shows where the unvisited sites are. As soon as all tetrads have been visited, then start going through tetrads again, preferably in a different month of the year from before, or else at a different site in a different 1 km square.

A single site visit should normally last about half an hour or more in good weather, though if there are dozens of butterflies, 20 minutes will sometimes be enough, then move on to the next tetrad. The butterflies will not come to you, so do not stand still, but take a circular walk around the site, visiting the different likely habitats such as woodland edges or glades, grassland, clumps of wild flowers or overgrown footpaths, or waste land, Buddleia bushes, and gardens in towns, and note the numbers of each species of butterfly that you see. Numbers of each species are easy enough when butterflies are few and far between, but when faced with a field alive with clouds of Meadow Browns and Skippers it's not so easy. When numbers are high it doesn't matter too much if you accidentally leave some out or count some twice; counting is always better than a rough guess. Always make sure of the species; get a good view of the butterfly, preferably settling, before noting it down. Remember that a smallish white butterfly, for example, is not necessarily a Small White, but could also be a Green-veined White, female Orange Tip, or even a small specimen of a Large White. Make sure you record the time you start and end such a walk, to the nearest minute. Sites can either be visited by car, or another way of doing it is to plan a longer walk that takes you through several different tetrads. Always give the grid reference to at least the nearest 1 km grid square; a six-figure (100 metre) grid reference is best of all. Always start a new column on the recording form each time you cross into a new kilometre square, and note the length of time spent in each. The best time for butterfly mapping is probably a heatwave in July or the first half of August, when you will certainly see the most butterflies, but visits on fine days in April and May are important as well to get the spring species such as Orange Tip.

Use the recording forms sent out with this report (extra ones can be downloaded from the website at <http://www.hertsmiddx-butterflies.org.uk>). If you are able to help, then please contact John Murray at j.b.murray@open.ac.uk or in the evenings on 01582 833544, who will put you in contact with your local decad co-ordinator. Decad coordinators will be responsible for seeing that each tetrad gets at least one visit per year throughout the project. Mapping records should be sent to John Murray at intervals throughout the year, rather than all at once at the end, so that the workload of entering them onto the database can be spread more evenly.

Transects

Transects should only be carried out by experienced observers who can recognise virtually all butterfly species on the wing. The method consists in walking the same route at least once a week between 1st April and 29th September under standard meteorological conditions of temperature, wind and sunshine, and noting the numbers of each species of butterfly seen within a set distance from the observer, usually 5 metres. This method gives information on the variation in butterfly numbers within the season, and from year to year. It is the main method by which declines in species can be quantified, and as such is extremely important.

A transect walk involves committing an hour or so per week throughout the spring and summer months; if you would like to start one going, write to John Murray for a transect package which includes full instructions and a set of recording forms, or download them from the website at: <http://www.hertsmiddx-butterflies.org.uk>. Select a route near you that takes about 30 minutes to walk when there are no butterflies, as this will expand to more than an hour at the height of summer. The transect should be walked between 10.45 a.m. and 3.45 p.m. when the temperature is above 13°C and the winds below strength 5 (fresh breeze; small trees in leaf begin to sway). When the temperature is between 13° and 17°, the transect may be walked if there is at least 60% sunshine. Above 17°C, the transect can be walked in any conditions except rain. There are some weeks, particularly early in the season, when these meteorological conditions cannot be met. Again it is better to walk the transect when it is a bit too cold or too cloudy rather than not to walk it at all, but a careful note of conditions should always be kept.

Butterfly behaviour and casual records

In addition to the records above, don't forget to add notes of any unusual behaviour or other interesting information. This might include observations of early stages, unusual foodplants, species new to your area, trends or changes from previous years, or simply anecdotes that bring life to the report. Finally, I should say that we are pleased to receive records of butterfly sightings from anyone at any time; the *minimum* requirements for a record are:

1. butterfly species
2. date seen
3. place seen
4. number seen.

plus of course your name, address and telephone number. If the species is rare, describe as much as you can about the appearance of the butterfly, where you saw it, how it behaved, how you identified it, and if possible get a photograph.

Butterfly records should be sent to John Murray at the address on the back cover before **9th November 2006**:
Latest sightings can be viewed at <http://www.hertsmiddx-butterflies.org.uk>

HERTFORDSHIRE AND MIDDLESEX MOTH REVIEW FOR 2005

ANDREW WOOD - BRANCH MOTH OFFICER

This review considers notable moth records from across our two counties during 2005. These may be nationally rare species, migrant moths, unusual flight times or locally notable species that may be widespread but are only rarely recorded. A number of new species for both counties are listed here and this all goes to show that there is always something new to be discovered. All records of moths in Hertfordshire and Middlesex sent in by BC branch members are stored in a database, which is maintained by Colin Plant as the formal County Recorder. Only validated records are added to the database, a duplicate copy of which is kept by Andrew Wood as BC Branch Moth Officer. The information presented in this report is extracted from the database after validation. We are grateful to Colin for making this data readily available to us for this review. Records without a county are for Hertfordshire.

The database can be accessed by contacting Colin. There is no charge for the data as long as you are not making a profit from it. Your records from both vice- county areas are tremendously important - please do keep them coming in. Please send all moth records to the recorder for Hertfordshire and Middlesex:

Colin W. Plant	Tel/Fax: 01279 507697
14 West Road	email: cpauk1@ntlworld.com
Bishops Stortford	
Herts.CM23 3QP	

Colin is happy to receive specimens for identification, be these samples from moth traps or dead specimens from window sills, light fittings etc. All specimens must be packed to avoid damage (telephone first for advice if you wish) and must have the place and date of capture/discovery attached. If you want the specimens back you should say so (or they will be binned/released) and please enclose the return postage. He is also prepared to try to identify moths from photographs, though success is not always guaranteed as critical features may not be visible.

I would recommend anyone interested in moths in Hertfordshire to join the Herts Moth Group c/o Colin Plant at the above address or see the group's website at <http://www.hertsmothgroup.org.uk>. There is no membership fee.

NOTABLE RECORDS FOR 2005

2005 was an unspectacular year for moth recording. Numbers recorded were very low during a cool spring. This was followed by a dry summer which did little to improve things. It was also a poor year for migrant moths with relatively few records of even the regular migrants.

The listings below give records that stand out for a number of reasons, they may be rarely recorded, or first records for some time or occasionally new to Hertfordshire or Middlesex. The records for the micro moth groups may include some species that are actually quite well distributed or common but because few people record them, and in the past perhaps even fewer, the number of records give the appearance of rarity or limited distribution.

In each species, the record is of the adult, unless otherwise noted in brackets e.g. (mine) and is of one specimen unless otherwise noted in brackets e.g. (2).

ERIOCRANIIDAE

Eriocrania chrysolepidella (mine) Golden Grove, Gilston, 3 May - Colin Plant; (mine) Datchworth, 24 May - Stephen Palmer

Eriocrania salopiella (vacated mine) Rye House Power Station land, 17 Jun - Colin Plant; (vacated mine) Golden Grove, Gilston, 19 Jun - Colin Plant

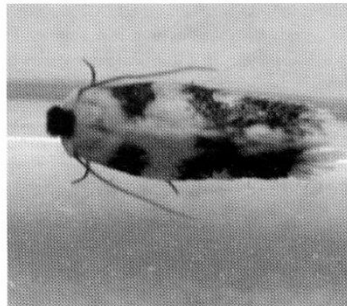
NEPTICULIDAE

- Ectoedemia decentella* Bayfordbury, 18 Jun - Colin Plant
Ectoedemia angulifasciella (mine) Datchworth, 1 Oct - Stephen Palmer
Ectoedemia atricollis (mine) Datchworth, 1 Oct - Stephen Palmer; (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Ectoedemia albifasciella (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Ectoedemia subbimaculella Datchworth, 21 Jun - Stephen Palmer
Ectoedemia septembrella (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Stigmella splendidissimella (mine) Casiobury Park, 15 Oct - Dave Murray
Stigmella lemniscella (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella plagicolella Barnet, (2) 23 Jul - Rachel Terry; (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella trimaculella (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella floslactella (mine) Datchworth, 1 Oct - Stephen Palmer; (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Stigmella tityrella (mine) Datchworth, 1 Oct - Stephen Palmer; (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Stigmella perpygmaeella (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella ulmivora (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella ruficapitella Bower Heath, 21 May - Colin Plant; (mine) Casiobury Park, 15 Oct - Dave Murray; (mine) Watford, 15 Oct - Dave Murray
Stigmella basiguttella (mine) Datchworth, 1 Oct - Stephen Palmer; (mine) Roughdown Common, 1 Oct - Colin Plant



Ectoedemia subbimaculella

Photo: Andrew Wood



Ectoedemia decentella

Photo: Andrew Wood

- Rose Leaf Miner** *Stigmella anomalella* (mine) Datchworth, 1 Oct - Stephen Palmer; (larva) Friars Wood, 30 Oct - John Chainey; (mine) Philpotts Wood, 20 Nov - John Chainey
Stigmella viscerella (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella catharticella (mine) Roughdown Common, 15 Jul - Colin Plant
Stigmella hybnerella (mine) Datchworth, 1 Oct - Stephen Palmer; (mine) Roughdown Common, 1 Oct - Colin Plant; (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Stigmella oxyacanthella (mine) Datchworth, 1 Oct - Stephen Palmer; (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Stigmella crataegella (mine) Datchworth, 1 Oct - Stephen Palmer
Stigmella sakhalinella (mine) Ware, 25 Jun - Liz Goodyear
Stigmella lapponica (mine) Bramfield Wood, 4 Oct - Stephen Palmer
Stigmella confusella (mine) Bramfield Wood, 4 Oct - Stephen Palmer

OPOSTEGIDAE

- Opostega salaciella* Panshanger, 19 Jun - Raymond Uffen; Nomansland Common, 10 Jul - Raymond Uffen

INCURVARIIDAE

- Lampronia rubiella* Barnet, 8 Jun - Rachel Terry
Nematopogon schwarziellus Marshall's Heath, 11 May - John Murray; Datchworth, (2) 25 May - Stephen Palmer; Royston, 27 May - John Chainey
Nematopogon metaxella Grove Wood, 2 Jul - Colin Plant

TINEIDAE

- Nemapogon ruricolella* Barnet, 6 Aug - Rachel Terry
Nemapogon clematella Marshall's Heath, 4 Aug - John Murray
Triaxomera parasitella Marshall's Heath, 9, 26 Jun - John Murray

Monopis crocipitella Barnet, 13 Sep - Rachel Terry

Tinea columbariella Greenford, Middx, 9 Jun - Andy Culshaw; (larva) Barnet, 23 Jun - Rachel Terry

LYONETIIDAE

Laburnum Leaf Miner *Leucoptera laburnella* (mine) Watford, 15 Oct - Dave Murray

Leucoptera spartifoliella Roughdown Common, 16 Jul - Colin Plant

Pear Leaf Blister Moth *Leucoptera malifoliella* (mine) Datchworth, 1 Oct - Stephen Palmer

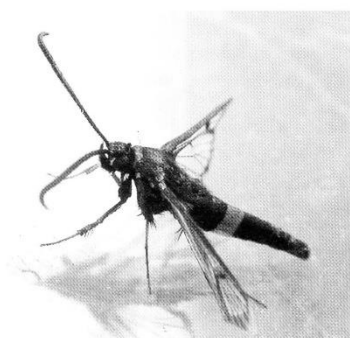
Bedellia somnulentella (larva) Datchworth, 1 Oct - Stephen Palmer

GRACILLARIIDAE

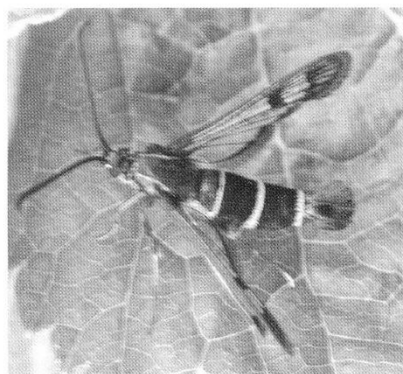
Aspilapteryx tringipennella (mine) Weston Hills., 15 Jun - Kerry Robinson

Eucalybites auroguttella (mine) Datchworth, 1 Oct - Stephen Palmer; *Eucalybites auroguttella* (mine) Bramfield Wood, 4 Oct - Stephen Palmer

Acrocercops brongniardella Marshland Wood, 21 Jun - Colin Plant



Red-belted Clearwing
Photo: Andrew Wood



Currant Clearwing
Photo: Andrew Wood

Horse Chestnut Leaf Miner *Cameraria ohridella*

The records below show that this recently arrived species has continued the great momentum which caused its spread across Europe and has spread all over our region. As with most other leaf mining species virtually all the records are of the larval leaf mines (illustrated in last year's report) rather than adults.

(mine) Totteridge Common, 21 Jun - Wendy Hatton; (mine) Northaw Great Wood, 23 Jun - Liz Goodyear; (mine) Hitchin, 2 Jul - Kerry Robinson; (mine) Brickendon, 3 Jul - Liz Goodyear; (mine) Hoddesdon, 3 Jul - Liz Goodyear; (mine) Fir and Pond Woods Nature Reserve, Middx, 12 Jul - Liz Goodyear; (mine) North Mymms, 12 Jul - Liz Goodyear; (mine) Whitewebbs Wood, 12 Jul - Liz Goodyear; (mine) Welwyn, 13 Jul - Raymond Uffen; (mine) Chalkleys Wood, 16 Jul - Liz Goodyear; (mine) Hitch Wood, 16 Jul - Liz Goodyear; (mine) Harrow, Middx, 26 Jul - John Hollingdale; (mine) Hoddesdon, 6 Aug - Joan Childs; (mine) Bishops Stortford, 17 Aug - Colin Plant; (mine) Much Hadham, 17 Aug - Liz Goodyear; (mine) Hertford, 18 Aug - Liz Goodyear; (mine) Ware, 20 Aug - Liz Goodyear; (mine) Hatfield, 31 Aug - Wendy Hatton; Barnet, 13 Sep - Rachel Terry; Barnet, 14 Sep - Rachel Terry; (mine) Hertford, 20 Sep - Liz Goodyear; (mine) Stanstead Mill Stream, 20 Sep - Liz Goodyear; (mine) Heathrow Airport, Middx, 25 Sep - Andy Banthorpe; (mine) Datchworth, 1 Oct - Stephen Palmer

SESIIDAE Hornet and Clearwing Moths

Hornet Moth *Sesia apiformis* (larva feeding signs) Shaftenhoe End, 27 Mar - John Chainey; (larva feeding signs) Cottered, 1 Apr - Colin Plant; (larva feeding signs) Ashwell, 3 Sep - John Chainey; (larva feeding signs) Philpotts Wood, 20 Nov - John Chainey

Lunar Hornet Moth *Sesia bembeciformis* (larva) Bishops Stortford, 27 Jun - Colin Plant; (larva) Danemead Nature Reserve, 27 Jun - Liz Goodyear; (larva) Eastwick Ford, 27 Jun - Colin Plant; (larva) Rowneybury, 27 Jun - Colin Plant; (larva) Rye House Power Station land, 27 Jun - Colin Plant; (larva) Sawbridgeworth Marsh, 27 Jun - Colin Plant; (larva) Thorley Flood Pound area, 27 Jun - Colin Plant

Currant Clearwing *Synanthedon tipuliformis* Bengeo, 25, 27 Jun - Andrew Wood; Hertford, 27 Jun - Andrew Wood; Bullscroft Farm Chorleywood, (4) 19 Jun - Colin Everett;

Red-belted Clearwing *Synanthedon myopaeformis* Bengeo, 18 Jun, (3) 19 Jun - Andrew Wood; Hertford, 27 Jun - Andrew Wood; Letchworth, 26 Jun - Ian Small; Hitchin, 10 Jul - Andy Banthorpe; Marshall's Heath, 16 Jul - John Murray

Red-tipped Clearwing *Synanthedon formicaeformis* Hertford, 27 Jun - Andrew Wood

CHOREUTIDAE

Apple Leaf Skeletonizer *Choreutis pariana* Marshall's Heath, 26 Sept - John Murray

YPONOMEUTIDAE

Eidophasia messingiella (larva) Barnet, 23 Jun - Rachel Terry

Acrolepia autumnitella Datchworth, 27 Sep - Stephen Palmer

EPERMENIIDAE

Epermenia chaerophyllella Bengo, 2 Apr - Andrew Wood

COLEOPHORIDAE

Coleophora gryphipennella (mine) Roughdown Common, 1 Oct - Colin Plant; (larva) Datchworth, 24 May - Stephen Palmer

Coleophora violacea (larva) Datchworth, 1 Oct - Stephen Palmer

Coleophora peribenanderi (larva) Datchworth, 1 Oct - Stephen Palmer

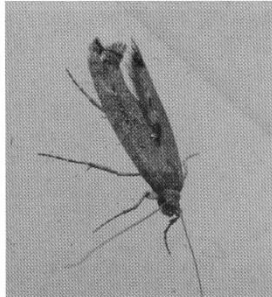
ELACHISTIDAE

Elachista albifrontella Bayfordbury, 18 Jun - Colin Plant; Datchworth, 21 Jun - Stephen Palmer

OECOPHORIDAE

Metalampra italica Dowdells Wood, 18 Jun - Raymond Uffen; Welwyn, (5) 30 Jun - Raymond Uffen

Tachystola acroxantha Greenford, Middx, 20 May - Andy Culshaw; Greenford, Middx., 23 Jun - David Howdon



Epermenia chaerophyllella
Photo: Andrew Wood



Cochyliis roseana
Photo: Andrew Wood

GELECHIIDAE

Apodia bifractella Barnet, 10 Aug - Rachel Terry

Neofriseria singula Nomansland Common, 10 Jul - Raymond Uffen

Caryocolum tricolorella Marshall's Heath, 2 Aug - John Murray

Psoricoptera gibbosella Perivale Wood, Middx., 22 Jul - David Howdon

Acompsia cinerella Marshall's Heath, 3 Jul - John Murray

MOMPHIDAE

Mompha bradleyi Rye Meads, (8) 15 Nov - Joan Childs

COSMOPTERIGIDAE

Apple Pith Moth *Blastodacna atra* Greenford, Middx, 20 Jun - Andy Culshaw; Last recorded in Herts in 1969.
(larva) Barnet, 23 Jun - Rachel Terry; Datchworth, 18 Jul - Stephen Palmer

SCYTHRIDIDAE

Scythris limbella Barnet, 18 Aug - Rachel Terry

TORTRICIDAE

Aethes cnicana Marshall's Heath, 3 Jun - John Murray

Aethes rubigana Golden Grove, Gilston, (2) 11 Jul - Colin Plant

Aethes beatricella Rye House Power Station land, 17 Jun - Colin Plant

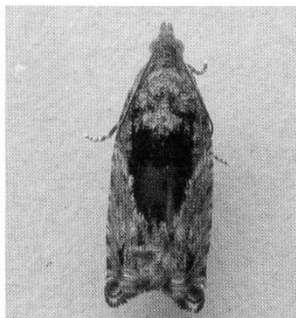
Cochyliis roseana Upper Sundon Quarry, 19 Apr - Colin Plant

Rose Tortrix *Archips rosana* Bricket Wood, 22 Jun - H. Ellis

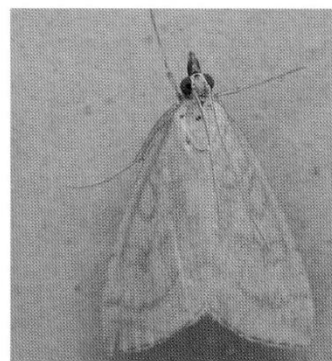
Isotrias rectifasciana Datchworth, 20 Jun - Stephen Palmer; Marshall's Heath, 19 Jun - John Murray

Cnephasia pasiuana Datchworth, (4) 19 Jul - Stephen Palmer

Cnephasia genitalana Datchworth, (2) 17 Jul, 18 Jul - Stephen Palmer
Acleris bergmanniana Totteridge, 21 Jun - Wendy Hatton
Acleris schalleriana (larva) Barnet, 23 Jun - Rachel Terry
Endothenia nigricostana Datchworth, 21 Jun - Stephen Palmer
Epinotia ramella Weston, 27 Jun - Alan Cockburn; Hazel Grove, Hatfield, 11 Jun - Colin Plant
Epinotia demarniana Datchworth, 21 Jun - Stephen Palmer
Epinotia immundana Bengoe, 1 May - Andrew Wood; Marshall's Heath, 28 Jul - John Murray
Epinotia solandriana Bengoe, 8 Jul - Andrew Wood
Crociosema plebejana Datchworth, 21 Jun - Stephen Palmer
Epiblema roborana Marshall's Heath, 13 Jul - John Murray
Epiblema foenella Bengoe, 9 Aug - Andrew Wood
Epiblema cirsiana Wyddial, 27 May - T. Casey
Eucosma conterminana Barnet, 10 Jul - Rachel Terry; Marshall's Heath, 3,31 Jul - John Murray
Eucosma aemulana (larva) Barnet, 23 Jun - Rachel Terry
Strophedra weirana (larva) Barnet, 23 Jun - Rachel Terry
Pammene argyrana Hertford Heath, 30 Apr - Colin Plant
Pammene regiana Rye House Power Station land, 17 Jun - Colin Plant; Golden Grove, Gilston, 11 Jul - Colin Plant
Grapholita janthinana Datchworth, 21 Jun - Stephen Palmer; Marshall's Heath, 2,4,28,29 Jul - John Murray
Cydia cosmophorana Bengoe, 9 Jun - Andrew Wood
Cydia conicolana Bengoe, 27 May - Andrew Wood
Dicrorampha acuminatana Marshall's Heath, 29 Jul - John Murray
Dicrorampha vancouverana (larva) Barnet, 28 Jun - Rachel Terry



Epinotia solandriana
 Photo: Andrew Wood



Udea lutealis
 Photo: Andrew Wood

PYRALIDAE

Pediasia contaminella Weston, 27 Jun - Alan Cockburn
Schoenobius gigantella Rye House Power Station land, 17 Jun - Colin Plant
Udea lutealis Bengoe, 5 Aug - Andrew Wood
Oncocera semirubella A first Middx record. Greenford, Middx., 21 Jul - David Howdon
Elegia similella (larva) Barnet, 23 Jun - Rachel Terry; Greenford, Middx., 23 Jun - David Howdon
Pyla fusca Harpenden, 1 Sep - Phil Gould
Cacao moth *Ephestia elutella* Marshall's Heath, 2 Jul - John Murray
Indian Meal Moth *Plodia interpunctella* Welwyn, 15 Jun - Raymond Uffen

PTEROPHORIDAE - Plume Moths

Platyptilia gonodactyla Datchworth, 25 May - Stephen Palmer

LASIOCAMPIDAE - Eggars

Pale Eggar *Trichiura crataegi* Cuffley, 30 Aug - Alan Bolitho
Lackey *Malacosoma neustria* Weston, 27 Jun - Alan Cockburn; Bengoe, 3, 4, 19, 22, 23 Jul - Andrew Wood; Bishops Stortford, 6, 26 Jul - Jim Fish
Oak Eggar *Lasiocampa quercus* Marshall's Heath, 15, 21, 29 Jul, 9 Aug - John Murray; Trent Park area, Middx, 12, 16, 17, 29, 30 Jul, 2 Aug - Robert Callf; Hillyfields Park, Middx., 11 Aug - Robert Callf

SATURNIIDAE

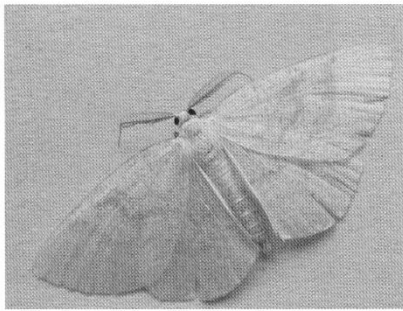
Emperor Moth *Saturnia pavonia* Ware, 29 Apr - Liz Goodyear; Puckeridge, (2) 29 Apr - Andy Bradford; Gubblecote, 11 May - Peter Bygate; (larva) Cheshunt, 11 Jun - P. M. Stephenson

THYATIRIDAE - Lutestrings

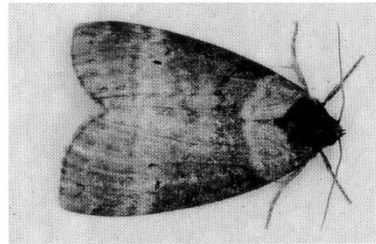
- Poplar Lutestring** *Tethea or* Datchworth, 25 May - Stephen Palmer; Hanstead Wood, 13 Jul - Henry Ellis
Common Lutestring *Ochropacha duplaris* Rye House Power Station land, 17 Jun - Colin Plant; Grove Wood, 2 Jul - Colin Plant
Oak Lutestring *Cymatophorima diluta hartwegi* Bayfordbury, 3 Sep - Colin Plant

GEOMETRIDAE

- Orange Underwing** *Archiearis parthenias* Digswell, 18 Mar - Tom Gladwin; Hoo Bit, 21 Mar - Liz Goodyear; Trent Park, Middx, 1 Apr - Robert Callf
Birch Mocha *Cyclophora albipunctata* Bishops Stortford, 27 Jun - T. J. Lewis; Bishops Stortford, 5 Jun - T. J. Lewis
Mullein Wave *Scopula marginepunctata* Wembley, Middx, 29 May - Geoffrey Geiger; (larva) Cheshunt, 4 Jun - P. M. Stephenson; Chorleywood, 17 Jun - Richard Ellis
Lesser Cream Wave *Scopula immutata* Last recorded in Herts in 1979. Gubblecote, 2 Jul - Peter Bygate
Cream Wave *Scopula floslactata* Bramfield Wood, 28 May - Andrew Wood; Datchworth, 20 Jun - Stephen Palmer; Bricket Wood, 4 Jul - H. Ellis
Satin Wave *Idaea subsericeata* Bishops Stortford, 27 Jun - T. J. Lewis; Bishops Stortford, 10 Jun - T. J. Lewis
Vestal Rhodometra *sacraria* Ware, 1 May - Liz Goodyear; Long Marston, 12 Sep - Alan Bernard; Marshall's Heath, 29 Oct - John Murray
Ruddy Carpet *Catarhoe rubidata* Bishops Stortford, 27 Jun - T. J. Lewis; Bishops Stortford, 14 Jul - T. J. Lewis
Wood Carpet *Epirrhoe rivata* Rye Meads, 3 May - Joan Childs
Dark Spinach *Pelurga comitata* Ashwell Quarry, 27 Jun - Emil de Maria; Ashwell Quarry, 9 Aug - Emil de Maria
Water Carpet *Lampropteryx suffumata* Bishops Stortford, 27 Jun - T. J. Lewis; Marshall's Heath, 2 Apr - John Murray; Scales Park, 21 Apr - Colin Plant; Scales Park, (3) 25 Apr - Colin Plant
Pretty Chalk Carpet *Melanthia procellata* Grove Wood, 2 Jul - Colin Plant; Golden Grove, Gilston, 11 Jul - Colin Plant



Cream Wave
Photo: Andrew Wood



Common Lutestring
Photo: Andrew Wood

- Scarce Tissue** *Rheumaptera cervinalis* Chorleywood, (2) 1, 26 May - Richard Ellis; Chorleywood, 27 May - Richard Ellis
Sharp-angled Carpet *Euphyia unangulata* Cuffley, 16 Jun, 4 Jul - Alan Bolitho
Barred Rivulet *Perizoma bifaciata* Ashridge Estate, 23 Jul - Colin Plant; Arbury Banks, 31 Aug - Jim Reid
Grass Rivulet *Perizoma albulata* Gubblecote, 26 May - Peter Bygate; Long Marston, 1 Jun - Alan Bernard
Twin-spot Carpet *Perizoma didymata* Bricket Wood, 23 May - H. Ellis
Slender Pug *Eupithecia tenuiata* Barnet, 10 Jul - Rachel Terry; Radwell, 10 Jul - Jim Reid; Offley Green, 11 Jul - Jim Reid
Netted Pug *Eupithecia venosata* Chorleywood, 7, 20 Jun - Richard Ellis; Wheathampstead, 8 Jun - Trevor Chapman; Arbury Banks, 19 Jun - Jim Reid;
Triple-spotted Pug *Eupithecia trisignaria* Bricket Wood, 7 Jul - H. Ellis
Yarrow Pug *Eupithecia millefoliata* Greenford, Middx. 23 Jun - David Howdon
Plain Pug *Eupithecia simpliciata* Bishops Stortford, 5 Jul - Jim Fish; Marshall's Heath, 14 Jul, 9 Aug - John Murray
Narrow-winged Pug *Eupithecia nanata* Bishops Stortford, 26, 31 Jul - Jim Fish
Ash Pug *Eupithecia fraxinata* Bishops Stortford, 2, 26 Jul - Jim Fish
Juniper Pug *Eupithecia pusillata* Roughdown Common, 16 Jul - Colin Plant
Larch Pug *Eupithecia lariciata* Grove Wood, 2 Jul - Colin Plant
Dwarf Pug *Eupithecia tantillaria* Barnet, 2 May - Rachel Terry; Bramfield Wood, 28 May - Andrew Wood; Marshall's Heath, 3, 7 Jun, 5 Jul - John Murray
Streak *Chesias legatella* Weston, 27 Jun - Alan Cockburn; St Albans, 13 Oct - Wendy Hatton; Bricket Wood, 27, 29 Oct - H. Ellis
Chimney Sweeper *Odezia atrata* Totteridge Common, 21 Jun - Wendy Hatton; Trent Park, Middx (10) 19 June - Diane Andrews; Forty Hall, Middx, (5) 22 Jun - Andrew Middleton.

Large Thorn *Ennomos autumnaria* Royston, 2 Sep - John Chainey
August Thorn *Ennomos quercinaria* Ashridge Estate, 23 Jul - Colin Plant
September Thorn *Ennomos erosaria* Cuffley, 27 Jun - Alan Bolitho; Barnet, 10 Aug - Rachel Terry
Square Spot *Paradarisa consonaria* Shenley, 27 Jun - Bill & Pearl Page
Brindled White-spot *Parectropis similaria* Bishops Stortford, 27 Jun - T. J. Lewis; Bengoe, 2 Jun - Andrew Wood; Bayfordbury, 18 Jun - Colin Plant; Chorleywood, 22 Jun - Richard Ellis
Grey Birch *Aethalura punctulata* Chorleywood, 5, 23 Jun - Richard Ellis; Bishops Stortford, 28 Jun - Jim Fish
Common Heath *Ematurga atomaria* Last seen in Hertfordshire in 1974. Gubblecote, (6) 11 May - Peter Bygate

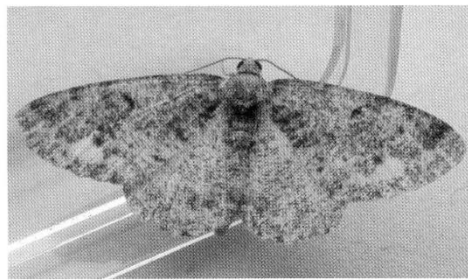
SPHINGIDAE – Hawk-moths

Convolvulus Hawk-moth *Agrius convolvuli* Pentley Park Welwyn Garden City, 1 Jul - Tim Hill; Hitchin, 16 Jul - Angus Kindley

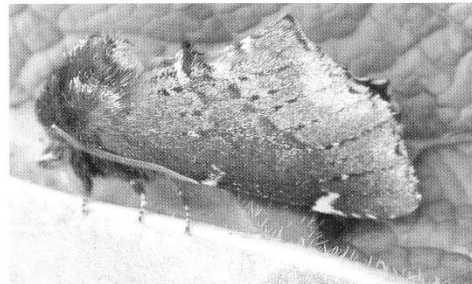
Humming-bird Hawk-moth *Macroglossum stellatarum*

After 2004's bumper year for Hummingbird hawk-moths 2005 numbers were lower, but a couple of records from March are possibly suggestive of successful over-wintering by some of 2004's adults. This may in turn be the reason for the number, given a poor migration year, of adults recorded during the summer and autumn. As with many day flying moths I believe numbers are under recorded as they do not come to the moth enthusiast's light traps and are not always noted by butterfly watchers.

Abbots Langley, 17 Mar - Clive Burrows; Digswell, 18 Mar - Tom Gladwin; Hemel Hempstead, 26 May - Malcolm Newland; Pirton, 30 May - Doug Heath; Letchworth, 4 Jun - Doug Heath; Weston Woods, 5 Jun - Doug Heath; Ware, 20 Jun - Nick Sampford; Hunsdon, 29 Jun - Sue Staniforth; Gubblecote, 4 Jul - Peter Bygate; Bishops Stortford, 15 Jul - Jim Fish; Letchworth, 17 Jul - Judie Starkey; Stevenage, 24 Jul - Steve Lane; Stirling Corner, Middx, 8 Aug - Robert Callf; Tring, 6 Sep - Brian Jessop; Bengoe, 12 Sep - Andrew Wood; Hunsdon, 29 Sep - Sue Staniforth; Bishops Stortford, 22 Oct - Jim Fish; St Albans, 29 Oct - Wendy Hatton



Brindled White-spot
Photo: Andrew Wood



Scarce Prominent
Photo: Andrew Wood

NOTODONTIDAE - Prominents

Great Prominent *Peridea anceps* Chiswell Green, 27 Jun - Bill & Pearl Page; Ware, 29 Apr - Liz Goodyear; Bricket Wood, 29 Apr - H. Ellis; Hertford Heath, (2) 30 Apr - Colin Plant

Scarce Prominent *Odontosia carmelita* Bramfield Wood, 23 Apr - Colin Plant; Hertford Heath, 30 Apr - Colin Plant

Marbled Brown *Drymonia dodonaea* Chorleywood, 25 May - Richard Ellis

LYMANTRIIDAE - Tussocks

Brown-tail *Euproctis chryorrhoea* Bishops Stortford, 27 Jun - T. J. Lewis

ARCTIIDAE – Tiger Moths and Ermies

Garden Tiger *Arctia caja*

The decline of this, once common, species in "middle England" is well known and, unfortunately, Hertfordshire and Middlesex are very much part of this area. However in 2005 the existing pocket of records in the west from the Tring area was joined by a few from the opposite east side of Hertfordshire, so perhaps all is not yet lost.

Clothall, (2) 1 Jul - Trevor Chapman; Bishops Stortford, 7, 8 Jul - Jim Fish; Gubblecote, 8, 14 Jul - Peter Bygate;

Long Marston, 9 Jul - Margaret Noakes; Gubblecote, 14 Jul - Peter Bygate; Westbrook Hay School, 15 Jul - D. Kirk;

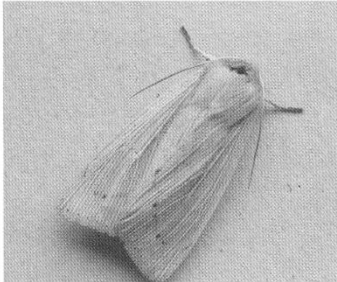
Bishops Stortford, 23 Jul - Jim Fish

NOCTUIDAE

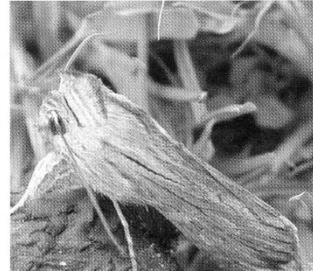
Garden Dart *Euxoa nigricans* Cuffley, 27 Jun - Alan Bolitho; Bricket Wood, 9, 12, 14, 17 Jul - H. Ellis; Wyddial, 20 Aug - T. Casey; Bishops Stortford, 30 Aug - Jim Fish

Dotted Rustic *Rhyacia simulans* Gubblecote, (2) 2 Jul, (25) 30 Jul - Peter Bygate

Double Dart *Graphiphora augur* Grove Wood, 2 Jul - Colin Plant
Autumnal Rustic *Eugnorisma glareosa* Long Marston, 24 Sep - Alan Bernard
True Lover's Knot *Lycophotia porphyrea* Chorleywood, 17 Jun - Richard Ellis
Pearly Underwing *Peridroma saucia* Ashwell Quarry, 27 Jun - Emil de Maria; Arbury Banks, 19 Jun - Jim Reid
Purple Clay *Diarsia brunnea* Chorleywood, 16 Jun - Richard Ellis; Grove Wood, 2 Jul - Colin Plant
Triple-spotted Clay *Xestia ditrapezium* Roughdown Common, 16 Jul - Colin Plant
Square-spotted Clay *Xestia rhomboidea* Bishops Stortford, 28 Jul - Colin Plant; Ashwell Quarry, 6 Aug - Andrew Wood; Wyddial, 6, 20 Aug - T. Casey; Ashwell Quarry, 9 Aug - Emil de Maria; Bengoe, 9 Aug - Andrew Wood; Bishops Stortford, 10 Aug - Colin Plant;
Gothic *Naenia typica* Parliament Hill, Middx, 20 Jun - Ray Softly
Green Arches *Anaplectoides prasina* Bishops Stortford, 25 Jun - Jim Fish; Chorleywood, 26 Jun - Richard Ellis; Bishops Stortford, 29 Jun - Colin Plant; Grove Wood, 2 Jul - Colin Plant
White-marked *Cerastis leucographa* Scales Park, (2) 21 Apr - Colin Plant
Dog's Tooth *Lacanobia suasa* Bishops Stortford, 25 May - Jim Fish
Broom Moth *Melanchnra pisi* Chorleywood, 20 Jun - Richard Ellis
Small Ranunculus *Hecatera dysodea* Wembley, Middx, 18 May - Geoffrey Geiger; West Drayton, Middx, 4 Jun - Gary Taylor; Cheshunt, 3 Jul - Phil Gould; Greenford, Middx, 9 Jun, 8 Jul - Andy Culshaw; Greenford, Middx, 18 Jul, 10 Aug - David Howdon; Middlesex Filter Beds, (5) 8 Aug - Andrew Middleton; Ponders End, 1, 10 Sept - Andrew Middleton; (Ova) Bulls Cross, Middx (20), 22 Jun - Andrew Middleton; (larva) Brimsdown Area, Middx (5-30 at 3 sites), 2 Aug - Andrew Middleton; (larvae) Wick Community Forest, Middx (20), 8 Aug - Andrew Middleton; (larva) Shoreditch Park, Middx, 17 Aug; Andrew Middleton
Feathered Gothic *Tholera decimalis* Cuffley, 27 Jun - Alan Bolitho; Bishops Stortford, 30 Aug - Jim Fish; Bayfordbury, 3 Sep - Colin Plant



Southern Wainscot
 Photo: Andrew Wood



Chamomile Shark
 Photo: Andrew Wood

White-point *Mythimna albipuncta* Radwell, 18 Sep - Jim Reid
Delicate *Mythimna vitellina* Gubblecote, 7 Oct - Peter Bygate; Bishops Stortford, 20 Oct - Jim Fish
Southern Wainscot *Mythimna straminea* Radwell, 10 Jul - Jim Reid; Bengoe, 22 Jul - Andrew Wood
Chamomile Shark *Cucullia chamomillae* Bengoe, 17 Apr - Andrew Wood; Ashwell, 9 Jul - John Chainey
Toadflax Brocade *Calophasia lunula* Wembley, Middx, 4 Jun - Geoffrey Geiger
Dark Brocade *Blepharita adusta* Bricket Wood, 22 Jul - H. Ellis
Dotted Chestnut *Conistra rubiginea* Chorleywood, 1 Apr - Richard Ellis
Flounced Chestnut *Agrochola helvola* Ashwell Quarry, 27 Jun - Emil de Maria
Alder Moth *Acronicta alni* Wheathampstead, 27 Jun - Trevor Chapman
Olive *Ipimorpha subtusa* Datchworth, 17 Jul - Stephen Palmer; Bishops Stortford, 14 Aug - Jim Fish
Reddish Light Arches *Apamea sublustris* Arbury Banks, 19 Jun - Jim Reid; Chorleywood, 21, 24 Jun (2) - Richard Ellis; Chorleywood,
Rufous Minor *Oligia versicolor* Gubblecote, 2 Jun - Peter Bygate; Royston, 12 Jul - John Chainey; Royston, 12, 14, (3) 17, 18 Jul - Stephen Palmer; Datchworth, 18 Jul - Stephen Palmer; Bishops Stortford, 23 Jul - Colin Plant; Gubblecote, 25 Jul - Peter Bygate
Small Wainscot *Chortodes pygmina* Weston, 27 Jun, 13 Jul - Alan Cockburn; Rye House Power Station land, 18 Sep - Colin Plant
Ear Moth *Amphipoea oculea* Ashridge Estate, 23 Jul - Colin Plant
Bulrush Wainscot *Nonagria typhae* Gubblecote, 25 Jul - Peter Bygate
Brown-veined Wainscot *Archanara dissoluta* Greenford, Middx, 2 Aug - Andy Culshaw
Webb's Wainscot *Archanara sparganii* Cuffley, 2 Sep - Alan Bolitho; Ponders End, Middx, 21 Aug - Andrew Middleton
Fen Wainscot *Arenostola phragmitidis* Tring Sewage Farm, 12 Aug - I. Burrus; Bishops Stortford, 25 Aug - Jim Fish
Small Rufous *Coenobia rufa* Bishops Stortford, 30 Jul - Jim Fish
Small Mottled Willow *Spodoptera exigua* Ponders End, Middx, 4 Sep - Andrew Middleton; Datchworth, 12 Oct - Stephen Palmer

Rosy Marbled *Elaphria venustula* Greenford, Middx, 9 Jun (2) - Andy Culshaw
Scarce Bordered Straw *Helicoverpa armigera* Cuffley, 26 Oct - Alan Bolitho
Cream-bordered Green Pea *Earias clorana* Weston, 27 May - Alan Cockburn; Rye House Power Station land, 17 Jun - Colin Plant
Dark Spectacle *Abrostola triplasia* Golden Grove, Gilston, 11 Jul - Colin Plant; Datchworth, 17 Jul - Stephen Palmer; Golden Grove, Gilston, 4 Aug - Colin Plant; Rye House Power Station land, 18 Sep - Colin Plant
Four-spotted *Tyta luctuosa* Arbury Banks, (5) 19 Jun - Jim Reid
Blackneck *Lygephila pastinum* Cheshunt, 27 Jun - P. Roper; Rye House Power Station land, 17 Jun - Colin Plant; Bengoe, 20 Jun - Andrew Wood; Cheshunt, 3 Jul - Phil Gould; Hanstead Wood, 13 Jul - Henry Ellis
Waved Black *Parascotia fuliginaria* Cuffley, 27 Jun - Alan Bolitho; Chorleywood, 24 Jun - Richard Ellis; Ashridge Estate, 23 Jul - Colin Plant
Buttoned Snout *Hypena rostralis* Bengoe, 25 May - Andrew Wood; Chorleywood, 27 May - Richard Ellis; Bishops Stortford, 5 Jun - Colin Plant; Chorleywood, 17 Jun - Richard Ellis; (larva) Parndon Mill Lane, 3 Aug - Colin Plant; (larva) Spellbrook, 7 Aug - Colin Plant; Rye House Power Station land, 18 Sep - Colin Plant; Ponders End, Middx., 26 May, 10 Jun, 20 Aug - Andrew Middleton

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Appendix

The tables below and on the following pages give numbers of butterflies counted on each of the weekly transect walks described in the Transect Roundup, listed by species. Values in italics indicate weeks when the transect could not be walked, and are interpolated between numbers counted in the previous and following weeks. Only those transects where there is reasonably complete coverage during the flight season are included. Mean values for all transects are listed along the bottom for each species; these are plotted as graphs for each separate species on pages 14 to 36.

The weeks 1 to 26 listed across the top refer to the 26 weeks starting on April 1st and ending on September 29th. The peak date listed in the final column is the actual date when highest numbers were seen in the case of univoltine species. For bivoltine or trivoltine species the date when the highest numbers for the particular brood that had highest peak values in the mean of all transects is used. The mean peak date for each species at the bottom right is weighted according to the total numbers seen on each transect.

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Small Skipper 2005																												
<i>Albury Nones</i>									0	0	0	1	1	4	32	19	24	8	4	3	0						97	11-Jul
<i>Balls Wood</i>									0	0	0	0	0	10	33	32	0	0	0	0	0						75	10-Jul
<i>Bishops Stortford Southern Country Park</i>									0	0	0	0	5	1	8	9	2	2	3	0	0						28	16-Jul
<i>Brent Reservoir</i>									0	0	0	0	19	35	33	12	2	0	1	0	0						102	6-Jul
<i>Bricket Wood</i>									0	0	0	0	3	3	4	57	12	7	10	0	0						96	16-Jul
<i>Burkers Park</i>									0	0	0	4	1	3	5	38	3	0	0	0	0						54	17-Jul
<i>Colney Heath Common</i>									0	0	0	0	0	0	18	33	0	9	1	0	0						61	18-Jul
<i>Cranford Park</i>									0	0	0	0	3	11	18	4	1	0	0	0	0						37	12-Jul
<i>Gunnorsbury Triangle</i>									0	3	0	0	0	0	7	5	3	0	0	0	0						18	10-Jul
<i>Gutteridge Wood</i>									0	0	0	0	0	0	7	6	7	8	3	0	0						31	29-Jul
<i>Horsenden Hill East</i>									0	0	0	0	2	4	11	24	3	0	0	0	0						43	16-Jul
<i>Horsenden Hill West</i>									0	0	0	0	1	0	6	8	0	1	0	0	0						16	16-Jul
<i>Kenwood</i>									0	0	0	0	3	0	9	11	5	0	0	0	0						28	18-Jul
<i>Kings Langley</i>									0	0	0	0	0	2	0	0	0	0	0	0	0						2	3-Jul
<i>Knebworth Park</i>									0	0	0	7	14	79	290	68	0	0	0	0	0						459	11-Jul
<i>Lanzford Springs</i>									0	0	0	0	1	5	3	4	0	1	0	0	0						14	3-Jul
<i>Long Dean</i>									0	0	0	0	1	0	1	7	0	0	0	0	0						9	16-Jul
<i>Marshall's Heath</i>									0	0	0	0	4	12	21	46	5	0	2	0	0						90	17-Jul
<i>Millhoppers</i>									0	0	0	0	1	1	0	0	0	0	1	1	0						4	
<i>Northaw Great Wood</i>									0	0	0	0	0	0	2	0	3	0	0	0	0						5	28-Jul
<i>Oughtonhead Transect 13</i>									0	0	0	1	6	11	6	13	0	3	0	0	0						40	20-Jul
<i>Pamore Heath</i>									0	0	0	0	6	14	51	12	8	4	0	0	0						95	17-Jul
<i>Pervale Wood</i>									0	0	0	0	0	1	1	0	0	0	0	0	0						2	
<i>Plitobury Park</i>									0	0	1	5	31	46	231	21	11	0	0	0	0						346	11-Jul
<i>Roxbourne Rough</i>									0	0	0	0	0	0	14	25	0	0	0	0	0						39	17-Jul
<i>Strubhill Common</i>									0	0	0	0	0	7	37	24	4	15	3	0	0						90	10-Jul
<i>Stevenage</i>									0	0	0	0	0	0	169	56	4	0	0	1	0						231	10-Jul
<i>Templewood Vale</i>									0	0	0	0	0	1	4	15	5	0	0	0	0						25	15-Jul
<i>The Warren</i>									0	0	0	0	3	16	21	26	15	4	4	1	0						90	17-Jul
<i>Tierfield Heath (Lambester Hill)</i>									0	0	0	0	0	12	47	57	24	0	3	0	0						143	15-Jul
<i>Tierfield Heath (Rifle Range)</i>									0	0	0	0	0	0	5	0	1	2	0	0							8	15-Jul
<i>Tierfield Heath (Top of Rifle Range)</i>									0	0	0	0	0	1	2	1	2	7	2	1	0						16	29-Jul
<i>Tower Hamlets Cemetery Park</i>									0	0	0	0	0	2	5	8	0	2	0	0	0						16	16-Jul
<i>Trent Park</i>									0	0	0	2	81	103	124	230	0	6	4	0	0						550	15-Jul
<i>Tring Park</i>									0	0	0	0	4	18	31	53	0	0	19	14	0						140	15-Jul
<i>Ware Park</i>									0	0	0	0	2	12	23	22	3	2	0	0	0						64	12-Jul
<i>Waterford Heath North</i>									0	0	0	0	0	0	0	0	1	0	0	0	0						1	23-Jul
<i>Wood Lane Pirton</i>									0	0	0	1	2	6	9	19	4	2	2	0	0						44	18-Jul
Mean Small Skipper									0.00	0.08	0.03	0.54	4.95	10.80	32.78	26.57	4.01	2.24	1.81	0.56	0.00						84	13-Jul
Essex Skipper 2005																												
<i>Albury Nones</i>									0	0	0	0	1	4	31	15	28	4	6	1	0	0					89	16-Jul
<i>Balls Wood</i>									0	0	0	0	0	33	11	13	7	5	0	0	0						69	10-Jul
<i>Bishops Stortford Southern Country Park</i>									0	0	0	5	1	18	34	7	4	0	0	0	0						69	16-Jul
<i>Brent Reservoir</i>									0	0	0	0	4	5	0	2	0	0	0	0	0						11	10-Jul
<i>Bricket Wood</i>									0	0	0	0	6	11	23	6	11	0	0	0	0						57	16-Jul
<i>Burkers Park</i>									0	0	0	0	0	0	0	0	3	0	0	0	0						3	2-Aug
<i>Cranford Park</i>									0	0	0	0	2	4	0	2	0	0	0	0	0						8	12-Jul
<i>Danebury Park</i>									0	0	1	7	6	32	41	4	0	0	0	0	0						91	15-Jul
<i>Gutteridge Wood</i>									0	0	1	0	1	0	1	0	0	0	0	0	0						3	
<i>Horsenden Hill East</i>									0	0	0	0	0	4	0	3	2	0	0	0	0						8	8-Jul
<i>Knebworth Park</i>									0	0	1	2	39	25	401	181	271	98	19	31	0						1067	16-Jul
<i>Marshall's Heath</i>									0	0	0	5	0	9	22	6	4	3	1	0	0						50	17-Jul
<i>Millhoppers</i>									0	0	0	0	10	19	8	3	0	0	0	0	0						40	14-Jul
<i>Oughtonhead Transect 13</i>									0	0	1	2	3	3	21	24	3	1	0	0	0						58	28-Jul
<i>Pamore Heath</i>									0	0	0	0	4	3	5	12	7	2	0	0	1	0					33	28-Jul
<i>Plitobury Park</i>									0	1	7	0	3	139	48	25	1	0	0	0	0						224	11-Jul
<i>Roxbourne Rough</i>									0	0	0	0	0	8	13	2	3	0	0	0	0						26	17-Jul
<i>Strubhill Common</i>									0	0	0	0	0	0	15	7	2	0	0	0	0						24	16-Jul
<i>Stevenage</i>									0	0	0	0	1	4	10	3	0	0	0	0	0						17	15-Jul
<i>The Warren</i>									0	0	0	0	3	4	7	5	2	0	0	0	0						21	17-Jul
<i>Tierfield Heath (Bate of Church Hill)</i>									0	0	0	0	0	0	0	0	0	1	0	0	0						1	6-Aug
<i>Tierfield Heath (Lambester Hill)</i>									0	0	0	0	0	0	3	2	5	2	0	0	0						12	29-Jul
<i>Tierfield Heath (Top of Rifle Range)</i>									0	0	0	0	0	0	0	2	0	0	0	0	0						2	22-Jul
<i>Tower Hamlets Cemetery Park</i>									0	0	0	10	17	23	26	4	2	1	0	0	0						83	16-Jul
<i>Trent Park</i>									0	0	0	0	14	14	14	31	0	0	0	0	0						73	15-Jul
<i>Tring Park</i>									0	0	0	0	8	16	18	0	0	31	3	0	0						75	6-Aug
<i>Ware Park</i>									0	0	0	0	0	12	0	0	0	0	0	0	0						12	12-Jul
<i>Wood Lane Pirton</i>									0	0	1	2	1	0	0	0	0	1	0	0	0						4	27-Jul

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak	
Large White 2005																													
Albury Novers	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	7	8	6	3	4	3	3	0	0	0	37	2-Aug	
Balls Wood	0	0	0	1	0	1	1	1	0	0	0	0	2	0	5	5	1	5	5	6	3	0	0	0	0	0	37	2-Aug	
Beane Hill	0	0	0	0	1	0	0	0	0	0	0	1	0	0	5	2	4	5	2	0	0	0	0	0	0	0	20	17-Jul	
Burklands Meadow	0	0	0	0	0	0	2	1	1	0	0	0	0	1	12	3	3	3	4	3	2	2	0	0	0	0	35	17-Jul	
Bishops Starford Southern Country Park	0	0	0	0	1	0	0	0	3	2	0	1	1	11	21	31	28	22	3	18	2	5	1	0	1	1	152	23-Jul	
Brent Reservoir	0	0	0	0	0	0	0	0	0	0	0	3	2	9	11	5	7	0	2	0	1	1	0	0	0	41	16-Jul		
Bricket Wood	0	0	0	1	1	2	1	1	1	0	0	0	3	5	13	5	3	13	1	2	1	5	1	1	0	0	59	16-Jul	
Bankers Park	0	0	0	1	2	0	0	0	0	0	0	1	2	2	5	1	1	6	0	1	0	0	0	0	0	0	22	8-Aug	
Clifford Road Allotments	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	2	2	2	2	0	5	2	1	1	0	0	24	21-Aug	
Colney Heath Common	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	3	1	0	0	0	1	8	21-Aug	
Croyford Park	0	0	0	0	3	0	8	1	5	2	2	0	2	2	2	6	2	1	2	4	2	5	2	1	1	1	23	15-Aug	
Danebury Park	0	0	0	0	1	0	0	0	0	0	1	1	0	2	0	1	3	1	4	2	2	1	1	1	1	1	23	15-Aug	
Front Country Park	0	0	0	1	0	1	0	0	0	0	0	0	0	15	4	4	3	1	0	0	0	0	1	1	0	0	30	10-Jul	
Gummersbury Triangle	0	0	0	0	1	0	0	0	1	0	0	1	0	3	0	0	0	5	4	0	5	3	3	2	0	0	28	17-Aug	
Gutteridge Wood	0	0	0	0	0	2	0	0	0	0	0	0	1	1	0	4	1	3	1	0	3	2	0	0	0	0	17	16-Jul	
Horsenden Hill East	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	3	2	1	2	0	1	2	0	0	0	0	16	15-Jul	
Horsenden Hill West	0	0	0	0	2	0	0	0	0	0	0	0	3	1	1	3	0	0	1	0	0	3	1	1	1	1	19	16-Jul	
Kenwood	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	7	24-Jul	
Kings Langley	0	0	0	0	0	1	0	1	0	0	1	0	2	6	15	3	7	6	5	4	4	3	0	0	0	0	0	59	24-Jul
Knechtow Park	0	1	0	0	1	2	3	3	3	1	3	1	0	17	9	24	12	14	3	1	4	1	1	1	1	1	1	104	28-Jul
Lemsford Springs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	11-Jul	
Long Deans	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3	2	3	0	4	2	1	0	1	1	0	19	7-Aug	
Manor Crescent	0	0	0	1	2	1	2	0	0	1	1	1	9	12	12	18	17	11	12	2	0	0	0	0	0	0	3	107	7-Aug
Marshall's Heath	0	0	0	2	0	0	1	2	0	1	0	0	0	1	8	2	8	9	3	1	5	2	0	0	0	0	45	6-Aug	
Milltoppers	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	4	3	1	1	5	5	3	1	1	0	0	28	17-Aug	
Miswell Lane	0	0	0	3	0	1	2	3	0	2	0	0	0	0	4	7	0	0	0	4	7	0	0	0	0	0	0	31	17-Aug
Nicky Lane	0	0	0	0	0	1	0	8	1	0	1	0	0	4	15	16	10	21	10	0	0	0	0	0	0	0	94	8-Aug	
Norham Great Wood	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	17-Aug	
Oughtonhead Transect 13	0	0	0	3	0	0	0	2	2	1	6	1	2	2	1	1	9	5	1	2	5	1	0	0	0	0	44	3-Aug	
Panmore Heath	0	0	1	0	0	3	0	1	0	0	0	0	0	1	4	10	13	11	9	7	1	2	3	0	0	0	0	66	28-Jul
Pertvale Wood	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	7	1	3	0	0	25	30-Jul	
Puttleshbury Park	0	0	0	0	0	0	2	3	1	0	0	0	0	12	6	10	14	2	6	4	9	14	3	1	1	1	1	87	29-Jul
Pyor's Wood	0	1	0	0	0	0	0	0	0	0	1	0	0	3	9	6	3	0	0	0	0	0	0	0	0	0	0	23	17-Jul
Railway Fields	0	0	0	0	0	1	0	0	0	0	0	1	0	2	10	5	4	8	10	7	0	0	0	0	0	0	48	17-Aug	
Rothamsted Farm	0	0	0	0	0	0	1	4	0	0	0	0	0	3	5	0	5	6	7	5	4	1	1	0	0	0	42	11-Aug	
Rothbourne Rough	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	17-Aug	
Stamonds Park (Readings)	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17-Aug	
Sturhill Common	0	0	0	0	1	1	0	0	1	2	1	0	0	4	14	6	11	20	5	6	7	5	3	0	2	0	0	89	6-Aug
Strensage	0	0	0	0	1	0	0	1	0	0	0	0	1	3	2	0	0	0	0	0	5	3	1	0	0	0	13	13-Aug	
Templewood Vale	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	3	0	0	0	0	0	0	0	9	9-Aug	
The Warren	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	7	3	5	2	1	1	0	0	0	26	29-Jul	
Therfield Heath (Base of Church Hill)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	30-Jul
Therfield Heath (Church Hill)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	12-Aug
Therfield Heath (Lambstone Hill)	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	5	4	6	3	2	0	0	0	0	0	0	0	28	15-Jul
Therfield Heath (Rifle Range)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15-Jul
Therfield Heath (Top of Rifle Range)	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2	5	1	5	2	6	0	0	0	0	0	0	0	27	12-Aug
Tower Hamlets Cemetery Park	0	0	11	14	25	24	22	4	1	4	6	14	37	60	43	42	39	27	18	8	13	12	10	6	2	0	0	453	10-Jul
Trent Park	0	0	1	1	2	3	0	0	1	1	0	0	4	7	15	10	5	1	2	1	1	0	0	0	0	0	0	55	15-Jul
Trent Park	0	0	0	0	1	3	5	5	0	2	1	6	10	9	0	0	0	59	12	6	10	0	0	0	0	0	130	6-Aug	
Ware Park	0	0	0	0	0	1	0	0	0	0	0	0	1	6	8	2	4	1	1	2	2	0	1	0	1	0	30	18-Jul	
Waterford Heath North	0	0	0	0	3	0	2	0	1	0	0	1	0	1	4	6	7	3	6	4	3	1	1	0	0	0	43	1-Aug	
Wood Lane Fines	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	295	12-Aug
Mean Large White	0.00	0.02	0.23	0.29	0.69	0.97	1.12	0.87	0.96	0.61	0.27	0.55	0.88	1.96	5.50	6.12	5.46	6.06	6.58	4.77	3.31	2.63	1.66	0.75	0.48	0.33	30	3-Aug	
Small White 2005																													
Albury Novers	0	0	0	0	0	0	2	8	0	0	0	0	0	0	0	4	6	8	11	5	1	3	2	5	0	0	57	2-Aug	
Balls Wood	0	0	0	1	0	14	0	0	0	0	0	0	0	0	4	6	8	11	5	1	3	2	5	0	0	0	57	2-Aug	
Beane Hill	0	0	0	0	1	2	0	1	0	0	0	0	0	0	4	1	9	17	0	7	4	0	0	0	0	0	46	2-Aug	
Burklands Meadow	0	1	0	2	1	1	2	2	0	1	0	0	2	2	4	3	0	1	1	0	0	1	0	0	0	0	27	17-Jul	
Bishops Starford Southern Country Park	0	0	0	0	0	3	0	6	3	4	0	1	0	2	13	27	13	10	3	2	2	0	0	0	0	1	91	16-Jul	
Brent Reservoir	0	0	0	1	0	1	0	0	0	0	0	1	2	4	3	5	6	5	1	3	4	4	3	2	1	0	46	26-Jul	
Bricket Wood	0	0	0	0	3	2	3	0	0	0	0	0	1	1	21	0	0	3	1	2	1	2	0	0	0	0	43	16-Jul	
Bankers Park	0	0	1	2	3	2	1	0	0	3	1	2	1	0	14	13	9	7	13	8	0	2	0	1	0	0	85	17-Jul	
Clifford Road Allotments	0	0	4	0	3	0	0	2	3	6	4	2</																	

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak	
Green Hairstreak 2005																													
<i>Albury Nowers</i>					0	1	2	2	0	0	0	0	0															5	
<i>Tring Park</i>					0	1	1	2	0	0	0	0	1	0														5	25-May
Mean Green Hairstreak					0.00	1.00	1.50	2.00	0.00	0.00	0.00	0.50	0.00															5	25-May
Purple Hairstreak 2005																													
<i>Brent Reservoir</i>												0	0	2	1	11	6	3	0	0	0	0	0	0	0	0	23	16-Jul	
<i>Bricket Wood</i>												0	0	4	8	3	2	4	14	2	7	0	1	0			45	9-Aug	
<i>Colney Heath Common</i>												0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	10-Jul	
<i>Crayford Park</i>												0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	21-Jul	
<i>Horsenden Hill East</i>											0	0	0	1	0	1	3	0	0	4	1	0	0	0		10	20-Aug		
<i>Horsenden Hill West</i>											0	0	2	0	2	1	1	1	0	0	0	0	0	0	0		7		
<i>Kerwood</i>											0	0	0	0	2	5	9	8	0	1	0	0	0	0		25	3-Aug		
<i>Marshall's Heath</i>											0	0	2	4	1	0	0	0	0	0	0	0	0	0	0		7	9-Jul	
<i>Patmore Heath</i>											0	0	0	0	0	0	1	1	0	0	0	0	0	0	0		2	9-Aug	
<i>Pervale Wood</i>											0	2	0	0	0	0	0	0	0	0	0	0	0	0	0		2	24-Jun	
<i>Roxbourne Rough</i>											0	0	0	0	2	0	0	0	0	0	0	0	0	0	0		2	17-Jul	
<i>Stevensage</i>											0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		1	15-Jul	
<i>The Warren</i>											0	0	0	0	0	1	1	0	0	0	0	0	0	0	0		2	29-Jul	
<i>Trent Park</i>											0	0	1	1	1	2	2	8	0	0	0	0	0	0	0		14	9-Aug	
<i>Tring Park</i>											0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		1	6-Aug	
<i>Waterford Heath North</i>											0	0	0	0	0	1	0	0	0	0	0	0	0	0	0		1	1-Aug	
Mean Purple Hairstreak											0.00	0.13	0.66	1.13	1.56	1.06	1.53	2.06	0.13	0.75	0.06	0.06	0.00				9	7-Aug	
White-letter Hairstreak 2005																													
<i>Albury Nowers</i>											0	0	0	0	0	0	1	0	0								1	2-Aug	
<i>Bricket Wood</i>											0	0	0	0	1	0	0	0	0								1	16-Jul	
<i>Horsenden Hill West</i>											0	18	4	1	0	0	0	0	0								23	26-Jun	
<i>Kings Langley</i>											0	0	0	0	1	0	0	0	0								1	16-Jul	
<i>Knebworth Park</i>											0	0	0	0	2	1	1	0	0								4	16-Jul	
<i>Marshall's Heath</i>											0	0	0	1	1	0	0	0	0								2		
<i>Roxbourne Rough</i>											0	0	0	3	0	0	0	0	0								3	11-Jul	
<i>Templewood Vale</i>											0	0	0	0	1	1	0	0	0								2		
<i>Trent Park</i>											0	3	3	2	0	1	1	0	0								9	27-Jun	
<i>Wood Lane Pirton</i>											0	0	0	0	1	0	0	1	0								2		
Mean White-letter Hairstreak											0.00	2.10	0.65	0.70	0.70	0.25	0.30	0.10	0.00								5	1-Jul	
Small Copper 2005																													
<i>Albury Nowers</i>					0	2	2	2	1	0	0	0	0	0	0	2	3	2	1	2	1	1	1	1	0	2	23	28-Jul	
<i>Birklands Meadow</i>					0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3		
<i>Brent Reservoir</i>					0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0	5	22-Sep	
<i>Bunkers Park</i>					0	0	0	0	0	2	1	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	7	8-Aug	
<i>Colney Heath Common</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	3		
<i>Crayford Park</i>					0	0	0	1	0	0	0	0	0	0	0	0	2	1	1	0	0	0	9	1	3	21	7-Sep		
<i>Gattonside Wood</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	4	9-Sep		
<i>Horsenden Hill East</i>					0	0	0	0	0	1	0	0	0	0	1	1	2	0	0	3	1	0	2	0	0	11	20-Aug		
<i>Horsenden Hill West</i>					0	0	2	5	3	3	1	0	0	0	0	0	3	3	0	0	0	0	0	1	0	23	27-May		
<i>Kerwood</i>					0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	1	2	0		8	3-Aug		
<i>Knebworth Park</i>					0	0	0	2	1	1	2	2	0	0	0	3	5	4	3	4	1	0	0	0	0		28	6-Aug	
<i>Long Daxus</i>					0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	8	7	21	17-Sep		
<i>Millhoppers</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0		2	16-Aug	
<i>Oughtonhead Tronsect 13</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1	27-Sep	
<i>Patmore Heath</i>					0	0	1	3	2	0	0	0	0	0	0	1	1	2	2	1	0	0	0	0	0	1	3	17	
<i>Pervale Wood</i>					0	1	0	2	1	2	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	9		
<i>Strubhill Common</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	4	13-Aug	
<i>The Warren</i>					0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	3	2	6	18	24-Sep			
<i>Therfield Heath (Lankester Hill)</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	17-Sep	
<i>Tower Hamlets Cemetery Park</i>					0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-Jul	
<i>Trent Park</i>					0	1	1	5	0	3	2	0	1	1	0	1	2	2	6	4	4	3	0	0	0	34	9-Aug		
<i>Tring Park</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	2	0	0	0	7	6-Aug		
<i>Waterford Heath North</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	4			
Mean Small Copper					0.00	0.15	0.26	0.65	0.61	0.48	0.41	0.15	0.13	0.02	0.04	0.26	0.43	0.89	1.13	0.87	0.70	0.65	0.48	0.52	1.13	1.00	11	6-Aug	
Brown Argus 2005																													
<i>Albury Nowers</i>					0	0	3	3	1	1	3	0	0	0	0	1	8	7	21	34	29	4	3	1	0	119	21-Aug		
<i>Bunkers Park</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	30-Aug		
<i>Knebworth Park</i>					0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	15-Aug		
<i>Long Daxus</i>					0	0</																							

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

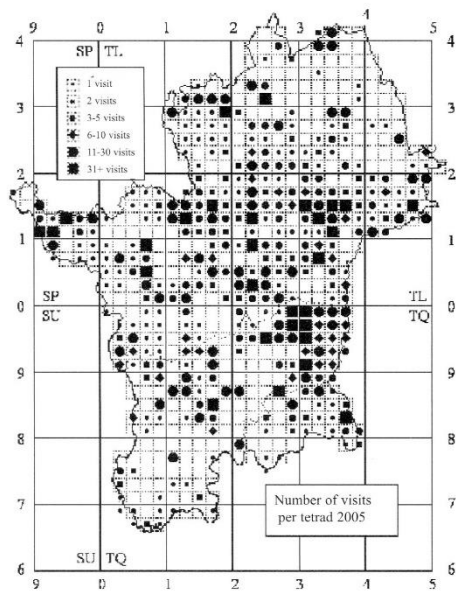
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak	
Red Admiral 2005																													
<i>Aldbury Down</i>	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	1	0	0	1	0	0	0	4	1	10	17-Sep		
<i>Balls Wood</i>	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	27-Jun	
<i>Beane Hill</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	17-Sep		
<i>Birklands Meadow</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2		
<i>Bishops Stortford Southern Country Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	2	1	1	0	0	7		
<i>Brent Reservoir</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	1	1	1	0	6		
<i>Bricker Wood</i>	0	0	0	0	0	0	0	0	0	0	0	3	2	1	1	1	3	2	0	0	1	1	1	1	1	1	18		
<i>Bankers Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2		
<i>Clifford Road Allotments</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	11-Jul	
<i>Colney Heath Common</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	18-Jul	
<i>Cranford Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	4	0	2	1	0	2	0	3	4	8	38	27-Sep	
<i>Daneshbury Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	1	1	0	8	26-Jul	
<i>Fyent Country Park</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3		
<i>Gunnersbury Triangle</i>	0	0	0	0	0	0	0	1	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	6	21-Jun	
<i>Horsenden Hill East</i>	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	4	26-Jun	
<i>Horsenden Hill West</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	9		
<i>Kemwood</i>	0	0	0	0	0	0	0	0	0	3	0	2	1	3	0	2	1	3	0	0	0	0	0	0	0	0	0	9	
<i>Kings Langley</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	1	0	0	0	0	0	0	4	24-Jul	
<i>Knebworth Park</i>	0	0	0	0	0	0	0	0	0	1	2	0	1	1	1	1	0	0	1	0	0	0	0	2	0	0	0	9	
<i>Lemsford Springs</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	15-Jul	
<i>Manor Crescent</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	11-Jul	
<i>Marshall's Heath</i>	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	8	23-Jul	
<i>Millhoppers</i>	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	
<i>Mirell Lane</i>	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2	1	12	2-Sep	
<i>Nicky Lane</i>	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	3		
<i>Northan Great Wood</i>	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6-Jun	
<i>Oughtonhead Transect 13</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	4	20-Jul	
<i>Palmers Heath</i>	0	0	0	0	0	0	0	0	0	0	0	0	4	2	2	1	1	0	0	0	1	2	2	0	0	0	15	6-Jul	
<i>Parsvate Wood</i>	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
<i>Pishiobury Park</i>	0	0	0	0	0	0	0	1	0	1	2	2	3	4	5	1	0	0	0	0	0	0	2	1	2	2	22	29-Jul	
<i>Priors Wood</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2		
<i>Railway Fields</i>	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3		
<i>Rothenham Farm</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	4	26-Jul	
<i>Roxbourne Rough</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	3	26-Jul	
<i>Storbhill Common</i>	0	0	0	0	0	0	1	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25-Jun	
<i>Stevensage</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15-Jul	
<i>The Warren</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	24-Sep	
<i>Therfield Heath (Lankester Hill)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15-Jul	
<i>Therfield Heath (Rifle Range)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	26-Aug	
<i>Therfield Heath (Top of Rifle Range)</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2		
<i>Tower Hamlets Cemetery Park</i>	0	0	0	0	0	1	2	0	0	2	2	2	1	2	1	2	1	0	0	0	0	0	0	1	1	1	16		
<i>Trent Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	27-Jun	
<i>Tring Park</i>	0	0	0	0	0	1	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	10	17-Sep	
<i>Ware Park</i>	0	0	0	0	0	0	0	0	0	0	4	5	2	2	4	1	0	1	1	0	0	4	15	12	15	66	12-Sep		
<i>Waterford Heath North</i>	0	0	0	0	1	2	1	0	0	0	0	0	2	2	2	2	0	1	0	1	0	0	3	5	0	20	17-Sep		
<i>Wood Lane Pirton</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	1	0	0	0	0	2	3	1	12			
Mean Red Admiral	0.02	0.00	0.00	0.02	0.02	0.07	0.07	0.04	0.15	0.05	0.20	0.59	0.67	0.50	0.77	0.93	0.37	0.20	0.09	0.12	0.15	0.37	0.78	1.04	0.84	8	16-Sep		
Painted Lady 2005																													
<i>Bankers Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	22-Sep	
<i>Colney Heath Common</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6-Jul	
<i>Daneshbury Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10-Jul	
<i>Kings Langley</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	26-Jun	
<i>Knebworth Park</i>	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
<i>Mirell Lane</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17-Aug	
<i>Northan Great Wood</i>	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6-Jun	
<i>Pishiobury Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	19-Jul	
<i>Railway Fields</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13-Jun	
<i>Storbhill Common</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2-Jul	
<i>Stevensage</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	28-Jun	
Mean Painted Lady									0.00	0.10	0.15	0.05	0.20	0.10	0.10	0.10	0.05	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	1	28-Jun	
Small Tortoiseshell 2005																													
<i>Aldbury Down</i>	0	0	1	1	0	0	0																						

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

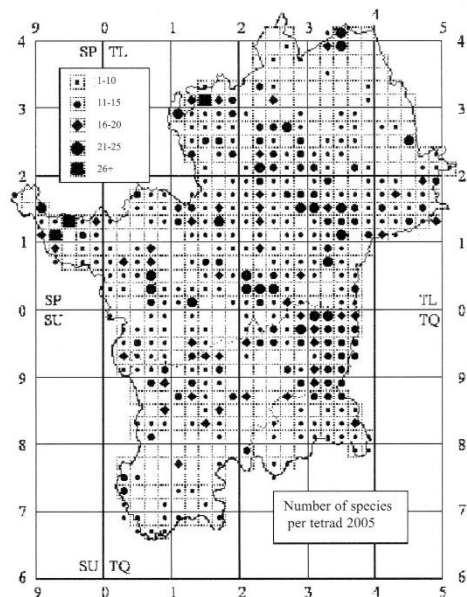
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak		
Peacock 2005																														
Albury Novers	10	4	8	6	3	0	3	2	2	1	0	0	0	0	0	0	5	2	1	2	0	0	0	0	0	0	0	48	2-Apr	
Balls Wood	0	16	7	22	9	4	1	1	1	0	0	0	0	0	0	0	0	0	0	2	1	1	1	1	0	0	0	68	22-Apr	
Beane Hill	3	4	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	17-Apr	
Birklands Meadow	2	2	2	0	2	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13		
Bittons Stortford Southern Country Park	1	2	1	1	5	1	1	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	18		
Brent Reservoir	1	1	2	3	1	4	6	0	0	2	1	0	0	0	0	1	1	8	1	0	0	0	0	0	0	0	0	31	2-Aug	
Bricket Wood	8	8	8	6	15	1	4	0	0	0	0	0	0	0	0	1	7	14	9	1	0	0	0	0	0	0	0	82	1-May	
Bunkers Park	15	10	13	10	7	0	0	1	3	1	0	1	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	67	2-Apr	
Clifford Road Allotments	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	5		
Colney Heath Common	5	1	4	5	5	0	0	0	0	0	0	0	0	2	0	0	4	2	1	0	0	0	0	0	0	0	0	23		
Cranford Park	0	9	5	16	24	11	4	1	11	1	0	0	0	0	0	3	4	2	0	0	0	0	0	0	0	0	0	91	29-Apr	
Daneshbury Park	3	3	2	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	17	29-Apr	
Fyvent Country Park	2	3	5	2	10	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1-May	
Gutteridge Wood	7	0	7	4	2	0	0	2	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	27		
Horsenden Hill East	12	0	0	0	1	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	17	1-Apr	
Horsenden Hill West	1	5	2	1	8	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	30-Apr	
Kenwood	0	1	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	6	2	1	0	0	1	1	0	0	0	16	2-Aug	
Kings Langley	0	6	4	0	0	0	0	0	0	1	0	0	0	0	0	0	4	2	7	6	0	0	0	0	0	0	1	32	7-Aug	
Kingsworth Park	7	11	3	7	10	1	3	4	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	11-Apr	
Lemsford Springs	5	4	3	2	0	1	0	1	0	1	1	0	0	0	0	0	6	8	0	1	0	1	0	1	0	0	0	37	1-Aug	
Long Deans	5	11	15	14	13	2	3	10	11	6	5	5	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	104	21-Apr	
Manor Crescent	2	2	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	7	3	0	0	0	0	0	0	0	0	18		
Marshalls Heath	2	2	3	1	0	0	1	0	0	0	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	2	0	16	17-Apr	
Millnappers	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4-Apr	
Maxwell Lane	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3	0	1	2	1	0	0	0	0	0	0	15	13-May	
Nicky Lane	0	3	2	6	5	1	5	0	1	1	0	0	0	1	1	0	2	0	1	0	0	0	0	0	0	0	0	29	22-Apr	
Northaw Great Wood	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	6	11-Apr	
Oughtonhead Transact 13	6	5	3	1	3	1	1	2	0	0	0	0	5	0	0	0	3	6	0	0	0	0	0	0	0	0	0	36	7-Aug	
Panmore Heath	0	2	1	0	2	0	0	2	0	1	0	0	0	0	0	0	4	3	2	1	0	0	0	0	0	0	0	18	28-Jul	
Parvula Wood	8	5	3	3	2	1	3	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	28	3-Apr	
Parishbury Park	0	3	8	14	19	4	1	1	0	0	1	0	0	0	0	0	9	18	3	1	0	0	0	0	0	0	0	0	81	1-May
Priors Wood	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17-Apr	
Railway Fields	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3		
Rathmsted Farm	0	1	0	1	5	0	0	1	0	2	2	1	0	0	0	0	1	3	5	0	0	0	0	0	0	0	0	0	22	
Roxbourne Rough	1	0	2	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	10	24-Apr	
Sharnards Park (Reddings)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3-Aug	
Sturhill Common	32	9	0	7	7	0	0	0	0	0	1	0	0	0	0	0	1	5	6	1	0	0	0	0	0	0	0	69	2-Apr	
Stevensage	13	9	9	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	37	2-Apr	
Templewood Vale	3	3	2	4	5	3	1	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	25	1-May	
The Warren	6	11	11	0	0	6	1	0	0	0	0	0	0	0	0	0	2	4	1	0	0	0	0	0	0	0	0	42		
Therfield Heath (Base of Church Hill)	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	9	22-Apr	
Therfield Heath (Lankaster Hill)	1	0	0	1	4	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	8	1-May	
Therfield Heath (Rifle Range)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2		
Therfield Heath (Top of Rifle Range)	0	4	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	14	22-Apr	
Tower Hamlets Cemetery Park	1	3	3	4	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15	22-Apr	
Trent Park	5	2	5	6	6	4	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	31	29-Apr	
Trent Park	15	10	10	2	3	0	2	4	3	0	0	0	0	0	0	0	0	0	8	6	1	1	0	0	0	0	0	65	2-Apr	
Ware Park	1	2	2	2	1	1	1	2	1	0	0	0	0	0	0	2	3	4	0	1	1	0	0	0	0	0	1	29	9-Aug	
Waterford Heath North	4	4	4	3	1	1	0	0	1	0	0	0	0	0	0	5	5	9	3	1	0	0	0	0	0	0	0	41	1-Aug	
Wood Lane Pitons	0	0	0	0	0	2	0	0	1	1	1	1	0	0	0	1	2	1	4	4	0	0	0	0	0	0	0	19		
Mean Peacock	3.80	3.70	3.54	3.53	3.88	1.08	0.92	0.68	0.95	0.43	0.23	0.20	0.16	0.08	0.02	0.36	1.43	2.45	1.51	0.58	0.09	0.12	0.06	0.14	0.04	0.04	30	17-Apr		
Comma 2005																														
Albury Novers	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	1	4	1	1	0	0	0	0	0	0	3	5	25		
Balls Wood	0	2	0	1	0	0	0	0	0	0	0	0	0	3	5	2	0	0	0	0	1	4	0	1	0	0	23	10-Jul		
Bittons Stortford Southern Country Park	0	0	0																											

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

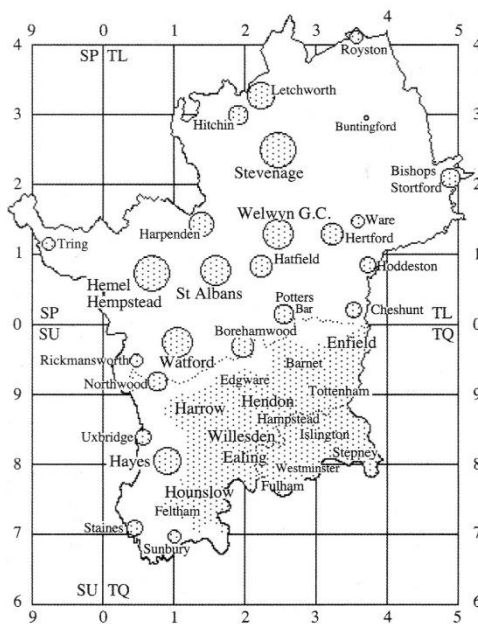
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak		
Small Heath 2005																														
Alibury Nowers					0	0	3	9	7	2	11	17	15	6	1	0	3	1	3	13	13	21	11	4	0	0	140	28-Aug		
Balls Wood					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	30-Aug	
Colnley Heath Common					0	0	0	2	5	5	3	11	3	1	2	1	0	0	1	0	3	0	1	1	1	0	0	39	27-Jun	
Cranford Park					0	0	0	2	7	16	2	26	15	13	11	0	0	0	5	2	11	4	4	4	0	0	0	122	22-Jun	
Danebury Park					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	29-Jun	
Kings Langley					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	7-Aug	
Knebworth Park					0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6-Jul
Millhoppers					0	0	0	0	0	0	0	0	36	71	0	3	0	0	0	0	0	0	0	0	0	0	0	110	14-Jul	
Palmore Heath					0	0	0	0	0	0	0	1	2	1	1	0	0	0	1	0	2	2	2	0	0	0	0	12		
The Warren					0	0	0	13	27	23	37	51	6	20	10	6	1	8	17	28	43	2	12	0	0	0	0	304	27-Jun	
Therfield Heath (Base of Church Hill)					0	0	0	1	3	0	2	1	1	2	0	1	0	0	0	0	1	4	0	3	1	0	0	21	21-Aug	
Therfield Heath (Church Hill)					0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	6	2-Sep	
Therfield Heath (Lankester Hill)					0	0	0	0	1	4	3	8	5	8	0	0	0	2	0	0	5	3	1	0	0	0	0	40		
Therfield Heath (Rife Range)					0	0	0	2	6	7	11	12	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2		
Therfield Heath (Top of Rife Range)					0	0	0	4	20	32	17	30	22	10	12	4	1	1	0	8	32	16	22	9	3	1	245			
Tower Hamlets Cemetery Park					0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10-Jul	
Trent Park					0	32	63	146	65	117	149	180	48	33	18	9	15	20	51	40	44	44	0	0	0	0	0	1076	18-Jun	
Tring Park					0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2		
Ware Park					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16-Sep	
Watersford Heath North					0	0	1	4	3	5	0	0	0	6	4	1	0	0	0	1	2	8	6	3	3	2	0	49	23-Aug	
Wood Lane Piton					0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	4	31-Aug	
Mean Small Heath					0.00	1.50	3.19	8.00	6.24	10.24	10.64	14.98	8.86	6.48	6.76	1.57	1.38	1.19	3.33	4.71	7.71	7.19	2.86	1.98	0.33	0.05	109	21-Jun		
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak		
Ringlet 2005																														
Alibury Nowers					0	0	0	0	65	66	33	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	178	3-Jul	
Balls Wood					0	0	0	40	195	131	102	58	37	2	0	0	0	0	0	0	0	0	0	0	0	0	0	565	3-Jul	
Bishops Stortford Southern Country Park					0	0	0	0	2	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicker Wood					0	0	0	0	1	12	23	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	10-Jul	
Barbers Park					0	0	0	0	0	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9-Jul	
Danebury Park					0	0	0	0	2	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8		
Kings Langley					0	0	0	0	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8		
Knebworth Park					0	0	12	23	126	63	60	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	290	6-Jul	
Langford Springs					0	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	11-Jul	
Long Deans					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16-Jul	
Marshall's Heath					0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3-Jul	
Millhoppers					0	0	0	0	30	23	15	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	26-Jun	
Mirwell Lane					0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	24-Jul	
Norfolk Great Wood					0	2	3	38	26	21	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	91	30-Jun	
Oughtonhead Transect 13					0	0	2	6	27	15	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	6-Jul	
Palmore Heath					0	0	0	0	28	42	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	9-Jul	
Peltham Park					0	1	1	0	4	7	1	4	7	2	0	1	1	0	0	0	0	0	0	0	0	0	0	29	11-Jul	
Piper's Wood					0	0	0	5	9	30	31	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	17-Jul	
Robinswood Farm					0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	19-Jul	
Strubhill Common					0	0	0	5	9	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	10-Jul	
Stovenage					0	0	0	21	54	43	38	21	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	178	2-Jul	
Templewood Vale					0	0	0	1	8	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	11-Jul	
Therfield Heath (Base of Church Hill)					0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	26-Jun	
Therfield Heath (Lankester Hill)					0	0	0	1	3	16	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	10-Jul	
Therfield Heath (Top of Rife Range)					0	0	0	0	14	6	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1-Jul	
Trent Park					0	0	0	1	4	6	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	15-Jul	
Tring Park					0	0	0	45	62	78	58	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	244	11-Jul	
Ware Park					0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4-Jul	
Watersford Heath North					0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Wood Lane Piton					0	0	4	7	13	18	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	12-Jul	
Mean Ringlet					0.00	0.08	0.70	9.85	23.32	19.80	12.67	3.75	1.77	0.18	0.03	0.03	0.02	0.00									72	5-Jul		



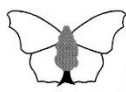
Map showing the number of recording visits made in 2005 for each tetrad..



Map showing the numbers of species of butterfly recorded in each tetrad (2 x 2 Km square) during 2005



Map of the Hertfordshire and Middlesex survey area showing the main towns (circles) and built up areas (shaded).



**Butterfly
Conservation**

Saving butterflies, moths and their habitats

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This report is produced by the Recording Subcommittee of the Hertfordshire and Middlesex branch of Butterfly Conservation. Butterfly Conservation A Company limited by guarantee. Registered Office: Manor Yard, East Lulworth, Wareham, Dorset, BH20 5QP. Registered in England No: 2206468 - Registered Charity No: 254937.
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