



Saving butterflies, moths and their habitats

Hertfordshire and Middlesex Branch

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

HERTFORDSHIRE AND MIDDLESEX BUTTERFLY REPORT 2009

John B. Murray & Andrew Wood



Price £5
to non branch members

August 2010

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Introduction

2009 completes the five-year mapping of our area 2005-9, and some frantic activity by many recorders has meant that Middlesex has been covered better than ever before, with observations received from all tetrads. The past five years has been marked by a steady increase in the number of records received through the branch website. Liz Goodyear's tireless updating of the "latest sightings" page is probably the best in the country, and many new observers submit accounts of sightings and also details of earlier stages and butterfly behaviour. Needless to say, as usual this report and the 5-year survey would not be possible without the painstaking work of Andrew Wood, who has entered every single one of your records (80,273 of them over the past 5 years) into the computer databases which form the basis of the information presented here.

John Murray

Contributors

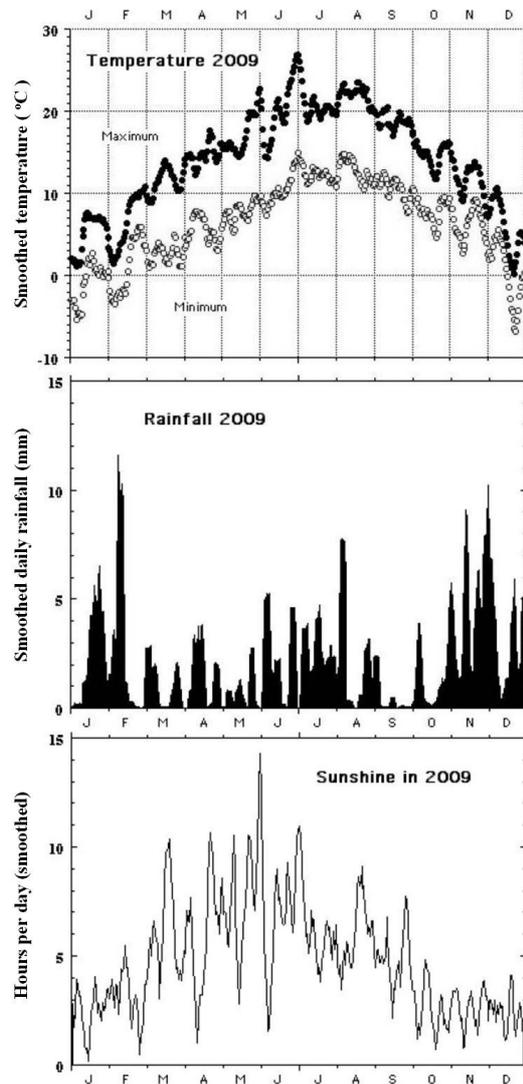
The following is a list of those from whom butterfly records relating to 2009 have been received, together with the number of tetrads from which observations were received, the number of records and the number of transect walks carried out.

	Tetrads	Visits	Transects		Tetrads	Visits	Transects
Nigel Agar	5	5	0	David Cording	1	1	0
Brian Anderson	3	12	0	Mike Cotton	1	1	0
David Anderson	2	1	4	Paul Coyston	2	2	0
Michael Anderson	1	1	0	Bob Cripps	14	45	0
Diane Andrews	44	102	0	Len Crouch	2	6	0
Anon	12	14	0	Andrew Culshaw	11	153	21
Joan Austin	2	14	0	Andy Culshaw	2	3	3
Marion Baker	1	1	0	Elizabeth Debenham	6	42	0
Tristan bantock	1	1	0	Chris Dee	2	2	0
Fiona Barclay	4	5	0	Marin Dodd	1	1	0
Max Barclay	1	1	0	M. Dominey	1	2	1
J.W. Barrington	1	2	0	Jack Doyle	1	1	0
John Bater	1	24	24	Randy Drew	1	1	0
Alan Beale	4	124	116	Lawrence Drummond	13	37	0
Roy Beddard	1	6	6	John Eborall	31	53	0
Allen Beechey	1	1	0	John Edwards	1	1	0
Alan Bernard	1	1	0	Graham Elcombe	4	6	0
Michael Berthoud	1	16	16	Lee Evans	1	1	0
Phil Bishop	9	13	0	Colin Everett	73	274	5
Tony Bristow	1	30	0	Richard Featherstone	1	3	3
Andy Brown	2	16	15	Paul Field	1	1	0
David Brown	2	3	0	Jane Fielding	1	94	0
Peter Brown	1	1	0	Jim Fish	2	8	0
Richard Brown	1	2	0	Kim Fleming	5	10	0
Simon Bullivant	1	11	0	Mandy Floyd	1	1	1
Clive Burrows	5	22	0	Jonathan Forgham	5	25	0
Robert Callf	13	419	0	Charlotte Fox	2	17	0
Deborah Chalmers	1	2	0	Richard Fox	2	2	0
David Chandler	2	25	0	Val Fullforth	7	33	26
Violet Chandler	1	24	24	Nick Furtek	26	85	0
Trevor Chapman	4	8	0	Ched George	6	18	0
Adam Cheeseman	1	20	20	Helen George	1	7	0
Steve Chilton	1	1	0	Jacqueline George	22	95	0
Alun Chrissie	1	2	0	Jacky Gilbert	1	2	0
Tony Clancy	1	1	0	A. Goldsmith	1	46	0
Jane Clarke	1	4	4	David Gompertz	1	8	0
Peter Clarke	7	56	28	Terry Goody	1	28	0
Tom Clarke	2	2	0	Liz Goodyear	15	50	0
Mr & Mrs K.J. Clench	1	1	0	Michael Goodyear	1	3	0
Bob Clift	3	30	26	David Green	1	3	3
Alan Cockburn	1	13	0	Anna Guzzo	1	49	0
Michael Collins	1	4	0	Oliver Halford	2	23	22
Michael C. Collins	1	2	0	Rae Hall	1	1	0

	Tetrads	Visits	Transects		Tetrads	Visits	Transects
James Hanlon	1	1	0	Caroline Phillips	1	24	24
Richard Harrington	1	2	0	V. Phillipot	1	2	0
George Harris	1	1	0	Stuart Pittman	2	3	0
Jean Hayes	3	12	0	Sue & Steve Place	1	2	0
Jan Hein van Steenis	6	11	0	P. Platten	1	11	0
Helen	3	10	0	Fred Pointon	1	1	0
Eileen Hewitt	1	2	0	Brian Price	1	1	0
Martin Hicks	3	28	26	Catherine Price	1	11	11
Sezar Hikmet	2	4	0	Roger Prue	1	25	25
Audrey Hind	1	51	0	Simon Rasch	3	3	0
John Hollingdale	2	22	0	Alan Reynolds	2	6	1
Janet Holmes	1	23	23	Andy Reynolds	1	1	0
Neale Holmes-Smith	2	43	43	Ann Rix	1	25	25
Andy Holtham	1	19	19	Michael Robinson	1	1	0
Rob Hopkins	1	1	0	John Rogers	2	31	0
Craig Hornby	7	18	0	Donald Rooum	1	18	18
David Howdon	20	250	48	Mike Rubin	7	70	0
Malcolm Hull	33	152	37	Mike Russell	1	2	0
Bob Husband	3	3	0	John Scivyer	1	1	0
Martin Imrie	2	6	0	Andrew Self	2	17	17
Alan Jackson	2	2	0	Lorraine Shelly	1	1	0
Trevor James	11	19	0	Denis Shepperson	1	2	2
Brian Jessop	12	167	50	Ian Small	1	1	0
Kit Jones	19	34	0	Carol Smith	1	1	0
Steve Kiln	3	151	49	Charles Smith	1	14	0
Andrew King	2	2	0	Graham Smith	1	1	0
Jon King	36	110	0	Ken & Linda Smith	1	2	0
Ken King	1	24	24	Martin Smith	1	23	21
Chris Lamsdell	1	1	0	Phil Smith	1	1	0
Steve Lane	3	20	16	Robin Smith	1	1	0
Ernest Leahy	4	7	0	Rob Solomon	1	27	27
Patrick Lepper	1	1	0	Tony Spackman	1	1	0
Phil Lumley	2	22	21	R. Stables	1	2	0
Terry Lyle	1	26	25	Kevin Standbridge	1	1	0
Helen Martin	1	2	0	Kevin & Sandra Standbridge	2	2	0
Stephen Mason	1	1	0	Darin Stanley	5	12	0
Julia McDonnell	1	1	0	A.J. Steele	5	7	0
Phil McMurdie	58	133	0	Sue Stephens	1	24	24
Simon Mercer	1	17	17	Nigel Stone	1	1	0
Andrew Middleton	26	91	0	Colin Sturges	1	1	0
Dick Middleton	10	22	0	Mike Taylor	10	60	24
Dave Miller	4	34	0	David Thomas	1	27	27
Dave Morris	1	1	0	Edie Threadgold	1	1	0
John Moss	7	116	0	Paul Thrush	7	30	0
Jon Moss	1	21	21	M. Tisdale	1	2	1
Marion Moss	1	1	0	Rebecca Turpin	1	15	15
Keir Mottram	2	3	0	Chris Tyler-Smith	4	6	0
Mary Moverley	1	1	0	Andrew Verrall	1	2	2
Tony Moverley	1	3	0	Gavin Vicary	1	26	26
John Murray	4	37	33	Stephen Waters	1	1	0
Stephen Murray	5	24	0	Pat Watt	1	23	23
Peter Naylor	2	2	0	David Wheatcroft	1	3	0
Roger Newbold	1	1	0	Max Whitby	1	2	0
Rooger Newbold	4	4	0	Robin White	2	4	0
Maloclm Newland	1	2	0	Andy Whitney	1	1	0
Margaret Noakes	2	16	15	Leslie Williams	1	12	12
S. Ormondroyd	1	2	0	Jo Wilson	1	1	1
Don otter	1	1	0	Ian Woiwod	1	1	0
Andrew Palmer	2	5	0	Andrew Wood	58	352	48
Ginnie Parker	1	1	0	Jane Wood	3	36	0
Steve Pash	5	21	0	Kate Wood	3	5	0
V.W. Patterson	7	45	0	Steve Wood	1	1	0
Richard Payne	1	25	25	Philip Woodward	2	2	0
Beverley Payton	1	4	0	Jane Worroll	2	37	31
Gwyneth Pearman-Jenkins	1	22	22	Kris Zymla	1	20	20
Michael Pearson	1	34	25				
Robin Pearson	8	12	0				
Eugenio Penalvo	1	1	1				

Weather in 2009

After a wet January and early February, temperatures rose rapidly in March, which was sunny and dry. The start of the season in April was fairly average, though the second week was wet and cloudy, but May was drier and sunnier. Temperatures rocketed at the end of May, the sunniest period of the year, but fell just as dramatically at the start of June, only to rise steadily again until the start of July, when temperatures reached the highest for the year. The rest of July and early August was cloudy and cool, and although there were plenty of showers, it was not nearly so wet as 2008, and the middle of August was dry and sunny. September was the driest month of the year, with plenty of sunshine in the last week, but temperatures thereafter dropped steadily. November and December were very wet, and with temperatures plunging in mid-December we had thick snow and the first white Christmas for many years.



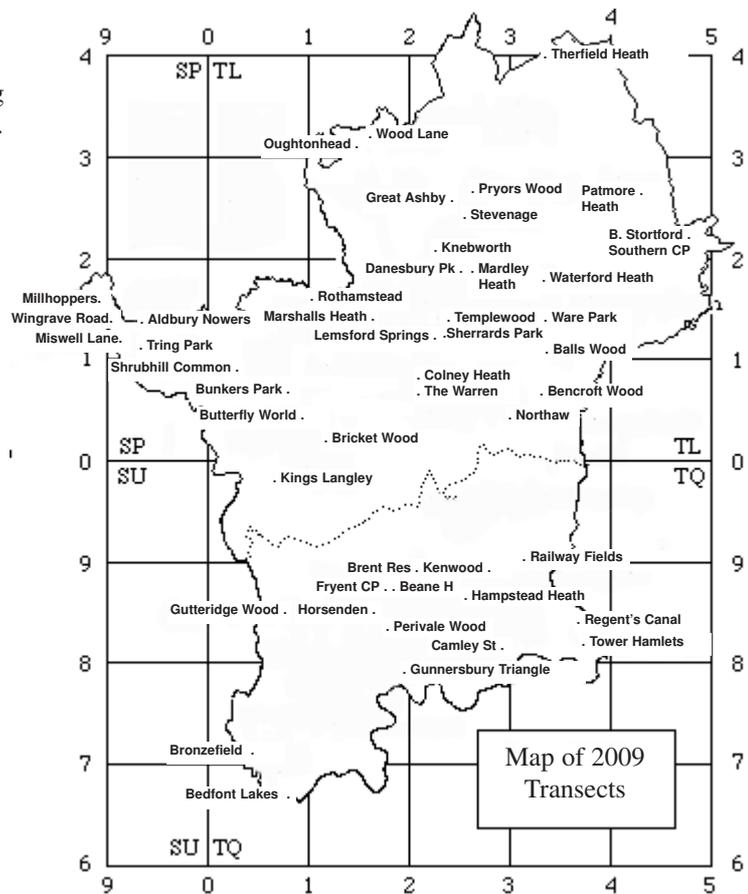
2009 Overview

2009 was an excellent year for butterflies, with most species increasing in numbers, some rare sightings (40 species seen altogether), and eight species being either sighted earlier in the season than ever before in our area, or equalling previous earliest ever sightings. First of these was a remarkable earliest ever sighting of **Small White** on February 20th, and the warmer March produced an equal earliest-ever **Green-veined White** on March 17th. The **Brimstone** and the whites did well in general, all of them substantially increasing their numbers, **Large White** doing best, and **Orange Tip** also increasing substantially. April brought the first of 4 possible sightings of **Large Tortoiseshell**, and a **Camberwell Beauty**. **Dingy Skipper** was sighted earlier than ever on April 29th, but none of the **Skippers** did particularly well this year, only **Large Skipper** showing a substantial increase. In May there was a spectacularly large invasion of **Painted Ladies**, the best for at least 13 years, accompanied by some **Clouded Yellows** and other migrants, though **Red Admiral** numbers were down. The **Hairstreaks** did not have an exceptional year, apart from **White-letter Hairstreak**, which appeared earlier than ever on June 4th, and increased in abundance. **Small Copper** and the **Blues** all had an excellent year, apart from the **Holly Blue**, which was at the bottom of its oscillating abundance curve. **Duke of Burgundy** was recorded for the first time since 1998. **Small Blue** was spotted just inside the county boundary, but **Brown Argus** was the star, nearly quadrupling its numbers. **Essex Skipper** emerged earlier than ever on June 11th, and on June 12th a **Pearl-bordered Fritillary** was reported – almost certainly a captive-bred release. **White Admiral** had an excellent year, appearing earlier than ever and with a second brood individual on October 3rd breaking records at the other end of the season, and **Purple Emperor** was seen at several localities. **Small Tortoiseshell** more than doubled its numbers, and **Peacock** and **Comma** both had healthy increases. **Silver-washed Fritillary** increased and continues to breed, though only one **Dark Green Fritillary** was reported. The Browns did not do so well, with **Marbled White**, **Small Heath** and **Meadow Brown** decreasing, and **Ringlet** (which emerged equal earliest ever on June 4th), **Speckled Wood** and **Gatekeeper** showing modest increases. An end-of-season treat was a **Swallowtail** seen at the beginning of September.

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

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.



<i>Name</i>	<i>Grid Ref</i>	<i>Organiser</i>	<i>Species</i>	<i>Duration</i>	<i>Completedness</i>
1 Aldbury Nowers	SP952129	Martin Hicks	27	68 mins	0 weeks missing
2 Balls Wood	TL344106	Andrew Wood	21	32 mins	0 weeks missing
3 Beane Hill	TQ199873	Leslie Williams	16	38 mins	4 weeks missing
4 Bedfont Lakes	TQ080724	Adam Cheeseman	22	85 mins	9 weeks missing
5 Bencroft Wood	TL335065	Steve Kiln	16	23 mins	0 weeks missing
6 Bishops Stortford S.C.P.	TL473193	Bob Clift	20	63 mins	1 weeks missing
7 Brent Reservoir	TQ213873	Andrew Self	23		3 weeks missing
8 Bricket Wood	TL131009	Malcolm Hul	23	93 mins	0 weeks missing
9 Bronzefield	TQ055715	Oliver Halford	23	66 mins	4 weeks missing
10 Bunkers Park	TL079058	Michael Pearson	22	67 mins	1 weeks missing
11 Butterfly World	TL1204	Malcolm Hull	22	55 mins	9 weeks missing
12 Camley Street Nat. Park	TQ299834	Jane Clarke	20	13 mins	2 weeks missing
13 Colney Heath	TL203057	John Moss	18	43 mins	11 weeks missing
14 Cranford Park	TQ 101779	Robert Solomon	18	71 mins	6 weeks missing
15 Danesbury Park	TL230170	Pat Watt	20	40 mins	2 weeks missing
16 Fryent Country Park	TQ195876	Leslie Williams	14	65 mins	3 weeks missing
17 Great Ashby	TL267269	Steve Lane	23	34 mins	11 weeks missing
18 Gunnersbury Triangle	TQ201786	Andy Brown	13	33 mins	8 weeks missing
19 Gutteridge Wood	TQ091843	Ann Rix	16	47 mins	0 weeks missing
20 Hampstead Heath	TQ264870	Richard Payne	19	45 mins	0 weeks missing
21 Horsenden Hill East	TQ163844	David Howdon	21	63 mins	1 weeks missing
22 Horsenden Hill West	TQ155840	David Howdon	21	37 mins	0 weeks missing
23 Kenwood	TQ271874	Mike Taylor	19	47 mins	0 weeks missing
24 Kings Langley	TL068039	Violet Chandler	14		0 weeks missing
25 Knebworth Park	TL221208	Ken King	21	85 mins	2 weeks missing
26 Lemsford Springs	TL223121	N. Holmes-Smith	15	26 mins	3 weeks missing
27 Mardley Heath	TL248184	Sue Stephens	21	65 mins	1 weeks missing
28 Marshalls Heath	TL 161149	John Murray	23	40 mins	3 weeks missing
29 Millhoppers	SP900149	Margaret Noakes	19	35 mins	10 weeks missing
30 Miswell Lane	SP914117	Brian Jessop	19	23 mins	4 weeks missing

<i>Name</i>	<i>Grid Ref</i>	<i>Organiser</i>	<i>Species</i>	<i>Duration</i>	<i>Completedness</i>
31 Northaw Great Wood	TL285043	Jane Worroll	13	18 mins	9 weeks missing
32 Northaw Bridleway	TL285043	Jane Worroll	12	18 mins	10 weeks missing
33 Oughtonhead Common	TL169303	Phil Lumley	20	37 mins	5 weeks missing
34 Patmore Heath	TL 443257	Gavin Vicary	20	28 mins	0 weeks missing
35 Perivale Wood	TQ159837	David Howdon	19	31 mins	0 weeks missing
36 Pryor's Wood	TL265265	Andy Holtham	15	25 mins	4 weeks missing
37 Railway Fields	TQ317881	Catherine Price	12	29 mins	0 weeks missing
38 Regents Canal	TQ356830	Donald Rooum	8		0 weeks missing
39 Rothamsted Farm	TL121137	John Bater	19	42 mins	2 weeks missing
40 Sherrardspark Reddings	TL230135	G. Pearman-Jenkins	14	43 mins	4 weeks missing
41 Shrubhill Common	TL036072	Roger Prue	22	80 mins	0 weeks missing
42 Smallford Lake	TL194071	Denis Shepperson	22		7 weeks missing
43 Stevenage	TL246234	Peter Clarke	20	81 mins	0 weeks missing
44 Templewood Vale	TL235143	N. Holmes-Smith	15	25 mins	4 weeks missing
45 The Warren	TL204053	John Moss	17	35 mins	4 weeks missing
46 Therfield Heath (TH)	TL348401	Alan Beale	14	8 mins	0 weeks missing
47 TH Base of Church Hill	TL333395	Alan Beale	18	17 mins	0 weeks missing
48 T.H. (Church Hill)T	L333396	Alan Beale	17	8 mins	0 weeks missing
49 T.H. (Lankester Hill)	TL353404	Alan Beale	19	15 mins	0 weeks missing
50 T.H. (Top of Rifle Range)	TL349398	Alan Beale	22	24 mins	0 weeks missing
51 Tower Hamlets	TQ365823	Terry Lyle	17	87 mins	1 weeks missing
52 Tring Park	SP930105	Brian Jessop	23	83 mins	2 weeks missing
53 Ware Park	TL347143	Andrew Wood	20	35 mins	1 weeks missing
54 Waterford Heath North	TL317154	Janet Holmes	23	42 mins	2 weeks missing
55 Waterford Heath South	TL317149	Steve Kiln	24	39 mins	1 weeks missing
56 Wingrave Road	SP926127	David Thomas	22	103 mins	1 weeks missing
57 Wood Lane, Pirton	TL140310	Val Fullforth	22	68 mins	0 weeks missing

Species is the number of species recorded on the transect in 2009, *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 was not walked.

Transect Roundup

This year, only notes received from the transect walkers or organisers are included.

Aldbury Nowers SP 952 129

First walked: 1992 **2009 recorder:** Martin Hicks

“2009 was a reasonably good year at this site, despite the litter, dogs, weather, hoards of trampling naturalists and sheep. The total number of sightings – 2820 - was up on previous years but still less than 2005-07 when numbers were above 3,000. Major changes such as chalk grassland restoration and regular sheep grazing may have had an effect, along with weather. 27 species were recorded, including the rarities Dingy and Grizzled skippers, Green Hairstreak and Silver-washed Fritillary. In comparison with the preceding years, total skipper numbers remained broadly the same although Large Skippers were considerably more abundant. It was a very good year for Brown Argus and Common Blue, both of which increased dramatically. Browns were generally lower although Ringlets increased and Small Heath numbers remained stable. Thus despite noticeable fluctuations, Aldbury Nowers continues to support a strong butterfly community.” Martin Hicks

Balls Wood TL 344 106

First walked: 1994 **2009 recorders:** Andrew Wood & Andy Brown

“Purple Emperor reappeared and Silver-washed Fritillary was again recorded. 20 species were recorded compared to 18 in 2008. The additions were Purple Emperor and Painted Lady. For the second year Marbled White was recorded in the wood but not during transect walks”. Andrew Wood

Beane Hill TQ 199 873

First walked: 1988 **2009 recorders:** Leslie Williams, Michael Berthoud, Simon Mercer

Bedfont Lakes TQ 080 724

First walked: 1996 **2009 recorder:** Adam Cheeseman

Bencroft Wood TL 335 065

First walked: 2007 *2009 recorder:* Steve Kiln

Bishops Stortford Southern Country Park

First walked: 2004 *2009 recorder:* Bob Clift

Brent Reservoir TQ 213 873

First walked: 2000 *2009 recorders:* Andrew Self & Roy Beddard

Bricket Wood TL 131 009

First walked: 1997 *2009 recorders:* Malcolm Hull & Colin Everett

“2009 was a good year with the total butterfly count up 50% on 2008 and double 2007. Of the 23 species recorded, no less than eight recorded their highest total in the 13 years which the transect has been walked - Large White, Green-veined White, Common Blue, Painted Lady, Peacock, Silver-washed Fritillary, Speckled Wood and Ringlet. Other species which did well included Large Skipper, Orange Tip, White Admiral, Comma, Marbled White and Gatekeeper. Management works over the winter included coppicing using heavy horses, rotational cutting and scalloping of the ride and the creation of mini-clearings along School Lane. These continue to benefit the specialist woodland butterfly species. Silver-washed Fritillary was recorded 31 times, compared to a the previous highest annual total of 4. White Admiral was also recorded 31 times - its highest total since 1998.” Malcolm Hull

Bronzefield TQ 055 715

First walked: 1999 *2009 recorder:* Oliver Halford

“This was the second year this transect was walked and the 30% increase in specimen numbers, while encouraging, may reflect more benign weather conditions. Four additional species put in an appearance - Large Skipper, Red Admiral, Small Copper and Small Tortoiseshell (just one specimen each of the latter two) but the Small Heath recorded in 2008 failed to show. The Local Authority has plans to improve the site habitat for wildlife but are blocked from investing funds at present as the site is not yet in their ownership. The owner (a Government Department) carried out a partial grass cut at the end of September both sides of Section 6 but no other attention over the whole site during the year. As a result about one-third of the land area is now infested with Goats’ Rue and Bramble which has developed unchecked. This seriously affects Sections 2, 3 and 4 and I hope it will not prove physically impossible to continue the transect walk next year.” Oliver Halford

Bunkers Park TL 079 058

First walked: 1999 *2009 recorder:* Michael Pearson

Butterfly World TL 127 043

First walked: 2009 *2009 recorder:* Malcolm Hull

“A new transect first walked in June on a newly planted site, designed to provide a range of butterfly habitats. Chalk subsoil present on the site has been brought to the surface and covers two south-facing crescent-shaped mounds, each about 500 metres in length. These proved attractive to the Common Blues, which were recorded in good numbers. Wildflower meadows (which included both native and introduced plant species) and a range of imaginative planted gardens make up the remainder of the site. 12 species were recorded in all, with good numbers of Painted Ladies, which were recorded breeding on Sunflowers on the site of the future butterfly dome. Small Tortoiseshells also bred on site, using a patch of golden nettles in the British Butterfly Garden. Malcolm Hull

Camley Street Natural Park TQ 299 834

First walked: 2009 *2009 recorders:* Jane Clarke, Kris Zymła, David Green, Eugenio Penalvo

This new urban transect is on the same site as one walked in 2006, but follows a different route, so statistics cannot be directly compared.

Colney Heath Common TL 203 057

First walked: 1992 *2009 recorder:* John Moss

“Unlike The Warren, this year’s overall total continues last year’s decline. Gatekeepers and Meadow Brown were about 50% down, almost balanced by increases in Skippers, Common Blue, Whites, Peacock and Painted Ladies. Orange Tip returned after three years with 3 Small Tortoiseshells, and Small Copper were up. As previously, weather may be the main reason for the decline, but management is surely a factor. This involves regular mowing of much grassland and margins, including former areas of scrub, bramble and thistles and the river margin. However the main “flowery meadow” was left until early September again, allowing its important nectar and food plants to flower and disperse seed, while in another small damp “honeypot area” Common Fleabane, Knapweed and Thistle were still standing in week 26. The bulk of grassland butterfly species were recorded in these areas. 4 Purple Hairstreak were

seen briefly in open woodland where there are still plenty of developing Oaks, so their decline seems unlikely to be affected by management.” John Moss

Cranford Park TQ 101 779

First walked: 1997 **2009 recorders:** Robert Solomon & Richard Featherstone

“Cranford Park has experienced an excellent year for Lepidoptera with the discovery of a small colony of White-letter Hairstreak, good numbers of Speckled Wood and Large Skipper, and Small Copper going into a fourth brood. Also a great year for moths with Red-belted Clearwing on the edge of the meadow. Trapping pulled in Toadflax Brocade on 26th June, Double-line on 5th July, Great Oak Beauties in June as well as Lunar-spotted and Lesser-spotted Pinions”. Rob Solomon

Danesbury Park TL 230 170

First walked: 1996 **2009 recorder:** Pat Watt & Ken King

“Butterfly numbers were down; I saw 36 fewer butterflies than in 2008, which made it the second worst year since I started in 1996. The cattle were put in the upper paddock (Park Field) much earlier this year, and horses grazed the Lower Paddock (Codicote Field), also a lot of brambles were cut down along the transect. Species not recorded last year included Large Skipper, Common Blue & Small Tortoiseshell; also Painted Ladies, but not in such large numbers as elsewhere. The most abundant species remain the Meadow Brown and Gatekeeper, although their numbers have dropped dramatically since I started recording”. Pat Watt. A more complete analysis is given in Watt (2009).

Fryent Country Park TQ 195 876

First walked: 1986 **2009 recorders:** Leslie Williams, Michael Berthoud & Simon Mercer

“Butterfly numbers have varied considerably in recent years due to factors including weather and management of the hay meadows. While it is therefore difficult to make comparisons over a small number of recent years, the Meadow Brown numbers appear to show some recovery, and this could be due to the re-introduction of the hay harvesting (as compared with flail cutting). Brimstones are benefiting from the planting and establishment of Alder Buckthorns. Painted Lady numbers were modest compared with those recorded at some other transects in London”. Leslie Williams

Great Ashby TL 267 269

First walked: 2008 **2009 recorder:** Steve Lane

“Early figures showed an improvement, but the poor weather and strong wind kept the records low. Painted Lady, Small Tortoiseshell, Orange Tip and Common Blue all made gains. The park is still maturing, still only 6 years since its creation. The Council and the Countryside Management Service have now agreed to delay cutting the meadow until October, leaving some areas uncut. Hopefully this will improve the habitat and butterfly numbers will become more stable”. Steve Lane

Gunnersbury Triangle TQ 201 786

First walked: 1999 **2009 recorders:** Andy Brown, Adam Sparrow & B.Stagg

Gutteridge Wood TQ 091 843

First walked: 1990 **2009 recorder:** Ann Rix

“Not a species-rich year but a good improvement in totals from 2008.” Anne Rix

Hampstead Heath TQ 264 870

First walked: 1978 **2009 recorders:** Adrian Brooker, Bob Gillam, Richard Payne, R.Renwick

Horsenden Hill East & Horsenden Hill West TQ 163 844

First walked: 2003 **2009 recorders:** David Howden & Andy Culshaw

Kenwood TQ 271 874

First walked: 2005 **2009 recorder:** Mike Taylor

Kings Langley TL 068 039

First walked: 1997 **2009 recorder:** Violet Chandler

“The fall in species count from 18 to 14 is probably due to missing Ringlets, Marbled Whites and Small Skippers that we know occur in small numbers in the garden. We did not see any Holly Blues but there were lots of extra Whites and many Painted Ladies, which contributed to an increase in total numbers to over 300. The dry spell towards the end of the recording year brought on an early autumn leaf fall and many of the hibernators went into hibernation early”. David Chandler

Knebworth Park TL 221 208

First walked: 1996 **2009 recorder:** Ken B. King

“This year was marked by yet again a good showing of Marbled Whites, a little surprising when compared with a number of the other grass-eating species. The bulk of the reduction is of Meadow Browns on Section 1. It was a very windy year, necessitating a number of returns to count with reasonable wind speeds. The effect of the wind was most marked on this one section. The adult Browns that were seen were mainly in the protected margins of the field. It is suggested that they were simply blown away. This would be supported by the well spread Speckled Wood and even Small Copper elsewhere where the hedge/tree cover was thin.” Ken King

Lemsford Springs TL 223 121

First walked: 1998 **2009 recorder:** Neale Holmes-Smith

“Number of species is back to 15, but only 5 Painted Ladies were recorded. Skipper numbers continue to be extremely low, but Comma numbers have increased noticeably from 16 to 39 and whites have increased too”. Neale Holmes-Smith

Mardley Heath TL 248 184

First walked: 2006 **2009 recorders:** Caroline Phillips & Sue Stephens

“In contrast to last year we had an exciting season on Mardley Heath, beginning with the early northward migration of Painted Ladies. We spotted a Clouded Yellow for the first time and had a single sighting of another new species, a Silver-washed Fritillary. The Painted Ladies continued to feed on the teasels all summer and we also recorded 2 Purple Hairstreaks around some oak saplings in the South Pit. We have not been able to see them in a tree-top location but will keep trying.” Sue Stephens

Marshalls Heath TL 161 149

First walked: 1989 **2009 recorders:** Trevor Chapman & John Murray

Despite winter cutting, scrub seems to be regenerating and spreading across the shrinking remaining grassland, and oak trees continue to grow taller and shade out what remains of the woodland clearings. Despite this, good weather early on has meant that numbers have more than doubled since 2008. The biggest change was Ringlet, with more than 5 times last year's numbers, making it now the commonest butterfly by more than 200. Small Skipper, Large & Green-veined White, Orange Tip, Comma & Marbled White all more than doubled, but Meadow Brown remained steady & Speckled Wood took a slight drop.

Millhoppers SP 900 149

First walked: 1998 **2009 recorder:** Margaret Noakes

Miswell Lane SP 914 117

First walked: 1999 **2009 recorder:** Brian Jessop

“Miswell seems to be getting better for butterflies, but I cannot see any reason for this other than the 3 metre strip left along one side of the field. Common Blue and Brown Argus were both seen on this strip left unploughed. Obviously the weather has had a bearing on numbers this year”. Brian Jessop

Northaw Great Wood TL 280 040 & Northaw Great Wood Bridleway TL 285 043

First walked: 1999 **2009 recorder:** Jane Worroll

Oughtonhead Common TL 169 303

First walked: 2002 **2009 recorder:** Phil Lumley

Patmore Heath TL 443 257

First walked: 1996 **2009 recorder:** Gavin Vicary

Perivale Wood TQ 159 837

First walked: 2005 **2009 recorder:** David Howdon

See Horsenden Hill

Pryor's Wood TL 265 265

First walked: 2000 **2009 recorder:** Andy Holtham

“There have been no significant changes in the management of the habitat, so my only explanation for the lower numbers since last year are random fluctuations or general weather effects.” Andy Holtham

Railway Fields TQ 317 881

First walked: 1997 **2009 recorders:** David Bevan, Catherine Price and Rebecca Turpin

Regents Canal TQ 356 830

First walked: 2001 *2009 recorder:* Donald Room

Rothamsted Farm TL 121 137

First walked: 1991 *2009 recorders:* John Bater

Sherrards Park Woods: Reddings TL 230 135

First walked: 2001 *2009 recorder:* Gwyneth Pearman-Jenkins

“The opening up of two glades at the junctions of sections 1 & 2 and 3 & 4 has benefited the butterflies, and twice as many have been seen than in the previous ‘best’ season of 2004. The species recorded is up by one; this partly reflects the fact that I have more experience. The Whites have been plentiful. Purple Hairstreaks have never been actually counted but were noticeably more widespread than previously thought. 2 White Admirals were spotted on Bramble blossom at the junction of sections 4 & 5 on July 2nd. These have not been recorded before. Two were seen over a couple of days near the electricity station at the same period. Were they the same ones?” Gwyneth Pearman-Jenkins.

Shrubhill Common TL 036 072

First walked: 2001 *2009 recorder:* Roger N. Prue

Smallford Lake TL 194 071

First walked: 1990 *2009 recorder:* Denis Shepperson

Delighted to report that, unbeknown to us, Denis Shepperson has continued walking this transect, presumed defunct from 2004, for the past five years. This is particularly good news as it is the second oldest transect in Hertfordshire, and now has an unbroken record of 20 years of data. The longer a transect continues, the more priceless it becomes, so this has really attained the gold standard. Denis writes: *“No Small Tortoiseshells this year, not even on the Buddleia where I have seen them in the past. The scrub is now very widespread over the entire site, and far fewer open areas are left. Although some species improved from last year, the overall butterfly numbers are the lowest ever and dramatically lower than they were in the 1990s”.*

Stevenage TL 246 234

First walked: 1993 *2009 recorder:* Peter J. Clarke

“It was a good butterfly season, and far better than 2008, especially in the early summer. About double the number of the common Skippers were counted. The Whites also fared very well, with the Large White having its best year since 1994. It was the best season ever for the Marbled White – 27 individuals which is more than double the previous best. As always, there are species which did not fare well. Numbers of Gatekeepers and Meadow Browns have decreased steadily over the years although they are still the most common species seen on the transect. Instead of 500+ of each of these species five years ago it is more like 250+ now. I saw only 10 Painted Ladies compared to about 150 in 2006, due to far fewer suitable nectar flowering plants like thistles in Millennium Wood.” Peter Clarke.

Templewood Vale TL 235 143

First walked: 1998 *2009 recorder:* Neale Holmes-Smith

“Numbers of butterflies in total are up nearly 80% from last year, nearer to the level of recent years. There is a noticeable absence of Small Tortoiseshell, and now Red Admirals. White numbers have increased noticeably”. Neale Holmes-Smith

Therfield Heath TL 348 401, TL333395, TL333396, TL353404 & TL349398 (5 transects)

First walked: 1988 *2009 recorder:* Alan J. Beale

“Windy summer, the first Marbled Whites were sighted on 16th June and Chalkhill Blues on 30th June, the earliest I have recorded them here. Church Hill still hasn’t recovered from the sheep onslaughts of 2005 and 2007; it was a real task trying to find Chalkhill Blues there this summer. Plenty of Clouded Yellows to brighten things up in August”. Alan Beale

The Warren TL 204 053

First walked: 1991 *2009 recorder:* John Moss

“Another disappointing year, despite a slight increase on last year’s total number, with only 17 species recorded. The good news is that Marbled Whites seem to have bred again, Small Tortoiseshell have re-appeared, Small Coppers and Common Blue were well up, with plenty of Painted Ladies and abundant Whites and an increase in Ringlets. Worryingly, 18 Small Heath is my lowest record, I saw no Red Admiral or Gatekeeper, and Meadow Brown totals were well down. Weather may be a factor in these results, but changes in management may be significant. Last autumn young scrub developing in open grassland was cut and burned, as was a broad belt of bramble, thistle, nettle, bracken

and scrub along the south boundary, with dead wood and trees. This stretch is now mown, preventing any wildlife-friendly regeneration. On the positive side, the rankest areas of open grassland were mowed in late winter, rabbits are returning to graze, and food and nectar plants like *Fescues*, *Sorrel*, *Bird's-foot trefoil* and *Knapweed* are still abundant. Heather is spreading too." John Moss

Tower Hamlets Cemetery Park TQ 365 823

First walked: 1999 **2009 recorder:** Terry Lyle, K. Greenway & A. McGuire

Tring Park SP 930 105

First walked: 1996 **2009 recorder:** Brian Jessop

"A lot more butterflies this season. Disappointed at not seeing *Grizzled Skipper* again, but did record two *Dingy Skippers*. The walk is quite difficult now because of the overgrowth, and has to be diverted in some areas. I have written to the Woodland Trust, but they never met me as arranged, so won't hold my breath. I am afraid I will not be doing the transect any more; if anyone is interested, I will gladly show them the transect". Brian Jessop. Tring Park is one of our most important transects, so if you can take on this transect, or at least help, please contact Brian Jessop or John Murray.

Ware Park TL 347 143

First walked: 1996 **2009 recorder:** Andrew Wood

"There were really only minor environmental changes to the transect. The undergrowth around the cycle track sections has largely re-grown. The field on the south side of section 7 was again down to *Lucerne* (though not re-seeded) and multiple cuts were taken from it during the year. There was no work on the restoration of Ware Park Mill and there was no herbicide treatment this year, but the ground was scoured by heavy machinery so there was only a small amount of undergrowth. Overall numbers were well up from 522 to 624, very much in line with general trends". Andrew Wood

Waterford Heath North TL 317 154

First walked: 2000 **2009 recorder:** Janet Holmes

Waterford Heath South TL 317 149

First walked: 2008 **2009 recorder:** Steve Kiln

Wood Lane Pirton TL 140 310

First walked: 2005 **2009 recorder:** Val Fullforth

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.

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). The transects are Hampstead Heath 1978-2009, Fryent Country Park 1986-2009, Beane Hill 1988-2009, Gutteridge Wood 1990-2009, Gobions Woodland 1990-2001, South Mimms 1990-2000, Aldbury Nowers 1992-2000 and 2002-2009, and Marshall's Heath 1992-2009. 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. The indices are more useful when looking at longer terms trends than for year to year changes. Similarly, indices may be less reliable for localized and less frequent species.

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Small & Essex Skippers	52	82	128	118	100	227	199	97	114	127	254	236	74	102	67	111	90	121	141	92	113	62	68	85	
Large Skipper	53	124	63	204	100	58	201	161	180	140	91	80	54	77	50	77	138	161	77	89	80	37	19	32	
Dingy Skipper					100	0	0	100	150	0	0	200	0	0	100	NA	150	0	600	0	700	300	1000	800	
Grizzled Skipper								100	75	0	0	200	0	75	100	NA	0	250	150	300	150	50	150	100	
Clouded Yellow											100	0	20	0	420	0	30	0	0	0	0	0	0	0	
Brimstone					100	183	317	294	268	155	224	243	324	297	475	243	237	166	321	332	165	353	248	433	
Large White	144	39	142	322	100	62	427	107	107	68	16	97	156	53	69	56	76	64	88	67	88	38	119	286	
Small White	574	123	173	251	100	220	427	120	350	406	227	550	220	113	163	228	241	178	376	211	233	275	241	543	
Green-veined White	64	33	140	162	100	55	250	72	101	96	66	178	258	67	63	73	172	82	168	115	74	71	48	201	
Orange Tip	2	18	10	35	100	70	90	90	47	77	43	93	84	46	78	58	58	41	122	81	32	40	25	78	
Green Hairstreak							100	144	310	166	77	310	266	144	116	NA	77	17	6	28	6	0	11	16	
Purple Hairstreak							100	120	40	60	310	150	300	475	205	80	65	65	130	70	40	80	50	280	
White-letter Hairstreak							100	100	50	50	700	400	500	150	175	481	0	0	0	150	0	200	100	0	
Small Copper	3	18	9	52	100	40	15	3	11	15	36	32	11	4	4	2	1	12	40	15	38	16	7	14	
Small Blue							100	0	0	0	0	0	0	0	0	NA	0	0	0	0	0	0	0	0	
Brown Argus							100	32	118	373	548	468	127	289	570	NA	76	62	213	378	683	92	95	374	
Common Blue	8	8	0	54	100	48	41	20	41	39	35	49	15	26	14	10	5	15	17	27	32	4	8	42	
Chalkhill Blue																									
Holly Blue	0	0	0	105	100	12	1	0	0	4	26	3	6	2	1	4	6	1	7	4	3	8	3	2	
Duke of Burgundy							100	20	80	20	0	0	0	0	0	NA	0	0	0	0	0	0	0	0	
White Admiral																									
Red Admiral	0	0	100	25	100	90	179	101	63	190	164	85	111	81	191	89	142	140	64	102	173	275	84	111	
Painted Lady	0	0	100	0	100	17	25	0	17	11	655	8	20	9	31	0	101	208	70	0	187	47	4	383	
Small Tortoiseshell	239	344	460	256	100	150	761	206	93	187	273	475	137	102	21	23	10	16	36	12	8	8	1	8	
Peacock	130	191	160	120	100	130	372	249	147	196	329	245	384	328	409	214	192	93	155	192	191	280	131	328	
Comma	79	134	140	185	100	142	365	124	145	224	196	188	169	152	185	135	127	187	187	128	214	112	91	237	
Dark Green Fritillary							100	0	0	0	100	0	0	0	0		0	0	100	100	0	700	400	0	
Silver-washed Fritillary																						100	0	0	100
Speckled Wood	0	18	59	139	100	117	208	236	363	212	116	204	259	277	298	222	299	312	194	170	193	193	248	335	
Wall Brown	27	21	0	89	100	21	9	4	8	3	2	0	0	1	0	0	0	0	0	0	0	0	0	0	
Mottled White							100	151	211	136	91	99	174	308	387	NA	120	81	306	196	493	331	343	309	
Gatekeeper	0	0	0	0	100	87	71	38	58	61	69	63	55	66	68	72	56	49	96	86	88	51	55	53	
Meadow Brown	32	110	158	162	100	193	101	48	74	88	121	117	137	131	120	120	42	120	80	97	88	37	41	46	
Small Heath	42	57	11	37	100	59	30	9	8	2	15	33	20	9	5	NA	7	1.7	10	24	22	12	10	11	
Ringlet					4	0	100	271	419	138	49	96	96	170	246	NA	194	183	278	272	293	252	684	1486	

Species Mapping

Species Mapping

Area covered by the survey

A map of the boundaries of our survey area is shown on the inside back cover (top 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 371 tetrads in 2009, or 62% of the total. This year we are showing maps of records for 2005-2009. The number of recording visits per tetrad made in this period are shown in a map (**top left inside back cover**). The number of visits to tetrads actually observed in 2009 are shown in the map at the **bottom left, inside back cover**. 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 2005-2009 is shown in the map at **top right, inside back cover**.

Butterflies of 2009

The following sections are species by species accounts of butterflies seen (or in some cases not seen) in Hertfordshire and Middlesex during 2009. 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 2009.

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 different from place to place.

The **Maximum number seen** records the greatest number seen in 2009 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 average of the sum of the weekly totals seen on transect walks where the butterfly has been recorded. The **Change in abundance since 2008** is the percentage change in abundance averaged for those transects for which 2008 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 2009 transects on which this figure was based were not walked in 2008. Values in brackets are unreliable due to the small sample.

The **number of tetrads** in which the species was recorded in 2009 is also given, together with the same value pressed as a percentage of those tetrads actually visited by recorders.

Finally, the **Range change since 2008** is given for some species, which compares the percentage of visited tetrads in which the species was found in 2008 and 2009.

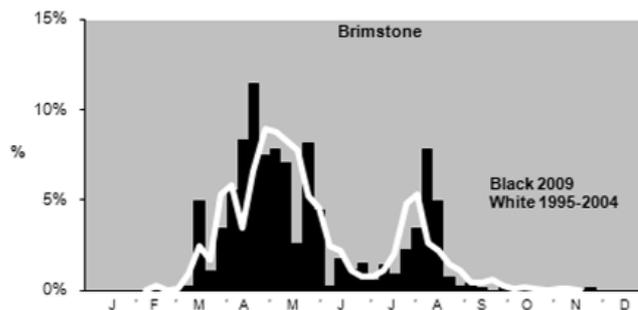
Flight Charts

There is increasing interest in phenology which is the study of recurring natural phenomena and butterfly flight times are a relatively easy way to record an element of this. We now have good data from 1995 onwards and with the changes in weather patterns we think it is a good idea to show not just the current year but also how it compares with an average of the first ten years (1995-2004) of all the records we have. Such comparisons of current year against a past average are a well established way of looking at such phenomena over a period of time.

An example of the new charts is shown below. It shows the percentage of the total number for a species that were flying in each week of the year (y axis). The weeks are a standard measure starting with January 1-7 as week one and going up to week 52 at the end of December (x axis). On the chart these weeks are not shown individually but for readability as months. Some weeks will, of course, straddle two months e.g. week 22 is 28 May to 3 June. The black bars represent the current year and the white line the mean of data from 1995 to 2004. So what does such a chart tell us?

General interpretation:

- Black bars to the left of the white line show earlier flight than the recent average
- Black bars above the white line show higher % of a species flying at a particular time than the recent average
- Black bars to the right of the white line show later flight than the recent average
- Grey space under the white line shows a lower % of a species flying at a particular time than the recent average



In this example about 5% of all Brimstones were seen in mid March. Historically this period saw about 2% of the butterflies flying in this weeks. This shows that the emergence from hibernation was early and strong. By the beginning of June the main flight was largely over. The emergence of the summer brood was later than the historical pattern. We then need to relate this to the weather where we had an early spring, followed by a poor early summer

Small Skipper *Thymelicus sylvestris*

First seen: 11th June at Hatfield (John Moss)

Last seen: 31st August at Shrubhill Common (Roger Prue)

Peak date: 11th July

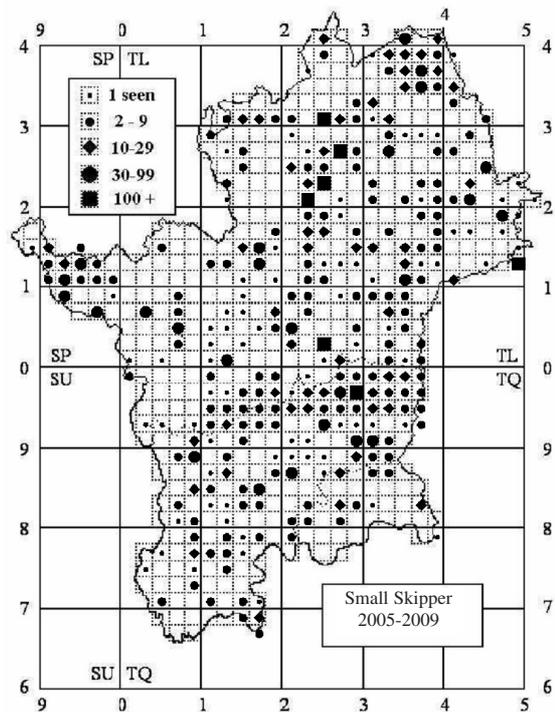
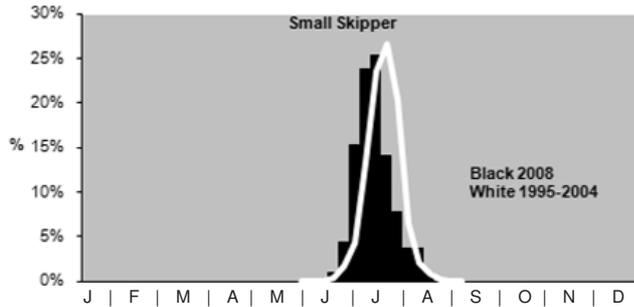
Maximum number seen: 70* at Marshalls Heath on 4th July (John Murray)

Mean index of abundance: 34

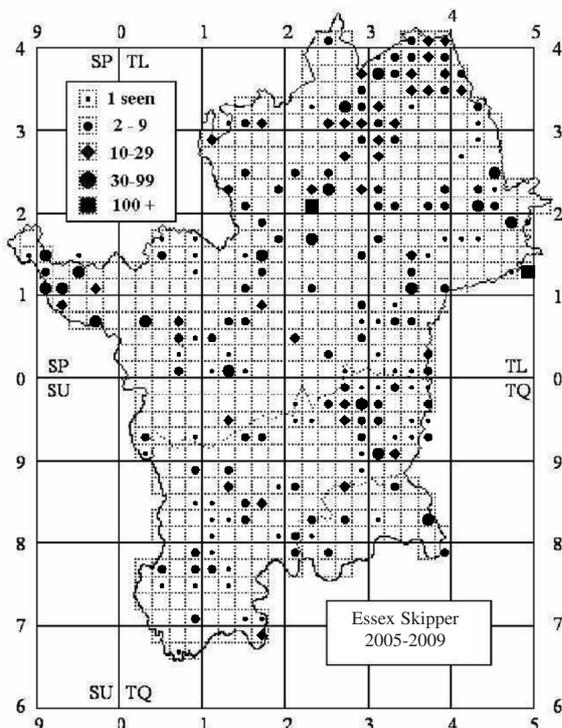
Change in abundance since 2008: 15% increase

Recorded in: 108 tetrads (24% of those covered)

Range change since 2008: 12% contraction



This species showed a slight increase in numbers, but was seen at rather fewer locations than in 2008. Looking at the 2005-9 period compared to 2000-2004, the range has decreased slightly, and the abundance has also fallen, despite this year's increase. As Andrew Wood remarks of Balls Wood: "There is no doubt that this and the Essex Skipper are in serious decline here. This is not unique to this site, but the encouragement of longer unshaded grass along some of the rides is a priority to retain these butterflies here." It is not clear why this species is declining county-wide, as one of its principal habitats, rough grassland, seems to be quite widespread. The decline parallels what is happening nationally, where there has been a drastic drop in numbers since 2003 (Botham et al. 2008)



Essex Skipper *Thymelicus lineola*

First seen: 11th June at Danesbury Park (Jane Worrall)

Last seen: 19th August at Aldbury Nowers (Martin Hicks)

Peak date: 11th July

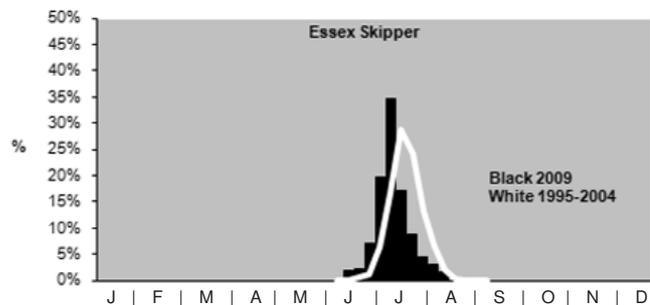
Maximum number seen: 42* at Knebworth on July 16th (Ken King)

Mean index of abundance: 28

Change in abundance since 2008: 18% decrease

Recorded in: 54 tetrads (12% of those covered)

Range change since 2008: 36% contraction



Both this and the previous species benefited from the warm sunny weather in late May and early June, which must have greatly speeded development, for Jane Worrall's sighting on 11th June is the earliest ever for our area, beating by one day the previous record, established in 2000. Essex Skipper seems to be suffering a more serious decline than Small Skipper, with a range now little more than half what it was in 2000-2004. This seems to be a general problem for grassland species Europe-wide, and a Grassland Butterfly Indicator has been formally adopted as a prominent biodiversity indicator (alongside birds) which shows a severe downward trend 1990-2007 (Van Swaay & Van Strien 2008)

Large Skipper *Ochlodes venata*

First seen: 20th May at Balls Wood (Alan Reynolds)

Last seen: 19th August at Tower Hamlets & Aldbury Nowers (Terry Lyle & Martin Hicks)

Peak date: 23rd June

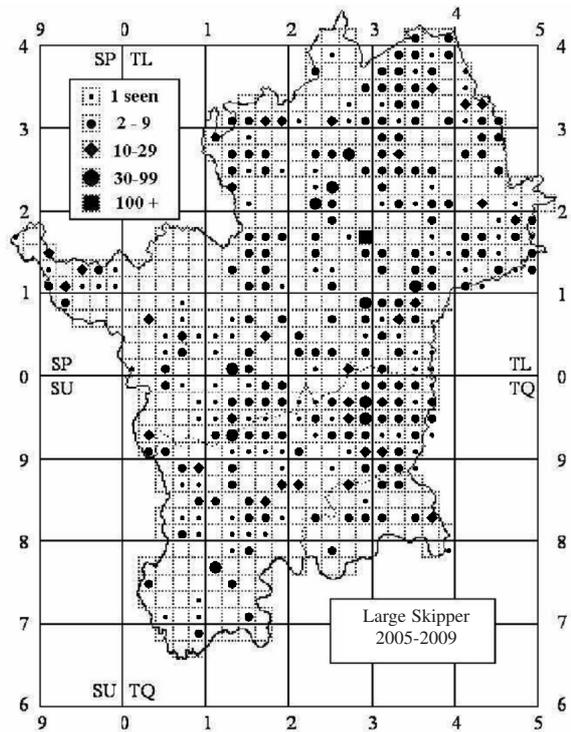
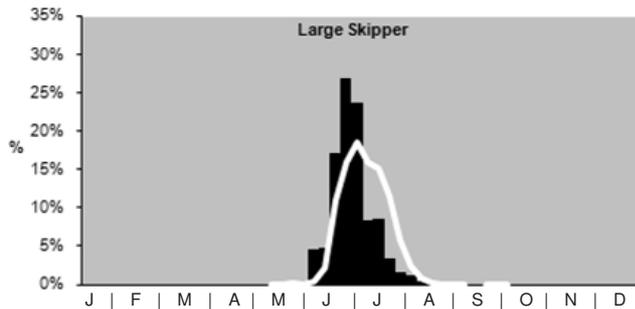
Maximum number seen: 38 at Balls Wood on 29th June (Andrew Wood)

Mean index of abundance: 26

Change in abundance since 2008: 138% increase

Recorded in: 128 tetrads (28% of those covered)

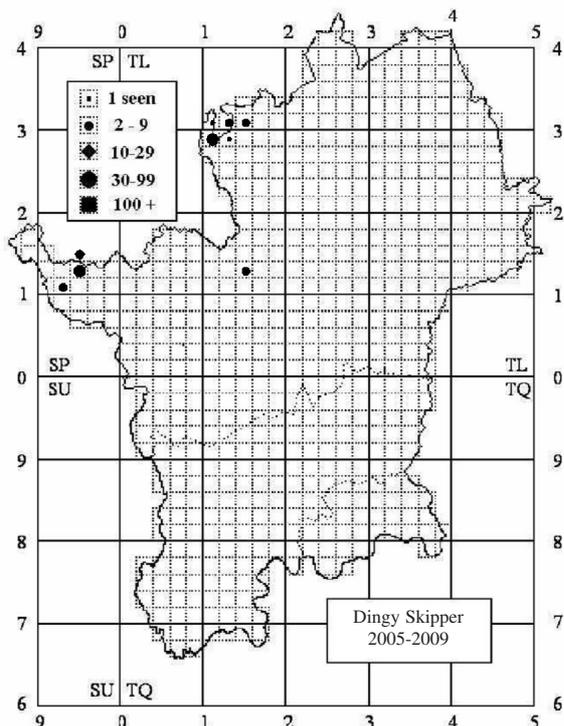
Range change since 2008: 21% expansion



The favourable spring weather meant that this species nearly doubled in numbers this year, and was on the wing much earlier than usual. This is against a background of generally falling abundance, though not so serious as for the previous two species. This year it seems to have benefited from the sunny weather in late May, which may have speeded up the later caterpillar and chrysalis stage and kept predation to a minimum. An interesting note was made at Bricket Wood on July 9th, where Elizabeth Debenham noticed “many Large Skippers, one with what I think was a tiny parasitic fly on its body”. Red mites are known to occur on adult Brown butterflies, which raises the question as to whether skippers also are prone to them, and whether these are a factor in the general decline of this group over the past five to ten years.



Large Skipper
Photo: Andrew Wood



Dingy Skipper *Erynnis tages*

First seen: 29th April at Hexton (Ian Woiwod)

Last seen: 1st June at Hexton & Tring (Kit Jones & Brian Jessop)

Peak date: 29th May

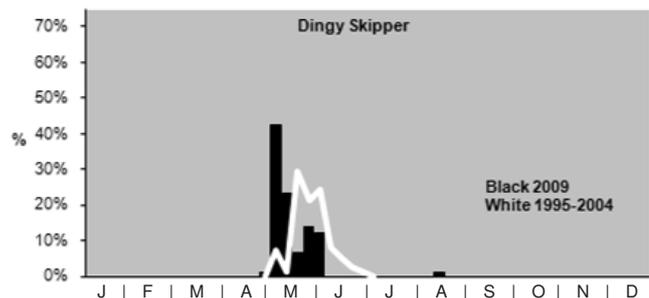
Maximum number seen: 17 at Hexton on 1st May (Liz Goodyear)

Mean index of abundance: 5

Change in abundance since 2008: Nos. too small to be significant

Recorded in: 5 tetrads (1.1% of those covered)

Range change since 2008: 18% contraction



Dingy Skipper had good weather conditions in the spring, and Ian Woiwod's sighting at Hexton Chalk Pit on 29th April is the earliest ever for our branch by one day. Unfortunately this good start did not carry through to significantly increased numbers, and the butterfly was seen in fewer tetrads than last year. This butterfly is now down to very low numbers and few sites. Its principal monitored sites, Tring Park and Aldbury Nowers, have had very different management plans in recent years. Tring Park, managed by the Woodland Trust, has been neglected in many key areas, resulting in scrub and brambles and loss of the foodplant, and the butterfly has not been recorded on the transect since 2006, though one sighting of a pair by Colin Sturges on May 10th shows that the butterfly is still there. Liz Goodyear, Andrew Middleton & Nick Bowles went there on May 3rd, the height of the Dingy Skipper season: "we spread out across the main escarpment watching for any butterfly movement! Apart from a 'white' and Speckled Wood, no butterflies were seen. This is of great concern". At Aldbury Nowers however, there has been a major attempt at habitat reconstruction for chalk downland species by the Herts & Middx. Wildlife Trust. In 2006-7, 3 hectares of woodland and scrub re-growth were felled, and 6 inches of the associated nutrient-rich topsoil removed. Plants have now sprung up from the original seedbank, and Dingy Skipper numbers in 2008 and 2009 have been the highest ever recorded at the site. 14 were seen there on the branch field trip on May 10th.

Grizzled Skipper *Erynnis tages*

First seen: 21st April at Waterford Heath (Elizabeth Goodyear)

Last seen: 13th June at Waterford Heath (Steve Kiln)

Peak date: 10th May

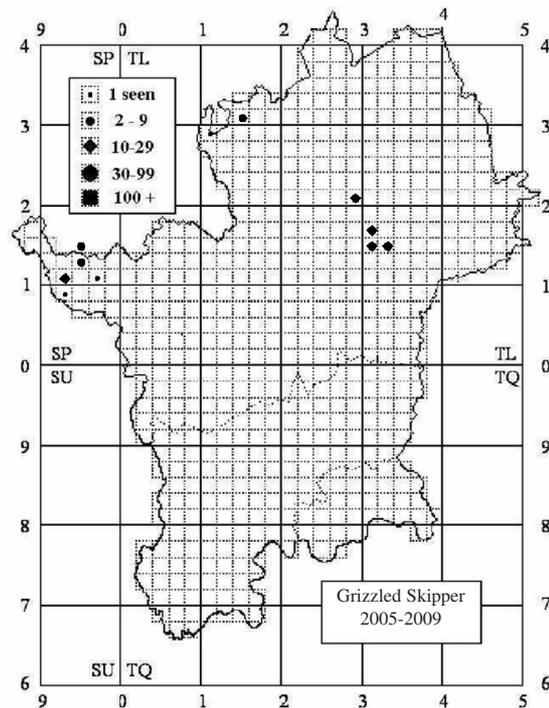
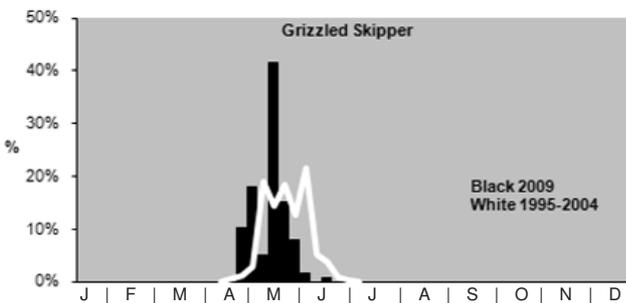
Maximum number seen: 19 at Waterford on 10th May (Steve Kiln)

Mean index of abundance: 15

Change in abundance since 2008: Numbers too small to be significant

Recorded in: 6 tetrads (1.3% of those covered)

Range change since 2008: 18% contraction



Like all the skippers, Grizzled Skipper has not done too well this year, and its long term history has not been much better. The transect results show fluctuating numbers, with 2002 and 2005 being good years. The sudden increase at Waterford in 2008 is probably due to a change in the recorder on that transect:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Aldbury Nowers:	0	2	2	*	0	5	3	6	3	1	3	2
Tring Park:	0	7	5	11	16	7	5	40	26	2	0	0
Waterford North:			1	4	9	3	3	7	7	0	43	41

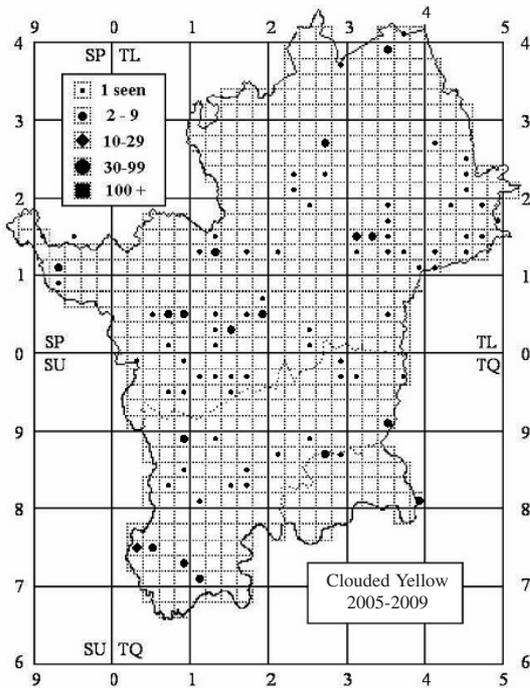
Similarly to the Dingy Skipper, it has died out at Tring Park under the management of the Woodland Trust, but under the Wildlife Trust restoration of Aldbury Nowers, the situation is much more hopeful: "Grizzled skipper was in the newly created grassland (scraped area), so this was all very encouraging" - Paul Thrush, H.M.W.T. Reserve Manager. The species seems to be doing well at Waterford Pit, where on 18th May Andrew Middleton found an egg on Common Agrimony. The caterpillar will feed on this in captivity, but rarely in the wild (Emmet & Heath 1990).

Swallowtail *Papilio machaon*

Sole record: 29th August at Laleham (Lorraine Shelley)

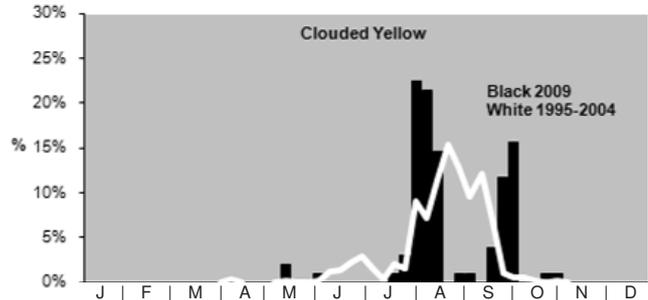
A late Swallowtail was seen and photographed in a garden at Laleham, Middlesex by Lorraine Shelley, who writes "It looked as if it had had a tiring journey, as one of its wings had a big chunk out of it, or perhaps it had been attacked

by a dragonfly or even a hobby as we have quite a few of them around. It was only around for the afternoon as it was nowhere to be seen the next day.” The photographs seem to be of the continental subspecies *gorganus*, which ties in with the date (the British subspecies *Britannica* rarely has a second brood) and also the distance from the Norfolk Broads, its nearest colony. Captive breeding cannot be ruled out, however. August 29th is the latest date recorded for this species in our branch area.



Clouded Yellow *Colias croceus*

First seen: 18th July at Kempton N.R. (Anna Guzzo)
Last seen: 31st October at Waterford Heath (Steve Kiln)
Peak date: 8th August
Maximum number seen: 3* at Bedford Lakes on 27th September (Adam Cheeseman)
Mean index of abundance: 4
Change in abundance since 2008: Not seen in 2008
Recorded in: 22 tetrads (5% of those covered)
Range change since 2008: 1694% expansion

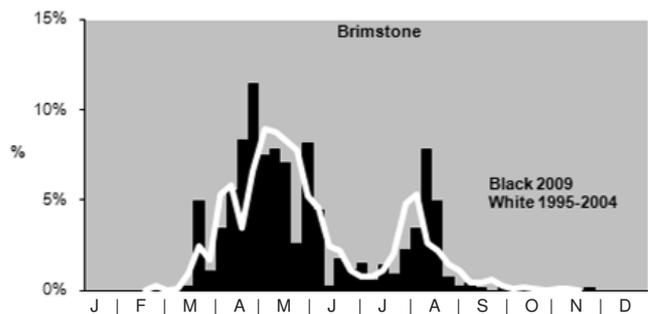


Along with other migrants, Clouded Yellow had an excellent year, more than one hundred being reported. The initial invasion was in late May and early June, but not one of these seems to have been reported from Hertfordshire or Middlesex, though Colin Everett recorded a “near miss” in June 1st: “600 metres outside the county in Buckinghamshire, a Clouded Yellow paused briefly on Red Clover at Lodge Lane nr Chorleywood”. As can be seen from the flight diagram, the main emergence from this spring invasion began in late July and peaked in early August. This home grown brood was usually seen fairly static, or engaged in territorial behaviour. Few people made notes of flight direction, but those that did showed random movements south, west and northeast. There are hints of a possible return flight late in the season; Dave Miller made the following notes near Heathrow on October 1st, though no direction of flight is given: “I spent a couple of hours at the site, during which time Clouded Yellows hurtled through at regular intervals: often in twos, and at least fifteen altogether, probably more. Any that showed signs of stopping were intercepted by Common Blue males and chased away in colourful dogfights”. 4 days later, Jonathan Forgham recorded one flying northeast at 5 m.p.h. at Little Hadham. Comparing this year’s immigration with previous years, the total sightings reported in each case are as follows, suggesting it is about the fourth largest invasion since our branch was initiated:

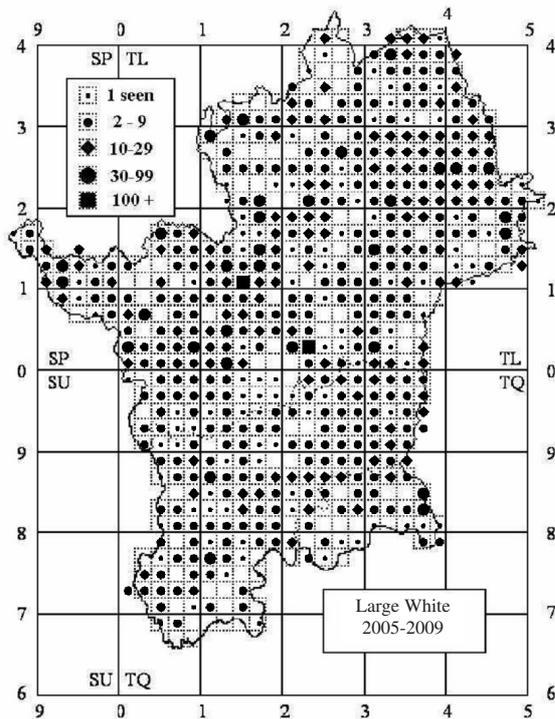
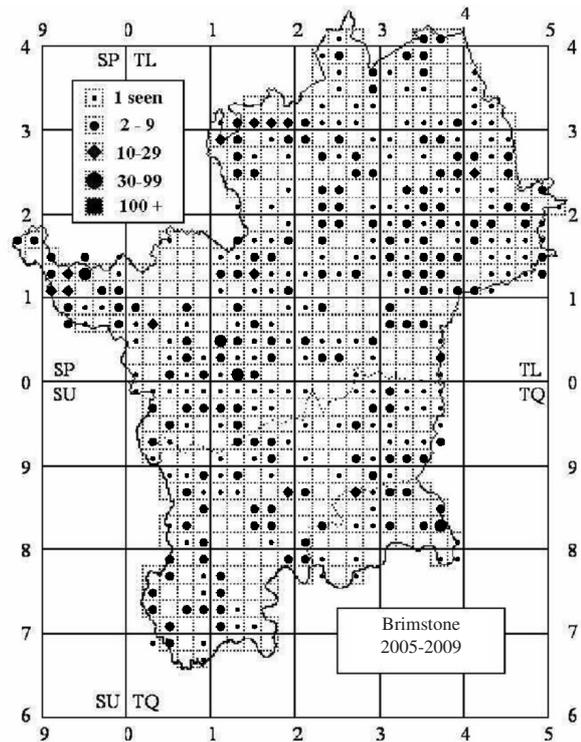
1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
2	264	3	52	3	613	3	33	33	44	11	137	31	3	102

Brimstone *Gonepteryx rhamni*

First seen: 21st February at Letchworth (Stephen Mason)
Last seen: 25th November at Tring (Brian Jessop)
Peak date: 23rd April
Maximum number seen: 35 at Aldbury Nowers on 8th August (Malcolm Hull)
Mean index of abundance: 23
Change in abundance since 2008: 32% increase
Recorded in: 169 tetrads (37% of those covered)
Range change since 2008: 12% expansion



The Brimstone has usually shown a small but steady increase in numbers over the years, and this year is no exception. The distribution map shows rather more records from Middlesex than was the case for 200-2004, suggesting that this species is slowly spreading into London, and this is backed up by reports from observers seeing it in their locality for the first time. Alder Buckthorn used to be mainly confined to the chalk (Dony 1967), but was deliberately planted as an amenity shrub in the 1980s (James 2009), which is probably the main reason for the spread of the brimstone and its increase in numbers. An interesting note was made on 13th June by Andrew Wood "in a walk around the Pelhams in N.E. Herts, a female Brimstone was appearing to egg lay on Dogwood, all a bit odd". This is not listed as a foodplant in Emmet & Heath (1990).



Large White *Pieris brassicae*

First seen: 16th March at Ware (Andrew Wood)

Last seen: 10th October at Hillingdon & North Mymms (J. George & J. Fielding)

Peak date: 30th July

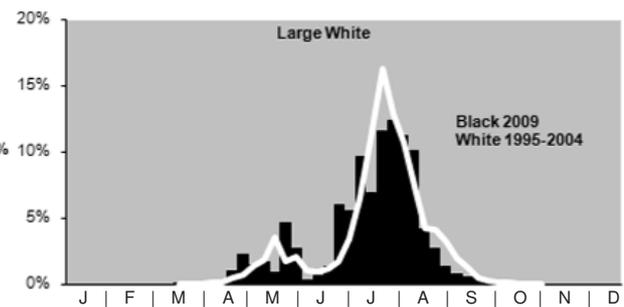
Maximum number seen: 82 at Butterfly World on 9th August (Malcolm Hull)

Mean index of abundance: 119

Change in abundance since 2008: 182% increase

Recorded in: 324 tetrads (71% of those covered)

Range change since 2008: 21% expansion

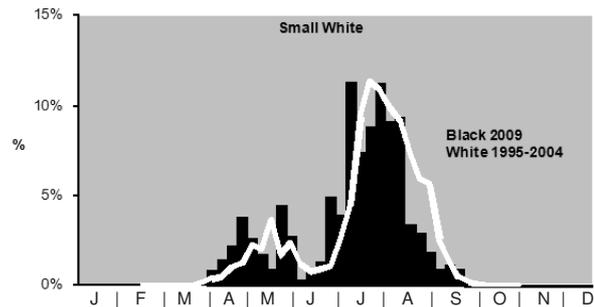
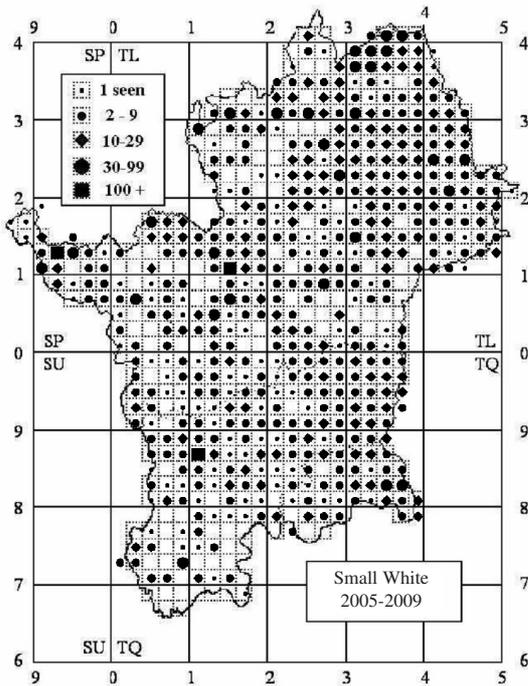


The whites have done well this year, and with its numbers nearly tripled Large White has done best of all. A massive long second generation (see flight diagram) seems to be the main reason, probably a result of the warm sunny conditions in late June when caterpillars and pupae were developing. Malcolm Hull reports exceptional numbers at Heartwood Forest, Sandridge "on a field of unsprayed brassicas - based on several estimates of the number within a 10 square metre area & calculating the total size of the field, I'd say there were approximately 5,000 in total. Quite amazing as they flew around individually & in little groups of up to 20 individuals, stretching away right across the field." With such high numbers its predators must also have done well, and on 9th August Elizabeth Debenham saw "a Large White dying under my buddleia in Kings Langley. It was being eaten by a wasp. The wasps had been trying to attack several peacocks and whites earlier in the month". Egg laying was reported by Colin Everett on Charlock (19th May), oilseed rape (22nd May) and on Nasturtium by Kit Jones on 21st May. Second generation egg

laying was seen by Colin Everett on Garlic Mustard on 1st August. This species has done better than most over the past 5 years, with an overall increase in numbers, and more have been recorded from Middlesex than in 2000-2004.

Small White *Pieris rapae*

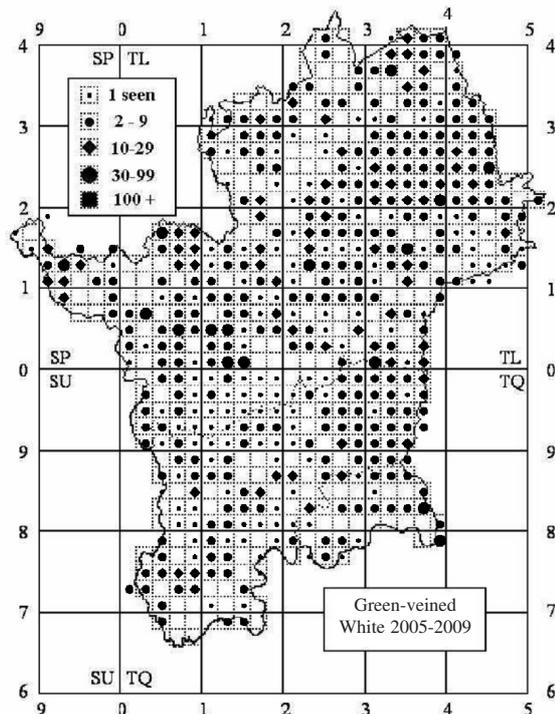
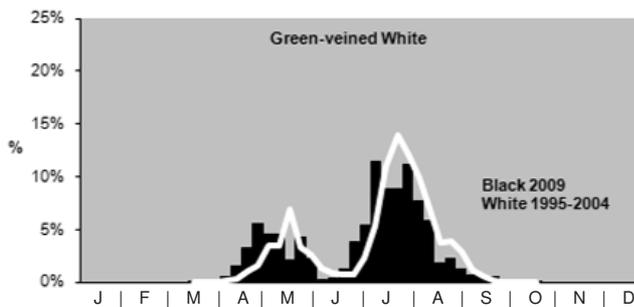
First seen: 20th February at Kings Langley (Clive Burrows)
Last seen: 25th October at Wareside (Phil MacMurdie)
Peak date: 25th July
Maximum number seen: 88 at Therfield Heath on 15th July (Alan Beale)
Mean index of abundance: 103
Change in abundance since 2008: 67% increase
Recorded in: 293 tetrads (64% of those covered)
Range change since 2008: 17% expansion



The season started well with a quite exceptionally early butterfly seen and photographed on 20th February by Clive Burrows: “A rather interesting sighting today, a fresh Small White. Couldn’t quite believe it considering the date and recent prolonged cold winter. Managed to get a shot on my phone camera. Butterfly seen while working in Kings Langley at 12.30 p.m., flying well and basking in sun”. 20th February is the earliest ever sighting for our area by 5 days. Colin Everett noted females ovipositing on oilseed rape on 7th and 23rd May, and the second generation on Nasturtiums on 2nd September, and on winter rape on 26th September (Colin Everett). This species increased substantially in numbers and range this year, but looking back to 2000-2004 has not shown such a clear-cut increase as the previous species, and a similar picture is true of the range, with fewer records from the west of our branch area than in 2005-2009.

Green-veined White *Pieris napi*

First seen: 17th March at Fulham (Martin Imrie)
Last seen: 25th October at Wareside (Phil MacMurdie)
Peak date: 21st July
Maximum number seen: 74 in St Albans on 2nd August (Malcolm Hull)
Mean index of abundance: 87
Change in abundance since 2008: 133% increase
Recorded in: 277 tetrads (61% of those covered)
Range change since 2008: 36% expansion



Like the previous species, Green-veined White was out very early, and Martin Imrie's 17th March sighting is the equal earliest ever, matching that of 2007. In both years, temperatures had risen to over 17° a day or two previously. Colin Everett noted egg laying by the first generation on garlic mustard (9th May) and the second generation on Cuckoo flower (23rd June). This species more than doubled in numbers this year, but the flight diagram shows a strong spring emergence well separated from the summer generation, quite different from Large & Small White, both of which were dominated by a strong second generation. The long term picture shows that numbers were higher than ever at some sites, though average numbers 2005-9 have been generally lower than 2000-2004:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bricket Wood:	133	100	38	60	125	178	172	161	82	87	85	271
Fryent Country Pk:	141	49	49	25	34	29	48	38	18	16	13	36
Hampstead Heath:	21	3	5	1	18	13	9	2	3	7	9	57
Millhoppers:	40	34	91	*	71	37	121	62	10	73	57	48

Orange Tip *Anthocharis cardamines*

First seen: 1st April at Bishops Stortford & Amwell (Andrew Palmer & Anon.)

Last seen: 22nd June at Tring (Brian Jessop)

Peak date: 29th April

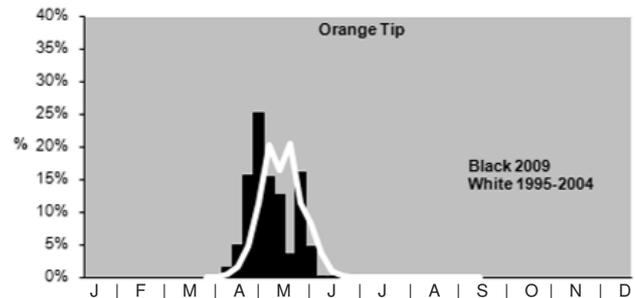
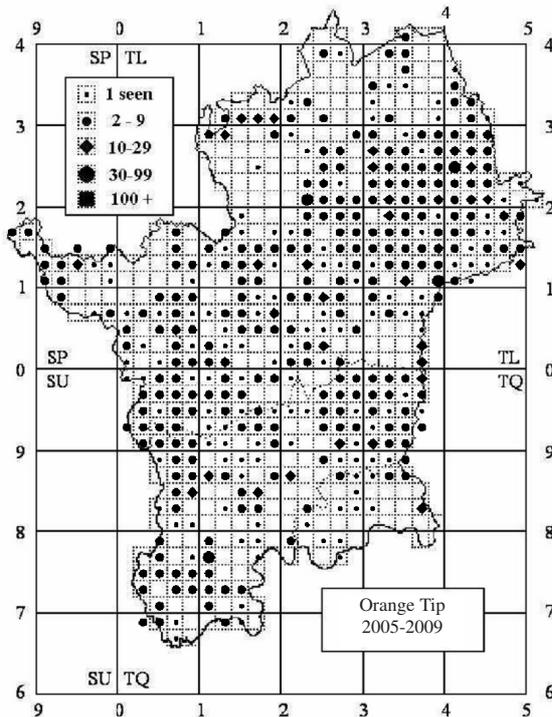
Maximum number seen: 16 at Tower Hamlets on 2nd May (Terry Lyle)

Mean index of abundance: 17

Change in abundance since 2008: 71% increase

Recorded in: 243 tetrads (53% of those covered)

Range change since 2008: 36% expansion



“Appears to be a good year for Orange Tip butterflies” (Sezar Hikmet), with numbers and range well up on last year. The longer term picture is not so good though, with generally lower numbers than 2000-2005:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Beane Hill:	16	7	17	6	6	3	13	16	5	9	1	16
Kings Langley:	8	4	8	7	4	4	4	15	2	1	2	4
Railway Fields:	1	8	1	5	3	0	2	2	2	0	0	2
Smallford Lake:	20	12	15	10	13	3	8	19	29	13	8	0

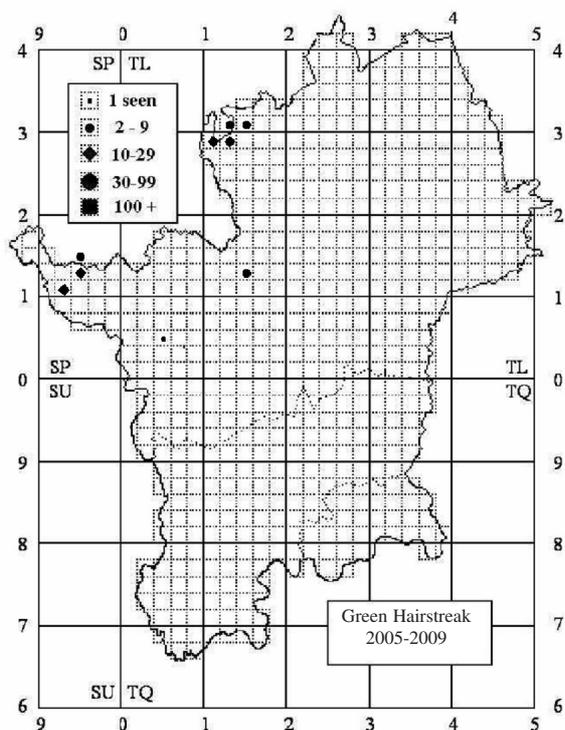
At Horsenden Hill on 6th May, Mike Rubin describes an unfortunate encounter: “I found a male orange tip motionless and head buried under a bluebell instead of nectaring in it. I touched it and no reaction. It looked in excellent condition. I moved it slightly and found out the reason for its motionlessness. It had just been caught by a white 1cm long spider which was hanging on to its head under the flower like Gollum onto the Ring.” Colin Everett reported a female ovipositing on Cuckoo flower on 2nd May, and Kit Jones found 9 caterpillars of all sizes on garlic mustard pods the following day near Chorleywood.



Orange Tip
Photo: Clive Burrows



Small White
Photo: Andrew Wood



Green Hairstreak *Callophrys rubi*

First seen: 1st May at Telegraph Hill & Tingley Wood (Liz Goodyear & Stuart Pittman)

Last seen: 31st May at Aldbury Nowers (Martin Hicks)

Peak date: 23rd May

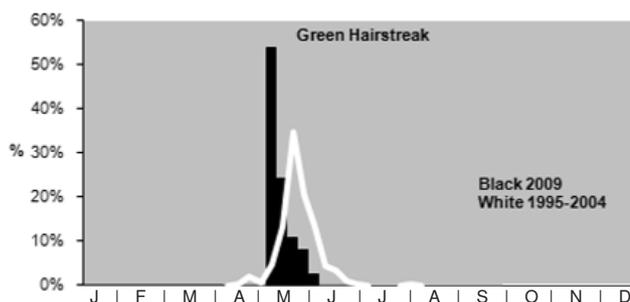
Maximum number seen: 2 at Aldbury Nowers on 10th May (Malcolm Hull)

Mean index of abundance: 3

Change in abundance since 2008: Numbers too low to be significant

Recorded in: 5 tetrads (1.1% of those covered)

Range change since 2008: 18% contraction



In a year when so many butterflies have increased, some of the butterflies that most need to do well have unfortunately not done so, and Green Hairstreak falls into that category. At least three were seen at Telegraph Hill, and six at Tingley Wood, and it was seen on six occasions at Aldbury Nowers. A possible sighting at Welwyn Equestrian Centre by Jacqueline George on 22nd June was probably a Common Emerald moth, seen at other places the same day. These are the sum total of observations of this butterfly in Hertfordshire and Middlesex in 2009 – perhaps 30 individuals altogether – and emphasize the precarious state of this declining butterfly. It is also declining nationally, with a dramatic drop in numbers in 2008 (Botham *et al* 2008) after a wet March that year, but in our area it has remained at about the same low level over the past five years. The one sign of hope is the habitat restoration at Aldbury Nowers (see Dingy Skipper entry earlier). This seems to be working spectacularly well: “*Green Hairstreak in the newly created grassland (scraped area), so this is all very encouraging. The sightings around the coppice area in the southern enclosures and around S3 of Green Hairstreak were all very exciting as these are also newly created areas/being better managed and it is obviously having a positive effect!*” (Paul Thrush, 6th May). If this kind of restoration could be repeated at a few other sites, then perhaps it could start to make a difference.

Brown Hairstreak *Thecla betulae*

“*I visited Bricket Wood Common for the annual Brown Hairstreak egg search on 14th February. The amount of Blackthorn (the larval foodplant) in the area is significant, though most is not in good condition for egg laying, much being over-mature and shaded. Areas of Blackthorn close by are heavily grazed by horses or flailed. On the plus side, there are signs of Blackthorn regenerating on the south side of Mutchetts Wood, where the Blackthorn was ripped out two years ago, and a new hedge containing Blackthorn has just been planted alongside the Ver Valley path, to the east. Despite searching all Blackthorn which looked remotely suitable, no eggs were found. It is now 13 years since the last egg record from this site, which was the last confirmed location in the two counties for this species. If anyone else would be interested in joining me in hunting for Brown Hairstreak eggs or would like guidance on how to search your local area, please contact me at malcolmhull@hertsmiddx-butterflies.org.uk*” Malcolm Hull. A tantalising possible sighting of 2 adults was made on 9th August by Kevin Hornby at Panshanger. Kevin is relatively new to butterflies, and saw both Purple and White-letter Hairstreaks during the branch field trip to Bricket Wood on July 12th, and has since found Purple Hairstreak on several occasions. He describes what he saw on August 9th as larger than Purple Hairstreak and more orangy in colour, seen at rest through binoculars at about 15 feet above the ground. The date is very early for Brown Hairstreak, in fact 5 days earlier than ever before in our area. The butterfly is becoming gradually more numerous nationally (Botham *et al* 2009), and it would indeed be spectacularly good news if this sighting is confirmed in the forthcoming season, as it was last seen in the 1990s at Bricket Wood, where it was apparently repeatedly introduced from captive-bred specimens.

Purple Hairstreak *Quercusia quercus*

First seen: 21st June at Horsenden Hill (Andy Culshaw)

Last seen: 26th September at Enfield (Phil MacMurdie)

Peak date: 14th July

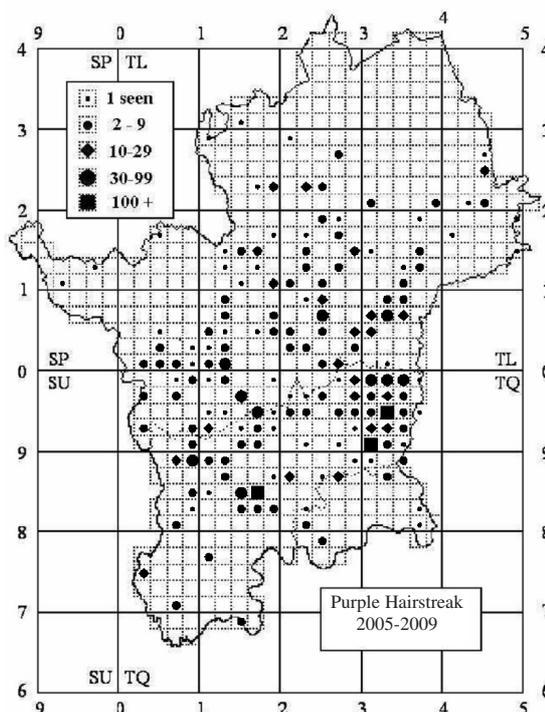
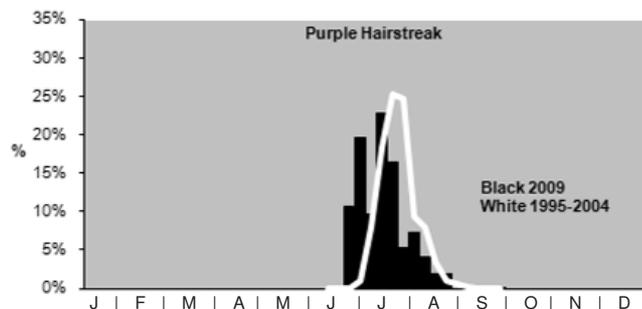
Maximum number seen: 16 at Kenwood on 9th July (Mike Taylor)

Mean index of abundance: 13

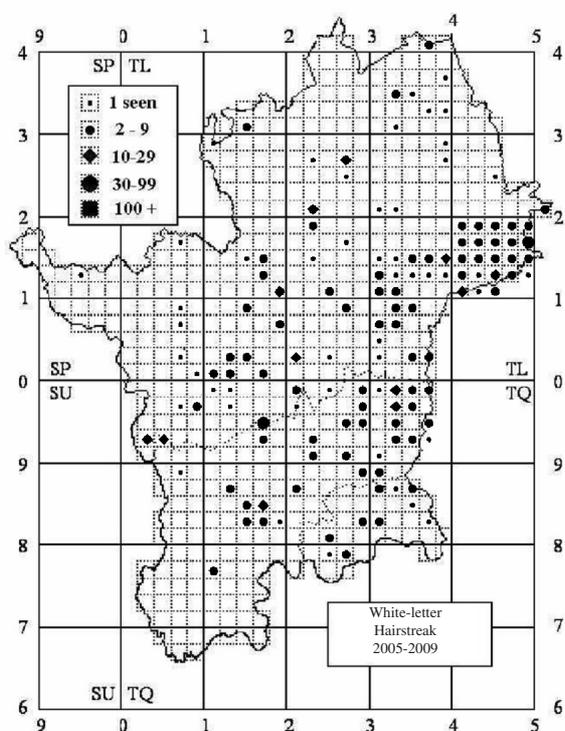
Change in abundance since 2008: 25% increase

Recorded in: 70 tetrads (15% of those covered)

Range change since 2008: 39% expansion



Another good year for this species, but the transect data show that it has been distinctly less abundant in 2005-9 than it was in 2000-4, and particularly since the 1990s. However, transect recording is notoriously ill-suited to this treetop species, and there is every reason to suppose that the species is still very widespread, being seen flying around the top of almost every oak or ash tree in calm sunny weather at the end of July when the sun is low in the morning or evening. The flight period was remarkably long, and several observers recorded unusually late sightings, such as that by Phil MacMurdie on September 19th: “at North Enfield Cricket Club, 2 Purple Hairstreak flying across the cricket ground and up into the old master tree” Phil’s last sighting here, a week later, is the latest since the branch was formed, though Sawford (1987) reports an unspecific date of “October 1941”.



White-letter Hairstreak *Satyrrium w-album*

First seen: 4th June at Ponders End (Andrew Middleton)

Last seen: 6th August near Stevenage (Steve Lane)

Peak date: 29th June

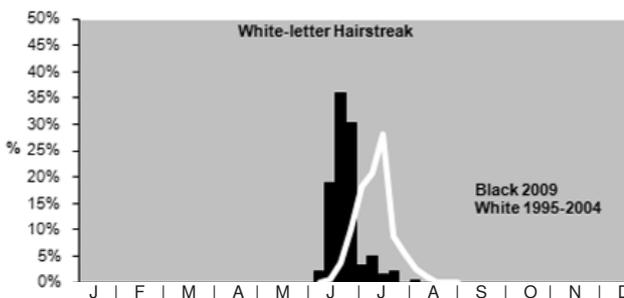
Maximum number seen: 5 at Horsenden Hill on 28th June (Andrew Culshaw)

Mean index of abundance: 4

Change in abundance since 2008: 63% increase

Recorded in: 33 tetrads (7% of those covered)

Range change since 2008: (7% contraction)



Andy Culshaw noted the unusually early appearance of this species this year: “first White-letter Hairstreak of the year on Horsenden Hill this afternoon (June 13th) - about a week earlier than the usual first sighting on this site.” Andrew Middleton’s 4th June record is the earliest for our area since 1992, and the peak date is the earliest since these were first calculated in 1995. There was a large increase in abundance this year, though as with the previous species, its numbers have never regained the levels of the mid-1990s, but some transects, such as Knebworth Park, indicate a more optimistic picture:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Horsenden Hill East:</i>						4	6	0	3	6	8	11
<i>Knebworth Park:</i>	0	0	0	0	1	1	5	4	14	2	2	1
<i>Marshall's Heath:</i>	6	3	2	1	0	0	0	2	0	4	2	0
<i>The Warren:</i>	0	2	0	4	1	6	0	0	0	0	0	0

like other treetop hairstreaks, this butterfly may go unnoticed, and Elizabeth Goodyear and Andrew Middleton have operated an intensive search for it in the adult, egg and caterpillar stages nationwide since 2006. They have found it to be much more common than its status as a UK priority species would suggest. Finally, though not strictly in our area, Heather Walker sent this curious bit of news on June 25th: “I am just informing you that on Wimbledon today at about 1 o'clock, during the Venus Williams game, the cameras zoomed in on a White-letter Hairstreak!!! I couldn't believe it! Of course, none of the commentators said anything because they probably had no idea how special it was to see one! I just had to tell someone...”

Small Copper *Lycaena phlaes*

First seen: 21st April at Pirton & Waterford (Val Fullforth & Liz Goodyear)

Last seen: 7th November at Ruislip & Trent Park (Michael Robinson & Robert Callf)

Peak date: 27th August

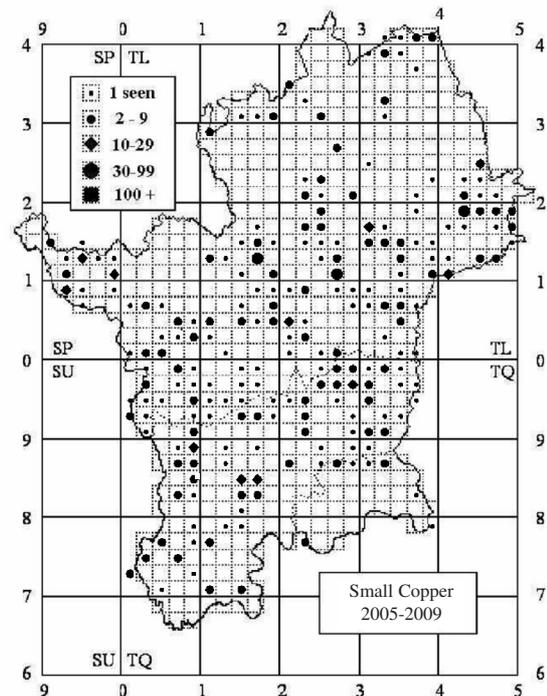
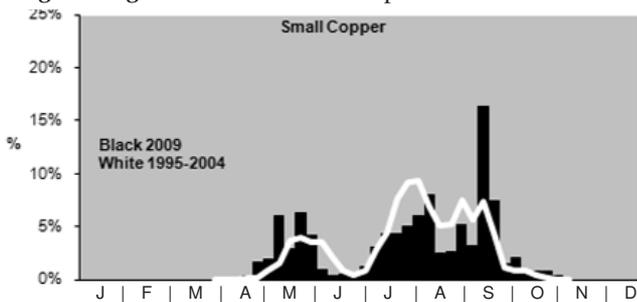
Maximum number seen: 24 at Trent Park on 18th September (Diane Andrews)

Mean index of abundance: 12

Change in abundance since 2008: 116% increase

Recorded in: 104 tetrads (23% of those covered)

Range change since 2008: 18% expansion



Like all the Lycaenids, the Small Copper has seen a healthy increase, almost doubling its numbers and increasing its range, though looking further back, it has not done terribly well in the past five years:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Gutteridge Wood:</i>	4	0	1	*	0	3	3	4	4	0	0	0
<i>Patmore Heath:</i>	107	52	25	12	17	67	76	17	42	27	19	40
<i>Stevenage:</i>	6	0	0	0	0	8	11	0	6	0	0	2
<i>The Warren:</i>	30	11	7	24	34	46	40	18	33	14	2	24

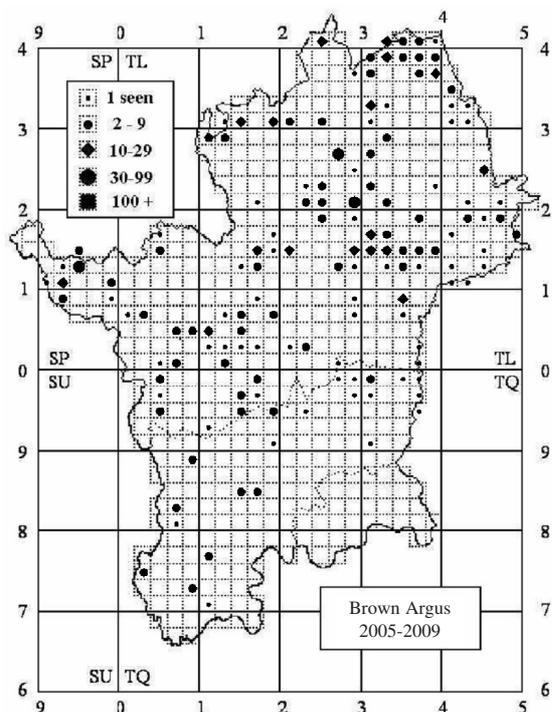
The dry and warm September and October brought out a strong third brood seen in the flight histogram, and 65 were seen during the branch field trip to Nomansland Common on September 20th. Some very late individuals hung on into early November: “I had a close view of a Small Copper today (7th November) in Mad Bess Woods, Ruislip, which is the latest I've ever seen one”. (Michael Robinson & Michael Hammond), and on the same day: “Still two Small Copper in set-aside field near Dew Pond, Trent Park, 12:18 GMT (Our latest record by one day!) - Robert Callf & Robin White. These are the latest in our area since 1984, when one was seen on November 10th.

Small Blue

Cupido minimus

Sole record: 25th May at Telegraph Hill (Darin Stanley)

It is good to report sightings of Small Blue just inside the Hertfordshire border, and just outside it in spring and summer this year. The first was a singleton at Telegraph Hill on May 25th: “In light of seeing numerous Small Blues around one of the hot spots in Beds for them, it was bound to occur in Herts at some point this year. Glad I was there for it” –Darin Stanley. On 13th August, Malcolm Hull found three at Church End chalk pit, Pitstone, Bucks, “2 of them at a spot only 200 metres from the Herts border”. This species became extinct as a breeding species in our area in 2003; hopefully the restoration work at Aldbury Nowers, near the latter sighting, will eventually provide a home for it.



Brown Argus *Aricia agestis*

First seen: 26th April at Frogmore Pit (Liz Goodyear)

Last seen: 18th October at Hillfield Park (Stephen Murray)

Peak date: 22nd August

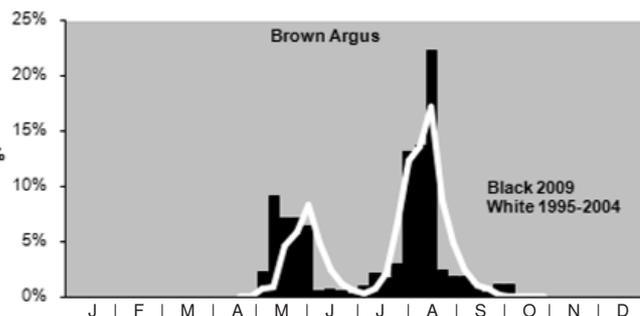
Maximum number seen: 23* at Aldbury Nowers on 19th August (Martin Hicks)

Mean index of abundance: 14

Change in abundance since 2008: 250% increase

Recorded in: 57 tetrads (13% of those covered)

Range change since 2008: 94% expansion



Not only has this species more than doubled in numbers this year, but it has nearly doubled its range as well. Also, looking back to the previous 2000-2004 recording period, it is one of the few species to have shown a distinct spread in distribution since then, increasing its range by nearly 50%, with more widespread occupation of the chalk, and spreading to new areas in both Hertfordshire and Middlesex. It was recorded in 23% of tetrads covered, as opposed to 15% in 2000-4, and 27% in 1995-1999. On 16th August, Colin Everett reported “*Brown Argus watched ovipositing on Common Rock-rose during BC branch field meeting.*” And on September 12th, in his own front garden at Wareside, Phil McMurdie “*had the pleasure of following a female Brown Argus around who was busy selecting which hedgerow cranesbill (*Geranium pyrenaicum*) seedlings to lay her eggs. She was very selective and only picked the small plants growing in full sun, gently placing an egg either under the leaf or between the curled edge where the stalk joins the leaf itself. The eggs tended to be laid singly on each plant; only rarely did a plant receive more than one and only then if she flew back to a previously visited specimen. It was interesting that she did not select any of the larger plants, only those that were no more than 1cm high and with leaves almost flat to the ground surface.*” These two foodplants and habitats contrast the “classic” chalk downland originally used by this species almost exclusively in our area during Brian Sawford’s 1984-6 survey (Sawford 1987) and the much more widespread distribution today, apparently due to the use of cranesbills as a foodplant, allowing this species to spread to sandy and other soils, and to occupy road verges, waste land and even gardens. The flight diagram shows the extended late flight period, ending with Steve Murray’s 18th October sighting, which is the latest ever for our branch area by one day.

Common Blue *Polyommatus icarus*

First seen: 26th April at Tower Hamlets (Terry Lyle)

Last seen: 23rd October at Batford (Darin Stanley)

Peak date: 12th August

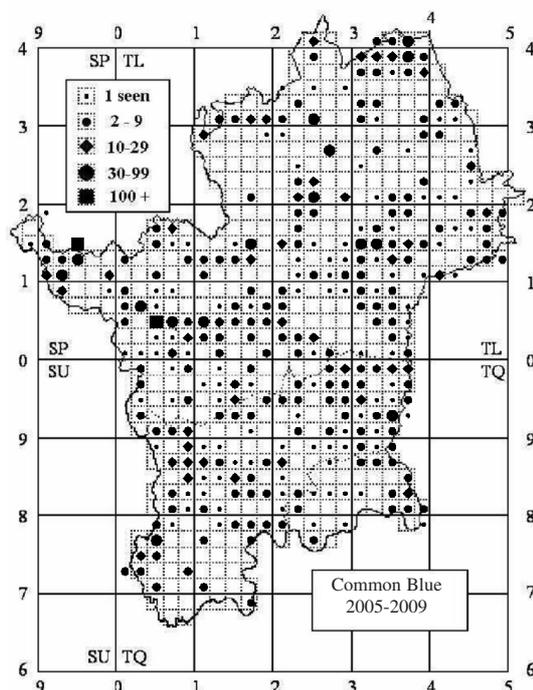
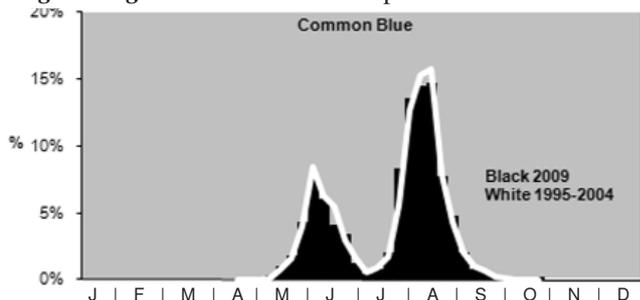
Maximum number seen: 118 near Tring on 13th August (Malcolm Hull)

Mean index of abundance: 45

Change in abundance since 2008: 114% increase

Recorded in: 152 tetrads (33% of those covered)

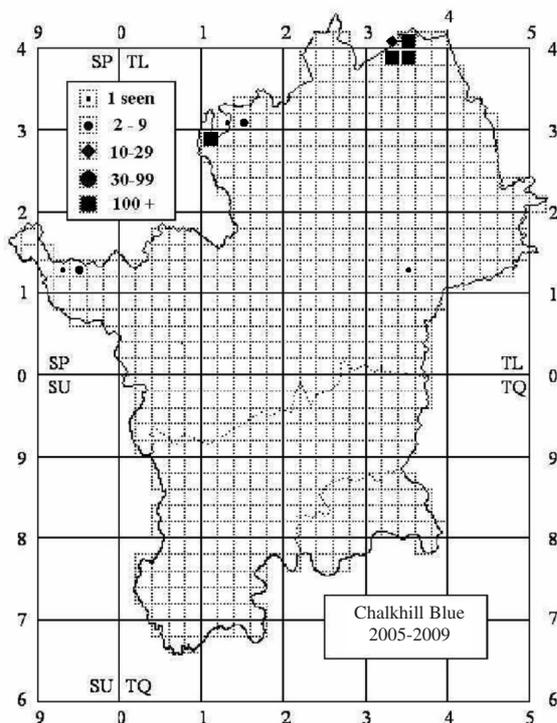
Range change since 2008: 19% expansion



“Over 150 Common Blues - this butterfly is at last living up to its name!” writes Malcolm Hull from Aldbury Nowers on August 8th. 2009 showed a marked increase in numbers and range for this once-common species, but this is compared to 2008, which was a very poor year, the worst ever in the U.K. as a whole (Botham *et al.* 2009), and poor in our area too:

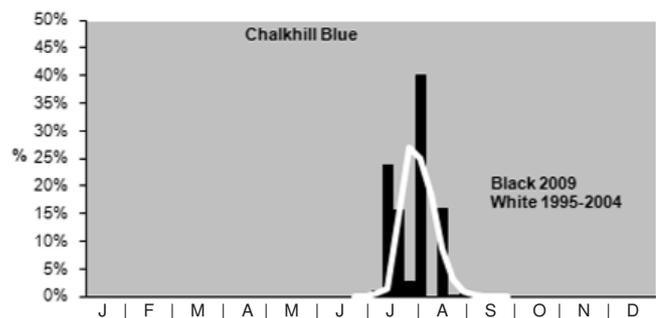
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Danesbury Park:	3	11	8	4	3	6	3	3	9	0	0	9
Marshall's Heath:	13	76	29	19	3	74	10	11	84	2	21	66
Tring Park:	18	8	17	30	13	86	75	79	151	19	7	61
Ware Park:	1	3	0	*	1	3	1	1	9	2	2	9

On 14th August, also at Aldbury Nowers, Elizabeth Debenham recorded more than 50, one of which “had a red parasite egg or mite attached. It was a much weakened butterfly.” The beautifully warm weather at the end of the season meant that even on October 1st, “Common Blues were as numerous as at any time this summer, with 25+, mostly male and some very fresh indeed. Clouded Yellows hurtled through at regular intervals... any that showed signs of stopping were intercepted by Common Blue males and chased away in colourful dogfights!” - Dave Miller, near M1 junction 14.



Chalkhill Blue *Lysandra coridon*

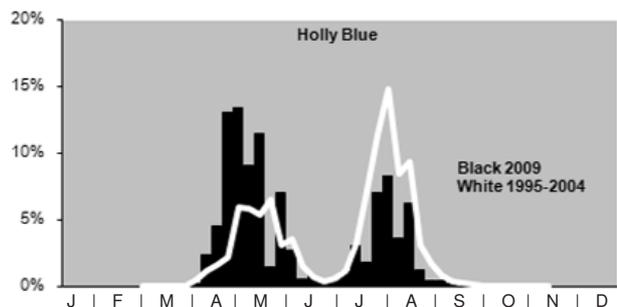
First seen: 1st July at Therfield Heath (Alan Beale)
Last seen: 27th August at Therfield Heath (Alan Beale)
Peak date: 10th August
Maximum number seen: 47 at Therfield Heath on 30th July (Alan Beale)
Mean index of abundance: 57
Change in abundance since 2008: 87% increase
Recorded in: 6 tetrads (1.3% of those covered)
Range change since 2008: 22% expansion



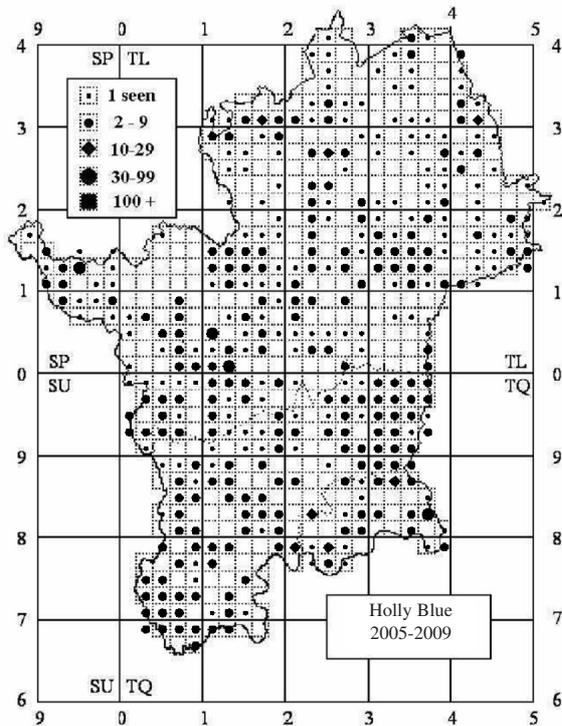
This butterfly has done well this year, with an increase in numbers and an expansion in range. We owe our knowledge of the status of this flagship species to Alan Beale, who has walked all five transects in different parts of Therfield Heath since 2003. This site underwent rather drastic sheep grazing in 2007 which dramatically reduced numbers that year and last year, but the numbers this year seem to be climbing back up to normal levels. Casual observations at Telegraph Hill and Hexton chalk pit, its other two strongholds, suggest that the species is still thriving there.

Holly Blue *Celastrina argiolus*

First seen: 1st April at Fulham (Martin Imrie)
Last seen: 26th September at Tower Hamlets (Terry Lyle)
Peak date: 1st May
Maximum number seen: 9 at Cranford Park on 9th August (Rob Solomon)
Mean index of abundance: 8
Change in abundance since 2008: 51% decrease
Recorded in: 143 tetrads (31% of those covered)
Range change since 2008: 30% contraction



Holly Blue has decreased this year, the only Lycaenid to do so, but this may be due to its cycle of ups and downs associated with predation by an ichneumon fly. The map shows it to be widespread, certainly more well-distributed than any other Lycaenid, and more concentrated in Middlesex than Hertfordshire. Nomadic in habit, it finds its way to the most unlikely places, and Dave Miller reports some interesting nutrient intake from near M25 junction 14 on 1st August: “Holly Blues were seen in groups chasing each other around ivy-choked trees about 5 metres above the



ground - there could well have been more than five. One detached itself from the squabbles and started to flutter along the ground near my feet, eventually landing and sucking away at damp ground covered in rabbit droppings. Delicious, I'm sure." Five days later Dave saw a female apparently egg laying in an ivy bud cluster, as did Colin Everett at Abbots Langley the day after.



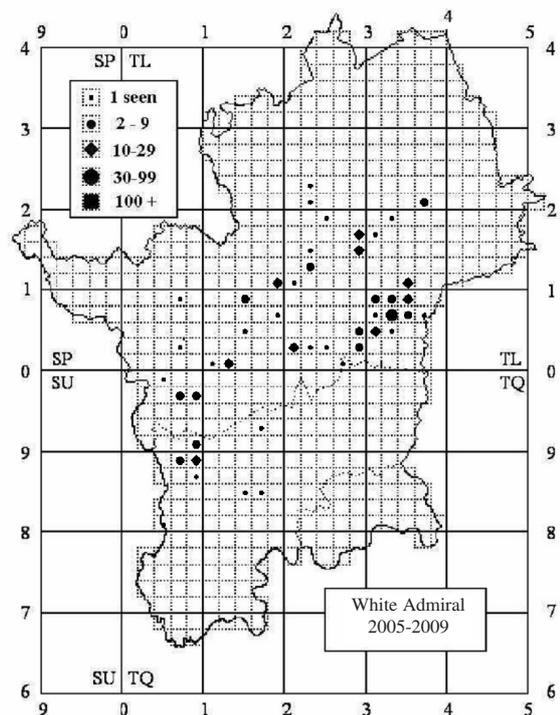
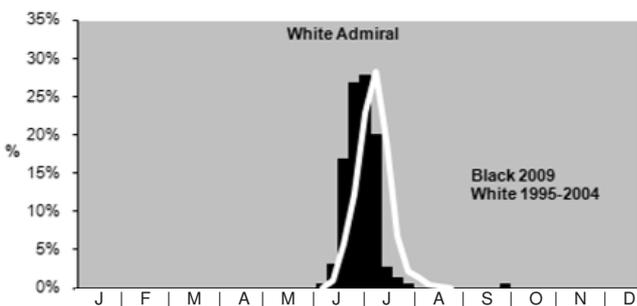
Holly Blue
Photo: Andrew Wood

Duke of Burgundy *Hamearis lucina*

"I rather surprisingly found a female Duke of Burgundy Fritillary nectaring on chives in my garden in Long Marston on Sat.30th May (SP 894157)". - Alan Bernard. This is the first Herts record since 1999

White Admiral *Limenitis camilla*

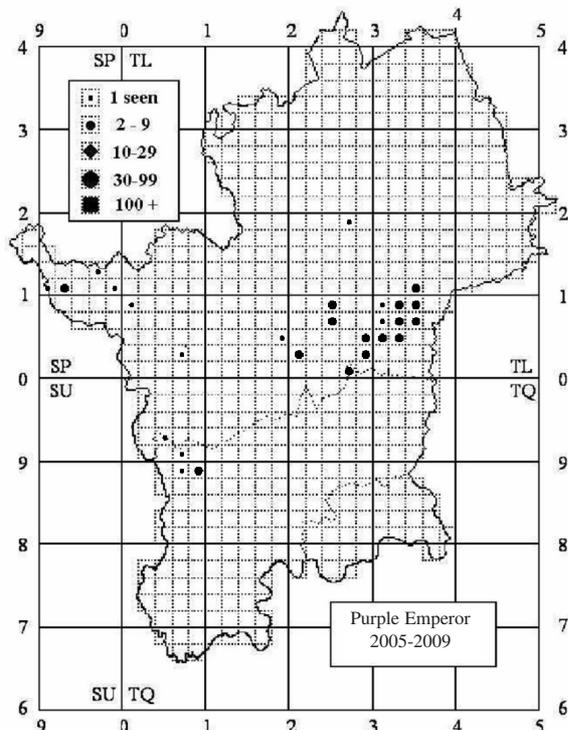
- First seen:** 7th June at Ruislip (Steve Pash)
- Last seen:** 3rd October at Ruislip (Sue & Steve Place)
- Peak date:** 1st July
- Maximum number seen:** 6 at Balls Wood on 1st July (Andrew Wood)
- Mean index of abundance:** 12
- Change in abundance since 2008:** 47% increase
- Recorded in:** 19 tetrads (4% of those covered)
- Range change since 2008:** 3% expansion



An extraordinary year for this species. It emerged earlier than ever before - 7th June is the earliest ever by two days – and also had an extraordinary second brood, the butterfly seen on 3rd October by Sue and Steve Place being the latest ever by three days. This was the only second brood specimen seen in our area, though some had already appeared at Wimbledon Common the previous week. This is the third year ever that a second brood has occurred in the British Isles, the previous occasions being 1947 (Sawford 1987) and 2006 (Wood & Murray 2007). In 1947 it was after a severe winter and a prolonged summer drought, which to a lesser extent was the case in 2006, but certainly not in 2009, when the summer was rather wet. This species has been widespread this year, and seen at new locations: "yesterday I saw one basking on some ivy about 8-9ft up an oak tree. It, or another was flying there today (7th July) in a small clearing adjacent to the house which is on the edge of the woodland. I think this may be the first time they have been recorded in this wood though they may have been present in the oak canopy for some time." (Gwynneth Pearman Jenkins, Sherrardspark). It is also a relief to report that the White Admiral is increasing in abundance, up to 1990s levels at Bricket Wood:

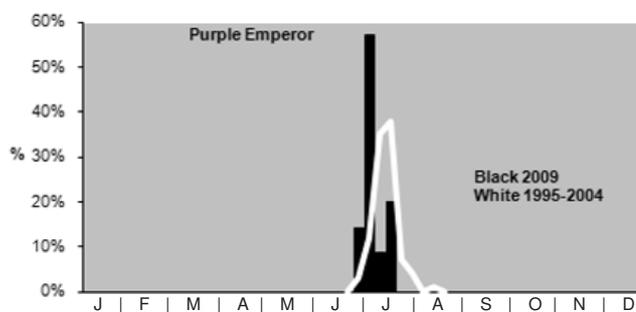
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Balls Wood:	42	15	20	6	3	9	32	32	29	11	7	10
Bricket Wood:	39	4	3	1	2	7	13	28	26	7	19	31

Good years have been significantly linked to a dry February and March (Pollard & Yates 1993) which might explain the high numbers this year. Laurence Drummond reports a dark aberrant butterfly at Highfield Wood on July 5th.



Purple Emperor *Apatura iris*

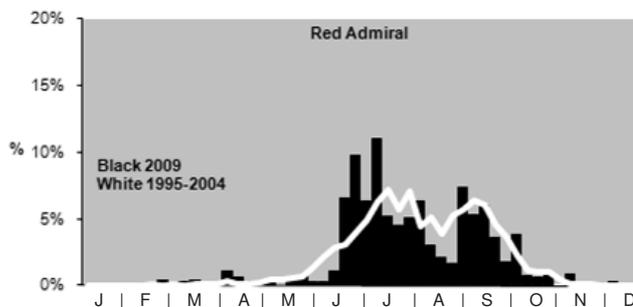
First seen: 28th June at Ruislip (Steve Pash)
Last seen: 16th July at Northaw Gt. Wood (Malcolm Hull)
Peak date: 1st July
Maximum number seen: 3* at Mymms Park, 16th July (Malcolm Hull)
Mean index of abundance: 1
Change in abundance since 2008: No significant change
Recorded in: 8 tetrads (1.8% of those covered)
Range change since 2008: 36% contraction



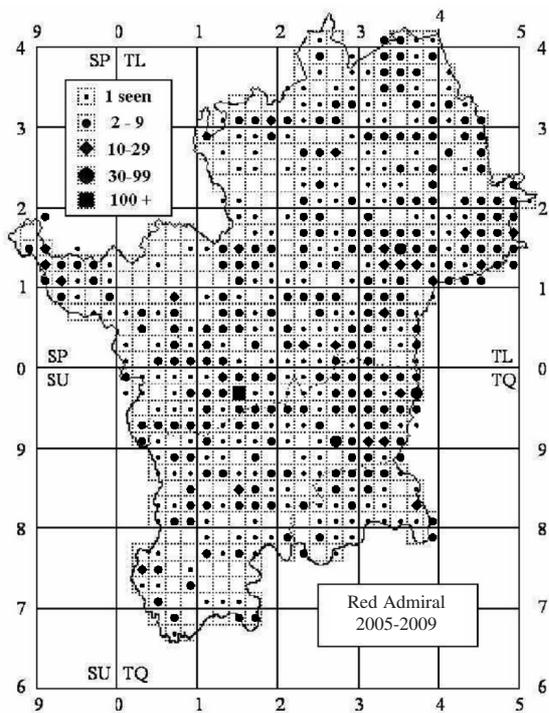
28th June is the equal earliest sighting for our two counties, matching that of 2003. Elizabeth Goodyear writes: “*The emergence coincided with several weeks of wet weather although the difference between 2009 and 2008 when this also happened was that the temperatures in 2009 were higher so that the Purple Emperor was more active in moments of sunshine. It was very good news that more reports were received from Balls Wood. Laurence Drummond undertook a lot of the survey work this year and was able to confirm that the Purple Emperor was still present in some of the smaller woods found four or five years ago by Andrew Middleton and Liz Goodyear. There was only one new area reported in 2009, when a male was seen near stables north of Bayford on 2nd July. It is very encouraging that Hertfordshire County Council have instigated a programme of woodland management and clearance in Broxbourne Wood Nature Reserve. For some years the main ride was becoming increasingly more shaded, and conditions were deteriorating and sightings were becoming less frequent. The forestry plan includes widening the main ride and improving the conditions for the sallows, the butterfly’s larval food plant. This involves thinning adjacent trees to allow the sallows to continue growing to full maturity without becoming shaded out, and pollarding selected straggly overmature sallows for future regeneration*”.

Red Admiral *Vanessa atalanta*

First seen: 19th February at Trent Park (Robin White)
Last seen: 10th December at Patmore Heath & Ware (Marin Dodd & Andrew Wood)
Peak date: 11th July
Maximum number seen: 8 at Stanwell Moor on 5th September (Dave Miller)
Mean index of abundance: 6
Change in abundance since 2008: 36% decrease
Recorded in: 164 tetrads (36% of those covered)
Range change since 2008: 18% contraction



Red Admiral has taken something of a tumble in the last couple of years, although prior to that, the butterfly had held up well, with fluctuations showing if anything an overall increase rather than a decline. Winter survival seems to have decreased after the remarkably mild winter of 2006-7, and this seems to have affected the population for the rest of



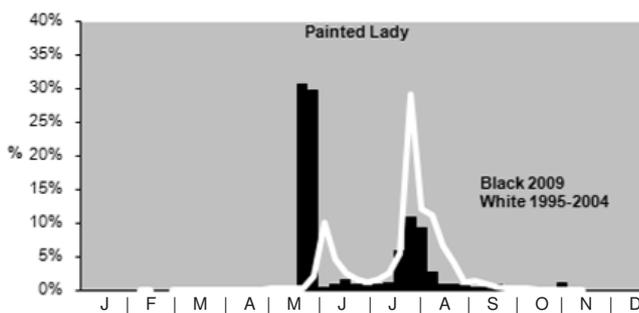
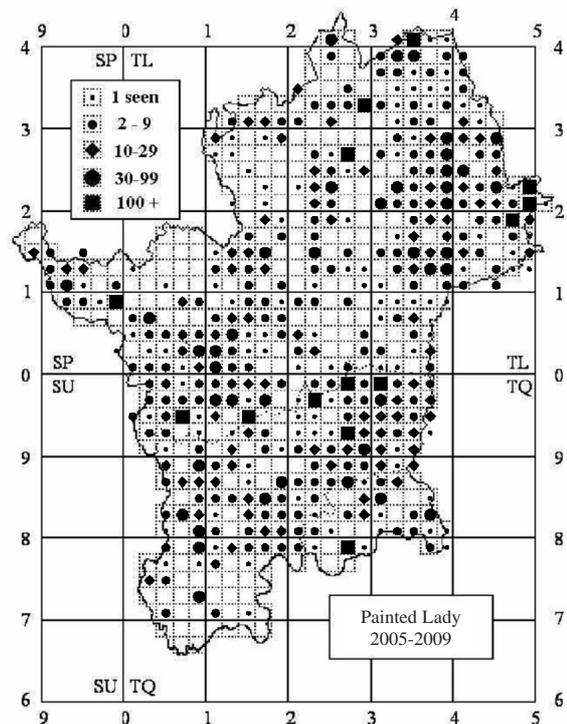
the year. In 2009 there does not seem to have been any large influx with the other immigrant species that arrived in May, but there is an interesting report from Colin Everett on 23rd September, suggesting that there may have been some kind of a return flight back to the continent: “Red Admiral flying swiftly SW through Aldenham at 1520 hours (compare movement of Swallows and Meadow Pipits in the same direction on this afternoon).”



Painted Lady
Photo: Andrew Wood

Painted Lady *Cynthia cardui*

- First seen:** 24th April at Kings Langley (Clive Burrows)
- Last seen:** 15th November at three locations
- Peak date:** 5th August
- Maximum number seen:** 128 near Stevenage on 6th August (Steve Lane)
- Mean index of abundance:** 41
- Change in abundance since 2008:** 15,700% increase
- Recorded in:** 318 tetrads (70% of those covered)
- Range change since 2008:** 641% expansion



A spectacular and memorable year for this immigrant butterfly. The first couple of sightings were in April, a worn one seen by Clive Burrows at Kings Langley on the 24th and one seen near Sandridge by Malcolm Hull on the 26th. April sightings are not so unusual, but there was a fortnight’s gap before the sightings on May 10th followed by one more on May 11th. Despite good weather there was a gap of 3 days before the next sighting on May 14th, but after this there were reports every day, despite cooler, cloudier weather. Richard Harrington wrote “I first saw Painted Ladies coming in on May 19th, and for many years now I have seen first arrivals at EXACTLY the same tiny area on Rothamsted farm. There were three as I was walking home at around 6 p.m, just flying around the area and settling for short periods. There is definitely something about this spot that brings them in or retains them, but I can’t see what it is other than it’s the south side of a bigish hedge and there are a lot of wild flowers (including thistles) in the uncropped field.” It was still not clear that anything unusual was happening until the bank holiday weekend. On Saturday May 23rd, Colin Everett wrote “Clearly a large movement of Painted Ladies taking place” after seeing them at six different localities in west Hertfordshire, flying north at two of them. That day 37 were reported from 23 different sites. The following day, May 24th, 1108 were reported from 74 places across the entire area. Nick Bowles “was in Kent after an early departure - but there were Painted Ladies all the way - crossing the M25 ahead



Photo: Darin Stanley



Photo: Alan Bernard

Above Left - The Small Blue made a welcome reappearance in our area and luckily was caught on camera at Telegraph Hill on 25 May.

Above Right - This Duke of Burgundy, the first for several years was seen at Long Marston in the far west of the county on 30 May.

Right - The Dingy Skipper continues to have a very restricted distribution in Hertfordshire. This one was seen at Hexton on April 29th, our earliest ever record.

Below Left - Butterflies have to contend with predators and this Comma looks as if it was attacked while its wings were closed by the symmetry of the damage shown. This one was quite happily feeding despite its lack of wing at Ware on 17 July.

Below Right - The Marbled White continues to spread across Hertfordshire and this was the first record on Broadmeads just east of Ware on 6 July.



Photo: Ian Woiwod



Photo: Andrew Wood



Photo: Andrew Wood



Photo: Andy Brown

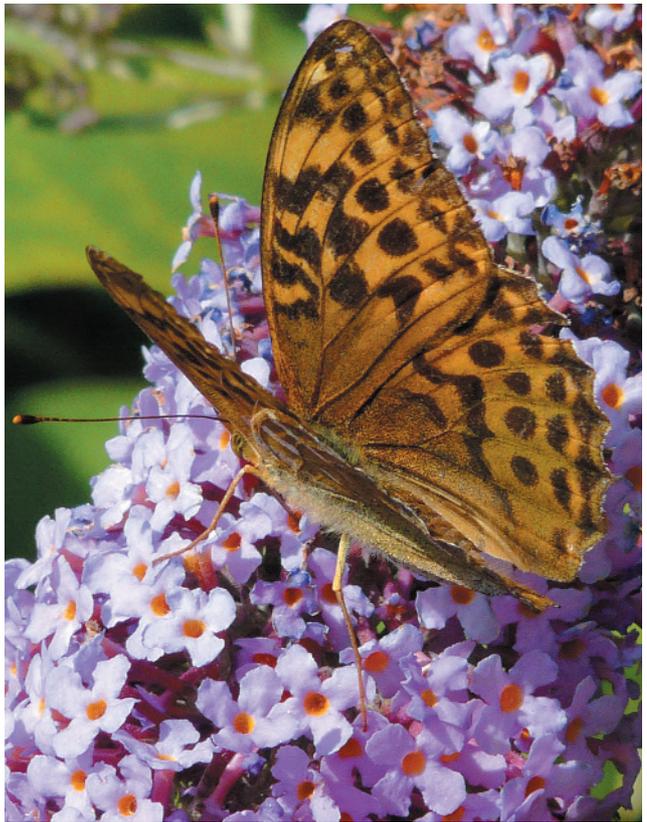


Photo: Mike Cotton



Photo:
Andrew Wood

Top Left - The Orange Tip's peak tends to coincide with the bluebell peak and this example was in Balls Wood on 22 April.

Top Right - The Silver-washed Fritillary continues to spread, this was at Amwell Pit on 22 July.

Above Left - Breeding of Painted Ladies was, perhaps, disappointing, after the migrating numbers. This larva was at Balls Wood on 5 July.

Right - The Ringlet is a successful woodland species and this mating pair was in Balls Wood on 29th June.

Below - Grave worries have been expressed about the status of the once common Small Tortoiseshell, so It was good to see several together during the year as here in Ware Park on 22 June.



Photo: Alan Reynolds



Photo:
Andrew Wood

of me - and hundreds coming in off the sea at a stretch of coast near Dover.” On May 25th there were 1453 reported from 71 sites, and this may have been the climax of this spectacular immigration, though it is difficult to be sure as this was bank holiday Monday, and many more people would have been out and about than in the following days. At any rate, numbers were well down the following weekend, May 30th and 31st, when in fine weather numbers 80 and 112 were reported from 23 and 34 sites, and on the 31st, Colin Everett noted “Painted Lady migration appears to be slowing”, and Elizabeth Debenham and Mike Rubin both remarked that they had seen none.

During the initial stages of the immigration on May 21st and 23rd, Colin Everett reported direction of flight as towards the North. However on May 24th “Movement was underway by 1000 hrs, initially to the N but from late morning onwards predominantly in a NW direction”, which concurs with most other reports from that day, and northwesterly remained the predominant flight direction for the rest of the week, apart from 15 sites in east Hertfordshire visited by Phil MacMurdie on May 24-25th, where a NE was the dominant flight direction.

Flight speeds of 24 and 36 m.p.h. were estimated for two flying NW by John Murray on May 24th in his garden at 17h00m and 18h25m, and Brian Anderson estimated 11 m.p.h. for one flying SW the same day, whereas also on May 24th Phil MacMurdie made a much more comprehensive series of 130 speed estimates (MacMurdie 2009) at four sites in eastern Hertfordshire for butterflies flying NE, giving speeds between 12 and 17 m.p.h. with an average between 13 and 14 m.p.h. at each site. Phil measured a further 50 speeds the following day at Coombs Wood, which averaged just over 13 m.p.h. Brian Anderson recorded speeds of 22 m.p.h. in Gordon Square Gardens, London, on May 28th, and in excess of 22 m.p.h. on 30th May at Bedford.

Already on May 29th, Colin Everett reported “for the first time since it began I have seen egg-laying at Kendal Wood near Radlett on Spear Thistle; although only one was seen at a time, I believe that several different females were ovipositing.” Numbers continued at low levels – usually one or two at a time – virtually every day throughout June and July. On June 25th, Dave Miller reported “Painted Lady caterpillars - I suspect there were more in the dense thistle patch, but 4 were close to the path” by the River Colne, and another was seen during the field trip to Balls Wood on July 5th. On July 16th, Andrew Palmer saw “3 Painted Lady (pristine). I suspect they were enjoying the first day of adulthood”. Some of the new generation may have emerged this early, but numbers did not really show any significant rise until the last week of July, rapidly rising to a peak in early August. Interestingly, the first signs of a possible return flight occurred about the time of maximum summer emergence: “Near Abbots, the first indications of Painted Lady emigration, with 4 flying SW in a couple of minutes at lunchtime” (Colin Everett, August 6th), and Colin again reported on August 8th: “Painted Ladies very widespread including further emigration but no time to record details”. There were no other reports of a return flight this early, but on August 29th Colin Everett reported one flying rapidly southwest, and on October 10th, Kit Jones saw “Two painted lady travelling SE through the same gap in the woodland that others went NW in June” at Oakhill Woods, Barnet. If there really was a return flight, then it was certainly much less marked and involved far fewer butterflies than the huge influx in May. Numbers diminished throughout the autumn, but some persisted remarkably late and came out in numbers on fine days. On 2nd November, Alan Gardiner reported one “feeding on a Hebe bush. We have yet to experience an air frost generally in this area although the 17th of October saw temperatures only a fraction above freezing”. Four others were reported the same day, and 3 were reported on November 15th, its final appearance, which is the latest date ever recorded for Painted Lady in our area, beating the previous 2006 record by 9 days. The numbers from transects clearly show that this immigration was by far the largest over the past 12 years:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Colney Heath:	1	0	1	0	1	3	4	1	3	4	0	26
Kings Langley:	0	0	0	0	1	24	2	1	5	0	0	49
Knebworth Park:	0	0	10	*	9	19	2	3	24	3	0	51
Rothamsted Farm:	0	0	0	0	0	12	2	0	4	2	0	43

The interesting question is, how does it compare to 1996? Looking at those transects which were walked in both 1996 and 2009, and had good coverage in both years, 7 had higher totals in 1996, as opposed to only 3 with higher totals in 2009. The combined totals were 343 in 1996 and 240 in 2009. However, the bulk of butterflies seen were in July and August when the summer brood had emerged, so are an indication of breeding success as well as initial numbers. Leslie Williams, who compiles the Annual Indices on p.12, writes “These indices run from 1986, and the 2009 index (583) for the Painted Lady was the second highest. A higher index (655) was recorded in 1996. However, indices for Greater London (which also includes Middlesex) and are based on a larger sample of transects, suggested that the 2009 index was the largest migration since monitoring commenced in London in 1978, and was approximately 65% higher than that for 1996. However, densities appeared to vary from site to site; and not all transects were walked on the day or days that the main migration passed through a site. These factors may help to explain apparent discrepancies between the indices and evidence from other surveys.”

Small Tortoiseshell *Aglais urticae*

First seen: 31st January at Potters bar (John Scivyer)

Last seen: 4th November at Welwyn (Jacqueline George)

Peak date: 9th July

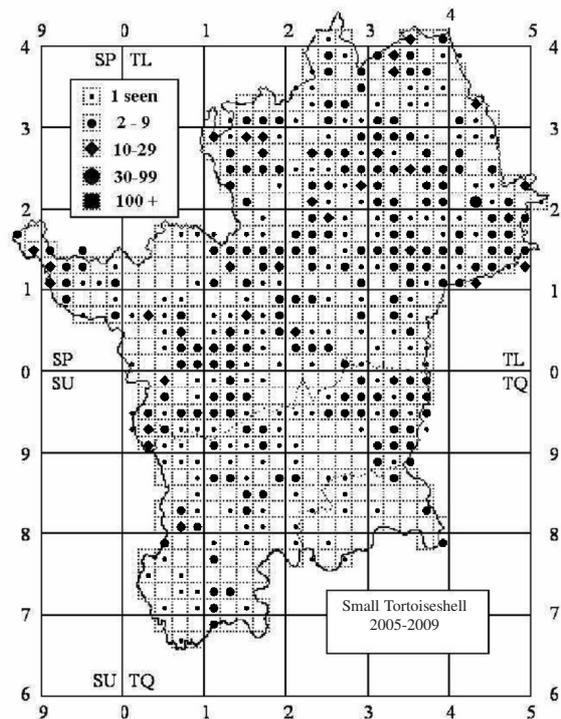
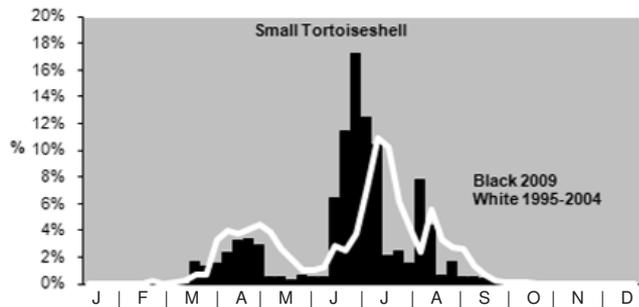
Maximum number seen: 18 at Butterfly World on 18th August (Malcolm Hull)

Mean index of abundance: 12

Change in abundance since 2008: 125% increase

Recorded in: 166 tetrads (36% of those covered)

Range change since 2008: 74% expansion



Some good news at last for this hard-hit butterfly, with significant increases in abundance and range. In the words of Edie Threadgold who saw an early one on March 16th, “Am so pleased about this as last year I didn’t see a single one and that was very worrying.” Numbers have declined over most of the past 5 years, and the reasons for this are not clear. Possible contributory factors are brought to mind by two reports, the first from Mike Taylor at Kenwood on 9th June: “yesterday late afternoon I discovered three final instar Small Tortoiseshell caterpillars. They looked as though they were just about to go on the move. Today two were gone but one at least never made it because a segment of its body was present on the nettle.” Predation by birds, mice, wasps, scorpion flies and other insects are common, any one of which could have been responsible for this attack. Two months later, Dave Miller wrote: “I released six brand new Small Tortoiseshells on August 7th at exactly the spot the caterpillars had been collected near the River Colne. None lost to parasites. Another batch of 25 has just resulted in 17 chrysalids, with the remainder succumbing to something nasty whilst at the large caterpillar stage. This manifests itself as a cocoon of white silk, which I haven’t felt like investigating further... I noted exactly the same culprit last year and the year before, though in a bigger proportion of caterpillars.” The silky white cocoon is typical of ichneumon or braconid flies which lay their eggs and feed on caterpillars, but not of the tachinid fly *Sturmia bella*, a new arrival to Britain in 1998, which has been suspected of being an important factor in the Small Tortoiseshell’s recent decline. On 10th July, Brian Jessop “Watched a Small Tortoiseshell for a couple of minutes trying to mate with a Peacock, unsuccessfully”. One presumes that this behaviour is not a major factor in this butterfly’s recent decline.



Small Tortoiseshell

Photo: Andrew Wood

Large Tortoiseshell *Nymphalis polychloros*

This year there was an exciting series of possibles and near misses – though unfortunately no photographs. It started with a definite sighting on the Pegsdon Hills on April 26th by Ian Small, unfortunately just over the border in Bedfordshire. This was closely followed by a report from Paul Thrush on April 29th at Aldbury Nowers of what he described as “a very large Small Tortoiseshell, it was flying fast and rarely settled; I couldn’t catch a photo”. Later in the summer, Malcolm Hull read in the Spectator magazine of 15th August a report “by Ursula Buchan of a sighting of a Large Tortoiseshell at the Gardens of the Rose, Chiswell Green. Her article also mentions seeing Small Tortoiseshell, Painted Lady & Peacock at the same location. The date of the site visit is not mentioned, but was probably 1 August.” Then on 25th September at Tower Hamlets Cemetery, “Terry Lyle reported a Large

Tortoiseshell flying 10 metres from him in woodland with a light understorey. It was a rich orange butterfly, Red Admiral size. As that sighting was at 10 metres, he decided to do the transect again on Sunday 27th, in the hope of seeing it again. On section 7 of the transect he did. Terry put it up from open grassland, just as he reached it. It flew to the top of a tall birch 100 metres away and again Terry saw what a rich orange impression it makes in flight” (Report from Kenneth Greenway, Cemetery Park Liaison Officer). It seems likely that at least some of the three reports from our area relate to this species, though it is difficult to unequivocally identify in flight. Large Tortoiseshell is a rare migrant, and the first two sightings are at the same time as the first Painted Lady sightings, so these were probably new arrivals, and the August and September sightings the second generation.

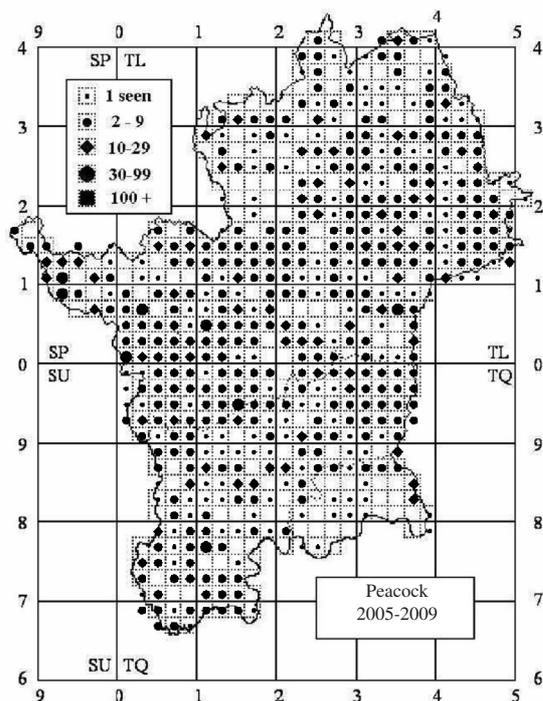
Camberwell Beauty *Nymphalis antiopa*

Sole sighting: 19th April at Widford (Phil MacMurdie)

On 19th April, Phil MacMurdie “was fielding at 1st slip for Ware v Buntingford - first cricket match of the season in bright mid-afternoon sunshine. A Camberwell Beauty settled about 5 yards from where I was standing; it was in pristine condition. I would have liked a better look, but had to contain my excitement as we were up against it at the time in the cricket match”. This is the fifth year in succession that it has been sighted in our area, the longest run of consecutive years in which the species has been seen here. Considering the fact that only 32 had been seen before 1995, we must consider ourselves lucky that so many have been seen since the Branch was founded:

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
8	4	1	1	0	0	0	0	0	0	0	1	13	4	1	1

The above table does seem to suggest winter survival of a few individuals following large influxes in 1995 and 2006.



Peacock *Inachis io*

First seen: 27th January at Tyttenhanger (David Cording)

Last seen: 17th November at Kings Langley (Elizabeth Debenham)

Peak date: 16th April

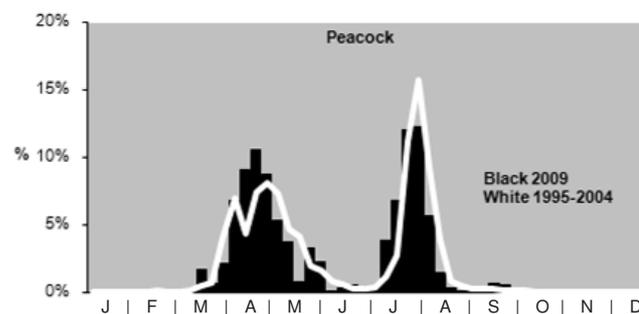
Maximum number seen: 57* at Potters Crouch on 2nd August (Malcolm Hull)

Mean index of abundance: 45

Change in abundance since 2008: 71% increase

Recorded in: 309 tetrads (68% of those covered)

Range change since 2008: 35% contraction



A healthy increase in numbers for the Peacock. After two January sightings, on February 10th Colin Everett noticed a curious occurrence: “a Peacock seen in a Garston (Watford) garden at 14h20m - basking with wings open but out of the sun, moving but not seen to fly. Air temperature 4°C and a biting force 4 Northwesterly. Activity presumably the result of disturbance from an unknown source. Still present at dusk in same spot with wings folded” Colin reported that the butterfly “subsequently remained in hibernation until at least early April.” After a very strong spring emergence (see flight diagram) there were many reported sightings of caterpillars and larval nests between June 2nd and 22nd, the first of the summer brood were reported in the last week of June. On July 2nd, Kit Jones “Released 106 Peacocks on site that had been taken into protective custody as first instar larvae. 44 tachinids also from this batch.” Tachinid flies, particularly *Sturmia bella*, have been suspected of causing declines in Nymphalid butterflies, but Peacock numbers have held up comparatively well over the past 5 years.

Comma *Polygonia c-album*

First seen: 21st February at Stevenage & Hillfield Park (Peter Clarke & Stephen Murray)

Last seen: 1st November near Wareside (Lawrence Drummond)

Peak date: 4th July

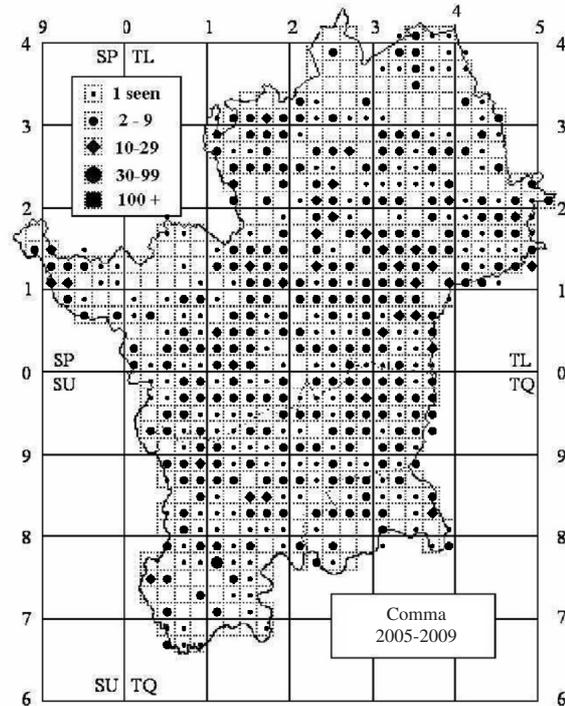
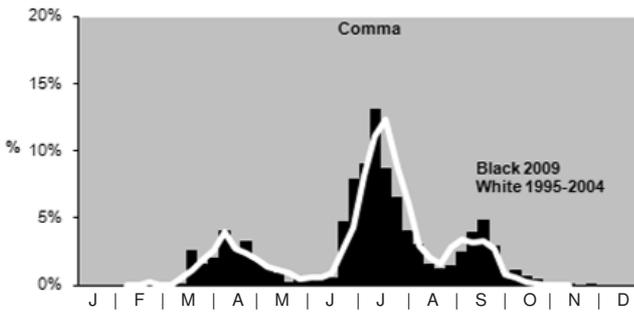
Maximum number seen: 35* at Cranford Park on 10th July (Rob Solomon)

Mean index of abundance: 28

Change in abundance since 2008: 92% increase

Recorded in: 261 tetrads (57% of those covered)

Range change since 2008: 22% expansion

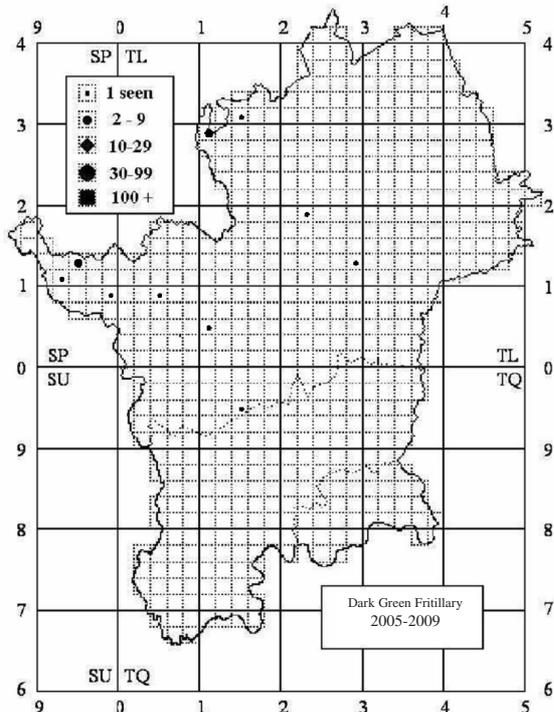


Comma is one of the few butterflies to have remained

fairly constant in numbers in recent years, with a healthy increase this year:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Balls Wood:</i>	35	25	32	*	47	79	60	23	56	32	29	63
<i>Hampstead Heath:</i>	25	15	15	19	15	9	8	3	18	8	20	35
<i>Stevenage:</i>		19	14	6	3	21	39	19	35	10	10	23
<i>Ware Park:</i>	7	34	42	*	16	58	22	49	58	43	52	70

The map shows it to be pretty widespread, even in urban areas where it survives well in gardens and waste land where nettle is to be found. Robert Callf had a couple of interesting observations in or near Trent Park, firstly on April 5th: “*Comma, stalked and killed by black cat, 13:47 BST*” and then on June 18th: “*an aberration, where the usual pattern is replaced by large patches of black on both forewing and hindwing. Thought to be ab. Reichstettensis*”



Dark Green Fritillary *Argynnis aglaja*

Sole record: 8th August at Aldbury Nowers (Malcolm Hull)

Recorded in: 1 tetrad (0.2% of those covered)

Range change since 2008: 73% contraction



Dark-green Fritillary
Photo: Andrew Wood

A disappointing year, in view of its recent improvement in numbers, with only one definite sighting by Malcolm Hull at Aldbury Nowers, though there was a possible earlier sighting, also by Malcolm Hull, on July 10th. The map shows its dependence on wanderers from nearby colonies on the chalk near Tring and Hexton. The transect data hint at possible temporary colonies at both Aldbury Nowers and Tring Park, but no clear evidence of a sustainable colony at either site:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Aldbury Nowers:</i>	0	0	0	*	0	0	1	1	0	7	4	0
<i>Tring Park:</i>	0	0	0	0	0	0	2	0	1	0	0	0

Silver-washed Fritillary *Argynnis paphia*

First seen: 21st June at Whippendell Wood (Colin Everett)

Last seen: 10th August at Standon Green End (Tony Spackman)

Peak date: 14th July

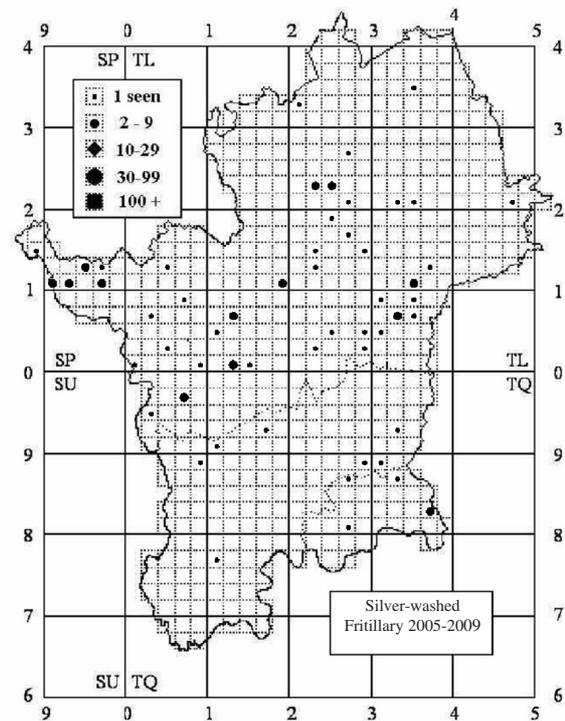
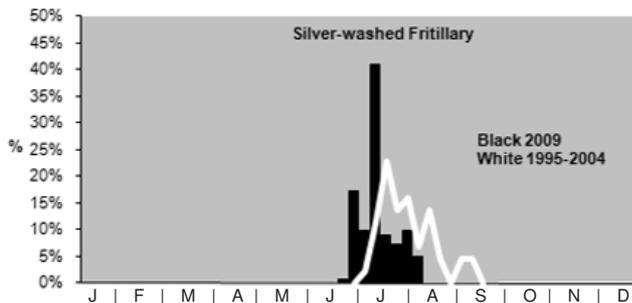
Maximum number seen: 3* at Bricket Wood on 13th July (Malcolm Hull)

Mean index of abundance: 6

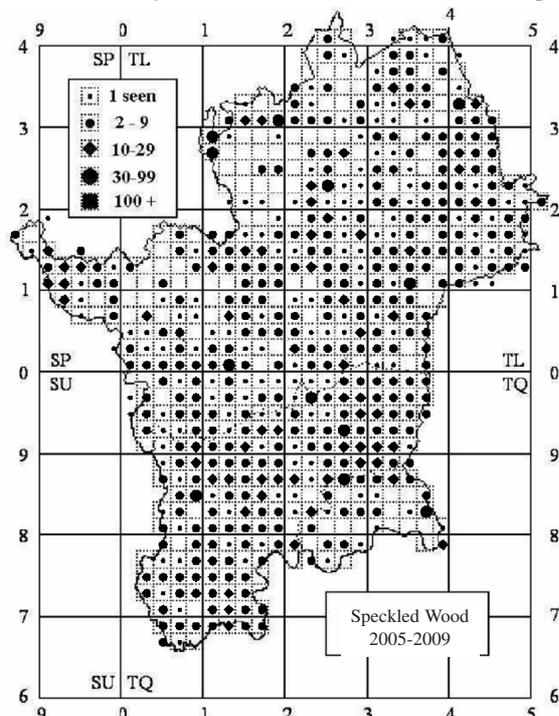
Change in abundance since 2008: numbers too low to be significant

Recorded in: 14 tetrads (3% of those covered)

Range change since 2008: 24% contraction



One of the few success stories of the past five years has been the re-colonisation by this species, after becoming extinct in our area around 1970. In the past 5 years, the distribution map shows that it has been recorded in 55 tetrads spread over most of Hertfordshire and Middlesex, including sites well into London itself. It reached a maximum in 2006, but this year it was seen on a total of 26 days at 16 different sites by 22 different observers. It appeared on the Hampstead Heath and the Mardley Heath transects for the first time, but the star of the show was Bricket Wood, where tree felling and ride widening have greatly improved the habitat for this species. During the branch field trip there on July 12th, despite earlier rain at least 12 were seen by 25 butterfly spotters. As Malcolm Hull notes: “this species has done very well at this site in 2009. It was recorded on the transect for 6 weeks in a row, starting on 6th July, with 29 records in total. This compares to a maximum total of 4 recorded on this transect in the previous five years since it recolonised.”



Speckled Wood *Pararge aegeria*

First seen: 1st April at three locations

Last seen: 29th October at Tring (Brian Jessop)

Peak date: 24th August

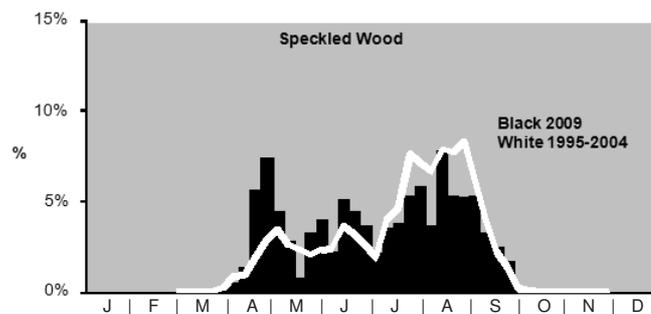
Maximum number seen: 51 at Balls Wood on 2nd September (Andrew Wood)

Mean index of abundance: 105

Change in abundance since 2008: 21% increase

Recorded in: 318 tetrads (70% of those covered)

Range change since 2008: 18% expansion



A comparatively modest increase in numbers and range compared to most butterflies this year. Looking back over the longer term, the map shows that it has colonized most areas in the county now, having completed its march across both counties from west to east. Compared to 2000-4, the extreme eastern part of Hertfordshire is now occupied by this species to a greater extent and in larger numbers. Overall it seems to have reached maximum capacity, with ups and downs over the past five or ten years as opposed to the almost unbroken increases of the 1990s.

Marbled White *Melanargia galathea*

First seen: 7th June at Aldbury Nowers (Martin Hicks)

Last seen: 19th August at Aldbury Nowers (Martin Hicks)

Peak date: 2nd July

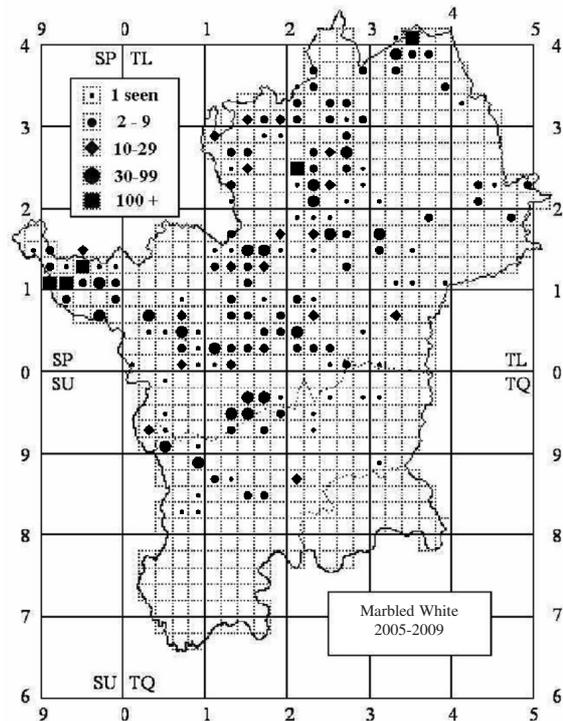
Maximum number seen: 121 at Aldbury Nowers on 1st July (Martin Hicks)

Mean index of abundance: 51

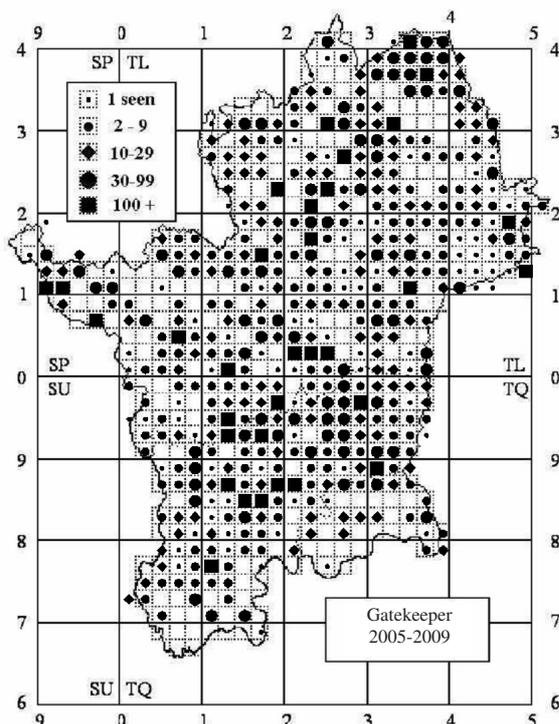
Change in abundance since 2008: 28% decrease

Recorded in: 79 tetrads (17% of those covered)

Range change since 2008: 7% expansion



After a spectacularly early emergence - 7th June is the earliest ever by 4 days – this species did not live up to such early promise, and actually suffered the second largest drop in numbers of all our species in 2009. This butterfly benefits from a wet March and a warm June (Dennis 1993), neither of which pertained this year. Like the previous species, Marbled White has been spreading from west to east across the two counties over the past twenty years, though lagging behind Speckled Wood by about ten years. The distribution map 2005-9 shows that it has advanced a further 10 km since 2004, and has now reached Bishops Stortford. To quote Jim Fish: “*The Marbled whites appear to have established in this area. The first one I saw was in 2007 at the old Red White and Blue Allotment site. This year on June 28th there were 3 Marbled White in a rough grass field adjacent to the allotment site.*” Behind this advancing front, there is evidence of continuing consolidation: “*One Marbled White on Broadmeads, Ware today, I think that is a site first*” (Andrew Wood). They are also gradually spreading into Middlesex, from where Kit Jones reports on 2nd July: “*New colony of Marbled white found - Clay Lane fields west of M1 Scratchwood - this whole area is due for development unfortunately*”.



Gatekeeper *Pyronia tithonus*

First seen: 21st June at three locations

Last seen: 31st August at Rickmansworth & Tring Park (Audrey Hind & Brian Jessop)

Peak date: 24th July

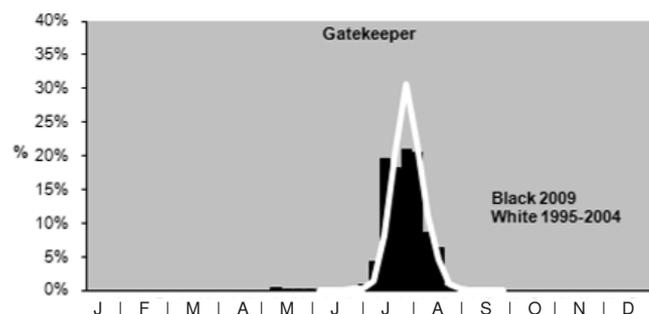
Maximum number seen: 120 at Horsenden Hill On 25th July (Andrew Culshaw)

Mean index of abundance: 105

Change in abundance since 2008: 3% increase

Recorded in: 205 tetrads (45% of those covered)

Range change since 2008: 3% contraction



No change in numbers or range since last year for this grassland species. Compared to 1999 and 2004, the map shows that this species has spread further into London, perhaps as a direct result of an enlightened policy of many London parks to leave much of the grass uncut during the summer months, thus providing a habitat for this and other grassland species. Some observers remarked on the abundance of this species in early July: “6th July while walking my dogs on an open area of Northchurch Common, I saw a staggering number of butterflies. When I came to a bramble bush in blossom in a hedgerow, the whole thing seemed to be trembling. Some 50 butterflies” (Patrick Lepper). On July 26th Colin Everett saw “a Gatekeeper attacked in flight by a Swallow (falling injured onto road)” near Leverstock Green.

Meadow Brown *Maniola jurtina*

First seen: 30th May at Trent Park (Robert Callf)

Last seen: 26th September at Enfield (Phil MacMurdie)

Peak date: 1st July

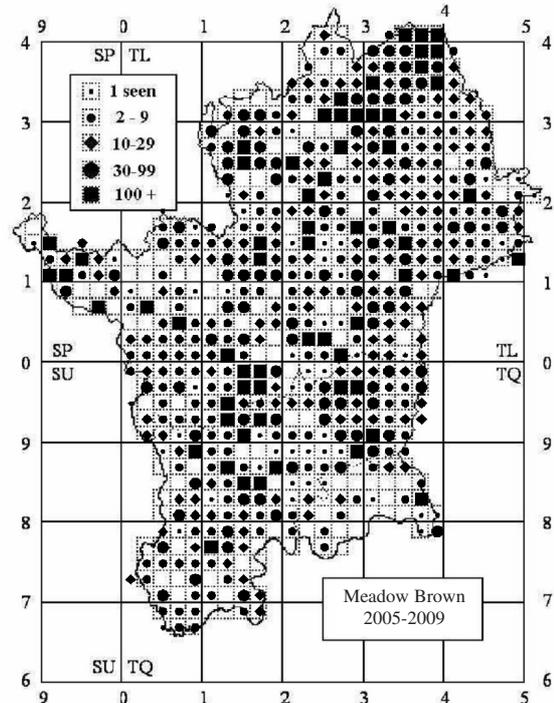
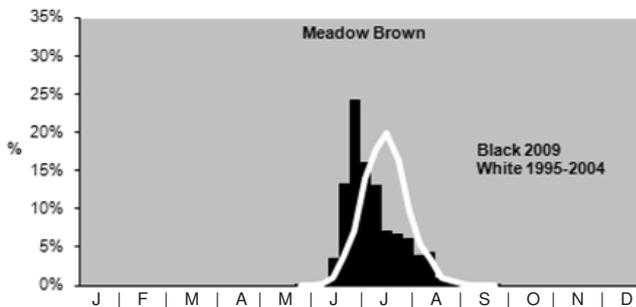
Maximum number seen: 233* at Fryent Country Park on 25th June (Leslie Williams)

Mean index of abundance: 209

Change in abundance since 2008: 16% decrease

Recorded in: 238 tetrads (52% of those covered)

Range change since 2008: 10% contraction



This species emerged unusually early this year. May sightings are rare, and have only occurred in 1999 and 2004 in the modern era. However, like the other Browns, numbers were not high overall and took a slight drop. Always the commonest butterfly in its season, the numbers of Meadow Brown over the years have shown noticeable differences from site to site, but with a distinct downturn in the past two or three years:

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Fryent Cntry Pk:	3159	1121	2261	446	703	3399	1687	1362	1234	270	313	761
Gutteridge Wood:	96	113	62	80	43	169	160	176	137	92	81	39
Patmore Heath:	294	517	389	390	282	334	244	332	300	143	285	63
Smallford Lake:	137	164	137	46	29	33	39	105	72	69	82	22

Numbers in 2009 were at their lowest ebb since our branch was founded in 1995. Were Mike Rubin’s observations on Horsenden Hill symptomatic of inter-species competition? “Horsenden Hill, 22nd July, in many places the Gatekeepers seemed to be ganging up and picking on the Meadow Browns. Gatekeepers - Scores. Maybe 50+.”(Mike Rubin).

Ringlet *Aphantopus hyperantus*

First seen: 4th June at Waterford Heath (Janet Holmes)

Last seen: 17th August at Northaw Great Wood & Tring (Jane Worroll & Brian Jessop)

Peak date: 1st July

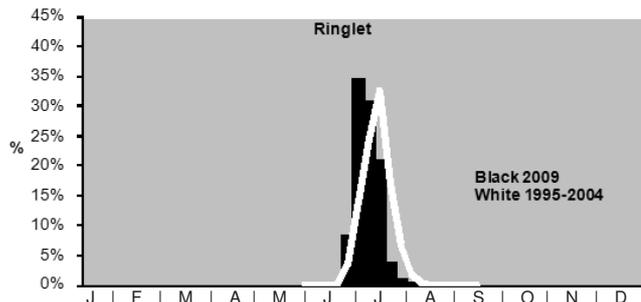
Maximum number seen: 319 at Balls Wood on 1st July (Andrew Wood)

Mean index of abundance: 164

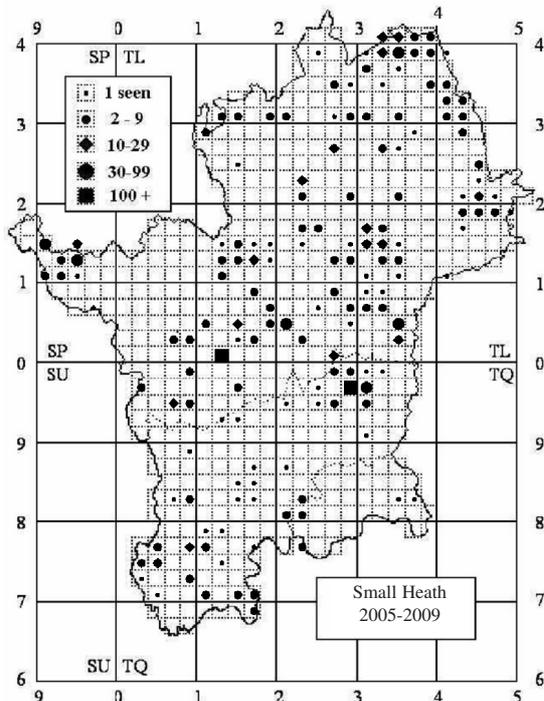
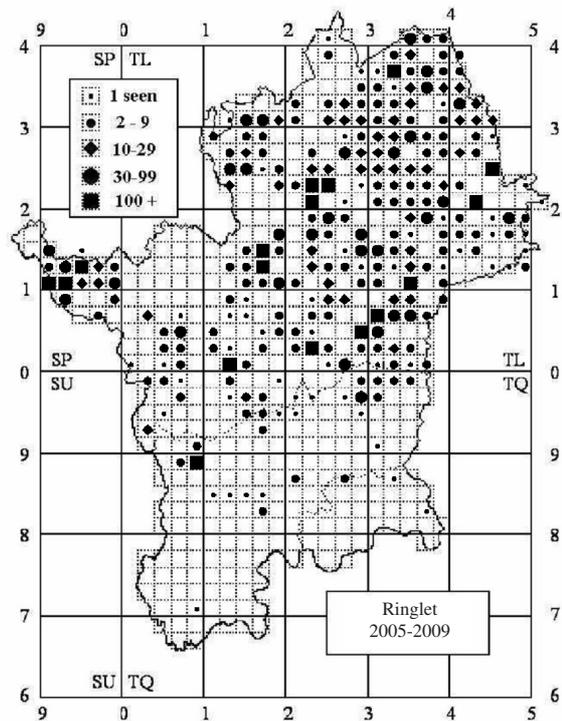
Change in abundance since 2008: 38% increase

Recorded in: 135 tetrads (30% of those covered)

Range change since 2008: 24% expansion



Again an early emergence for this butterfly too, 4th June being the equal earliest ever date for our area, matching that of 1987. The Ringlet did best out of all the Browns this year, and this has been true of recent years too, in which it has increased numbers in four years out of five. On some well-wooded transects it has now become the most numerous butterfly. It still maintains its distance from most of Middlesex and London however, though it has flourished at a few sites there. It is also filling in some holes in its Hertfordshire distribution: "Barnes Lane, Kings Langley, one Ringlet resting on brambles, which is a first for me in this location." (Elizabeth Debenham).



Small Heath *Coenonympha pamphilus*

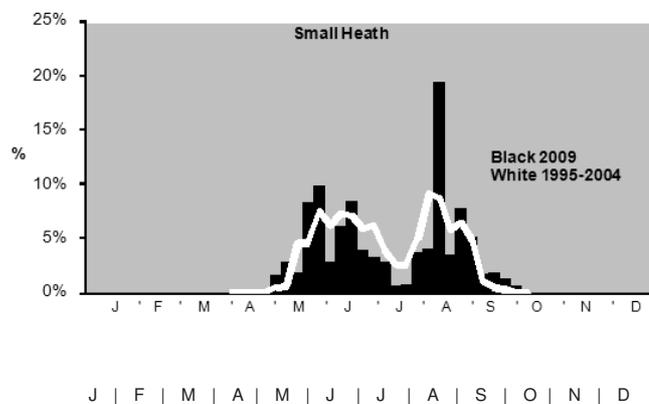
First seen: 29th April at Aldbury Nowers (Paul Thrush)

Last seen: 1st October at Stanwell Moor (Dave Miller)

Peak date: 20th August

Maximum number seen: 23 at Bricket Wood on 13th July (Malcolm Hull)

Mean index of abundance: 21



Unfortunately, the very species one would have hoped to do well in this bumper year has suffered a decline in numbers and a contraction in range. Over the past five years, this species has shown a decrease in abundance in every single year. However, a very strange statistic is that the distribution map shows that it has expanded its range by nearly 50% over the same period, an apparent contradiction that is difficult to fathom. The two indices are not measuring the same thing of course: abundance means numbers seen at regularly walked transects, whereas range simply records the number of tetrads in which the species is found, but even so one would naturally suppose that decreased numbers at monitored sites would also entail lower numbers elsewhere and therefore a higher likelihood of the species being missed overall. The only logical conclusion would seem to be that something other than overpopulation – presumably habitat degradation or foodplant decrease or loss, perhaps combined with inclement weather – is causing the insect to leave established colonies and to seek to form new colonies elsewhere, and that this has continued to happen over ten generations. Small Heath likes a short sward of fine-leaved grasses, and these are in decline in both our counties, and indeed over much of southern Britain. Certainly this seems to be a species that colonises, expands, declines and disappears again at different sites, and these events are not necessarily synchronised over our whole area. This year, Phil MacMurdie in the Bury Green area and Dave Miller near Heathrow found strong new colonies, whereas Colin Everett recorded the disappearance of a thriving colony on a traffic island near Watford.

Unusual sightings

Pearl-bordered Fritillary 12th June, Oak Hill Woods, East Barnet. Kit Jones reports: *“a very bizarre sighting, Pearl-bordered Fritillary sitting on damp clay on the stream bed - no previous records for this site or local area, I thought it was a Comma at first. Although this local nature reserve is ancient woodland with plenty of violets, I guess the individual was a captive bred release”*. This is almost certainly the case. If you have bred or released any unusual butterflies in our area in the past, please let Butterfly Conservation know.

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. 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.

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.

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 deced co-ordinator. Deced 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 2010**:

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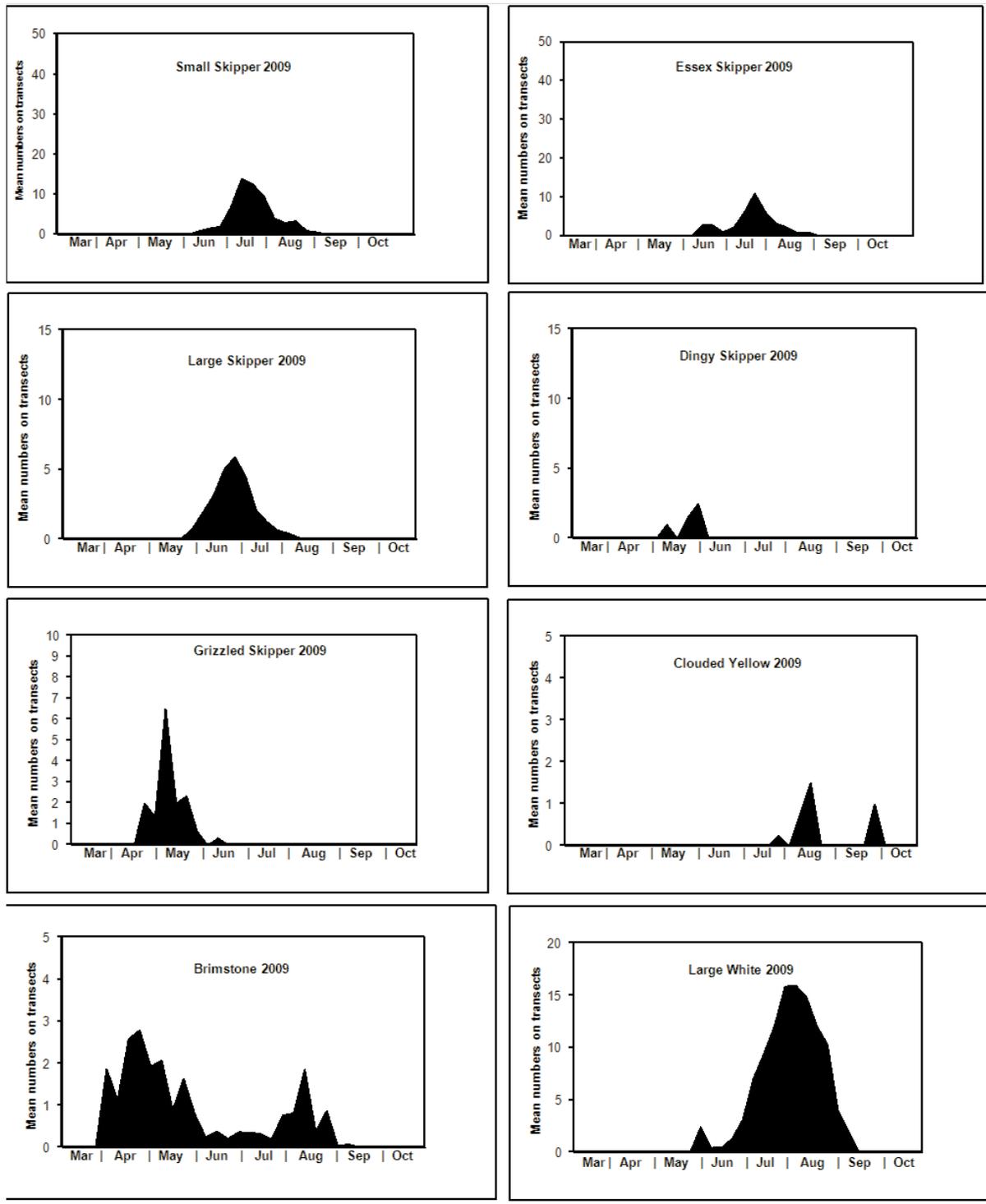
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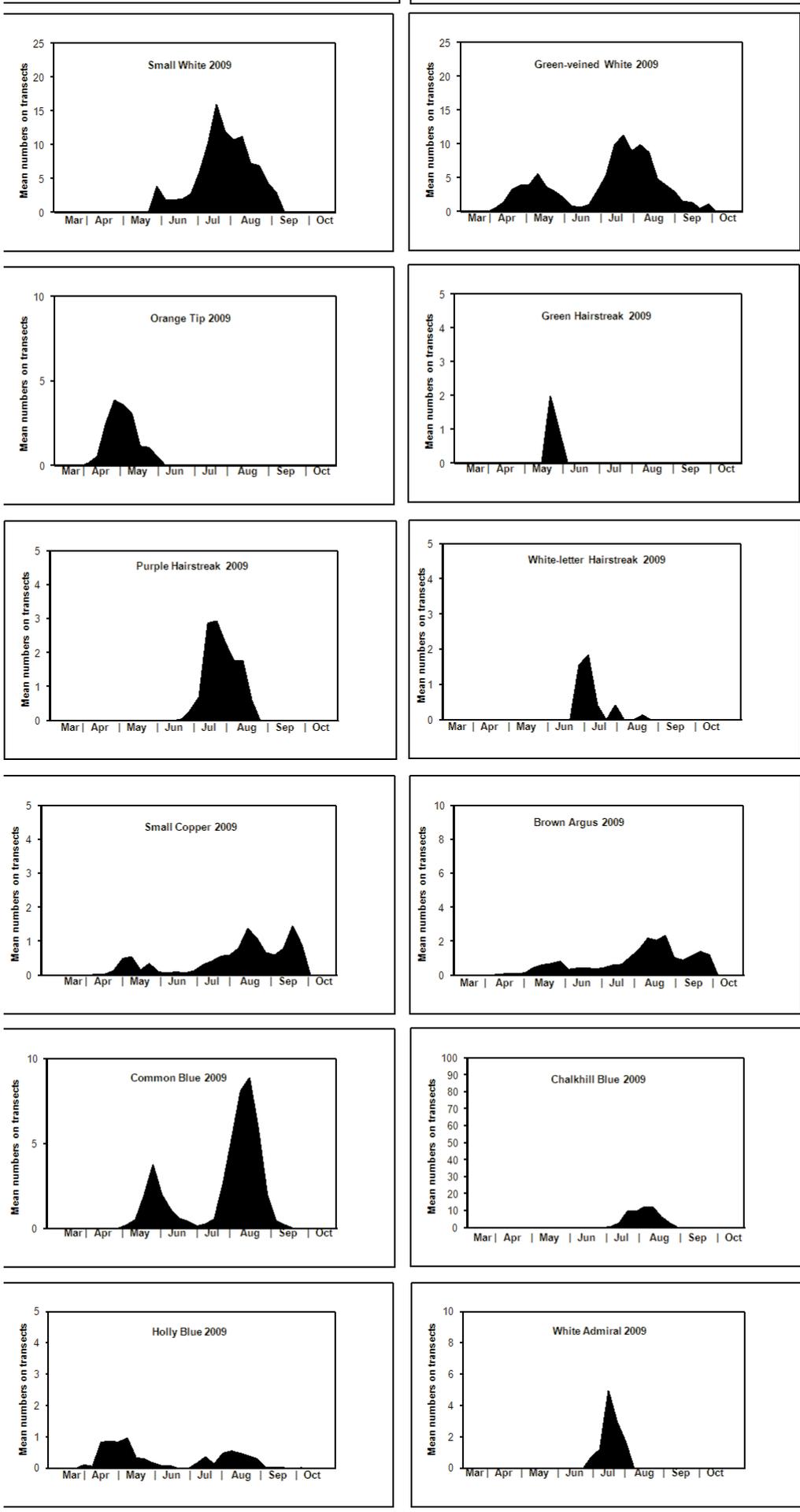
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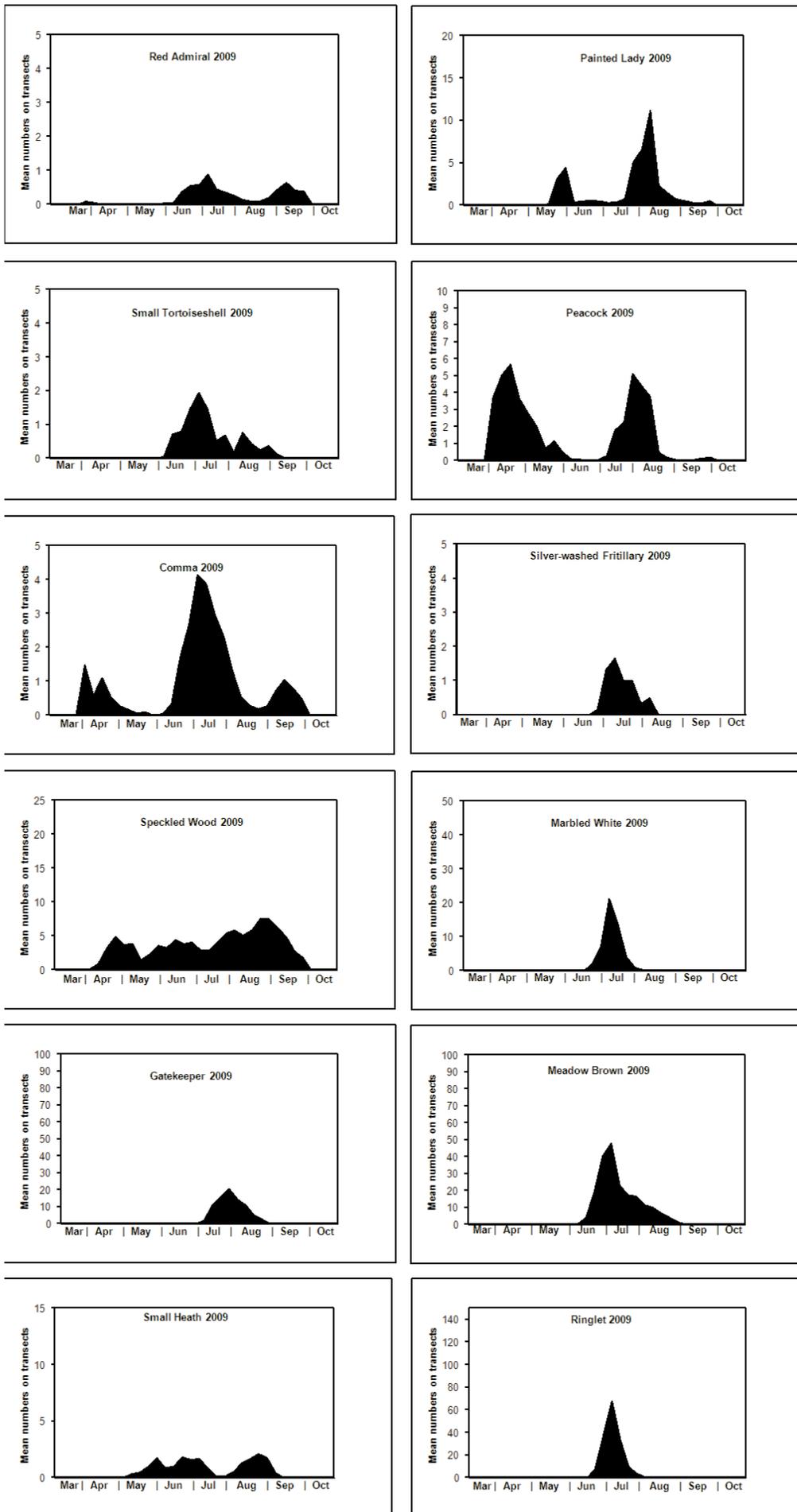
Wood, A. 2009b. Ware Park Transect Report 2009. *Privately circulated manuscript*. 3pp

Appendix 1 Flight periods and numbers on Transects

The charts below were shown with the species accounts in reports prior to 2008. They plot the mean values for each week of the transect season for each species, that is sufficiently well covered on transects to make such a chart meaningful.





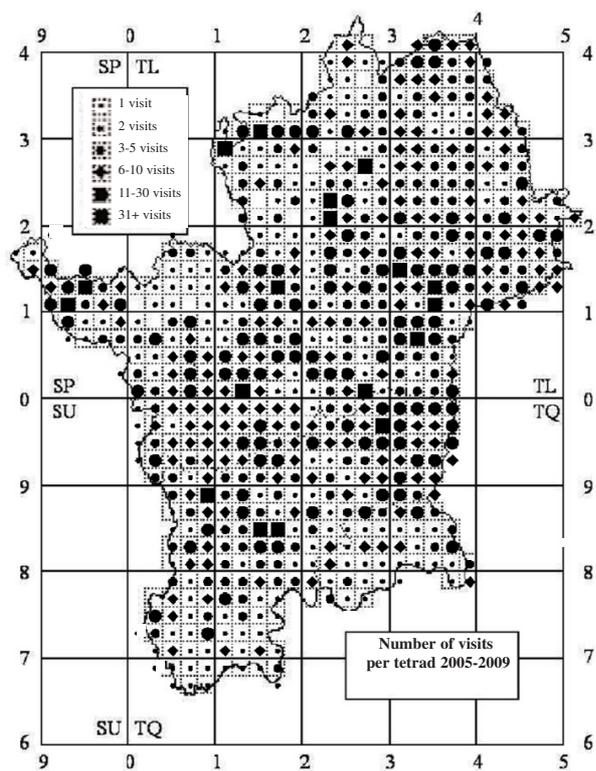


Appendix 2 Detailed Transect Records

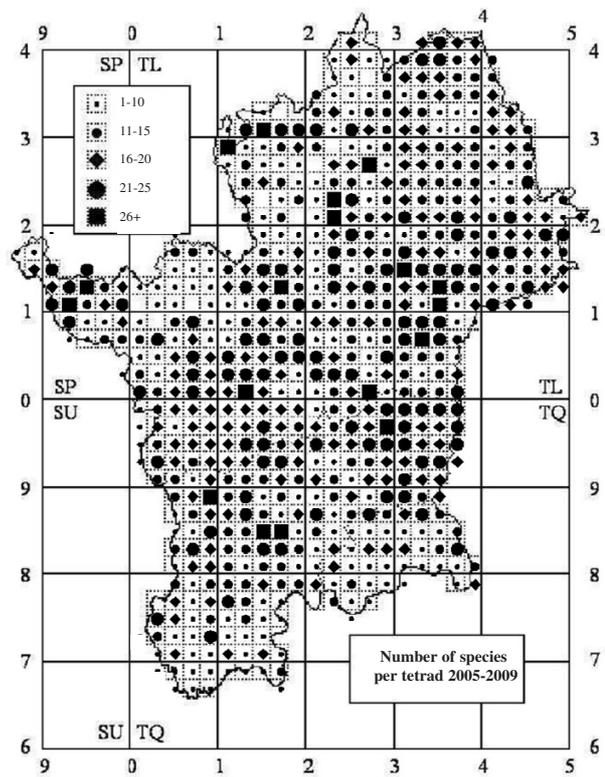
The tables below and on the following pages give numbers of butterflies counted on each of the weekly transect walks described in the Transect Roundup, listed by species. Values in italics indicate weeks when the transect could not be walked, and are interpolated between numbers counted in the previous 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.

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.

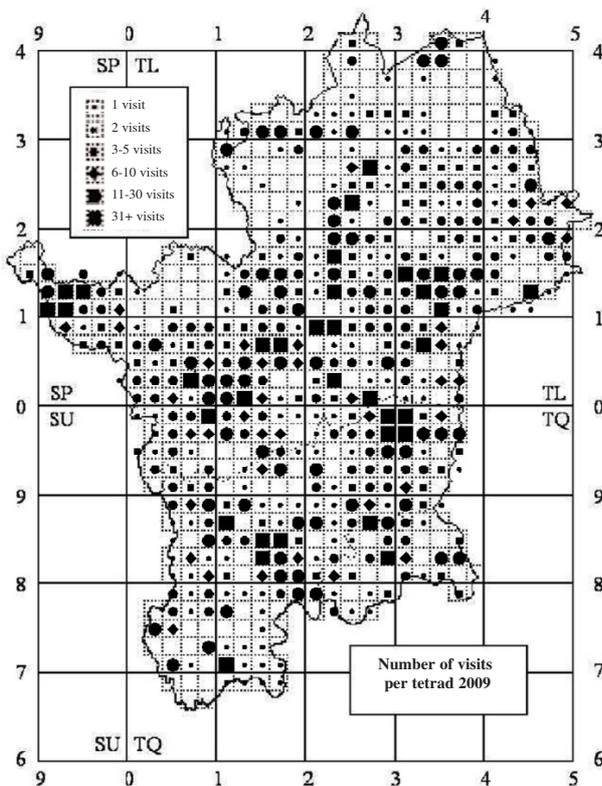
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Small Skipper 2009																												
Aldbury Nowers									0	0	0	0	0	0	5	8	3	0	0	0	0	0					16	18-Jul
Balls Wood									0	0	0	0	0	0	0	0	1	1	0	0	0	0					2	
Bencroft Wood									0	0	0	0	2	0	0	0	0	0	0	0	0	0					2	04-Jul
Bishops Stortford Southern Country Park									0	0	0	8	21	6	2	0	0	0	0	0	0	0					37	01-Jul
Brent Reservoir									0	0	0	10	32	4	0	2	0	0	0	0	0	0					48	05-Jul
Bricket Wood									0	0	0	4	20	15	8	2	3	1	0	0	0	0					53	06-Jul
Bunkers Park									0	4	8	5	5	12	14	6	5	2	4	0	0	0					64	12-Jul
Butterfly World									0	0	0	0	0	0	1	0	0	0	0	0	0	0					1	08-Jul
Camley Street Natural Park									0	0	0	0	0	0	5	0	0	0	0	0	0	0					5	12-Jul
Colney Heath									0	0	0	0	0	0	0	10	9	0	0	1	0	0					20	20-Jul
Great Ashby									0	0	0	7	0	27	18	9	6	3	2	2	0	0					73	14-Jul
Gutteridge Wood									0	0	0	1	0	9	3	0	2	3	0	0	0	0					18	10-Jul
Hampstead Heath									0	0	0	0	0	0	0	0	0	0	1	0	0	0					1	06-Aug
Horsenden Hill East									0	0	0	1	6	15	24	31	17	0	21	3	0	0					118	21-Jul
Horsenden Hill West									0	0	0	9	2	0	0	0	0	0	0	0	0	0					11	27-Jun
Kenwood									0	0	0	0	0	0	1	0	0	0	0	0	0	0					1	20-Jul
Kings Langley									0	0	0	0	0	1	0	1	0	0	0	0	0	0					2	
Knebworth Park									0	0	0	7	5	10	14	0	0	0	0	0	0	0					35	09-Jul
Lemsford Springs									0	0	1	2	1	0	0	0	0	0	0	0	0	0					4	
Marshalls Heath									0	0	0	45	85	45	26	6	0	0	0	0	0	0					207	04-Jul
Millhoppers									0	0	0	0	1	3	0	0	0	0	0	0	0	0					4	14-Jul
Miswell Lane									0	0	0	0	1	3	0	0	0	0	0	0	0	0					4	10-Jul
Oughtonhead Common									0	0	0	1	0	7	14	7	0	0	0	0	0	0					29	10-Jul
Patmore Heath									0	0	0	0	24	32	33	3	5	4	0	0	0	0					101	17-Jul
Perivale Wood									0	0	0	0	0	2	0	1	0	0	0	0	0	0					3	12-Jul
Shrubhill Common									0	0	0	0	0	10	8	4	2	3	0	0	1	0					28	10-Jul
Smallford Lake									0	1	2	3	0	0	2	2	1	0	0	0	0	0					10	22-Jun
Stevenage									0	0	0	2	4	43	45	5	9	6	1	1	0	0					114	12-Jul
The Warren									0	0	0	8	14	0	21	8	4	2	3	0	0	0					60	20-Jul
Therfield Heath (Lankester Hill)									0	0	0	0	7	14	8	5	3	0	0	0	0	0					37	09-Jul
Therfield Heath (Rifle Range)									0	0	0	0	1	0	0	0	0	0	0	0	0	0					1	01-Jul
Therfield Heath (Top of Rifle Range)									0	0	0	0	6	0	2	1	1	0	0	0	0	0					10	04-Jul
Tower Hamlets Cemetery Park									0	0	0	2	5	3	7	2	0	0	0	0	0	0					19	10-Jul
Tring Park									0	0	0	1	6	15	24	31	17	19	21	3	2	0					138	20-Jul
Waterford Heath North									0	0	0	0	0	1	0	0	0	0	0	0	0	0					1	02-Jul
Waterford Heath South									0	0	0	2	2	18	9	0	0	0	0	0	0	0					31	04-Jul
Wingrave Road									0	0	0	2	2	0	10	4	1	0	0	0	0	0					19	11-Jul
Wood Lane, Pirton									0	0	0	1	0	1	0	0	1	0	0	0	0	0					3	22-Jun
Mean Small Skipper									0.0	0.1	0.3	0.8	3.4	9.0	9.0	6.1	2.8	1.4	1.7	0.3	0.1	0.0					35.0	11-Jul
Essex Skipper 2009																												
Aldbury Nowers									0	0	0	0	0	0	11	12	7	6	2	1	1	0					40	18-Jul
Bishops Stortford Southern Country Park									0	0	0	4	0	4	12	3	3	1	2	0	0	0					30	13-Jul
Brent Reservoir									0	0	0	0	0	0	2	0	0	0	0	0	0	0					2	13-Jul
Bricket Wood									0	0	0	0	0	3	8	0	0	2	1	1	0	0					15	13-Jul
Bunkers Park									0	6	11	2	5	2	9	2	2	0	0	0	0	0					38	14-Jun
Great Ashby									0	0	0	0	0	0	18	15	12	7	3	0	0	0					55	14-Jul
Horsenden Hill East									0	0	0	0	0	8	2	7	0	0	0	0	0	0					17	04-Jul
Horsenden Hill West									0	0	0	0	0	2	0	6	1	1	0	0	0	0					10	18-Jul
Kenwood									0	0	0	0	0	0	6	1	4	1	1	0	0	0					13	09-Jul
Knebworth Park									0	0	0	0	0	14	60	30	20	11	2	6	0	0					144	22-Jul
Marshalls Heath									0	0	0	0	5	17	16	9	2	7	2	0	0	0					57	04-Jul
Millhoppers									0	0	0	0	0	1	0	0	0	0	0	0	0	0					1	14-Jul
Northaw Great Wood Bridleway									0	0	0	0	0	1	3	0	0	0	0	0	0	0					4	13-Jul
Oughtonhead Common									0	0	0	3	5	4	3	4	4	0	1	0	0	0					24	29-Jun
Patmore Heath									0	0	0	0	0	0	5	0	0	0	0	0	0	0					5	10-Jul
Perivale Wood									0	0	0	0	0	0	1	0	0	0	0	0	0	0					1	12-Jul
Shrubhill Common									0	0	0	0	0	0	5	3	0	0	1	0	0	0					9	10-Jul
Stevenage									0	0	0	0	7	21	28	5	6	0	0	1	0	0					69	12-Jul
Therfield Heath (Lankester Hill)									0	0	0	0	0	1	0	1	0	0	0	0	0	0					2	09-Jul
Therfield Heath (Top of Rifle Range)									0	0	0	0	0	0	0	0	0	1	0	0	0	0					1	30-Jul
Tower Hamlets Cemetery Park									0	0	0	0	7	17	24	8	1	0	0	0	0	0					57	10-Jul
Tring Park									0	0	0	0	0	8	2	7	0	0	0	0	0	0					17	02-Jul
Mean Essex Skipper									0.0	0.3	0.5	0.4	1.3	4.6	10.0	5.1	2.8	1.7	0.7	0.4	0.0	0.0					19.2	11-Jul



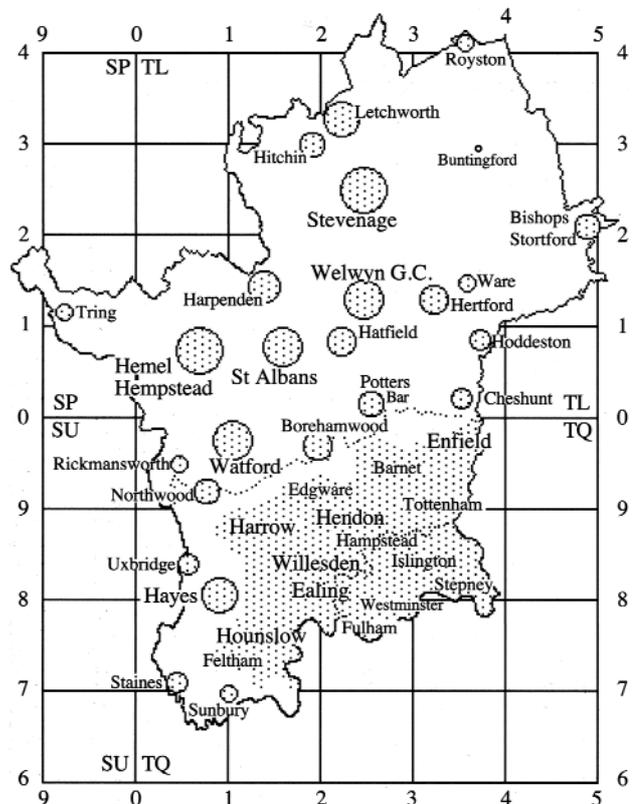
Map showing the number of recording visits made in 2005-2009 for each tetrad.



Map showing the numbers of species of butterfly recorded in each tetrad (2 x 2 Km square) during 2005-2009



Map showing the number of recording visits made in 2009 for each tetrad.



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



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This report is produced by the Recording Subcommittee of the Hertfordshire and Middlesex branch of Butterfly Conservation. The views expressed in the report are not necessarily those of the subcommittee or the national society.
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