

BUTTERFLY CONSERVATION UPPER THAMES BRANCH

Purple Emperor (*Apatura iris*) Report for 2005

Dennis Dell

Acknowledgements

I'm very grateful to the following loyal subjects of the Emperor who submitted their reports to me:

Wendy & Mick Campbell, Dave Wilton, Allen Beechey, Robin Dryden, Tom Dunbar, Tim and Colleen Watts, Davids White and Fuller, Ched George, Nick Bowles, David Redhead, Matthew Oates, Brian Jessop, Jean Yates, Bob Hurst, Gillian Oldfield, Paul Bowyer, Dave Ferguson, Stuart Hodges, Mick & Jan Wells, Tony Croft, Peter Perkins, Derek and Cathy Brown, John Brown, Neil Lambert, Wayne Bull, Becky Woodell, M. Lewis.

We had more observers than last year, which may have something to do with the larger numbers recorded !

I would like to pay tribute to the excellent and dedicated recording. Many of you spent long periods recording **no *iris*** and telling me! Particularly, the Campbells, Dave Wilton, and Ched George. Ched, for example, could find nothing in several Chiltern Woods where he had made sightings in previous years. The Campbells were frustrated by not seeing any activity again above the Drunkard's Corner Poplars (Waterperry) having made many visits this season.

I would like to welcome Robin Dryden who sent me exciting reports from Black Park. David Fuller has taken over from David White in Windsor Forest, and, between them, they have probably identified a classical high point (ridge) territory there.

Indeed, looking for *iris* can be very frustrating, but also very rewarding !

1.Introduction

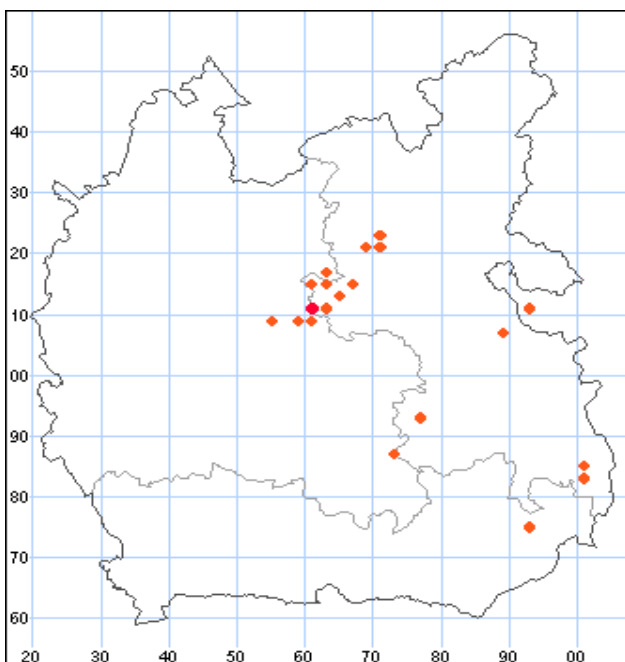
The appendix, giving details of all observations, is divided into two:

- 1) All woods except those comprising 'Northern' Bernwood Forest
- 2) Northern Bernwood Forest (Oakley Wood, Shabbington Wood, Yorks Wood, Hell Coppice).
I'm grateful to Allen Beechey who supplied this spread sheet.

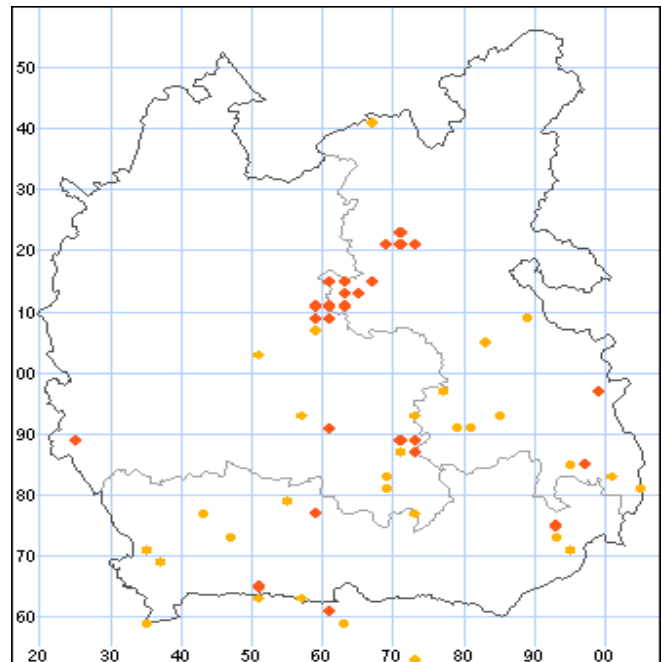
Because the numbers seen on any one occasion (occasion = one day) are never very great (10 maximum), a meaningful statistical analysis is not possible.

2. Summary

- 21 woods were visited by 32 observers.
- About 121 specimens were seen.
- Territories/ male assembly points. Mixed results here: possible territories in Greatsea , Waterperry (Drunkard's Corner), Whitecross Green and Chinkwell Woods, where sightings were made in 2004) could not be confirmed this year.(one, zero, zero, and zero sightings, respectively, at last year's 'assembly' points). On the positive side, at the high northern edge of Finemere, for the first time, three sightings were made on two separate occasions. Several sightings were again made at the high point in Little Wood around the same trees as last year. An important discovery was made in Piddington Wood: a small glade just inside the high south-east edge was populated on many days from 10.7 to 30.7 by up to 3-4 individual specimens.
- Sightings were made in Sydling's Copse (BBOWT) and Penley Wood (Chilterns) for the first time
- Sightings were made in woods from which there have been no records for a number of years: Stanton Great Wood, Windsor Forest, Wendover Woods, and Black Park.
- First specimens seen on June 27th, last on August 8th. This is longer than last year, but may be due simply to greater observer activity.



A. iris distribution UT 2005



A. iris distribution 1984-2004

[acknowledgement to Tom Dunbar for providing the 1984-2004 distribution map]

3. Results and Discussion

3.1 Weather

I'm grateful to Matthew Oates for providing the following summary

Poor, late spring, with limited evening feeding opportunities for larvae. Difficult weather during the main pupation period in early June. Some good, and indeed very hot spells during mid June, but a poor end to that month.

July was schizophrenic: the first week and last 10 days were foul, but sandwiched in between were two excellent weeks, with some very hot days. The first 9 days of July were cool, cloudy and often wet, with some very low temperatures - apart from a nice day on the 3rd (we were at Finemere & Greatsea). Hot weather broke through spectacularly on the 10th, reaching 30 Celcius. This was the first of 5 very hot (>25C) days. A weak front brought cooler conditions on the 15th but pressure then built again with 2 more very hot days and 4 more pleasant ones. Then, on the 22nd, Stygian gloom descended and the last 10 days of the more hardly saw any sunshine and were dull and progressively cooler and wetter. The fine weather returned at the start of August.

In effect, iris started to emerge in poor weather, and suffered consequently. Then the males shot over quickly during a 12 day heatwave, before doom and gloom returned Quite a good egg lay.

All indications are that the emergence was rather poor. Monitoring data from Alice Holt suggests a very poor year.

3.2 Numbers seen

This is always very difficult with this species, so the numbers reported [121] can only be an estimate. This is about double that of last year, but this is almost certainly because we had more observers in the field. I don't believe that this year was significantly better than 2004.

3.3 Distribution

Comparing the two maps above, we, apparently, may conclude that *iris* has extended its range to the Chilterns and some woods in the south of the region. This is misleading, and is probably because the levana records for previous years do not reflect the actual observations in the field, which did not always get sent to levana. The main difference is that more people have been looking in 2004 and 2005 and have been sending in their records. As a result, we have seen *iris* in woods from which there are no previous records. Some of these were mentioned in the 2004 report. New woods for this year were:

Sydlings Copse (BBOWT reserve)
Penley Wood (Chilterns).

In addition, the following woods where we have had no official records for some years, came up trumps:

Stanton Great Wood
High Standinghill Woods (Windsor Forest)
Black Park

3.4 Territories [male assembly areas]

The results were mixed this year: in some of the 'new' territories discovered last year, either only one or no specimens were seen: **Drunkard's Corner Poplars, Waterperry Wood; high points in Chinkwell, Whitecross Green and Greatsea woods**. On the plus side, what appears to be an excellent new territory was found in **Piddington Wood**. This is a small glade [about 30 metres by 15 metres] just inside the high south-east facing edge. It consists of a mixture of Oaks and mainly young Ash trees on the edge of the glade. Between 4th and 30th July, visits were made on 10 different days to this spot by five different observers. On three days, no observations were made; on eight days, at least three males were seen on each occasion, sometimes more. This discrepancy is because on one day (15th July, very hot), 3 were seen from 12.50 to 13.25, and none between 18.15 and 19.15. The activities consisted of rapid (not more than 30 seconds), short flights, aerial battles, and longer periods of perching in between. Although there is one mature Ash and several quite large Oaks, relatively young, spindly, Ashes were just as frequently used for perching.

Little Wood: the trees at the entrance to the ride going down from the middle of the top edge are almost certainly a territory; observations of at least two specimens have been made at this spot in 2004 and 2005.

In **Finemere** wood, there may be two territories: one in the middle of the wood at an elevation of about 90 metres, and another at the highest point along the northern edge at 110 metres opposite Finemere Hill House. Three were observed on two separate days along this edge, which consists predominantly of Ash. In 2004, in spite of intensive looking, nothing was seen above the trees along this edge, although a male was seen grounded by the pond between this edge and the house. The middle territory is well-established: it is where observations have been made every year in recent times along the main ride between the turning circle and a ride junction about 50 metres to the south.. Adjacent to the ride along this stretch to the east side there is an area of Oaks which are 10 to 15 metres apart, allowing good views to the crowns. Here there is assembly and perching activity.

The Oakley Wood Car Park is clearly one of the best territories, although the activity varies enormously, as the records show.

Two winters ago, Matthew Oates toured the Bernwood region and identified a total of about 26 possible territories in 10 different woods, and one territory along a road leading to woods. Not all of the 26 areas have yet been investigated. Observations were made in 9 of these territories in 2004 and/or 2005 [Oakley Car Park, Shabbington turning circle, Stanton Gt Wood 1, Waterperry Drunkard's Corner poplars, Chinkwell Wood, Rushbeds Car Park, Whitecross Green southern edge, Little Wood high edge, Piddington Wood high edge] although in 3 of them, sightings made in 2004 could not be confirmed in 2005.

In **Boarstall Wood**, one or two specimens have been observed almost every year around the Ash trees in the north-eastern corner of the wood behind the gamekeeper's cottage. One of the problems in this region is the low numbers observed. 32 observers made a total of about only 120 sightings [i.e., the number of individuals was certainly less than this]. Statistically, therefore, the chances of making observations in territories where there are perhaps only a few active males are rather low, and we are probably missing some. In addition, maybe some sites are not occupied every year; e.g., Drunkards Corner in Waterperry: observations in 1997, 2002 and 2004, but not last summer, despite 8 visits by three people.

4. General comments and plans

The general situation in our region appears satisfactory. *Iris* has been observed, albeit in small numbers, in most of the suitable woods investigated, and it is likely we will continue to find it in new, as yet uninvestigated, woods.

We must not be complacent however; if we find His Majesty in new, private, woods we must get in touch with the owner as quickly as possible to alert him that he has royalty in his wood and to advise him on management aspects.

- We should try to investigate the rest of Matthew Oates' proposed territories
- More woods in the Chilterns need to be explored
- A glance at the distribution maps show the 'under-explored' areas :
 1. The large woods straddling the Bucks/Northants border [several observations from here in the past]
 2. Most of Oxfordshire apart from Bernwood forest
 3. Western Berkshire

Rushbeds Wood was disappointing for some unknown reason. Many visits were made by several observers, but only on one day did we have any sightings.

Ham Home/Ham Green Woods have never yielded *iris*: we looked hard again this year, and the owner confirmed this. It is certainly a mystery, because it has all the 'right ingredients', and it has *iris* woods close by to the south and the north.

Also in this area, we should look at Tittershall, Long, Grove and Grenville's Wood, assuming we can get permission.

'Flat' woods such as Rushbeds, Waterperry and Grendon/Doddershall: we are still looking for territories, but maybe there are none! We've seen activity around the tall poplars at the southern end of Waterperry in three years only, since 1997, but that's about it.

APPENDIX I: 2005: Observations in Woods other than Bernwood Forest

DATE	OBSERVER	LOCATION ^a	MICRO LOCATION ^b	NUMBER SEEN AND SEX ^c	TIME ^d	WEATHER CONDITIONS	BEHAVIOUR ^e
27.6	Brian Jessop	Tring Park		2			No further information; this is a known locality for the last few years
27.6	Jean Yates	Boarstall Wood	Ash trees behind garden of gamekeeper's cottage	1			Flying and landing around Ash trees behind cottage at north-east corner of wood. This may well be a territory, since Mrs Yates (and D Wilton) have made observations here in previous years
28.6	Robin Dryden	Black Park Slough	Ride at northern end TQ014846	1 male	13.15 - 13.20		Grounded, feeding; flew off after 5 minutes
31.6.	Robin Dryden	Black Park	Further down footpath above	3 presumed males	13:30		Windy and overcast; One large butterfly took off from high in oak tree and disturbed two others but all disappeared in seconds so positive id not certain.
2.7	Mick & Wendy	Waterperry Wood	Oak trees, main ride.	1 (sex unknown)	Late pm	Warm, v. overcast, humid 21C	1 seen in main ride near intersection. Brief sighting along main ride and then it flew off across trees. Also checked Poplars but none seen there.
3.7	Bob Hurst	Whitecross Green Wood		1			
3.7	Gillian Oldfield	Waterperry Wood	Base of Ash on faeces SP608096	1 male	13.45		Crawled round base of Ash, onto faeces; observed for 5 minutes, was still there when she left; this is a dense part of the wood; small glade
3.7	Dell, Oates, Bowyer, Dunbar	Finemere wood	4 locations; see 'behaviour'	5	12 - 16.00	20 to 22 degrees, sunny	SP715223: on Ashes at northern edge high point: one SP721220: low down at northern edge; landed on Blackthorn hedge for one minute before returning to wood: one male SP714228: this seems to be a territory, because sightings are made here every year; it is an area where the Oaks are quite widely spaced, allowing easy observation; gliding takes place between the oaks here; two seen fighting One seen flying between Oaks about 100m up main ride
3.7	Dell, Oates, Dunbar	Greatsea Wood	High point at edge of wood; Oaks and conifers	1	13.00		SP714228: this was the place where we saw several last summer and hoped it was a territory; however, in spite of several more visits after 4.7 this year, no more were observed
4.7	Mick & Wendy	Rushbeds Wood	N/A	0	16.30 - 17.15	Cool, then rain!	Checked Oak trees in main ride. There were other butterflies flying, but no <i>Iris</i> .
4.7	Dave Wilton	Little Wood	Entire wood	2	13.10 - 13.50	16C, overcast, 10kt Westerly breeze	1.40pm I had a possible sighting when something large left the right hand oak by the ride entrance (SP 624157) and disappeared down into the wood proper (only in view for about 5 seconds). At 1.45pm (sun almost out) two confirmed PE started chasing each other around the oak although after about 30 seconds I lost track of them on the far (southern) side of the tree. I then had two or three short views of single examples flying around the same tree before the sky went very dark again at 1.50pm.
4.7	Dave Wilton	Piddington Wood	Footpath	0	13.55 - 14.25	16C, overcast	
6.7	Dave Wilton	Chinkwell Wood	SP665143	1	13.15 to 14.30	overcast	Flying high along ride; seen for 15 seconds
6.7	Dennis Dell	Finemere Wood	At southern end about 100 metres from gate; in glade mentioned on 3.7 (SP714228)	2	15.30 - 15.50		1 st flew across ride east to west, landed on Hazel briefly then flew southwards into Oak. Second gliding between Oaks on territory

6.7	Dave Wilton	Chinkwell Wood	Entire wood	1	13.15 - 14.30	16-17C, overcast, 15kt NW'y wind with stronger gusts	Sighting in interior of wood, ride running roughly parallel to the main footpath ride but further west (SP 665143). The butterfly was flying northeastwards parallel to the ride at tree-top height and was in view for perhaps 15 seconds, certainly long enough to get the binoculars on it. I hung around there for a while but it didn't re-appear (the trees are all conifers in this area).
7.7	Dave Wilton	Chinkwell Wood	SW corner	0	14.30 - 15.00	18-19C, ocnl sun, strong NE breeze	
7.7	Dave Ferguson	Black Park	Northern end, TQ010845	1			Landed on Birch, 5m high; 2 mins there; then flew west ca 20m and landed on Oak at 6m; clouded over; did not see it fly again
8.7	Mick & Wendy	Finemere Wood	Circular meadow at end of main ride.	2 (sex unknown)	10.50 - 11.00	Sunny, warm 25C	1 st seen flying low down in main ride just before circular meadow area. 2 nd seen in north corner of circle in top of Sallow & Oak.
8.7	Mick & Wendy	Rushbeds Wood	N/A	0	12.00 - 13.00	Cloudy, cooler.	Tried standing on the railway bridge (near car park) for about 10 mins. Also walked through main ride of wood and watched in Oak trees for about an hour total. Several White Admiral but no <i>Iris</i> .
8.7	Mick & Wendy	Waterperry Wood	N/A	0	15.30 - 17.00	Warm	Walked along main ride about half way down and into areas off the ride looking up into trees. No <i>Iris</i> seen.
9.7	Dave Ferguson	Whitecross Green Wood	Just west of car park	1			
9.7	Lee Evans	Black Park	Northern end, TQ010845	1			No details available
9.7	Mick & Wendy & Tim Watts	Waterperry Wood	Large Oaks, all along main ride. 1 male grounded in main ride.	5 (1 definite male, 4 unknown sex)	11.15 - 17.00	Very overcast am, sunny in pm.	Walked in from Drunkard's Corner end and checked Poplars (no <i>Iris</i>). Went into ride and stood in Polecat End section at South end of wood. When sun came out at 1.00pm a single <i>Iris</i> flew out from the Oaks and headed off N-E across the top of the fir trees. 2 nd <i>Iris</i> seen briefly along tree tops in main ride. 3 rd <i>Iris (male)</i> seen grounded for 5-10 mins. Trying to take in salts from track? Photos taken. 4 th & 5 th <i>Iris</i> seen at spaced out intervals further down the track. Also tried the "scrap yard" area on outside edge at north end of wood, but no <i>Iris</i> .
9.7	Tom Dunbar	Finemere Wood	3 locations; see 'behaviour'	4			SP717223: this is near to the Ashes at the northern end high point described on July 3 rd , maybe there is a territory here. Two seen fighting here. One seen on lower established territory (spaced Oaks); one seen along main ride near turning circle
10.7	Mick & Wendy	Piddington Wood (10 th July part 1)	Horseshoe-shape vista of a large Oak and Ash trees in high point of wood - seen from footpath.	2 (both males)	12.45 - 13.05	Very hot & sunny. 30C at 2pm.	First sighting was immediately on arriving at the area. <i>Iris</i> flew from Oak tree into middle Ash & this then appeared to be the main 'perching' tree. Followed by regular intervals of gliding activity between the Ashes & Oak. Then a 2 nd <i>Iris</i> flew into the vista and battle ensued & no. 2 was chased away. 1 st <i>Iris</i> settled back on its favourite perch (south-facing aspect of the centre Ash tree. (See also second entry for today, 3.15pm.)
10.7	Mick & Wendy	Little Wood	Near pheasant feeding/fenced area. Tall Ashes and Oaks near top of wood. Then Ashes/Oaks on route down the hill.	5 (sex unknown)	1.20 - 1.30 pm	Very hot & sunny. 30C at 2pm.	1.20pm - 3 seen near top of hill flying between Oaks & Ashes. Then one more seen as we walked down the hill, which was gliding in the shade of 3 large Oaks (hottest time of day, 1.40pm). Fifth one slightly further down the hill at 2.20pm - it must have been perched in an Oak tree near where we were sitting as it suddenly took off and glided down the hill. NB: Lots of Sallow and Oak trees at bottom of wood, but NO <i>Iris</i> seen there. Is it just too low, or because there are no Ashes?? Is this where egg-laying will occur?
10.7	Mick & Wendy	Piddington Wood (10 th July part 2)	Return walk. Horseshoe-shape vista (as at 12.45 pm today)	(Same as at 12.45 pm)	15.15 - 16.00	Very hot & sunny. 30C at 2pm.	Return journey to car along same footpath, so stopped to watch the same Oak/Ash trees. Same 2 <i>Iris</i> gliding and battling together. Every time a large bird flew over their perch each one flew up and gave chase! (Wonder what they would do if they caught up?). Observed this happening many times and definitely every time a bird flew within striking distance of their territory.
11.7	West London birder, anon	Black Park	On track leading to visitor's centre from layby on A412	1			Single male on damp mud on path
11.7	Mick & Wendy	Rushbeds Wood	N/A	0	11.00 - 11.45	Hot & sunny	Stood on the railway bridge (near car park) for about 15 mins. Also walked through main ride of wood and watched in Oak trees for about an hour total. No <i>Iris</i> .

11.7	Mick & Wendy Campbell and Tim & Colleen Watts	Piddington Wood (Revisit)	Horseshoe-shape vista of a large Oak and Ash trees in high point of wood - seen from footpath.	(Same 2 males as seen on 10th). Possible 3 rd (female?)	12.00 - 14.30	Very hot & sunny.	Revisited to see if the 2 <i>Iris</i> males were still in the same location. Saw exactly the same activity as on 10 th July – regular sorties from the same trees, aerial battles and chasing birds! Wendy scrambled down the hillside to get underneath the trees where <i>Iris</i> was flying. Found a medium-quality Sallow bush immediately below the main Ash tree perch (can't be seen from the footpath above). In the meantime Mick, Tim & Colleen witnessed an <i>Iris</i> at low level on the footpath which landed on a nearby Sallow. Big butterfly, could have been a female? Wings closed! Note: Tim Watts had his scope with him, so he could focus clearly on the distant butterflies when they perched in the trees. He said every one he managed to focus on landed facing OUT from the tree it was perched on, i.e. looking into the 'valley' below it, presumably watching for other <i>Iris</i> .
11.7	Mick & Wendy	Rushbeds Wood	N/A	0	11.00 - 11.45	Hot & sunny	Stood on the railway bridge (near car park) for about 15 mins. Also walked through main ride of wood and watched in Oak trees for about an hour total. No <i>Iris</i>.
11.7	Mick & Wendy	Stanton Great Wood	No. 1 Site – footpath in wood, Oak & Ash trees.	2 (sex unknown)	16.00	Very hot & sunny.	Spent from 3pm to 5pm looking from outside of wood and then walking the footpath and observing the No. 1 Site (as per Matthew Oates' Candidate Sites). 2 <i>Iris</i> flew across the tree tops at 4pm after 15 mins of observing. A single <i>Iris</i> returned after about 5 mins and perched briefly on the rhs Ash tree.
11.7	Dave Wilton, Stuart Hodges	Grendon /Dodds Woods	Transect route	2	10.50-13.00	24-27C, sunny, calm	First sighting was of a female at 12pm going from sallow to sallow at SP 701205 and presumably egg-laying, while the second was at 12.30pm when we noticed one at SP 699207 having a low-down battle in a ride (couldn't make out what the other butt was - may even have been another PE) then it went up to the top of an oak and landed. Saw it make another brief tree-top flight a few minutes later.
12.7	Mick and Jan Wells	Whitecross Green Woods	Car park	1			Fed on banana, then flew into car
12.7	Dave Ferguson	Wendover Woods	1)SP889076: track leading from top car park 2)SP891088: track at bottom, Hale End	2			1) feeding on track 2) flying low around track
12.7	Mick & Wendy	Holton Wood	N/A	0	N/A	Very hot & sunny.	Spent a lot of time searching from the footpath in this wood, but no <i>Iris</i> seen. Not very much Sallow except at the 'lower' end. No sallow seen at the Southern tip of the wood and not a very nice location to stand and watch! Didn't look very promising at all. If <i>Iris</i> is there then maybe it could only be seen from the 'interior', ie off the footpath.
12.7	David White & David Fuller	1)High Standing Wood, Windsor Forest SU936740 2) SU936742	1) Sunny glade comprising mixed scrub Oak, Birch, Sallow with Bracken understory 2) Beech where sightings had been made in 1999	1 female 2 females (probably)	1)Arrived at 12.00, observation 12.15 - 12.18 12.58 - 13.05	Mainly sunny, some cloud, 19/20 degrees	1)Gliding around glade; landed on birch leaf for about 90 seconds; glided down glade, 6 to 15 ft from ground; flew to large area of mature sallows; out of view 2) At 12.58, two sightings at top of beech; one flew around tree about 15' below canopy; at 13.05, flew to sweet chestnut; both trees about 25 metres high
13.7	Mick & Wendy	Piddington Wood (Revisit)	Horseshoe-shape vista of a large Oak and Ash trees in high point of wood - seen from footpath.	3 males (assume same 2 as seen on previous days, plus 1 new male)	11.15 - 1.30	Very hot & sunny, some cloud building.	Definitely 3 males now. The 3 rd seems to have the 'poorer' territory on the far left where there's an Oak tree and a thin, scruffy Ash which it is using as its perch. All 3 males clashed periodically, sometimes flying off into the distance before returning to perch. Note: We were there for a full hour before ANY <i>Iris</i> were seen – were they grounded up to 12.15pm? Glimpses of a large butterfly had been seen flying lower down, but as there's a White Admiral in the territory nearer the footpath it wasn't safe to assume we were seeing <i>Iris</i> .
12.7.	Robin Dryden	Black Park	Same footpath as 28/6	One	13:10	Warm and sunny	One observed near top of large oak presumed to be <i>iris</i> .

13.7	A Croft	Whitecross Green Wood	Oak tree, car park	One	13.10 to 13.11	Sunny 28C	First seen flying in front of blackthorn on northern side of car park. Flew low and then high into top of oak tree at the north-eastern corner of the car park where it was lost from view. I walked the rest of the wood up to the south-east corner but had no further sightings.
13.7	Peter Perkins	Shabbington	Down on main ride	1			
14.7	Dennis Dell	Grendon Wood	SP702215; road between Grendon and Hewin's Wood	1	14.50	Hot (ca 30 degrees)	One (female) gliding low along road before disappearing across hedge
14.7	Dave Wilton	Hornage Copse	Entire wood	0	12.30 - 14.00	29C, mostly sunny	SP 6610
14.7	Dave Wilton	Chinkwell Wood	SW corner	0	14.10 - 14.30 & 15.50 - 16.35	29C, mostly sunny	
14.7	Dave Wilton	Spa Wood	Entire wood	0	14.40 - 15.50	29C, mostly sunny	SP 6613 + SP 6713
14.7	Dave Wilton	Rushbeds Wood	Entire wood	0	17.10 - 18.00	29C, mostly sunny	Spent 20 minutes on the BBOWT car-park railway bridge at SE corner looking at last year's assembly area.
15.7	Mick	Piddington Wood (Revisit)	Horseshoe-shape vista of a large Oak and Ash trees in high point of wood - seen from footpath		18.15 to 19.15	Very hot & sunny	None seen. Too late in the day??
15.7	Dave Wilton	Waterperry Wood	Main N-S ride only	1	11.50 - 12.40	26C, mostly sunny, calm	One at 12.25pm at SP 606092 slowly working its way south down the main ride at half tree-top height. Correctly identified by the half-blind pensioner who I was standing next to (I thought it was a White Admiral at first!)
15.7	Dave Wilton	Piddington Wood	Footpath	3	12.50 - 13.25	26C, mostly sunny, calm	Continuous sightings over a 20-minute period (1-1.20pm) on and around ash & oak at a clearing mid-way along the footpath ride (SP 629161). Several pairs chases and one spiraling episode. Max three visible at any one time but there may have been more.
15.7	Dave Wilton	Little Wood	Entire wood	2	13.25 - 14.10	26C, mostly sunny, calm	Upon arrival at ride entrance (SP 624157, 1.30-1.40pm) two active in trees either side of entrance, one in oak to right, one in ash to left. Still active when I continued into the wood.
16.7	Nick Bowles	Doddershall Wood	Northern end, main north-south ride	1 female	midday	cloudy	Alighted on Sallow and then flew on
16.7	Mick & Wendy	Waterperry Wood		3	13.00 to ?		Seen in main ride and also the grassy ride which goes straight on from where the bend in the main ride is. All seen flying over trees. In different places from the Brown sightings.
16.7	Derek & Cathy Brown	Waterperry Wood	Along main ride; see 'behaviour'	2 males, 2 females	11.00 to 13.00	Hot and sunny	SP608099: female; landed briefly on bramble leaf and then flew off up ride (11 am) SP604088 and 086; 2 males seen up in Oaks (11.45) SP606092; 2 nd female landed on Oak 10' up and then took off after 1-2 minutes
16.7	Dave Wilton	Finemere Wood	Entire wood	0	14.50-15.20 & 16.00 - 17.10	25-28C, sunny, calm	
16.7	Dave Wilton	Finemere Meadows	Entire meadows	1	15.20 - 16.00	25-28C, sunny, calm	Disturbed from the middle of the western meadow in the vicinity of the public footpath (SP 714217) some distance from the wood at 3.45pm and headed off lazily northwards towards the tree-line.
17/7	Tom Dunbar	Grendon/Doddershall		3F			

17/7	Mick & Wendy	Penley Wood	Main ride on Sallow	1F	14.30	Hot & sunny	Seen low down settled on herbage, then it flew up into very good quality Sallow tree nearby. Then flew off over tree tops.
18/7	Mick & Wendy & Dennis	Piddington Wood		3 (2M, 1F)	12.00 to 14.15	Cloudy & rather windy.	This was the day you met us in Piddington Wood. The female turned up just after you left!
18.7	Dave Wilton	Bowdown Wood	Entire wood	0	13.10 to 14.00	23C, overcast	
19.7	Dave Wilton	Rushbeds Wood	Entire wood	2	15.15 to 17.00	22C, mostly sunny but with strong SW'ly breeze	First sighting was about two-thirds of the way along the path from the BBOWT car-park to the central cleared area (SP 669155, 3.20pm) and comprised a brief pass westbound through a clearing in the canopy. The second sighting was just before the northern exit from the wood into the Lapland Farm meadows (SP 666158, 3.55-4.05pm) where one was patrolling a gap in the canopy. This second spot was visited again at 5pm and one (presumably the same butterfly) was still active there.
19.7	John Brown (woodland trust)	Piddington Wood	The Campbell's glade	3			
19.7	Paul Bowyer	Warburg Reserve	Upper of the two parallel wide rides	1	11.00 to 15.00	Sunny with breeze, ca 20	Flew along ride, before crossing towards lower ride
19.7	Mick & Wendy	Sydllings Copse	Meadow & Oak tree	2 (1M and 1F)	13.00 to 15.00		The female was seen gliding slowly across the meadow near the woodland edge before flying strongly up and over an Oak where a male had been seen several times (PE sightings were between 1.00 and 3.00 pm). Some very good Sallow found in the valley bottom. Tall Ash and Oak lining the ridge of the valley.
21.7	David Redhead	Whitecross Green Wood		1 male			
21.7	Neil Lambert	Waterperry Wood		1 male	13.30		Main hardcore ride bends to the right at SP605090; male seen here;;
21.7	Neil Lambert	Finemere Wood	3 locations, all near main ride, see 'behaviour'	3 males	5.40 to 6.40		1) halfway between entrance and turning circle at 5.40 2) 30 yards from main entrance along ride 5.50 till 6.40; both around head height, then disappearing INTO CANOPY. 3) Perched in Oak for 10 minutes; then (same one?) perched in next Oak; flies, a hornet and this PE attracted by wound in an Oak; hornet fought with PE:[second Oak on right after entering reserve].
21.7	Dennis Dell	Piddington Wood	The Campbell glade	ca 3	14.36 to 15.17	Sunny, breezy, ca 21 deg	Almost continuous activity from several individuals; short flights (longest was 15 seconds) and frequent landings on Oaks and particularly spindly Ashes; aerial combat also.
21.7	Mick & Wendy & Dennis	Boarstall Wood		0.			
24.7	Mick & Wendy	Piddington Wood 'vista'		0	2.15 to 15.00	Cool, cloudy & v.windy.	
26.7	Dennis Dell	Finemere Wood	Oaks near turning circle	1	13.15	About 20 degrees, no wind, partial sun	Flying around and landing on Oaks before disappearing over canopy
30.7	Mick & Wendy	Piddington Wood 'vista'		1	13.30	Had been raining, then sunny	Single brief sighting (but definite ID) – flew from T3 area towards T2, around back of central large Ash tree.
1.8	Dennis Dell	Doddershall Wood	SP701206; Oaks	1	16.00	Dull, warm, no wind	Flying around Oaks near ride, then westwards over ride
8.8	Mick & Wendy & Dennis	Waterperry Wood	Main ride	1 (assumed to be female)			About halfway up ride; seemed to leave big sallow and fly up to neighbouring Oak

- a) Location: name of wood and grid reference of location
- a) Micro-location: e.g., wide gravel ride, bounded by mature Oaks, Ashes on either side; edge of wood, south facing, mature Oaks; canopy within edge of wood, about 10 metres between trees, etc
- b) Not always possible to be sure of sex of course
- c) Time; if, for example, you arrive at midday and stand in a likely spot, but don't see any activity until 12.15, and this goes on for 5 minutes before they disappear from sight, then write "5 minutes activity during 20 minutes observation period"
- d) Behaviour: this is perhaps the most interesting information; e.g., males grounding for a minute at a time then skimming at low level up and down ride; two specimens flying around Oak at four metres height, often landing briefly; two males soaring in combat flight for two minutes, then landing on Ash; female ovipositing on Salix cinerea (or caprea), two eggs laid on same bush etc, etc.

APPENDIX II: Observations in Bernwood Forest
(Includes: Oakley, Shabbington, York, Hell Coppice Woods)
[acknowledgement to Allen Beechey]

Sighting no.	Date	OBSERVER	Location	Microhabitat	Time	No. seen	Sex	Identifying features	Details of observation	Weather conditions
1	02.07	Mick & Wendy Campbell	Oakley Wood Car Park			1	?			
2	02.07	Mick & Wendy Campbell	Oakley Wood Car Park			1	?	Same individual as 1		
	06.07	A. Beechey	Bernwood		11:30 – 12.00	0				Cool, windy, cloudy, 15°C,
3	06.07	Tony Croft	Oakley Wood Car Park	main ride near Car Park	?	1	M?		"It started off rather cloudy but there were dozens of Ringlet and Meadow Brown and a good number of Large Skipper flying. As the weather improved and the sun came out I saw 1 White Admiral, 4 fresh looking Comma, 7 Purple Hairstreak and a magnificent ground level view of a Purple Emperor in the car park. It appeared from on high, swooped to the ground where it stayed for a few seconds before soaring high up into the oak trees...wonderful.	Cool, cloudy but sunny periods developing
4	08.07	A. Beechey	Oakley Wood Car Park (SU 612 117)	Ride side Hazels and Oak	10:45	1	M		PE flew at about 15ft along the Western side of the main ride from the junction of the car park path and the main ride, for about 15 yards before disappearing from view.	Bright sunshine with scattered cumulus. Northerly wind (gusty, light). Temperature 20°C
5	08.07	A. Beechey	Oakley Wood Car Park (SU 612 117)	Car park below Maiden Oaks, then main ride by car park	10:48 to 11:14	1	M	Missing tip to PE's left antennae	A woman walked from her car to me (at junc. Of CP path and main ride) with a PE on her hand. She said that it was feeding on her car roof. PE remained on her hand for 6 minutes, in which time I photographed it. Then she transferred the PE to my hand. PE stayed on my hand for 10 more minutes (feeding on salts) before flying off and circling me once before flying to ride side Hazel (W side of ride) and perching for next 5 minutes (12ft up). At this point this individual was witnessed by B. Woodell. PE then flew off over the back of the hazel before reappearing and gliding low, along the ride and settling on the ride briefly (walking whilst probing ground for salts). The PE then flew to grass (about 10ft flight) and then onto my ruck sack, climbing inside the top pocket. PE then flew around me before landing on my leg. PE finally flew off up into Oaks (between	as for 3

									main ride and car park) on East side of ride.	
6	08.07	A. Beechey	Oakley Wood Car Park (SU 612 117)	Car park below Maiden Oaks	11:20 to 11:27	1	M	Same individual as 5	PE grounded in sunny section of car park (main part). Feeding on salts from ground. Moving continuously (walking, then short flights). Flew up into Oaks after a strong gust of wind.	as for 3
7	08.07	A. Beechey	Oakley Wood Car Park (SU 612 117)	Main entrance to Car Park	11:30	1	?		PE flew up from top of Hazel bush on NE side of entrance track, near entrance. Disappeared over the back of the bush.	as for 3
8	08.07	Becky Woodell	Oakley Wood (SU 616 112)	Main, gravel ride, 100 yards NW of Oakley Wood/York Wood intersection, between a mixture of low growing shrubs, blackberry and Oaks	11:30	1	M		PE grounded on small ridge before the main intersection of the main ride and York wood ride. Individual observed probing for salts.	as for 3
9	08.07	A. Beechey	Oakley Wood Car Park	Car park below Maiden Oaks	11:35 to 11:38	1	M	Same individual as 5	PE grounded in sunny area of CP. Grounded with comma. Photographs taken prove its identity to be the same individual as seen in sightings 4 & 5. Startled by dog walkers, the PE flew off up into Oaks.	as for 3
10	08.07	A. Beechey	Oakley Wood Car Park	Main ride by CP	12:01	1	?		PE gliding at about 6ft altitude across from the Western side of the main ride into the section of oaks that lie between the main ride and the CP. PE then glided back the way it had come before circling back to the car park, at which point it was lost from view.	as for 3
11	08.07	A. Beechey	Oakley Wood (SU 612 116)	Main ride 120 yards South of CP	12:45 to 12:51	1	M		PE flew down from East side of ride onto centre of ride. PE probing for salts. Quite nervous, not allowing easy approach. A photograph was taken showing that the individual was different to that seen in sightings 4, 5 & 8 (both antennae intact). PE flew up the ride towards the entrance, with several stops along the way. PE flew low to the ground 6" to 2'. Alighted about 20 yards short of the ride barrier before flying off (direction not seen).	as for 3 but cloud increasing
12	08.07	A. Beechey	Oakley Wood Car Park (SU 612 117)	Junction of CP path and Main ride	12:56	1	M		PE circled me 4 to 5 times (about 1 to 4ft distance), initially at knee height, spiralling up to head height before flying up to the Oaks bordering the main section of the CP. This activity occurred during a sunny interval.	as for 3 but cloud now 7/8, Temp 21.5°C
13	08.07	Mick & Wendy Campbell	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	between 14:00 & 15:00	2	2x M		2 male PE's in territorial clash, rising from Oaks	as for 3
14	08.07	Mick & Wendy Campbell	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	between 14:00 & 15:00	2	1x M & 1x F	Female much larger than chasing male	Large female being chased by a male across ride	as for 3

15	10.07	A. Beechey & K. Graves	Main Ride (SU 613 114)	Open scrub area with isolated maiden oaks.	11:37	1	?		PE flying North West up main rie towards York Wood/ Oakley Wood interchange.	Bright sunshine with scattered cumulus. Light Westerly wind. Temperature 25°C
16	10.07	A. Beechey & K. Graves	Oakley Wood Car Park (SU 612 117)	Ride side scrub with Oak, Hazel & Sallow	11:45	1	F		Female perched about 2.5m up in ride side Sallow (siting also made by Matthew Oates)	as for 15
17	10.07	A. Beechey & K. Graves	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	12:02	2	2xM		2 males flying across ride near Car Park form N to S.	as for 15
18	10.07	A. Beechey & K. Graves	Oakley Wood Car Park (SU 612 117)	Maiden Oaks bordering Car Park	12:05	1	M		Gliding across ride to car park Oaks	as for 15
19	10.07	A. Beechey & K. Graves	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	12:10	1	M		Flying along ride-side Oaks (down slope).	as for 15
20	10.07	A. Beechey & K. Graves	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	12:23	1	M		Flying N to S across ride in car park area	as for 15
21	10.07	A. Beechey & K. Graves	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	12:24	1	M		Flying S to N across ride in car park area (same individual as 20??)	as for 15
22	10.07	A. Beechey	Shabbington Wood (SU628 105)	Maiden Oaks to the South of turning circle	13:30	1	M		Gliding across a small clearing in Maiden Oak stand and then turning back on itself before disappearing from view	as for 15
23	10.07	A. Beechey	Oakley Wood Car Park (SU 612 117)	Oaks bordering main ride Opposite CP	14:55	1	M?		Whilst standing with my back to the barrier at the top of the main ride (near the entrance to Oakley Wood Car Park) I noted a PE appear from the canopy on the S side of the ride and observed it gliding briefly down the ride before curving back into the Oaks on the S side of the ride	as for 15
24	11.07	W. Bull	Oakley Wood Car Park (SU 612 117)	Main ride next to car park	10:30	1	?		PE observed flying low over ride before landing on the observer's leg. PE then flew off onto a nearby Hazel bush, resting for 5 mins, before flying down to the ride to feed on a damp patch on the ride. PE flew off at 10:44	Bright sunshine with scattered cumulus. Light Westerly wind. Temperature 27°C
25	11.07	A. Beechey & W. Bull	Main ride, about 100 yards down	Main ride bordered by medium height	11:10	1	M		Male PE was observed feeding on faecal matter at the edge of the ride. PE fed for about 10 mins before flying to a ride-side Oak (11:20). PE moved to another perch before flying across to the Southern side of the ride and alighting on a young Ash (11:30). PE	As for 24

