

BUTTERFLY CONSERVATION UPPER THAMES BRANCH

Purple Emperor (A. iris) Report for 2024

Summary- 2024

The data were obtained from various sources; sightings posted on the Butterfly Conservation Upper Thames Branch website, data from 10km square observations, sightings recorded on Irecord and separate records sent to the Species Champion. The data sources were compared and combined and any duplicates were eliminate

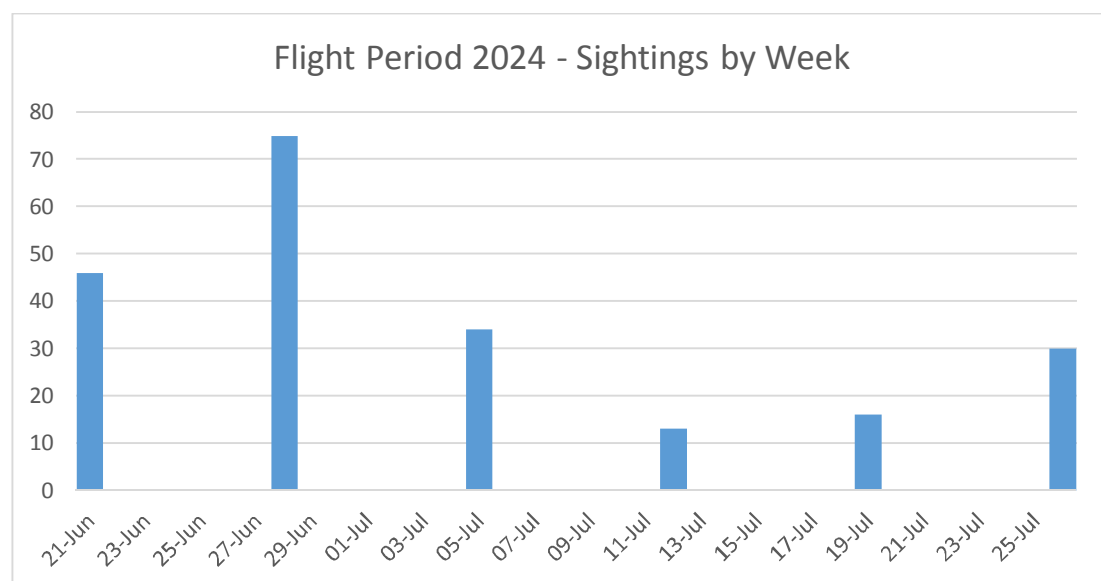
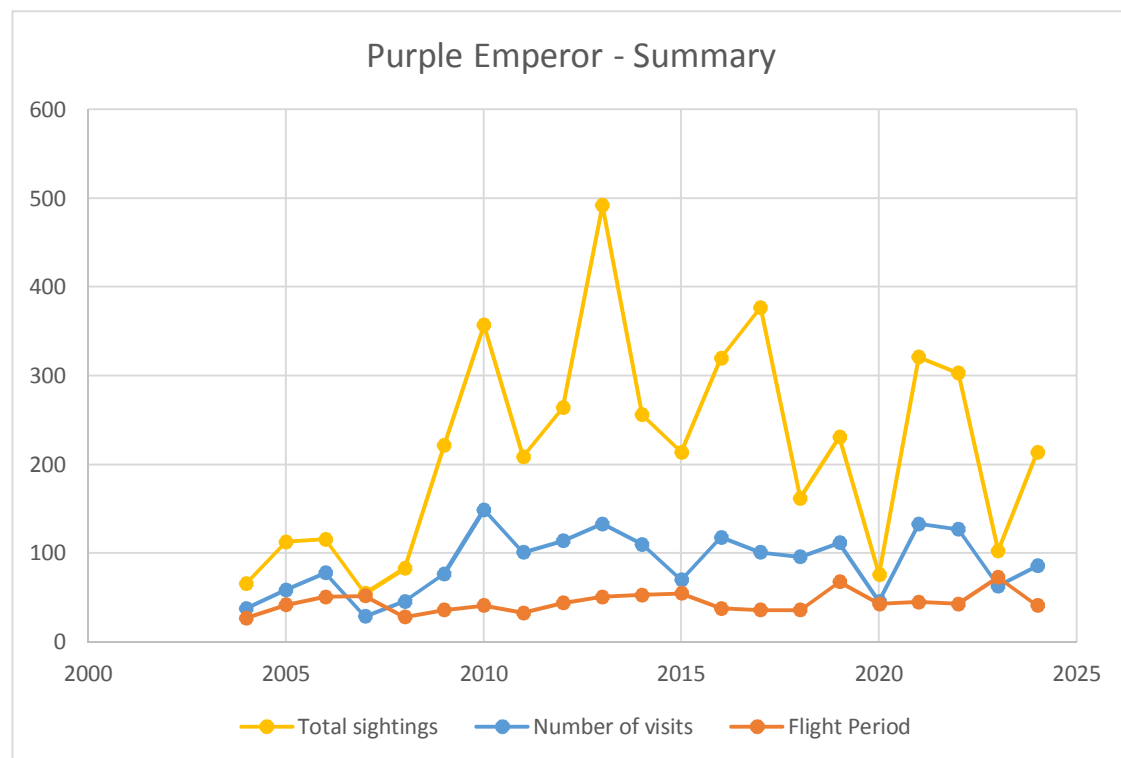
Typically for the Purple Emperor, obtaining accurate population numbers for this butterfly is particularly challenging given its liking for forest canopies. Identifying the butterfly relies frequently on it taking to the wing in suitable settings and that the insect is not backlit by the sun so that accurate identifications can be made. Sometimes identification can be verified by observing individuals in the trees with binoculars. Occasionally the Emperor will visit the ground to take minerals or fluids from animal dung or carcasses, and in these cases it easy to identify.

On descending from the woodland canopy, males and females are easily distinguished in appearance, the males having a distinctive purple sheen. When flying in the canopy, the males are aggressive, defending their territories from rival males, other insects and have been known to chase even birds.

Comparison with Previous Years

Year	Sightings	Visits	First Sighting	Last Sighting	Flight period (days)
2004	66	38	04-Jul	31-Jul	27
2005	113	59	27-Jun	08-Aug	42
2006	116	78	25-Jun	15-Aug	51
2007	55	29	19-Jun	10-Aug	52
2008	83	46	29-Jun	27-Jul	28
2009	222	77	25-Jun	31-Jul	36
2010	357	149	28-Jun	08-Aug	41
2011	209	101	21-Jun	24-Jul	33
2012	264	114	04-Jul	17-Aug	44
2013	492	133	01-Jul	21-Aug	51
2014	256	110	16-Jun	08-Aug	53
2015	214	70	14-Jun	08-Aug	55
2016	320	118	03-Jul	10-Aug	38
2017	377	101	17-Jun	23-Jul	36
2018	167	96	19-Jun	25-Jul	36
2019	231	112	21-Jun	28-Aug	68
2020	136	100	20-Jun	17-Aug	58
2021	321	133	26-Jun	10-Aug	45
2022	303	127	15-Jun	28-Jul	43
2023	103	63	21-Jun	2-Sep	73
2024	214	86	21-Jun	1 Aug	41

Overall in 2024 there was a total of 214 sightings from 86 visits representing 2.5 sightings per visit, which was up from a figure of 1.6 from the previous disappointing year. This ratio is more typical of previous years and it appears as though Purple Emperor numbers have recovered somewhat from the nadir of 2023. The flight period started in late June which is fairly typical; the last sighting of 2024 was 1st August, again fairly representative of the usual pattern from previous years.

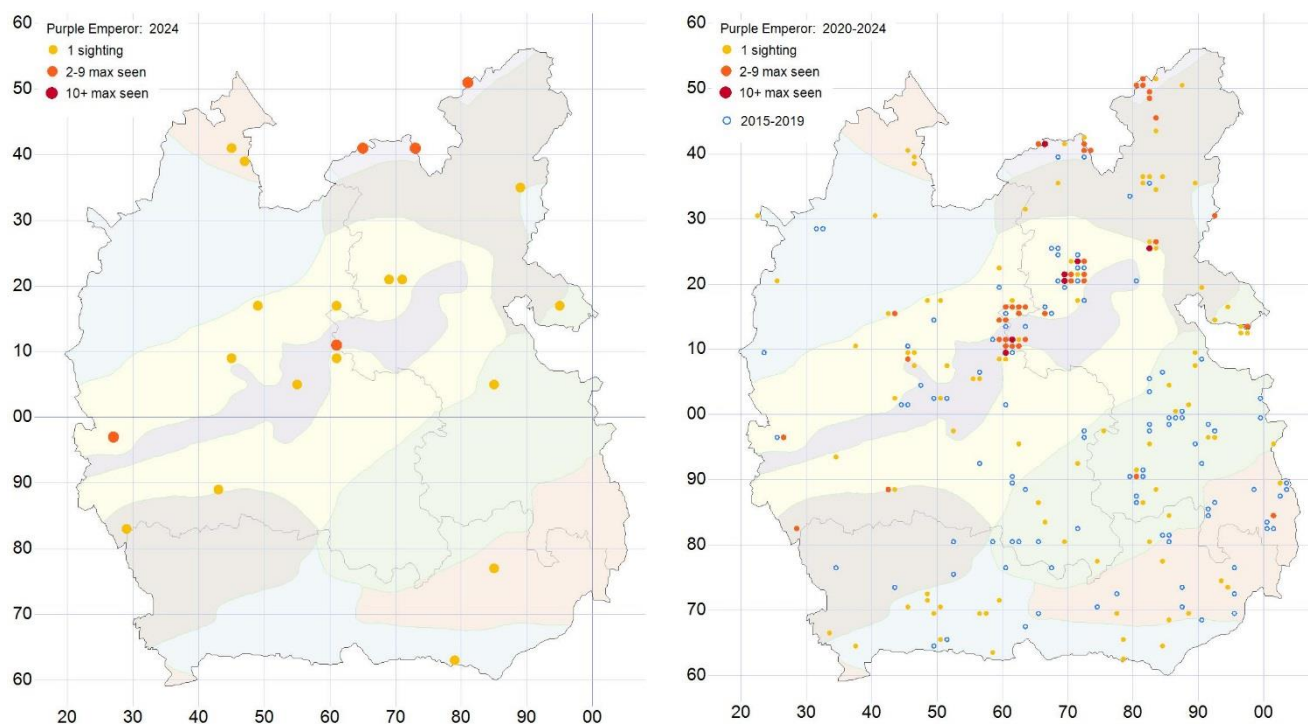


Weather in 2024

The weather always has an influence on butterfly numbers and the Purple Emperor is no exception. According to Met. Office records, spring 2024 was the warmest on record for the UK (since records began in 1884.) In the Upper Thames region, April and May were largely overcast with May, in particular, bringing large amounts of rainfall. For most of June the temperature hovered around 20 deg. mark until it rose to the late twenties in the last few days of the month before falling away again for the first half of July. In the latter half of the month the temperature rose again to the late twenties and this trend continued into early August. This may explain why there was a late upsurge in sightings towards the end of the flight period.

Distribution of the Purple Emperor throughout the Upper Thames Region in 2024

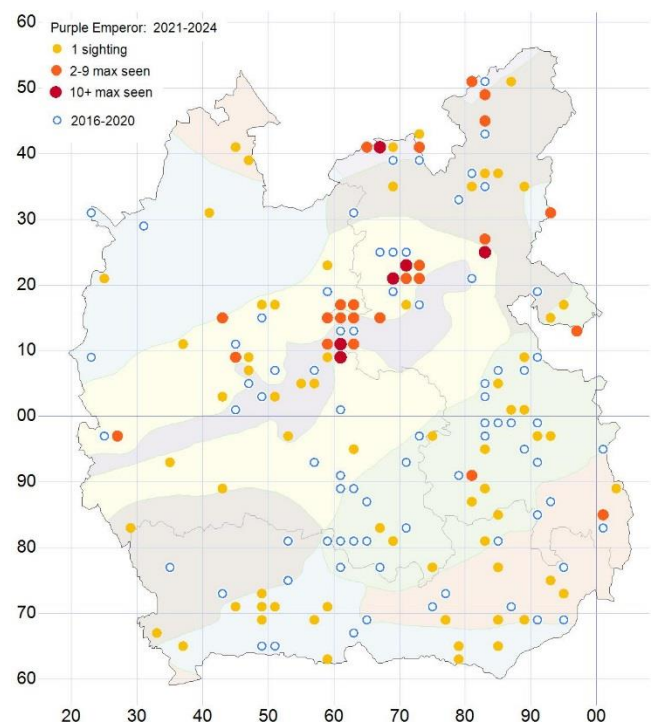
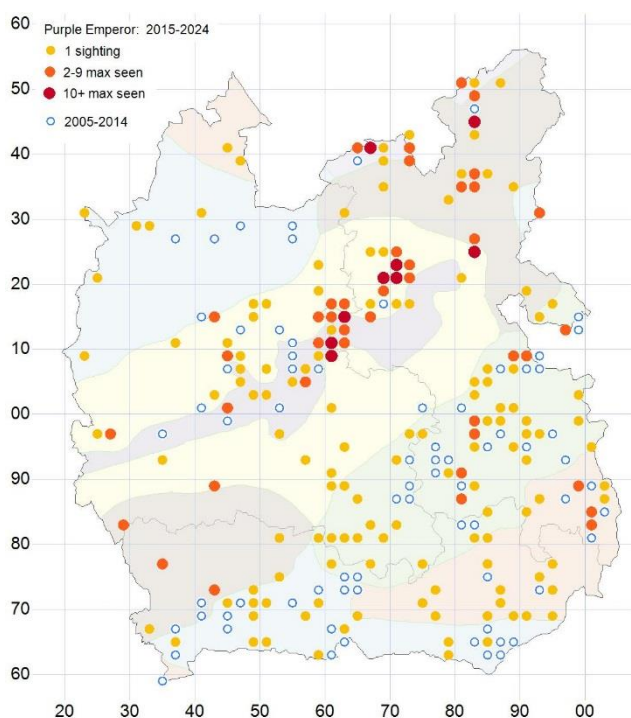
The map below on the left shows the geographical distribution of sightings in 2024. On the right, the map shows the last five years (2020 to 2024) compared with the previous five years (2015 to 2019). The blue circles show areas where the Purple Emperor was absent in the period 2020 to 2024 compared to the previous five years. Many of these sightings were of a single insect so it is hard to draw conclusions about whether the range of the Purple Emperor is contracting or expanding. It is not uncommon for a single sighting at a particular location to then reoccur intermittently from year to year. Sometimes the insect may seem to disappear from a given location only to be recorded several years later. This may indicate the presence of a small colony or perhaps a transient group. Homefield Wood (SU814866), near Marlow in Buckinghamshire, is typical of such a site.



As usual, most sightings in 2024 were of single insects. The likelihood is that the Purple Emperor is more common and more widespread in the Upper Thames region than these sightings indicate but its numbers are hard to quantify as the butterfly is difficult to spot unless searching for it specifically and because of its liking for the forest canopy. The main cluster of sightings, as in previous years, is focused on an area due east of the Cotswolds and north west of the Chiltern Hills. The main

stronghold of the Purple Emperor in the Upper Thames region continues to be Bernwood Forest and its nearby satellite woodlands.

The distribution maps below left shows the distribution of sightings over the last ten years (2015 to 2024) compared to the previous ten years (2005- 2014). The blue circles represent the absence of the butterfly from the last decade compared to the previous one. The map below right shows where the Purple Emperor occurred from 2016 to 2020 but has since been absent (blue circles). These more recent records may prove useful in targeting tetrads in 2025 to rediscover potential Purple Emperor colonies. Many of these tetrads are in the southern half of the Upper Thames region where the Purple Emperor has a more tenuous hold on its range. The respective 10K champions will be contacted to survey potential Purple Emperor sites in their tetrads.



Acknowledgements

Thanks as ever to all the people who sent in sightings. Many thanks also to Peter Ogden who contributed all the effort in collating and processing the data.