

BUTTERFLY CONSERVATION UPPER THAMES BRANCH

Purple Emperor (*A. iris*) Report for 2022

Martin Robinson

Summary

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 eliminated.

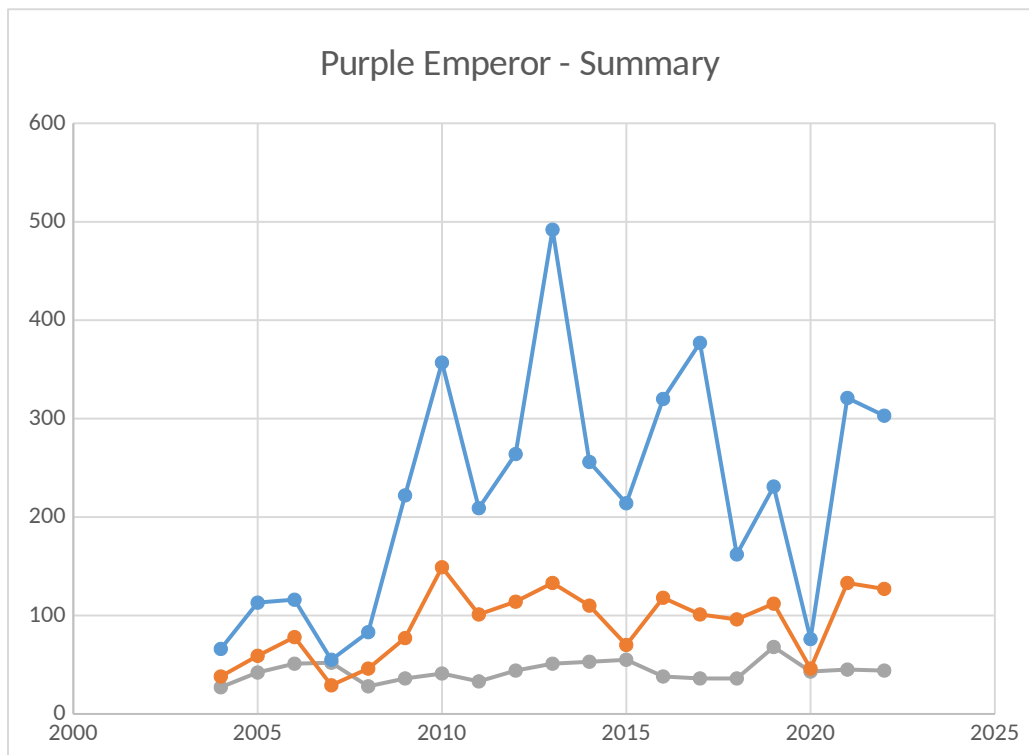
As always with the Purple Emperor obtaining accurate population numbers is particularly challenging given its liking for forest canopies. Observing the butterfly frequently relies on it taking to the wing in suitable settings and that the insect is not backlit by the sun so that accurate identifications can be made. Sometimes the Emperor will visit the ground to take minerals or fluids from animal dung or carcasses, and in these cases it is 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 rivals and other insects.

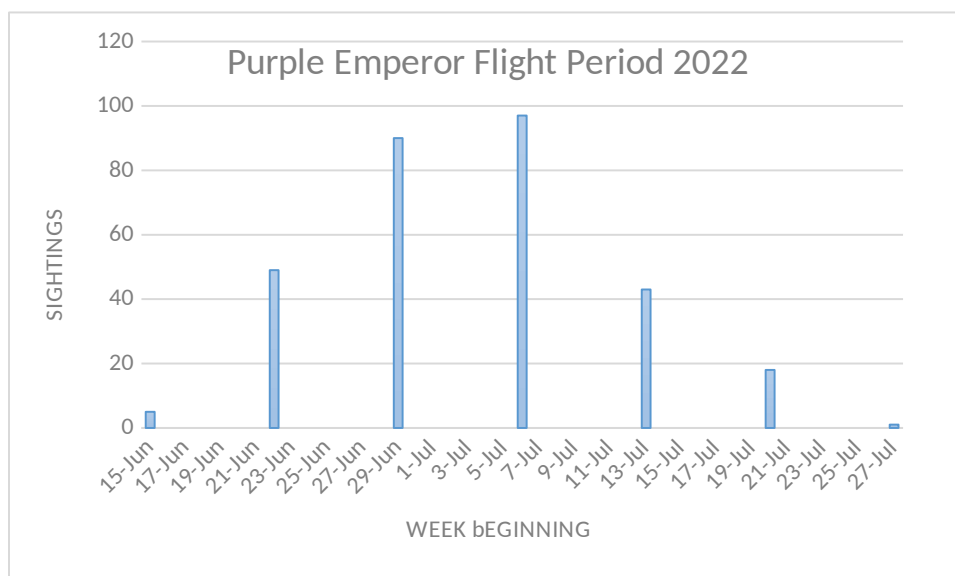
Comparison with Previous Years

Year	Total Sightings	Total Visits	Date First Sighting	Date 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

In general terms 2022 was a good year for sightings and long spells of warm sunny weather during the insect's flight period will certainly have helped keep the numbers high. The flight period started fairly early compared to previous years, the first sighting being on the 15th June.



Sightings —●— Visits —●— Flight period —●—



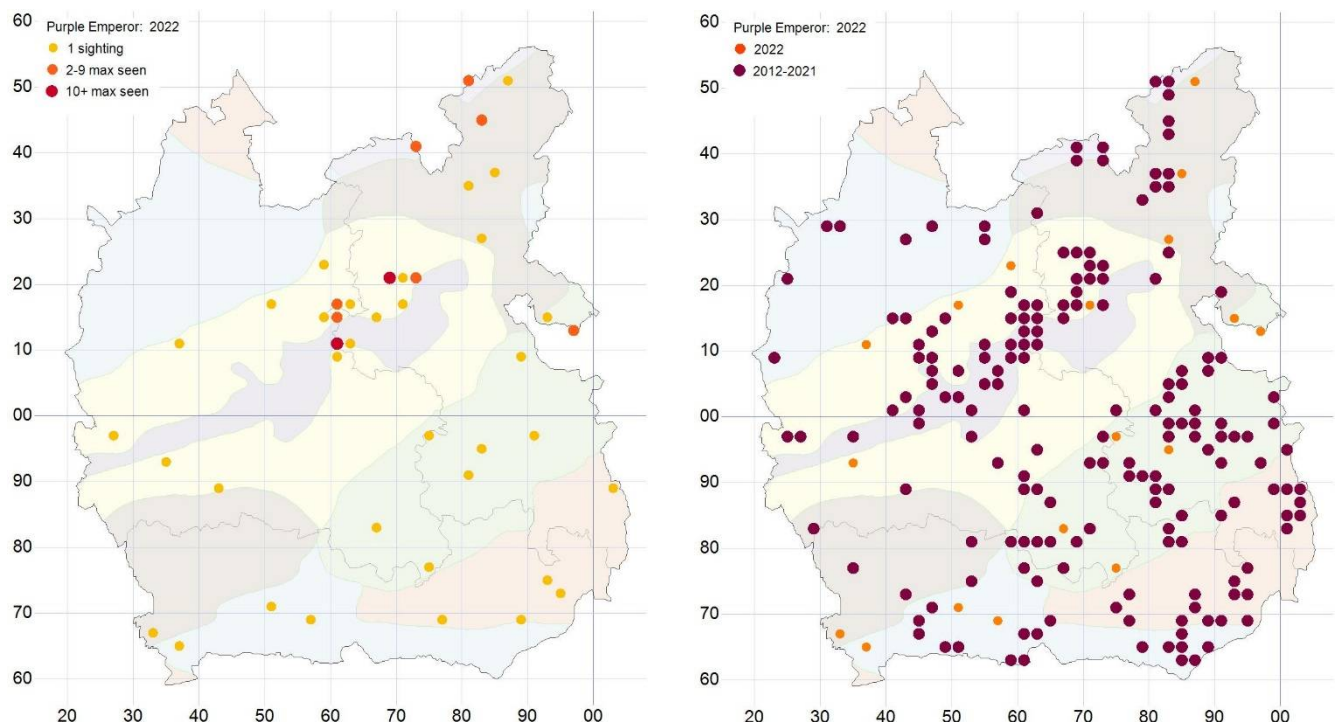
The Weather in 2022

The year 2022 was one of the warmest on record in the UK. The summer months were dominated by long periods of sunshine and dry weather. There were notable heatwaves in July and August. The hot weather in July may have contributed to the relatively early ending of the Purple Emperor flight period as the warm sunny conditions gave the insects an uninterrupted opportunity for courtship, mating and egg laying.

By the end of August, the accumulated rainfall was the lowest since the infamous drought of 1976. Some trees of various species in many woodlands were showing signs of heat stress by shedding foliage prematurely and, in some cases, losing large branches. The lack of rainfall in the first eight months of the year was offset somewhat by higher than average rainfall in the autumn. How the extreme high temperatures and drought of the summer will affect the prospects of the Purple Emperor in 2023 remains to be seen. (Weather data obtained from The Met Office Website, www.metoffice.gov.uk).

Distribution of the Purple Emperor throughout the Upper Thames Region

The maps below on the left shows the number of sightings in 2022. On the right the map indicates locations where the Purple Emperor was sighted for the first time since the period 2012 to 2021



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 is Bernwood Forest and its nearby satellite woodlands.

The map on the right above shows that on 2022 there were 18 new sites where Purple Emperors were recorded compared to the period covering 2012-2021. Of these, 11 sites were at least 4km distance from locations where Purple Emperors were previously recorded between 2012 -2021. It is possible that these could be new colonies and future visits to these sites will be important in establishing whether this is the case. The details of these sites are included in the table below.

Site	10km Square	Grid Reference
Emberton	SP85	SP87785030
Bicester	SP52	SP59792228
Madley Park, Witney	SP31	SP37191037
College Lake Wildlife Centre	SP91	SP92921476
Sallow Copse	SP91	SP973133
Stanford in the Vale	SU39	SU343936
Dunsden Green	SU77	SU740773
Downe House School	SU57	SU506708
Hungerford	SU36	SU33526659
Inkpen	SU36	SU377648
Scotland Corner	SU56	SU57806991

Acknowledgements

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