

Motcombe Meadows butterfly report for the 2022 season (April to September 30).

Overview: The 2022 butterfly recording season was notable for a much colder than usual spring and a much hotter than usual summer across the UK. To what extent this impacted on the life cycle of butterflies is unclear, but 2022 turned out to be a poor year with regard to the numbers of quite a few of our common species in The Meadows and indeed across Dorset as a whole.

Those highlighted in orange in the table indicate when the highest number recorded during a single walk during 2022 for various species was the lowest on record, with the total number of butterfly sightings in the six-month period, at 1886, also being by far the lowest on record.

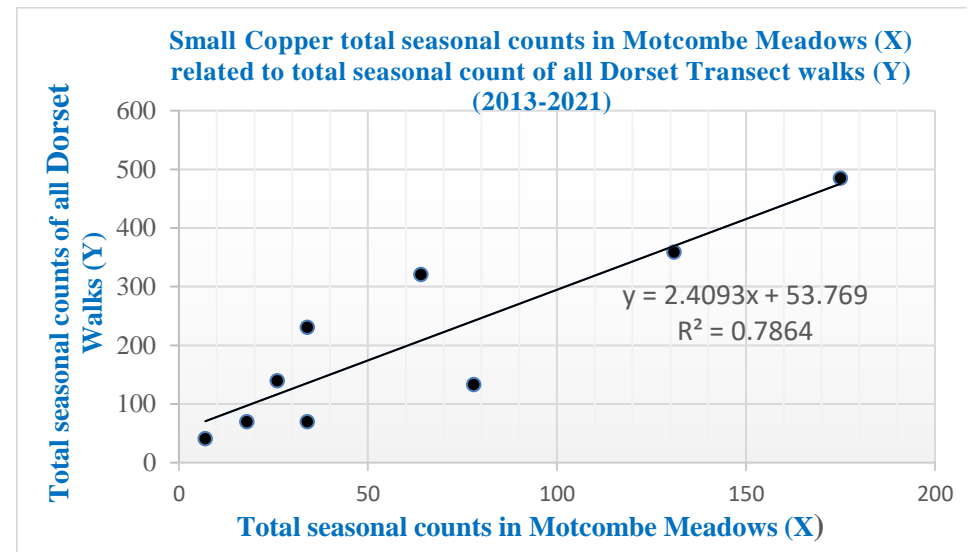
Natural season-to-season variability: It is of course to be expected that there will be season to season variability in the numbers of any species, with some species tending to be more variable than others. A good example of a highly variable species can be seen in Small Coppers (Row 14, varying from 2 to 37).

During 2022 I decided to look at the Small Copper data from The Meadows to see if I could identify what lay behind the huge variation in numbers (*total seasonal counts* ranged from 7 to 175 between 2013 and 2021).

Species	Highest count per species recorded on a <u>single walk</u>							
	2015	2016	2017	2018	2019	2020	2021	2022
1. <i>Small Skipper</i>	91	77	69	45	55	52	63	43
2. <i>Essex Skipper</i>	24	26	19	11	13	14	15	10
3. <i>Large Skipper</i>	28	23	25	30	22	18	10	14
4. <i>Grizzled Skipper</i>	-	-	1	-	1	-	-	-
5. <i>Clouded Yellow</i>	-	2	1	1	-	1	-	2
6. <i>Brimstone</i>	6	4	5	7	6	3	3	4
7. <i>Large White</i>	11	12	7	12	3	12	12	6
8. <i>Small White</i>	11	39	16	48	22	34	25	15
9. <i>Green Veined White</i>	5	8	6	10	4	6	4	2
10. <i>Orange Tip</i>	21	15	14	11	22	17	14	13
11. <i>Purple Hairstreak</i>	29	31	26	59	29	42	29	41
12. <i>White Letter Hairstreak</i>	-	-	10	27	10	11	10	10
13. <i>Green Hairstreak</i>	-	-	-	-	-	1	-	-
14. <i>Small Copper</i>	4	2	5	32	37	11	6	6
15. <i>Common Blue</i>	5	3	5	15	9	8	2	11
16. <i>Brown Argus</i>	-	1	3	4	7	3	-	-
17. <i>Holly Blue</i>	3	1	4	3	3	3	3	2
18. <i>Red Admiral</i>	2	6	8	3	3	2	4	2
19. <i>Painted Lady</i>	6	3	2	2	15	2	2	5
20. <i>Small Tortoiseshell</i>	21	15	16	12	10	14	11	20
21. <i>Peacock</i>	13	5	16	6	17	17	13	5
22. <i>Comma</i>	6	4	7	5	6	6	3	4
23. <i>Dark Green Fritillary</i>	2	1	-	1	1	1	-	1
24. <i>Silver Washed Fritillary</i>	-	-	1	1	-	1	-	-
25. <i>Speckled Wood</i>	11	11	9	15	10	12	16	5
26. <i>Marbled White</i>	83	98	225	98	306	281	96	56
27. <i>Gatekeeper</i>	122	71	134	86	94	104	127	102
28. <i>Meadow Brown</i>	675	529	592	412	736	766	361	305
29. <i>Ringlet</i>	421	210	132	105	183	147	98	89
30. <i>Small Heath</i>	-	-	-	-	-	1	1	-
Number of species seen.	24	25	27	27	26	29	24	25
Total number of butterflies sightings over the whole season	5117	3039	5615	3893	6474	7122	3245	1886

The first thing I did was to see if the variability seen in the Meadows was reflected in corresponding variability across all the Dorset Transect walks. In other words, are 'good, average and bad years' for Small Coppers common across the whole county? If 'no', then it would suggest that some local factor such as 'management of the Meadows' is playing an important factor. If 'yes', it means that there are 'county-wide' factors, probably some aspects of seasonal weather at play, which determine how good or bad a season turns out to be. Robin George of Butterfly Conservation kindly provided the Dorset wide data to enable me to do this.

As you can see from the figure, there is a strong relationship between Motcombe counts and Dorset-wide counts. The R-squared value of the best fit regression line indicates that 78.6% of the variability in The Meadows can be accounted for by considering the county-wide variability! That is encouraging in that that we don't appear to have some local management factor which makes the Meadows an atypical location.



Any good aspects of the year? The very hot summer we had resulted in several species emerging 2-3 weeks earlier than expected which meant that one was never quite sure what to expect at the outset of a weekly walk! It also resulted in a good year for southern Europe migrant species with quite a few sightings in the Meadows and across Dorset of Clouded Yellows and Painted Ladies which always adds a bit of gaudy colour to proceedings!

Hummingbird Hawk Moths migrate from N. Africa!



In addition, there were many sightings of Hummingbird Hawk Moths in and around Motcombe – my son even found one trapped in my conservatory!

Clouded Yellows and Painted Ladies were seen many times across Dorset in 2022.



In spite of the generally poor year, it was good to see that Orange Tips ‘held steady’ (see above table). They are my favourite butterflies as they are one of the first springtime species to emerge in April, and the males provide a very welcome flash of colour as they patrol the hedgerows!

Purple and White Letter Hairstreak.



Another bit of good news was that our colonies of Purple Hairstreaks and White Letter Hairstreaks remained in good health (also see the

table above). These Hairstreaks spend their complete life cycle living in the canopies of Oaks (Purple Hairstreak) and Elms (White letter

Hairstreak) and are very seldom seen by casual observation. Each year we have a special “Hairstreak evening” on warm and sunny evenings in early to mid-July between 7 and 8.30pm when Mark and Jeni Pike and I develop severe cricks in our necks staring up into tree canopies, counting hairstreaks as they fly in and around the tops of the trees!

And finally – we keep our fingers firmly crossed for a more interesting season in 2023. You never know with butterflies!

Male Orange Tip.

