

Garden Butterfly Survey 2017



**Butterfly
Conservation**

Saving butterflies, moths and our environment

50th Anniversary

Results summary

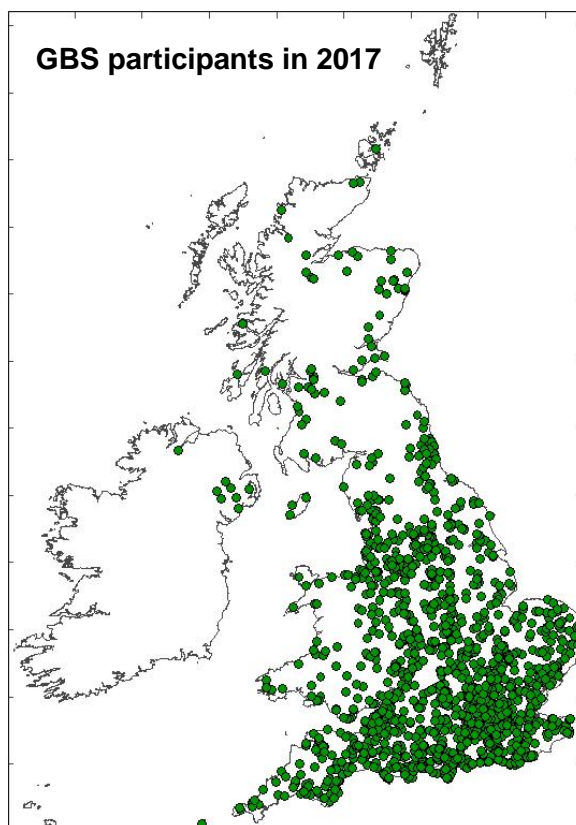
2017 was the second year of Butterfly Conservation's Garden Butterfly Survey (GBS), run in association with retailer B&Q.

Participation

Overall, far more records were received from considerably fewer gardens in 2017 compared with 2016. An excellent total of over 74,000 sightings were reported through the GBS website for 2017, up by more than a quarter on the 58,000 submitted in the previous year. However, the number of gardens surveyed in 2017 was 1,486 (with data from a further 137 gardens provided on paper forms*), a drop of 40% on the previous year.

This large decrease in participation is not the cause for concern that it might seem at first sight. The aim of the Garden Butterfly Survey is to assess butterfly numbers throughout the year in UK gardens, with the ultimate aim of understanding how important gardens are for our butterfly populations. While there were many more GBS participants in 2016, most of them did not record through the year. Indeed, 72% of them reported butterflies from three or fewer months and only 18% submitted at least one sighting in six or more months of 2016. In 2017, this pattern of recording had improved considerably, with 51% of participants sending in sightings from between one and three months and 35% reporting butterflies from six or more months. Thus, although fewer gardens took part in GBS in 2017 compared with 2016, these gardens were surveyed much more comprehensively.

We are extremely grateful to all participants in GBS 2017 and delighted to have a good spread of monitored gardens across the UK. However, there are plenty of gaps in the coverage, so if you are not already involved, please consider taking part in 2018. There is no complex method to follow - simply keep a look out for butterflies in your garden right through the year and enter your garden sightings through the GBS website.



Sightings from other locations can be submitted to [other schemes run by Butterfly Conservation](#).

* Records on paper forms have not yet been extracted and so the analysis and totals presented here are based on the records from the c.92% of gardens that were reported online. While we would prefer people to take part online at www.gardenbutterflysurvey.org, where this is not possible we can accept paper records and these will contribute to future analyses.

Species results

With only two years' worth of data, it is premature to undertake any serious analysis of the GBS data and care must be taken in comparing between 2017 and 2016 (not least because of the different recording intensity discussed in the previous section). Nevertheless, it did seem to be a slightly better year for garden butterflies after the poor numbers reported by many participants in 2016. This can be seen from an increase in the mean number of species seen per garden from 6.42 in 2016 to 8.25 in 2017.

Tables showing the total abundance of the most common species recorded in GBS 2017 and the proportion of gardens in which each was spotted in 2017 and 2016 are given below.

While 2017 was certainly not a great year for UK butterflies, some species did fare very well. The Red Admiral, for example, had an excellent year and was both the most abundant species (over 24,500 individuals counted) and was reported from the greatest proportion of gardens (78%) in GBS 2017. Other species were some way behind with Small White and Large White the next most abundant but neither showing much improvement on 2016.

Species	Total abundance 2017
Red Admiral	24575
Small White	14597
Large White	14347
Meadow Brown	10433
Small Tortoiseshell	9804
Peacock	8465
Gatekeeper	7564
Comma	6424
Speckled Wood	6338
Holly Blue	5719
Brimstone	4183
Orange-tip	3996
Green-veined White	3950
Ringlet	3647
Painted Lady	1620
Common Blue	1612
Small Skipper	985
Marbled White	916
Large Skipper	804
Small Copper	677

In terms of the proportion of gardens reporting each species, Small Tortoiseshell came second to Red Admiral, with 60% of gardens, a considerable drop on the 76% of gardens with this species in 2016. Small White, Peacock and Large White (all reported from 59% of gardens in 2017) came next, closely followed by the Comma

(58%), which had a good year increasing from just 35% of gardens in 2016. The only other species that was recorded in at least half of GBS gardens in 2017 was the Brimstone (50%), although Speckled Wood (49%), Holly Blue (49%) and Orange-tip (47%) all came close and all did considerably better than in 2016.

Among the less common species, the Marbled White seemed to do particularly well, increasing from just 3% of GBS gardens in 2016 to 8% in 2017.

Species	% Gardens 2017	% Gardens 2016
Red Admiral	78%	62%
Small Tortoiseshell	60%	76%
Small White	59%	59%
Peacock	59%	49%
Large White	59%	55%
Comma	58%	35%
Brimstone	50%	34%
Speckled Wood	49%	39%
Holly Blue	49%	36%
Orange-tip	47%	28%
Meadow Brown	39%	24%
Gatekeeper	38%	25%
Green-veined White	33%	26%
Painted Lady	32%	35%
Ringlet	26%	14%
Common Blue	17%	9%
Small Copper	14%	7%
Small Skipper	13%	6%
Large Skipper	11%	5%
Marbled White	8%	3%

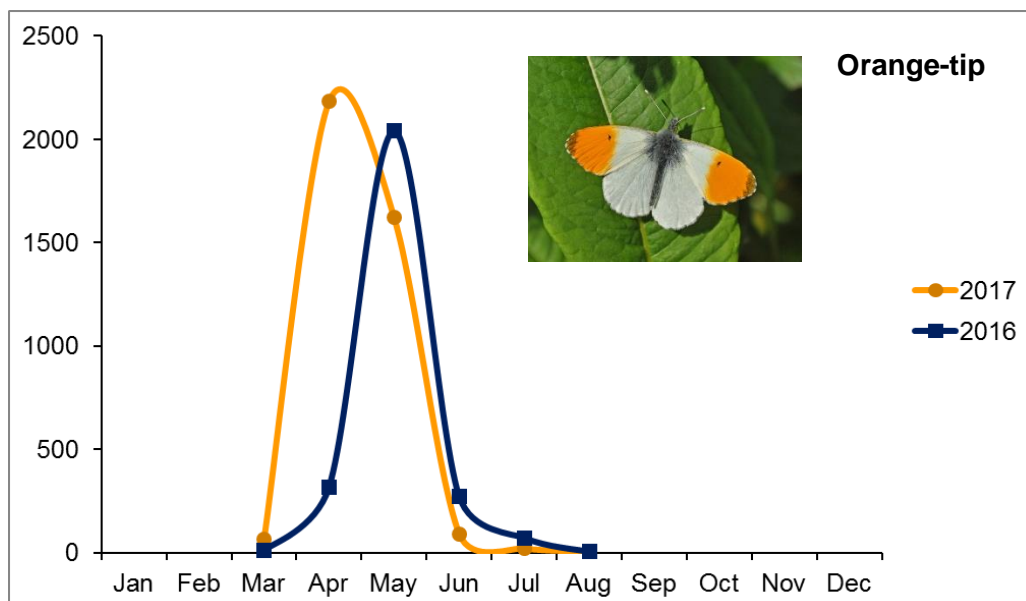
The garden butterfly year 2017

Given the high numbers of Red Admiral recorded in late summer and autumn 2016 and a very mild December, it was perhaps not surprising that the first butterfly recorded in GBS 2017 was a Red Admiral on New Year's Day in Teignmouth, Devon. The species dominated January garden sightings, making up 68% of GBS reports, with Peacock, Small Tortoiseshell and Comma making up the remainder. Over the longer term, however, this represents a remarkable change for the Red Admiral; 20 or more years ago it was very rare to see this migratory species in Britain during the winter but nowadays it is our most commonly seen butterfly at this time of year.

Brimstones started to become active at the beginning of February and this was the most abundant species recorded in gardens in both February and March. February 2017 was very mild and yielded a total of 191 GBS records (of six species), compared to just 37 records (of eight species) in February 2016 (although this may also be due to fewer gardens being involved early in 2016). The warmer than

average UK temperatures continued and there were strong emergences of Orange-tip, which was the most recorded GBS species in April, and Holly Blue, which had the highest number of May sightings. Both species had a better year than in 2016. In contrast, numbers of the Large White, Small White and Green-veined White were very low during spring 2017, as was also the case in the previous spring.

The succession of relatively warm months was having a clear impact on the emergence dates of species, with many appearing considerably earlier than is usual this century. This can be seen clearly for the Orange-tip in the plot of GBS sightings below.

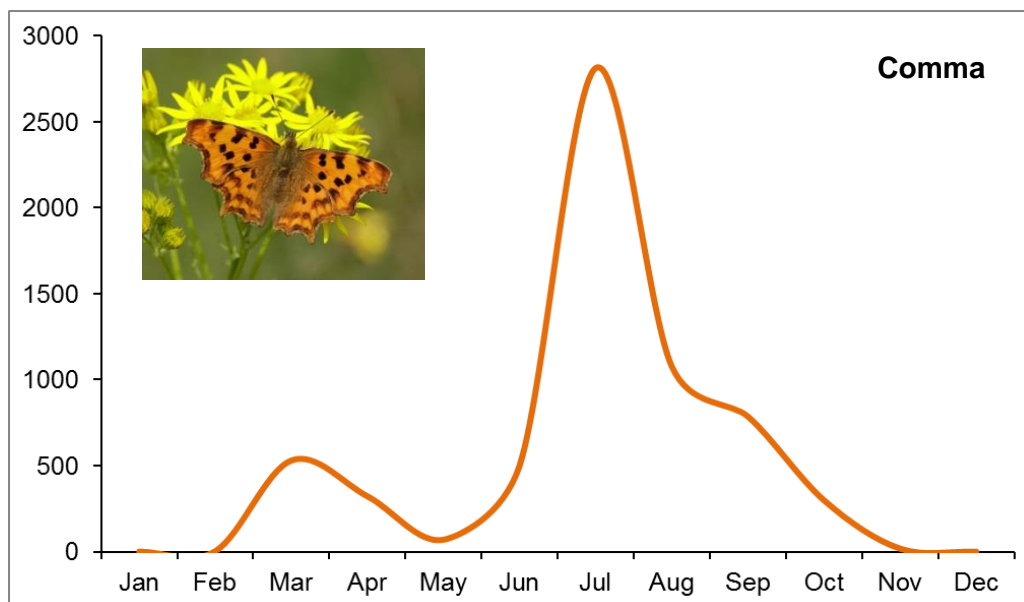


Late May and June saw the usual arrival of Painted Lady immigrants from warmer parts of Europe and they were reported right up to the far north of Scotland and Northern Ireland. The numbers recorded at GBS sites during this period were similar to 2016, but garden counts of this species later in the summer and autumn were disappointing and overall the Painted Lady had a slightly worse year than in 2016. This means that after three big “Painted Lady years” in the 2000s (in 2003, 2006 and then the massive influx of 2009) we have now had eight years in a row of average or below-average years for this migratory butterfly.

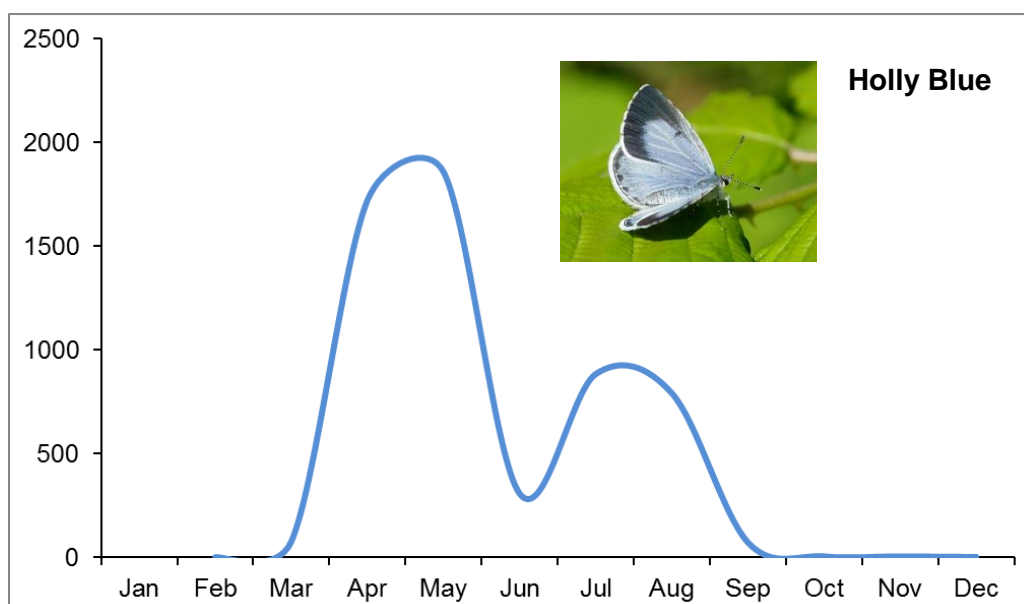
The run of warmer than average months came to an abrupt end in July, just as UK butterflies approached their peak in abundance. July, August and September were all at or slightly below average temperature compared to the long-term mean (1981-2010). This affected some species more than others. Having emerged early, species such as the Marbled White and Ringlet seemed to be over in a flash once the weather turned less favourable. Species with multiple generations, however, had clearly profited from the warm spring and were emerging in good numbers.

The Comma, for example, has a flexible life cycle whereby the offspring of the hibernating generation can emerge in summer either as non-reproducing adults destined to go quickly into hibernation (and breed the following spring) or reproducing adults that will breed straight away and give rise to an extra generation during the summer (which will then hibernate). These two pathways can even be

distinguished by human observers as the reproductive summer adults (a form named “hutchinsoni”) are a brighter orange than their hibernator kin. In warm springs, such as 2017, a higher proportion of the summer Commas are of the hutchinsoni form and the extra breeding generation enables the population to grow rapidly in favourable years. The plot of GBS 2017 Comma records (below) shows the large summer peak and subsequent emergence of Commas well into the autumn.

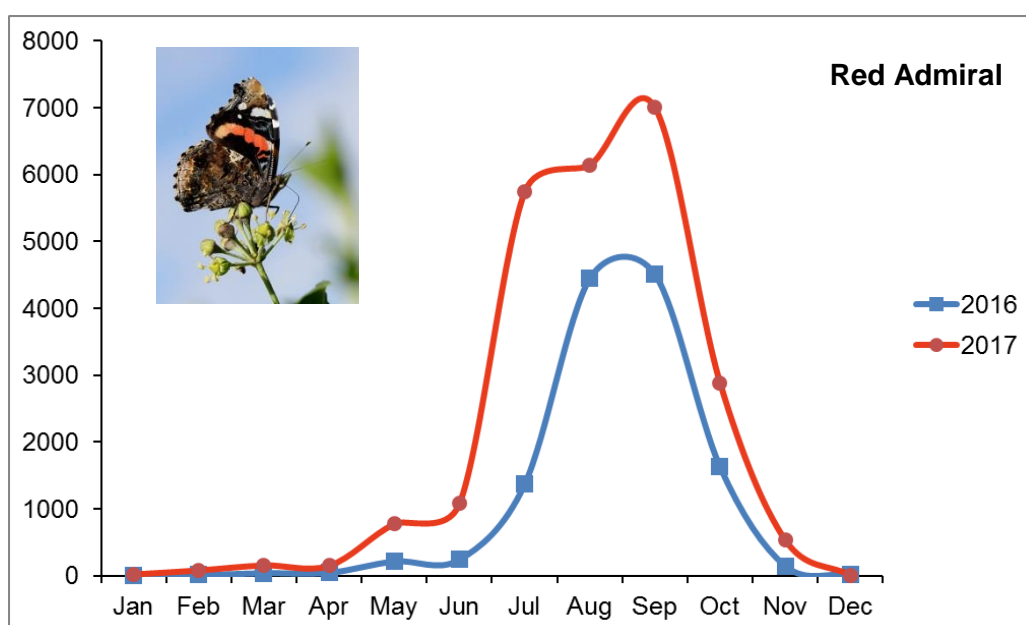


After their poor spring showing, the common whites finally started to be seen more widely and frequently in gardens during July and August. The Holly Blue, however, didn't seem to fare so well during summer 2017. The GBS sightings of this species show that records were much less common in UK gardens in the summer generation than during the spring brood. In this species, the two generations each year are typically of similar size. Whether this was caused by the relatively poor summer weather, by parasitoid wasps or by other factors isn't clear, but it suggests that Holly Blue numbers may be lower in 2018.



The Red Admiral dominated GBS reports in the autumn of 2017 and as the year wore on it was increasingly the only butterfly spotted in people's gardens. For example, in October 2017, Red Admirals made up 64% of all GBS records rising to 82% of sightings in November. Some participants had dozens of Red Admirals in their gardens, often attracted in to feed on windfall plums and other fruit. The final two GBS records of the year, on 28 December, were both of Red Admiral, one in Poole, Dorset and the other in Taunton, Somerset. As can be seen from the chart below, Red Admiral numbers were not only substantially higher in GBS 2017 compared to 2016, but the main period of abundance started earlier in the summer and continued later into autumn.

With only two years of GBS data it is impossible to gauge the success of the Red Admiral in 2017, but reference to the UK Butterfly Monitoring Scheme, which has monitored butterfly populations since 1976, confirms what many GBS participants felt – 2017 was the best year for this species since 2003 and the 3rd best year on record.



Overall, GBS 2017 revealed some improvement on the dismal showing of butterflies in gardens during 2016. However, with the notable exception of a handful of species, such as the Red Admiral and Comma, numbers remained worryingly low and it was far from a vintage butterfly year. We can only hope that 2018 brings some improvement.

Our great thanks to everyone who took part in the [Garden Butterfly Survey](#) in 2017 and hope that you will all help us to track the fortunes of the UK's garden butterflies again in 2018.

Richard Fox
Associate Director Recording and Research, Butterfly Conservation

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Registered Office: Manor Yard, East Lulworth, Wareham, Dorset, BH20 5QP, Tel: 01929 400 209
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