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# Cornwall Butterfly Observer



Butterfly Conservation
Saving butterflies, moths and our environment

**Cornwall Branch**
www.cornwall-butterfly-conservation.org.uk

## Editor's note

*Cornwall Butterfly Observer* welcomes contributions from members and supporters of Cornwall Butterfly Conservation. We are keen to publish information relevant to butterflies or moths in Cornwall, whether it's news of an event or development, or an in-depth article.

*Cornwall Butterfly Observer* is careful to check the information that it publishes. Whilst content attributed to a named individual will normally have been reviewed by fellow volunteers, the information and its interpretation, together with any views expressed, are those of the author and do not necessarily represent the settled position of Cornwall Butterfly Conservation.

If you would like to contribute to the Cornwall Butterfly Observer, please get in touch via email at chair@cornwall-butterfly-conservation.org.uk

## Photos

*Front cover: Small Pearl-bordered Fritillary, Bunny's Hill, June 2023 (Andrew Thomas)*

*This page: Marsh Fritillary eggs, Carkeet, June 2023 (Tristram Besterman)*

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# Post from the Chair

Dear Reader,

This has been an interesting few months from a Cornwall butterfly and moth perspective. As always we are keen to know how our butterflies are faring. In this edition of the CBO Jerry Dennis's enlightening report explores the link between our weather and butterfly abundance. He describes the start of the Lepidoptera flight season being affected by the very cold wet Spring. Our early butterflies were two weeks late emerging. Then started a very hot spell in May and June which lasted several weeks and we saw a return to drought conditions. This caused panic on social media for a time where people warned of an impending insect apocalypse, however as time passed the dry spell eased and more of the expected butterflies and moths appeared. The reality is that some butterflies did better than others as you will see.

On a related topic I found myself interested, amused (and a little revolted) to hear of Buglife's Splatometer survey which measures the number of squashed insects on our cars' number plates. This demonstrated a 64% reduction in insect numbers in the UK between 2004-2022. While this is quite a crude marker measuring insect decline it does compare with more scientific global figures and highlights a very real issue. The Bug Matters survey is still running, so head over to https://www.buglife.org.uk/ to take part.

We can all make a small difference to help our insect life and on that cheerful note we'd like to invite you all to join us for our **Cornwall Butterfly Conservation Day from 10.00 -16.00 on 16th September 2023** at St Erme Community Centre near Truro. Our last Butterfly Fair was pre Covid in 2019 so we are delighted to be able to open our doors again. It will be a great day with fascinating talks by experts, updates on our conservation activities, a demonstration on building your own moth trap, info on creating your own wild spaces, with wildflower seeds for sale, wildlife information stalls and the opportunity to meet like-minded others. Teas, coffees and cakes provided but bring your own lunch. No admission fee though donations are very welcome. More details later in the magazine.

What else has CBC been doing? We have had a number of new projects on the go. This summer our volunteers have been very active surveying the habitat

and recording butterflies in some of the disused mining site areas. Sue Allen has been working hard heading up this work and liaising with local groups with the aim of improving the area for our Lepidoptera. It is a long term project so you will hear more as time goes on.

Several landowners have consulted us on their rewilding projects recently as they recognise that butterfly numbers are good indicators of a healthy ecosystem. We will be monitoring numbers over a period of years to see how change in land usage benefits wildlife.

Finally, as always we need more volunteers to help across the spectrum of our work whether it be running stalls to promote the work of Cornwall Butterfly Conservation, recording butterflies or moths in your garden, helping on our field trips or walking a transect. We need more people interested in moths who can do recording and teach others about these valuable insects. We also need help in the autumn, and winter time when we do our hands-on conservation work, cutting back overgrown scrubland to make space for next season's butterflies to find the larval food plants for egg laying. More information about all of these things will be available at our CBC Event at St. Erme on 16th September. Come and chat to our Volunteer Organiser Georgie Paul or any of our committee members who will be happy to help.

Liz Thomas
Joint Chair, Cornwall Butterfly Conservation



CBC Habitat Survey training day at disused mining site, Bissoe Arsenic Works, June 2023 (Photo: Tristram Besterman)

# Introducing your Branch Committee

## Continuing our series of who's who on the CBC Committee, find out more about our Health and Safety, and Social Media Officer, Beth Giles

My name is Beth, and I am the Health and Safety Officer and manage social media profiles for Cornwall Butterfly Conservation. I expressed my unwavering environmental interests since primary school when we were introduced to Sir David Attenborough's Blue Planet, and learning how to recycle household rubbish. Since then, I have attained an undergraduate degree in Geography, and am currently pursuing a Masters in Sustainable Environmental Management. I also have a niche interest in Health, Safety and Environment (HS&E), which will eventually lead to a NEBOSH (National Examination Board in Occupational Safety and Health) course once I graduate. Being a Health and Safety Officer for Cornwall Butterfly Conservation has taught me that every organisation needs to operate responsibly and sustainably, reducing injury to people and damage to the environment. The experience I am accumulating has made me want to pursue a career in HSE in the future.

Joining Cornwall Butterfly Conservation during the pandemic was a difficult time as there were no opportunities to volunteer. Thanks to Jo Poland, there was an opportunity to join the committee as a social media manager to update our Facebook, Twitter, and Instagram pages. These pages notify our 'followers' of our upcoming events. Not long after that, there was a chance to volunteer as a Health and Safety Officer after I had expressed my passion for this occupation, and I was over the moon when I was offered this role.

Everyone involved with Cornwall Butterfly Conservation is so supportive, and they have made me feel very much at home. We all have a strong commitment to our environment, through careful habitat management, to preserve butterfly and moth species in our beautiful home county of Cornwall. I am thrilled to be part of an organisation that is as dedicated to saving butterflies, moths, and the environment as I am.

**"...every organisation needs to operate responsibly and sustainably, reducing injury to people and damage to the environment."**



In my spare time, I like to compete in Cornish pilot gigs (rowing) where I have represented Fowey River Gig Club at the World Pilot Gig Championships and also regattas. In addition, I enjoy running my pet-sitting business where I get to train and look after other people's animals.

# CBC Day returns!



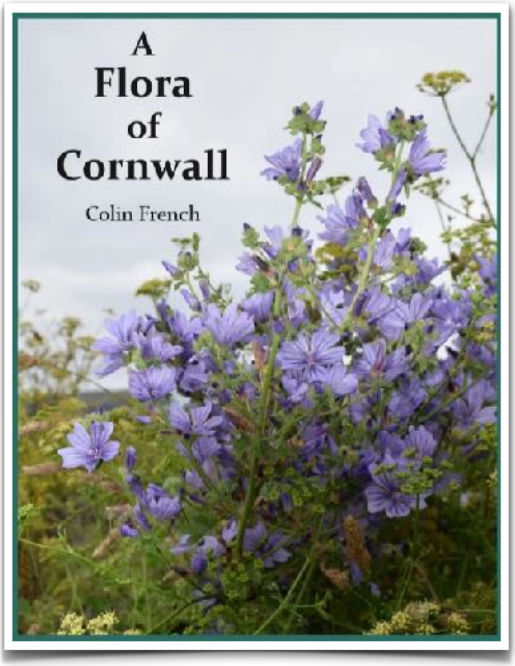

Our last Butterfly Fair / CBC Day was over 4 years ago, way back in April 2019.

So we are very happy to be able invite you again to the Cornwall Butterfly Conservation Day, which will be held this year on Saturday 16th September from 10am to 4.00pm at St Erme Community Centre, Castle Field,Trispen,Truro, Cornwall TR4 9BD. We are back at the same venue, which is accessible for all. The location is super-convenient and directions can be found here: https://tinyurl.com/2s3nuhys

We are pleased to offer free entry to all attendees. Donations are warmly welcomed and will help fund conservation initiatives aimed at preserving Cornwall's butterfly and moth populations. Since there is no charge for admission we do ask you to bring your own lunch. However, you can indulge in some treats during the event! We'll have a selection of cakes and drinks available for you to enjoy while mingling with fellow Lepidoptera enthusiasts.

The day will include a variety of presentations from people engaged in conservation work across Cornwall. Stalls will highlight both our work and that of esteemed wildlife partner organisations. We will be holding our fund-raising raffle, with generously donated prizes.

This year, we are delighted to welcome Dr. Colin French as our headline speaker. Colin, the West Cornwall Recorder for the Botanical Society for Britain and Ireland, has been an integral part of the biological recording community of Cornwall since 1987, when he was employed by Exeter University to computerise the Cornish Biological Records Unit (CBRU). The CBRU was the first Local Records Centre in the world to be computerised, and using the ERICA database, developed by Colin, a team of staff,




volunteers and people on various government schemes relentlessly beavered away processing the data. This culminated in 1996

when the milestone of one million computerised records (covering 21,000 taxa) was reached. The CBRU then had the largest online natural history database in the world. Having spare computing capacity the Botanical Cornwall Group decided in 1989 to systematically survey Cornwall at the Tetrad scale (2km2) resulting in the publication of a Flora of Cornwall in 1999, co-written by Rosaline Murphy, Mary Atkinson and Colin. In 2007 the Botanical Cornwall Group decided to systematically survey Cornwall again, visiting all 3944 1km squares in each of the seasons. The results of this survey was published in 2020 as A Flora of Cornwall, written by Colin. Today the ERICA database holds just shy of 5 million records covering 30,000 taxa.
Colin's talk, "The Flora of Cornwall – where are we to?", will focus on the results of decades of intensive surveying by local botanists and, by demonstrating the ERICA database, what that vast amount of data can tell us about the state of Cornwall's Flora.



Marcus Rhodes

Our second speaker is Marcus Rhodes. Marcus is an ecologist researching the impacts of changing habitat and climate on butterflies. For the last four years, he has been working on a PhD at the University of Exeter, studying the ecology of butterflies on Cornish mining sites and the role of microclimate in governing habitat suitability. He will be talking to us about his PhD research, highlighting the importance of these post-industrial sites for many of our threatened butterfly species, along with insights into the ecology of the Silver-studded Blue that he has gained over the course of this research.

We're also excited to have presentations from Committee Members covering a wide range of topics. We'll be diving into the fascinating world of butterfly monitoring and recording, looking at ongoing projects that we hope will make a big impact on butterfly and moth numbers in mining sites around Redruth, the conservation efforts for beautiful and threatened species like the Pearl-bordered Fritillary and Marsh Fritillary on Bodmin Moor, and the amazing Nature Recovery project happening on the Lizard in West Cornwall. It's going to be a fantastic event!

Everyone is welcome to our CBC Day: you don't have to be a member. If you have never been before, please come along and bring your nature loving friends or family: you will meet many like minded and fascinating people. We look forward to seeing you there!

It would be helpful to know if you are attending in order to get an idea of numbers, so could you kindly email Sue Allen at events@cornwall-butterfly-conservation.org.uk and let her know.

# Admiring the Cornish silver: the Silver-studded Blue

## Jerry Dennis tells us about our flagship butterfly

The Silver-studded Blue is a smallish blue butterfly that delights us with its early summer presence. It has a gentleness and elegance to its behaviour, rarely venturing above our head height, making it easy to spot and identify. It is found mainly on sand dunes and heaths. In former mining areas, where the heritage of early industrial toil lives on in the Cornish countryside and place names, areas of spoil and great scars in the ground are still recovering from the ravages of the rush to find and extract valuable metals such as tin, copper and silver. It is fitting that our county's flagship butterfly, the Silver-studded Blue, can also find a home in such iconic Cornish terrain.

The key identification for both sexes is the broad white fringe to the wings and of course the silver studs visible on the lower underwing. The male butterfly can be confused with the male Common Blue that has a thin dark strip and much narrower white wing fringe. Luckily, the flight curves of these two species only overlap at the start of the Silver-studded Blue brood in late May and early June when the tail of the first brood of the Common Blue completes. If you see beautiful blue butterflies in Cornwall from mid-June to mid-July, they are likely to be Silver-studded Blues.



The male Silver-studded Blue has a notable dark band and a broad white fringe to its wings

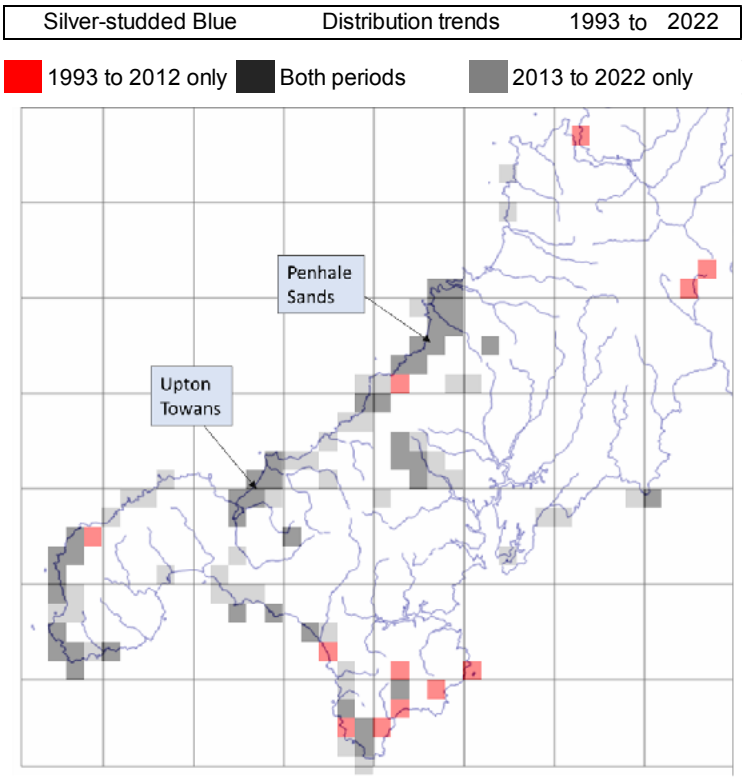
I feel somewhat humbled when writing about this butterfly that has been studied and conserved by some of the greats in the Cornish butterfly world. I must acknowledge and admire the work of the current species champion, Sally Foster, who has done much to elevate its importance and to protect its environment from potential destruction, and who has deepened our understanding of its fascinating life cycle. The butterfly's response to climate change is also the subject of ongoing research by locally based academic Marcus Rhodes.

In a national context, Cornwall has two major sites that rank alongside the best in the UK and both are extensive areas of stabilised sand

dunes or towans on the north coast that contain many closely-spaced Silver-studded Blue colonies. The first occupies a broad swathe extending more than three kilometres between Perranporth and Holywell and is called Penhale Sands. It includes an area of public access (Gear Sands) in the south and a non-public area (Penhale MOD) in the north. The second lies between Hayle and Godrevy and the butterfly is present throughout, although particularly so at Upton Towans Nature Reserve. When visited at peak flight time between late June and early July, each of these major sites can have more than a thousand Silver-studded Blues on the wing. If you haven't witnessed such a phenomenon, you might consider attending Cornwall Butterfly Conservation's annual public field excursion to Upton Towans in late June next year – see our website for details. It is arguably one of the best butterfly experiences available in the county.

The butterfly's distribution in Cornwall is summarised on the map below. The tetrads (2km-squares) in which the butterfly has been found in the last thirty years are highlighted.

A comparison of records from two time periods, 1993 to 2012 (20



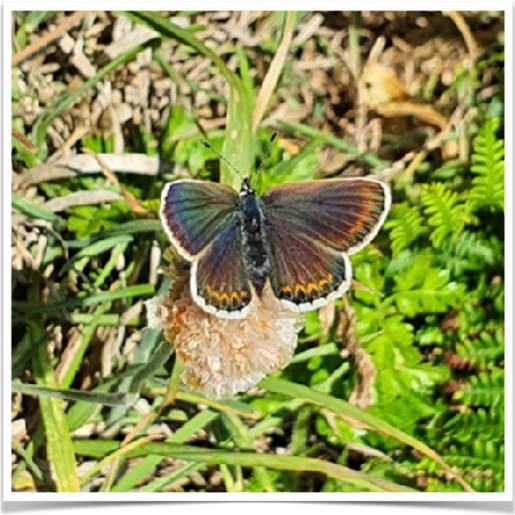
years) and 2013 to 2022 (10 years), distinguishes those tetrads where the butterfly was seen only in the first period (red), tetrads in strongholds where it was seen in both periods (dark grey) and tetrads where it was seen only in the second period (light grey). Numerous smaller colonies along the north coast between Upton Towans and Penhale have been identified in the last ten years and around most of the Penwith coast. Further 'new' colonies have been identified north of Cudden Point and around the western Lizard coastline, and in the former mining areas, notably those south of Camborne. These recently identified colonies are evidence of widening distribution, with some perhaps having been overlooked in the earlier period. The red tetrads show the main areas where the butterfly may have been lost –in the south and east of the Lizard peninsula and all former locations near Padstow and Breney Common.



An example south-facing metalliferous mining spoil heap near Prussia Cove. This supports a small colony of Silver-studded Blue.

The Silver-studded Blue is clearly well adapted to the fresh conditions of the north and western coasts and the rough unimproved landscape around former mining sites. The key ingredients for successful colonies include the presence of larval food plants such as Bird's-foot Trefoil growing on the short turf of coastal dunes, or any of the common heather species at heathland sites. Localised patches of scrub are important, and often aided by the south-facing slopes of colonised sand dunes or spoil heaps, as they provide shelter from the wind and places for the adult butterflies to bask in the sun. There is another remarkable ingredient that is essential – ants, specifically black ants of the genus Lasius. The butterfly has a profound symbiotic relationship with these ants throughout its life cycle. Silver-studded Blue females lay their eggs near to black ant nests and when the larvae hatch out in February and March they are soon taken into the care of the ants. The ants shepherd the feeding larvae, providing protection from predators such as spiders, wasps and parasites and the larvae reward the ants by providing a highly nutritious sticky substance from their dorsal nectary organ or honey gland. The ants tend the larvae throughout the larval stage and then continue to guard the pupa, often located in their nests. On emergence in June and July, the adult butterfly is covered with droplets of liquid that the ants consume, providing a final wash

down before the butterfly's wings dry and it sets forth to find a mate.



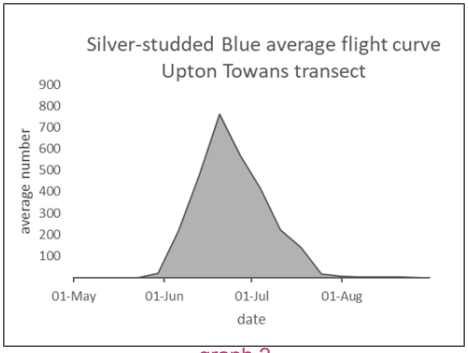
The female is typically brown with iridescent wings. Some females do have varying amounts of blue colouration on the wings.



Silver-studded Blues in cop with the male upside down. The silver studs on both sexes are the spots with a bluish metallic colour towards the edge of the lower underwing.

We are fortunate that Cornwall Butterfly Conservation in collaboration with Cornwall Wildlife Trust established a UKBMS transect in 2010 at one of the two major sites, at Upton Towans. Special mention is due to former County Butterfly Recorder Dick Goodere who has walked this transect since 2010 and who has diligently recorded thousands of butterflies at this amazing location. We now have a complete set of weekly records from this site spanning fourteen years and this contains a first-class Silver-studded Blue dataset, as we shall see, that can be analysed to reveal some interesting insights into this butterfly's life.

The butterfly's flight period, i.e. the period when the adult Silver-studded Blue butterflies fly, is dominated by a single brood in June and July. There is a small and numerically insignificant second brood in most years. The numbers seen in the average annual brood's flight curve, using Upton Towans data and shown graphically below (graph 2), has a triangular shape where numbers increase quickly and at a uniform rate from late May

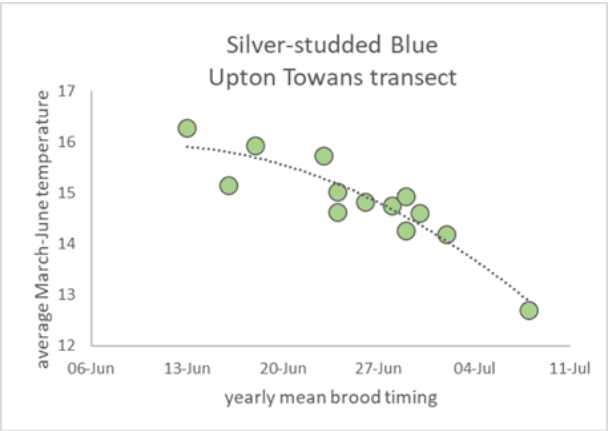



graph 2

to reach peak flight numbers in late June. Numbers then begin to fall away on average at a slightly slower rate than the preceding build-up, to complete the flight period at the end of July.

The actual timing of the peak in the flight curve is found to be different each year and this applies not only to the Silver-studded Blue but also to all other Cornish butterfly species. This is because plant growth and butterfly development are highly dependent on the amount of sunshine and warmth that they receive. Using Upton Towans data for years 2010 to 2022 and weather data from Newquay Weather Station, a statistically significant relationship has been found between average daytime temperatures from March to June and the mean (average) timing of the flight period in each year. Warmer average temperatures in these months give rise to earlier mean brood timings, and cooler average temperatures give rise to later mean brood timings, as summarised in graph 3. Mean brood timing in this species is quite sensitive to variations in these temperatures, particularly those occurring in April during the larval stage, with mean timings having a range spanning 25 days from 13th June in the warmest year (2011) and 8th July in the coolest (2013). Mean brood timing, which approximates to the timing of peak flight, is between 23rd June and 2nd July in nine of the thirteen years.

The Silver-studded Blue is our flagship butterfly, and the encouraging news is that it is currently doing well in Cornwall. There are two major ongoing threats that must be mitigated to ensure its long-term survival. The first is minimising any further loss of its habitat and this can be a consequence of urban and tourist development on sand dunes, or loss of short turf due to scrub development, or tidy up of wild spaces such as in former mining sites. When the consequence of such change is the loss of one of the vital habitat elements needed by the Silver-studded Blue, colonies quickly die out. The second is global warming and its effects are unpredictable as climatic change can affect both the timing of the butterfly's life cycle and the key plants in its habitat. The Silver-studded Blue is an excellent species with which to study the effects of climate change and future recorders will play a vital role in gathering the data that we will need to understand how our butterflies are coping with such change and to guide our future conservation efforts.




graph 3

# Recording

The latest updates from our County Recorders

## Butterfly Monitoring

Kelly Uren explores butterfly monitoring for conservation and wellness

Did you know that spending time with nature, especially butterflies, can have a profoundly positive impact on our health and wellbeing? Studies have shown that exposure to nature reduces stress, anxiety, and enhances our overall mood. Butterflies, with their graceful flight and vivid colours, can transport us to a state of tranquillity and awe. Monitoring these delicate creatures connects us to the natural world, encouraging us to slow down, breathe, and appreciate the beauty that exists all around us. By immersing ourselves in this peaceful and rejuvenating activity, we can enjoy the outdoors while nourishing our mind, body, and soul.

Engaging in butterfly monitoring not only promotes mental and physical wellbeing but also plays a vital role in conservation efforts. So, let us delve into the wonders of butterfly monitoring and discover the joy it brings to our lives.

Butterfly monitoring not only benefits individuals but also contributes to the conservation of these fragile creatures. The data collected by citizen scientists like yourselves assists researchers and conservationists in understanding butterfly populations and their habitats. Monitoring trends and tracking changes in populations can shed light on the impacts of climate change, habitat destruction, and pollution. By actively participating in butterfly monitoring, you become a voice for these gentle eco-warriors, helping to protect their habitats and ultimately preserve the delicate balance of our ecosystem.

Butterfly monitoring is an incredibly fulfilling activity. You will become part of a global community dedicated to preserving nature's true miracles. Learning about the different species, observing their behaviour, and tracking their movements can provide an unparalleled sense of accomplishment and discovery. As you contribute valuable data, your efforts become instrumental in scientific research and the collective understanding of these mesmerising creatures. The satisfaction derived from knowing you are making a difference, no matter how small, is immeasurable.

In conclusion, monitoring butterflies in your local area invites a multitude of benefits into your life. The calming effect it has on your wellbeing, the contribution to conservation efforts, and the sense of fulfilment derived from being part of a larger purpose are just a few reasons why embracing this activity is a worthwhile endeavour. So, let the flutter enchant you, embark on this journey of discovery, and join the movement to protect and cherish these captivating creatures. Embrace the colourful world of butterflies and watch as it fosters harmony not only within yourself but also the world around you.

**By monitoring butterflies, we embrace our role as guardians of nature, and together, we can make a positive impact for generations to come.**

How you can become involved:

- **Butterfly transect walking**

  Transect walks are carried out weekly along a pre-defined route of your choosing. As you get to choose the route the possibilities are endless for where you would like to record. It may be an area which you hold close to your heart or perhaps a new area that you would like to explore? Transects typically take about 45-60 minutes to walk, are about 1-2 km in length and are walked weekly between the months of April and September.

- **Wider Countryside Butterfly Survey (WCBS)**

  This is a national survey, which aims to monitor parts of the wider countryside not covered by the typical transect walks. Countrywide a series of 1km squares have been randomly identified for monitoring, these squares may be within the countryside or may even be within urban environments. Visits to these squares are less frequent, typically 2-3 times during the recording season but can be greater if you so wish.

For further details on any of these projects please contact our branch transect co-ordinators Jim Barker, jimfrances@talktalk.net or Kelly Uren, transect@cornwall-butterfly-conservation.org.uk

## Moths, Autumn 2023

### Leon Truscott, County Moth Recorder, brings us his latest report

Some unusual weather in recent months seems to have kept moth numbers down in the spring, but things picked up noticeably in June. The following highlights are of records received up to the end of July.

*Etainia decentella* was recorded (again) by Tony Wilson (TW) at Callestick and by Carol Hughes at Ruan Lanihorne, both on 23 June. The latter is new to VC2. Pheromone lures can sometimes attract non-target species. TW found *Nemapogon koenigi* – new to VC1 - at a Yellow-legged Clearwing lure. Another species attracted to pheromones by TW at Callestick was the scarce *Phyllonorycter mespilella*, recorded on 4 dates from March to June. There are only 3 previous Cornish records. Debbie Symons found *Chrysoclista lathamella* at Seaton on 28 May, only the second record for Cornwall. John Cook (JC) and Marilyn Evydean (ME) trapped *Mompha ochraceella* on Goss Moor on 23 June, the first record for VC2.

There was a large emergence or influx of *Tortrix viridana* in June, with 31 records of 548 moths received, including counts of 122 (JC at Cabilla) and 119 (TW at Callestick). *Aethes beatricella* is rare in Cornwall, with only a single previous record of one on St Mary's, IOS in 1986. Karen May trapped one at Gwithian Green on 14 June, followed by 2 by Chris Vincent at nearby Godrevy Warren on 22 June. *Hedya salicella* was first recorded in Cornwall in 2006, since when there have been a dozen records.

John Nicholls (JCN) trapped one at Downderry on 27 June, our first record since 2011. Matthew Broadbent (MB) and Elliott Cornelius (EC), trapped the very rare migrant *Cymolomia hartigiana* in Falmouth on 11 June – new to Cornwall and probably the second British record. JC and ME recorded *Olethreutes arcuella* at Cabilla Wood on 9 June, the fourth Cornish record. George Davis (GD) recorded *Cydia coniferana* at Maenporth on 26 June, the fifth Cornish record and



Aethes beatricella (photo Chris Vincent)



Cydia servillana (photo Elliot Cornelius)

the third at this site. More success came from MB and EC in Falmouth with *Cydia servillana* on 4 June, new to Cornwall.

A very interesting record from Hilda Bowman-Harris who photographed a Red-tipped Clearwing *Synanthedon*



Cymolomia hartigiana (photo Elliott Cornelius)

*formicaeformis* that flew into the house at Canworthy on 8 July. It's new to VC2; all previous Cornish records (8) are from The Lizard peninsula. *Agrotera nemoralis* is listed in the VCH (1906) as having occurred in West Cornwall, without any details. It wasn't recorded in Cornwall again until 2009 (in Kilminorth Wood), but since 2011 it has been recorded regularly at Mount Edgcumbe Country Park. TW recorded one at Callestick on 10 June, the first detailed record for VC1.



Red-tipped Clearwing Synanthedon formicaeformis (photo Hilda Bowman-Harris)



Satin Lutestring Tetheella fluctuosa (photo Steve Nash)

Steve Nash recorded a Satin Lutestring *Tetheella fluctuosa* at St Mellion on 3 June, new to VC2 and only the second Cornish record.

Marbled Pug *Eupithecia irriguata* is rather local in Cornwall. JC recorded two at Respryn on 2 May, our first record since 2017. Bordered White *Bupalus piniara* is also a local species. GD recorded one at Maenporth on 19 June – also our first record since 2017. JCN trapped the occasional migrant Splendid Brocade *Lacanobia splendens* at Downderry on 13 June.

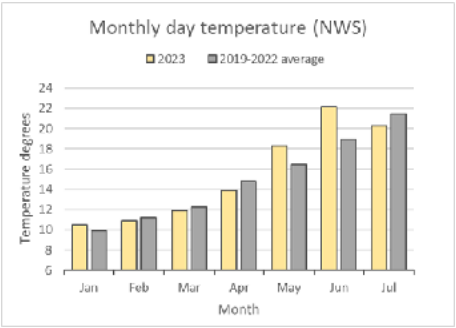
## Butterflies, 2023

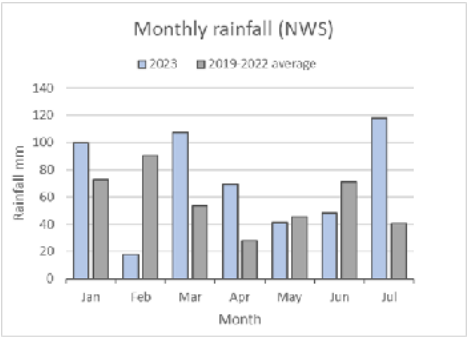
### Jerry Dennis, County Butterfly Recorder, reports on 2023

I have so far received and verified about 20,000 records describing 60,000 butterflies of 38 species and thanks to all of you who have submitted records. There are many ways in which you can report your sightings, and I am always very grateful if you take the time to do this. For example, iRecord and iRecord Butterflies are becoming increasingly popular as you can download these apps and then enter records using a smart phone in the field. Other recorders use the more traditional route of typing out results into an excel template that is available on our website and then email this directly to me at records@cornwall-butterfly-conservation.org.uk , or indeed just emailing their records to me. Any data pertaining to Cornwall that is collected in national schemes such as UKBMS (transects) and Garden Butterfly Survey is forwarded automatically for verification and inclusion in our database. The Big Butterfly Count data is distributed to the relevant counties at the end of the year.

2023 weather

The weather can have a profound effect on butterfly numbers and the timing of their flight periods, and the weather is different every year. A quick look at this year to the end of July is shown on two graphs below that utilise the publicly available weather data at Newquay Weather Station (NWS). The first compares this year's monthly average day temperature with the average of the previous four years and the second compares this year's monthly rainfall with the average of the previous four years. You will see later that I make comparisons of butterfly data using these same five years.






The comparative differences in this year's monthly temperatures are firstly slightly cooler average daytime temperatures in February through April and then significantly warmer average temperatures through May and June. These were the hottest May and June monthly average temperatures recorded at NWS since recording began in 2007. Weather became unsettled in July and temperatures were below normal.

In terms of rainfall, which amongst other things is needed to promote growth of larval food plants, February was a dry month and there was a 5-week period in May – June where less than 1mm of rain fell, although each of these months each had a substantial single day of rain. July's rainfall recorded at the station was the highest since 2009.

With the data currently available, the prognosis is that this will turn out to be a poor butterfly year with approximately two thirds of our 37 species being less abundant than the average of the previous four years. An additional factor in this outcome may be the effects of last year's very hot and dry July that diminished the amount of available larval food plants available at that crucial time for many species. The annual variation in weather conditions and its effects on butterflies is part of their natural history; each species is adapted to be able to survive setbacks in poor years and capitalise in years when weather conditions are well suited to their needs. In that sense, we will always have good and bad years.

With a comparatively cooler start to the year to April, followed by a distinctly warmer period in May and June, timing of broods was affected in different ways. For example, emergence of species with early flight periods such as the Wall first brood had relatively late appearance and species emerging later in the Spring such as the Dark Green Fritillary had relatively early appearance.

Species doing well in 2023

Three of the species doing well in 2023 share a common aspect in their life cycles, all hibernating through the winter months in pupation. The first of these, the Holly Blue,

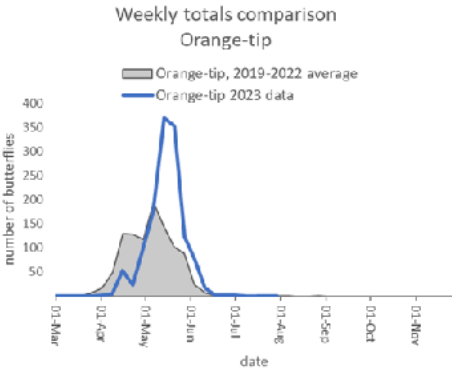


A Holly Blue (male) at Prussia Cove, one of over 1,000 of the species seen in 2023

had a strong first brood that commenced in April and then progressed through the hot weather of May and June. With the second brood still in progress, and with over 1,000 having already been recorded, the final total for the year may get close to the high totals seen in 2020 (1,341), the best year in the last 20 years.

The Orange-tip has a single spring brood each year after spending winter in pupal stage. Its emergence this year was delayed by approximately two weeks, but high numbers were then seen around the county during the good weather in May, amounting to 20% higher than the recent average. The brood was accelerated and had a pronounced peak in mid-May.

The third butterfly is the Green Hairstreak and this year's emergence was throughout the good weather in May and June. Numbers seen were the highest ever recorded in Cornwall (348) and the butterfly was seen in more 1km-squares than in any previous year (78). I hope that this was in part a result of my article on this species in the last






The Orange-tip was seen in high numbers, one of only three years in which more than 1,000 were recorded.

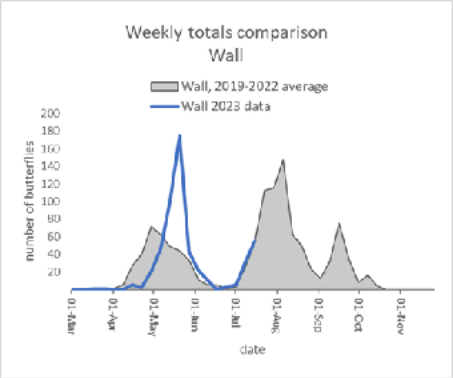


A Green Hairstreak catching the light at Godolphin Warren. The butterfly had its best recorded year in 2023.

Observer and thanks to all who reported their sightings.

For those butterflies with two or more broods per year, it is not yet possible to judge how their partially complete second broods and third broods will develop. A good example is the Wall. The first brood

was relatively abundant, about 20% higher than the recent average. Numbers began to rise about two weeks later than average, as affected by the comparatively cooler weather in March and April, and then accelerated giving a pronounced peak in mid-May. At the time of writing this report,






The Wall had a distinctive, strongly peaked first brood this year

the second brood has commenced with numbers seen on a par with recent trends.

Species struggling in 2023

There is a handful of species that had poor fortunes in 2023. The data currently available is however not complete and a full understanding will come to light when all data, including the Big Butterfly Count results, is available towards the end of the year. Based on current data, they all are all showing less than 60% of the recent average annual numbers.

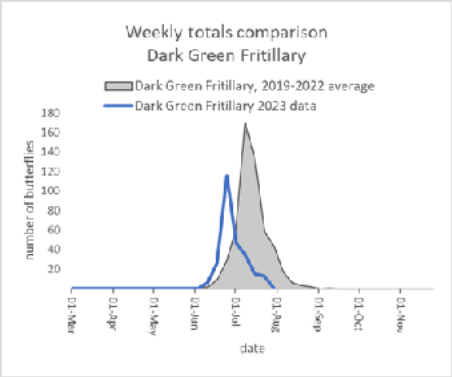
The Ringlet has experienced a population crash with the single brood now coming to an end with only about 30% of the average numbers of recent years having been seen. We must go back as far as 2005 to find a year with less Ringlets seen, but hopefully the Big Butterfly Count will bolster the current numbers. This comes on the back of the butterfly's best year in 2022, and it is quite likely that the combination of dry



The Ringlet population crashed this year.

conditions last summer and record numbers of eggs laid led to high rates of larval mortality last year.

Another butterfly that had its best year in 2022, the Dark Green Fritillary, has had a poor year in 2023 with approximately half of the average numbers recorded since 2019. The population commenced two weeks earlier than recently, but the




numbers usually seen in recent years did not materialise.

The numbers of Silver-studded Blue recorded this year are well down on recent averages. One reason is that there has been reduced reporting of the species from its stronghold in Penhale Sands and other key transects have not yet returned any data. One good indication of a poor year for this species is, however, the low numbers seen at the Upton Towans transect, the lowest since 2012. Other species with poor results this year are the Small Skipper and Small Tortoiseshell.

Migrants and Accidentals

Numbers of Red Admiral in the first half of the year were higher than usual due to a significant influx in June. Their offspring are now emerging in good numbers. Painted Lady and Clouded Yellow numbers are unremarkable.

We have had eight sightings of the Large Tortoiseshell butterfly this year, the highest number ever seen in one year in the county. They were seen across the western and central parts of Cornwall in a four-week period from late June. Sightings are consistent with these butterflies having been blown in on westerly winds, but unfortunately introduction of this species by a breeder cannot be ruled out. Keep an eye out and you may be lucky enough to see this spectacular species.



A Large Tortoiseshell seen at Porthgwarra on 3rd July

## Conjecture on an enticing smell

### Shaun Poland ponders the olfactory sense

15 years ago I gave up a lifelong smoking habit. The giving up process was hell but an ideal opportunity to observe the human mind and body in turmoil. On a number of occasions I experienced a state of hyper-sensitivity.

When driving on a warm day around 50-60mph with a partially open window and a good distance behind the car in front, I could smell cigarette smoke which it transpired, when we stopped at the junction, came from the driver of that car. This refined acuteness of the senses is generally attributed to other animals but not usually humans as we are supposedly the dullards of the sensory world. Such reminders that we are still part of the animal kingdom and share their world, lying just under the surface of civilisation, culture and society, helps bring back that connection to the rest of nature.

Lepidoptera make good use of heightened olfactory senses in their life cycle. The feathered antennae of male moths evolved to detect molecules of pheromones from the females of the species and no doubt has similar urgency as the smell of a cigarette to a nicotine addict, its prime objective (or addiction) to find a female and mate.

It's now possible to purchase highly effective artificially produced pheromone lures designed to attract certain species of male moths which can be utilised by the scientific community or enthusiast.

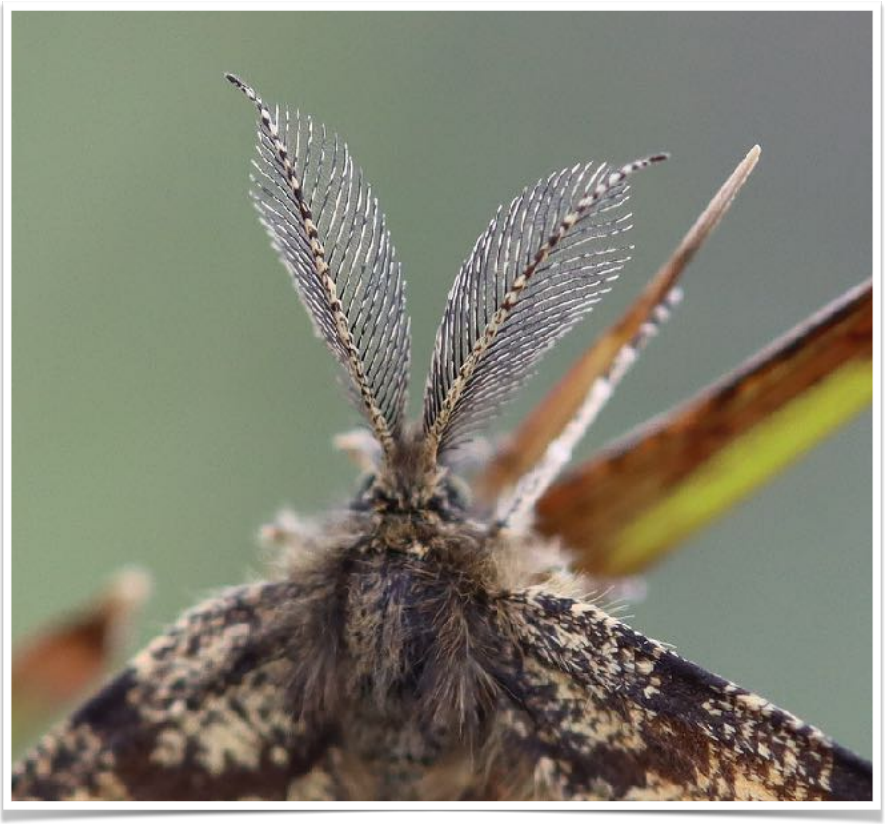
Another healthier habit I still do, is surf - now I can hear you asking how I'm going to link that to Lepidoptera! Well its not unusual whilst bobbing around in the middle of the ocean for a variety of insects to fly past (flies, bees, wasps, beetles, bugs, dragonflies and butterflies) and in the case of butterflies (usually the nymphalids) heading out to sea, against an oncoming breeze to boot. Bearing in mind there is no sign of land on the horizon off the north coast of Cornwall, butterflies are seemingly heading into oblivion. For migrant butterflies this could be put down to the genes driving their migratory habits year on year but not many of the butterflies I've seen are migrants. Again I call on the sense of smell which I've noticed



Barred Hook-tip - Watsonalla cultraria antenna (Photo: Shaun Poland)

many times is heightened when surfing, maybe it's the water flushing out the sinuses (and rinsing off my own soap, shampoo, deodorant etc) which contributes but the smell of diesel from a passing boat engine or another person wearing some perfumed product becomes an unwelcome assault spoiling the natural experience. Similarly, it's said that sailors can sometimes smell land before they see it (sadly these days more than likely the pollution!). So, thinking along the above lines of reasoning, it's not too far fetched to propose that the non-migrant butterfly may be enticed by the smell of the land just over the horizon and is not flying blindly into oblivion but following scents to new habitats wafted over the sea by a favourable wind. We know that even the Silver-studded Blue with its reluctance to fly any distance at all will on occasion, for whatever reason, decide to step out beyond its normal territory to "pastures new" and it would seem rational for all Lepidoptera species at certain times to do the same in order to take a chance on establishing a new territory.

The next time I'm wandering through the countryside I'll be without fragrant products and paying more attention to the smells around me by adhering to the old adage to "follow your nose"!



Common Heath Ematurga atomaria antenna (Photo:Shaun Poland)

# Committee reports

## Treasurer's report

### Branch Treasurer Sarah Board's report

**1 April 2022 to 31 March 2023**

Following the challenging years of Covid, we started the last financial year with a healthy balance of £17,056.71 in our **General Fund** (relating to the day-to-day management of the Cornwall branch). We recruited our wonderful Volunteer Co-ordinator, Georgie Paul, spending nearly £4,000 on her salary and expenses over the course of the year. Other key expenditure included £975 on training, £411.70 on volunteers travel and subsistence, £262.19 on running events and £1,904 on the production of the branch newsletter, the *Cornwall Butterfly Observer*. Our total expenditure was £9,325.99.

In terms of income, donations in the year to 31 March totalled £4,153.28, a 176% increase on the previous year. These donations included the fundraising effort of Georgie on her epic walk around the coast of Cornwall. We received £3,258 from national office from members subscriptions and our wonderful volunteers attended numerous events in the county, raising £265.68 from sales. Our total income for the year was £7,880.01. At the end of the year our General Fund stood at £14,010.73 (including transfers) and has allowed us to employ Georgie for a further year as Volunteer Co-ordinator.

The **Restricted Fund**, which relates solely to our *Butterflies of Cornwall: Atlas for the Twenty-first Century*, started the year with a balance of £1,836.13. Sales have been steady following the publication's launch in 2021, with sales coming from NatureBureau and bookshops, as well as sales we generate ourselves, through Ebay and at events and field trips. Sales have raised £3,086.47, with expenditure being £728.66 (postage, packing, commission etc.). At the end of the year our Restricted Fund totalled at £7,251.26 (including a transfer in). The Restricted Fund is used to directly support the branch in its butterfly conservation work.

We therefore start the current financial year in a good position to deliver our various conservation projects.

[It should be noted that the above figures are currently being audited and may not represent the final audited accounts for the financial year 2022/2023.]

**1 April 2023 to date**

So far this financial year, we have spent £2,292.79 from our General Funds (including Georgie's salary and printing costs for the *Cornwall Butterfly Observer*) and have received £4,775.23 (including membership subscriptions and a donation of £1,000 from the Cornish Biodiversity Network).

Regarding our Restricted Fund, we have already sold a number of *Butterflies of Cornwall*, generating an income of £702.75.

# Membership report

## Kathy Wood, Membership Secretary, gives her report for Autumn 2023

I am very pleased to be able to tell you that membership both nationally and in the Cornwall Branch has continued to increase, albeit slowly, and is now at a record high. At the end of June, the most recent figures available as I write, Cornwall's membership stood at 609 households, comprising 849 individuals. This is certainly not grounds for complacency, but it is a small step in the right direction, so still encouraging.

Representatives of the Branch have been able to attend a few public events for the purposes of publicity, public education, recruitment and fundraising, and will continue to do so, but we are limited by the tiny pool of volunteers available to help.

The biggest event in our calendar, (after our Butterfly Conservation Day which is mentioned elsewhere in this edition of *Cornwall Butterfly Observer*) will be Apple Day at the Kehelland Trust near Camborne on Saturday October 7th. Why not come and join us at this lovely countryside event and support the Kehelland Trust's good work (see https://kehellandtrust.org.uk/ for details) as well as CBC's? **Please let me know if you would like to come and help at this or any other event.**

Although we have a record number of members, those taking an active part in our activities are a tiny minority. This is an appeal to everyone else to think about how you can contribute more to our work. If you, or perhaps a student or young person you know (they don't have to be CBC members) are interested in volunteering and wish to be notified, with no obligation, of opportunities coming up, please contact, or ask them to contact, our Volunteer Organiser, Georgie Paul, email address on the Contacts page at the back of this magazine. She will be delighted to hear from you.

Not all the jobs needing doing require you to be out on the moors in all weathers, although that can be great fun and very rewarding; we need people to **bake cakes** or serve refreshments, including **for the indoor meeting on 16th September**, or to help with the CBC publicity and fundraising stalls at public events. If any of those jobs appeal, please contact me at the membership address on the Contacts page.

Don't forget, we still need a Secretary, a Fundraising Officer and a Magazine Editor. If you have the skills for one of those posts and would like to know more, please contact Andrew and Liz at the chair email address on the same page.

For all volunteering, expenses can be claimed and usually lifts can be arranged, we like to do that anyway to reduce our carbon footprint.

The bulk emails I send out to CBC members always include the word Cornwall in the subject line. They come from the address branches@butterfly-conservation.org.uk. Please put that address in your contacts so that you don't miss out on anything we send you. That address does not accept incoming mail, so if you have any queries please contact the relevant person on the contacts page of the magazine or our website.

## Volunteer Coordinator's report

Georgie Paul, Volunteer Coordinator, updates us on CBC's super band of volunteers

What a wet summer! Luckily, we have squeezed 4 flight surveys into the lovely heat of late spring/early summer, that didn't end up being cancelled due to downpours like the rest. We had an excellent survey at West Bassett Stamps mining site, successfully finding a Dingy Skipper, to the delight of many in the group who had never seen one before. Our group leaders, Sue and Alan, have led two Marsh Fritillary and Small Pearl-bordered Fritillary flight surveys, one at Carkeet and one at Irish Farm, both sites finding Marsh Fritillaries in flight and discovering eggs. They found a staggering 143 Marsh Fritillaries in flight at Carkeet!

Since April I have been working hard to engage students who are on environment-based courses around Cornwall to join us volunteering. We have had some great feedback about a wonderful student learning day at Penhale MoD where we took out a class of Zoology Management students from Stoke Climsland, Duchy College. After a tricky start of superglued locks on the military gates we eventually made it into Penhale MoD through a different entrance! We conducted a flight survey targeting the Dingy Skipper, Grizzled Skipper, and Small Heath, in an area with low to zero previous records. Whilst we started much later than planned, we still managed to find both Dingy Skipper and Small Heath, as well as many other species typically found on Penhale. We look forward to working with more student groups in the future.

I would like to make a special call out to members who aren't currently volunteers but enjoy attending our public field trips. Our volunteering events aren't much different during the flight season. Public field trips visit well-known good sites to see butterflies in vast numbers in public areas, but our volunteering flight surveys typically visit areas you wouldn't normally be able to visit that have lower amounts of records, so you get to explore different places. There is a smaller chance of seeing vast numbers of butterflies, but it still happens, and the excitement of finding a rare species is wonderful! If you are interested in volunteering, please email gpaul@butterfly-conservation.org to sign up.

## Roger the Brushcutter

Life as a Volunteer

Let me introduce myself, I'm Roger and for the technically minded I'm a Stihl FS450 brushcutter with a metal brush knife at present. I'm 26 years old and presently single. I started life on the Ufton Fields Nature Reserve in Warwickshire and worked there with my first operator (Roger) for many years.

Sadly, I suffered a major breakdown and was whisked off to the local service centre, who couldn't work out what was wrong. Roger decided he was now over 80 and that I had become too heavy for him to operate, so he rang Steve (my current operator) who he knew well and asked if he

would like me? Roger knew Steve was maintaining several brushcutters for different voluntary organisations, so was confident he would be able to fix me. Well, Steve stripped me down, fitted a new carburettor and exhaust, cleaned me up, new filters and spark plug and put me back together. On the third pull I started, and we have been together ever since. And I have been known as Roger in honour of my donor from that day.

I carried on in Warwickshire for several years volunteering with the Wildlife Trust, Canals and Rivers Trust, Butterfly Conservation, National Trust and the local council with Steve. Often working five days a week, so essential I was correctly maintained and given sufficient TLC. In 2017 Steve decided to move to Cornwall so I naturally came too.



Roger the Brushcutter and his current operator Steve. (Photo:Steve Batt)

I wasn't welcomed by all at Cornwall Butterfly Conservation (CBC), as many felt I was a noisy smelly machine, so Steve and I often get ostracised to a far part of the reserve. But there is no doubt I can get a lot more done than a manual approach, and can tackle areas unsuitable for manual tools, and am happy to contribute to the CBC management plans.

I have had the pleasure of helping on numerous sites in Cornwall including De Lank Quarry, Fellover, Pendavy, Fentonadle, Godrevy Warren, Hudder Down, and various sites on the Lizard to name a few. Embarrassingly my Tommy Screw sheared at De Lank this year, and whilst Steve had a spare with him, he couldn't get the sheared off thread out there. Soon repaired when we got home, and fortunately able to fit another day in at De Lank to complete the task.

Once a year I also get the opportunity to work from home for a day, as Steve doesn't have a lawn, he has a wildlife meadow, and it needs an annual trim in October or November

I'm hoping to keep going for several more years as I love it, and am keen to see Cornwall Butterfly Conservation thrive, even if I'm noisy and smelly, but then I'm like Marmite really – love me or hate me!

*Roger (AKA Steve Batt) July 2023*

# Field Trips and Events

## Sue Allen updates us on getting out and about

We got off to a good start in May and enjoyed trips to Fellover Brake on Bodmin Moor and, with the help of Cornwall WildlifeTrust (CWT) ranger Jon Cripps, we visited the M.O.D site at Penhale.
Some butterflies seemed a bit slow to emerge this year and, sadly, on a couple of occasions the weather (or weather forecast) got in the way. Amazingly, despite a gloomy day, we saw Purple Hairstreaks at Godolphin as soon as we left the car park! A couple of our members offered to run a moth day at their home near Helston, which was a great addition to our planned events.
Reaching out to other groups we have lead walks with CWT, Cornwall Neighbourhoods 4 Change and Inspiring Women Network.
We also get invited to attend events put on by other organisations and run a stall, provide information on butterflies and moths, or help do a Bioblitz! We have been to events put on by Falmouth Energy Partnership, Penryn Campus EcoSoc, Cornwall and Isles of Scilly Local Nature Partnership, Chacewater Energy and Nature Recovery Day, Sand Dune Day with CWT, Truro City Council rangers Bioblitz and Carleen Tea Treat! In June Sarah Board ran a Habitat Survey Training Day so members can help us update our information on mine sites.
There's always room for people to join us at events, on our stall or helping with field trips. Keep up to date by watching our social media!



CBC Stall at Carleen Tea Treat

# How often do you see an extinct butterfly?

## Well, July was a really good time

On 5th July this year we posted the following piece by Jerry Dennis on the CBC website:

***'Extinct' butterfly seen in Cornwall.***
*The Large Tortoiseshell Nymphalis polychloros became extinct in Britain more than 50 years ago for reasons unknown. Once widespread in wooded areas, its number declined after good years in the 1940's.*

*Since 2019, small numbers of this beautiful and large nymphalid have been spotted each year in Cornwall and there has been debate as to whether these are migrants from southern Europe, introduced specimens or a mixture of the two. During the last ten years, evidence of breeding activity has been found in south Dorset, and more recently, Large Tortoiseshell breeding at Knepp Farm in Sussex has been detected. Is the Large Tortoiseshell attempting a comeback?*

*Now is a very good time to go out and look for this impressive but elusive butterfly.*

*2023 is the best year ever, with 6 singletons seen so far in the county. Four of these were seen in West Cornwall between Porthgwarra and Trencrom Hill in the last 10 days and the remaining two near Truro and Helford. Most of the specimens were fresh and were found nectaring in wooded and scrubby areas.*

*Their life cycle shows that this is the time of year that the single brood emerges and the adults will seek to fuel up on nectar and roam to find suitable wooded places to hibernate. These adults awaken in the spring - another good time to see them - and seek out a mate and egg-laying sites on leaves of elm, willow or sallow.*

*When you see one, they are quite distinctive, bigger than a Red Admiral and pale brown and not orange-brown like the smaller Small Tortoiseshell.*

*Please keep this species in mind when you are out and about and please let us know if you see one.*

*Good luck!*

Then, just four days later on 9th July we received an email from one of our Committee members saying the following:

*i just wanted to share with you a photo which i took today in a garden, just outside of Camborne.*

*my sister called me around the back to look at a buddleia bush which was attracting some butterflies. as i snuck up to the bush i spied two butterflies (please see photo attached)..... apologies it's not a super close photo, i didn't go too close initially as i didn't want them to fly away before i had a photo.... and sadly they both did moments after i took this..., the one on the right was very clearly a Small Tortoiseshell, but the one on the left from what i could see was not.... nor was it a Painted Lady..... it was like no butterfly i've seen before..... if you zoom in closely i think it has the*

*markings of a Large Tortoiseshell.... but could that be possible?!!! but it is definitely lacking the blue markings of a Small Tortoiseshell, and the white along the upper wing edges, and it's black markings are very much different.*

*i'm super excited, but what does everyone else reckon with your expert eyes???*

*best wishes*

And below is the photo that they took:

I don't think you could get a better "Tell the difference" photo. Wonderful.



# Committee members and contacts

## *Cornwall Branch Committee of Butterfly Conservation*

**Joint Chairs:**
**Andrew and Liz Thomas**
chair@cornwall-butterfly-conservation.org.uk

**Joint Chairs of Conservation Working Group, Species Champions Coordinators and Branch Contact:**
**Andrew and Liz Thomas**
specieschampions@cornwall-butterfly-conservation.org.uk

**Secretary:**
**Vacant**

**Treasurer:**
**Sarah Board**
treasurer@cornwall-butterfly-conservation.org.uk

**Membership Secretary:**
**Kathy Wood**
membership@cornwall-butterfly-conservation.org.uk

**Publicity and Fundraising Officer:**
**Vacant**

**Press Officer:**
**Vacant**

**County Butterfly Recorder:**
**Jerry Dennis**
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**Wider Countryside Butterfly Survey Champion and Joint Transect Coordinator:**
**Kelly Uren**
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**Health and Safety Officer and Social Media:**
**Beth Giles**
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**Sue Allen**
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**Alan Stapleton**
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**Malcolm McLeod**
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## *Other key contacts*

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**Webmaster:**
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**Newsletter Editor:**
**Andrew Thomas**
chair@cornwall-butterfly-conservation.org.uk

**Joint Transect Coordinator:**
**Jim Barker**
jimfrances@talktalk.net

## *Social media*

**Website:** http://www.cornwall-butterfly-conservation.org.uk

**Like us on Facebook:** https://www.facebook.com/ButterflyConservationCornwall/

**Follow us on Twitter**:
@Cornwall_BC

# Cornwall Butterfly Conservation Day




## St Erme Community Centre, Castle Field
## Trispen, Truro TR4 9BD

Butterfly Conservation
Saving butterflies, moths and their habitats

**For more information email:**
**events@cornwall-butterfly-conservation.org.uk**

**cornwall-butterfly-conservation.org.uk**

- Free Entry
- Informative Talks
- Learn about our Local Butterflies
- Wildlife Stalls
- Cakes and Drinks
- BYO Lunch
- Donations Welcome