ISSUE 70 AUTUMN 2021

Cornwall Butterfly Observer



THE WALL IN CORNWALL

Jerry Dennis has been finding out about this butterfly of sheltered, sunny places
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BUTTERFLY AND MOTH RECORDING

How have our Cornish Lepidoptera been faring so far in 2021? Our County Recorders tell us more
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A MOTH NIGHT TO REMEMBER

Jenny Evans reports on a successful National Moth Night at Lethytep in July 2021
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Butterfly Conservation
Saving butterflies, moths and our environment

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



Images:
This page: Field trip at Penhale Sands (photo: Tristram Besterman)
Front cover: Green Hairstreak (photo: Cerin Poland)

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 with the Editor, Amanda Scott, on editor@cornwall-butterfly-conservation.org.uk

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Post from the Chair

Dear reader, welcome.

A new voice introduces this issue of our newsletter, as this is my first greeting to you as Chair, a position to which I was elected on 13 July 2021. The challenges that face environmental organisations have never seemed greater or more pressing. Sometimes it feels as though we are living through a disaster movie, and wouldn't it be wonderful to press 'stop'. As if biodiversity in free-fall and turbo-charged global heating were not enough, thank you very much, we have a pandemic with sky-rocketing infection rates in Cornwall's holiday hotspots to contend with.

But, true to any Cornish summer, there are rays of sunlight shining through the clouds! On 26 June at Lethytep, with Philip and Faith Hambly as our hosts, we launched the book, *Butterflies of Cornwall: Atlas for the Twenty-first Century*. Three years in the making, this is a tremendous achievement by the small team that brought it into being, by the many who contributed records, text, ideas and images and particularly by you, dear reader, who sponsored the book during production and afterwards by buying it (and if that is still on your to-do list, you can get your copy via the CBC website if you click on the 'Atlas' tab). There you can read the glowing review – "This is a superb book…" – that appeared in *Dispar, the Online Journal of Lepidoptera* in August. Not bad for a local group run by volunteers. Over 500 copies have been sold to date, and profits from sales will be invested in conserving butterflies and moths in Cornwall.

The much-trumpeted G7 summit in St Ives in mid-June left behind more than a spike in Covid infections and carbon emissions in Cornwall. The Westminster Government has pledged an initial sum of £700,000 on a *G7 nature legacy* project, to improve species resilience in mid-Cornwall. The Marsh Fritillary is in its sights, and CBC is at the table. We currently await an update and will report progress as soon as we can.

And speaking of the Marsh Fritillary, this is a species targeted in the *Growing Goss* project, with CBC contracted by Natural England to help. The plan is to "create an ecologically resilient landscape, restore ecosystem services and wildlife value, and provide enhanced access, recreation and engagement opportunities for people on Goss Moor National Nature Reserve". Small groups of volunteers have been recording targeted Lepidoptera species in 2021. They have been supervised under strict Covid-compliant rules by Jo Poland, CBC's Volunteer Co-ordinator for the project. This will contribute useful data to inform future plans for the area.

Covid has dominated everyone's life since early 2020 and CBC is no exception, and yes, we're all sick of hearing of it. It has resulted in the cancellation of two summers of CBC's public field events, the abandonment of

education and fund-raising and, what is less visible, the suspension of our usual organised conservation work on the ground. We deliberately kept details of the cancelled public programme accessible on the CBC website, so that anyone who wanted to could find their own way to a prime site at the best time of the year, knowing what to look for.



Growing Goss project volunteers searching for Fritillaries in a Goss Moor bog, June 2021 (photo: Janine Sargent)

The conservation of butterflies and moths in Cornwall is the reason CBC exists. Obviously: the clue is in the name! But, as an organisation, CBC is about people: its loyal members, its volunteers who help with practical conservation and recording, and the organising committee. We need more people to join the committee: we have spaces that are probably shaped just like you! If you'd like to help and have a bit of time to spare to help Cornwall's biodiversity, then please get in touch, if only for a chat about what is involved. We need a Branch Secretary (see page 30), to organise and minute our four committee meetings a year, but we would also welcome anyone with new ideas, energy and enthusiasm who could help us in our work. Your skills and experience may be just what we need. Expertise on Lepidoptera is not a requirement!

Finally, I would like to pay tribute to my predecessor, Dick Goodere, who donned the mantle of interim chairman when Philip Hambly stepped down from the role in 2020. Dick brought to CBC a lifetime's experience in the public sector and a great deal of knowledge from ten years as County Butterfly Recorder. We wish him and his wife, Maggie – also a previous committee member – all the very best in their second retirement! They go out with something of a flourish, as they played a pivotal role in writing and editing Butterflies of Cornwall. On behalf of CBC, thank you, Dick and Maggie: happy butterflying!

Tristram Besterman
Chair, Cornwall Butterfly Conservation

Introducing your Branch Committee

Starting with this edition of the *Observer*, we are going to take the opportunity to introduce you to members of Cornwall Butterfly Conservation Branch's Committee. First up, it's the Branch's new Chair, Tristram Besterman.

Tristram Besterman, elected Chair of CBC in 2021, has served on the Cornwall Branch Committee since 2014, and was, somewhat to his surprise, entrusted to lead the team that delivered the book, *Butterflies of Cornwall*, this summer.



Long ago in a distant university, Tristram gained a degree in natural sciences. He has lived in Cornwall since 2005, when he retired from a career in public service, challenging the system a speciality. With his wife, Perry, who was born and raised on a farm in north Cornwall, Tristram has children and grandchildren, some of whom also live in Cornwall. Fighting to protect the world that they inherit is a personal responsibility; keeping him on his toes is theirs.

He is humbled to be at the helm of CBC, and working with the incredibly capable CBC team and other strategic partners, improving the resilience of both nature and the branch in Cornwall will feel like success. Setting the bar quite low, he hopes that someone younger, better qualified and a lot more attractive will succeed him as Chair before many more butterfly lifecycles have sped past on the velodrome of life.



Second-brood Comma (photo: Jerry Dennis)



A male Common Blue on Ribwort Plantain (photo: Tristram Besterman)

The Wall in Cornwall

This striking butterfly can be seen from spring into autumn. Jerry Dennis has been finding out more.

The delightful Wall butterfly is so named because it perches and thermoregulates on sheltered sunny walls and rocky places. It is widely distributed throughout Cornwall, particularly around the coast, where larval foodplant grasses such as Cock's-foot and Yorkshire Fog grow alongside Cornish hedges and our magnificent cliffs. Its markings are very striking and the open wing colours and patterns dazzle with their eye-catching detail. The males have dark brown bars on the forewing, the sex brands, that the females lack.



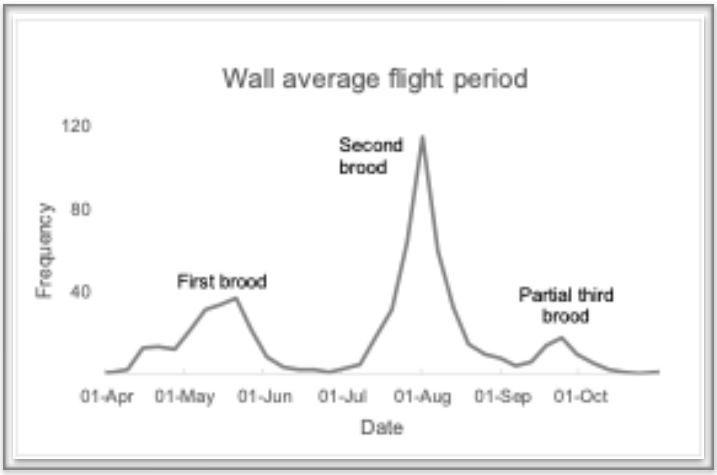
A first brood male Wall on a Marazion wall, April 2021 (photo: Jerry Dennis)



Underwing patterns on a rocky background, Rame Head, July 2021 (photo: Jerry Dennis)

The underwing markings in this species are unusual and reminiscent of abstract art. The lower wing has a ring of eyes and zig zag lines that help to camouflage the butterfly at rest. The upper underwing has a bold eye marking that the Wall can flash to mimic a bird's eye to repel unwanted attention.

It is a Species of Principal Importance and the most widely distributed of the legally protected Section 41 butterfly species living in Cornwall. It lives in small colonies,



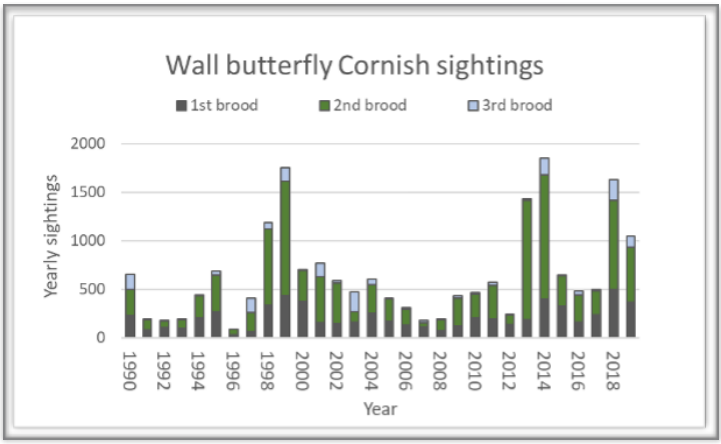
Graph 1

and consequently it is usually encountered in ones or twos only. Spotting and identifying the butterfly can itself be a challenge, as it always seems to be in a hurry, flitting from place to place, and flying more quickly than other brown butterflies.

The Wall can be seen on any day from April to the end of October. This is because the butterfly is routinely trivoltine in Cornwall, meaning it has three broods each year. The flight curve (Graph 1) summarises average sightings for the years 2014 to 2019 and shows the distinct nature of the three broods.

The first brood begins in April and builds gradually to a peak in May, after which numbers fall away quickly. It is clear that the second brood is by far the most significant, about double the size of the first brood. This second brood is strongly peaked with high numbers of sightings in a short period around the beginning of August. This is a great time to see the butterfly on the wing. The third brood is the smallest and it is one of the latest broods in the butterfly season, running through September and October. This is always a partial brood, where only a percentage of the larval offspring of the second brood develop into third brood imagoes, the rest overwintering in larval stage to become part of the next year's population. Each year, the third brood is typically around 10% of the size of the second brood but can be over 25% in exceptional years such as 2018.

Just how stable is the Wall population in Cornwall? A recent study carried out by Cornwall Wildlife Trust (*State of Nature, Cornwall 2020*) concluded that the Wall was now being seen in 10.9% fewer places compared to 30 years ago. Elsewhere in Britain the butterfly has declined markedly and experts have yet to agree on causes, with a



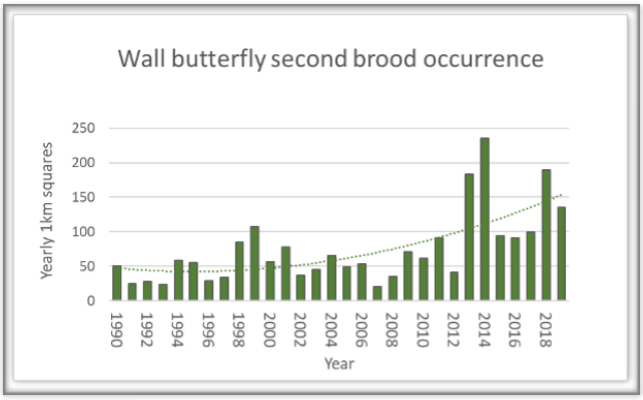
Graph 2

hypothesis termed the 'developmental trap' (Hans van Dyck, 2014) being considered. This trap, causing Wall colony extinctions due to climate change, concerns the winter vulnerability of the larval offspring of the third brood. Climatic warming is envisaged as driving ever bigger third broods that are at risk of being unable to prepare for and survive winter.

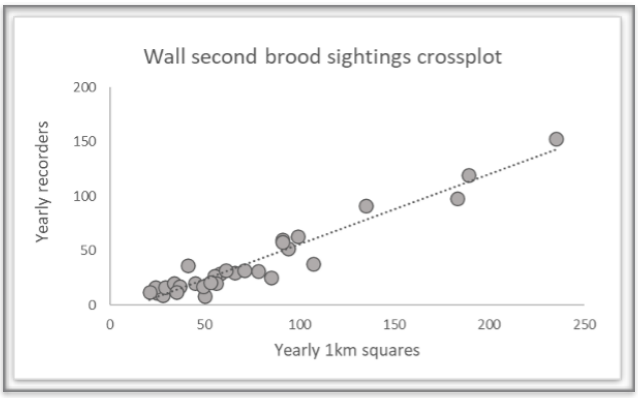
I decided to use the Cornish butterfly records stored in the ERICA biological records database to investigate the health of this beautiful but elusive butterfly. Since 1990, the Wall has been recorded in over 1,300 different Cornish 1-km squares; total sightings in this period exceed 19,000. Using first and second brood cut-off dates of 29 June and 8 September, the numbers of butterflies in each brood can be estimated (Graph 2).

Yearly numbers vary considerably, typically up to 700 per year, but the sequence is punctuated by 'good' years with higher sightings, such as 1999, 2014 and 2018. There is a general increase in numbers for all three broods in the last two decades.

Changes in recording have occurred through this period and need to be acknowledged as they affect the number of sightings and insight into long-term trends. Firstly, the number of butterfly recorders has increased more than four-fold. It is therefore possible that any increases in sightings are due at least in part to an increase in recorders. Secondly, today's recorders are describing their sightings in finer locational detail, using more 100-metre and finer National Grid references and far fewer 1-km grid references due to the aid of mobile navigational devices. The number of records submitted by each recorder is increasing whilst their sightings per record are decreasing. Calculating the Wall's occurrence by 1-km square is a convenient mitigation.



Graph 3

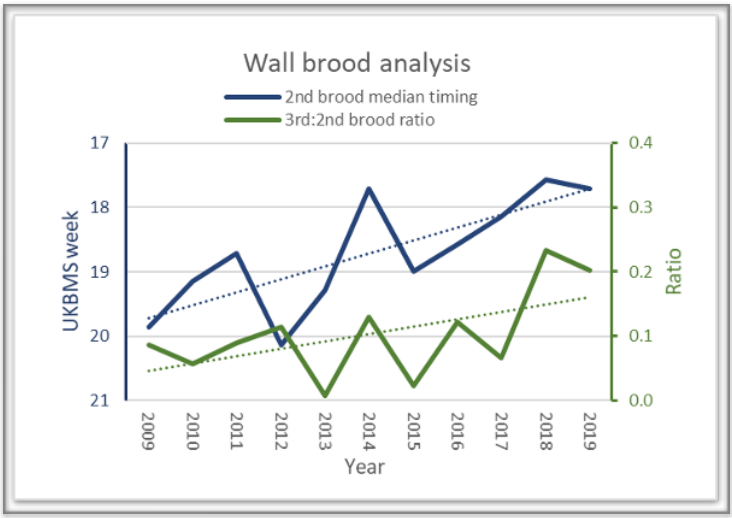


Graph 4

Using the second brood data, a simple plot of the yearly number of 1-km squares where the Wall was recorded (Graph 3), and fitting a long term trend line to this, shows that the Wall is being seen in more places now than it was thirty years ago.

Further investigating the effect of the changing number of recorders in this period is summarised in a crossplot (Graph 4).

This shows the number of recorders who saw second brood Wall butterflies in the 30 years since 1990 plotted against the number of 1-km squares in which they were recorded. There is a strong linear correlation between these variables; the 1-km squares covered each year is in proportion to the number of recorders seeing the butterfly. The trend does not deviate in the years when more recorders saw the butterfly, suggesting that no yearly



Graph 5

recording has yet been close to covering all the places in which the butterfly exists. For example, in 2014, a year with high 1-km square occurrence (235), only 18% of the Wall-occupied 1-km squares since 1990 are represented. The strong correlation over 30 years suggests a stability in butterfly occurrence with variable numbers of yearly recorders.

Further data analysis offers the possibility that the Wall may have a behaviour which can regulate the size of the third brood, thereby minimising the exposure to any developmental trap. My last graph (Graph 5) is a complicated one and so please bear with me!

The blue curve is a calculation of the timing of the middle (median) of the second brood each year expressed in standard (UKBMS) weeks. Previous studies by the author have shown that this yearly timing is variable for the Wall broods and indeed those of many different butterfly species. Median timing can be correlated with the temperatures in late larval and pupal stages; the warmer the temperatures, the earlier the brood emerges. The blue trend line shows that, since 2009, this timing has been progressing earlier. The green curve is the yearly relative size of the third brood, calculated as a ratio of the size of the preceding second brood. In the same period, the green trend line shows that the relative size of the brood has been getting bigger as the second brood has been getting earlier. This correlation may be significant and, if this is the case, a simple model based on a larval response to day length can explain it. In years with a relatively early second brood, there will be correspondingly more early larval offspring from the butterflies



A fresh second brood female at Goonhilly Downs, August 2021 (photo: Jerry Dennis)

emerging at the start of the brood. Day length is likely to be a primary determinant triggering development to third brood. Early second broods will create more early larvae developing to third brood and later second broods will create fewer early larvae developing to third brood, as the data suggests. This possibility requires further investigation, and if validated, it would show that the Wall has an inbuilt safeguard against a developmental trap.

In summary, I am pleased to conclude that I can see no clear evidence of the Wall's reduction in occurrence in Cornwall or adverse effects of a developmental trap. A fuller summary of ecology, trends and places to see the Wall can be found on pp.90–93 in the recently published *Butterflies of Cornwall: Atlas for the Twenty-first Century* (Pisces Publications, 2021).

We do not yet have a Species Champion for the Wall and, if you are interested in this role or want to find out more about the importance of a Species Champion, please contact the Cornwall Butterfly Conservation branch.

LED street lamps devastate moth populations

Tristram Besterman reports on recent research

Oh, the law of unintended consequences! Few of us living in Cornwall can be unaware of the Council's programme of street light replacement over the last few years. Out went the ugly, old, orange sodium lights and in came bright, new LED (light-emitting diode) lamps. Improved design and specification reduced light pollution, carbon emissions and running costs. A win, win, win surely? Not so, recent research reveals. Insect populations, and particularly moths, have suffered beneath the harsh white glare of LED street lights.

ALAN has much to answer for. 'Artificial light at night' has long been the subject of study in terms of its impact on insect and other wildlife populations. After all, the way moths are attracted to light is hardly news. What is new about this recent research is that it found evidence of the detrimental impact of light on moth caterpillars and their feeding behaviour.

The ground-breaking research[1], commissioned jointly by Butterfly



Privet Hawk-moth caterpillar on Privet hedge (photo: Tristram Besterman)

Conservation, the UK Centre for Ecology & Hydrology and Newcastle University found that “street lighting strongly reduced moth caterpillar abundance compared with unlit sites (47% reduction in hedgerows and 33% reduction in grass margins) and affected caterpillar development. A separate experiment in habitats with no history of lighting revealed that ALAN disrupted the feeding behaviour of nocturnal caterpillars. Negative impacts were more pronounced under white LED street lights compared to conventional yellow sodium lamps. This indicates that ALAN and the ongoing shift toward white LEDs (i.e., narrow- to broad-spectrum lighting) will have substantial consequences for insect populations and ecosystem processes.”

As Richard Fox, a co-author of the report and BC’s Associate Director Recording and Monitoring points out, “We don’t yet have a clear understanding of how streetlights cause the substantial reductions in moth populations found in the study. The gut feeling of the researchers is that female moths may lay fewer eggs in habitat illuminated by streetlights leading to lower caterpillar abundance, but this requires further study.”[2]

Here in Cornwall anecdotal evidence supports the research findings. County Moth Recorder, Leon Truscott, reports people saying to him, "I don't get nearly as many moths in my garden trap since they put up those new street lights."

However, there may be a better kind of light at the end of this disruptive tunnel. The colour temperature and intensity of LEDs can be tweaked relatively easily. Further research is needed, and urgently, to see if this kind of technical fix will reverse these worrying declines.

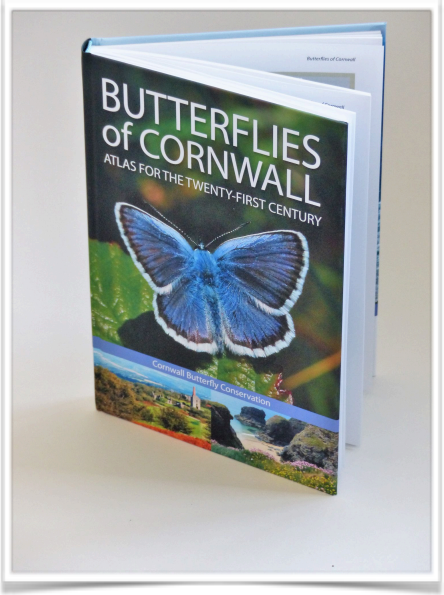
[1] *Science Advances* Vol 7 Issue 25. 25 August 2021. https://www.science.org/doi/10.1126/sciadv.abi8322
[2] https://butterfly-conservation.org/news-and-blog/streetlights-reduce-moth-populations

Butterflies of Cornwall takes to the air

Tristram Besterman, Chair of the CBC Atlas Working Group, recalls a successful book launch.

During a run of wet and squally days, the 26th of June dawned miraculously clear and warm over the wildflower meadows of Lethytep. There was a buzz in the air beyond the nectaring bees and hoverflies, as Philip and Faith Hambly welcomed visitors to a double celebration on their farm.

First off, they hosted the public launch of *Butterflies of Cornwall: Atlas for the Twenty-first Century*, the book written and edited by the volunteers of Cornwall Butterfly Conservation. It was an opportunity for me to thank the many people who had helped to make our shared ambition a reality.



A glowing review of *Butterflies of Cornwall*

"With the… extraordinary rise in the quality of county butterfly atlases over the last few years… the newly published *Butterflies of Cornwall* stands up there with the best of them.

"This is a superb book that provides a wonderfully detailed account of the butterflies of Cornwall, bringing them vividly to life and placing them neatly in their broader context, making for a truly modern and robust text that certainly lives up to its billing as an 'atlas for the twenty-first century'."

Will Langdon 1 August 2021 in ***Dispar***, *the Online Journal of Lepidoptera*

Three years in the making and running to more than 260 pages, the book's publication is a tribute to the collective effort, knowledge and sheer determination to see it through despite Covid. The launch was also an opportunity to emphasise the importance of butterflies as key indicators of the health of the environment, which is, in turn, key to our own health – a connection perfectly exemplified by Lethytep. As visitors to the open day flocked in, copies flew off the shelves.

Hard on the heels of the book launch, Chris Gregory, the Duchy Land Steward, praised the book and its authors. He then introduced Mark Thomas, High Sheriff of Cornwall, who presented an award to Philip for his unique contribution to life in Cornwall. In reply, Philip Hambly paid tribute to his wife, Faith, who had been an indispensable part of making Lethytep, where working with nature rewards not only biodiversity but people and farming, too.

Order now while stocks still last…

More than 500 copies of Butterflies of Cornwall have been sold so far. If you have been too busy this summer to order your copy, you can buy it online through the Cornwall Butterfly Conservation website http://www.cornwall-butterfly-conservation.org.uk Open the 'Atlas' tab and 'click here to order'. And please tell your friends; the book is an ideal Christmas or birthday present!







All photos this page: S. B. Paul McCullagh
Top: Helen Barlow and Philip Hambly at the launch
Middle: Mark Thomas, High Sheriff of Cornwall, presents an award to Philip Hambly for his unique contribution life in Cornwall; also pictured is Philip's wife, Faith
Bottom: Tristram Besterman, Chair of the Atlas Working Group; Chris Gregory, the Duchy Land Steward; and Mark Thomas

Farewell to a friend

Jo Poland remembers John Gregory

John Gregory, one of Cornwall's top Lepidoptera experts, passed away on 22 March 2021. John had an extensive and deep knowledge of the life stages of butterflies and moths. It was always a pleasure to be out on field trips with him; he knew so much and could tell you the smallest details about what we were seeing. A really wonderful and inspiring teacher, he unstintingly passed on his immense knowledge to others. Shaun and I did all our initial moth learning by attending many of John's famous 'moth mornings', and he generously gave his moth trap to us a couple of years ago, to be utilised by the branch.

John and Joyce's daughter, Linda, wrote a wonderful poem for her father over 30 years ago, and it was printed in the order of service for John's funeral. Linda has kindly given us permission to reproduce it here; if you had the pleasure of meeting John, you will know how fitting and perfect her poem is.

John will be greatly missed by everyone who knew him. Our thoughts and love go to his wife, Joyce, and all their family.



Learning from the 'Lep' master: Jo Poland with John Gregory (photo: Philip Hambly)

The Old Man, by Linda Gregory

There is an old man
who stays up late.
He wears an old mack
which looks a state.
When he goes next door
to Quarry Park,
it's after midnight
and always dark.
Looking for a moth
near a bright light,
he creeps all about,
oh, what a fright!

This man has a beard,
shaggy and long,
with mice and birds' nests
which make it pong.
His hair has gone grey
and stands on end,
and his scruffy old clothes
all need a mend.

Even when it's winter,
very cold and damp,
he wears the same clothes,
looks like a tramp.

This man has a house
lost in tall weeds.
He also has a wife
which he surely needs.
She takes him to work
providing the wheels,
also makes sure he eats
giving him meals.
The house she looks after,
keeping it clean,
but to help her out
he wouldn't dream.



John Gregory (photo: Philip Hambly)

This man stays in bed
till gone eleven.
To have a lie in
is like heaven.

Some say this man's lazy.
Perhaps it's true.
Nobody can change him,
not even you.
But really this man,
he's not that bad;
I have to say that
cos he's my dad!

Recording

The latest updates from our County Recorders

Butterflies, 2020

Cerin Poland, County Butterfly Recorder, reports on highlights from 2020

As I am still waiting for a few key sets of 2020 butterfly records, I have refrained from doing a full analysis of last year's butterfly data and will wait until the spring 2022 edition of the *Cornwall Butterfly Observer* to ensure the full picture is taken into account. I will instead summarise some of the key records and highlights from 2020 for Cornwall's butterfly species of principal importance.



Graylings 'in cop' (photo: Cerin Poland)

Most Dingy Skipper records in 2020 came from its stronghold around the Penhale Sand Dunes area, including a rare second brood individual which was recorded there on 26 August. Other records of low abundance were received from St Dennis Junction and Goss Moor, the St Austell Claypit areas, and Murrayton.

Although only being known from one site, the Grizzled Skipper appears to be occupying a good area at Penhale Sands, with larval records from 2020 showing the butterfly is breeding in at least seven different one-kilometre squares.

Records of Wall and Small Heath seem consistent and there is no immediate cause for concern for either species.

Grayling was recorded in good numbers at many of its usual locations, including an impressive count of 209 at Rosenannon Downs and another count of 221 at nearby Trelow Downs, where the species had not been recorded until 2020. Other new sites were also found on the inland heathland areas of mid Cornwall at Belowda Beacon and Tregonetha Downs, suggesting the species is quite under recorded in this part of Cornwall. Do be sure to check any well managed heathland near you for Grayling next season!

There were few records for Pearl-bordered Fritillary in 2020, primarily due to Covid restrictions; no notable observations were made and records of low abundance were from the known sites. The Small Pearl-bordered Fritillary is maintaining its stronghold in the county, with the majority of records coming from the West Penwith coast line, between Upton Towans and Hudder Down, The Lizard, the Mid Cornwall Moors and Bodmin Moor.

Marsh Fritillary records appear to be down in 2020, probably due to the close of the successful *All the Moor Butterflies* project. However, several new sites were found on Bodmin Moor in suitable habitat east of Bolventor and at Red Moor Marsh. The similarly named Red Moor on the Mid Cornwall Moors also enjoyed a good year in 2020, with 16 larval webs being recorded: this is the highest count to date from this location.

Monitoring of Heath Fritillary at Greenscombe Wood was also slightly hampered by Covid. However, the butterfly was recorded from the usual areas of the site, with peak counts being 42 and 100+.

No records of White-letter Hairstreak were received in 2020.

Silver-studded Blue appeared to have a good year, and was recorded in good abundance at most of its usual sites.

The 2021 butterfly season kicked off to a slow start, although habitat specialists such as the Grizzled Skipper and Pearl-bordered Fritillary did not seem to be affected by the cool weather earlier in the year. Most wider countryside species appeared in low numbers until mid-summer, when things started to pick up; Red Admiral and Small Tortoiseshell have been particularly abundant. All resident and regular migrant species found in Cornwall have been recorded this year.

I would like to express my thanks to all the recorders for their time and commitment.



Pearl-bordered Fritillary (photo: Cerin Poland)



Marsh Fritillary web (photo: Cerin Poland)

Moths, autumn 2021

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

2021 so far has been another relatively quiet year for moth numbers recorded. Still, records were received for 616 species up to the end of July. As always, there are plenty of reports on social media, for which records have not yet been received.

The following highlights are based on records received at the time of writing (late August).



Agonopterix conterminella (photo: Marilyn Edyvean)

On 26 April, John Nicholls (JCN) found a single *Antispila metallella* at Narkurs. The only previous Cornish record is of leaf mines found at Saltash in 1975. *Batia lunaris* is an extremely local moth in Cornwall, having only been recorded at four sites. JCN recorded one at Downderry on 21 July. John Cook and Marilyn Edyvean recorded *Agonopterix conterminella* on Goss Moor on 24 July, only the seventh Cornish record and the first since 1987.

Another scarce and local *Agonopterix* in Cornwall is *A. scopariella.* George Davis (GD) trapped one at Maenporth on 27 March. This is only the fourth mainland record, most previous records being from Scilly. JCN found *Elachista bisulcella* flying near Padderbury on 3 June. The only previous record is one from Par in the Victoria County History. Don Rogers found *Acleris bergmanniana* at Lerryn at dusk on 27 June, the first Cornish record since 2009.

A Goat Moth *Cossus cossus* appeared in my own garden trap in Torpoint on 22 July. Most of the previous 43 Cornish records are from the 19th to the mid-20th century, since when it has become extremely scarce, with only three records this century, in 2003, 2012 and 2013.

Loxostege stictlcalis is a scarce migrant, very occasionally having a “good year” (e.g. there are 50 previous Cornish records, over half of which [26] turned up in 2006). Mick Scott (MAS) recorded one on St Mary’s IOS on 23 July. MAS also trapped *Calamotropha paludella* on St Mary’s on 17 July, following his record from there in 2020. There are only eight Cornish records: six from the mainland in addition to these two.



Unusual yellow-striped dark form of Bedstraw Hawk-moth (photo: Clare Beckford-Martin)

A Death's-head Hawk-moth *Acherontia atropos* larva was found and photographed by Michael Brooking near Torpoint on 31 July. (There are a few records of larvae over the years, including one from Mullion in 2020.) The larva of a Bedstraw Hawk-moth *Hyles gallii* was photographed by Clare Beckford-Martin at the Wild Botanic Garden near Portreath on 10 July. The photo shows an unusual yellow-striped dark form, which closely resembles one shown on the late Reg Fry's *UK Leps* website, which specialises in eggs, larvae and pupae. The adult moth itself occurs as a rare immigrant, but there are only two previous Cornish records of the larva, in 1918 and 1994.

On 22 July, Carol Hughes trapped a Dark Umber *Philereme transversata* at Ruan Lanihorne. This is **the first Cornish record** of a species normally found in southern and eastern England. Cloaked Pug *Eupithecia abietaria* is a scarce and local moth, both nationally and in Cornwall. Ann and Gerry Sutton trapped two at Blisland on 19 June, the fourth record for Cornwall.

Bordered Straw *Heliothis peltigera* is a regular migrant that can turn up at almost any time of the year. There were two early records in 2021, on 1 June on St Mary's (MAS) and the extremely early date of 24 February from Maenporth (GD.) Silky Wainscot *Chilodes maritima* is a very local moth in Cornwall. John Headon recorded one on St Mary's on 25 July, seemingly the first from Scilly since 2004. Splendid Brocade *Lacanobia splendens* is a rare immigrant only recorded at four sites in Cornwall (two mainland and two from Scilly), although those sites have produced 27 records. MAS recorded one on St Mary's on 18 July, a year to the day after his 2020 record of the species. Radford's Flame Shoulder *Ochropleura leucogaster* is a once-rare, now annual immigrant, usually turning up from September to November. MAS trapped one on St Mary's on the extremely early date of 2 May.

Butterfly monitoring

Kelly Uren explains how to become involved in monitoring butterflies

Butterfly spotting is an immensely rewarding pastime. Sightings can become even more valuable if they are documented, as they not only contribute to the data we gather in Cornwall, but also to national datasets reflecting upon the state of butterfly populations.

There are many ways in which you can contribute to the data we collect, and you do not need to have a vast butterfly knowledge; your ID skills will soon develop as you become more involved. No experience is needed, just a keen interest in butterflies. Soon your eyes will become open to a whole new world of Lepidoptera that you may not even have known existed.

Here are some different ways to become involved

Setting up a new transect

You could monitor your own transect site at a location of your own choosing. This could perhaps be a favourite spot where you enjoy walking or a new area you have never explored before.

Butterfly transects focus on monitoring the number and variety of butterflies present at a specific site from year to year. The data gathered feeds into the UK Butterfly Monitoring Scheme (UKBMS) which has monitored changes in the abundance of butterflies throughout the United Kingdom since 1976.

Countrywide, approximately 2,500 transects are monitored annually as part of this scheme. In Cornwall we currently have in the region of 50 transects being monitored by a band of invaluable volunteers.

What's involved?

Transect routes should ideally be walked weekly between the 1st of April and the 30th of September, to enable the number of butterflies present each week to be recorded. Additions to the UK transect network are always welcome, but please be aware of the commitment involved.

For data to be of most use for the calculation of site trends and other indices, you will need to: a) walk your transect regularly, with very few missed weeks each year; and b) continue to monitor your transect for a least five consecutive years. Butterfly activity is very much weather dependent, and so transect counts should only be carried out within specified criteria, which involve it being not too cold, too cloudy or too windy; this can be quite an ask at times in Cornwall, even in the summertime!

Therefore, transect walkers should aim to walk each week at the first opportunity that the weather is suitable, as there may not be a second chance. Transects typically take about 45–60 minutes to walk, and are about 1–2 km in length. For further details please contact our Transect Co-Ordinators: Jim Barker on jimfrances@talktalk.net or Kelly Uren on transect@cornwall-butterfly-conservation.org.uk

Monitoring a Wider Countryside Butterfly Survey square

Another way to become involved is to monitor a pre-determined grid square that has been identified for the Wider Countryside Butterfly Survey (WCBS). This is a national survey, now in its thirteenth season. It was established in 2009 to help improve data being gathered relating to butterfly populations across the countryside as a whole.

WCBS is an important monitoring tool as it tackles the observational bias introduced by only counting butterflies in habitats rich in Lepidoptera. Over 800 1-km squares in need of monitoring during the peak butterfly flight period have been randomly identified across the UK. Compared to transect recording, the WCBS requires less of a time commitment – only two to four visits a year – and so makes an ideal introduction to butterfly recording, while still providing very useful information relating to the status and trends of butterflies throughout the UK.

There are 25 WCBS squares located in Cornwall, but currently less than 50% of these are being monitored. Might you be able to help us increase our coverage of the squares? Please contact Kelly Uren our WCBS Champion if you would like to find out more details on this project and where the vacant squares are located: transect@cornwall-butterfly-conservation.org.uk



Grizzled Skipper (photo: Cerin Poland)

A Moth Night to remember

Jenny Evans reports on a successful National Moth Night at Lethytep

National Moth Night 2021 was scheduled for 8, 9 and 10 July, with the theme for the year being reedbeds and wetlands. Though perhaps not offering the extensive reedbeds indicated, a promising weather forecast seemed to offer a good opportunity for finding out what the reeds, reed mace and waterside flower fringes of the lakes at Lethytep had to offer, (courtesy of Philip and Faith Hambly).

The actual forecast for 10 July looked like the best option in terms of the most comfortable for the moth trap operator; the actual moths don't particularly mind rain. In the event the forecast was, for once, surprisingly accurate, with afternoon showers clearing by teatime and leading to a dry, fairly warm and humid night.

Two Robinson-style moth traps were duly set up, at suitably distanced spots, by the lakes. One trap running a Mercury Vapour (MV) light and powered by a generator was positioned almost between the lakes. The other trap used an 'eco' 30-watt black light, run from a battery, and was positioned at the southern end of the lake area and adjacent to the damp flower meadow.



Above: The lake area at Lethytep (photo: Jenny Evans)
Below: Elephant Hawk-moth (photo: Philip Hambly)



The lights went on at dusk, and by 22:30 both traps were surrounded by moths. Soon, particularly at the MV light, there were moths everywhere. This included moths in the hair, on the clothes and even down the shirt front of the human 'moth trapper'! There was a brief lull from about 23:00 when the bats arrived, but they moved on after about 20 minutes, presumably well and truly stuffed, and the moth multitudes soon returned.

The final moth catch proved to be almost alarmingly successful, at least in terms of numbers. Though no spectacular rarities were trapped, the two traps between them yielded almost 600 moths comprising 90+ species, the most prolific of which were the little grass micromoths, *Chrysoteuchia culmella*. The many other species in, and at, the traps included a dozen each of those masters of camouflage, the Peppered Moth *Biston betularia*, and, the people's favourite, the Buff Tip *Phalera bucephala.* There were also several freshly emerged Large Emerald *Geometra papilionaria*, still with a spectacular green hue; a vivid Green Silver-lines *Pseudoips prasinana*; a Burnished Brass *Diachrysia chrysitis*; for the first time in a while, a couple of Drinkers *Euthrix potatoria*; half a dozen Lobster Moths *Stauropus fagi*; a small but beautifully coloured Rosy Footman *Miltochrista miniata*; and the strikingly shaped Herald *Scoliopteryx libatrix*. For the more wetland specific moths, though again with no real rarities, there was a good collection of Wainscots, including Common *Mythimna pallens*, Smokey *M. impure,* and Small *Denticucullus pygmina*.

The absolute stars of the show had to be, yet again, the Hawk-moths. On this occasion only three species were trapped: Privet *Sphinx ligustri*, Poplar *Laothoe populi*, and Elephant *Deilephila elpenor*. However, what the hawk-moths lacked in diversity they made up for in numbers with over 43 specimens, almost all in the MV trap, including 26 Elephant and nine Privet. Two of the latter, like a pair of heraldic lions, appeared to be guarding the portals of the MV trap. Goodness knows how anything else managed to get in. So, no particular specialities, but the number and variety of moths was still something special.



Privet Hawk-moth (photo: Jenny Evans)

"Two of the [Privet Hawk-moths]…, like a pair of heraldic lions, appeared to be guarding the portals of the…trap."

As a most apt conclusion to the event, on the Sunday morning the traps were opened and the moths recorded to the strains of the Thunder and Lightning Polka… Well, maybe not the polka itself (unless the torrential rain drumming on the summerhouse roof qualified), but most definitely the thunder and lightning.

It had been, indeed, a moth night to remember.

Membership news

Branch Membership Secretary Kathy Wood brings us the latest Branch membership information

The IT and staffing problems being experienced at Butterfly Conservation's Head Office, described in my last report (*Cornwall Butterfly Observer*, Issue 69), are slightly improved but not yet resolved. The good news is that I have at last received details of the 28 households who have joined us since 1 February, 26 new to BC and two from other Branches, and have been able to email them a welcome to Cornwall Branch. In normal times, I would do this every fortnight during the summer and every month during the winter, so I apologise to them (and to any other new members who may have somehow been missed), and look forward to a return to our previous higher standard of efficiency and courtesy.

When we are at last able to resume our activities and so have something to tell you, members who have given us an email address will receive occasional emails from the Branch which, for security, have to be sent via the BC head office bulk mailing system. I try always to use a Cornwall Branch header and put



Gatekeeper, Porchothan, August 2021 (photo: Tristram Besterman)

Cornwall in the subject line so that you will recognise them. To make sure you receive these emails safely and they don't end up in your junk folder, please put the following address in your contacts, branches@butterfly-conservation.org, and make sure that I have your up-to-date contact details. If you're not sure, please let me know of any changes anyway. You can contact me or any other Committee member; our details are on the contacts page of the Branch website and every edition of Cornwall Butterfly Observer). Please do not reply to the 'branches@' email address.

We are always trying to increase our membership so that we can do more for butterflies and moths in Cornwall. It would be a great help to know how recent recruits heard of us, such as whether they heard of the national organisation or Cornwall Branch first, and what motivated them to join, so that, having found out what works, we will be able to do more of the same. If you have joined in the last five years or so, please would you let me know the answers to these questions? You can contact me on my official email address (membership@cornwall-butterfly-conservation.org). Thank you.

And now for something completely different!

Readers of my generation will recognise the above quotation!

My four-year-old granddaughter, about to start school, went to a 'meet your teacher' session at the end of last term and earnestly asked, quite out of the blue, "Miss D, I have a question for you. Do you know what Elephant Hawk-moth caterpillars eat?" If the teacher doesn't know, I fear there is a small person ready to tell her the answer, and a lot more besides. I bet the poor woman is dreading the beginning of term. Or maybe she will get interested and appear in my next list of new members? I do hope so.



Exploring the Penhale Sands dunes on a field trip in May 2021 (photo: Tristram Besterman)

Branch Treasurer's report

Branch Treasurer Anne Banks reports on the annual accounts for 1 April 2020 to 31 March 2021

Like every other charitable organisation in the UK, Cornwall Butterfly Conservation (CBC) was hit hard by Covid in 2020-21. Whilst income generation collapsed because of cancelled fundraising events, expenditure on conservation was also curtailed because organised group activities were prohibited. Nonetheless, CBC's reserves have been sufficient to sustain the Branch through the financial year.

Despite all, CBC kept the *Butterflies of Cornwall: Atlas of the Twenty-First Century* book on track, even exceeding its fundraising target of £10,000, because of the tremendous support given by the membership. Published in the first quarter of 2021-22, sales of the book are going well and will help to fund butterfly and moth conservation for years to come.

This report focuses on the financial year to the end of 31 March 2021. CBC has two types of account, General and Restricted.

GENERAL FUND

This covers the day-to-day management of CBC by its committee. Figures in brackets are expenditure.

General Fund	2019-20	2020-21
Opening Balance	16,034.57	18,445.63
Income	13,560.66	4,245.24
Expenditure	(11,554.76)	(5,476.69)
Fund Transfers	405.16	(2,448.47)
Closing Balance	**18,445.63**	**14,765.71**

Overall performance. The branch ended the year with a balance on 31 March 2021 of £14,765.71, a net reduction of £3,679.92 compared with the opening balance.

Income. Cornish Membership subscriptions to Butterfly Conservation contributed £3,312.00, a small increase of £270.00 compared with 2019-20. Donations in the year totalled £921.25, a fall of £4,008.44 or 81.3% compared with the previous year. Sales in the year totalled £11.99, compared with £5,576.98 in 2019-20, a reduction of 99.7%.

Expenditure. With reduced activity, expenditure fell by 47.4% compared with 2019-20. The main heads of expenditure were £3,600 on the Volunteer Co-Ordinator role before Covid and £1,202.02 for the production and circulation of the bi-annual membership magazine. The remainder was spent on administrative items and insurance.

Fund transfers. This is the transfer of funds from the General fund to the Restricted reserve that relate to previous years activity for the book, *Butterflies of Cornwall*.

The branch holds no significant fixed assets.

RESTRICTED FUND

This refers to financial activity solely concerned with the book, *Butterflies of Cornwall: Atlas of the Twenty-First Century*, which was launched on 26 June 2021. The book was marketed in the last quarter of the financial year 2020–21, with a pre-publication discounted offer that closed on 16 May 2021.

Restricted Fund	**2020-21**
Opening Balance	0.00
Income	14,087.50
Expenditure	(6,851.47)
Fund Transfers	2,448.47
Closing Balance	**9,684.50**

Income. A total of £11,608.62 was raised from donations, grants and sponsorship of the book prior to publication. This account includes £6,557.35 of pre-publication sales to 31 March 2021.

Expenditure. Payments to the publisher, NatureBureau with the imprint, Pisces Publications, and commission on the prepublication sales.

CBC also received valuable support-in-kind provided by Cornwall Wildlife Trust and Butterfly Conservation, each provided free publicity to promote the book to a very wide audience in their respective magazines, *Wild Cornwall* and *Butterfly*.

OUTLOOK

Whilst the reduced financial activity shown in the General Fund account for 2020/21 reflects the impact on CBC of the Covid pandemic, this is to some extent balanced by the successful fundraising and future sales of the book, *Butterflies of Cornwall*.

So, despite continued uncertainty around COVID, the Cornwall Branch is resilient, and its financial position is not presently a cause for concern. CBC has a healthy bank balance, and it can plan expenditure within its means. Income from sales of the book, *Butterflies of Cornwall*, is likely to be steady.

Anne Banks
Branch Treasurer, 18 August 2021

Just a minute...

Do you have access to a laptop and broadband, and have the use of a car? Then you could be just the person we're looking for.

This is your chance to join the CBC team on committee in the role of **Branch Secretary**. Working closely with the Chair, you have a talent for setting up meetings and you can make a written record of decisions and actions in the committee – as well as contributing ideas to improve what we do. If you have experience of Zoom, so much the better, although we hope to be meeting again face-to-face before long. Normally just four meetings a year, to resume, when it is safe, in the Cornwall Wildlife Trust HQ at Allet.

Your Branch Needs You!

Please get in touch with Tristram, even if only to have an initial, no-commitment chat about what's involved. And if you don't fancy the Secretary role, there may be another way you can help.



A Privet (top) and Eyed (below) Hawk-moth (photo: Jim Cooper)

Contact: Tristram Besterman
t.besterman@gmail.com
07796 660 057

Committee members and contacts

Chair:
Tristram Besterman
t.besterman@gmail.com

Chair of Conservation Working Group:
Jim Cooper
fundraising@cornwall-butterfly-conservation.org.uk

Secretary and Branch Contact:
Vacant

Treasurer:
Anne Banks
treasurer@cornwall-butterfly-conservation.org.uk

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

Publicity and Fundraising Officer:
Jo Poland
01872 540371
publicity@cornwall-butterfly-conservation.org.uk

County Butterfly Recorder:
Cerin Poland
01872 540371
records@cornwall-butterfly-conservation.org.uk

Wider Countryside Butterfly Survey Champion and Joint Transect Coordinator:
Kelly Uren
transect@cornwall-butterfly-conservation.org.uk

Press Officer:
Roger Hooper
press@cornwall-butterfly-conservation.org.uk

Health and Safety Officer:
Vacant

Emeritus Chairman: Philip Hambly
philip@lethytep.co.uk

***Other contacts*:**

Webmaster:
Shaun Poland
01872 540371
webmaster@cornwall-butterfly-conservation.org.uk

Newsletter Editor:
Amanda Scott
editor@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



Ringlet (photo: Philip Hambly)