ISSUE 73 SPRING 2023

Cornwall Butterfly Observer



FIELD TRIPS AND EVENTS 2023

We have another exciting programme of field trips planned for 2023. Do come and join us: all the details are in this newsletter
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NEW LIFE FROM OLD COLLECTIONS

Tristram Besterman makes an argument for the value of museum collections in tackling Britain's biodiversity crisis
(page 26)

GEORGIE'S COAST PATH WALK

Georgie Paul, our Volunteer Coordinator, gives us the lowdown on her fundraising trek for CBC, in conversation with our new Chair
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Butterfly Conservation
Saving butterflies, moths and our environment

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

CBC's new website

> **"Having a great online presence can be transformational for any organisation"**
> ***James Murphy, StoryX***

Cornwall Butterfly Conservation has a wonderful new website, the product of much work from James Murphy of StoryX, a Cornish web development agency. James constructed the site entirely gratis. Tristram Besterman added content and checked and rechecked until polished. Thanks to Anne Banks who got the whole thing started.

James says: "Having a great online presence can be transformational for any organisation, especially those tackling the toughest problems facing our planet and the amazing diversity of life that call it home. I hope that Cornwall Butterfly Conservation's new website will help to inspire a new generation of butterfly enthusiasts, naturalists, volunteers and conservationists".

And a few well-chosen words from Tristram Besterman, our outgoing Chair: "CBC is deeply indebted to StoryX and its founder, James Murphy, for his generosity in giving his time and professional expertise to creating our new website. Environmental sustainability and social responsibility lie at the heart of James's business ethic and practice. James manages StoryX to generate sufficient surplus for him to be able to support environmental charities like us. So, James, a huge thank you from the Cornwall Branch of Butterfly Conservation: from its volunteers, its members in Cornwall and all the visitors from outside the County who will use, enjoy and learn from the website that you have created for us."

Have a look for yourself at 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

Images, front and back covers:

Front cover: Small Tortoiseshell (Philip Hambly)

Back cover: Field trip, Chapel Porth, June 2022 (Tristram Besterman)

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Post from the Chair

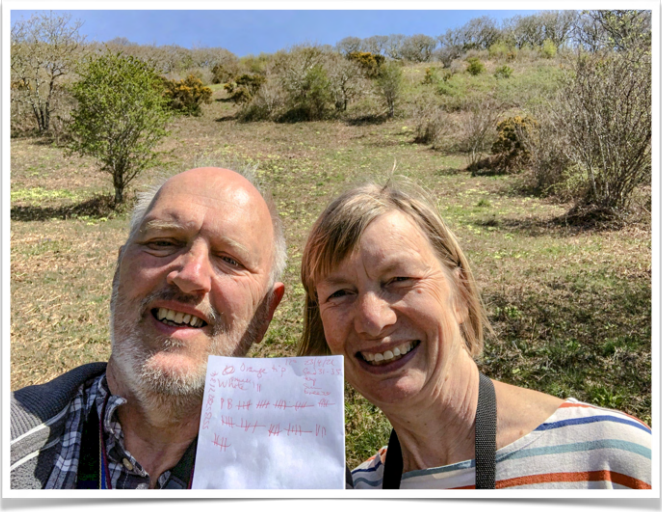
Dear reader,

There have been a lot of changes in CBC since the last Butterfly Observer.

We have to say goodbye to Tristram Besterman, who has been Chair since April 2021 and been on the Committee since 2014. We thank him for the huge amount of work he has done and his ever-thoughtful hand at the tiller. We hope he will enjoy getting outside again, away from answering hundreds of emails and untangling puzzles. Thank you, Tristram.

We also say thank you to Anne Banks who has stepped down from her role. Anne was not just our Treasurer for the past two years, but also took on innumerable other responsibilities.

And this will be the last copy of Butterfly Observer that Amanda Scott will edit after doing such a splendid job for us since 2017.



Andrew and Liz at Hard Hills counting Pearl-bordered Fritillaries, May 2022 (photo: Andrew Thomas)

Moving forward, may we introduce ourselves – new Joint Chairs – Liz and Andrew Thomas. We have been members of CBC for five years (after being won over by the charms of Philip Hambly), have done our fair share of scrub bashing, counted larval webs in the rain, walked transects and remain species champions for the Pearl-bordered Fritillary. We genuinely hope we can guide CBC through the challenging days to come.

One of those challenges will be to engage with Butterfly Conservation's new strategy. You might have heard about the three goals they have set:

1. Halve the number of the UK's threatened species of butterflies and moths
2. Improve the condition of 100 of the most important landscapes for butterflies and moths
3. Transform 100,000 wild spaces in the UK for people, butterflies and moths

Those are very ambitious aims. As a branch we are just getting into the nitty gritty of working out what these will look like in practice.

We have three butterflies in Cornwall that are on the BC Threatened Species List: Pearl-bordered Fritillary, Marsh Fritillary and Heath Fritillary. The conservation of the Heath Fritillary is undertaken by BC directly so there are only two that the Branch work with. In terms of moths we have only one on the Threatened Species List: the Sandhill Rustic - *Luperina nickerlii* ssp *leechi*. Astonishingly, the global population of this moth is to be found only in Cornwall.

To remove their threatened status would involve identifying and reversing the drivers of their decline, research into their needs and ultimately, of course, boosting numbers and distribution, which is something we would all like to see.

For the second target you might wonder what exactly a landscape is? An example, Bodmin Moor, is on the BC list of landscapes. According to Wikipedia it is 208 sq km / 80 sq mi in size. It is mind bogglingly huge. Where would you start?

The third target is wild spaces. According to BC:

> A Wild Space is one where butterflies and moths can complete their lifecycles. The area needs to enable them to feed, breed and shelter. There is no defined size, so long as the requirements are met - it is a Wild Space.

So, flower pots, gardens, allotments, verges are all wild spaces. Creating these sounds very doable. Sounds friendly, too, doesn't it?

Evidently more hands will be needed at the pumps. If you can offer help to our regular band of precious volunteers in any way, please get in touch.

Liz and Andrew Thomas
Joint Chairs, Cornwall Butterfly Conservation

Introducing your Branch Committee

Continuing our series of who's who on the CBC Committee, find out more about our recently appointed Joint Chair, Liz Thomas

Liz trained as a nurse in Oxford then moved to London and spent most of her working life as a palliative care nurse in the community. She finally became a Lead Nurse in the Marie Curie hospice in Hampstead. She had a rewarding and stimulating career but after forty years was ready to retire and pursue other interests.

Liz, and her husband Andrew, moved to Cornwall five years ago and have never looked back.

Having been a 'towny' she loves nothing better than being immersed in nature, experiencing the seasons and the changes they bring. She keeps fit walking their lively dog, Millie, around their local area each day and enjoys spending time pottering about in the garden. She tries to get some time painting in her studio and is a member of the Lerryn art group which she loves.



Liz Thomas, Joint Chair of CBC
(photo: Andrew Thomas)



Liz and her husband Andrew are species champions for the endangered Pearl-bordered Fritillary
(photo: Tristram Besterman)

Liz and Andrew's involvement in Cornwall butterflies began soon after their move to Cornwall when Philip Hambly, their neighbour and CBC chair, recruited them. They started as regular volunteers going out scrub bashing and then discovered the delights of monitoring, firstly by walking a local transect and then as species champions for the endangered Pearl-bordered Fritillary.

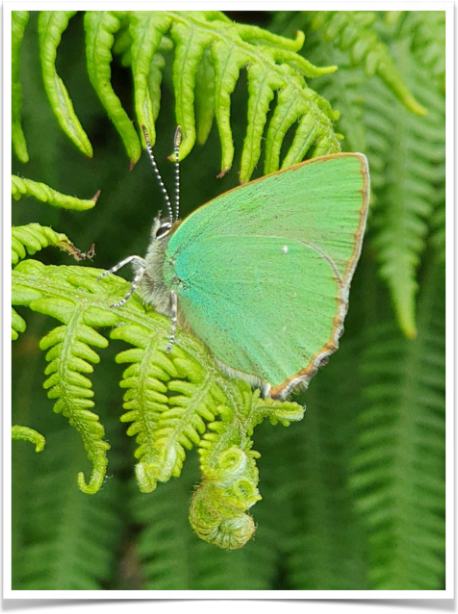
Liz has found it interesting and gratifying working with landowners who share common values and with volunteers from whom she has learned an enormous amount.

She looks forward to her new role as Joint Chair with much anticipation.

In search of the Green Hairstreak

Jerry Dennis tells us about this lovely, iridescent-green butterfly of spring into summer

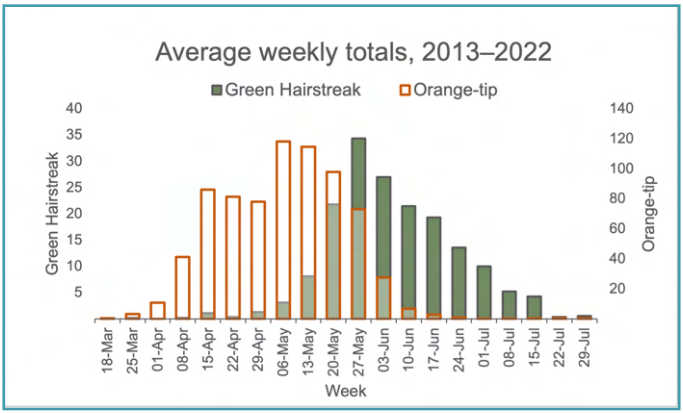
Being fortunate enough to encounter a Green Hairstreak or two when out and about in the wilds of Cornwall makes it a special day. You have to be alert to spot them as they are really quite small and flit about with quick wing beats. At first glance they can resemble a rather drab day-flying moth when in flight, and it is only when they settle that the glorious green iridescence of the underwing becomes visible and you know that you have struck lucky. The butterfly always perches with closed wings to show off the wonderful colouring. A close examination of this beautiful insect reveals delicate striped antennae and legs, and black eyes with luxuriant white borders. The taxonomic name for the species is *Callophrys rubi*, with '*Callophrys*' meaning beautiful eyebrow in Greek and '*rubi*' being a reference to one of its common host plants, the Bramble (*Rubus fruticosus* agg.). This is our only truly green-coloured butterfly, and the colour is achieved by refraction of sunlight through its wing scales.



A delight of greens: Green Hairstreak on Bracken (photo: Jerry Dennis)

The lifestyle of the butterfly has its interesting quirks. It is one of five British hairstreaks and has the earliest flight period of the five, spanning several weeks from April to July. Its earlier flight period is because the other hairstreak species spend winter in egg stage and their caterpillars hatch out in the spring and develop quite slowly through four instars before pupation takes place. The Green Hairstreak has a different strategy; it copes with the cold winter weather conditions in pupation, and gets a head start on the other hairstreaks the following spring. In this pupal stage, it has been discovered that the butterfly can have a close relationship with the red ant species *Myrmica sabuleti*; the Green Hairstreak pupa secretes ant-friendly substances and squeaks in mimicry of an adult ant, enjoying the protection of an ant's nest during the cold months.

In the spring, the Green Hairstreak begins to emerge, and this takes place over a good number of weeks. Comparing the timing of this brood with other British single-brooded butterfly species that hibernate in pupation shows that the Green Hairstreak is one of the latest to emerge. A comparison of Orange-tip and Green Hairstreak flight periods (see graph, page 8) shows that the former appears on average three to four weeks earlier.



Graph: comparing average weekly totals for Green Hairstreak and Orange-tip butterflies

The caterpillars are the least fussy eaters of all British butterfly species, having a wide range of very common foodplants, including Bird's-foot Trefoil, Gorse and Bramble. The Green Hairstreak is adapted to thrive in several contrasting settings with differing amounts of heath, scrub and shrub development. It particularly likes areas with ample Bracken, Blackthorn and Gorse, and locations where low shrubs provide sunny sheltered perching places for the males. A good example of habitat is shown in the image below, taken across the coastal heath near Porthgwarra, a site that I often visit and see Green Hairstreaks.



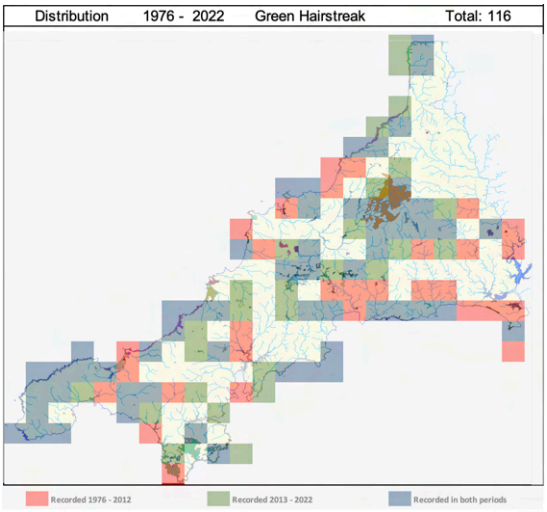
Coastal heath near Porthgwarra (photo: Jerry Dennis)

The Cornish records for Green Hairstreak shown on the map (page 9) highlight places where colonies have been recorded since 1976, the year in which national butterfly monitoring commenced. The map shows coloured 5-km squares (total: 116) where the species has been recorded in the last 47 years. Each 5-km square can contain several Green Hairstreak colonies, which are dotted around many parts of the county.

The 5-km squares containing Green Hairstreak records are further differentiated to give some idea of distribution trends during this long period: red squares – Green Hairstreaks recorded only in years 1976 to 2012 and not since; green squares – Green Hairstreaks recorded only in the last ten years, 2013 to 2022, and not previously; blue squares – Green Hairstreaks recorded in both periods, and locations in these squares are where several colonies are likely to be present.

The distribution of red squares in the patchwork pattern shows that the butterfly has not been recorded in the last ten years in around a quarter of the 116 5-km squares. Reasons for this can include both disappearance of colonies

and absence of recorders. There is a higher density of red squares in the east of the county, particularly along the southern coast north and east of St Austell, and along the north coast between Port Isaac and Crackington Haven. If you live near these places, or indeed near or in any red square on the map, please consider surveying for Green Hairstreaks this year so that we can find out if colonies are still present. Studies carried out recently suggest that the Cornish distribution of the Green Hairstreak has in all likelihood decreased in the last 20 years. It is therefore important to find out if the butterfly remains in those places where it has not been recorded recently.



Distribution map of Green Hairstreak in Cornwall 1976–2022

The distribution of green squares (records only in 2013–2022) indicates that the butterfly has also been recorded for the first time in nearly a quarter of the 116 squares. Reasons for this can include recent colonisation, or recorders monitoring new locations and being the first to record a long-standing colony. Most of these new locations are inland. This shows that if you live adjacent to any of the squares where Green Hairstreaks have been seen previously, you may be lucky in finding a colony that we did not know about.

If you are interested in finding Green Hairstreaks in 2023, you should look at the list of field trips on our website (or pages 15 to 18 of this newsletter). The Green Hairstreak is the main attraction for the field trip on 1 June to Chapel Porth. Alternatively, if you want to know more about where to find the butterfly near you, there is an excellent summary in *Butterflies of Cornwall: Atlas for the Twenty-first Century* (Pisces Publications, 2021).



A Green Hairstreak perching on Gorse, a favourite plant of the butterfly (photo: Jerry Dennis)

Georgie's Coast Path walk

Georgie Paul talks to Andrew Thomas about her epic fundraising trek for CBC, accompanied by her dog, Squirrel

Where did the idea of your walk come from? I've always wanted to walk the coastal path, and then after leaving a full-time job it seemed like a great time to fit it in and fundraise whilst I'm at it.

Where did you start? I started in Newquay - so I set off from home. I made it to St Agnes and camped there for the night.

I hear you had trouble with your feet. I bought really expensive boots that were supposed to be really good, but they were too tight. I've got wide feet, so I ended up with terrible blisters for most of the trip.

And are your feet ok now? They are yes. My hip is not.

"...everyone was really happy to hear about what we were doing, and they'd tell me all the butterflies they'd seen."

What's the problem with your hip? One of my bag straps broke. So, I had to tie it together, but then it wasn't adjustable anymore. It was a constant battle of having it too heavy on one side or too heavy on the other. It was then my right hip ended up really going.

Heavy bag? Yeah. Dog food and water – I would be drinking about four litres a day while I was hiking. There just weren't cafes to get water from that frequently, so I had to carry a lot.

This all sounds like hard work! Were there any good moments on your walk? Yeah! Everyday! It was painful but it was blissful. You know, I was so lucky with the weather, which was always really sunny and lovely except for four days. And it was just amazing - you know, I've lived in Cornwall so long, but I've hardly explored any of it further down south.

Did you have any encounters with people on your walk? Loads! And they were all lovely. Squirrel ran around in butterfly wings which attracted a lot of attention. And everyone was really happy to hear about what we were doing, and they'd tell me all the butterflies they'd seen. And I had some really amazing offers. One day I had run out of blister plasters – and a lady was chatting, and she donated me some cash and a pack of spare blister plasters she happened to have with her.

Another day near Mousehole it was late, I was really tired and it had started raining. A lady I'd seen earlier came back up to me and offered me a room for the night with a real bed, a shower and she even cooked me some food, it was amazing. Everything just kind of works out really well when you need it.

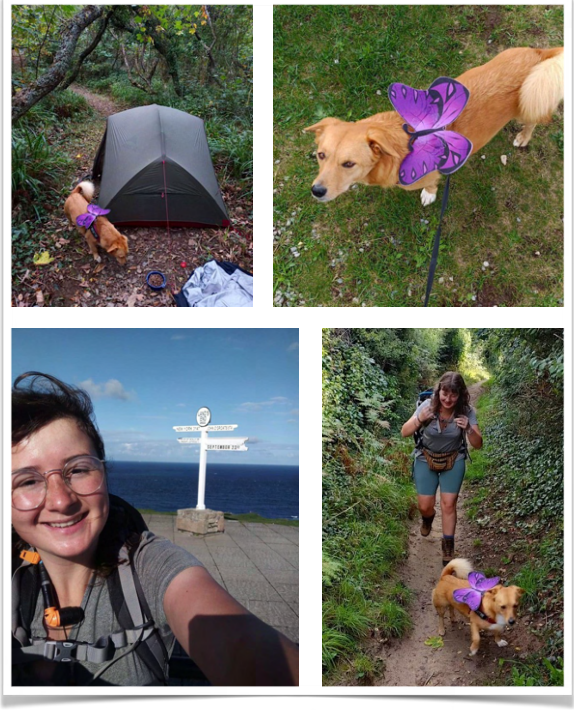
So, what was the end of your walk like? I usually aimed for 10 miles a day, but I could see Newquay in the distance so kept going. I ended up walking 17 miles on my final day. I just absolutely smashed it out. Just crying happy tears the whole way because I was so elated seeing home.

Were you ever scared? I wouldn't say 'scared scared' but there was definitely a funny scared moment. We got chased by some Dartmoor ponies. We were on this stretch that was really gorsy. It was a

really narrow path on this cliff edge. The dog had gone off ahead and found these ponies. I was calling him back. He did a U-turn. He came back to me but then the Dartmoor ponies were chasing him! I had to pick the dog up but this pony was grabbing my bag. I turned around from him and he was pulling on my bag. I literally stood there, freaking out but also crying with laughter.

You didn't feel threatened by anybody? No. I've done a lot of solo travel in a lot of dangerous places, and I've definitely been in worse situations – if you look at the dog in daylight, he doesn't look overly threatening, especially with butterfly wings, but if somebody approached the tent at night, he'd go absolutely ballistic.

What did you eat on a regular day? I bought these disgusting hiking meals. Packets that you could eat cold if you needed to but you just heat them up on a little gas stove. They were light to carry and cheap, but I went off them really quickly.



Clockwise from top left (photos: Georgie Paul):

1. Camping on the Coast Path
2. Squirrel with wings!
3. Not much further
4. Land's End

And you got people helping you? I recruited a lot of Cornwall Butterfly Conservation members that lived all around the coast who delivered me food parcels and the occasional bed.

And there must have been times when you thought about stopping and just going home. No. I don't like to quit. Especially with social media and fundraising, you can't. I allowed myself to cry once a day. Usually in the morning when I didn't want to leave the tent. I used to put a positive spin on it like singing along as I'm walking the coast path.

Well done. Anything else you'd like to add? Just to mention that the fundraising is still open. (If you'd like to contribute, here's Georgie's fundraising page: https://www.justgiving.com/fundraising/georgie-squirrel-cornwallcoastpath). Although we've met the target, I did want to raise more than we did.

How much is it so far then? With Gift Aid it's about £1,500. Let's hit £2,000!

Committee reports

Treasurer's report

Branch Treasurer Sarah Board's report as of 25 February 2023

I have just taken over the role of Treasurer for the Cornwall branch from Anne Banks, who has committed a lot of time and energy as Treasurer over the last two years. So, the first thing I want to say is a big THANK YOU to Anne and thank you for offering me continued support if required (only in the short term!).

Butterfly Conservation Head Office holds two accounts for Cornwall branch: the 'general account' for conservation work and day-to-day operations of the branch, and a 'restricted account', which is solely for the publication *Butterflies of Cornwall: Atlas for the Twenty-first Century*. The funds from the restricted account can only be used for the branch's conservation work in Cornwall.

General account

This account is currently £16,140.39 in surplus, although the accounts have yet to be reconciled with Butterfly Conservation Head Office.

Towards the start of the financial year we were successful in the recruitment of a Volunteer Co-ordinator, Georgie Paul, who I'm sure a lot of you have had the pleasure to meet and work with. This is a paid role that has reinstated the vitally important fieldwork of practical habitat management and surveys. Georgie has got us back on track with these areas of our work, with some of the funds for this post coming from the income generated by sales of *Butterflies of Cornwall: Atlas for the Twenty-first Century* (see below for further details). Expenditure for this, our only paid role, has so far amounted to £2,800. We have also spent funds on training committee members in first aid and in the safe use of brushcutters for practical conservation work, as well as paying mileage for conservation volunteers and producing our branch newsletter, Cornwall Butterfly Observer.

Many members of Butterfly Conservation Cornwall branch have made sterling efforts with fundraising this year, attending events with our stall, giving talks to various organisations, and let's not forgot Georgie's fantastic Cornish coastal path walk last autumn. These events, along with donations, have raised over £6,000 for the branch since April last year, an amazing feat considering we were unable to hold a members' day, and that we had only set ourselves a target of raising £4,400. So thank you to everyone who has contributed to this sum.

Restricted account

The book, *Butterflies of Cornwall: Atlas for the Twenty-first Century*, published in the summer of 2021 has broken even. We have sold a further 155 copies in the past year, generating a further £3,600 for butterfly conservation work in Cornwall.

We still have copies left, so if you wish to buy a copy please head to the Cornwall Butterfly Conservation website and click on the 'Shop' tab from the Homepage.

Membership news

Membership Secretary Kathy Wood brings us her Spring 2023 report

This time, I begin with some very good news. Cornwall Branch, like most others, had an unusually large intake of new members in January: 35 households, 37 individuals. This was largely due to a special offer for supporters who had taken part in the Big Butterfly Count last summer. These new members are doubly welcome because they bring us at last to more than our pre-Covid membership, in fact to a record total of 594 households, 837 individuals.

Do not worry that I might become redundant or complacent; I am very conscious that we remain one of the smallest branches in the UK, at number 26 out of 34.The largest Branch, West Midlands, has 1,697 households, 2,337 individuals, so I still have a target to aim for!

Our very successful Publicity and Fundraising Officer, Jo Poland, retired from the committee a year ago and we have not yet managed to replace her (please contact me if you are interested in this voluntary post). A few of us, including Georgie Paul working as a volunteer and not in her role as our employee, have managed to run some of our usual stalls at public events. Our aims when running these stalls are **publicity**, **public education** (about the importance of butterflies and moths, their decline, what BC and CBC are doing to try to combat it and how everyone can help), **recruitment** of volunteers and members, and **fundraising**.

At appropriate events, we run a “prize every time” game aimed mainly at children. This raises some money and encourages families to stop at our stall, where we can also show them live caterpillars and moths (in season, carefully looked after and returned to their habitat at the end of the day) and talk to them about our work.

We sell Field Studies Council identification guides, CBC’s own butterfly atlas, pin badges, tea towels and many other butterfly-related items. In the past, some generous and talented supporters have kindly donated some of their hand-made greetings cards and other items, even copies of books they have written, for us to sell on our stalls. If this is something you could consider doing, I would be delighted to hear from you.

We are also in need of some more volunteers to help us run the stalls, including but not limited to stronger ones who can carry tables or boxes of stock when we are setting up and taking down the stalls. If you would enjoy helping us get our message out there, please contact me on membership@cornwall-butterfly-conservation.org.uk.

If you know of a forthcoming event where we might be able to book a stall with no or minimal charge and would meet a lot of people who are interested in nature conservation and/or gardening, please let me know details, including contact details of the organiser.

Many thanks to those members who opted to receive their Cornwall Butterfly Observer by email to reduce costs. Unfortunately, the Head Office database system is still faulty and unable to cope with this, so we have not begun to email copies yet, but hope to do so for the next edition. Meanwhile, I’d be delighted to hear from more people keen to save us money. Thank you.

Volunteer Coordinator's report

Georgie Paul, Volunteer Coordinator, tells us about the conservation work CBC's fantastic volunteers have been doing recently



Some of CBC's volunteers taking a break during a conservation day at a quarry on Bodmin Moor, improving habitat for the Pearl-bordered Fritillary (photo: Georgina Paul)

This season's volunteering activities have been fantastic. Now we have come to the end of the habitat management season, I would like to thank every volunteer who has attended a workday: you have all been incredible. We have managed to run nine workdays since November. These have been in aid of the Pearl-bordered Fritillary, Small Pearl-bordered Fritillary, Marsh Fritillary and Grizzled Skipper. All the workdays have been extremely productive, clearing as much as we planned, if not more! – except for one cheeky day at De Lank Quarry where "Roger" the brushcutter decided to break, but we arranged another last-minute workday to tackle the bracken we missed.

Our volunteering activities have been quite limited this year, but I am excited to announce that we have created a new volunteer role for Conservation Group Leaders to lead further volunteering activities throughout the year. I have trained five new group leaders: Liz Thomas, Andrew Thomas, Sue Allen, Alan Stapleton and Miriam Christine. Miriam is quite new to CBC and has been eagerly getting stuck in with practical butterfly conservation work and is learning all she can to kickstart her conservation career. Conservation Group Leaders will be leading field days so we can achieve more than just what my contract would allow.

After the worrisome droughts of last year, we still don't know what effect this has had on our precious butterfly populations, so it's more important than ever that we get out into the field assessing population numbers and improving habitats. Please consider joining our volunteer database to receive direct email invites about volunteering opportunities in Cornwall. There is no minimum commitment required, so you can sign up to as many or as few events as you like. Complete beginners are always welcome: our volunteering activities are suited to any skill level. If you are interested, please email gpaul@butterfly-conservation.org.

Field trips and events 2023

Welcome to Cornwall Butterfly Conservation's programme of field trips for 2023; an exciting mix of new sites and old favourites. As before, we have also organised a few trips in partnership with other local conservation organisations. Increasingly, the importance of recording is recognised so we encourage everyone to note what they find on these field trips so that we can continue to build a better picture of Lepidoptera distribution across Cornwall.

Our field trips are fun and friendly and open to all – including accompanied children – whatever level of experience you have and whether or not you're a member of CBC. Please always come prepared for Cornwall's changeable weather and mixed terrain – waterproofs, good walking shoes or boots, sun cream etc., as well as water and lunch/snacks. Please be aware that we would prefer dogs not to be brought because we are in wildlife-sensitive areas.

Postcodes have been included. However, please bear in mind that they may not be as accurate as grid references in pinpointing meeting places, particularly on coastal walks where there are no obvious landmarks and the postcode covers a larger than usual area, so you may find useful this link to Grab a Grid: www.bnhs.co.uk/focuson/grabagridref/html/index.htm. Please check our website or social media (see Contacts, back page) prior to each field trip in case of cancellation or changes due to weather or other complications. You can also check our website events page at www.cornwall-butterfly-conservation.org.uk/events.html for details of field trips and upcoming events; or contact Sue Allen on events@cornwall-butterfly-conservation.org.uk by email, or on 01872 240246 or 07884 974528.

Saturday 13 May: Fellover Brake

Nr St Breward, 12 noon

A meeting hopefully to see one of the UK's most declining and endangered butterflies, the Pearl-Bordered Fritillary, at this hillside site that is known to be reliable for them. Directions: from the Old Inn in St Breward go north and down the hill to the junction. Turn left, continue down and the road levels out before a bridge over the Camel. We park and meet along this road. If coming north on the B3266 go past the signs for St Breward and St Tudy and watch out for a right-hand bend and then a left soon after. At this bend take the right-hand minor road signposted St Breward and the road drops down the hill to the bridge and the meeting point (SX088778; postcode PL30 4PQ). Please bring a packed lunch.

Leader and contact: Alan Stapleton (01208 850085)

Thursday 18 May: The Butterflies of Penhale

Nr Cubert, 9.30am

This is a joint Cornwall Wildlife Trust/Cornwall Butterfly Conservation walk. We will also be joined by Andy Nelson, the Dynamic Dunes Public Engagement Officer, who will give an update on the project and its aims. In addition to seeing a variety of spring wild flowers, we should find Brown Argus, Dingy Skipper and the Grizzled Skipper which is now only located on this site in Cornwall. Please meet by the M.O.D. South Gate near Treworthen Farm, Cubert (SW783566; postcode for Treworthen Farm TR8 5PZ). Please bring a packed lunch. Places are limited so booking is **essential** for this one.

Leaders: Jon Cripps and Steve Batt; Booking essential: contact Sue Allen (01872 240246 or 078849 74528, or by email at events@cornwall-butterfly-conservation.org.uk)

Sunday 28 May: Predannack, The Lizard

Nr Mullion, 11am

This fieldtrip is in partnership with the Natural England (NE) team on the Lizard and we will be looking for newly-emerged Marsh Fritillaries. Meet at the National Trust (NT) car park at Higher Predannack Wollas Farm (SW669162; postcode TR12 7EZ). Please bring a packed lunch.

Leader: Duncan Lyne (Lizard NE team); Contact: Dick Goodere (01736 753077)

Thursday 1 June: Chapel Porth

Nr St Agnes, 12 noon

Join us looking for Green Hairstreak butterflies along this beautiful cliff walk. The terrain can be steep and rough in places, so we advise a walking pole and sturdy footwear, but the views are spectacular. Meet at Wheal Coates NT cliff top car park (not the beach car park) (SW702500; postcode TR5 0NT). Please note that there is a parking charge for non-NT members. Please bring a packed lunch.

Leader and contact: Kathy Wood (01872 864344)

Sunday 4 June: Greenscombe Wood

Nr Luckett, 10.30am

Come and join us on a field trip to Cornwall's only site for the nationally rare Heath Fritillary butterfly, which is now established here after a successful reintroduction in 2006. This walk has several steep inclines that can be slippery, so we advise a walking pole and sturdy footwear. Local expert on the species, Richard Vulliamy, will be leading the trip. Meet in Luckett Village car park, (SX389737; postcode PL17 8NJ). Please bring a packed lunch.

Leader: Richard Vulliamy; contact: Tristram Besterman (07796 660057)

Thursday 15 June: Cubert Common

Nr Crantock, 11am

Cubert Common is one of the few enclosed commons in England. It is a gently undulating area of sandy grassland owned by the National Trust (NT) and designated as a Site of Special Scientific Interest (SSSI). We will be looking out for a wide variety of butterflies (including Brown Argus, Dark Green Fritillary, Silver-studded Blue and Small Heath); moths; other invertebrates and also rare plants. Meeting point is the NT Car Park near Polly Joke beach (SW776599; postcode TR8 5QS). This is a relatively small car park so car sharing is advised. Directions: Drive through Crantock village and shortly after turn left onto the road to Treago farm. Drive through the farm and follow the track and park in the NT car park (note that at Treago Farm there is a gate crossing the track which you will need to open and close). Please bring a packed lunch.

Leaders and contact: Tristram Besterman (077966 660057) and Steve Batt

Thursday 29 June: Upton Towans

Nr Hayle, 11am

Join us on a walk through this extensive sand dune complex situated between Gwithian and Hayle: a Cornwall Wildlife Trust (CWT) reserve and an SSSI. The main target species will be Dark Green Fritillary and Silver-studded Blue but there will be many other Lepidoptera species and wildlife to see. Meet by the gate, in front of the large chimney at the entrance to the CWT reserve (SW579396; postcode TR27 5BJ). Please bring a packed lunch.

Leaders and contact: Dick Goodere (01736 753077) and Jerry Dennis

Saturday 1 July: Poldice
Nr St Day, 11am

The landscape in this valley bears witness to the concentrated mining activities that took place at this World Heritage Site. The area, at first, looks to be the last place to search for butterflies, but even in this barren, polluted landscape plants have become established and butterflies have found a niche, including Silver-studded Blue, Small Heath and, later in the season, Grayling. This large site has many ruined mine buildings and uneven/steep tracks which are shared by cyclists, so we advise a walking pole and sturdy footwear. Meet by the lay-by opposite Truro Auction Centre (SW737430; postcode TR16 5PZ). There is more parking a little further along the road towards Crofthandy on the left (SW737428). Please bring a packed lunch.

Leader and contact: Sue Allen (01872 240246)

Sunday 9 July: Penlee Reserve and Penlee Point
Nr Rame Head, 11am

We expect to see Marbled White butterflies, as well as Small Heath and Dark Green Fritillary, on this walk. There are spectacular views from this south coast meadow that is buzzing with life! Please bring a packed lunch. Meet in Penlee Battery car park (SX436491; postcode PL10 1LG).

Leaders and contact: Tristram Besterman (07796 660057), Roger Hooper and Leon Truscott

Thursday 13 July: Cabilla Woods
Glyn Valley (three miles east of Bodmin), 12 noon

Join us for this walk through the Cornwall Wildlife Trust (CWT) reserve described as “one of the largest and possibly finest ancient woodland in Cornwall”. Our target species is the Silver-washed Fritillary with a chance of seeing the aberration f. *valezina*. There should also be many other butterflies including Comma, Ringlet and Gatekeeper. Please bring a packed lunch. Directions: Proceed along the A38 from the A30 heading towards Liskeard. About a mile past the Bodmin Parkway junction, turn left down Le Ball Hill. Cross over a small bridge and immediately turn right. There are some places for parking (SX129652; postcode PL30 4BE) but these are limited, so car sharing is advised. What3Words location finder:- recliner.elbow.nurses

Leaders: Roger Hooper and Kelly Uren; contact: Sue Allen (01872 240246)

Saturday 15 July: Churchtown Farm
Saltash, 1pm

We are joining the Friends of Churchtown Farm (FOCF) for a walk identifying and learning about the butterflies and moths that make their home at this Cornwall Wildlife Trust (CWT) reserve on the banks of the River Lynher. A donation of £2 is suggested for those not members of CWT or FOCF. Directions: Meet by St Stephen’s Church opposite The Cecil Arms on the junction of St Stephen’s Road and Farm Lane. (SX417583; postcode PL12 4AR). It is about a mile from Saltash Railway Station, and there is a local bus link to St Stephen.

Leaders and contacts: Kelly Uren (07429 354011) and Sue Allen (01872 240246)

Tuesday 18 July: Carnon Valley
Nr Devoran, 11am

Join us for a walk along the Carnon Valley in a landscape still dominated by the mining industry. The area has been visited regularly for our *Mining for Butterflies* project. This gentle walk uses the Coast-to-Coast cycle/walking track from Carnon Valley Car Park to Bissoe Cycle Hire (where there are toilets) and back. We hope to see plenty of common butterflies and, near the pools along the way, dragonflies, maybe even the Scarce

Blue-tailed Damselfly. We will explore Cornwall Wildlife Trust's Bissoe Valley Nature Reserve and the Arsenic Works where the Silver-studded Blue has been recorded. Please bring a packed lunch. Directions: From the A39 at the Devoran roundabout take the road heading towards Bissoe. Go straight over the first cross roads, under the viaduct, then take the next left and the car park is on your right. (SW783408; postcode TR37LN).

Leaders and contact: Sue Allen (01872 240246) and Kathy Wood

Sunday 30 July: Godolphin Woods

Nr Godolphin, 1.30pm

Join us for this interesting walk-through Godolphin Woods. There will be a wide variety of Lepidoptera, but the target species will be the Purple Hairstreak. Directions: coming from Leedstown, turn left at Townshend, then at Godolphin Bridge the road swings to the left; some distance along this section there is a parking area on the left where a track runs down to the river. It is possible to park here, but it is better to drive down the short track and park in the larger car park at the bottom (on the right) (SW600324; postcode TR13 9RE).

Leaders and contact: Perry Smale and Judi Swift (01736 448304 or 07412 262184) and Jerry Dennis



Field trip, Chapel Porth, June 2022
(photo: Tristram Besterman)

Tuesday 8 August: Gwennap Head and Porthgwarra

Nr Land's End, 10.30am

This beautiful location boasts an abundance of butterflies, including Grayling, Small Pearl-bordered Fritillary, Clouded Yellow, Small Heath and many more. Meet in the Porthgwarra car park (SW370217; postcode TR19 6JR - café) where charges apply. Please bring a packed lunch.

Leader and contact: Jerry Dennis (07956 041263)

Sunday 13 August: Windmill Farm Nature Reserve

The Lizard, 11am

Windmill Farm was purchased jointly by the Cornwall Bird Watching and Preservation Society and Cornwall Wildlife Trust (CWT) in 2001. This 85ha (210 acre) farm is home to an array of habitats including wet and dry heaths, hay meadows, wetland, ponds, and arable land. The mix of habitats means the site is home to a huge variety of plant, bird, and invertebrate species. We will join the volunteer ranger and hope to see late summer butterflies, including the Small Pearl-bordered Fritillary and the Grayling, and, around the pools, dragonflies, and damselflies. There is also the chance of seeing Marsh Fritillary larval webs. Meet at the car park by the windmill which is down a lane off the A3083 (SW693152) TR12 7LH. Please note dogs are not allowed anywhere on this site. Please bring a packed lunch.

Leaders and contact: Sue Allen (01872 240246) and Dougy Wright (Volunteer Warden)

Recording

The latest updates from our County Recorders

Butterflies, 2022

Jerry Dennis, County Butterfly Recorder, reports on 2022

In 2022, we enjoyed a year that was generally hotter and drier in the spring and summer when compared with recent years. Such weather usually translates into good numbers of butterflies as we are more likely to venture out on warm sunny days and the adult butterflies are nicely warmed on such days and on the wing for us to see. This turned out to be the case, with the majority of species having higher-than-average numbers. Such weather, particularly dry weather in the early months of the year, does not necessarily suit caterpillars as they need rainfall to promote the growth of their food plants. The caterpillars of most species are really quite fussy about the plants that they will eat; dry weather can curtail the growth of these plants leading to reduced caterpillar numbers. Lower-than-average numbers for a few species may have been a consequence of the dry spring conditions.

2022 recording

The number of records submitted exceeded 40,000, a new record for a single year in Cornwall. The records come from a variety of sources, such as UKBMS transects, iRecord and casual recording via email, and national schemes such as the Big Butterfly Count and Garden Butterfly Surveys. This is an amazing effort and I am very grateful to all of you who have taken time to survey and report butterflies that you have seen.

Records come from all parts of Cornwall and so we can assess butterfly trends throughout the county. Data from north-eastern Cornwall in the last five years has been locally sparse, particularly in the Launceston area; help with improving this situation in 2023 is requested. There was one area, located between Crackington Haven and Warbstow Cross, with no records at all in 2022. If you are able and have time to visit this area in 2023, I will be delighted to find out which butterflies you find.

Comparative abundance, 2022 versus 2019–2021

Last year's records describe more than 120,000 butterflies of 40 different species located in more than 1,600 different 1-km squares. Figure 1 compares 2022 numbers with the average of the previous three years (2019 to 2021) in terms of abundance and distribution; this provides an appreciation of short-term trends. I will now highlight some important and interesting details in the data.

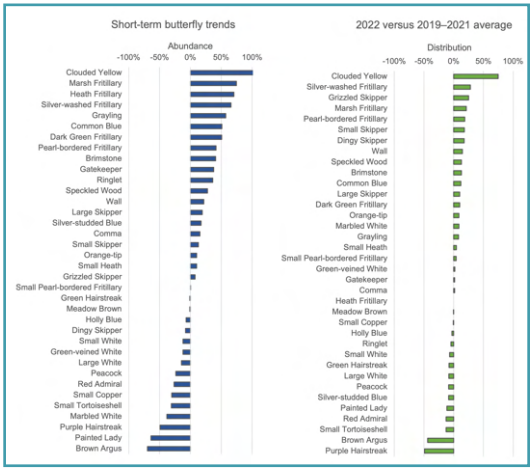


Figure 1: Comparison of numbers for 2022 with average of the years 2019–2022 in terms of abundance (blue bars) and distributionn (green bars)

Section 41 species

The species designated nationally as Section 41 species of principal importance are those most threatened in Britain. We are fortunate that eleven of these breed in Cornwall and their 2022 numbers are summarised in Table 1. One species not seen in every year, the White-letter Hairstreak, was not recorded. The comparative abundance and distribution numbers for these species are encouraging, with all having had reasonable or good years.



Pearl-bordered Fritillary at Pendrift Downs (top); Marsh Fritillary at Predannack Downs, The Lizard (bottom) (photos: Jerry Dennis)

Numbers of Heath Fritillary at its single Cornish site of Greenscombe Wood were excellent. The monitoring and conservation work that has been carried out by Butterfly Conservation has proved effective after the species was re-introduced in 2006.

The numbers of Pearl-bordered Fritillary were slightly higher than recorded in the previous best year (2021); the butterfly had a very successful year at its known sites. Again, excellent monitoring is a major factor in the numbers that were recorded.

The Marsh Fritillary was recorded throughout its known sites and with the highest abundance since 2018. This is good news for one of our rare butterflies that has its strongholds in the Bodmin area and on The Lizard.

Grayling numbers exceeded 3,000 for the first time; this is the impact of enhanced surveying carried out in the last five years. More than

TABLE 1: Section 41 species	2022 total	1-km squares
Silver-studded Blue	8,130	63
Grayling	3,064	61
Small Heath	2,040	148
Wall	1,324	257
Small Pearl-bordered Fritillary	921	89
Heath Fritillary	708	1
Pearl-bordered Fritillary	649	9
Marsh Fritillary	449	30
Dingy Skipper	129	21
Grizzled Skipper	123	8

Numbers shaded green are the highest yearly numbers yet recorded

TABLE 2: Resident species	2022 abundance	1-km squares
Meadow Brown	24,251	841
Gatekeeper	18,975	757
Speckled Wood	10,099	837
Large White	7,422	763
Small White	7,016	737
Red Admiral	6,833	907
Ringlet	6,569	478
Common Blue	6,216	526
Small Tortoiseshell	2,523	564
Small Skipper	2,198	201
Peacock	1,994	545
Green-veined White	1,762	396
Small Copper	1,698	453
Painted Lady	1,659	467
Orange-tip	1,149	289
Comma	1,108	363
Large Skipper	1,085	200
Holly Blue	892	282
Silver-washed Fritillary	800	139
Dark Green Fritillary	720	57
Clouded Yellow	708	245
Brimstone	454	155
Green Hairstreak	252	56
Marbled White	199	46
Brown Argus	90	19
Purple Hairstreak	49	17

Numbers shaded green are the highest yearly abundance / number of squares yet recorded

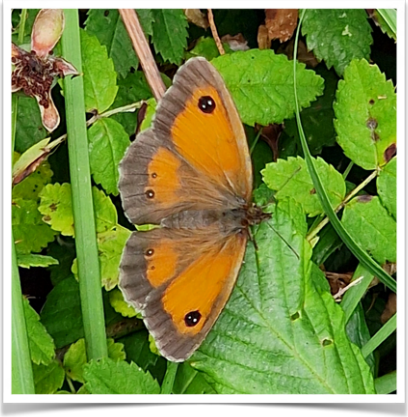
half of this total was recorded at Goonhilly Downs on The Lizard National Nature Reserve. It is remarkable to consider that the butterfly's annual numbers averaged around 200 before 2018.

Resident species

Table 2 summarises 2022 abundance and distribution totals for the remaining resident species.

Species doing well in 2022

Our three migrant species had differing fortunes in the year. The Clouded Yellow had its best year since 2014, which was the last time we had a major influx. The data show small numbers of incoming migrants in May and local brood populations of this species emerging through July to November, with peaks in early August and late September (Figure 2). Red Admiral and Painted Lady were not as plentiful as in recent years.



The Gatekeeper had its highest yet totals in summer 2022 (photo: Jerry Dennis)

Two of our commonest brown species, the Gatekeeper and Speckled Wood, exhibited prolific numbers in 2022 with their highest-yet annual totals.

All fritillary species except for the Small Pearl-bordered Fritillary exhibited relatively high numbers. The Dark Green Fritillary had its highest yearly totals and was spotted in many coastal settings and a few inland sites (Figure 3). Upton Towans and Nare Head were particularly productive.

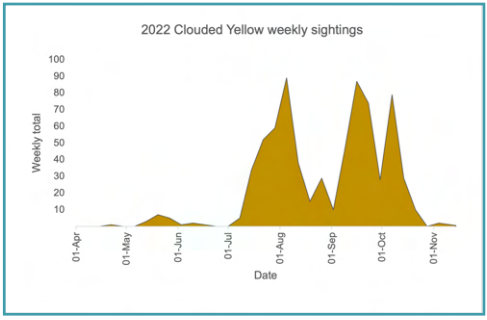


Figure 2: Clouded Yellow weekly sightings in 2022 (the best year since 2014)

The Silver-washed Fritillary (Figure 4) also had a remarkable summer brood, being seen in more places than in any previous year. There has been a medium-term spread of sightings into central and western Cornwall, as demonstrated by the butterfly's records from 2005 onwards.

Species doing less well in 2022

Species that did not fare particularly well in 2022 include Brown Argus, Purple Hairstreak and Marbled White. The Brown Argus second brood was much smaller than usual; this was the main reason for low overall numbers, the lowest since 2017. Purple Hairstreak is a difficult butterfly to spot, spending most of its time in the canopy of oak trees. Data in 2022 show the low numbers seen were relatively early in what turned out to be a short flight period, again the lowest totals since 2017. There was only one Marbled White seen in a whole week in late June when numbers usually peak for this species, with poor weather in this week explaining the 'missing' peak. Other species with relatively low numbers include Small Copper, Small Tortoiseshell and Peacock.

Occasional and accidental species

Each year, in addition to the 37 resident species, small numbers of occasional visitors and accidentals are seen by a lucky few. The most spectacular of these is the Monarch; only one was reported at Wendron football club near Stithians reservoir. Three Large

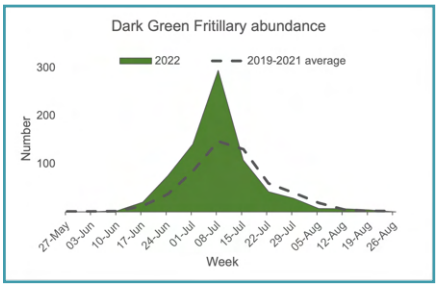


Figure 3: The Dark Green Fritillary had its highest yearly totals to date

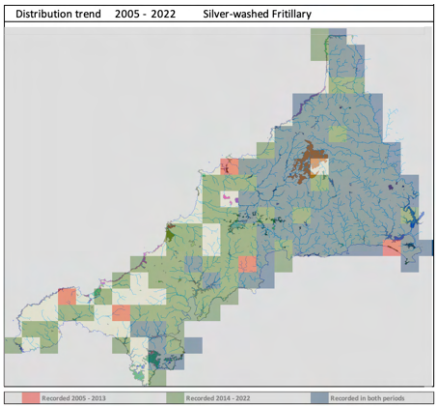


Figure 4: Distribution trends for the Silver-washed Fritillary, 2005–2022

Tortoiseshell sightings were reported and three Long-tailed Blue were seen, one on the Isles of Scilly. A very rare American Painted Lady was photographed by butterfly enthusiasts at Nare Head, one of only three Cornwall records since 2012.

We are very interested in all of your butterfly sightings; please keep up your excellent recording in 2023. Your records are extremely important in understanding how our butterflies are faring. You can email your records or any queries directly to me at records@cornwall-butterfly-conservation.org.uk, or use the iRecord for Butterflies app on your phone.

Moths, spring 2023

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

The spring highlights consist of records for 2022 received since the autumn report. At the time of writing (early February 2023), records for 927 species for the year had been received, which is average for the last 10 years.

Micropterix mansuetella was found at a new site on Goss Moor by Cerin Poland (CP) on 9 May, following records on the known sites, Breney and Menadew by John Cook (JC) and Marilyn Edyvean (ME), also in May. Phil Barden (PB) found leaf mines of *Eriocrania unimaculella* on *Betula* at Pentillie Castle on 8 May, the first since 1983. At the same site visit, PB also found a new species to Cornwall, *Ectoedemia heringella*, with vacated mines on *Quercus ilex*. Another species new to Cornwall is *Morophaga choragella*. JC trapped one near Herodsfoot on 15 July. There were three further records of *Nemapogon koenigi*: Tom Clark (TC) on 22 May and 20 June at Downderry (adding to his 2021 records) and Sue Taylor on 1 Jun at Nanstallon, bringing the Cornish total to five records. Finley Hutchinson (FH) found larvae of *Bucculatrix thoracella* on *Tilia* at Tremough on 26 September and 7 October, the first records for VC1.

In April and May Jack Oughton (JO) conducted a survey, mostly around The Lizard Peninsula, of some of our scarce and local species, most of which had not been reported for the last 6–10 years. He successfully found larvae or mines of *Phyllonorycter staintonella*, *Aproaerema suecicella*, *Prolita solutella*, *Scrobipalpa artemisiella*, *Caryocolum vicinella* and *Elachista dispunctella*. Chris Lewis (CL) recorded *Ypsolopha vittella* on 20 August on St Mary's, IOS, the first Cornish record since 1989. *Glyphipterix schoenicolella* is found in two main areas of Cornwall: The Lizard Peninsula, where JO found moths at several sites on 21 and 22 May, and western parts of Mid-Cornwall, where CP found moths at several sites, mostly around the Goss Moor area in August. George Tordoff (GMT) found vacated mines of *Lyonetia prunifoliella* at two sites near Veryan on 12 and 15 August, only



Morophaga choragella
(photo: Marilyn Edyvean)

the second and third records for Cornwall and new to VC2.

Mick Scott (MAS) recorded *Oegoconia quadripuncta* on 21 June at St Mary's, IOS, the second Cornish record; this was followed by four more records, all at the end of July: three from Frank Johns (FTJ) at Trevergy Farm, Cury and one from Bernard Hocking at Rospannel Farm (confirmed by FTJ). JO found larvae of *Metzneria aestivella* at St Agnes on 1 April and The Lizard on 22 May, followed by an adult moth recorded by Chris Vincent on 12 July at Upton Towans. MAS recorded *Caryocolum alsinella* on 12 June and 7 July at St Mary's, IOS, our first records since 1995. Both GMT and JO had success in finding larvae of *Caryocolum viscariella* on Red Campion in April and May; GMT found them at three sites in April on the north coast as well as in Scilly: on St Mary's, St Martin's, St Agnes and Gugh; JO found them at sites on The Lizard on 21 May. On 19 March at Calstock, PB found a larva and feeding signs of *Caryocolum tricolorella*; GMT found tenanted mines of the same species at St Kew on 28 December and at Trelill on 30 December, all on *Stellaria holostea*. MAS trapped *Coleophora frischella* on 12 and 19 July on St Mary's, IOS, the second and third Cornish records. Both JO and FH found larval cases of *Coleophora genistae* on the Lizard Peninsula: on 22 and 23 May by JO and 19 October by FH. *Coleophora lassella* came to light twice on St Mary's IOS, on 19 July (MAS) and 20 August (CL), the first records for Scilly, adding to just four previous Cornish records.

Neocochylis molliculana turned up three times on St Mary's, IOS. CL trapped singles on 21 and 23 August as did John Headon on 1 September. There were only four previous Cornish records. On 19 July at Downderry, TC added another *Epiblema foenella*, the second record for VC2 and the fifth for Cornwall. *Cydia coniferana* was recorded by Marilyn Edyvean at St Blazey on 3 June, the fifth record for Cornwall. FTJ recorded *Strophedra nitidana* at Trevergy Farm, Cury on 12 August, only the third Cornish record and new to VC1. Using pheromone lures, TC attracted Yellow-legged Clearwings *Synanthedon vespiformis* to his Downderry garden on 20 May and 5 August as well as a Currant Clearwing *Synanthedon tipuliformis* there on 17 June.

Delplanqueia inscriptella was found by PB on the coast path near Penlee Point on 17 August, the first confirmed record for VC2. The rare migrant *Etiella zinckenella* was trapped on St Mary's, IOS on 15 September by MAS. There have been three previous records, the last of which was from the same site by MAS in 2017. *Oncocera semirubella* was first recorded in Cornwall in 2004, since when there have been 18 records, eight of them from 2019. This year produced five records: Downderry on 25 July (TC), Maenporth on 22 August (George Davis), St Mary's, IOS on 23 and 26 August (CL) and Porthoustock on 10 September (Andy Slade). Andy Adams (AA) recorded *Spoladea recurvalis* at Trussel, Liskeard on 21 October, the first record for VC2. FTJ and MAS both recorded *Anchylosis oblitella* this year; MAS on St Mary's, IOS on 12 August and FTJ 3 times from 12 to 31 August at Trevergy Farm, Cury, our first records since 2013. TC trapped *Ephestia woodiella* on 20 June at Downderry, the fifth confirmed Cornish record. *Hellula undalis* (Old World Webworm) is a migrant that has turned up almost annually in the last decade, although one recorded on 19 October by MAS on St Mary's, IOS is our first record since 2019.



Rest Harrow *Aplasta ononaria*
(photo: Tom Clark)

There were two larval records of Death's-head Hawk-moth *Acherontia atropos*: St Keyne on 29 August (Juliet Brenton) and Budock Water on 10 September (John McDonald). The



Scarce Chestnut *Spudaea ruticilla*
(photo: Chris Lewis)



Rosy Underwing *Catocala electa*
(photo: Tom Clark)

earlier (May and June) influx of Striped Hawk-moth *Hyles livornica* was followed by more records in August and September, with a total of 41 records received. The second Plain Wave *Idaea straminata* of 2022 (following the one from Maenporth previously reported) was recorded by MAS on 29 August on St Mary's, IOS, the third Cornish record and new to Scilly. A Bordered Pug *Eupithecia succenturiata* was trapped by MAS on 21 July on St Mary's, IOS, the seventh record for Cornwall and new to Scilly. On 19 July, a Rest Harrow *Aplasta ononaria* came to light in TC's garden at Downderry. It's new to Cornwall: a rare migrant and also rare as a resident at sites on the Kent coast.

A White Satin *Leucoma salicis* was trapped by Tony Wilson (TW) at Callestick on 16 June. It was a good year for Crimson Speckled *Utetheisa pulchella* with 14 records received (the highest for Cornwall) in October and November from St Mary's, IOS (MAS), Penzance (C. Beazley), St Erth (M. Spicer), Tremough Campus (FH), St Keverne (J. Jones), Portloe (G. Webb), St Austell (B. Foster), St Blazey (S. Luker), Par (F. Doggett), Looe (R. Jones) and Cotehele (J.H. Clarke). A total of five Purple Marbled *Eublemma ostrina* for the year were recorded: on 17 May at Gwinear (Scott Barron), 22 May Blisland (A. Sutton), 23 June at Callestick (TW), 11 October St Mary's, IOS (R. Parks) and 4 November St Mary's, IOS (MAS). A Beautiful Marbled *Eublemma purpurina* came to light on St Mary's, IOS on 2 October (Graham Cundale). TC managed to trap Rosy Underwing *Catocala electa* twice at Downderry, on 2 and 21 September, adding to the only two Cornish records in 2013 and 2020. There were two records of Slender Burnished Brass *Thysanoplusia orichalcea*, both from St Mary's, IOS: MAS on 10 September and CL on 21 October. Dewick's Plusia *Macdunnoughia confusa* was also reported twice: from Marazion on 10 August (Pete Fraser) and Kelynack on 14 August (Paul Butter). The flight period of Chamomile Shark *Cucullia chamomillae* is from March to June, so it is worth checking any late autumn or winter records as similar species can turn up as rare migrants, such as Scott Barron's 2016 record from Gwinear that turned out to be *Cucullia calendulae*, a species new to Britain. One trapped by Paul Callaway at St Just on 9 November was checked and was found to be a late (migrant?) Chamomile Shark. A second Eastern Bordered Straw *Heliothis nubigera* of the year was recorded by Elliott Cornelius at Falmouth on 5 September. AA recorded a Latreilles Latin *Callopistria latreillei* at Trussel on 24 October, the second Cornish record and new to VC2. A Mediterranean Brocade *Spodoptera littoralis* was recorded by MAS on St Mary's, IOS on 24 October, new to Cornwall. Records of Clancy's Rustic *Caradrina kadenii* have dropped off in the last five years, with only one recorded this year, at St Mary's, IOS on 4 October (MAS).

On 26 March, MAS trapped a Chestnut-type moth and suspected it was something other than the usual *Conistra* Chestnut species. He consulted CL, who checked the moth and found it to be a Scarce Chestnut *Spudaea ruticilla*, the first British record. Larvae of Red Sword-grass *Xylena vetusta* have only rarely been found in Cornwall. CP found one on 14 June at Carbis (near Bugle), the fourth larval record. Splendid Brocade *Lacanobia splendens* has turned up regularly on the Isles of Scilly in recent years, but not so often on the Cornish mainland. One on 18 July at Downderry (TC) is the eighth mainland record.

Many thanks to all who submitted their records for 2022, including Ewan Fenelon, who collated the records from the Tremough Campus and surrounding area.

Portreath: a new butterfly transect

Kelly Uren invited Rose Lewis, a new transect walker, to describe her experience of taking on this new transect



Rose Lewis, one of CBC's transect walkers

I have always loved and cherished butterflies, whether sitting amid a cloud of Silver-studded Blues, observing a Green Hairstreak patrolling its territory or sketching one as it rests on my arm. However, I am no expert and when I heard about Butterfly Transects and recording for the National Database I dismissed the idea that I, as an amateur, could undertake them. Fortunately, I was persuaded otherwise by our local West Cornwall recorders and for most of last year a whole new world opened up to me as my skills and confidence grew. I learned as I walked my transect; there is no substitute for field experience, however many books one studies.

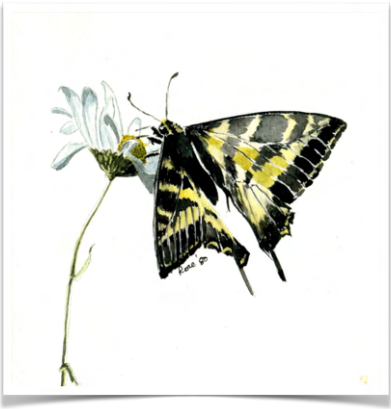
Butterflies at rest are easy but in flight is quite another matter. Walking every week, mostly in sunny weather, I slowly began to distinguish between butterflies on the wing, easy if a Red Admiral, but was that a Large White, a Small White or a Green-veined White? Was that a Meadow Brown, Ringlet or Gatekeeper? To begin with, I retraced my steps after I'd finished and tracked the queries down until I found one at rest, but I soon began to realise that each butterfly species has a jizz of its own which can't really be put into words but includes time of year, habitat and habits. I'm still working on that. I find binoculars very useful and always carry my camera.

As I walked, the air sometimes seemed full of butterflies, difficult to count, and as the weeks went by I realised they were not the same species although they overlapped. Meadow Browns overlapped with Ringlets who overlapped with Speckled Woods who in their turn overlapped with Gatekeepers, but as these species seemed to have two peaks this confused the issue no end. The sheltered valley side sections of my transect posed a problem for the track was like a corridor along which the butterflies flew backwards and forwards sometimes flying up and overtaking me! This made counting difficult so on my return I would recount and if the totals were about the same I was satisfied. During the heat-wave I seemed to have some crazy new species flying manically along the trail, never alighting, so I consulted my book. Wall Browns do that in very hot weather, it said, and don't sun themselves on sun-baked ground. So I went back as the day cooled and there, sure enough, were Wall Browns resting on the trail.

I saw new butterflies, my first Holly Blue, Clouded Yellows and a Cream Spot Tiger moth. I disturbed many moths of which I had little or no knowledge at the time.

Then one day I happened to photograph a tiny geranium flower on my return walk and when I blew it up on my laptop there was the most exquisite micro moth resting there, a Cocksfoot moth I later found out. After that, I photographed every moth I could, bought the ID books and am now a devotee.

I chose a transect which started almost on my doorstep so that I could dash out when the sun shone whenever possible, and I planned it to cover a variety of habitat types along its 1.5 km length. It has eight sections of varying length covering steep valley side scrub and woodland, Cornish hedges, low cliff top scrub, lowland heath and cliff top grassland. Our local recorder did all the difficult stuff of entering the transect details on the Butterfly Conservation website and showed me how to upload my results, all of which I would have struggled, or even failed with. Now that the records for 2022 are analysed I can look at the totals for my transect and see that even though I started a month late and missed a couple of weeks, I recorded 858 butterflies of 19 different species. It will probably be more this year.



Rose Lewis is a talented artist: this is her painting of a Swallowtail butterfly

New life from old collections

Tristram Besterman[1] suggests that museum collections are an overlooked resource in tackling Britain's biodiversity crisis

Behind the scenes in the museum, accessible by appointment only, you are escorted along a brightly lit corridor to a locked door marked 'Entomology'. When the door is opened, the pungent whiff of 'mothballs'[2] hits you. The room is well lit, clinically clean and ventilated – a far cry from the myth of the 'dusty museum basement'.



Large Blue *Maculinea arion* in the Lepidoptera collection of the Royal Cornwall Museum, Truro (photo: Tristram Besterman)



Museum entomology store (Manchester Museum)

Arrayed in front of you are aisles of cabinets, some old, of polished mahogany, others new, spray-painted steel. They contain vast numbers of insect specimens in tiers of neatly labelled drawers. On shelves nearby are rows of leather-bound catalogues.

Armed with a butterfly net, killing bottle and the skills of pinning out and drying, no-one then questioned the pastime of be-whiskered Victorian and Edwardian gentlemen (and it was usually men) who collected nature in this way. Rarities were particularly sought after: caught, swapped or purchased. Private collections, together with associated field notebooks and catalogues, passed into public museum collections usually donated or bequeathed by the collector.

We may be repelled by the evidence of killing on such a scale. It was done at a different time, when butterflies were plentiful and was the way in which the science of entomology progressed. Maintaining these collections is expensive. So, why keep them? After all, today, we collect digital evidence with a camera. There are many good reasons[3] for looking after these collections, so that they remain available to science and for public engagement.

What is discussed here are the ways in which collections of dead specimens can contribute to nature conservation today. The application of new analytical techniques, undreamt of by those long dead collectors, can mine museum specimens for vital data that would be otherwise lost to science.

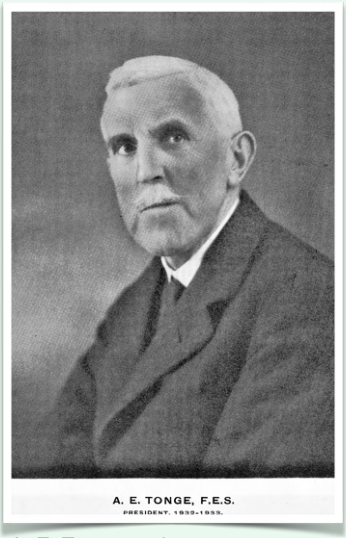
Of the many examples of this kind of unforeseen use of museum collections, perhaps the best known is the thinning of birds' egg shells as a result of pesticide use. A comparison of recently taken eggs with older specimens held in museum collections showed that eggshell thinning in the Peregrine Falcon *Falco peregrinus* in the UK could be precisely dated to the first widespread use of DDT in 1947. A similar museum-based correlation between the introduction of DDT and eggs shell thinning in several species of raptor around the world clinched the case and led to the insecticide being banned. A recent study[4] establishes the value of morphometric data from birds' egg collections and cabinet skins to a range of environmental analyses, and strongly advocates for continued collecting, in compliance with the law, as an indispensable source of verifiable environmental information.

Alfred Ernest Tonge (1869–1939)

This specimen, in the collections of the Manchester Museum, was collected by A.E. Tonge, Fellow of the Entomological Society and President of the Manchester Entomological Society (1932-1933). There are eleven specimens of the Large Blue from Cornwall in Manchester, three of which were collected by Tonge between 1925 and 1930. A bit of detective work can sometimes pin down the location as accurately as the butterfly. It is very likely that he is the same 'Mr Tongue' reported many years later in a personal memoir by R.P. Demuth[*] on a week's search for the Large Blue in 1927 in the Antimony Levels near Millook, south of Bude.



Large Blue collected by A.E. Tonge, probably 1925 from Millook, near Bude (Manchester Museum)



A. E. Tonge, eminent Mancunian entomologist (Manchester Museum)

"*Arion occurred on a steep south-eastern slope of short grass and thyme and gorse bushes. To make certain that no-one missed the spot the owner had put up a notice 'Do not catch the flies'. It was said by the experts that the time to catch the flies was in the early morning before breakfast but we saw none. The weather was awful, and we were probably too early. A Mr Tongue took the first one of the season on the day we left.*"

That is almost certainly the specimen of the Large Blue, collected by A.E. Tonge in 1925 from 'Bude' in the Manchester collection.

[*] Reminiscences of an elderly Entomologist. Ent. Rec. 96. Demuth, R.P. 1984: p268

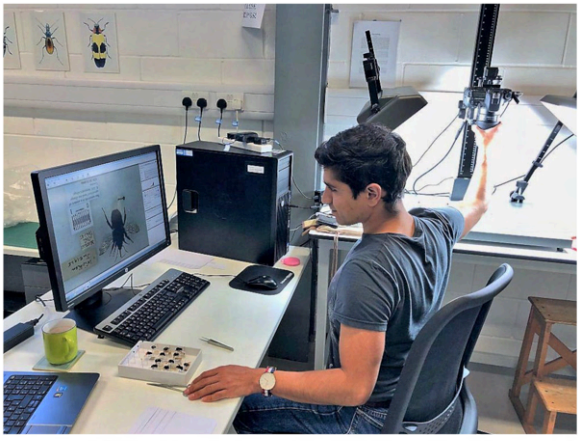
Every part of the globe has a unique chemical fingerprint in the form of the ratio of stable isotopes[5], which is imprinted in the tissues of organisms that live and feed there. These isotope ratios are 'frozen' into the tissues of museum specimens. Museums with specimens of the Slender-billed Curlew *Numenius tenuirostris*, feared to be extinct, donated samples to a research project to find the

bird's breeding grounds. The project compared the museum feather isotope ratios with earth samples collected from locations across Russia and Kazakhstan. It turned out that the birds' breeding grounds were many hundreds of miles further south than had been thought[6]. A co-ordinated search of the forested Kazakh steppes has revealed important and previously unknown populations of breeding birds in areas deserving of protection.

In 2022, a study of bumblebee wings in the collections of the Natural History Museum[7] showed that asymmetry between left and right wings increases with external stresses of heat and wet. The research also sampled bumblebee DNA over the last 100 years. This will enable scientists to track and to understand better the effects of climate change on dwindling bumblebee populations.

So, is it too fanciful to imagine that the drawers of long dead, pinned butterflies held in UK museums, might come to the rescue of butterflies today? They total several million specimens – a vast repository of data, whose value to tackling the biodiversity and environmental crises facing us today is largely untapped. Butterfly specimens taken in Cornwall adorn the cabinets in dozens of national, municipal and university museums from Truro to Bristol and Birmingham, and from London to Oxford and Manchester, proof that collectors came to Cornwall from far and wide, particularly after the railways opened up access to the coast in the second half of the nineteenth century.

Cornwall, known for the rare Large Blue *Maculinea arion*, drew entomologists and butterfly collectors from all over Britain. Late Victorian naturalists lamented the rapid decline of the UK's rarest butterfly. By 1860, the 'Arion' as it was known, had vanished from Northamptonshire, and was close to disappearing from the only other strongholds then known, in the Cotswolds and South Devon. The colonies on the Atlantic coast of north Cornwall (and Devon) were not discovered until 1891 and quickly became the subject of great interest in the entomological community. That, of course, also drew collectors and dealers (who, alas, hastened the demise of many vanishing species, as scarcity enhanced their value). It is estimated that at least 1,000 specimens of the Large Blue "were taken each year from 1895 to 1914 between Tintagel and Millook"[8].



Dr Andres Arce studies bumblebees in the Natural History Museum, London (photo: Ashleigh Whiffin)

The Large Blue was declared extinct in the UK 1979. In 1983 it was successfully reintroduced in the UK using larvae from Sweden, and is now flourishing on sites in the Cotswolds and Somerset. In Cornwall, once its stronghold, an attempt



Large Blue butterfly (Peter Eeles, UK Butterflies)

to reintroduce the Large Blue in 2000 failed after seven years. The genome of our indigenous Large Blue can be easily sampled from museum specimens and compared with the Swedish immigrants' DNA. Although environmental factors undoubtedly drove the species to extinction in Britain, such data can only deepen our scientific understanding.

Whilst I have focused on the Large Blue, UK museum collections hold multiple specimens of both common and rarer species of British butterflies. In Truro alone, their collection includes locally caught Heath, Marsh, Pearl-bordered and Small Pearl-bordered Fritillaries.

What other chemical signatures in the dried tissues of old insect collections await discovery by new analytical techniques? And, as the studies of bumblebees has shown, in the systematic measurement of wing dimensions, as well as DNA analysis, we can read the fingerprint of environmental change. Worth having a good look at those old butterfly collections, I'd have thought.

Acknowledgements

The author is indebted to the following for their help, advice and access to collections and archives: Dr Dmitri Logunov and Philip Rispin at the Manchester Museum (including images); at The Royal Cornwall Museum, Jeni Woolcock, Lauren Campbell and Angela Broome (Courtney Library).

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[1] Tristram's career in museums spanned forty years. He was Director of the Manchester Museum 1994-2005 and served on the CBC Committee 2016-2022.
[2] Naphthalene is a chemical derivative from coal traditionally used to keep insect pests out of insect collections. It is also toxic to humans, so its active use in entomology collections has been discontinued. Nonetheless, old insect cabinets and drawers still carry the familiar smell.
[3] Why museums matter https://www.britishbryologicalsociety.org.uk/wp-content/uploads/2020/12/FB103_Why-museums-matter.pdf
[4] Egg and skin collections as a resource for long-term ecological studies https://www.researchgate.net/publication/233776698_Egg_and_skin_collections_as_a_resource_for_long-term_ecological_studies
[5] Typically isotopes of the elements hydrogen, carbon and nitrogen found in all living things. The atomic number (the number of protons in the nucleus) of each element remains the same, but variation in the number of neutrons in the nucleus produces different isotopes.
[6] Slender chance of curlew recovery https://www.birdguides.com/articles/slender-chance-of-curlew-rediscovery/
[7] Museum collections indicate bees increasingly stressed by changes in climate over the past 100 years https://www.britishecologicalsociety.org/museum-collections-indicate-bees-increasingly-stressed-by-changes-in-climate-over-the-past-100-years/
[8] The Butterflies of Britain and Ireland. Thomas, J.A. and Lewington, R. 2014: p157

Current vacancies

CBC has two vacancies for volunteer roles on the Committee

Please note: Both roles are committee roles, and we would hope you can attend meetings. We hold committee meetings once every two months in either Allet, near Truro, or Lanivet, near Bodmin. Access to your own vehicle would be beneficial for both the roles.

Publicity and Fundraising Officer

We are looking for someone to help promote our Branch activities, fundraise, and generally spread the word about Butterfly Conservation in Cornwall.

At Butterfly Conservation, we want to create a world where butterflies and moths are enjoyed by everyone, forever. Our volunteer Publicity and Fundraising Officer will help to raise awareness of Butterfly Conservation and encourage people to act positively for butterflies and moths. Having a local voice is very important to us and is a crucial way for us to achieve our goals.

In this role, you will work with the Cornwall Butterfly Conservation Committee and local volunteers. You will learn about wildlife in your local area, organise fundraising events, research funding options, and develop and demonstrate your media skills in a working environment. We'd love to hear from you if you enjoy being creative about how you communicate with people, can represent our values and are able to volunteer from home.

The main activities of our volunteer Publicity and Fundraising Officer would be to raise the profile of Cornwall Butterfly Conservation and increase our funding options through the following:

- Sending details of Branch events to local radio, newspapers, field clubs and general events leaflets.
- Writing up events and distributing these to local newspapers and other relevant publications.
- Writing and distributing articles about rare species or sightings in the Cornwall area.
- Organising fundraisers.
- Researching grants and funding options.
- Work in conjunction with our Press Officer.

Secretary

As a Cornwall Butterfly Conservation volunteer, you obviously care about Cornwall's natural environment and like to get involved. And if you have basic keyboard skills and a talent for organising stuff, then you could be just the person we're looking for.

This is your chance to join the Cornwall Butterfly Conservation (CBC) team of volunteers in the role of Branch Secretary. Working closely with the Chairs, you will organise meetings, make a written record of decisions and actions in the committee – as well as contributing ideas to improve what we do. You will need access to a laptop and broadband and have the use of a car. Experience of Teams would be helpful but not essential. Normally we attend about six meetings a year, in the Cornwall Wildlife Trust HQ at Allet or in a community centre meeting room in Lanivet.

CBC is a branch of the national charity, Butterfly Conservation. Like the canary down the mine, butterflies are key indicators of the state of nature. No knowledge of butterflies is needed for this role, but beware: you could get the bug!

For more information about the **Publicity and Fundraising Officer** role and to have an informal chat, please contact Kathleen Wood at membership@cornwall-butterfly-conservation.org.uk or call 07813 530883.

For more information about the **Secretary** role, please contact Andrew and Liz Thomas, 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. Contact: Liz: chair@cornwall-butterfly-conservation.org.uk 07564 444264, or Andrew: chair@cornwall-butterfly-conservation.org.uk 07799 247144.

Committee members and contacts

Cornwall Branch Committee of Butterfly Conservation

Joint Chairs:
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chair@cornwall-butterfly-conservation.org.uk

Joint Chairs of Conservation Working Group, Species Champions Coordinators and Branch Contact:
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Vacant

Treasurer:
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Webmaster:
James Murphy
james@story-x.co.uk

Newsletter Editor:
Vacant

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