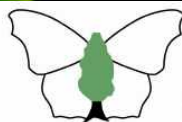


NORTH WALES BRANCH

Newsletter



2020



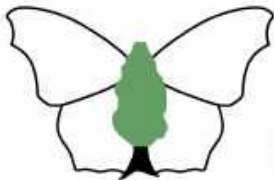
Butterfly Conservation Wales
Gwarchod Glöynnod Byw Cymru

Saving butterflies, moths and our environment Yn achub glöynnod byw, gwyfynod a'n hamgylchedd ni

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Cover photograph of a Red Underwing by Mark Sheridan



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***Please note that the opinions expressed in this newsletter
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A MESSAGE FROM THE CHAIR



As I write this on the afternoon of Thursday 19th March all schools in Wales are due to close by tomorrow and the Welsh Education Minister is suggesting they may not reopen till September. I've no doubt more drastic measures will follow. You will all now be familiar with the advice to achieve social distancing to limit the spread of Coronavirus. In the UK, this guidance is currently advisory but in Italy, Spain and France similar measures are backed by the full force of the law.

Against this backdrop your Branch Committee have reluctantly concluded that organizing a programme of events where Members meet to see butterflies, attend talks or moth trapping events is inappropriate and contrary to current guidance. **Consequently, there will be no Spring/Summer Programme of Events this year.** The North Wales Branch AGM/Members' Day is scheduled for Saturday 10th October at Pensychnant Conservation Centre (details can be found later in this newsletter). We have a full day's programme organized and will review whether this takes place nearer the time.

In my garden, I've already seen a few Small Tortoiseshells and a Peacock and it won't be long before the first Orange Tips are on the wing. For those of you who run moth traps those first harbingers of spring such as the March Moth, the Oak Beauty and the Streamer should soon be making an appearance. So please share your sightings on our Facebook page or Twitter feed and, remember to keep sending in your records!

These are unprecedented times the like of which none of us have seen in peacetime. The measures we are being urged to adopt will hopefully slow the spread of the virus but they will also have an economic impact. This is likely to affect all charities, Butterfly Conservation included, so never has your continued support been more important. Please follow the guidelines on social distancing but enjoy and appreciate butterflies and moths in your garden or while taking exercise. Keep well, stay safe and look after yourselves and others.

Ilija Vukomanovic
Branch Chairman

MY FIRST YEAR OF MOTH TRAPPING

by *Ian M. Spence*

I first moved to Wales, to Pwllglas, in April 1987. Sometime during my first year or two living there I was able to borrow a moth trap for a few days and remember catching Large Yellow Underwing and Silver Y amongst others. I wasn't able to take it up on a regular basis at that time as I had to return the moth trap and I was very busy with bird ringing. Late in 2018 I heard that I had been awarded a grant, from Cofnod, to buy a moth trap, battery and some accessories. I first used it on Boxing Day 2018 and caught one moth, a Mottled Umber. My next attempt, in the garden, at Sychdyn, was on 21 March. That was followed by 13 further nights of trapping in the garden and eight at Rhydymwyn Nature Reserve.

The trap I had bought was low-key, just a 6w actinic bulb with a portable Heath trap. To avoid problems I used pop-rivets to hold the aluminium sheets in place as I had no real desire to take it anywhere in bits. I didn't go for a more powerful light because I thought there would be a good chance that I could end up with too many moths for me to cope with.



My method was to put out the trap as it was going dark and retrieve the trap in the morning when I was up and dressed. I was quickly frustrated that some moths escaped – they had not been inside the trap but on the baffles or the top surface of the trap. Luckily, I went to a meeting of the Moth Group at Pensychnant and had a very stimulating evening talking with the people there about how best to deal with catches. Mark Sheridan suggested I buy a mosquito net so that when I open the trap under the net, I would lose no moths as they could not escape. I realised that I could do something similar to capture all moths in or on the trap by covering it with a large, plastic bag and clipping it closed around the trap.

This would allow me to carry the trap and moths to where I would set up with tables and a chair, under the mosquito net, with clear plastic pots, one for each moth, books, camera and laptop. These two modifications to my method were hugely successful and I don't think I lost a single moth after using the bag and mosquito net.

On opening-up the trap I put each moth in a different pot and when all were potted I then started to take photographs of the top surfaces of the moths against a background of graph paper with a 2mm grid. I imported the photos to the laptop and did most of my identification working from the images



on the laptop and comparing them with illustrations in three main books: Manley (2nd ed. 2015), Waring, Townsend and Lewington (3rd ed. 2017) and Sterling, Parsons and Lewington (2012). There were some moths that had me stumped and I needed help to identify them. In the early days I was very grateful for help and corrections from Helen Bantock, micro-moth Recorder for VC51 who lives in London and Peter Lack, a friend who lives in Suffolk. I also sought some help from the Moths UK Flying Tonight facebook page. I would have liked some help from someone closer to home but that was not forthcoming. I would send copies of my photos and, where possible, people either confirmed my identifications or corrected me. As the season went on I found that a photo of the top surfaces of the upper wings was not enough to identify all moths. The upper surfaces of underwings and, in some cases, the under surfaces of underwings also needed to be photographed.

With some Moths I was asked if I had kept a specimen for dissection and examination of the internal genitalia. Coming from a birding background, with which shooting specimens had stopped many years before I was born, I was not minded to keep such specimens. I wonder if it would be possible to establish criteria for external, microscopic examination to identify species. I was also mentally struggling with the reality that not all moths can be readily identified without dissection. These issues were firmly brought to the fore during July and August when I had my biggest catches (the largest was 147 identified moths, mainly macros, at Rhydymwyn on 25 July) and the catches had increasing numbers of dark, worn Noctuids that I was struggling to match to illustrations in the books,

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or even later, at home when checking the UK Moths website. I was very grateful for help, by email, with these awkward moths. Since August I did not manage to do much trapping as I had other responsibilities, including producing a bird report for NE Wales for 2018.

I have been to two further meetings of the Moth Group and have been grateful for help in identifying queries, either from photos or once, from potted specimens that I released when I got home. I have now identified 101 species, with 56 in the garden and 75 at Rhydymwyn. At Rhydymwyn I have caught 32 species also trapped by others before me and 28 new species for the reserve. The reserve total now stands at 313 species. The majority of the moths that have been identified, though some are still part of an aggregate, have been entered into the Cofnod database and the spreadsheet of the North Wales Lepidopterists (Andrew Graham). I am considering joining the Garden Moth Scheme in 2020 as an incentive to continue this new adventure!

SILVER-STUDDED BLUE POPULATIONS ON THE CREUDDYN PENINSULA AND BEYOND

by *Siôn Dafis*

Pen y Gogarth, the Great Orme, is famous for all sorts of reasons – but for naturalists, it stands apart for its endemics. The botanists have Welsh cotoneaster, *Cotoneaster cambricus* and those who take their delight in the six-legged kind have the unique Silver-studded Blue, *Plebejus argus race caernensis* and Grayling, *Hipparchia semele ssp thyone* – this article will focus on the Silver-studded Blue and its many travels.

Pen y Gogarth/Great Orme, Llandudno ... the fossil island

The Great Orme race of Silver-studded Blue, *race caernensis*, was first described by Thompson in 1937, though there are references to it going back as far as 1903. It is considered to be distinct from the nominate *Plebejus argus argus* due to morphological and colour differences, its earlier emergence time, its associations with limestone grassland habitats (rather than disturbed heathland), the larval preference for rock-rose species and bird's-foot trefoil (rather than tender new growth among heathland communities), and its mutualistic relationship with the ant species *Lasius alienus* (rather than *Lasius niger*). The differences in ecology are quite significant, but those in appearance are not as great as we might think – interestingly, P.N. Crow considered specimens collected at Nefyn in 1949 as

indistinguishable from *race caernensis*. It is best considered a separate race rather than a sub-species and we can only speculate as to how it grew to be distinct from *Plebejus argus argus*. We can imagine Silver-studded Blues and *Lasius* ants spreading westwards and northwards through what is now Britain, following the retreat of the ice at the end of the last glaciation - *Plebejus argus argus* would have been able to colonise and steadily move through the open expanses of heathland that formed in advance of the forests. It spread to the far corners of North Wales, to Pen Llŷn and Eifionydd, and to Ynys Môn – even reaching Ynys Gybi (or Holy Island), where it is still found today. Upon reaching the Creuddyn peninsula, the heathland would have been growing on pockets of deeper soil deposited on limestone, and found in a mosaic with limestone grassland habitats. Sea-level rising as a result of melting glaciers caused the Great Orme to be cut off as an island for a long time, and some of the changes that make *race caernensis* distinct presumably occurred during this period of isolation. As the heathland on the then island went through its succession towards scrub and woodland, we can imagine conditions becoming less suitable for *Plebejus argus argus* at some point - mainly through the loss of tender new growth for the larvae. It's possible that some individuals might have adapted to utilise the adjacent 'limestone heath' communities, where lime-loving plants such as rock-rose species and bird's-foot trefoil grow intermingled with stunted heathers and gorse – it would then only be a short step to be able to fully exploit grassland habitats. Once the waters subsided, the Great Orme again became joined to the mainland but it probably retained its sense of isolation well into the nineteenth century - the present day town of Llandudno was after all built on a vast area of bog. Today the Silver-studded Blues are mostly found on the exposed, sun-baked, south-western slopes of the Great Orme and they have been well studied. Their sedentary nature is well documented and it has been shown that most rarely travel more than 20m during their short lifespans, thus seriously hampering their ability to colonise new areas. Though originating from the Great Orme, *race caernensis* is no longer confined to the Great Orme - it has in a sense broken free of its fossil island prison.

The Dulas Valley ... a helping hand

In 1942, A.J. Marchant famously took 90 adult *race caernensis* from the Great Orme and introduced them to Rhyd-y-foel in the Dulas Valley - '*I transferred about 90 insects in June 1942, placing them in one pocket in the hollow inland beyond Rhyd-y-foel. In the succeeding years I observed a few flitting about this spot*' wrote Marchant in 1956. The current Dulas Valley population, including the one on Mynydd Marian, are all derived from this introduction – it was apparently the work of a single day. The fact that the introduction took place during World War II is probably no coincidence - with the RAF base on the Great Orme Summit and the Coastal Artillery School at Trwyn y Gogarth, this unique race of Silver-studded Blue was probably rightly considered to be vulnerable. They spread naturally and

steadily from the original introduction site at a rate of about 1km per decade – they had reached Terfyn in 1953, Penycorddyn Mawr and Bryn Dulas in 1959, and Tyddyn Elidir in 1971/3 – a strong population was noted at Mynydd Marian in 1983.

It's probably true to say that *race caernensis* would never have been able to colonise the Dulas Valley, 13 km away, without this helping hand. That said, at some point in time they did manage to colonise the southernmost limestone ridge on the Creuddyn peninsula at Bryn Pydew.

Bryn Pydew ... the post-war colony

Silver-studded Blues were recorded on Bryn Pydew by Gordon Ellis in 1949, but it is thought that this population went extinct shortly afterwards – it was not explicitly stated whether they were *race caernensis* or *Plebejus argus argus*, but authorities such as Roger L.H. Dennis and Chris Thomas considered them to be the former. Bryn Pydew is about 5km away from the Great Orme, a long way to travel for a Silver-studded Blue – there is however a potential 'stepping stone' about halfway, in the form of the Nant y Gamar ridge. They were not recorded from this site again until 1996, and we will return to Bryn Pydew and colonisation distances later.

The Silver-studded Blue colonies on the Creuddyn peninsula have been regularly surveyed in the recent past - by Roger L.H. Dennis in the early 1970s, and then by Chris Thomas' team in 1983, 1990, 1997 and 2004. These eminent lepidopterists have worked extensively in North Wales and between them have produced most of the scientific literature about the species.

Rhiwledyn/Little Orme, Llandudno ... colonisation, extinction, re-colonisation

Roger L.H. Dennis found two *race caernensis* on the Little Orme in 1970 – he had found none there in 1969, and he didn't find any on return visits in 1972 or 1973. Chris Thomas' surveys found none on the Little Orme in 1983, despite the apparently suitable habitat, and based on this it was included on a list of extinct sites in his 1983 MSc thesis - a note of caution was however applied and it was stated that the site should be re-checked. Silver-studded Blues were not recorded here during the 1990, 1997 or 2004 surveys and it became evident that the small colony encountered by Dennis in 1970 had gone extinct. Dennis himself considered that they had colonised the Little Orme from the Great Orme, 3.8 km away, and based on the number of individuals involved that this probably involved just a single-step. Anyone who has been for a summer walk on the Little Orme in recent years might have noticed that they are back again - Silver-studded Blues were recorded during the UKBMS transects between 2016 and 2019, including females that looked very much like *race caernensis*. There is a suggestion of a pattern of colonisation,

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extinction and re-colonisation here – that said, good numbers were encountered here in 2019 and it's tempting to think that they are now established.



Silver-studded Blue *race caernensis* – male, on Rhiwledyn/Little Orme, in 2019.
Photo: Anna Griffiths.

Introductions

After 1942, six other introductions were made elsewhere in North Wales between 1978 and 1983. The first two introductions took place away from the Creuddyn peninsula and did not involve *race caernensis*, but were rather introductions of *Plebejus argus argus* onto heathland sites.

Marford Quarry, Wrexham ... a short-lived introduction of the heathland race

In 1978, 5 freshly paired females of *Plebejus argus argus* were translocated from Prees Heath in Shropshire to Marford Quarry by Geoff Wotherspoon. Chris Thomas' team found Silver-studded Blues here in 1983 and 1990, but not in 1997 or 2004 - this population is now extinct. Peak counts were around 40-400 individuals.

Cors Erddreiniog, Ynys Môn ...

another short-lived introduction of the heathland race

In 1982, 20 adult *Plebejus argus argus* were translocated from Bae Trearddur on Ynys Gybi to Cors Erddreiniog. A few years later, Les Colley related to Chris Thomas that 'up to 17 were seen at one time in 1983'. Chris Thomas' team found Silver-studded Blues here in 1983 but not in 1990, 1997 or 2004 - this population is now extinct.

The other four introductions were carried out by Chris Thomas in 1983 as part of his MSc thesis experiment – the introduction sites were **Graig Fawr, Meliden** near Prestatyn and three sites on Ynys Môn (**Mynydd Bodafon, Cae-brych Lligwy** and **Penmon**). Graig Fawr and Mynydd Bodafon both received adult *race caenensis* from the Great Orme, whilst the other two received *Plebejus argus argus* taken from a heathland site.

Graig Fawr, Meliden ... into the right biotope

On 11/07/1983, 30 female and 10 male *race caenensis* were released onto SW-facing limestone grassland by Chris Thomas – they were taken from a site below Ffynnon Gogarth on the Great Orme. This colony persists to this day.

Mynydd Bodafon, Ynys Môn ... into the wrong biotope

On 25/07/1983, 30 female *race caenensis* were released onto burned heathland by Chris Thomas – they were taken from a site below Ffynnon Gogarth on the Great Orme. They were deliberately introduced into the 'wrong' biotope (that is heathland) and quickly died out.

Records between 1996 and 1998

Something quite strange happened on the Creuddyn peninsula between 1996 and 1998 – during this period we get records of Silver-studded Blue, firstly from an area where they were considered to be extinct and secondly from an area where they had never been previously recorded. The sites in question are Bryn Pydew (more specifically the old quarry and sometimes referred to as 'Llangwstenin') and Nant y Gamar (sometimes referred to as 'Gloddaeth'). Also in 1997 we get a one-off record of a Silver-studded Blue from further afield, from 'Y Graig' at Tremeirchion. Here we have Silver-studded Blues appearing on three sites where they were not previously present only to die-out soon afterwards. It is not explicitly stated whether they were *race caenensis* or *Plebejus argus argus*, but it is inferred that they were the former.

Bryn Pydew ... re-colonised after nearly a 50 year absence

Bryn Pydew was listed as an extinct *Plebejus argus* site in Chris Thomas' 1983 MSc thesis, the last record at the time of its writing being by Gordon Ellis in 1949. No Silver-studded Blues were recorded here during Chris Thomas' next survey in 1990 - 6 were present in 1996 and 2 in 1997 – but again none were found in 1998, 1999

or 2004. It seems that this site was re-colonised nearly half a century after they were last recorded, and was then lost.

Nant y Gamar, Llandudno ... a not so new new site?

There are no historical records from this site. Again, no Silver-studded Blues were recorded here by the Chris Thomas surveys in 1983 or 1990 - 6 were present in 1996, 2 in 1997 and 2 in 1998 – but none were found in 1999 or 2004. As previously alluded to, Silver-studded Blues could well have been present in this area in the past as it was potentially the stepping stone that facilitated the colonisation of Bryn Pydew from the Great Orme sometime prior to 1949 - it is after all only about 2.5 km away.

Y Graig, Tremeirchion ... an introduction in the 1990s

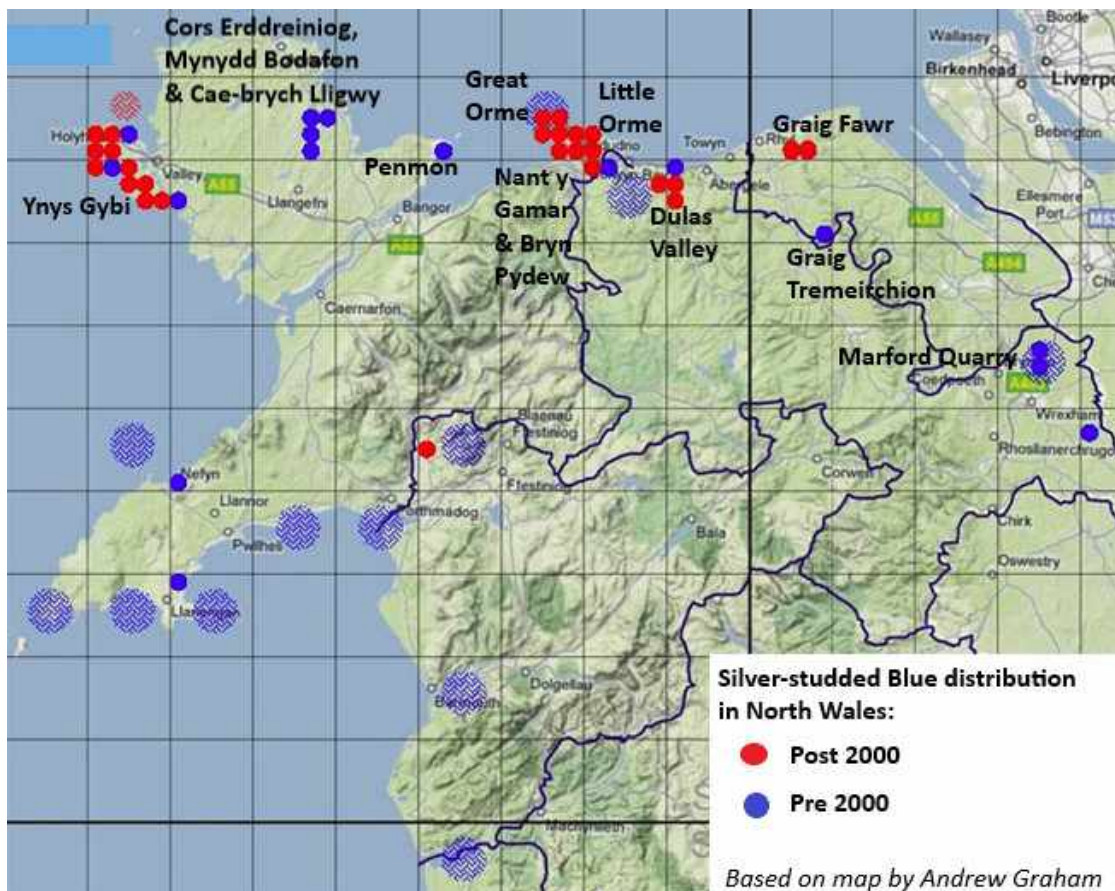
There are no historical records from this site. It was not surveyed by Chris Thomas' team in 1983 – none were recorded in 1990, they were recorded in 1997 (a male on 03/07/1997), but not in 2004. This colony originated from an introduction and is now extinct - it is not documented when this was done and who carried it out, but it presumably took place between 1990 and 1997. Y Graig is a limestone site, and it's likely that the introduced Silver-studded Blues were *race caernensis*.

All the scientific literature treats the 1970 record on the Little Orme and the 1996-8 records on Bryn Pydew and Nant y Gamar as natural colonisations by individuals of *race caernensis* from the Great Orme metapopulation. The Chris Thomas *et al* 2002 paper states that '*The exceptionally long colonization distances (2.5 km and 5 km) observed at the metapopulation periphery between 1990 and 1996 almost certainly represent the arrival of single, mated females.*' As to why these individuals undertook such long journeys, we can only speculate – one answer might be found in Roger L.H. Dennis & P.B. Hardy's book 'British and Irish Butterflies: An Island Perspective' – here it states that '*Some years stand out for extreme conditions linked to migration events in the UK, for instance 1976 and 1995 (Dennis & Bardell, 1996; De Palma et al 2016)*'. There is more than a suggestion here that the 1996-8 records on Bryn Pydew and Nant y Gamar may have been caused by migration events from the Great Orme during the drought of June-September 1995. Regarding the distances involved in these potential migration events, Roger L.H. Dennis & Paula Bardell's 1996 paper states that '*Apart from the 1970 records on the Little Orme, the longest known single-step colonization in North Wales predating 1995 is from the introduction site east of Rhyd-y-foel (Dulas valley) in 1942 ... to Ffos y Bleiddiaid ... a distance of 2.35 km over pasture and woodland (J. Richens, pers. comm.)*'. Silver-studded Blues might not be the contented homebodies of the butterfly world after all. Having said this, it is possible that these individuals reached the outlying areas of suitable habitat by other means – carried by strong winds, hitching a ride on a vehicle or by a small-scale introduction for example.

Other introductions?

Presumably based on the presence of suitable habitat, the Little Orme, 'Marle Hall' (some 2km from Bryn Pydew) and Nant y Gamar (listed as 'Gloddaeth') appear on a list of proposed introduction sites in Chris Thomas' 1983 MSc thesis – the Great Orme was noted as the recommended source. There is nothing in the literature to suggest that these introductions ever took place or that the modern records from the Little Orme, Bryn Pydew and Nant y Gamar were the result of official introductions. The 1999 C.D. Thomas *et al* paper summaries the introduction work to date – the 1983 work is discussed, but there is no mention of any introductions around say 1995.

The 1997 Owen T. Lewis *et al* paper does however refer to an experimental release in **Powys** where 259 (146 male and 113 female) *Plebejus argus* were released on unoccupied limestone grassland on 15th June 1993 – there is no mention of where they came from or where exactly they were released. Considering that they were introduced onto limestone they were probably *race caernensis*. It is known that they were not recorded during the Chris Thomas team surveys in 1994, 1997 or 2004 and it can be assumed that this population is extinct.



More recent records ...

The potentially established **Little Orme** colony aside, Silver-studded Blues were recorded on **Bryn Pydew** during the 2018 UKBMS transect, and according to Anna Griffiths (in 2019) they have also been seen on **Nant y Gamar** in recent years. It would be good to confirm both sites as breeding colonies in 2020 and it's an exciting prospect that *race caernensis* might now be found on three hills between the Great Orme and Dulas Valley populations. An interesting and speculative note to conclude on is, could any of these recent records have been the result of a migration triggered by the severe drought of 2018? Peak counts on the Great Orme were noticeably lower during that hot summer, and could it be that the extreme conditions compelled some individuals to turn their backs on 'the mountain' and head for cooler conditions on nearby hills.

**Compiled by Siôn Dafis, Assistant Country Park Warden, Great Orme
(February 2020)**

A big thank you to Andrew Graham, Prof. Chris Thomas, Vic Hitchings, Prof. Owen Lewis, Sally Pidcock & Anna Griffiths for their help during the preparation of the article.

A YEAR OF CHANGE

by *Dai Rees*

In a year that has seen many changes in BC Wales I took over as the Head of Conservation in September 2019 and Andrea Rowe was appointed as BC Conservation Officer (South Wales) in August 2019. Russel has moved to become Director of Policy and Landuse for BC UK and George is now Senior Moth Ecologist with a UK wide remit. As the 'new' (although not quite so new now!) Head of Conservation Wales, I'm still getting to grips with who everyone is, how BC and the branches work together and very quickly realising that I have an awful lot to learn!

Firstly, a bit personal background. Since leaving school at the 'tender' age of 17 (having grown up on the Gower) I've always been involved in conservation/wildlife management in one form or another. I've joined BC from Natural Resources Wales (previously Forestry Commission Wales) having spent 20 years there in various roles, including head wildlife ranger, conservation manager, local area manager and land management team leader. In many ways the opportunity to join BC came at the right time, as I had been looking to get back into a more conservation/ecology orientated role, whilst remaining in Wales and having the opportunity to utilise my skills, knowledge, experience and contacts to benefit the conservation of species in Wales.

It became apparent to me very quickly that the role of the Branches in Wales is vitally important to ensuring that species continue to be protected and conserved

and the information, data, knowledge and experience of Branch members is invaluable to ensuring that BC as an organisation functions and remains the 'go to' organisations for moths and butterflies, and long may this continue.

Already I am acutely aware that the main BC presence is in South Wales. Through Clare's fantastic work in North Wales and through Judy's excellent conservation support work we have been able to support you as a branch, but I would like to use our joint resources to improve our support of the North Wales branch and raise our profile amongst peers, NGO's, local and national organisations and businesses.

Looking forward, BC has identified priority species, 'High Priority and Priority landscapes and Priority sites, in Wales. And it is these species, landscapes and sites that should be the focus of our work going forward. If you would like further information, it can be found here:

Wales Conservation Strategy

<https://butterfly-conservation.org/sites/default/files/2018-11/Wales%20Conservation%20Strategy%202025.pdf>

Introduction to Conservation

<https://butterfly-conservation.org/sites/default/files/2018-11/Introduction%20to%20Regional%20%26%20Country%20Conservation%20Strategies%202025.pdf>

Already we have ideas about potential projects where I think that a joined-up multi-stakeholder approach would work extremely well and deliver our conservation priorities, such as management at a landscape-scale for Marsh Fritillary, which would benefit a host of other species and we are in the process of exploring funding opportunities with NRW/Local authorities and others. In Wales there appears to be a number of different funding sources relating to the Environment Act and Wellbeing of Future Generations Act and I will be exploring the potential for these in the near future.

BC also has the recently established 'Building Sites for Butterflies', a national programme encouraging creation and management of grasslands for wildlife in the built environment. The programme is showcasing habitat creation such as achieved along the Weymouth Relief Road in Dorset, where regular recording has shown that over half the butterfly species in the UK have been found on the verges since the road opened to traffic just 10 years ago. I believe this is a fantastic way forward and present an ideal opportunity for BC to become involved in the early planning stages to help conserve the species we represent.

I made an initial list recently which I've shared below. This is a list of what I think BC should be working towards. It's very ambitious, but even from a short time in

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post I believe that together, and with partner organisations, we can achieve many of these outcomes over time.

- 📄 Recovery and safeguarding of threatened species
- 📄 Increase numbers of widespread species
- 📄 Integrated networks, ecologically connected with the wider landscape resilient to climate change, and where a dynamic approach to site designation and management enables habitats and species to thrive and expand, providing ecosystem services well beyond the site boundaries
- 📄 Inspire people to understand and deliver species conservation and provide increased opportunities for access to nature
- 📄 Maintenance and enhancement of biodiversity and the building of ecosystem resilience
- 📄 Growing of citizen science activities for local communities
- 📄 Apply science, research and evidence-base to ensure effective action
- 📄 Use landscape and site-level approaches to maintain, restore and (re)create habitat
- 📄 Develop and promote action plans for conservation
- 📄 Advise landowners and land managers

I look forward to meeting you at some point. I have deliberately steered clear of COVID-19 related topic as you will have seen the guidance from Julie, our CEO. However, if you have any questions please do not hesitate to contact one of us.

Ps. And as for my favourite species



Painted Lady (Photo Dai Rees)



Buff-Tip (Photo Bob Eade)

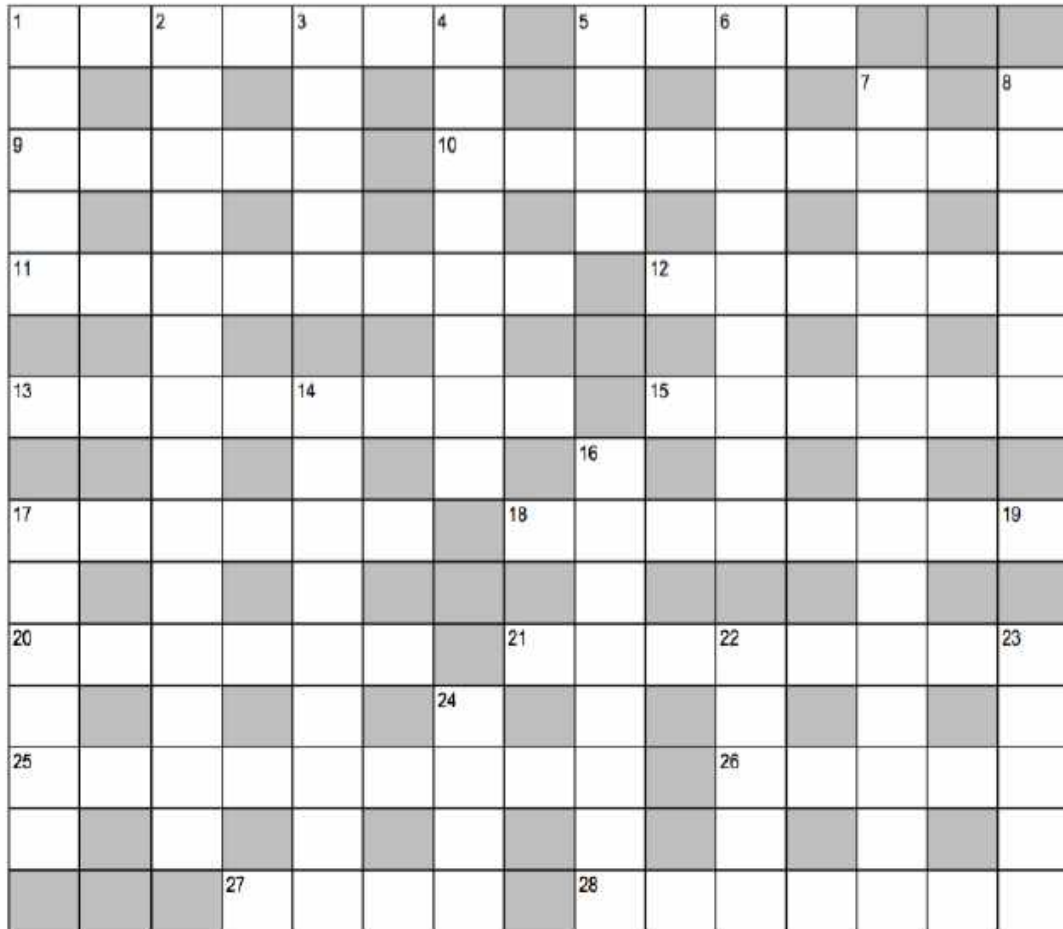
Dai Rees Pennaeth Cadwraeth Cymru / Head of Conservation Wales

✉: drees@butterfly-conservation.org ☎: 01792 642972 (ext.403) or 07483 391956

Gwarchod Glöynnod Byw Butterfly Conservation Wales, 4D Heol y Cwm / 4D Cwm Road, Yr Hafod / Hafod, Abertawe / Swansea SA1 2AY

LEPIDOPTERAN CROSSWORD – *Mostly!*

By Paul Board



Across

1. Butterfly in Photo 1 (7)
5. Unkempt but as nature intended (4)
9. Small fish (5)
10. *Aquilegia*, a plant great for attracting butterflies,(9)
11. Arachnid with a sting in its tail (8)
12. Ancient Greek word for butterfly (6)
13. Food of the gods and also a brand of bee food (8)
15. Butterflies or punctuation marks! Photo 2(6)
17. Juveniles of some insects (6)
18. See 2 Down (4-4)
20. Ordained persons (6)
21. Progresses (8)
25. _____ Moth, *Abrostola tripartita* (9)
26. First animal in space (5)
27. Cuckoo _____, the foam exuded by froghoppers (4)
28. Cleaning, or spraying pesticides onto a crop (7)

Down

1. Fungal diseases of plants like that shown in Photo 3 (5)
 - 2,18 Down. Burnet Moth shown in Photo 4 (6-8, 4-4)
 3. Pause (3, 2)
 4. Pertaining to the structure of the earth's crust (8)
 5. Butterfly in Photo 5 (4)
 6. Carboniferous rock of the Little Orme and Great Orme (8)
 7. Composer of the opera *Madam Butterfly* (7, 7)
 8. Somerset _____, over which Butterfly Conservation's Reserve *Westbury Beacon* looks (6)
 14. Butterfly in Photo 6 (6-3)
 16. A food plant of the *Convolvulus* Hawk Moth larva (8)
 17. Swarming grasshopper (6)
 22. Large saturniid moth of the Asian forests (5)
 23. Colloquialism (5)
 24. Animal dung (4)
- (Solution on page 38)**

2020



(All photos taken by Paul Board)

NORTH WALES BRANCH EVENTS

Looking back on a successful 2019.....

Last year we ran a successful events programme with mixed weather over the summer. Our programme started with our annual May visit to Llanymynech Rocks when several people enjoyed views of grizzled skipper and green hairstreak. A visit to Eyarth Rocks with the NWWT and BC rewarded the large group gathered with excellent views of pearl bordered fritillaries (left), the highlight of the spring.



Next up an impromptu visit to Bryn Euryn, courtesy of our good friend, Paul Board, rewarded another good turnout with views of several commoner species, notably brown Argus in reasonable numbers. The weather just about held out for this visit though!



*About to venture forth into Bryn Euryn...
Many thanks to Paul for leading (2nd from right.)*

Poor weather scuppered a visit to Mynydd Marian and it was a pity that only a couple of people turned out.

Our visit to a Marford Quarry proved popular as another joint visit with NWWT pulled in another large gathering. Highlight of the summer was seeing the spectacular silver washed fritillaries here in our own area. An excellent reserve and a credit to all the hard work done by the volunteers there.

Another poor weather day resulted in a visit to Newborough yielding nothing more than a few ringlets and one or two moth species.

As always we were grateful to Julian Thompson from Pensychnant for his ever-reliable moth trapping sessions.

Thanks to all our volunteers for their continued support and expertise.



Steve, Iliya, Nigel and Douglas

At our AGM Members Day at Pensychnant Nigel Brown examined the profound relationships that exist between butterflies and moths and their food plants, Steve Benner explained how he had gone from being a relative newcomer to nothing to becoming a total convert and Douglas Boyes introduced us to his research into Lepidoptera at Oxford University and elsewhere.

Ian Gorton

NORTH WALES BRANCH CONTACTS

Chairman

Ilija Vukomanovic

01492 530752 / Ilijavuko@hotmail.com

Secretary

Julian Thompson

01492 592595 / jpt.pensychnant@btinternet.com

Treasurer

Bob Lee

01244 550993

Events and Publicity Officer

Ian Gorton

07966 154608 / iangorton180969@btinternet.com

Membership Secretary and Newsletter Editor

Mark Sheridan

07505 214073 / mark.sheridan.mgc@gmail.com

Butterfly Conservation Wales / Gwarchod Glöynnod Byw Cymru

Head of Conservation Wales / Pennaeth Cadwraeth Cymru

Dai Rees

01792 642972 (ext.403) or 07483 391956

drees@butterfly-conservation.org

Unit 4, Cwm Road, Hafod, Swansea, SA1 2AY.

Welcome to all our new members who have joined during the past year. We look forward to meeting you at an outdoor event or our AGM.

Many thanks to everyone who has contributed to this newsletter.

If you, too, would like to see your article in print, the next newsletter deadline will be **28th February 2021**. I look forward to hearing from you with your contribution!

Mark Sheridan

2020

North Wales Branch AGM/Members' Day
Saturday 10th October 2020

Once again we are extremely fortunate to have three knowledgeable and experienced enthusiasts speaking at our event. Vic Hitchings will be known to many of you as a stalwart supporter of the Branch: he gives talks, leads walks and runs training days! David Gardner was Chair of the Kent Branch for over two decades and has now moved to North Wales where he continues his studies of butterflies and moths. Chris Winnick is both a Trustee of Butterfly Conservation and Chair of the Cumbria Branch.

Programme

10.30am Arrival and Tea/Coffee

11.00am Brief AGM and election of officers

11.30am Butterflies of the Calcareous Grasslands – Colwyn - Llandudno Area
Vic Hitchings

Vic will introduce us to the butterflies of the Great Orme, Little Orme, Bryn Pydew, Bryn Euryn as well as Mynydd Marian where he has made a special study. This is a great opportunity to learn about the natural history and diversity of butterflies in some of the best sites in North Wales set in the context of grassland conservation.

12.30 – 2.00pm Lunch Please bring a packed lunch.

Tea, coffee and bara brith will be served.

2.00 pm Moths to Light!

David Gardner

Moth trappers rely on the irresistible attraction of moths to bright lights but this phenomenon is not well understood. David will explain the latest thinking in this area and consider many other aspects of moth behaviour.

3.00 – 3.15pm Tea and coffee

3.15 pm The Butterflies of Cumbria

Chris Winnick

Chris will cover all forty species of butterfly found in Cumbria but will focus on regional and national rarities. He will also look at their status and explain how Butterfly Conservation is working to secure their future.

4.15pm (approx.) Close

VENUE: Pensychnant Conservation Centre, Sychnant Pass, Conwy, LL32 8BJ

Directions: Pensychnant is on the Sychnant Pass, 2½ miles from Conwy or Penmaenmawr on the North Wales coast.

GR: (SH:752 770)

Ilija Vukomanovic Branch Chairman

2020

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDING 31st MARCH 2020
Compiled by Bob Lee (Treasurer) (with no expectation of change before publication).

General Funds		Period To:	Dec-19
Description	Actual Budget	Actual to date	Still to raise/spend
Opening balances (cashbook)		2,217.00	
Branch VAT Control		(1.07)	
Income			
Subscriptions - branch		1,905.00	1,905.00
Donations - individual - unrestricted			
Donations - corporate-unrestricted			
Sales - post & packing			
Sales - primary - brought-in			
Sales - own publications U			
Grants - unrestricted			
Events charges (fundraising)			
Total income		1,905.00	1,905.00
Expenditure			
T & S - convs volunteers			
Consultants (conservation)			
Field equipment		(19.99)	(19.99)
Printing (conservation)			
Rents and rates - Nature reserves			
Reserve maintenance			
Branch newsletters		(452.00)	(452.00)
E-mail newsletters			
Purchase of stock for resale			
Stationery & other office consumables			
Postage		(265.48)	(265.48)
Committee expenses:			
AGM expenses		(75.00)	(75.00)
Other expenditure			
Total expenditure		(812.47)	(812.47)
Transfers			
Fund transfers (normal)			
Fund transfers (HO/Branch) (reim ZR exps)			
Total Transfers		(1,224.00)	(1,224.00)
Recharges			
Recharges - Office			
Recharges - vehicles			
Recharges - non-conservation staff			
Recharges - conservation staff			
Recharges - Support			
Total recharges			
Closing balance		2,084.46	2,084.46

2019/20 VAT on Purchases

2019/20 VAT on Sales

Bank reconciliation **2,084.46**

Payments not yet cleared

Closing bank balance @ 31 December 2019 **2,084.46**

THE PERILS OF THE WHITE-LETTER HAIRSTREAK by *Theresa Leverton*

On a sunny morning last summer, July 19th to be precise, I chanced to notice a small brown butterfly fluttering around in the leafy branches of the Wych Elm, which grows directly in front of the kitchen window of my third-floor flat. Quite used to seeing Speckled Woods here, either patrolling the woodland edge or basking on leaves in the sunshine I almost didn't take much notice, but something in the way this butterfly was behaving made me reach for my camera and zoom in to try to find it. Having taken my eyes off it for a few seconds I couldn't immediately see it and thought I'd missed my chance, but then a slight movement behind the curled-up edge of a leaf caught my eye.

A flash of orange showed this was no Speckled Wood and as it walked about on the surface of a leaf it revealed itself to be a much more exciting White-letter Hairstreak – *Satyrrium w-album*. The butterfly was a bit tattered and slightly faded, but its white line markings and its presence in an elm tree confirmed its identity.



This species is strongly tied to elms, and apparently show a preference for Wych Elm. Since the 1970s the UK population of this species is estimated to have declined by a devastating 90+%, since Dutch Elm disease destroyed so many of the trees on which its caterpillars feed. It is now a Priority Protected species in the UK.

I fully appreciate that my almost eye-level and relatively close-up view of this little



butterfly was a rare privilege. As an arboreal species that spends most of its life high in the treetops, it's most often spotted as a small dark speck against the sky. Even at this distance I needed the help of my zoom lens to see it, they are just about the size of a 2p coin, so it's not surprising that they are often overlooked and probably largely unnoticed.

The butterfly was walking, not flitting, around on the leaves, sometimes disappearing into the shadows beneath them to re-emerge some distance away. Then a few minutes later I realised I was seeing a different, even more damaged individual. I now knew there were at least two of them here, but as

they are a colonial species, there should potentially have been at least a few more. Perhaps there would have been in the past, these butterflies are not great wanderers and will stick to the same site year on year, but perhaps related to the well-meant interventions of humans encouraging birds, this particular location is a potentially hazardous place at all stages of the butterfly's life.



A few days later, on the 23rd July, another sunny day, I had another sighting, again of a damaged butterfly, which also alternated between sitting stationary on leaves and walking around on and under them. But this one was also lingering around on the bare areas of twigs and stopping occasionally, so I wondered if it was ovipositing. Females lay individual eggs at various spots, sticking them fast onto bare twigs, often at the base of a tightly closed flower or leaf bud into which the newly emerged larva can burrow straight into and begin feeding. The eggs are

very tiny, only about 1mm in diameter; difficult for us to see, but maybe not to a scrutinising Blue Tit. I would add here that of the small number of butterflies I saw over these days, at the very most 4, all had sustained some damage to their wings.

We are right on the woodland edge here and from September until about the beginning of February this tree and those surrounding it are one of the regular stops on the route travelled by a party of a mixed species of birds. They are a joy to see, but are all insect-eaters, including Blue Tits, Great Tits, Long-tailed Tits, one or two Coal Tits and sometimes Goldcrests. From that time on the Wych Elms are regularly and relentlessly scoured, bud by bud at least twice each day in the bird's constant quest for food. As winter sets in some of my neighbours also put out seed in feeders which encourages the birds to linger for longer, and they again scour the trees whilst waiting their turn on the feeders. Should any butterfly eggs have escaped scrutiny, the minute caterpillars would begin to emerge during the last weeks of February and throughout March. They immediately burrow into a bud to begin feeding, but Tits are still around in numbers seeking food too, and of course are notorious bud-peckers. The Wych Elm produces its small hermaphrodite purplish flowers in early Spring, before the leaves appear. They are pollinated and develop into clusters of seeds, each tiny seed being enclosed in the centre of a winged papery envelope, or samara. White-letter Hairstreak caterpillars may well stay within the seed clusters for extra protection and shelter. For a few short days the trees look lovely, from a distance the bright yellow-green seed clusters could be mistaken for blossom set amongst equally bright green newly developing leaves. Then one April day, some ethereal signal summons creatures that will

decimate the seeds and worse, damage the tree irrevocably and surely further imperil any caterpillars that may be feeding around the developing seeds or on new leaves. Firstly, beautiful Bullfinches arrive in their pairs, often in the early morning and spend the best part of several days delicately picking, extracting and eating the seeds one by one. One year we had three pairs here all at the same time.



Maybe it's the Bullfinches arrival that alerts their serious competitors, the Grey Squirrels, who launch an almost frenzied attack on the tree, grabbing the seed clusters by the handful and stuffing them



into their mouths at great speed. Barely having finished one mouthful they are grabbing another. Often, they reach out and carelessly break off an entire twig, hastily eat the seeds then drop the twig, casting away the leaves, a whole year's-worth, which cannot be replaced.



The trees suffer irreparable damage; whole lengths of branches are bare having been stripped of twigs in previous years and each year further damage is inflicted. They are such agile creatures too, perfectly capable of hanging upside down to reach seeds at the ends of twigs beneath them; they don't stop until there is nothing left. Left to ripen the seeds wouldn't fall naturally until July.

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By May at least one pair of the Blue Tits will have nested nearby and have young to feed. Once more the beautiful leaves of the Wych Elm, which has the largest leaves of all our native trees, are scrutinised frequently for caterpillars.

They're not the only predators out hunting here. Paper wasps have 'nested' here under our eaves for several years and build up substantial numbers. Often overlooked as predators, they are fearsome and they too feed their offspring with caterpillars and other insect larvae.

If any White-letter Hairstreak caterpillars do manage to survive this annual predatory onslaught and habitat destruction, towards the end of May they will begin to prepare to pupate. They change colour from the bright green that helps camouflage them on the undersides of leaves, darkening to blend into a recess or crack in bark where they will hopefully survive to emerge in July/August. I sincerely hope to see a new generation this summer, but feel the balance in this colony's long-term survival doesn't seem to be tipped in their favour.



MYNYDD MARIAN BUTTERFLIES

An S-Curve analysis 2015-2019

by *Victor H. Hitchings*

In a five-year review of the data gathered in the transect counts for Mynydd Marian it became apparent that plotting the weekly data as conventional total was interesting but did not reveal trend data very well.

Population curve or S-curves have been used in several disciplines for population studies, e.g. grain size populations in geology and, more importantly population studies in biology. It was decided that looking at the

data in conventional weekly total plots and cumulative plots of the weekly data would be instructive.

Conventional Plots of Total Numbers

Figure 1 shows a plot of the total numbers of butterflies recorded each week in the 2015 to 2019 period. The total numbers of butterflies per year have been increasing over the 2015 to 2019 period. This is partly due to the number of counts but there also appears to be an underlying trend.

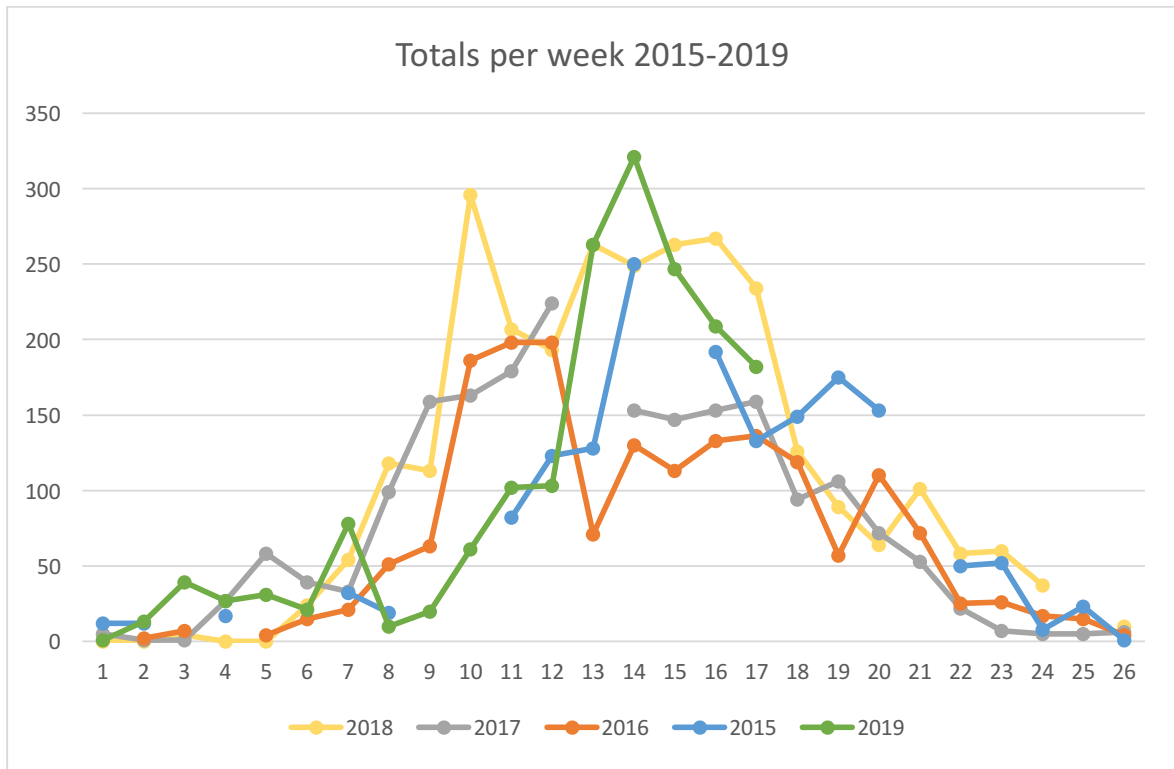


Figure 1: Plot of the weekly totals of butterflies recorded on the transect walks.

In each year two major peaks can be seen, one in Weeks 9 to 13 and a second, more complex peaked curve in Weeks 14 to -21. The first can be attributed to the emergence of the Silver Studded Blues. The second is a broader, multiple peak formed by the successive population peaks of the Meadow Browns, Ringlets and Small Heaths.

There is a close similarity in the annual trends where in Week 19 to 26 the numbers of butterflies reduce, in the late Summer. The overall patterns and comparisons are, however, difficult to appreciate using this plot. An alternative is presented below.

Cumulative totals

A useful method of representing the butterfly population is to plot them as cumulative numbers. The cumulative totals of butterflies throughout the recording season follow sigmoidal or logistic growth curves (Figure 2) which are commonly seen in population studies.

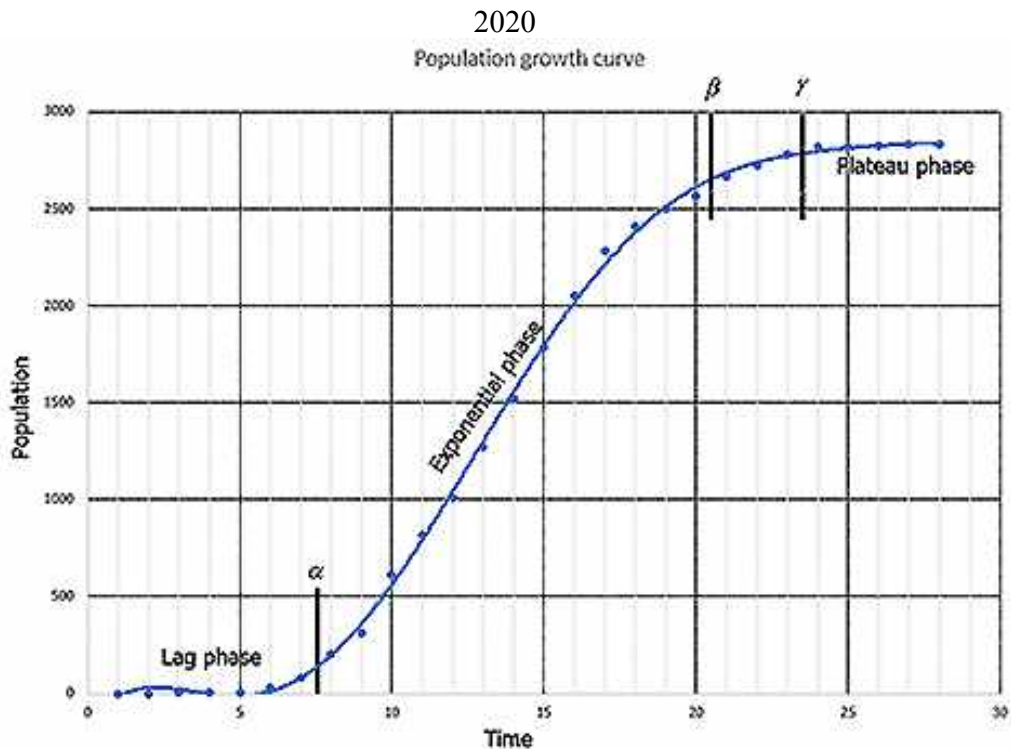


Figure 2: Sigmoid or logistic growth curve with phases

Sigmoidal or logistic growth curves have four phases, the lag phase, exponential phase, transition phase and plateau phase. The lag phase (up to α) represents the initial phase when population growth rates are small. The exponential phase ($\alpha - \beta$) is the stage of rapid population growth. The plateau phase is the stage where the population growth rate stabilizes. Between the exponential and plateau phase may be the transition phase ($\beta - \gamma$).

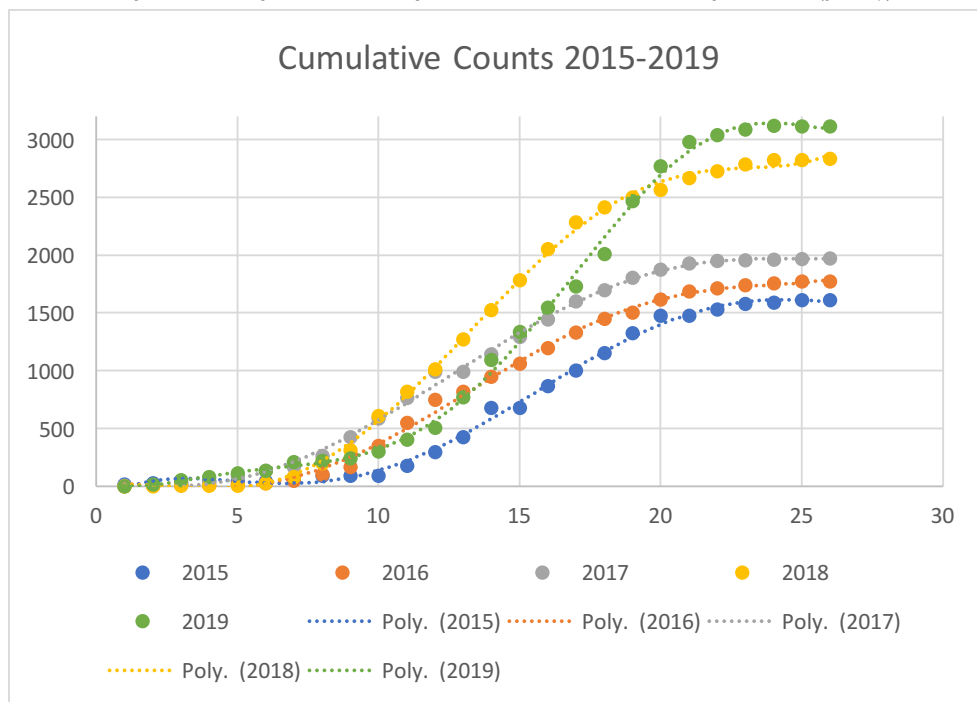


Figure 3: Cumulative totals for years 2015-2019
y axis = cumulative totals; x axis = weekly numbers

Examination of Figure 3 shows that the cumulative curves for 2015 to 2017 are very similar and those for 2018 and 2019 are similar. The curve sets may be referred to as a 'curve families'. The similarity of slopes in the exponential phases can be seen clearly in isolated exponential phases using the linear trendline equation (from Figures 4).

The lag phase (pre α in Figure 3) are between Week 1 and 7 or 8 in 2016-2018 and Week 1 and 10 or 11 in 2015 and 2019. The exponential phase therefore generally begins in the period of the 20th-26th May. Meteorological Spring is from 1st March to 31st of May hence this phase change occurs close to the end of Spring and beginning of Summer.

The plateau phase (post γ) begins in Week 24 (9th to 15th September), with a transition phase ($\beta - \gamma$) starting in Week 20 (12th to 18th August).

Meteorological Autumn begins on 1st September (at the end of Week 22) and the plateau phase corresponds to the Autumn.

From this it is apparent that the phases of population growth are closely related to the meteorological calendar.

The majority of butterflies are recorded in the exponential phase (α to β). A detailed examination of this phase is instructive.

Exponential Phases

In Figure 4 the exponential phases for 2015, 2016 and 2017 have similar slopes and therefore similar rates of increase week on week from those in 2018 and 2019. This can clearly be seen by examining the trendline equations (see equations beneath Figure 4). The equations for 2015 to 2017 have m values (in the gradient mx) falls in the 130-143 range. In the 2018 and 2019 m values, indicating the rate of increase, is very different with values of 225 to 234.

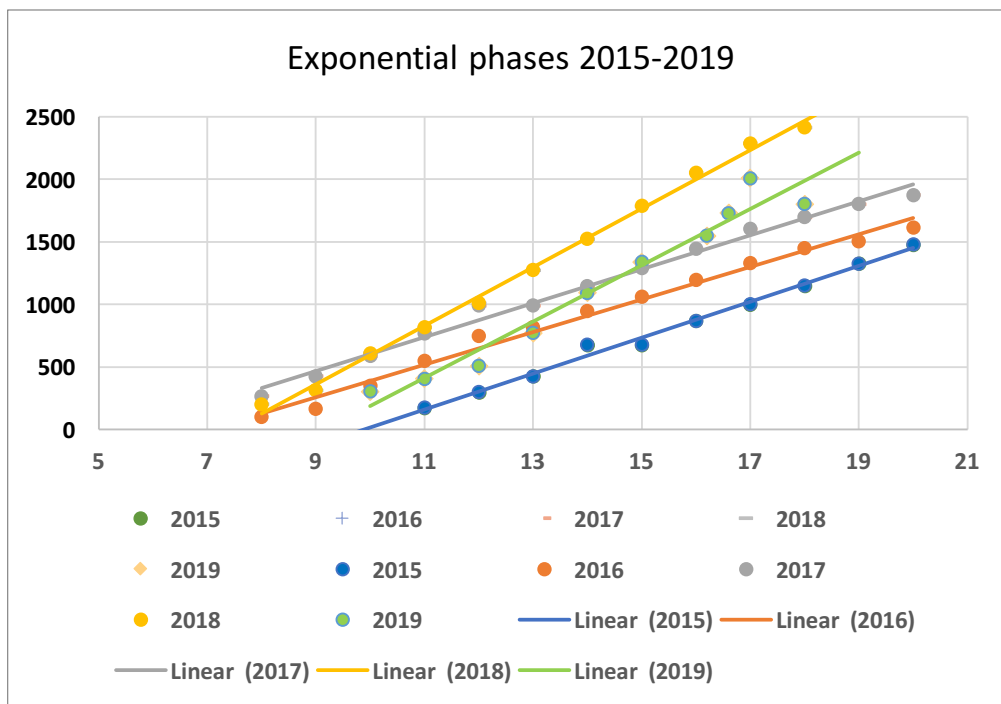


Figure 4: Linear trendlines for the exponential phases

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Linear Trendline equations for exponential phase

$$2019, y = 225.14x - 2066.2$$

$$2018, y = 233.79x - 1741.9$$

$$2017, y = 135.68x - 756.54$$

$$2016, y = 130.01x - 911.62$$

$$2016, y = 143.65x - 1420.3$$

Where: $y = mx - c$, where mx is the gradient, $-c$ is the intercept on the y axis

Discussion and Conclusions

From these analyses and interpretations it can be seen that, 1) cumulative or s-curves are useful tools in examining annual population trends, 2) the boundaries of the curve phases are related to the meteorological seasons and 3) that 2015-2016 and 2018-2019 had different rates of population growth, indicating increasing butterfly populations in the last two years on Mynydd Marian. It is widely known that 2019 was a decadal year for Painted Ladies. The total number of Painted Ladies in the transects on Mynydd Marian was 525 in 2019, compared to <10 in the 2015-2018 period. However, the increase in Painted Ladies alone cannot be used to explain the increases in 2019 as the rate of increase in 2018 was similar to 2019.

Further analysis of meteorological and floral conditions is underway to explore these findings.

BLAENAU FFESTINIOG REPORT 2019 *by Malcolm Watling*

This year I thought I'd include Butterflies and day-time Moths as well as the trapping results.

The season started well with plenty of Orange Tips at the end of April. Painted Ladies were, of course, the great sensation this year. I started seeing occasional worn individuals almost everywhere during July, the new arrivals no doubt, then masses of fresh ones from 2nd August. There were so many I managed finally to get an underside photo for my album! It is the one below, along with the others, all this year's specimens except the *Pseudargyrotoza*. On the 13th August I did a "Buddleja Crawl", mainly Painted Ladies and Peacocks.

Once again Meadow Brown was a lot earlier than I'm used to. All my Blaenau records in early August are noted "faded-worn". The last one seen was on the 7th in Cwm Bowydd. Ringlets also, only around in late June, July, and the very start of August. For these two species numbers seemed to have been down generally. I saw two Graylings on an area I hadn't previously explored, on slate waste east of Llechwedd Mine. Small Heath was widespread as usual, but normally only occasional individuals, not in the vast numbers I saw when I first came to the area twelve years ago. Small Pearl-bordered Fritillary was around, in the usual places and numbers. I recorded five Large Skippers. There was just one Small Skipper, at

2020

“Groes Ffordd”, one of my most prolific sites, on the western edge of town next to the Ffestiniog Railway. Small Tortoiseshells were frequent, the last one on 29th Oct.



In the Blaenau area I've always found the Speckled Wood “rare and fitful in its appearance” (to quote the account of Large Blue in *The Observers Book of Butterflies*, 1960, p.132). This year I saw four around town, including one in our garden, which I consider a good result. Wall is always very occasional here, just three around town this year. The same is true of Dark Green Fritillary, just one, in a cute little valley which I've nicknamed “Nant Bodychain” after the group of houses at the bottom. This is behind my trapping site in Tanygrisiau. I saw only one Green Hairstreak, but that was by not being in the right places at the right times! Red Admiral and the Whites were out in their usual numbers.

As to daytime moths, Brown Silver-line and Cinnabar seemed to be everywhere. We had a Humming-bird Hawkmoth on the Stocks in the garden, which my wife videoed on her smartphone. I found a Lilac Beauty, looking for all the world like a dead leaf stuck on a wall, in one of the back streets. My most bizarre record is of Oak Eggar, a single male hindwing, on the pavement behind our recycling bins. Bat work, no doubt!



In my moth trapping list I've kept to the format of date, site, and number of species (and individual moths), this time including details of the more spectacular and abundant species, with a few anecdotes. There were 27 species new to the trap. Among them, of interest to me, were Frosted Green, Pine Beauty, Oblique Carpet, and V-Pug.

Here are the sites.

1. **Home**, my back garden in the High Street, with a lot of street lighting.
2. **Oakeley Square**, completely rural, on the western edge of town.
3. **Bryn Egryn**, next to open mountain terrain south of the Diffwys Casson Mine area.
4. **Tanygrisiau**, below open mountain terrain at the northern end of the village.
5. **Bryn Eltyd**, the Eco- guesthouse at the north end of Llyn Tanygrisiau.

6. **Treks Bunkhouse** on the old golf course at Llan Ffestiniog

7. **Blaenau Ffestiniog Park**, in the centre of the town, lots of street light.

6 Jan. Home; 0. **10 Jan.** Oakeley Square; 3 Mottled Greys. **16 Feb.** Home; 3(5). **28 Feb.** Oakeley Square; 6(15), **20 Mar.** Oakeley Square; 5(9). **27 Mar.** Bryn Elltyd; 5(29). 17 Hebrew Characters. **19 Apr.** Bryn Egryn; 20(127). 66 Hebrew Characters, 19 Double-striped Pugs. **16 May.** Home; 4(4).

24 May. Home; 17(52). A Magpie, no, not the moth - the bird! Our cats managed to catch, kill it, and bring it into the house!! Usually there are a number of moths which don't make it into the trap but are sitting around it. On this morning, there were none except for three of the Cinnabars. I suspect that the Magpie was distracted helping itself to the "sit-arounds" and the cats seized their opportunity! Notable occupants of the trap were one Elephant Hawkmoth and three female Fox Moths, who between them laid c. 80 eggs on the egg-pack lining, released later in the adjacent fields! There was also a Buff-tip which could have been one of last year's caterpillars on our small Willow, and 14 Cinnabars. At this point I gave up recording pavement kills of this species! **17 June.** Home; 10(13). **20 June.** Blaenau Ffestiniog Park; 17(18).



8 Jul. Home; 61(132). A colossal catch for my back garden! One each of Poplar and Elephant Hawkmoths, 44 Dark Arches, 25 *Chrysoteuchia culmella* (Garden Grass-veneer), 18 Foxglove Pugs, 15 *Pseudargyrotoza conwagana* (Yellow-spot Twist) and two Ashworth's Rustics. **31 Jul.** Tanygrisiau; 50(183). One Old Lady, the first I'd seen in decades, 44 Common Footman, 24 Dark Arches, 15 Large Yellow Underwings and two more Ashworth's Rustics. **26 Aug.** Treks Bunkhouse, 19(74). A Drinker, 20 Antler, 16 Autumnal Rustic. **2 Oct.** Oakeley Square; 3 Autumn Green Carpets. **22 Oct.** Home; 2(2). **19 Nov.** Home; 4(4). **27 Nov.** Oakeley Square; 4(24). 20 Scarce Umbers! At around this time four of these got trapped in the High Street, attracted by the lights and getting no further darkness in which to escape. Two were right outside our house, the others just a few feet further along. Over the course of the next few days the poor things variously got trodden on, drowned or spider-webbed! **20 Dec.** Home; 0. **31 Dec.** Home; 0.

I was surprised to find that this year I had collected my largest number of records, in terms of rows on the spreadsheet. This doesn't necessarily mean more actual insects, but it's very satisfying!

ANGLESEY MOTH RECORDING 2019

by *Charles Aron*

Here is a summary of the 2019 mothing season on Anglesey. As you will see, there is much reference to weather conditions, not only because the moth-ers' fortunes are closely linked to the prevailing weather but also because, apart from moths, one of my other passions is weather recording!

The mothing season began in mid-February with the onset of a spell of exceptionally warm weather. Airstreams originated from as far south as Africa and this gave rise to an early wave of migrants. On the morning of the 16th there were only five moths in the Skinner trap in my garden at Pentraeth (quite respectable for the time of year) and three were migrants. The first I spotted was a small, strikingly-marked Pyralid unlike anything I'd seen before; this turned out to be *Euchromius ocella* (Eyed Veneer), (right)

a scarce migrant, which wends its way from Africa assisted by favourable conditions, usually during the winter months.

This was the first Anglesey record but was not new for North Wales; Dan Brown had recorded it at Treborth in January 1998, when similar



conditions prevailed. There was also a Ni Moth, similar to Silver Y, another scarce migrant, not quite a new Anglesey record, as there was a previous one from west Anglesey in the mid-20th century. Other migrants recorded during this period were Dark Sword-grass and Small Mottled Willow. Apart from these a range of early spring moths were on the wing during this period.

March, however, was very unsettled for much of the first half of the month and when it did become more settled nights were often cold. Trapping at Pentraeth during the second half of the month yielded the usual spectrum of early spring moths, usually with ten or less species each night.

April brought another wave of exceptionally warm weather with a wide variety of spring and first-brood summer moths on the wing. The peak was reached on 23rd when 28 species were recorded in Pentraeth and 26 in Pentraeth Forest. Some of the more interesting moths recorded during this period from the Pentraeth area were Brindled Ochre, Dog's Tooth, Grey Birch, Waved Umber, Oak Nycteoline and the micro, *Semioscopis steinkellneriana* (Dawn Flat Body).

May was a relatively cooler month and moth catches were small during the first half of the month, as is often the case at this time of year, however, numbers

began to build by mid-month. On 14th a Lime Hawk-moth came to actinic light at Ysgubor Gwenfro, Talwrn. This attractive Hawk seems to be gradually establishing itself on Anglesey although its range will always be restricted as limes are confined (rather sparingly) to the southern part of the island. At Pentraeth the peak was reached on 24th when 44 species were recorded at light, including an early Small Elephant Hawk-moth.

June began with a very brief spell of warmth, giving a productive night on 1st. At Pentraeth both Seraphim and Small Seraphim came to light, attractive Geometrids which seem to have gained a recent foothold on Anglesey. About 50 species were recorded by Nigel Brown at The Granary, Talwrn including a wonderful array of Geometrid moths. Thereafter it became unsettled, wet, and cold at times.

However, by mid-month temperatures started to recover and moth numbers responded rapidly so that by midsummer catches were excellent, easily exceeding 50 species per night. On 24th, after some warmth during the afternoon, it became grey and sullen but dead calm. After a warm, still night the moth trap in the garden was throbbing with activity and at 5.15 in the morning I embarked on a somewhat adrenaline-fuelled inspection of the contents. A total of 99 species resulted (including 25 micros). There were 162 Heart and Darts but also an amazing 22 Elephant Hawk-moths. It was anticipated that, with warmth in late June and July, that 100+ species would be recorded but, in fact, this did not transpire. More warmth followed and on 28th a big catch in the garden included the tiny but



distinctively marked *Ectoedemia decentella* (Sycamore-seed Pigmy), (left), new for Anglesey, and Cloaked Pug in Pentraeth Forest.

On 3rd July a Cofnod recording visit to Nant y Perfedd, inland from Lligwy Beach, yielded lots of butterflies but also a number of moths including the attractive Pyralid, *Anania crocealis* (Ochreous Pearl), which feeds on Fleabane. Val Lane spotted a Blackneck, a moth of rough ground which feeds on Bush Vetch and seems to be increasing on Anglesey. July was a warm month generally and moth catches at Pentraeth were usually in the region

of 50 species. Round-winged Muslin has become common on Anglesey in marshy areas and 23 came to actinic light at Cors Bodeilio on 8th. On 13th Ian Hawkins had the attractive Diamond Back relative, *Rhigognostis incarnatella* (Scotch Smudge), in his garden at Brynsiencyn, his third record of this species. This moth was new for North Wales when it appeared in my garden in 2014; thereafter it became more frequent but has been absent for the last couple of years. Intriguingly, it has spread from its strongholds in the *north* of Britain, a reversal of the usual situation.

On the same night Ian had Small Marbled, a pretty and scarce migrant, only the second record for Anglesey. On 12th 23 Marsh Oblique Bars came to actinic at Cors Goch. This diminutive Snout relative was unrecorded on Anglesey before 2003 and seems to be increasing in its fenland habitats. On a very warm night on 25th Blackneck, *Ypsolopha nemorella* (Hooked Smudge), and the strikingly coloured *Pammene aurita* (Sycamore Piercer) came to light at Cors Bodeilio. *P. aurita* is a relatively recent colonist, having been first recorded on the island in 2012 by Clive Tottey at Amlwch.

August was, as usual, mostly unsettled but warmer and sunnier than in recent years. The month began with a warm spell and on 2nd and 3rd 65 and 69 species respectively came to the garden in Pentraeth. These included two Ear Moths, attractive Noctuids, which, unfortunately, can only be told to species by genitalia dissection. On 4th Large Yellow Underwings were accompanied by 21 Black Arches in Pentraeth Forest; numbers of this striking oak-feeding Noctuid have exploded recently; prior to 2008 it had been unrecorded on Anglesey. It has now been widely recorded on south of the island, even where there are no oak trees nearby. On the same night there were good numbers of Clouded Magpies; these appear to have a stronghold in Pentraeth Forest, where there are plenty of young elm trees for the larvae. These large bird-dropping mimics are very floppy and when released from the egg cartons tend to float to the ground like discarded tissue paper, presumably to avoid attention from predators. There was also a single specimen of the Nationally Scarce Blomer's Rivulet a rather distinctive elm-feeding Geometrid. On 21st, also in Pentraeth Forest, I had my first Anglesey Blue-bordered Carpet for forty-seven years! This has been a very scarce moth on the island although there are a number of recent records. It has been frequently recorded over the years at Treborth on the adjacent mainland.

September was often unsettled and cool at times, with unremarkable moth catches. However, there was a period of drier weather during the third week which culminated in a hot weekend (21st to 22nd) when Anglesey had some of the highest temperatures in Britain. On 21st, in Pentraeth Forest, the beech-feeding *Argyresthia semitestacella* (Large Beech Argent) came to actinic. This is a scarce or under recorded species in North Wales. Also, there was the small but distinctive *Tachystola acroxantha* (Ruddy Streak); this small but distinctive micro is a colonist from Australia, first recorded in Britain in 1908 and now established on Anglesey. On 22nd Ian Hawkins recorded the large, spectacular Convolvulus Hawk-moth at Brynsiencyn, no doubt assisted by the warm south to south-easterly winds. This migrant Hawk is only sporadically recorded on Anglesey.

The rest of the autumn was mostly unsettled and became quite cold, and, on the whole, unfavourable for moth trapping. Catches were relatively small and consisted of the commoner autumnal species. The most productive night was 4th October when 18 species came to light at Pentraeth including a late Large Yellow Underwing.

THE WOOLLY BEAR AND THE S4 BUS

by *Bruce Hurst*

On a hot May afternoon, I was driving along the winding road leaving the village of Rhyd Ddu heading toward Caernarfon. The road was busy at this point. Just then I caught sight of a Woolly Bear moving at speed across the road! I slammed on the breaks and pulled up close to the wall. I got out of my car and went to examine it. I imagine, some readers will be surprised if not alarmed, to hear about Woolly bears loose in Snowdonia so, I'll put your minds at rest. 'Woolly Bear' is the name given to the later stage instar caterpillar of the Garden Tiger (*Arctia caja*) a rather beautiful moth within the Erebidae, Arctiinae family.

As I looked at the caterpillar on the road the S4 bus turned up and a couple of



cars from both directions. The larva was now in mortal danger and probably me as well. I put my hand up and stopped the bus and the cars, then quickly got a specimen pot from my vehicle and proceeded to encourage the

caterpillar into the pot. It was not willing, but I continued rather than see it needlessly flattened. I soon began to feel the impatience of the other drivers. The secret is to look like you are doing something important, which I feel I was! Finally, the Woolly Bear conceded and crawled into the pot. The hairs are very thick and if the larva is stationary it can be difficult to distinguish between the head and tail until it moves. I thought it advisable not to handle with bare hands in case of skin irritation from any of the caterpillar's defence mechanisms, it may have.

I raised the pot to show to the other road users and gave a bow whilst mouthing thank you and then waved them on. The bus driver smiled, his passengers glared at me, the car drivers shook their heads in a mixture of perplexed disbelief and suppressed hatred, but who cares? This is Snowdonia not London.

I kept the caterpillar with me until I got home and placed it in a keep net. I then looked up the foodplants associated with Garden Tigers, they feed on herbaceous plants including, Dock, Dandelion, Plantain and even Bramble. I fed it over a period of a month. I wasn't sure if it would pupate. The book describes how it likes to bask in sunshine, I therefore gave the larva the opportunity to bask, from

time to time. It is important to try to reproduce both its conditions and habits as much as possible. It took about three weeks to spin its cocoon and I honestly thought it never would. I left some foliage and soil in the keep for it, however, it decided to pupate near the top by the zip.

The cocoon was thick with brown hairs and silk completely enshrining the caterpillar. We were still not out of the woods as to whether it would survive yet, parasite predation is always possible and can destroy caterpillars from within, giving birth to a parasitic insect. It remained entombed until July. I was delighted to find the newly emerged and wonderfully fresh imago, waiting for me when I opened the keep. I moved it gently and the adult moth revealed its antennae. I believe it was female because, according to the pictures in Waring and Townsend's

Field Guide, the male is shown as distinctly having feathered antennae and the female images do not. If my interpretation is correct; it must be female. I have caught the adult males before with UV light but never a female. I placed the moth in the keep outside that night, to



see if any males would detect her pheromones, but nothing came.

The next night I released it into some foliage, the moth had flexed its wings but not yet flown. I never saw this moth again but a week later, I did get a male that flew to my actinic light which looked, as if he'd had a punishing night. It's nice to think that he could be the father of a lot more Garden Tiger moths. I felt jubilant that I had taken unorthodox action to save my female moth from being killed on the road. I think perhaps, we all need to take a lot more action in protecting our wildlife, even in small simple ways however eccentric that may be.

Another addition to the story being, one of the campsite owners in the area had erected a sign which read 'DO NOT FEED THE BEARS.' A slightly disconcerting jest for the tourists. I would say there are Woolly Bears roaming around Snowdonia, which in turn become tigers! So, keep an eye out for them!

A NEW MOTH LIST FOR WALES

by *George Tordoff*

How many moth species have been recorded in Wales? Until recently no-one was really sure, as a Welsh moth list had never been compiled. BC Wales had aspired to produce such a list for several years and the process was started in 2015, but never quite finished. In 2018 Martin Anthoney, county macro-moth recorder for Monmouthshire, gently reminded me that I'd agreed to take on this assignment and hadn't done anything about it, and so I devoted some of my office time to this task during the winter.

The 2015 list was a simple inventory of all Welsh moth species, based on data held by the four Local Environmental Records Centres (LERCs) in Wales. But to make the list more informative and useful it was decided to compile it on a county by county

basis, which meant asking the various county moth recorders for their county lists and putting these together into one big table. This sounds a relatively straightforward task, and indeed that part of the process didn't take too long, but little did I know that there were lots of micro-moth records waiting to cause headaches further down the line. These included some records on the county lists which hadn't been confirmed and needed to be removed from the Wales list, and conversely some records which appear on the vice-county maps in *The Moths and Butterflies of Great Britain and Ireland* (MBGBI) but which, for various reasons, didn't have any records in the relevant county datasets. Many of these MBGBI records were simply a dot on a map at the county level and did not have sufficient details attached to them to enable a full biological record to be added to the county dataset, and so these appear on the Wales list as a U (= unsupported). After countless emails to the various county moth recorders the provisional list has been completed and stands at an impressive 1832 species. Of these, 696 species have been recorded in all 13 Welsh vice-counties and 132 species in just one county. Glamorgan has the highest species total for both micro- and macro-moths, probably due to a combination of geographical position (there are more moth species in the south-east of Wales where it is warmer and drier than there are further north and west), county size (the second largest in Wales), variety of habitats and a long history of moth recording. The smaller and/or land-locked counties – Breconshire, Radnorshire, Montgomeryshire, Flintshire and Anglesey – have the shortest lists. These counties also have smaller human populations and consequently fewer moth recorders, and so are likely to be under-recorded compared with counties such as Glamorgan and Monmouthshire where the human population is much bigger.

2020

The list, up to date to the end of 2018, is available to download in pdf format on the BC Wales website: <https://butterfly-conservation.org/in-your-area/wales-office>. With a list of this size there will almost inevitably be some errors; if you do spot any then please let me know. It is planned to update the list on an annual basis, with the 2019 updates to be added in the next few weeks.

I'd like to express my deep gratitude to the County Moth Recorders of Wales who have been very supportive throughout the process, in supplying lists and by remaining good humoured when I've sent yet another email querying another record. Stephen Palmer of the Gelechiid Recording Scheme has also been very helpful in verifying some of the trickier gelechiid moth records.

George Tordoff

Senior Moth Ecologist

gtordoff@butterfly-conservation.org

Paul's **CROSSWORD SOLUTION**

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County Butterfly and Moth Recorders

Send records by e-mail to the appropriate recorders' e-mail below.

To check which Vice County (VC) you're in go to herbariaunited.org/gridrefVC/

Find more at butterfly-conservation.org/110/recording-and-monitoring.html

See records of N. Wales butterflies and moths at trawsgoed.com/NWLeps.aspx

Butterfly Recorders

Montgomeryshire VC47

Douglas Boyes douglasboyes@gmail.com

Bridge Cottage, Middletown, Welshpool, Powys, SY21 8DG. **01938 570418**

Merionethshire VC48, Caernarvonshire VC49 and Anglesey VC52

Andrew Graham, anrhm@globalnet.co.uk

Trawscoed, Llanuwchllyn, Bala, Gwynedd LL23 7TD. **01678 540370**

Denbighshire VC50 and Flintshire VC51

Jan Miller Jan@7wells.org

Saith Ffynnon Farm, Downing Road, Whitford, Holywell, CH8 9EN. **01352 711 198**

Moth Recorders

Montgomeryshire VC47 (All species)

Peter Williams peterwilliams526@btinternet.com

"Pandy", Commins Coch, Machynlleth, Powys SY20 8LG. **01650 511583**

Merionethshire VC48 (All species)

Andrew Graham anrhm@globalnet.co.uk

Trawscoed, Llanuwchllyn, Bala, Gwynedd LL23 7TD. **01678 540370**

Caernarvonshire VC49 (All species)

Julian Thompson julian.pensychnant@btinternet.com

Pensychnant, Sychnant Pass, Conwy, LL32 8BJ. **01492 592595**

Denbighshire VC50 and Flintshire VC51 (Macro-moths)

Justin Williams northwalesmoths@hotmail.co.uk

The Old Orchard, Sunnyridge Ave, Marford, Wrexham LL12 8TE. **01978 851381**

Denbighshire VC50 (Micro-moths)

Bryan Formstone bryanformstone@dsl.pipex.com

15 Beech Avenue, Gresford, Wrexham LL12 8EL. **01978 855174**

Flintshire VC51 (Micro-moths)

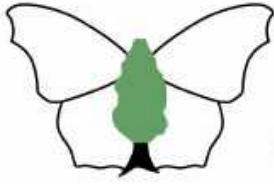
Helen Bantock hbantock@yahoo.co.uk

101 Crouch Hill, London, N8 9RD

Anglesey VC52 (All species)

Charles Aron aronmycology@aol.com

4, Refail Fields, Pentraeth, Anglesey, LL75 8YF. **01248 450129 / 07766613417**



Butterfly Conservation Wales Gwarchod Glöynnod Byw Cymru

Saving butterflies, moths and our environment Yn achub glöynnod byw, gwyfynod a'n hamgylchedd ni

North Wales Branch

You can find the North Wales Branch web page here

butterfly-conservation.org/304/north-wales-branch.html

Visit the site to find out about your local branch and to.....

- learn more about our North Wales reserve at Eyarth Rocks
- view previous branch newsletters
- discover recommended places for seeing butterflies
- read the latest news from Butterfly Conservation

And - if you have any questions to ask or information to pass on - use the contact option there.

Another way to contact the branch and other members, is through Facebook and Twitter...



Butterfly Conservation North Wales

www.facebook.com/groups/277847912412601/



Butterfly Conservation North Wales

https://twitter.com/BC_NorthWales

- post your sightings of butterflies and moths
- ask for help with species identification
- keep up-to-date with your local events
- share interesting Lepidoptera-related news