Butterfly Conservation Dorset Branch
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www.dorsetbutterflies.com

Butterfly Conservation
Saving butterflies, moths and our environment

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Editor's Note - from Jane Smith

Welcome to the Autumn Newsletter! We have a wide range of articles in this issue, which I hope you enjoy reading. Many thanks to all those who have contributed.

The next issue is due in early 2024, so if you have any thoughts about writing about your butterfly and moth experiences for us, please get in touch: I would be delighted to hear from you. My contact details are on page 39.

As you will be aware, producing the newsletter is a joint effort between Lyn Pullen and myself. My role is in the content, sourcing articles and editing them. Lyn is also involved in the content, but her main contribution is in the design and style of the newsletter, and in converting it into the correct form for printing. I hope you agree that we make a good team!

Front Cover: Gatekeeper on day lily. Photo: Brian Arnold

View from the Chair

Nigel Spring shares his thoughts with us

I cannot decide if we are a nation of miserable pessimists or irrational optimists! Certainly we love statistics and we love records! And quite a lot of people seem to have latched onto the recent press release emanating from Butterfly Conservation (BC) Head Office describing how the butterfly numbers counted in the 2023 Big Butterfly Count were at the highest level for four years, with the Red Admiral coming out top and Gatekeeper and Large and Small Whites in the next three positions. Gatekeepers were in enormous numbers in July and August, the previous summer's drought clearly doing them no harm. On many transects for several weeks Gatekeepers made up more than half the total butterflies counted!

Tuesday 18 July saw the highest number of records (352) ever sent into the Dorset branch website on one day and on the Durlston East transect over 900 butterflies were counted on 17 July.

However, if you read a bit further down the BC press release of 15 September, you will see that the general trend is downwards, as it has been since the 1970's. But let's stay in the optimistic mindset – our spring and summer had some wonderful highlights in spite of the violent swings of temperature and rainfall. Brimstones were extremely numerous (in fact one young Alder Buckthorn bush in a Beaminster garden had so many caterpillars on it that these had to be

We trapped a record 9 Dingy Mochas at Alners Gorse in July and recorded 11 new moth species, bringing the total moth species for the reserve up to 604! (25% of the national moth list!)

View from the Chair

translocated to save the larvae from certain starvation!). Grizzled Skippers flourished on many calcareous sites, while Marsh Fritillaries hit the peak of their population fluctuations on sites like Rooksmoor and Lydlinch Common in May and early June (but not at Alners Gorse where they seem to be at the four year low point caused by the oscillation in the number of parasitic wasps that affect the larvae).

At Lankham Bottom Reserve, the Wessex Water ranger reported a "plague" (!) of Wood Tiger moth larvae in May and June. This uncommon species regularly seems to have bumper years at Lankham – the adults were everywhere later in the summer.

One way of assessing populations of Marsh Fritillaries is to count the larval webs in August and September, as the clusters of larvae go down into the litter layer leaving their webs looking like grubby cobwebs on the Devilsbit Scabious plants and are thus very easy to count. At Lankham this summer, the ultra-patient surveyors counted over 500 larval webs, an unbelievable total and easily a record for the site. This may be because the foodplant was very sparse after several very dry seasons, so the larvae have had to disperse more widely. The consequence of this may not necessarily be a record number of Marsh Fritillaries next season; there may be a higher mortality and they may certainly be small individuals. Rooksmoor by contrast is a clay site and the Devils-bit Scabious plants are large and luxuriant; this means there is no shortage of leaves for the larvae to eat, so the larval webs are large and hold a lot of caterpillars.

Very good numbers of Brown Hairstreak adults were reported at Alners Gorse, some of them posing perfectly for happy photographers; these people also saw excellent numbers of White-letter Hairstreaks on the western Elm hedge. The beautiful mornings

View from the Chair

in late June/early July were perfect for searching the local Elms for WLH but sadly the weather broke in the middle of their flight period.

Back to our love of statistics – the record breaking conditions in September with the hottest days of the year and some interesting weather patterns brought in some long awaited migrant species with Clouded Yellows (at last!), Long-tailed Blues and Painted Ladies, and a selection of exciting moth species like Convolvulus and Striped Hawk-moths, Lace-border, Dewick's Plusia and Passenger.

It was in early September that Martin Warren reported at least 50 Peacock butterflies preparing to overwinter in the 2nd World War bunkers on Studland Heath – that's another record count. And the Red Admirals are still everywhere!

And we must not forget all the Jersey Tiger moths that have graced our gardens and countryside this summer. They are expanding northwards rapidly and generating a record number of sightings and enquiries to the Dorset Branch's ever improving website.

Finally, continuing on the records theme, this summer has possibly been the busiest ever for our branch – so many events, projects, observations sent in, transects walked, enquiries answered etc – a huge thank you to everyone involved!

Jersey Tiger. Photo: Sue East

Nigel Spring

Visit to Winfrith Heath

Jean and Tom Smith led a joint Butterfly Conservation/ Dorset Flora Group walk on 19 July

In addition to being active Dorset Flora Group members we normally lead a walk or two each year for the Dorset Branch of Butterfly Conservation, who asked us whether we'd like to lead a joint walk this year. We took up this suggestion and decided that Dorset Wildlife Trust's Winfrith Heath reserve would be a good site for interesting plants and butterflies.

We managed the pre-walk on Monday 17th July and were delighted to find Bog Orchids (helped by an 8-figure grid reference). The most surprising aspect of this recce was finding and recording 21 species of butterfly. We parked on the verge opposite the reserve, and this was well stocked with wildflowers including Weld (*Reseda luteola*), Great Mullein (*Verbascum thapsus*), Soapwort (*Saporina officinalis)* and Teasel (*Dipsacus fullonum*). Consequently, on this sunny day it was humming with butterflies, hoverflies and bees. We saw a Dark Green Fritillary here among several other species including Gatekeeper, Marbled White, Common Blue, Meadow Brown and Peacock. The rest of the pre-walk went very well, and we had sunshine throughout which helped us see a Purple Hairstreak on an Oak a short distance from the 'Prison Fields' area of the site.

Two days later we arrived early for the event but were disappointed to find that the wildflower verge had been mown for its entire length, leaving nothing in flower, no butterflies, but easier parking! Fifteen of us gathered for this trip on a warm, bright morning. Initially we explored the southwestern part of Winfrith Heath. Here the habitat includes wet and dry heath and some small areas of acid grassland, a copse and a strip of woodland habitat along the boundary path.

Some of us were soon on our hands and knees looking at Thyme-leaved Sandwort (*Arenaria serpyllifolia*) and Sand Spurrey (*Spergularia rubra*). We spent some time looking at nearby scrapes to see what was about. No Graylings, but we did see a Bee Wolf, which as their name suggests, prey on Bees. Moving on we went past a small copse then along the boundary path so were not surprised to find Speckled Wood in this area. Emerging out on to the open heath we started seeing our first Silver-studded Blues of the day, more or less equal numbers of males and females. In the wetter areas we were finding Bog Asphodel (*Narthecium ossifragum*), White-beaked Sedge (*Rhynchospora alba*), Round-leaved Sundew (*Drosera rotundifolia*) and Oblong-leaved Sundew (*Drosera intermedia*) and Deergrass (*Trichophorum germanicum*), so plants all characteristic of wetter heath.

Bee Wolf. Photo: Kevin Denham

Eventually we reached the minor road that separates this part of Winfrith Heath from the main part of the site. The verges and ditches here provided more variety including Bog Pimpernel (*Anagallis tenella*) and Yellow Rattle (*Rhinanthus minor*). This was also where we saw the only Ringlet of the day; a species which seems to be having a very poor year.

Bog Pimpernel. Photo: Kevin Denham

We then carefully found a route through Molinia tussocks to an area of wet heath. This is where, with the aid of an eight-figure grid reference we saw Bog Orchid (*Hammarbya paludosa*) in a boggy area with a slight flow of water. The flowering stems of these orchids are only about three to eight centimetres tall and very hard to see, so we were on our hands and knees searching for them. On the day we discovered that there were about 6 plants in total in two distinct groups with Carolyn Steele finding the second group. Nearby Jon Crewe also found Pale Butterwort (*Pinguicula lusitanica*).

By now it was lunchtime, so as it was sunny we headed to a shady spot not far from the cars in the main part of the reserve. During lunch it clouded over, so during the afternoon fewer butterflies were noticeable except in sheltered, warmer areas. Our plant list was still growing and at the edge of a ditch alongside the main track we found one of our target species Great Burnet (*Sanguisorba officinalis*) and also Marsh St John's-wort (*Hypericum elodes*). On the track was Lesser Centaury (*Centaurium pulchellum*).

As we approached the edge of the Prison Fields, we saw the only Painted Lady of the day. From here we crossed some more dry heath where we saw several Silver-studded Blues, Small Copper and numerous Gatekeepers. A tiny plant (with minute white flowers) on the track here proved to be Allseed (*Radiola linoides*). Finally, we reached a ditch about 15 metres north of Tadnoll Brook and here we saw both Yellow Loosestrife (*Lysimachia vulgaris*) and Purple Loosestrife (*Lythrum salicaria*) and Marsh Valerian (Valeriana dioica). As time was getting on, we concluded our walk by heading back up to the cars along the main track.

In total we saw 19 species of butterfly on this trip: Silver-studded Blue, Common Blue, Holly Blue, Small Copper, Peacock, Red Admiral, Painted Lady, Small Copper, Brimstone, Small White, Large White, Small Heath, Gatekeeper, Meadow Brown, Marbled White, Ringlet, Speckled Wood, Small Skipper and Large Skipper. Other fauna

included a Bee Wolf, Golden-ringed dragonfly, Common Darter, Banded Demoiselle and a frog and a Common Lizard.

Our thanks to all who attended and contributed their expertise and enthusiasm and to The Dorset Wildlife Trust for allowing this event. Special thanks to Kevin Denham for the excellent photographs.

Banded Demoiselle Damselfly. Photo: Kevin Denham

Gatekeeper. Photo: Kevin Denham

Dorset Branch is one of 32 branches of Butterfly Conservation throughout the UK. The Branch is entirely made up of volunteers, but Dorset also hosts the national offices of Butterfly Conservation who are paid staff.

When you join, you are automatically made a member of the branch where you live, but you can join more branches for a small fee.

New members of Dorset Branch are automatically sent our newsletters (including an annual Butterfly Report) in digital format, but can opt in for a posted copy. Older members will receive a printed copy unless they request to go digital. Printing and posting the newsletters costs us in excess of £3,500 per year.

Butterfly Conservation

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Research on the Lulworth Skipper

From Rachel Jones Senior Ecologist at Butterfly Conservation

Research on the Lulworth Skipper by Butterfly Conservation and University of Exeter has been ongoing since 2016. This research aims to understand the effects of habitat management and climate change on the Lulworth Skipper butterfly. Research includes: management trials, analysing effects of microclimate on the Lulworth Skipper and investigating effects of habitat management on its distribution. We report here the first published results from the PhD looking at effects of changing habitats on landscape-scale distribution of the Lulworth Skipper and hope to report on the management trials and climate analysis in future newsletters.

"Landscape-scale responses of a threatened butterfly to local-scale management".

Many butterfly and moth species persist in networks of interlinked populations known as metapopulations[1]. In a stable metapopulation local extinctions are balanced by colonisations but habitat loss and fragmentation due to land abandonment, urbanisation and conversion to agriculture disrupt this balance. In fragmented habitats, smaller patches support smaller, more extinction-prone populations and more isolated populations have a reduced likelihood of colonisation following a local extinction. This can increase the vulnerability of metapopulations to extinction[2], especially in years where habitat or climate conditions are suboptimal[3].

Reducing the vulnerability of butterfly metapopulations is a key strategy for conserving species and often requires working across

metapopulations to increase patch size (and therefore population size) and improve connectivity[4]. This involves conservation work at a landscape scale to focus on size, quality and connectivity of sites (bigger, better, and more joined up[5]). However, in heavily fragmented landscapes, creating new patches or forming physical linkages between them can be difficult to achieve where land is limited and subject to competing demands[6]. Furthermore, many threatened species are habitat specialists and creating or restoring semi-natural habitats in highly modified landscapes can be time consuming and costly, particularly where land is heavily degraded[7,8]. Research by the University of Exeter and Butterfly Conservation uses the Lulworth Skipper to demonstrate how management of habitat at a site level can help a specialist butterfly overcome challenges in delivering landscape-scale conservation in highly fragmented landscapes.

The Lulworth Skipper *Thymelicus acteon* is an example of a specialist species persisting in a metapopulation in a fragmented landscape. In the UK this butterfly is restricted to a 40km stretch of the south Dorset coastline and is associated with south-facing chalk and limestone grassland where the larval food plant Tor-grass *Brachypodium rupestre* can grow in tall tussocks[9,10]. Research uses

Three Lulworth Skippers is one too many when mating! Photo: Donald Simcock.

Lulworth Skippers. Photo: Andrew Scott.

four decades (1978[9], 1997[10], 2010[11] and 2017) of habitat and population data across the entire UK range of the Lulworth Skipper, to model how barriers to landscape-scale conservation can be overcome by management at the local (site-based) level.

Results showed that there had been no change in the overall range of Lulworth Skipper over 40 years. The number of populations was similar in 1997 (77) and 2017 (79), but 34% of populations showed turnover (colonisation or extinction) in this time. Population density (number of butterflies per hectare) of Lulworth Skipper was closely linked to changes in vegetation height and food plant frequency. We then investigated which habitat conditions resulted in the largest and smallest population sizes of Lulworth Skipper to understand what represented 'optimum', 'high' and 'marginal' habitat. Population densities (number of butterflies per hectare) were largest in habitats with medium-long vegetation heights (20-30cm) and over 90% cover of the larval food plant. Population density was reduced at shorter and taller vegetation heights and where the frequency of food plant was lower.

Projections of the distribution of Lulworth Skipper 40 years into the future were made to assess landscape-scale impacts of changing the vegetation height or food plant cover on individual sites. Projections suggests that coordinated changes in vegetation height and food plant frequency towards optimum would increase patch occupancy above the distribution observed over the last 40 years. In contrast, the deterioration of habitat suitability leads to metapopulation retraction to core sub-networks of patches, or eventual metapopulation extinction.

The results have three important applications. Firstly, for the ongoing habitat management for Lulworth Skipper (and other species that require medium-to-tall vegetation), which is sensitive to management but requires some intervention to maintain suitable conditions. Lulworth Skipper requires an intermediate management intensity (e.g. light grazing) or frequency (across space or time) which aims to increase food plant cover and manage vegetation heights towards optimum. Secondly, results outline applications for metapopulation modelling incorporating habitat quality to help guide landscape-scale management. Lastly, the results highlight how changes to habitat quality can help overcome constraints imposed by habitat area and spatial location on rates of colonisation and local extinction.

Improving habitat quality can increase population density which increases the carrying capacity of a patch without physically enlarging it. At higher population densities dispersal can be increased without directly creating linkages between populations. Local habitat management therefore plays a key role in landscape-scale conservation for specialist butterflies and moths, particularly where scope to create new habitat patches or linkages is limited. It is important that land managers are supported in delivering suitable management (e.g. through advice and funding through schemes) and that management is co-ordinated across landscapes, such as through farm clusters, to maximise results. The monitoring of population density and management of site-level habitat quality, represent effective and important components of conservation strategies in fragmented landscapes working alongside other landscape-scale initiatives.

For the full paper and the acknowledgements and references quoted, please go online and search for "Landscape-scale dynamics of a threatened species respond to local-scale conservation management" which should take you to the Wiley Online Library. (https://onlinelibrary.wiley.com/doi/full/10.1111/oik.09334).

JOGLE for butterflies completed

Wren Franklin writes about his and his cousin Fred's highly successful fundraising event cycling from John o' Groats to Lands End

We did it – we have become 'End to Enders'! Over 14 days of cycling we travelled 1036 miles and climbed 16,898 metres. We rode for 74 hours and our longest cycling day covered 105 miles. We recorded exactly 100 butterflies along the way. The following article unpacks the story behind the numbers.

It was a real pleasure to pass through so many landscapes of Britain at cycling pace. After leaving John o' Groats, the first leg of the ride took us along the north coast of Scotland with its stunning white sand beaches and remote villages. We then turned south and rode down through the Highlands. Expansive open upland moors and peat bogs with no shelter from a headwind made us grateful for the areas of regenerating natural woodland. Around Altnaharra and Aviemore these wooded landscapes delivered more wildlife sightings and showed just how denuded much of our uplands have become.

The Lake District was another joy to cycle through, despite the hills. Upland hay meadows brim full of meadow buttercup, dry stone walls and dramatic views made this day a real pleasure.

Continuing south, the Willow pollards that lined the lanes through the Severn Valley stood out as magnificent trees mirrored by similar sights as we crossed the Somerset levels. From here on we were into the roller coaster hills of Devon and Cornwall. The saving grace here was that although these were the days with the most climbing, we spent a lot of miles in sunken lanes, festooned in wildflowers and overtopped by trees – cool and shady as the daytime temperatures climbed. We arrived into Land's End to a small welcoming party and dodged the crowds of tourists for a photograph where the land runs out.

For balance, I feel I must share some of the less pleasant landscapes of the trip as well. A particularly hard day of cycling took us through Lanarkshire, south of Edinburgh. Here the upland landscape produces sheep or conifer trees, with space for little else and we passed through on too many busy A-class roads. The long day passing between Liverpool and Manchester and right through Wigan was, on paper, a good day, being on cycle/tow path for over half of the 90 miles. In reality the tow paths are often bone-shakingly rough (though often beautiful) and the cycle paths feel as though they have been threaded in as an afterthought around roads and development, making then tricky to follow and with many stops and

starts. This all adds up to make this kind of riding more physically and mentally tiring than you might imagine. Avonmouth was a similarly unpleasant area to cycle and it should come as no surprise that our only significant accident came at the end of one of these urban days – Fred leaving some flesh on the coarse gravel surface of an A road.

Our quest to record butterflies as we went was helped no end by the good weather we experienced – only one afternoon of rain during the whole trip. We often saw more butterflies (which are good indicators of habitat quality) when the route passed through areas with more natural vegetation and shelter from cooling winds.

Arrived at Land's End!

We recorded 16 species, the most common being Orange Tip and Speckled Wood. The effect of last summer's drought in southern England was in evidence as we got into the South West. Here the weather was sunny and the temperatures high but butterflies were surprisingly hard to come by – some great flower-rich verges offering little more than a solitary Common Blue. Dartmoor did, however, treat us to sightings of Small Pearl-bordered Fritillary and Green Hairstreak.

Physically we both managed the trip without too much trouble. We both suffered some knee pain and saddle sores at times, but once past half way these subsided and we finished fit and well. The whole endeavour was enabled by Poppy's support throughout, moving the motorhome to the next night's stop, ensuring the kids had stimulating things to visit each day and keeping the carb-rich food forthcoming. We could not have done it without Poppy.

Thank you to all those who offered words of support and wisdom along the way and all those generous people who have donated to the JOGLE for Butterflies fundraising page. We closed the fundraising page at the end of July, having raised a total of £4,022 for Dorset's butterflies and moths.

If you are interested in reading more about Wren and Fred's ride, we had an article in our Spring 2023 (No 101) newsletter, and they wrote updates on their fundraising page: https://gofund.me/47bba31f .

Thanks

The Chair of the Dorset Branch of Butterfly Conservation, Nigel Spring, said: "We are extremely grateful to Wren and Fred for what they have done for the Branch. It was an enormous undertaking and we are pleased they succeeded without any major problems. Our thanks, too, to Poppy for taking on the support role: the team could not have managed without her! Many thanks to everyone involved: we will ensure that the butterflies and moths of Dorset benefit from their efforts"

Our **Branch Members' day** this year is on Saturday 21 October at 2.00pm. The venue is Cerne Abbas Village Hall (DT2 7GY)

Our guest speaker is Seb Haggett, Dorset Wildlife Trust's Wilder Dorset Ranger, talking about "Rewilding at Woodbury".

Full information on our website:
www.dorsetbutterflies.com/events.

Min(e)d your own business

Jack Oughton has sent us this interesting article about leaf mining by microlepidoptera

Slashing through the bramble which has invaded your garden, you may notice a white wiggle interrupting the leaves. Driving through your local town, you may find that the Horse Chestnut has gained significant brown discolouration to the leaves. Visiting your local garden centre, you may spot that several azaleas have folded leaves. These are caused by leaf-mining micromoths.

It is not just the micromoths which leaf mine: when you delve into the world of leaf miners you must compete with a plethora of other mine-inducing species. Flies, sawflies and beetles all construct leaf mines which you will regularly come across, and some moths typically classed as macromoths, the Foresters, also leaf mine in their earliest larval stages.

Leaf mines are produced, as the name suggests, when a larva lives internally within the leaf, feeding safely away from most predators – though parasitic wasps have gained a foothold here. Within lepidopteran mines, there are four main mining styles, gallery mines are long and thin; blotch mines are what they say on the tin – blotches; tentiform mines are three-dimensional mines which fold the leaf into a tent-like shape; and case-bearers construct cases, but will feed in a blotch-like manner. Some species will combine multiple-mining styles, such as *Fomoria septembrella*, which will make an initial gallery mine, which later leads to a blotch, while others will only mine for a part of the larval stage, such as

Formoria septembrella

the *Caloptilia* species, which create a gallery or blotch mine, and will later create a cone or fold where the larva resides.

There are several benefits to getting into leaf-mines, particularly from a recording point of view. Many of these species do not come to light as adults very often, and even when they do, dissection is often required to identify to species level. With leaf miners, while some need rearing or closer examination, many can be done there and then in the field. Additionally, you have definitive evidence that they are breeding at the site, whereas light-trapped individuals may have wandered some distance. Finally, you can search areas where light trapping may be tricky or impossible, due to access. A more personal reason is you get to grips a lot more with the habitat preferences of the species, something we often miss when moth-trapping.

A good place to search for leaf mines is where you have a variety of plant species. You can get good numbers of different species – in areas of high plant diversity I've approached 100 species of larval stages in some autumns. Many plants have leaf-mines, from the mighty oak to a plethora of grasses adorned with *Elachista* species, and plant identification is important.

Having arrived at Alners Gorse, I pass a patchwork of willows, possibly supporting Dingy Mocha populations, but a cone on the end of the leaf gives away the presence of *Caloptilia stigmatella*, and there are multiple mines of *Stigmella salicis*, though DNA works on the latter have found this to be a species complex (a group of closely related organisms that are so similar that the boundaries between them are often unclear). These are both common and widespread species, and the former is regularly present in moth traps. However, a search for the mines can reveal they are very abundant. Crouching down, inspecting a Petty Whin bush, I notice many of the leaves are no longer green, but now whitish and, there nearby, sits a small case constructed from leaf fragments. This is the work of *Coleophora*

Coleophora genistae

Bucculatrix frangutella

genistae, a rather localised case-bearer which, in Dorset, is typically known from the Purbeck heaths, though a healthy population is present at Alners Gorse.

I head to a nearby Alder Buckthorn, where several small, black coils spot the leaves. These are the mines of *Bucculatrix frangutella*, an uncommon moth in Dorset. Holding up the leaf to the sun, the light reveals the details of the mine. Frass (droppings) filling the mine, the small green larva, and details of the prothoracic plate [the prothorax is the first segment of the thorax, which bears the first pair of walking legs]. The bulk of the mine simply looks like a spot on the leaf, and it is only when the larva leaves its dense coil and heads outwards that the mine becomes a bit obvious.

Leaving shrubs behind, I head to the large elms bordering the reserve. Here there are several gallery mines, which can be one of two species. The larvae have long since vacated the mine, so I grab my hand lens to check how the larvae exited the mine. Here, they left the mine through the upperside of the leaf, confirming their identity as *Stigmella lemniscella*. They are not alone on these elms however, as the tent-like mines of *Phyllonorycter tristrigella* also adorn the leaves.

Focusing on leaf mining moths can increase the diversity of species you can record throughout the year, and by focusing on miners you can find species throughout; autumn is generally the busiest time for these species, but many have a summer generation and some groups such as the *Eriocraniidae* will mine (mostly birch) leaves during the spring. Even during the midst of winter you can find mines of some species. Indeed, in January you can find the mines of *Ectoedemia heringella* abundant on Holm Oak with relatively little effort, though some more cryptic mines about at this time of year include *Phyllonorycter ulicicolella* on the needles and stems of gorse.

Ectoedemia heringella

Delving into leaf mines is a fantastic way to learn more about the ecology of some of our microlepidoptera, as well as providing important data of a very under-recorded group. However, as a warning, it does extend the mothing year to a 12 month cycle!

All photos in this article are by Jack Oughton.

The photo gallery on our website got a mention in the Guardian online this year! It was because Geoff Pike, who lives near Wimborne, saw a Camberwell Beauty and sent a picture into our Gallery. This butterfly is usually found in north America and northern Eurasia, except the UK.

Guided Walk on Ballard Down

Brian Arnold writes about a guided walk at the base of Ballard Down, led by Jon Bellamy

Sunday 21 May 2023, and it is a lovely sunny day, with a light wind from the north east which means the guided butterfly walk due to be held today at the base of Ballard Down (a chalk downland site) should be at its best, sunny and sheltered from the wind. I arrive just before 11am to be greeted by some of the usual familiar faces, including Jon Bellamy who is leading the walk. After a brief chat, and a catchup on what species we have been seeing, the seven of us set off from the lay-by at Ulwell up through the field to get to the footpath that runs along the base of Ballard Down. We usually get greater numbers of attendees including families when it's a Bank Holiday but a week too early this year. There are a few butterflies in the field including Common Blue, but not our target species which is the Adonis Blue. Only a few have been seen so far this year, so we are both hopeful and fingers very much crossed.

Searching for butterflies. Photo: Brian Arnold.

Green Hairstreak. Photo: Brian Arnold.

Once we reach the footpath we turn eastwards to search along the base of the hill; there are bowl shaped depressions in the side of the hill which are a magnet for butterflies, being both warm and sheltered. We find our first Adonis Blue, plus Dingy Skipper, Common Blue, Brown Argus and Small Heath. Continuing along the path, it becomes narrow with hedgerows on either side. This has always been a good spot for Green Hairstreak, and we very quickly find one. It poses for a photo, but slightly edgeways on, and not in an easy spot to photograph. We soon see more Green Hairstreak including two that are whirling around each other - maybe they were male and female, but they do not settle for a close look. We go as far as where the footpath opens up again to the open hillside passing more Green Hairstreak including one that poses for a perfect photo, and once at the base of the open hillside we are rewarded by seeing a mating pair of Brown Argus - something I have not witnessed before.

We then turn back westwards, and stop to look in the large open area at the base of the steep footpath that leads to the obelisk at the top of North Hill (erected by George Burt). We have been hoping for a Clouded Yellow - I have seen many of them at this spot previously, and someone shouts “Clouded Yellow” - but too premature, as it is quickly identified as a male Brimstone flying in the distance.

Continuing on we pass onto the base of the hill just west of the obelisk path. This is quite a steep hillside and care has to be taken - no chasing butterflies here! There is plenty of Birdsfoot Trefoil here, so it has always been a good place to find Adonis Blue. After a few minutes we spot one, and everyone gets a good look - another male.

We also find lots of Common Blue, Brown Argus - these are in a very fresh condition, and I get a photo of one showing a blueish sheen in the sunlight. There are also a number of Dingy Skippers, and we find a single female Holly Blue hiding in the undergrowth part way up the hill.

Brown Argus showing bluish sheen. Photo: Brian Arnold

In total we recorded 13 species of butterfly (Adonis Blue, Common Blue, Holly Blue, Brown Argus, Peacock, Red Admiral, Green Hairstreak, Small White, Orange Tip, Small Heath, Speckled Wood, Brimstone and Dingy Skipper), plus we also saw Silver Y and Burnet moths. We were a bit disappointed not to see any Wall Browns or Small Copper, and had hoped for a Clouded Yellow - but none found today.

We returned back to the car park in the Ulwell lay-by, and there is a lot of running water coming off of the hill. This area is usually wet even in the summer. There in the car park was our third Adonis Blue, another male. It must have been puddling on the wet tarmac, and I disturbed it as I walked to my car.

Adonis Blue. Photo: Brian Arnold.

So a great morning with friends, and a really good count, with lots of great sightings.

Thanks to Jon Bellamy for leading the walk.

Brown Argus caterpillar foodplant

!an Cross wrote this article for his local parish wildlife newsletter in Affpuddle and Turners Puddle, and thought it would also interest our members

Of the eight species of Cranesbill and Stork's-bill found in the parish, Dove's-foot Cranesbill (*Geranium molle*) is one of our loveliest and most frequent. It is a common and widespread plant in our area, preferring dry, well-drained sandy or chalky soils. I find it equally at home in turf which has become worn and abraded; on waste ground; or even on the edges of arable crops. It has attractive flowers, which are usually pale pink, although a white form can be found near Briantspuddle parish notice board. Its common signature though, is the neat, rounded leaves, which are divided to roughly half-way into broad wedges, and cheerful, bright pink flowers (see Photo One). The developing seed pods (just visible in the photo) have a swollen base and a long, tapering, protruding bit. This is the 'cranes bill' of its common name.

Photo One: Ian Cross

It just so happens that this dainty plant is the food plant of choice for one of our smallest butterflies which fly in the parish, the Brown Argus. This is a favourite of mine, though I'm hard-pressed to say why. It's technically one of our 'blues': however, rather perversely, neither sex has even the slightest hint of blue anywhere on their wings. This is the 'blue' without any blue!

The female in Photo Two has settled on a flower to refuel during a

bout of egg-laying. She fills her 'tank' with nectar, ready for her next fluttering, low flight among the scattered clumps of Dove's-foot Cranesbill. The female Brown Argus is extremely choosy about exactly which plant she lays her eggs on. Not any old plant will do, instead she singles out the tiniest, freshest young seedlings. These may consist of just one or two tender leaves. Potential homes for the caterpillars are carefully inspected with her antennae. When she finds the right plant, she settles and curves the tip of her abdomen under the edge of a leaf, depositing a single egg, safe and out of sight (see Photo Three).

Photo Two: Ian Cross

Photo Three: Ian Cross

Where conditions are right, dense thickets of crane's-bill seedlings will sometimes sprout. The butterflies prefer areas where the vegetation is sparse and bare ground can be seen among the delicate young leaves (Photo Four below). This gives the developing caterpillars an extra boost of reflected heat – absolutely essential in our contrary climate.

Portland Nature CIC

Richard Belding is a Director of the Portland Nature CIC and is Branch Conservation Advisor

A Community Interest Company (CIC) is a special type of limited company which exists to benefit the community rather than private shareholders. The Portland Nature CIC was set up in 2020 to enable the use of "Section 106" money, which was required of firms building on parts of Portland to help offset the significant local impact of their work.

In the case of the Isle of Portland, Portland Nature CIC will be looking to enter into agreements with the developers involved to deliver the environmental part of any Section 106 attached to their planning permission.

To that end we have recently taken on one case. This involves an area of land called Silklake Quarry that is attached to the adjoining new Bumpers Lane housing development. Portland Nature have entered into a 30-year licence agreement with Betterment Homes to manage approximately 3ha (10 acres) of grassland (including a small quarry) much of which is an SNCI (Site of Nature Conservation Interest). We will be required to deliver an existing management plan that was independently drawn up as part of the planning process. Bumpers Lane is next door to Broadcroft Quarry, on which site the Dorset branch of Butterfly Conservation has done a lot of conservation work. I should add that Betterment Homes has been very proactive in getting this arrangement in place.

These agreements have money attached, which is released to Portland Nature CIC once an agreement is reached. This money is then to be used to manage the site to deliver the management plan, including maintaining the site thereafter. This will be achieved by a

combination of volunteers and contractors.

One of the remits of any CIC lies in the name “Community Interest”. To that end we will be looking to engage and build relationships with organisations and the wider community on Portland and, where appropriate, further afield. We have already started to develop a very positive relationship with the new residents of Bumpers Lane. The CIC is also one of the bodies that form part of the Isle of Portland Conservation Forum.

Going forward, as well as delivering on Bumpers Lane we are very hopeful of formally taking on further sites on Portland in the near future. In addition we have also been kindly awarded some money to develop projects/works on the rest of the island of Portland.

My fellow Directors of the CIC, who I should stress receive no remuneration, will be well known to many of you. They are Annabel King, Nigel Spring, Bryan Edwards and Steve Masters.

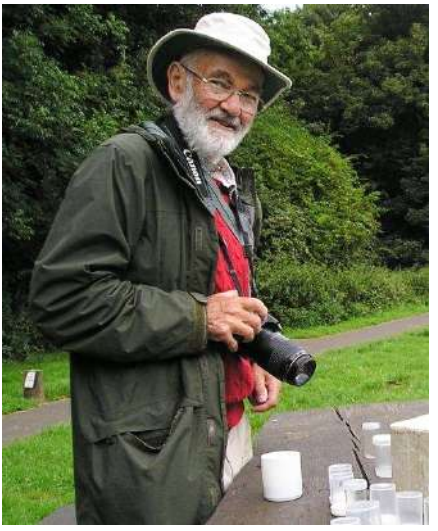
We will await Robin George’s assessment of what sort of butterfly year we have had with interest, but in the meantime, a few statistics from the website as of 19 September 2023:

- Total butterflies reported to the website 76,789: 12% up on last year.
- Dates of emergence both earlier and later than last year.
- Some species were down in number, but some were up:
- Brimstone 2,626 compared to 1,836
- Brown Argus 699 compared to 205
- Holly Blue 1,266 compared to 663
- Red Admiral 5,470 compared to 1,462
- Silver-studded Blue 3,765 compared to 2,484

But do remember these figures reflect recording activity as much as butterfly numbers.

Remembering Lawrie de Whalley

Colin Burningham remembers



Lawrie at Milldown moth event August 2013

It was very sad news to hear from Lawrie de Whalley's family that Lawrie had died on 25th July 2023, after seven weeks in hospital fighting with sepsis. This was such a shock for his family, particularly after losing Bridget only last Autumn. The message from his family reported that Lawrie remained very animated to the end and had many stories of the family, trains, butterflies and moths, a really fond memory of him for us all.

Bridget and Lawrie de Whalley were very much individual characters but they were also an amazing double act in all the work that they carried out for Butterfly Conservation in Dorset, so it is right and proper that I also refer to their team efforts in this tribute to Lawrie.

I think foremost, we will always remember Lawrie for his dedication and enthusiasm for the world of Lepidoptera, whether it was butterflies or moths. His devotion to the cause showed no bounds, whether he was organising a moth-trapping session on Lydlinch Common or carrying out one of his rigorous butterfly site surveys that he was so respected for.

Lawrie and Bridget joined us on the conservation work parties at Lydlinch Common and Lawrie's knowledge, gathered while working

on other work parties, undoubtedly helped to steer us along the successful path that we have travelled at Lydlinch, maintaining good numbers of Marsh Fritillaries whilst respecting other forms of wild life and particularly the Nightingales that turn up each year after wintering in Africa.

When Bridget and Lawrie took over the running of the branch information stall from Kathie and Richard Clarke, Lawrie would bring his display of live moths and caterpillars, which became very popular with many people, young and old. Eventually, with Lawrie's declining health, Lawrie and Bridget made the decision to move to Surrey to be near their family and suitable medical treatment.

Lawrie at our AGM in 2014.
Photo: Lyn Pullen

Of course, Lawrie also had his interests outside the world of Lepidoptera, and his model railway layouts both in Dorset and London gave him hours of enjoyment. Last but not least was Lawrie's passion for sport, particularly rugby and cricket.

Our thoughts go out to Lawrie's family.

John Elliott

The other person in the photo above is John Elliott. John resigns at the end of this year from being the Tadnoll transect walk coordinator for many years. Our very grateful thanks for all John has done for the Branch over the years - he will be missed!

Burnet Moths in Dorset

Colin Burningham gives us a masterly exposition on the various Five-spotted Burnet Moths in Dorset

While spending time in the Spanish Pyrenees on an organised wildlife holiday during July 2019, amongst all the wonderful butterflies and moths we were fortunate enough to see were a number of examples of Burnet moths, not seen before on our travels. Identifying them was a fascinating experience and led me to want to understand the identity of those Burnet moths that we see here in Dorset as well as getting to grips with their scientific names. Two of the species seen in the Pyrenees are shown in **Figure One**: *Zygaena hilaris* and **Figure Two**: Zygeana *occitanica*.

Figure One: Zygaena hilaris

Figure Two: Zygaena occitanica

Although seven species of Burnet are listed as occurring in the British Isles, four species are scarce and are not considered here since they are only seen in remote parts of Scotland or Ireland. (New Forest Burnet, Scotch Burnet, Slender Scotch Burnet and Transparent Burnet)

The very next year, like everyone, we were affected by the lock-down and its consequences. In our case we spent May and June walking locally, and as the lock-down eased we regularly visited Lydlinch Common. Our route to Lydlinch took us along Holwell Drove, where we noticed some Ragged Robin plants in flower along a particular stretch. We stopped and saw a number of Burnet moths either flying around the site or nectaring on the flowers of Ragged Robin.

More detailed observations of the moths showed them to be five-spotted Burnets. Rudimentary knowledge of the Burnet family had already put me on my guard with respect to identifying these moths and further reference to the book "Field Guide to the Moths of Great Britain and Ireland Third Edition" [P. Waring and M.Townsend, Bloomsbury 2018] which came up with the following guidelines:

- In England, there are two species of five-spotted Burnets, namely Five-spot Burnet (*Zygaena trifolii*) and Narrow-bordered Five-spot Burnet (*Zygaena lonicerae*).
- The Five-spot Burnet (*Zygaena trifolii*) occurs in two sub-species (ssp *palustrella* and ssp *decreta*).
- All three species/sub-species can be very difficult to tell apart.
- Additionally, subspecies (ssp) *palustrella* appears in two forms, namely f *minoides* and f *lutescens,* but these forms are relatively simple to identify.

In case you are now confused, it helps to know that flight period is an important clue for identifying variants. For instance, Five-spot Burnet ssp *palustrella* flies earlier in the year than ssp *decreta* or Narrow-bordered Five-spot Burnet. In further detail:

- The flight period of Five-spot Burnet ssp *palustrella* is mid May to mid June

- The flight period of Narrow-bordered Five-spot Burnet is mid June to July
- The flight period of Five-spot Burnet ssp *decreta* is July to early August

Waring and Townsend also show the distribution between *trifolii* and *lonicerae*, which are generally quite different, but in Dorset, this is unhelpful since there is a strong overlap which shows that both could be present.

One further clue, Five-spot Burnets frequently have spots three and four joined but can also appear with five separate spots whereas Narrow-bordered Five-spot Burnet has five separate spots with often spot three noticeably smaller than the other four. As a guidance ito clarifying the positioning of the spots:

The two forms of Five-spot Burnet ssp *palustrella* mentioned are easily identified:

- Ssp *palustrella* f *minoides* has all five spots fused
- Ssp *palustrella* f *lutescens* resembles ssp *palustrella* with yellow markings instead of red.

Have you signed up for Butterfly Conservation's "Wild Spaces" yet?

The aim is to create spaces where butterflies and moths can complete their life cycles, so they need to be permanent and free from pesticides, but size doesn't matter.

Go to www.butterfly-conservation.org and you will find a link on the home page.

We recorded our first specimens of Five-spot Burnet ssp *palustrella* with spots three and four fused (**Figure Three**) and spots separate (**Figure Four**) and also form *minoides* (**Figure Five**) on 27 May. They were joined by regular sightings of form *lutescens* (**Figure Six**) from 2 June. (Figures three to six were all taken on 5 June). The dates fit in very well with the published flight dates of mid-May to mid-June for the early Five-spot Burnet species.

Figure Three: Five-spot Burnet ssp *palustrella*

Figure Four: Five-spot Burnet ssp *palustrella*

On 7 July, the first Six-spot Burnet (*Zygaena filipendulae*) (**Figure seven**) was seen, easily identified by the six spots. Again, this date ties in well with the published flight period of late June to August. On 12 July, a Five-spot Burnet was again seen at this site (**Figure eight**) and the date indicated that it was likely to be either Five-spot Burnet ssp *decreta* or Narrow-bordered Five-spot Burnet, both of which have flight periods in July. The individual identification could be somewhat challenging.

Figure Five: Five-spot Burnet f. *minoides*

By 8 August, no further *Zygaena* sightings were made along the Drove. All photographs were taken at the Holwell Drove site on the dates indicated by myself.

Figure Six: Five-spot Burnet f. *lutescens*

Figure Seven: Six-spot Burnet

Figure Eight: Five-spot Burnet ssp *decreta*

Some facts about Burnet moths

- Of the seven species of Burnet moth in the UK, the Five-spot is largely found west of a line roughly drawn from London to north Wales. The Six-spot and the Narrow-bordered Five-spot, are much more widely distributed.
- The caterpillars of the Five-spot eat Bird's-foot Trefoil.
- The colouration of the adult moth is a warning to potential predators that it is poisonous. They are able to produce hydrogen cyanide - enough to give the predator a bad taste or in large quantities, kill.
- The Burnets are day-flying moths. Around 100 species of moth are regularly found in the day-time (more than our 60 butterflies), and others may be put up by you disturbing them.

Puss Moth caterpillars

Wendy & Martin Devine describe their delight at finding Puss Moth caterpillars in their suburban garden in Blandford

In June, we went spent a week on the Norfolk broads looking for Swallowtail butterflies. Although we saw a few at a distance, we were sadly unable to get close enough to take any photos.

However, there was some consolation on our return home as we discovered five Puss Moth larvae feeding on our contorted willow in a pot.

We became very protective of these stunning caterpillars as they matured, and by late June we were lucky enough to see one change colour as it made its way to the bark in the pot to pupate.

This was very exciting for us, and we now have a long wait until next year to see if the moths appear in our moth trap.

Five flowers for butterflies

Lyn Pullen shares her top five flowers for butterflies

This article is very entitled "five flowers", as this is what most people mean when asking the question "what are the top five plants for butterflies?", though we should be thinking not only of providing flowers to supply the adult butterflies (and moths) with nectar, but also food plants for the caterpillars. For now, though, we'll stick to flowers. All photos were taken by me in my garden.

One - Buddleia

A well-known shrub, with many varieties in purple, which the butterflies like, but I'm also fond of Buddleia *weyeriana,* which is a gorgeous shade of gentle orange. Most Buddleia *davidii* flower in August, but if you want to continue the flowering season, *weyeriana* will often have odd flowers on it through to November, assuming you dead-head it. It is also worth looking out for Buddleia Beijing, also known as Autumn Beauty, which flowers later than most.

Comma on Buddleia Weyeriana Sungold.

Two - Verbena Bonariensis

Like the buddleia, this is a good flower because it attracts a wide range of butterflies. This isn't always the case: Lavender, for example, will attract blues, white and possibly browns, but not usually the likes of Red Admirals and Peacocks.

Red Admiral on Verbena Bonariensis

Three - Centranthus Ruber.
Often called Valerian, this is pink-flowered plant you often see growing on walls. It's a perennial and self-seeds a lot, so it's easy to keep. Do cut off the seed heads so more flowers come for later butterflies.

Small Tortoiseshell on Centranthus Ruber

Four - Scabious
That's a slight cheat, because there are a lot of members of the Scabious family, all of which butterflies will like, so if it's a scabious, try it. I'd particularly mention *Knautia macedonica*, which has smallish flowers on wiry stems reaching to 36". Devil's-bit Scabious may also work, and is much loved by bees.

Painted Lady on Knautia Macedonica

Five - Sweet Rocket
This is not the herb, but a flower called *Hesperis matronalis*. It serves double-duty, because it is also a food plant for the Orange Tip and Green-veined White butterfly caterpillars. It comes in white or purple and resembles honesty, which is another foodplant for these species.

Painted Lady on Sweet Rocket

Have a look on our website under More... Gardening for more ideas.

Back Cover: Grayling. Photo: David Parish

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