Butterfly Conservation Dorset Branch

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Spring 2019

Butterfly Conservation

Saving butterflies, moths and our environment

BUTTERFLY CONSERVATION DORSET BRANCH

Editor's Note

As this year is the 20th Anniversary of Moth Night, we feature moths in our first three articles. We then turn to butterflies, and articles include a description of the Durlston East Transect, Part One of a series about butterfly photography, and an interesting research study about hibernating Small Tortoiseshells.

Jane Smith, Newsletter Editor

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Front cover photo: Alabonia geoffrella moth by Guy Freeman

View from the Chair

From Nigel Spring, Chair of Dorset Branch

We welcomed 65 members to our AGM on February 23rd on a stunning spring day. As usual the date clashed with Six Nations Rugby, important football games and preparation work in the garden, but this year the weather was so good we could have been depriving butterfly transect walkers of their first walk of the season! Several present had been counting Brimstones on their journey to the event – apparently 13 males were counted just between Poundbury and Puddletown! Already 80 butterflies of 7 species had been recorded on the Dorset branch website.

A great deal of work goes into the preparation of our AGM and we should particularly thank our Branch Secretary, Adrian Neil, for masterminding the organisation of his team of volunteers – and all the people who baked cakes, served teas, set up displays, welcomed arrivals, operated the projector, contributed raffle prizes and sold tickets. We must also express our grateful thanks to all the committee who give up a lot of their time for the branch – to Lyn Pullen for her work on the website; to Georgie Laing, our Treasurer, for her tireless efforts on our budgets and accounts; to Jane Smith and Lyn Pullen for all the work that goes into the production of our newsletter, a very impressive publication; and to Robin George our hardworking Membership Officer. Colin Burningham and Christine managed to get to 10 fairs, shows and other events last year with the sales and display stand and we are very thankful to them for their efforts.

Of course special thanks must go to Bill Shreeves who has been the Branch Records Officer since time immemorial: even though he is trying to relinquish some of the burden of this responsibility, he still has his finger on a multitude of pulses and remains as the person

Duke of Burgundy.
Photo: Adrian Read

that everyone turns to for his wisdom and huge depth of knowledge of Dorset's butterflies. Bill has handed over the responsibility for our spring regional recorders' meetings to local organisers and we hope these will evolve under the care of local members and transect walkers. We are still looking for someone in the Wimborne/Bournemouth/Poole area to run that area meeting – this year we were very fortunate that Steve Brown offered to step in at the last minute. It would be sad if it had to fold, as we have a strong membership in this part of Dorset.

The branch is tantalisingly close to recruiting its 1000th member which would be a fantastic milestone to achieve in the coming year – and one we should celebrate.

What a strange year 2018 was! With the Beast from the East curtailing a lot of human and insect activity in the spring, then the hot dry summer that followed continuing to make farmers' lives very difficult but helping to boost numbers of many species of butterflies and moths, the true consequences of the extremes of 2018 may well only become apparent when we look at the emergence of the more vulnerable species during the coming season. We certainly know that 2018 was a poor year for migrants like Painted Ladies, Red Admirals and Clouded Yellows, and that the declining numbers of Small Tortoiseshells and Chalkhill Blues remind us that we still do not really understand the ecological needs of these species. There were plenty of positives to remember from 2018 – the Duke of Burgundy continues to do well on the sites

where there has been targeted management, the butterfly we all know as the 'Common' Blue is still making a great comeback and the explosion of Small Coppers in the autumn was widely seen.

David Brown, the National Trust Ecologist for the Purbeck Estate, was the guest speaker at our AGM. He gave a fascinating presentation about the acclaimed National Trust Cyril Diver project which he helped to run on the Studland Peninsula between 2013 and 2015, re-surveying the areas that Captain Cyril Diver had investigated and recorded in great depth in the 1930's. Much of the recording work was carried out by volunteers under the guidance of a team of local experts, a fantastic example of what is now called citizen science and which could possibly act as a model for our branch to use as a way to recruit and motivate volunteers.

We are always eternally grateful to our volunteers for their huge contribution to the branch activities, but the pool of volunteers is dwindling. As the sources of funds to pay contractors for habitat management tasks become ever fewer or perhaps vanish for ever in the present uncertain climate, Butterfly Conservation will need to find more effective ways to use the untapped volunteer energy in our communities for the benefit of butterflies and moths and the wonderful habitats we all so much enjoy.

Nigel Spring

Post-AGM note

The AGM is not run to make a profit, but additions to our coffers are most welcome.
We took (rounded figures): Raffle £114; Refreshments £63; Sales £75 and Cards £22 (this was Lyn Pullen selling cards she had made)

A Total of £274 - THANK YOU!

Finding moths by Day

Guy Freeman writes about the pleasures of looking for moths during the day.

Light-trapping is undoubtedly the most effective way of seeing a good variety of moths, but, for those who lack a trap, there are plenty of alternatives. These include the use of lures (sugar or pheromones), rearing larvae, checking flowers by torchlight and, as I will discuss here, searching by day. A great many species of moth may be active during the day (far more than that other group of specialised day-flying Lepidopterans, the butterflies!), and finding them requires little more than simply going for a walk. Conveniently, good sites for butterflies will also be good for moths, so looking for the latter can add interest to any butterfly outing and offer the chance to see some of our most beautiful species, many of which are unlikely to be seen by trapping in your garden.

Day-flying moths can be split roughly into two categories, those that 'want' to be active by day and those that do not, and it is usually possible to distinguish between these based on behaviour. If a moth is nectaring on flowers or flying with purpose in search of a mate, it wants to be active, whereas if it flushes from vegetation, flies a short distance and then drops back down into cover, it has only become active in order to find a new resting place e.g. because it has needed to escape from danger. Silver Ys, for example, may fall into either category depending on conditions – an individual visiting lavender in bright sunshine has chosen to be

Narrow-bordered Bee Hawkmoth. Photo: Guy Freeman

out by day, whereas one that flies up from a lawn and then immediately settles will be waiting until dusk falls before it becomes properly active. Moths that 'want' to be active by day include the relatively small group of strict day-flyers, such as burnets, clearwings and bee hawkmoths. Others, like the Silver Y, may come under either category, but a far larger number fall into the second, 'active only when necessary', group. Indeed, any species could be seen flying by day – a large, strictly-nocturnal moth such as the Buff-tip will normally rely on its camouflage while resting up, but it would take to the wing if facing suitable provocation e.g. if discovered by a predatory bird.

In general, smaller-bodied moths such as the micros and geometers are more likely to be flushed by day. This may largely be down to their choice of resting places, but their smaller size also plays a role by making them more sensitive to vibrations and allowing them to take to the wing more readily than many larger moths, which often must first warm up their flight muscles by rapidly

Archer's Dart. Photo: Guy Freeman

fluttering their wings. The last of these reasons means that weather has a major influence on the likelihood of finding day-flyers – all moths will be less active in cool conditions, whereas hot sunshine can make even the strictly nocturnal species become restless and thus more easily disturbed. Daytime searches essentially involve just walking and watching out for any moths that take to the wing. Visits to areas of high quality semi-natural habitat, such as heathland and chalk downland, are likely to yield the best results, while sheltered hedgerows and sunken lanes are also good. The more sensitive species will fly at the slightest provocation, such as a shadow passing over or the vibration from a footstep, but others may be coaxed out by

Small Grass Emerald. Photo: Guy Freeman

carefully brushing/tapping vegetation with a stick. Once a moth is flushed it is likely to settle again a short distance away, and it can then be approached in order to determine its identity.

It is simple enough to spot a moth once it has taken to the wing but many of our moths will spend the day settled somewhere they are unlikely to be disturbed. It is generally not worth putting much effort into actively searching for moths at rest, but it is worth keeping it in mind as a possibility. Once you have your eye in, it is surprising how the shape of a settled moth can grab your attention, and you will often stumble across nocturnal species resting on shaded walls, windowsills and under eaves etc. Some moths seem to crop up particularly frequently – I have seen a number of Red Underwings and Old Ladies at rest on walls, but have never trapped either. In open habitats such as heathlands and dunes, moths are often drawn to isolated solid structures, which offer a stable, shaded place – it is worth a quick check of fence posts, lone stones and tree trunks.

Searching for moths by day is something that can be done just about anywhere by anyone and so, whether or not you have the opportunity to run a light-trap, this rewarding pastime can be an excellent way of furthering your interest in moths.

If you do come across any moths during your walks, be sure to report your sightings - use either the Living Record software (www.livingrecord.net) or the national Moth Recording Scheme site: www.mothrecording.org.

The website of our sister organisation has a lot of great moth information: www.dorsetmothgroup.info

If you need help identifying what you have seen, post a photo to our Facebook page (Butterfly Conservation Dorset Branch) or that of ukmoths.

Day-flying Moths in Dorset

Colin Burningham focusses on day-flying moths in Dorset, and how moths are monitored

As an organisation, Butterfly Conservation exists primarily to spearhead the challenge of conserving our Lepidoptera species. In this task, they are achieving great success and their efforts include the conservation of not only our butterfly species but over 2500 moth species, all having been found in the British Isles. Within Dorset, great efforts are being made by volunteers working in our management work parties to improve the habitat of many sites around the county for both our butterflies and moths.

The success of our efforts on the butterfly front are monitored mainly by transect walks that are regularly carried out at a number of sites in the county, supported by other recording programmes. The results eventually find their way, via a county-wide recording scheme, to the UK Butterfly Monitoring Scheme, run by Butterfly Conservation and other conservation organisations. In Dorset, the results of the butterfly transect walks are presented each year at regional meetings held around the county. In addition, articles appear in the Branch Newsletter which give an insight into the results of conservation efforts. Moth recording is carried out in quite a different way, because of the numbers of species and the nocturnal preferences of the majority of our moths. Night-flying moths are usually monitored using moth traps operated overnight (often by volunteers in their gardens) with

Dusky Sallow. Photo: Colin Burningham

the contents being recorded the following morning. The results are loaded onto a recording web site, such as Living Record, to be accessed by the verification panel, a part of the Dorset Moth Group. Once approved, the results are passed onto the National Moth Records Scheme, via Dorset Environmental Records Centre, and are then used for monitoring moth numbers throughout the British Isles. Day flying moths are currently monitored on some butterfly transect walks but generally can be overlooked. This article aims to show that day-flying moths (and a few night-flying moths that will readily fly in daytime if disturbed) can be pleasing to see and be recorded while we are counting or observing our butterflies. In addition, they are an excellent introduction to the amazing world of moths.
Here are a few of these day-flying moths seen during our walks on Dorset sites in 2018, including daytime sightings in my garden in Yetminster.

The first daytime sighting was a micro moth Alabonia geofrella during an organised guided walk at Cashmoor on 24th May, a small moth, but very distinctive [see photo on front cover].
On 6th June, a macro moth called a Yellow Shell was found while looking for Brown Argus

Yellow Shell. Photo: Mel Bray

Five-spot Burnets. Bottom is form minoides. Photos: Colin Burnigham

butterflies at Batcombe.

On 19th June, while walking around the Terraces Reserve in Sherborne, we were very fortunate to spot a Five-spot Burnet, form minoides and in the same time frame, a more conventional Five-spot Burnet, very convenient for comparison purposes. It is very difficult to know whether the conventional specimen was Five-spot Burnet or Narrow Five-spot Burnet but the presence of form minoides on the site suggests the former.

The remaining observations were all seen in my garden during the daytime. On 22nd April, two caterpillars were found feeding on forget-me-not leaves in the garden. After some searching through my identification books, I was pleasantly surprised to find that they were Scarlet Tiger larvae, feeding in daylight. Seven or so weeks later, on 17th June, we were fortunate to find a Scarlet Tiger moth resting on a Buddleia bush in daylight and soon after watched it flying around the garden. This is a species of further interest, since the moth flies both at night and in the day and indeed we caught two

Scarlet Tiger caterpillar.

Scarlet Tiger. Photo: Colin Burningham

Scarlet Tigers in our trap a few days later. The species appears to be expanding its range.

On 10th July, we found a Dusky Sallow in the garden. Another species that flies by day and by night and a joy to see. Finally, on 6th August, we found a Jersey Tiger resting on the Buddleia bush in bright sunshine. This is another species which is expanding its range.

These have been just a few examples of moths that can be

seen in our county. There are plenty more species to be seen! If you are tempted to take your interest further, please refer to the Dorset Moth Group website for further encouragement or contact me. I am not an expert but a very enthusiastic learner.

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Jersey Tiger. Photo: Colin Burningham

Moth Night 2019: 26-28 Sep

Themes for the 20th anniversary of Moth Night are the Clifden Nonpareil, and migrants

The combination of its large size (11cm wingspan), stunning blue-banded hindwing, and rarity have made the Clifden Nonpareil (or Blue Underwing) a holy grail species for generations of moth enthusiasts. 'Nonpareil', meaning "unrivalled" or "beyond compare" is an apt name for this impressive insect. Apart from short spells with populations in Norfolk and Kent , this moth has occurred in Britain only as a scarce immigrant from Europe since at least the 1740s.

However, recently there has been a dramatic change in the status of the Clifden Nonpareil, and from about 2007, the species has colonised many counties along the south coast of England continuing to spread westwards and northwards. Big increases in records in Devon from 2017 suggest that it has now colonised the county. The first sightings in Monmouthshire in south-east Wales were made in 2018, when it also reached the Midlands. It was recorded in Dorset at Alners Gorse in 2015.

The Clifden Nonpareil is on the wing from late August to late October, so Moth Night 2019 in late September should coincide with peak numbers and provide a great opportunity to map its current distribution in Britain. The caterpillars feed on Aspen and other poplars, so woodland, parks and plantations with these trees

Clifden Nonpareil. Photo: Mark Pike

would be good places to target your trapping, although the adults are very mobile, and many recent records have come from garden light-traps; it can also be attracted to sugar. It occurs widely as an immigrant, so it is also worth searching at the coast.

Moth Night 2019 is also on the lookout for other migrant moths.

See the Events List on our website nearer the date for details of local Moth Night Events.

The Dorset Branch of Butterfly Conservation is one of 32 Branches of this UK organisation, dedicated to saving butterflies, moths and the environment. **www.butterfly-conservation.org**

Butterfly Conservation
Saving butterflies, moths and our environment

Durlston East Transect Walk

Brian Arnold writes about the Durlston East Transect Walk, of which he is the coordinator

Durlston Country Park lies a mile south of Swanage, and has three butterfly transects (East, West, and Meadows), consisting of 320 acres of coast and countryside. For 28 years John Gilbert walked Durlston East, his dog knew the route well, and John followed behind usually with his wife Rosemary. In 2016 they moved to Sussex, so I took over from September 2016. My wife Lerida usually accompanies me. The counting is quite hard when we may see up to 800 butterflies walking around the 3.6Km transect. For the last two years we have had two other occasional helpers, Ben and Sarah, to cover when we are away, but Ben, who was an apprentice ranger, has moved to another job at Durlston and may no longer be able to help us. At the March "Butterfly Trends" meeting in Wareham I received two offers of help, so hopefully we will able to do the counts for every week in 2019.

Painted Lady. Photo: Brian Arnold

The transect is quite varied. The geology is predominantly limestone, with meadows of wild flowers, orchids, woodland, coastal and cliff paths, and a small sheltered quarry overlooking the sea. Much of the coastal area has been quarried in the past providing small sheltered areas ideal for butterflies. The meadows are really beautiful during the spring, and the coast affords fantastic views, with the chance of seeing dolphins; we saw three Bottlenose Dolphins in April 2018. There is a wealth of wildlife at Durlston, more than 3000 species have been found. Bustling sea bird colonies, rare orchids, migrant birds, flower

filled meadows, and around 30 species of butterfly. In 2018 we counted 5850 butterflies, 31 species - I need more fingers! We see all the usual common species, plus Lulworth Skipper, Essex Skipper, Dingy Skipper, Clouded Yellow, Small Copper, Small Blue, Adonis Blue, Holly Blue, Dark Green Fritillary, Silver-washed Fritillary, Wall Brown, Grayling and Ringlet.

There are several hotspots where we usually see particular species. Wall Browns sun themselves on the coastal path stone walls at Durlston Head. Adonis Blue and Small Blue like

Wall Brown. Photo: Brian Arnold

south facing banks on the coastal path near Tilly Whim caves, and Grayling seem especially fond of the stone wall on the approach to Durlston Castle, and on the coast path by the castle - that is if you can spot them as they are so well camouflaged. Lulworth Skippers are found on the south facing slopes - my predecessor John called them grey and boring, but when you see a female in the sunshine it has that unmistakable fan shape making it so distinctive and beautiful.

Lulworth Skipper. Photo: Brian Arnold

Durlston is a gateway to the Jurassic Coast World Heritage Site which runs from Exmouth in the west to Old Harry Rocks at Ballard Down. It is also designated as Special Area of Conservation, Site of Special Scientific Interest, Area of Outstanding Natural Beauty and National Nature Reserve. The offshore waters are part of the Marine Research Area. The park offers imposing views of Jurassic limestone sea cliffs which sweep round into two bays where rocks were formed in the late

Jurassic and Early Cretaceous periods between 150 and 135 Million Years ago. The sheer cliffs around Durlston Head are Portland Limestone.

I developed my own method for counting butterflies. My predecessor used a Dictaphone and wrote up his counts later, but I designed my own A4 sized chart, and after experimentation decided to count 3 species in my head, plus 3 for my wife, then put an "X" in the box every 10, and single dashes for odd numbers or for less numerous species. This works well in theory, but my main hobby is photography, and when I see something interesting I just have to stop and photograph it - essential for differentiating species such as Common Blue and Brown Argus, or Small and Essex Skipper - then I frantically try to remember or write down where I am with the counts. Anyone passing must think I am nuts - chanting 2,5,8 - 4,7,9 etc as we walk. On the cliff paths everyone else stares out to sea looking for birds and dolphins, but we are looking away from the sea at the grass for Blues and Skippers.

By Durlston Castle is a small sheltered quarry facing east known as Caravan Terrace, a favourite spot for Wall Brown, Ringlet, Small Blue and Small Copper. There is currently some major clearing work being undertaken to open up views from the wooded area to the east, and many holm oaks are being felled. This will open up the terrace, with the attractive stone bridge on its entrance path visible from near the castle entrance, so I am fearful that an increase in visitors may have a negative effect on butterflies there - only time will tell.

Durlston has seen some rare immigrant butterflies. Alas I have always been in the wrong place to see them, but others have recorded Monarchs, Swallowtails and Large Tortoiseshell. It must be my turn, fingers crossed, that I will see something unusual in 2019. Finally Durlston has a castle/folly, well worth a visit. It has an exhibition area, and café overlooking the sea and coastline to Peveril Point and Bournemouth. We usually finish the transect with a cup of coffee and yummy cake which totally undoes all the exercise we have taken walking the transect.

Butterfly Photography: Part 1

Mark Pike gives us his personal perspective on photographing butterflies, starting with equipment

The advent of digital photography 20 odd years ago provided me with the perfect springboard to realise a passion for butterflies by capturing images of them. This had been an interest from an early age when I used to sit with my mother and father watching with great fascination all the different species that used to visit the classic "butterfly bush" (Buddleia). There was a particularly large one right outside the lounge window. I am sure in those days (early 70's) there were far more butterflies around? This interest eventually escalated into a desire to photograph all 59 of the UK species, of which I now need just one, the Cryptic Wood White.

Silver-spotted Skipper. Photo: Mark Pike

Adonis Blue. Photo: Mark Pike

I had previously used a film SLR camera but never really did a great deal with it, at least not in the field of butterfly photography, but it had served to accustom me with the handling and use of such a camera. So it was that in 2001 I took the plunge and purchased a Nikon D100, my first digital SLR which was state of the art at that time and something of a revelation. I have never looked back since and only wish digital photography had been invented earlier! The great advantage of digital is not having to try and keep count of the frames until the end of the film and then panicking as you suddenly realise

Brown Hairstreak. Photo: Mark Pike

you forgot to bring a new film with you! With the large number of images that you are able to store on a memory card it meant that in those early years I was able to practice at leisure, though with varying success. I must state at this point that I am in no way an expert when it comes to the technical side of camera settings etc., but over the years I have reached a point where I am happy with the minimal gear I have and the settings that I use. After using a few different DSLR's (always Nikon as a personal preference) I currently have a Nikon D7200 which has a 24 megapixel (mp)

Elephant Hawkmoth. Photo: Mark PIke

sensor and produces very high-quality images. In fact, one of my tips is to use a digicam with a large enough sensor size (20mp plus) so that even if an image is taken at quite a distance (very common with butterflies) this size would allow for quite a bit of cropping at the processing stage and still produce a very good non-pixelated image. I use Photoshop Elements for all of my processing/editing and only usually crop and level up images and adjust tone/saturation if required.

Of course, getting good images is not all about what camera you have, indeed perfectly good images can be obtained from much smaller cameras and even mobile phones these days, as long as these devices have sensors of at least 20mp. The other very important factor is your lens choice if you have an interchangeable DSLR. This is a bit of a minefield and is very much open to personal preference, but the lens I use with my D7200 is a Sigma 150mm close up that cost around £500 and produces excellent results. I have had this lens for at least ten years now and it serves me well for almost

Hummingbird Hawkmoth. Photo: Mark Pike

any situation. The exception to this is when your butterfly has perched high in a tree. However, to get a decent shot of that would mean forking out in excess of three grand on a zoom lens and even then, there is no guarantee you will get your shot of course!

Tripods are another item: I need to travel light as I drive a motorcycle, not a car. I also find tripods very cumbersome and time consuming when "on site" meaning that many shots would be lost as the subject would have flown away by the time you have set up! A monopod may be more manageable though I have not tried one personally. You will of course need something to carry this gear in and I use a dedicated backpack which also has room for a bottle of drink and a couple of snacks etc., and is ideal for when I use my motorcycle. It also frees up both of your hands when photographing: nothing worse than having to keep dropping your bag and picking it up all the time, especially if you are on a steeply sloping hillside such as Fontmell Down! When closer to home I very often just take the D7200+150mm in a small bag with nothing else and leave the backpack at home.

Whilst I appreciate that not everyone is of the same opinion, with some people carrying various lenses etc, you can probably deduce the main thing for me regarding equipment is to carry as little as possible whenever I can and I find it suits me and my situation perfectly.

Portland Reserves update

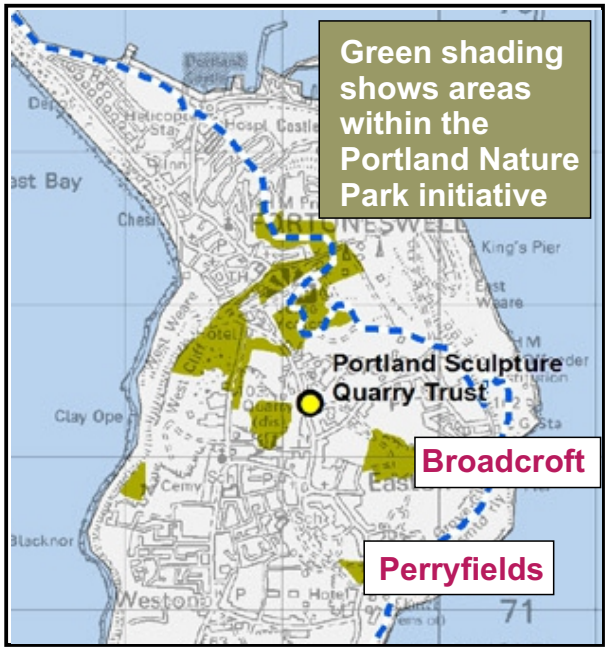
Nigel Spring writes about recent developments regarding our Reserves on Portland

Important developments have taken place in recent months in our efforts to secure the future of our reserves and other butterfly sites on Portland. Our lease of the land at Perryfields Reserve was terminated in late summer 2018 by the owners, the developers Betterment Properties, but we have now learnt that this was perhaps a mistake on their part and they have told us that they would like to renew the lease. While this is being negotiated, we have been given informal permission to continue to carry out routine habitat management work and to visit the site regularly for surveys and for the weekly transects. This is very good news! In addition, the management of the adjacent carpark has now passed to Portland Town Council.

The next good piece of news is that the syndicate of organisations known as the Portland Conservation Forum has been reincarnated and re-energised by Annabel King, the Dorset County Ecologist. Several representatives of the Dorset Branch of Butterfly Conservation attended the first meeting in February with staff from Dorset Wildlife Trust, Dorset County Council, Natural England and BC Head Office, with the meeting chaired by Annabel King. One exciting aspiration of the Forum is to establish a Community Interest Company linked to the Portland Quarries Nature Park initiative, which could enter into leases of important conservation sites on Portland from the quarrying companies and developers, and organise habitat management there. There are several parcels of land set aside for conservation management by these companies as part of their Section 106 agreements linked to planning permission for new developments. As yet very little conservation management has taken place on them in spite of the fact that a lot of the houses have already been built!

One such site is Silklake Quarry adjacent to our Broadcroft Quarry Butterfly Reserve, earmarked as a wildlife conservation area by Betterment Properties in return for planning permission for the Bumpers Lane development next door. This was offered by the developers to Dorset Branch in the winter of 2018/19 and although the branch cannot itself lease the site, we would be very happy to be involved in the management if the new CIC owns the lease.

The lease on Broadcroft Quarry expired several years ago while the negotiations over the Jurassica Project were grinding on (this is now to go ahead merged with Memo as the Portland Eden project on a different site). In the meantime, we have continued to carry out our usual grass and scrub cutting management work under an informal agreement with the owners, Stone Firms. We recently spent a day brushcutting clematis, bramble and thorn scrub with BC volunteers and the EuCAN Dorset Midweek Volunteers. With 19 people present and 9 brushcutters, we managed to clear an enormous area, including some we have not revisited for several years! Portland is an exceptionally important site for butterflies and moths and we will continue to lobby Butterfly Conservation at Lulworth and the Portland Conservation Forum to work out a satisfactory and secure arrangement for our reserves and the other sites on the island.



An Autumn of Copper

Malcolm Wemyss reflects on the butterflies seen last autumn, particularly the Small Copper

As the last month of the meteorological autumn ended last year, we could reflect on the long hot summer of Dorset butterflies. Very many species seemed to thrive in their specialist habitats, such as the radiant Adonis Blue over the downs and along the coast, and superb Silver-washed Fritillary through sun-dappled glades of ancient oakwoods – with the welcome Common Blue living up to its name, numerous and widespread everywhere. People commented about the absence of typical garden butterflies such as the Peacock and Small Tortoiseshell, even with a good supply of popular nectar bearing flowers. This could be due to the absence of larval foodplants in wilder areas of a garden, or limited meadows and field margins in the wider countryside.

One species which was very scarce in previous cooler and wetter years was hugely successful with large numbers of a third brood on the wing from September into

Small Copper form *Lycaena phlaeas.* Photo: Malcolm Wemyss

October: the Small Copper. It's a butterfly that succeeds in hot conditions and the photographs show the upperside and underside views, feeding on *Sedum spectabile* 'Iceberg' in my Yetminster garden. The row of beautiful blue flecks near the outer margin of the upperside of each hind wing identify this example as the aberrant form *caeruleo punctata*, so a lucky sighting. Colin Burningham lives nearby and also reported many specimens, so we had an unofficial competition to record the most sightings – think I came second! Further exploration in surrounding areas found plenty of the butterflies in fields, allotments, meadows, woodland clearings and more gardens. The last two glorious weeks of recording on the transects which I coordinate at Black Hill and Giant Hill completed all-time highest season totals of 66 and 84 respectively, compared to only one and 15 for 2017.

The species belongs to the Family *Lycaenidae* of Blues, Coppers and Hairstreaks comprising many brightly coloured and lively examples. It is adaptable to a widespread variety of habitats and the larval foodplants of Common and Sheep's Sorrel readily colonise almost any open ground. It's a delightful brightly coloured and marked species which will spiral away when disturbed and soon return to the same perch, so quite territorial in behaviour. Let's hope the season's success can be repeated this year for us all to enjoy . . .

Purple Hairstreak Evenings

Peter Cooper has been carrying out public counts of Purple Hairstreaks in Motcombe Meadows for several years. These will continue, but this year it is also proposed to introduce a similar session at Alners Gorse. The dates for these evenings is entirely dependent on the expectation of suitable weather conditions, and based on historical records at Alners Gorse is likely to be in mid-July. The dates will be posted on the Branch website (www.dorsetbutterflies.com), so if you are interested in coming along, please keep checking the website from early July.

2019 - a Crucial Recording Year

2019 is a crucial year for butterfly recording, as this is the last year of our current five-year recording cycle. After this year, the slate is wiped clean and we start all over again.

We are asking you to record all the butterflies you can, anywhere in the County, but especially to help fill our 'White Holes'.

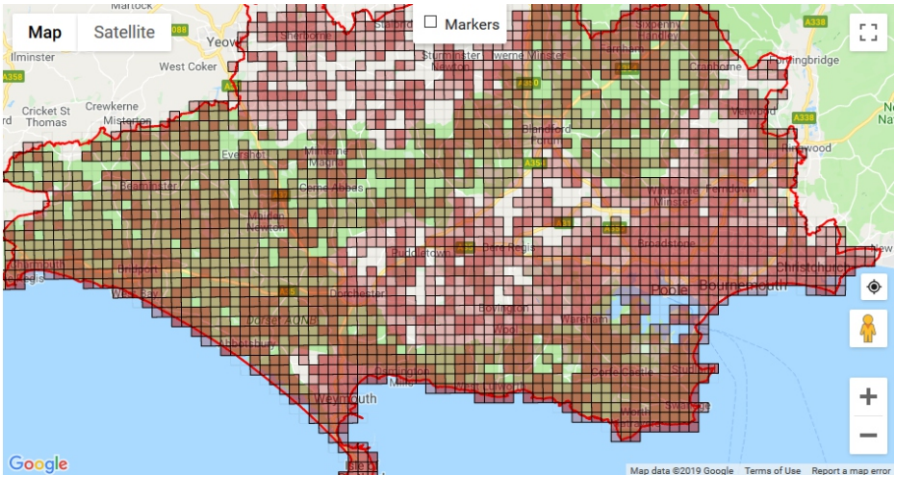
'White Holes' is our term for kilometre squares in Dorset where no butterflies have been reported in the current recording cycle, and our aim is to fill as many as possible. A few are impossible, such as those on the army ranges: we don't want you to be shot!

Our website has a map to show you where the white holes are. Searching them out can take you to parts of Dorset you've never seen before, and most of this County is very beautiful.

As well as empty squares, there are squares where the number of species reported is very limited (pale pink on the map), so if you can add to them, that would be great.

Please do not trespass, and if you are walking along a road, take extra care of the traffic: lanes are not as quiet as they used to be.

Let's make this five-year cycle the best recorded yet!



Vanishing Small Tortoiseshells

Malcolm Hull of Herts & Middlesex Branch (but formerly from Dorset) has written about his project on hibernating Small Tortoiseshells

Small Tortoiseshell. Photo: Alison Copland.

Results from the Big Butterfly Count have highlighted a decline in the numbers of Small Tortoiseshell butterflies. This year around 100,000 records were collected from across the UK during the period 20th July – 12th August. These showed that Small Tortoiseshell had fallen by 32% since 2017 and is now only the tenth most observed species, down from fourth in 2014. The decline is most acute in England and the reasons for the slump are not clear. No such concerns were expressed about the Peacock, which was the fourth most commonly spotted butterfly.

What Might Cause This Decline?

Concerns about declines in Small Tortoiseshell numbers are nothing new. In Herts & Middx, its numbers fell dramatically in the late 1990's, remained low for a decade and only showed any sustained recovery after 2012. The species is quite susceptible to parasites and particular concern has been expressed about *Sturmia bella*, a non-native species whose arrival in the UK appears to have coincided with the Small Tortoiseshell's decline.

I am lucky enough to have Small Tortoiseshells and Peacocks regularly in a shed which forms part of my house. This state of dormancy is usually referred to as hibernation. My casual

observations were that a good many Small Tortoiseshells go into hibernation before the Big Butterfly Count has started and that nowadays most of both species are hibernating before the count is finished. However most butterfly text books tell a different story: "*In Autumn, (Small Tortoiseshells) begin to search for hibernation sites, as early as mid-August.*" (Emmet & Heath). Butterfly behaviour can often change over time, but this view is still widely held – both Small Tortoiseshells and Peacocks "*come in during late summer/early autumn"* according to the December 2018 issue of the All Aflutter E-Newsletter from Butterfly Conservation.

To test this theory, I set up a transect within a part of my house, known as the shed or cellar. The house is located in suburban St Albans. It's an early 20th century brick built structure, constructed to restrict heat gain. The shed is on the ground floor, unheated and with approximate dimensions of 3 metres by 1.5 metres. It is used purely for storage, is unheated, has no electric light and little natural light with two small "arrow slit" type windows which contain no glass. The walls are substantial and it is protected from solar gain by a first floor attic area. It seems highly attractive to hibernating Small Tortoiseshells and slightly less so to Peacocks. No other butterfly species have been recorded in the shed. Numbers of hibernating butterflies recorded in the shed each year are quite variable.

Year	Small Tortoiseshells	Peacocks	Total
2018/9	13	3	16
2017/8	23	0	23
2016/7	35	1	36
2015/6	17	2	19
2014/5	14	6	20
2013/4	28	1	29
Average	**22**	**2**	**24**

Table 1: The maximum numbers of butterflies recorded hibernating in the shed in recent years

Regular transects have been running only since July 2016. But casual observations go further back. For example my earliest complete record, for the winter of 1995/6 shows six Small Tortoiseshells and one Peacock. Although I don't have records from each individual year, the overall totals of hibernators in the last six years have been well above the average for the previous two decades.

Hibernation Period - Entrance and Emergence Times

My records from 1995 showed that the sole Peacock left hibernation on 19th March and its successor went into hibernation between 3rd and 17th September. For many years I imagined that hibernation took place at the start and the end of the butterfly season. Historically that may have been correct, but regular transects over the last 30 months have shown that Small Tortoiseshells can start to emerge in February, depending on weather conditions. Their emergence is staggered, but mostly complete by the third week of April. In the early warm spring of 2017, Small Tortoiseshells began emerging in early February and had largely all flown by the first week of April, a period of 8 weeks. In 2018, spring got off to a cold start with two snowfalls in a very cold March. This was followed by a very warm April with the hottest ever UK April temperature recorded on 20th April. Small Tortoiseshells didn't begin to emerge until 30th March and had all flown by 20th April, a period of just 3 weeks.

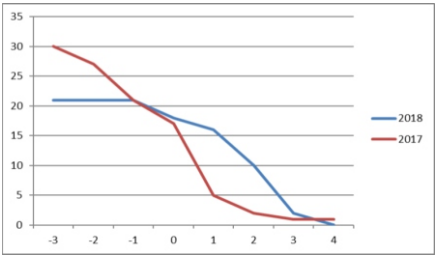


Fig 1: Small Tortoiseshell emergence, by Transect Week

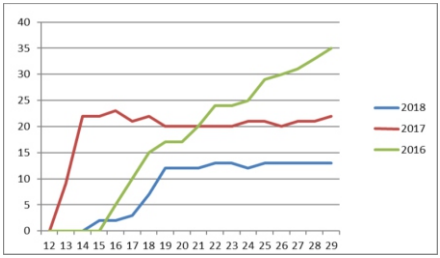


Fig 2: Small Tortoiseshell hibernation by Transect Week

The next generation of Small Tortoiseshells can start going into hibernation as soon as late June. Going into hibernation can be staggered over a considerable period, sometimes lasting until

October. Hibernation dates are highly variable. In 2017 all the Small Tortoiseshells were hibernating by 7th July, in 2018 hibernation was complete by 5th August, but in 2016 the last five did not enter hibernation until mid October.

Data on Peacock behaviour is less plentiful. Lower numbers attempt hibernation in the shed, they seek darker recesses than many of the Small Tortoiseshells and appear to be less successful at surviving.

Tentative conclusions are:

- Peacocks mostly enter hibernation during the last week of July or the first week of August.
- Peacock emergence dates were mostly recorded between mid March and mid April.

Peacocks. Photo: Shona Refoy

I have compared these findings with data on butterflies seen on the wing, using records from my local branch. Space precludes their inclusion here, but broadly similar patterns are observed.

Conclusions

Small Tortoiseshells are now routinely going into hibernation much earlier than generally acknowledged. In 2017 most local Small Tortoiseshells in my area of St Albans were hibernating well before the Big Butterfly Count had begun. In 2018, entry into hibernation was largely complete by the end of the first week of the Count. Had it not been for an exceptionally cold March, the Small Tortoiseshells' flight period would probably have finished earlier. There has not been a second generation of Small Tortoiseshells of any size in the St Albans area in either 2017 or 2018. The records of just two years can hardly be said to constitute a trend. The prospect for a future increase in Small Tortoiseshells on the Count will depend on the

species producing a second generation, which it did as recently as 2016. Total numbers of Small Tortoiseshells hibernating in my shed over the last six years are encouraging, suggesting that the species may be prospering by adjusting its flight season.

Small Tortoiseshell caterpillars which have been parasitised. Photo: Rob Cook.

Whether it is hibernating earlier as a way of avoiding parasites, or as a response to climate change, or as a result of an influx of migrants is not known. Some sources suggest that the parasite is most active during July. It attacks the Small Tortoiseshells when the caterpillars are at a juvenile stage, so it is possible that the first brood caterpillars which are active in late April and May are relatively safe, whereas second brood caterpillars active in the summer are more vulnerable. Restricting themselves to a single brood and going into hibernation at an early stage during the summer, could be the Small Tortoiseshells' response.

One shed on its own can give an indication but certainly not the complete picture. It would be really useful if other volunteers are willing to keep records based on the UK Butterfly Monitoring Scheme transect methodology. If anyone reading this article is willing to help, please do get in touch.

This is a summary of the full article which is available on the Herts & Middx Butterfly Conservation website: **http://www.hertsmiddx-butterflies.org.uk**
malcolmhull@hertsmiddx-butterflies.org.uk
The photos were added by Dorset Branch.

Funding is getting ever tighter. Please think about remembering Dorset Branch in your will.

Emergency Mobile Phone Use in Remote Locations

This article is adapted from a longer feature written by Gareth Morgan of Dorset Countryside Volunteers,

It is possible that, at remote locations, you may be in an area with weak or no network coverage from your mobile phone provider. Should you be in such an area, and need to call the emergency services (999 or 112), your phone would roam to try and find an alternative network. If you are in a group with other people, find out if anyone has a phone that does have network coverage, as the emergency services cannot call back to a phone that is roaming.

In remote locations near the coast, it is possible that your phone may roam to an emergency call centre in France. All European Emergency Call Centres have multilingual operators and translation services, and can pass messages to the UK centres, so give them details to pass on whilst asking others to continue trying to contact the UK emergency call centre.

When making an emergency call from any location, if possible it is preferable to use a smart phone with up to date software (Android 9.0 Pie or later, or IOS 11.3 or higher). These phones are equipped with location services (a requirement under EU Directive 2002/22/EC). When you dial 999/112, your phone turns on mobile data, wifi and GPS. This enables it to determine cell location from the mast being used, check for any wifi signals and determine the location if possible; and tries to determine the GPS location. This information is sent to the emergency call centre.

To give the best chance of a good GPS location, try to call from a position with a clear view of the sky in all directions. However, the operator will always ask for your location as location services are usually treated as supplementary unless you cannot give your location.

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If you would be interested in joining the Committee, please contact Nigel Spring.

Mating Pale Tussock Moths. Photo: Ann Johnson