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JULY-AUGUST 2021

Bristol Naturalist News

Photo © Harry McPhillimy

Discover Your Natural World

Bristol Naturalists' Society
BULLETIN NO. 602 JULY – AUGUST 2021

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Discover Your Natural World

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Health & Safety on walks: Members participate at their own risk. They are responsible for being properly clothed and shod. Dogs may only be brought on a walk with prior agreement of the leader.

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Cover picture: Thanks to Harry McPhillimy for this Four-spotted chaser seen on the Ornithological section's visit to Avalon marshes.

SOCIETY ITEMS

Bristol Weather

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May and Spring 2021 summary

As we move into the summer, we can look at the spring of 2021 to see what were its main features. It was actually cooler overall than the recent 30-year average (1991-2020). With a mean temperature 9.7°C for the three months March - May it was -1.0°C cooler than the average. It was the below average minimum temperatures that accounted for most of the cooling as they were -1.3°C below the 30-year average. Even with May's high rainfall the total spring rainfall placed the season only at 47th wettest out of 140 years of data for Bristol. Not a spring that stands out in many respects and a cooler start to the 2013 when the average spring temperature was cooler than 2021 at only 8.5°C.

May 2021 was a cooler and much wetter than average month. Only in the last few days of the month did the temperatures rise and the rain ease off. The total rainfall for the month was 132.2mm which is 212% of the 30-year average for the month. By way of contrast, May's 2020 rainfall was less than 10% of the average. It was the 6th wettest May since continuous records began in 1881. The wettest was May since 1932 with 164.3 mm. Temperatures were below the 30-year average in 2021. With an average temperature of 11.9°C it was -1.8°C lower than the 1991-2020 average of 13.7°C. Minimum temperatures were as cool as 2013 at 7.9°C and maximum temperatures, at 15.8°C in 2021, were lower than any May since 1994.

Also, in contrast to May 2020 which had a very high percentage of sunshine May 2021 was slightly below the average for the month and approximately 20% less than last year. It was the windiest May since 2015.The average air pressure of 1020 mb was the equal 3rd highest since this data started in 1994. It was also the windiest May since 2015. The average air pressure of 1020 mb was the equal 3rd highest since this data started in 1994. The lowest daily minimum temperature of 2.2°C on the 2nd of May was the lowest for May since 2003 when 1.9°C was recorded. One however has to go back to 1979 in Bristol when the last air frost was recorded at -0.6°C.

Barry Horton.

WATERCRESS FARM: Watercress Farm is a re-wilding project in Wraxall. Ethos (Environmental Planners from Bath) are seeking monitors to survey the site with Birds, Bats, Reptiles, Water Voles, Otters, Dormice, Invertebrates and Plants as the target species. Birds and bats are already being monitored by members. If you would like to take part in the survey, please contact the Secretary via secretary@bristolnats.org.uk and with your permission, I will forward your details to the Company involved. You will need to be able to identify species by sight, sound and in some cases smell. For example, Otter spraint has a distinctive odour.

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Octopuses: In the ***Journal of Experimental Biology,*** Issue 7, April 2021, a team from Bristol University and the University of Queensland led by **Temple, et al.,** from Bristol, have been investigating polarisation among Octopuses. They write, *Polarization vision is widespread in nature, mainly among invertebrates and is used for a range of tasks including navigation, habitat localization and communication. In marine environments, some species such as those from the Crustacea and Cephalopoda that are principally monochromatic, have evolved to use this adaptation to discriminate objects across the whole visual field, an ability similar to our own use of colour vision. The performance of these polarization vision systems varies, and the few cephalopod species tested so far have notably acute thresholds of discrimination. However, most studies to date have used artificial sources of polarized light that produce levels of polarization much higher than found in nature. In this study, the ability of octopuses to detect polarization contrasts varying in angle of polarization (AoP) was investigated over a range of different degrees of linear polarization (DoLP) to better judge their visual ability in more ecologically relevant conditions. The 'just-noticeable-differences' (JND) of AoP contrasts varied consistently with DoLP. These JND thresholds could be largely explained by their 'polarization distance', a neuro-physical model that effectively calculates the level of activity in opposing horizontally and vertically oriented polarization channels in the cephalopod visual system. Imaging polarimetry from the animals' natural environment was then used to illustrate the functional advantage that these polarization thresholds may confer in behaviourally relevant contexts.* Some experiments denote that Octopuses can detect colour.
Watch: Inside the mind of an Octopus; Octopuses are renowned escape artists. How long will an Octopus take to escape from four different challenges.
https://youtu.be/303S9kOxd0c

Thrushes: **Gillings** and **Scott** have published an article in **IBIS** (May 4th 2021) which suggests that, *Migratory birds are subject to many pressures during their life cycle and many are declining as a consequence. Evidence from North America shows that for species that migrate at night, bright artificial light sources associated with urban areas can disrupt natural movement patterns, leading to direct and indirect fitness consequences. Comparable evidence for species and urban areas in Europe is limited. This study aimed to measure the response of nocturnally migrating thrushes to artificial light at night in the UK. We used passive acoustic recorders deployed across a gradient of artificial lighting to record the flight calls of three thrush species, with an expectation of greater call rates over brightly lit areas. We trained a convolutional neural network automatically to locate and identify thrush calls in the audio recordings, achieving area under the curve (AUC) values in withheld validation data of 0.93–0.98, and recall on independent field data of 85–94%, depending on species. Seasonal patterns of call rates were positively correlated across sites but there were large differences in absolute rates between sites. Call rates were up to five times higher over the brightest urban areas compared with darker villages, suggesting a strong phototaxic effect of artificial light at night on migratory thrushes. These results confirm that monitoring of flight calls can provide valuable information on the timing of nocturnal migration, but that the effects of artificial lighting must be taken into account in any comparisons of abundance across sites. European cities are not blighted by mass mortality of migrants striking illuminated buildings; even so, these results show that nocturnal migrants are influenced by light pollution. Ascertaining whether this has fitness consequences is a priority so as to inform the design and illumination of future urban areas.*

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The Vaquita (*Phocoeno sinus*) is a small porpoise, averaging a length of 4.9 feet (females) and 4.6 feet (males) which lives in the north end of the Sea of Cortez but there are only about ten of them left in the wild. The drastic decline in vaquita abundance is the result of fisheries bycatch in commercial and illegal gillnets including fisheries targeting the now-endangered, Totoaba shrimp and other available fish species. Despite government regulations, including a partial gillnet ban in 2015 and establishment of a permanent gillnet exclusion zone in 2015 the gillnet remains prevalent in vaquita habitat and as a result the population has continued to decline. Contents

The Vaquita – Note the dark eye ring.
Courtesy of Paula Olsen, NOAA

Butterflies: From Singapore comes a study about butterflies. Published in ***Proceedings of the Royal Society/B***, (May 6th 2021) by **Chan** et al. Contrary to perceived thinking, they write, '*There are fewer eyespots on the forewings versus hindwings of nymphalids but the reasons for this uneven distribution remain unclear. One possibility is that, in many butterflies, the hindwing covers part of the ventral forewing at rest and there are fewer forewing sectors to display eyespots (covered eye- spots are not continuously visible and are less likely to be under positive selection). A second explanation is that having fewer forewing eyespots confers a selective advantage against predators. We analysed wing overlap at rest in 275 nymphalid species with eyespots and found that many have exposed forewing sectors without eyespots: i.e., wing overlap does not constrain the forewing from having the same number or more eyespots than the hindwing. We performed two predation experiments with mantids to compare the relative fitness of and attack damage patterns on two forms of Bicyclus anynana butterflies, both with seven hindwing eyespots, but with two (in wild-type) or four (in Spotty) ventral forewing eyespots. Spotty experienced more intense predation on the forewings, were shorter-lived and laid fewer eggs. These results suggest that predation pressure limits forewing eyespot number in B. anynana. This may occur if attacks on wing eye spots have more detrimental consequences for flight than attacks on hindwing eyespots.'*

Tree Pipits: Watch: https://youtu.be/SDORIYWA_Hc

Fish Stocks and Declining Biodiversity: From Cornell University, Heilpern, et al., are worried about fish stocks on human dietary needs. They write, *'Although biodiversity loss adversely influences a variety of ecosystem functions, how declining wild food diversity affects nutrient supplies for people is poorly understood. Here, we analyse the impact of biodiversity on nutrients supplied using detailed information from the Peruvian Amazon, where inland fisheries provide a critical source of nutrition for many of the region's 800,000 people. We found that the impacts of biodiversity loss depended on compensation, trophic dynamics and functional diversity. When small sedentary species compensated for declines in large migratory species, fatty acid supplies increased, while zinc and iron supplies decreased. In contrast, the probability of failing to maintain supplies or nutrient supply risk increased when species were nutritionally unique. Our results show that trait-based regulations and public health polices need to consider biodiversity's vital role in sustaining nutritional benefits for over 2 billion people dependent on wild foods across the globe.* Contents

Bats: **Mundinger**, **Scheuerlein** and **Kerth**, writing in the ***Proceedings of the Royal Society/B (June 2nd 2021)*** claim that, '*Change in body size is one of the universal responses to global warming, with most species becoming smaller. While small size in most species corresponds to low individual fitness, small species typically show high population growth rates in cross-species comparisons. It is unclear, therefore, how climate-induced changes in body size ultimately affect population persistence. Unravelling the relationship between body size, ambient temperature and individual survival is especially important for the conservation of endangered long-lived mammals such as bats. Using an individual-based 24-year dataset from four free-ranging Bechstein's bat colonies (Myotis bechsteinii), we show for the first time a link between warmer summer temperatures, larger body sizes and increased mortality risk. Our data reveal a crucial time window in June–July, when juveniles grow to larger body sizes in warmer conditions. Body size is also affected by colony size, with larger colonies raising larger offspring. At the same time, larger bats have higher mortality risks throughout their lives. Our results highlight the importance of understanding the link between warmer weather and body size as a fitness-relevant trait for predicting species-specific extinction risks as consequences of global warming.'*

Lesley Cox, 6th June 2021

GEOLOGY SECTION

PRESIDENT: Richard Arthur
HON. SEC: Richard Ashley

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FIELD MEETINGS

LADYE BAY, CLEVEDON

Leader: Richard Ashley **7:00pm, Wednesday 30th June**

For details please see June Naturalists' News.

MIDDLE HOPE AND ST. THOMAS'S HEAD

Leader: Mark Howson **2:30pm, Saturday 14th August**

This field meeting will allow us to examine the Carboniferous Age Black Rock Limestone, with associated volcanic rocks, and the Gully Oolite exposed at Middle Hope north of Weston-super-Mare. Particular attention will be paid to the St Thomas's Head end of Middle Hope, which has not previously been visited by the Geology Section. The area was formerly in use by the MOD but this has now ceased and the area has been cleared. The foreshore is now accessible and interesting fossil corals may be seen there.

Meet at 2:30pm at the National Trust Car Park at the northern end of Beach Road, Kewstoke (ST 330 660). Members wishing to attend are asked to let the Section Secretary know beforehand so that they may be notified if any changes in the arrangements prove necessary.

The tide will be falling after a high tide at noon, so the rocks on the foreshore at St Thomas's Head will be wet so we can spot the fossils more easily. But of course, this means the possibility of some slipperiness and mud. This will be much less of a problem than in many other places along our North Somerset coast, but it's best to be forewarned and to wear appropriate clothing and footwear.

BOTANY SECTION

PRESIDENT:- Clive Lovatt
HON. SEC:- David Hawkins

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FIELD MEETINGS

All field meetings require pre-booking, as numbers may be limited by the availability of parking, or any residual social distancing rules. A leader may also want to limit numbers to allow effective interactions to take place. It is possible that another field meeting may be organised for late August 2021 (enquiries to David Hawkins). In September, David and Clive will be leading a saltmarsh meeting, and in the winter, David Hill will introduce us to some of the variety of lichens in Lower Woods.

NAILSEA MOOR **Sunday 25 July**
David Hawkins **2.30pm**

Nailsea Moor and Kenn Moor are the Wild West of North Somerset - bleak, desolate, remote, with big mutable skies and mile after mile of rhyne punctuated by scattered willows. They are also full of aquatic and riparian delights, with the likes of Water Violet (*Hottonia palustris*), Tawny Sedge (*Carex hostiana*), abundant Arrowhead (*Sagittaria sagittifolia*) and the curious and rare floating liverwort Fringed Heartwort (*Ricciocarpos natans*) to be found, among many other delights.

We will follow the drove tracks and a footpath along a stream, investigating side rhynes along the way. The topography is flat, but wear wellies if you are feeling intrepid.

Please book with the leader (email to David Hawkins at ecoteric@googlemail.com) in advance as numbers may be limited. Park in the nearby (and very aptly named!) Rhyne View Road, Watery Lane, or Parish Brook Road (postcode: BS48 2FZ) and converge at the entrance to North Drove at ST45797057.

TROOPERS HILL **Sunday 1 August**
Neill Talbot **2.30 pm**

It was in May 2015 that the Botany Section last visited Troopers Hill to the east of Bristol, on that occasion led by one of the great servants of the Society, Tony Smith. This time Neill Talbot, who has attended several of our more recent meetings will be leading. The site has been a local nature reserve since 1995 and is of great interest for its industrial heritage and its plants of acid soil. The Friends of Troopers Hill have a website at http://www.troopers-hill.org.uk/index.htm, with much information about the site and access.

Please book with Clive Lovatt. Email Clive at clivemlovatt@gmail.com
in advance as numbers may be limited.

FIELD MEETING REPORT

ULEY BURY. Wednesday 26 May (Clive Lovatt)

This was another meeting that had been planned for 2020. We were not many steps into the hill-fort when one of the group of eight saw in the long rank grass a stem with seedpods that wasn't quite Shepherd's Purse. This was the rare 'target', Wall Whitlow grass, *Drabella muralis*. How could an annual set seed so well in this habitat? As Mark Kitchen explained, the grass had only recently grown up and the rare plant was, like woodland bluebells, an early starter. As we migrated to shorter turf, there were occasionally specimens in flower, and so many were there that Mark declared it the best

county site. Further along we began to see Hairy Rock-cress, *Arabis hirsuta*, with a small hemisphere of white cross-shaped flowers. Contents

From this point, it was quite unnecessary to lead such an excellent and experienced band of naturalists, and participants would go in different directions and come back and share their observations or thoughts, or what had happened since they last met, so it became more of a social evening in one of those exquisite locations where some Iron-age architect had planted his spear in a place where he could make his tribe safe, and where they could see any intruder for miles around in almost every direction.

Plate 1. BNS botanists at Uley Bury. Mark Kitchen is talking about Revd. W Lloyd Baker who lived near Uley and claimed to be the discoverer of *Cephalanthera rubra*, the Red Helleborine in Britain. © Clive Lovatt

David Hill, for instance, lichen hunting, prostrate over a rock, or inspecting an oak tree, wrote afterwards. ‘I was surprised to find *Scytinium biatorinum* (formerly *Leptogium biatorinum*). It is quite rarely recorded. I have only found it twice before in Somerset. I did make a record for it previously in West Gloucestershire, but I have checked the material and I misidentified it! - it should have been *Scytinium intermedium*! It is good to have got that sorted. Both are quite rare’. David Hawkins ‘a fellow ground-peerer’, replied. ‘The thallose liverwort - *Reboulia hemisphaerica*, Hemisphaeric Liverwort - colony encountered also seems significant. It is listed in Richard Lansdown's *Provisional Red Data Book of Gloucestershire Bryophytes* as 'vulnerable' and 'likely gone from the county to the east of the River Severn'. Not anymore. I also refound it in the Gully, Avon Gorge last year, where it hadn't been seen since the 1980s.’ I asked David Hill whether he had ever had a lichen named after him. ‘Oh yes, but one of them was later reduced to synonymy’ he said, so it was no longer his ‘species of eternity’. Clare explained that David had been one of her tutors at university.

Talking to Jean Oliver, I showed her an image of a Leopard’s-bane, *Doronicum x excelsum*, which the Kitchens and I had recently found new to Gloucestershire, as if to say, ‘we do sometimes do flowers too’. ‘I once had to draw floral diagrams of that for a botany exam’, she recalled. We must have passed some Ash saplings with die-back disease. John Rees told us he had recently had old two ash trees felled which overhung a public footpath on his land on a Stroud hillside. ‘It was just in time’, he said. ‘The tree surgeon said if we had left it any longer, he could not have safely felled it’.

Two hours into the meeting and not halfway round the hill-fort, we spilt to go our separate ways. Three returned from whence we had come; two took the low road and three took the road less travelled, the ‘back sides’ of the old fort finding Little Mouse-Ear Chickweed, *Cerastium semidecandrum*, on the track by a gateway, the sort of place it seems to like. Olga had brought her bat detector, ‘like one of those old transistor radios’, she described its appearance, and with dusk approaching, she tuned to the right frequency and caught the click in the air for David (Hawkins) and I as we walked through the woodland track from the fort to the roadside. Soon we saw them, Common pipistrelles, harvesting the skies. Isn’t life extraordinary? And with that the last of us left for home. Those driving home towards Bristol reported a glorious sunset.

Except where otherwise stated, all notes are by Clive Lovatt with the assistance of the named contributors of the records, comments, and images.

Sea Stork's-bill, *Erodium maritimum*, restored to the Gloucestershire flora

The Sea Stork's-bill, *Erodium maritimum*, was recorded in Merrett's *Pinax Rerum Naturalium Britannicarum* (1666) 'Over against Saint Vincents Rocks on the farther side of the River' and in two other places. It was long thought that these represented the first British records until it was uncovered that John Ray saw in in Anglesey in 1660. It survived near the edge of the gorge in Stokeleigh Camp in Leigh Woods (VC 6, North Somerset) until at least 1906. I saw it in the Portishead marina several times in the 2010s, in the paving and harbour wall by some steps near the shops.

There are a few mid-19th century records for Gloucestershire side of the Avon Gorge and at Penpole Point, Shirehampton and these were the only county records. A specimen collected from 'St Vincent's Rocks' in 1832 in HC Watson's herbarium at Kew was collected by Nathaniel John Winch (1768-1838), a significant north-country botanist. As Swete (1854; xvi) remarks in his *Flora Bristoliensis*, there was a 'prevailing mistake in Botanical works with regard to these rocks, strangers … being led into the mistake of considering the whole of the rocky side of the river to be St Vincent's Rocks'. Indeed, it may sometimes have been used to cover both sides of the Avon Gorge.

One can also never be sure which side of the river was intended by 'Banks of Avon' and such similar localities but in 1835 HO Stephens recorded it on the 'Banks of the river under the Rocks', which seems more likely to be the Clifton (Gloucestershire) side. It may have grown on quarry rubble or trampled ground below the cliffs.

Less equivocal are the records in Swete's *Flora* for 'Rocks at Shirehampton. Penpole' attributed, presumably as one locality, to GHK Thwaites and TB Flower but also vouched for by Swete himself. In his *Flora of the Bristol Coal-field* in 1881 JW White thought it was probably by then extinct at Penpole Point and there seems to be no record after Swete's, made in the early 1850s.

Plate 2. *Erodium maritimum*, Sea Stork's-bill, Clifton Wood. © Peter Rooney

These old records were all we had for Gloucestershire until I had an email from Peter Rooney on 6 June with a series of images saying he had found it 'common on Ambra Vale and Ambra Vale West, Clifton Wood, Bristol, ST5772, in pavement cracks and kerbsides' (Plate 2). This makes it the first confirmed record for Gloucestershire for about 170 years. The situation is not very different from that at Portishead, though I have only found a few plants there, so presumably their origin and status are the same, and similar to that of *Polycarpon tetraphyllum*, Four-leaved Allseed, which since 2016 has been recorded on some choice pavements and kerbsides between the Gloucester Road and Sea Walls on the Bristol Downs. Some of the more recent inland records of Sea Stork's-bill on the BSBI database do indeed seem to be associated with car parking.

This is not the first remarkable local plant record from Peter Rooney, who had been involved early on with the recording for the *Flora of the Bristol Region* (2000). With Tim Twiggs he rediscovered *Vicia bithynica*, Bithynian Vetch near Shirehampton, (see Bristol Botany in 1994) where it had again last been found by Swete (1854). He also found

Hypopitys monotropa, Yellow Bird's-nest, beside the towpath under Leigh Woods in 1994. This is the most recent record and at some distance from others in the woods, which were at Lily Point (between quarries 2 and 3) and close to the Abbotsleigh Road on a part of Leigh Down developed in late Victorian times.

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Satellite imagery as a plant-hunting guide
(David Hawkins)

Satellite imagery can sometimes be helpful in deciding where it might be interesting to botanise. Unimproved grassland often appears brown in satellite images, as opposed to the robust super-green of ryegrass fields and heavily fertilised land in general. Similarly, rush-pasture and wet areas tend to look dark green or brown and contrast markedly with the surrounding land. In the included image - screen-grabbed from Cucaera's grid reference plotter facility - there are two interesting boggy patches visible. These held several sedge species and were a relative haven of insect biodiversity on busy land north of Pucklechurch.

Plate 3. Satellite imagery as a plant-hunting guide.

A slow-down in the fast lane

Some while ago Rupert Higgins wrote in the Bulletin about his natural history observations made whilst the traffic was at a standstill on one of the motorways near Bristol. I resolved that when the chance next arose, I would see if I could get my small car into the outside lane so I could do something similar. Last Friday afternoon (4 June) I was driving on the M5 from Stroud into Somerset and encountered stop-start traffic between Thornbury and Clevedon and in a few places, I was able to make some mental notes of the plants in the central reservation.

Anisantha madritensis, Compact Brome, known since 1773 in the Avon Gorge, has short inflorescence branches and accordingly it adopts a singular sway. It has a distinct bronzy colour and grows wherever dust accumulates within the M5/M4 junction complex and either side of the Avonmouth Bridge, where it is sometimes accompanied by the larger *A. diandra*, Great Brome. The two also grow together at Stroud Station by the exit from the station to the car park, with the common *A. sterilis*, Barren Brome, which has long inflorescence branches that wave separately. Coming down the slopes into Clevedon, first there was Seaside Daisy, *Erigeron glaucus*, and then *Iris orientalis*, Turkish Iris. Its white and yellow flowers are vivid enough to catch the eye even from the inside lane as you slow down to exit for Clevedon.

Pears of Gloucestershire

In the Bulletin last year (October and November 2020), I wrote about some wild pears with small hard round fruits which Clare and Mark Kitchen had found near Thornbury. Following Stace's *Flora* they were named and reported as *Pyrus pyraster* subspecies *pyraster*. They seemed to be what had once been called locally 'Choke-Pigs' and to have a relationship with perry pears.

Exactly what they are, or were, is probably more complicated. Jim Chapman, curator of the National Perry Pear Collection at Hartpury, near Gloucester got in touch with us and told us the old name Choke-Pig' was new to him, and that Hartpury also has hedgerow wild pears, growing with crab apples and Wild Service-tree beside an old trackway from Hereford to Gloucester. Hartpury means 'hard pears' and the variety 'Hartpury Green' is

one of the oldest known varieties of perry pears. To some extent, hedgerows may be a source of wild material for new varieties or may include pears from the rootstocks of grafted 'pear-shaped pears. So much hybridisation must have gone on (both naturally and deliberately) that the botanical classification of Wild Pears as a separate species from cultivated pears, and having two subspecies, one with hairy leaves and the other with hairless leaves, is probably untenable, or at least does not sit well with the variation between different cultivars. Some old woodland Wild Pear trees in Eastern England though were held as native by the late Oliver Rackham. Contents

In the meantime, there is the book, *Pears of Gloucestershire*, by Charles Martell (2013) which illustrates and describes 100 or so sorts, with rural names such as Brown Bess and Golden Balls. It now seems hardly surprising that the few 'feral pears' I have seen (including two in a green lane beside Cleeve Common near Cheltenham) all look different. A lot of work on the subject was done at the old Long Ashton Research Station and published by the University of Bristol as *Perry Pears* in 1963 (Luckwill & Pollard). I look forward to visiting Hartpury later in the year.

PS Other fruits are also available in the Gloucestershire Pomona series (plums and apples) from the Hartpury Heritage Trust at https://www.hartpuryheritage.org.uk/sales-and-hire/publications/.

Announcement: The Pteridophytes of Gloucestershire

The retired and the current BSBI recorders for traditional Gloucestershire, Clare & Mark Kitchen, Clive Lovatt and Chris Dixon will over the next couple of years be writing a small book on the ferns, horsetails, and clubmosses which have been found in the Watsonian county of Gloucestershire, Vice counties 33 and 34.

Plant records

If you've found any interesting plants growing wild, please let me know or send an image of the plant and its habitat. Please include the location, date, and Ordnance Survey grid reference, and any useful notes about where you found it or its abundance. Keep fit and well, everyone.

Clive Lovatt, Stroud, 8 June, 2021

INVERTEBRATE SECTION

PRESIDENT: Maico Weites. maicoweites@gmail.com
Hon. SECRETARY: Vacant

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FIELD MEETINGS

DRAGONFLIES & DAMSELFLIES of the Botanic Garden

Date: Late July/August, date TBC.

Leaders: Mike Hutchinson & Steve Nicholls

Mike Hutchinson and Steve Nicholls will show us the wide range of damsels and dragonflies present in the Botanic Gardens.

This field meeting is a repeat of the field meeting in 2019 which was a great success. Currently there is still some uncertainty over the date and possible COVID restrictions. If interested, please email Maico Weites (maicoweites@gmail.com) and you will be updated in due course.

THE GULLEY — Saturday 10 July 10:30

Leader: Maico Weites

The Gulley on the Bristol side of the Avon Gorge is perhaps most well known for its impressive botanical diversity but it is also home to a wide selection of notable invertebrates.

Butterflies such as small blue and chalkhill blue, moths like the rare silky wave, the bristletail *Dilta chateri,* the purse-web spider (*Atypus affinis*), as well as many rare bees and beetles can be found here. We will meet at Circular Road at the public toilets and ice cream stand (Grid Reference ST559747) at 10:30 and head towards the Gulley just around the corner. We will likely be out for a few hours. Please notify Maico Weites (maicoweites@gmail.com) if you are interested and to be updated in case the weather is not expected to be in our favour.

TROOPERS HILL — Saturday 7 August 10:30

Leader: Maico Weites

Troopers Hill Local Nature Reserve in St George is a former Pennant sandstone quarry and one of the few areas within the Bristol area where one can find heathland and acid grassland. Despite the relatively small size of the reserve it still supports populations of invertebrates specialised in heathland habitats. Two of the many notable mentions that we may expect at this time of the year are broom treehopper (*Gargara genistae*) and heather mining bee (*Andrena fuscipes*).We will meet at the north-east corner of the reserve at Greendown at 10:30. Please notify Maico Weites (maicoweites@gmail.com) if you are interested and to be updated in case the weather is not expected to be in our favour.

Invertebrate Notes for July/August 2021

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The month of May proved to be a huge disappointment as the cold weather that started the month continued throughout. The result was exceptionally poor results from moth traps and pretty slim pickings by day as well. Some talked of the season being three weeks late. With all such weather related events it is difficult to predict what the actual impact on insect populations will be. If you have evolved to live in the UK you have to be able to cope with vagaries in the weather, even before taking into account the apparent increase in extreme events that climate change seems to be bringing. In the past, the relative infrequency of extreme events coupled with a much healthier biome, i.e. more abundance of individuals, meant that recovery was often fairly rapid. In these days of declines and more rapid variations from hot to cold, wet to dry, there is likely to be an impact from a cold late May on certainly some insect populations.

In the past I have reported on the bristle-tails found in the Avon Gorge, Maico Weites has now had expert confirmation of the identification from both sides of the Gorge (Somerset and Glos) of *Dilta chateri* which seem to be the first records outside Wales! First described as new to science in 1995, '*the males of this species have few spines on the second segment of the labial palp, separating them from all other Dilta species known to be in our area*. (www.bristletail.net) And: '*On coastal grass and heathland and in deciduous woodland, especially sessile oakwoods on dry slopes where leaf litter has built up (Arthur Chater, Dyfed Invertebrate Group Newsletter 22).*

Other good finds recently have been the Hoary Plume moth *Platyptilia isodactylus* which is the first confirmed record for the West of England region and was seen at Walton Moor at the start of June by Colin and David Hawkins. David also photographed *Endothenia nigricostana* in Yanley, near Long Ashton on 7 June which is the first confirmed record for the region for about a century.

Giles Morris spotted a Red-veined Darter *Sympetrum fonscolombii* at Portbury Wharf NR on 5 June, a fairly regular migrant these days which may possibly be breeding locally too.

Let's hope the summer months prove a little more bountiful that the spring.

Ray Barnett
09/06/21

Worm-eating Slugs

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When thinking of slugs most people probably picture slow slimy creatures devouring the garden plants. However there are slugs in this county that have rather different habits. Golden shelled slugs (*Testacella scutulum* agg.) for example do not feed on plants but are subterranean and possess harpoon-like mouthparts with which they hunt earthworms. Most other slugs have lost their shells over the course of their evolution or had it reduced to small internal structures. Shelled slugs however still possess a visible rudimentary external shell. Their bright yellow colour and the flat shell at the back of their body may remind one of a discoloured chopped off finger but that only makes them more interesting. Due to their underground lifestyle they are rarely spotted but I was lucky enough to find as many as 26 individuals in Nightingale Valley in Leigh Woods in late May. The continuous rain of the previous weeks had saturated the ground and forced both earthworms and the slugs to the surface. Most shelled slugs were found beneath rocks or deadwood but several individuals were crawling over the forest floor.
The taxonomy of these slugs is still unclear. Ben Rowson and colleagues from the National Museum Wales identified that what we previously called *Testacella scutulum* in fact constitutes two different species that form distinct genetic clusters and that show minor differences in penis and shell characteristics. Most specimens from the south-west of England appear to be the species that is provisionally named *Testacella ''tenuipenis''* sensu Rowson 2014. I sent Ben a few live specimens to help with solving this puzzle

The steep wooded slopes of Nightingale Valley resemble some of the other areas where these slugs have been found, usually after similar weather conditions. Other places in Bristol that harbour similar habitat are Coombe Brook Valley in Fishponds and the Frome Valley Walkway. So next time it keeps raining for days and most insects are hiding away, you needn't worry as you can keep yourself busy by looking for these yellow harpoon-mouthed critters.

Maico Weites

LIBRARY

BNS Library at Bristol City Museum & Art Gallery, BS8 1RL. Contents
LIBRARY COMMITTEE CHAIR: - Clive Lovatt
HON. LIBRARIAN:- Jim Webster
The Library is open: Wednesdays 1.15pm-2.15pm, Saturdays 10.15am-12.15pm.
Tel. (opening hours only): 0117 922 3651. **CLOSED on Saturdays connected with Bank Holiday Mondays, and New Year, Christmas and Easter.**

News from the Library

The 17 May 2021 relaxations to Covid restrictions went to plan and the Bristol Museum & Art Gallery was able to re-open again. Admission is by prior online booking with arrival times in half-hour blocks. At the time of writing, slots are bookable for the next three weeks apart from tomorrow morning and 11 am next Saturday.

Two of the Library Committee have visited the library, to carry out initial work as described in last month's Bulletin. We have yet to complete the accession of books bought during the library's own lockdown. There is still uncertainty about the impact of variants and whether the complete release from being regulated by Covid will be possible on Monday 21 June. We should know in a week's time. We are not yet ready to announce library re-opening, but it is probable that BNS Library access will also be by prior booking of matching slots with no more than one duty librarian and one visiting member allowed in at any time.

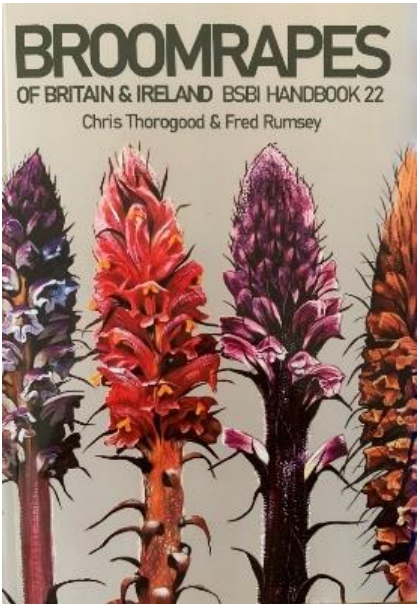
The 'Handbooks' series of the Botanical Society of Britain and Ireland (BSBI)

The BSBI has been publishing handbooks since 1968, when it commenced the series with *Sedges*, which is now in a third edition and has been expanded to cover the whole family Cyperaceae, rather than just the large and sometimes difficult genus *Carex*. The next Handbook only came out in 1980, but there are now 22, with most of them available in our library. They each serve as a practical monograph for the field botanist, with keys, full descriptions, a glossary of technical terms, line or coloured illustrations, and generally 10 km square distribution maps as well. They supplement the standard national Flora at the time of publication and sometimes differ slightly in the plant names and taxonomic treatment.

The most important volumes are probably those on Sedges, Grasses, Pondweeds, Water-starworts, Crucifers, Roses, and Whitebeams, but I find I refer to most in the course of a field season – bar the Dandelions and the one on drift seeds. The others comprise: Umbellifers, Docks and Knotweeds (two editions); Willows and Poplars; Charophytes; Fumitories; Evening-Primroses; Violas, Eyebrights, the Gentian family, and three regional Hawkweed monographs.

The newest BSBI Handbook, *Broomrapes of Britain and Ireland* has just been published and was recommended for purchase by one of our members. Both authors (Chris Thorogood and Fred Rumsey) are known (*inter alia*) for their research and artistry on what might be regarded by some as a dull and for the most part uniform-looking wholly-

parasitic subject. The first author has a Bristol PhD and painted the cover illustration shown here. One of our botanical members has an original of another of his paintings. The second author regularly appears at meetings of the Somerset Rare Plants Group and co-authored the BSBI Handbook on the partially-parasitic Eyebrights (*Euphrasia*). As is usual with nature, wherever one looks closer, something fascinating emerges. Contents



Different species (or lower taxonomic unit) show a degree of host specificity, as in the Ivy Broomrape (the first unfamiliar plant I recall seeing in the Avon Gorge) and recently the authors have described a variant of the Common Broomrape, *Orobanche minor*, var. *heliophila* (meaning 'sun-loving') named, not after a preferred aspect, but after the favoured host, *Brachyglottis x jubar*, better known as *Senecio greyi* cultivar 'Sunshine'. Indeed, I saw it growing thus in a shrubbery near the University of Bristol library in the late 1970s, though like most recorders, I have rarely excavated the plants to prove the connections. I remember laughing with other section members from this period when we found one growing close to a wooden, metal, or concrete post and thought that if it was only proximity that mattered, that inanimate object must have been the source of its nutrition.

The authors are greatly to be commended for their attractive and authoritative treatment of the subject, disentangling a tricky subject with the aid of excellent colour photos. Still, without specimens to hand I doubt we will ever unravel exactly which ones really grew in the Avon Gorge in early Victorian days before the Ivy Broomrape, *Orobanche hederae*, so common there, was recognised as distinct, and it was variously claimed that three others could be found. Only one other, *O. minor*, is now seen, but rarely.

Clive Lovatt, Stroud, 7 June 2021

ORNITHOLOGY SECTION

PRESIDENT:- Giles Morris
HON SEC.:- Lesley Cox Contents

FIELD MEETING

STOCK HILL **Sunday, 18th July, 10:00**

Leader: Giles Morris (07712 398903)

Meet at the Stockhill car park (ST 548 513; BA5 3AS) at 10:00 a.m. This is on the Old Bristol Road, B3134, about 1 mile south of the Castle of Comfort Inn. From the inn drive south, crossing the B3135, pass the pond on your right and the Forestry Commission car park is on your left, clearly signed. The area has heathlands, conifer plantation and ponds with marshy margins. We would hope to see a good variety of heath and woodland bird species, but this is a good area for both reptiles and dragonflies, so there will be much of general interest if the weather is warm. Expect rough paths, but no big hills; there may be muddy patches if the weather has been wet. The walk will finish by 1:00 p.m.

Please inform the leader if you intend to join us.

AUGUST – No Meeting: Birds in Moult

Research: A team from Oxford University, the BTO, Exeter University and the Max Planck Institute for Evolutionary Biology, have undertaken a study on Blackcaps. They write, *Human behaviour profoundly affects the natural world. Migratory birds are particularly susceptible to adverse effects of human activities because the global networks of ecosystems on which birds rely are undergoing rapid change. In spite of these challenges, the blackcap (Sylvia atricapilla) is a thriving migratory species. Its recent establishment of high-latitude wintering areas in Britain and Ireland has been linked to climate change and backyard bird feeding, exemplifying the interaction between human activity and migrant ecology. To understand how anthropogenic influences shape avian movements and ecology, we marked 623 wintering blackcaps at 59 sites across Britain and Ireland and compiled a dataset of 9929 encounters. We investigated visitation behaviour at garden feeding sites, inter-annual site fidelity, and movements within and across seasons. We analysed migration tracks from 25 geolocators fitted to a subset of individuals to understand how garden behaviour may impact subsequent migration and breeding. We found that blackcaps wintering in Britain and Ireland showed high site fidelity and low transience among wintering sites, in contrast to the itinerant movements characteristic of blackcaps wintering in their traditional winter range. First-winter birds showed lower site fidelity and a greater likelihood of transience than adults. Adults that frequented gardens had better body condition, smaller fat stores, longer bills, and rounder wingtips. However, blackcaps did not exclusively feed in gardens; visits were linked to harsher weather. Individuals generally stayed at garden sites until immediately before spring departure. Our results suggest that supplementary feeding is modifying blackcap winter ecology and driving morphological evolution. Supplemental feeding may have multifaceted benefits on winter survival, and these positive effects may carry over to migration and subsequent breeding. Overall, the high individual variability in blackcap movement and foraging ecology, and the flexibility it imparts, may have allowed this species to flourish during rapid environmental change*. Read more in: **Global Change Biology, April 2021,** Human activity shapes the wintering ecology of a migratory bird, by Van Doren, *et al.*

Lesley Cox.

Field Meeting Report

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Avalon Marshes 22nd May 2021

Two days of unseasonal gales and rain did not augur well for this excursion to Ham Wall, but the weather relented overnight and 13 members gathered at Ham Wall car park to be greeted by a chorus of bird song. As we were setting out a Great Spotted Woodpecker flew up onto a telegraph pole and our first Reed Warbler of the day chugged away in the Mini-Marshes pools.

Sedge warbler
Photo © Harry McPhillimy

Warbler song quickly became the main focus as we moved off into the reserve. Sorting out Reed and Sedge Warblers was made easier by an obliging Sedge which gave us a virtuoso performance, complete with song flight, and then sat out on the top of the reeds showing off his pale supercilium and streaky back. Whitethroats and Cetti's Warblers were in full voice and we were soon able to distinguish the more hurried notes of a Garden Warbler from amongst the more numerous Blackcaps. Our warbler count reached eight species well before we arrived at the first viewing platform.

Ham Wall's signature species now started to become visible, with Great White Egret and Marsh Harriers showing well. Bitterns could be heard regularly booming from the reed beds and the first flights were seen as we moved on to the Avalon Hide – close enough for everyone to get good views. Many of the ducks are busy breeding in May so are a little less visible, but Gadwall, Tufted and Pochard seemed to be plentiful. Two pairs of Wigeon were a little surprising, as they should have left for northern breeding grounds by now – there was probably some reason why these were non-breeders.

Four-spotted chaser *Photo © Harry McPhillimy*

Hobby numbers on the reserve had dropped over the previous two weeks as the cold weather had held up any large-scale dragonfly emergence, so the birds had moved off to their breeding grounds elsewhere. Fortunately, the few hobbies remaining were flying low, as were the many swifts and martins, so the views we had were impressive. The Four-spotted Chaser dragonflies can often be seen in their thousands at Ham Wall in late May, but we saw just one and two or three Hairy Dragonflies. Hopefully the weather will improve before it has a greater effect on the breeding success of the many bird species that depend on big insect numbers at this time of year!

A Jay flew over the car park as we got back, bringing our total for the morning to 55 species – 56 if you count the flock of racing pigeons – and yet there quite a few common species that eluded us. It's a venue that seldom disappoints and we didn't even get to move on to Shapwick or Westhay. Maybe we should plan an Avalon Marshes weekend away for a future May or June! My thanks to the other members present for sharing a delightful morning.

Photo © Giles Morris

Giles Morris

Bird Notes – June 2021

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The weather this spring has certainly been interesting, with a cool and exceptionally dry April followed by a cold and very wet May. These extreme fluctuations inevitably have a huge impact on our breeding birds and although it will be some time before we have full results to consider, some trends are already clear. The arrival of many spring migrants was delayed by a period of around two weeks: the most severely affected species were those that usually arrive in early May, a period dominated by northerly winds this year. These included Swift and House Martin and although both eventually arrived numbers seem low and many breeding sites remain unoccupied. The onset of warm weather may allow some recovery but many Swifts may not attempt to breed at all, and House Martins may be restricted in the number of broods they can rear.

Impacts on resident birds are less immediately obvious than the absence of charismatic migrants from our skies but are likely to have been equally severe. The dry weather probably caused many early failures of Blackbird and other species that depend on earthworm availability but with luck at least some ground will have been made up. As any moth trapper will attest it has been an appalling spring for most insects and this is bound to have repercussions for the many birds that feed their young on caterpillars and other insects. It is surprising therefore that David Warden, who monitors large numbers of nest boxes around Chew Valley Lake, found that Blue Tit and Coal Tit both succeeded in fledging large numbers of young. By contrast Great Tit had a very poor season; the reasons for this disparity are difficult to understand but I have unusual numbers of Great Tit foraging on the ground, suggesting that they are struggling to find their usual arboreal prey, although it is odd that the other two species apparently dodged this impact. Also at Chew, the nationally important population of Reed Warbler had a very poor start to the season. They were late to start nest construction and then many were destroyed by rain and wind or by rising water levels, and in nests that survived survival of nestlings was poor. The birds will, however, continue to build nests and may make good the losses later in the season. Other birds sharing the same habitat, such as Coot, were similarly affected and many pairs are now busy rebuilding.

The fortunes of our common songbirds are enormously important but are difficult to monitor, compared to the relative ease of counting wildfowl, for example. Much evidence will be forthcoming from ringing schemes, particularly at constant effort sites, which produce valuable data on the proportion of young birds caught. Other monitoring schemes, including the Breeding Bird Survey and the Winter Bird Survey, are also key in providing unique quantitative information on bird populations and, by extension, the wider environment and are clearly worthy of our support.

Rupert Higgins

Your sightings are welcome at: avonbirdrecorder@outlook.com

MISCELLANY

UNIVERSITY OF BRISTOL BOTANIC GARDEN

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BOTANIC GARDEN

The Holmes, Stoke Park Rd, Stoke Bishop, BS9 1JG.
Tel. 0117 428 2041 https://botanic-garden.bristol.ac.uk.
Email: botanic-gardens@bristol.ac.uk

External areas of the Botanic Garden (glasshouses remain closed) are now open Monday to Friday: 10am to 4:30pm. You will need to book your ticket in advance

Summer Art Exhibition, opening Wed. 7 July. 'DISPLAYS DECODED' The Multi-sensory Language of Flowers. An exciting original science art exhibition highlighting the latest research on the varied methods plants have evolved to attract, orientate and direct pollinators to their flowers to ensure successful pollination. The exhibition will be based in a marquee on the west terrace with smaller art pieces exhibited in the garden.

National Garden Scheme (NGS) Charity Open Day

Sunday 11 July 10.00 - 4.30 Refreshments. Plants for sale. Admission: £8. Children free.

Please watch our website for details of other summer events

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Avon Wildlife Trust

Water Vole Monitoring: Volunteering Opportunity

Avon Wildlife Trust are looking for volunteers to help with water vole monitoring in Lawrence Weston. Lawrence Weston Moor and Saltmarsh Drive open space (formerly Long Cross tip) are important habitats for breeding water vole, one of Bristol's most endangered species. AWT and Bristol City Council are working to restore habitat, providing space for water vole to feed and create nesting burrows. To inform future restoration we need to monitor the population over the next few years.

AWT will provide training. Surveys typically occur twice a year: once in April / May, once in August / September, but possibly monthly if volunteer numbers are high. Surveys potentially take a half day of around 4 hours. Individuals are asked to commit to at least 2 surveys in the season.

As participants will be working close to open water, pushing through vegetation like reeds, off the paths, a reasonable level of fitness and mobility is required.

COVID-19 - Those in the very vulnerable category probably should not participate. Surveys need 2 or more people to work together.

If you would like to contribute to this project please email mywildcity@avonwildlifetrust.org.uk with your name, a contact telephone number and answers to the questions below:

- How regularly would you be able to commit to monitoring? What is your general availability in the week/weekend?
- Do you have a good level of mobility and fitness to carry out the surveys safely?
- Do you or does someone you live with/interact with in a support bubble fall under the category of extremely vulnerable to COVID-19?

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Thank you, we hope to hear from you soon!