

CARDIFF NATURALISTS' SOCIETY

Founded 1867

NEWSLETTER No. 122

May 2021

Charity No. 1092496

LIST OF OFFICERS 2021

President

Position vacant

Secretary

Mike Dean

36 Rowan Way, Cardiff CF14 0TD

029 20756869

secretary@cardiffnaturalists.org.uk

Treasurer

Rhian Kendall

treasurer@cardiffnaturalists.org.uk

Membership Secretary

Elizabeth Morgan

membership@cardiffnaturalists.org.uk

Indoor Meetings Secretary

Hilary Wicks

029 20257012

indoor@cardiffnaturalists.org.uk

Field Meetings Coordinator

Position vacant

Newsletter Editor

Stephen Nottingham

stephen@cardiffnaturalists.org.uk

Publicity Officer

Andy Kendall

info@cardiffnaturalists.org.uk

Also on Council

Mary Salter, Gill Barter, Marie Makepeace, Stephen Howe, Patrizia Donovan



<http://www.cardiffnaturalists.org.uk>

www.facebook.com/groups/CardiffNaturalists

Twitter: @CardiffNats

<http://cardiffnaturalists.blogspot.com>

Cover: Rock pipet. Photo by Phill Blanning.

Events

At the time of going to press, there is still a great deal of uncertainty regarding future events. We do not yet know if we will be able to use the meeting rooms we hire this autumn. If possible, our indoor meeting programme will restart in September 2021, included our previously postponed AGM. (Indoor meetings usually begin at 7.30 pm and are held in the Main University Building, Park Place, Cardiff CF10 3AT).

However, we are restarting our outdoor meeting programme.

Saturday 5 June 2021

A geological ramble

Rhian Kendall

Now that COVID restrictions are beginning to relax, we thought that we could try a first outdoor meeting. To that end, we are planning a short geological ramble on Saturday 5th June, starting at 10am from the carpark at the Cardiff Bay Barrage (there is a charge to park here but there is free parking locally). We will walk around the headland towards Penarth to take a look at the geology. Depending on how people feel, we thought that we could also take a walk around the bay area in the afternoon to see if there are any interesting birds to see. If you would like to join me, please register by sending me an email (rhian@carreg.org.uk) as we have a maximum number of people that can come to make sure we are compliant with current COVID restrictions.

**For all the latest information and additions to the
CNS Meetings Programme:**

**[http://cardiffnaturalists.blogspot.co.uk/p/
programme.html](http://cardiffnaturalists.blogspot.co.uk/p/programme.html)**

=

**Deadline for submissions to next newsletter: 31 August
2021**

Biosciences Prize

In the previous newsletter we announced that Charlotte (Lottie) Moreland had won this year's Cardiff Naturalists' Society Biosciences Prize, awarded in memory of Prof Ursula Henriques and Dr Mary Gillham. In this article she presents a summary of her research.



River Ecology Field Course

Charlotte Moreland

What was originally supposed to be a weeklong field course surveying wildlife on the River Taff in July 2020 was unfortunately waylaid by the pandemic. Instead, it became a virtual field course, completed exclusively over Zoom. The challenge this presented was, however, embraced wholeheartedly by the course leaders, Prof Steve Ormerod and Dr Ian Vaughan.

The week began with a series of informational lectures on the ecology of river systems, alongside guidance for topic selection. Whilst the pandemic caused plenty of hindrances with this field course, it did allow greater choice of topic as we didn't need to rely on data we collected. This then gave me the freedom to study multi-decadal trends of reproductive success in a range of passerine birds, assessing the hypothesis that in years with a greater North Atlantic Oscillation Index (NAO), reproductive success would be reduced. I decided to measure reproductive success using two parameters: brood: clutch ratio and laying date. Four different species were assessed in order to reflect species with both aquatic and terrestrial lifestyles as well as migrants or resident species; these were Reed Warbler (*Acrocephalus scirpaceus*), Dipper (*Cinclus cinclus*), Pied Flycatcher (*Ficedula hypoleuca*) and Blue Tit (*Cyanistes caeruleus*).

Greater NAO values are associated with warmer, wetter weather in the UK (National Oceanic and Atmospheric Administration 2020) and current trends suggest an inclination towards more positive NAO values in the future (Walther et al. 2002). It is therefore important to investigate the effect of this upon reproductive success in different birds, in order to allow interventional measures to ensure species survival in the future.

All data were collected from online databases, with annual rainfall and average winter temperature being collected from the Met. Office, NAO values from the National Oceanic and Atmospheric Administration and reproductive data values from the British Trust for Ornithology.

I found that an increase in average winter NAO was associated with increased brood:clutch ratios in reed warbler and dipper, whilst the opposite was true in pied flycatcher. These results were supported when comparing the brood: clutch ratio with average rainfall and temperature. In all results, no significant correlation was found in blue tits. When looking at laying date in relation to brood: clutch ratio, reed warblers experienced greater nest success with earlier laying, whilst the opposite was true in pied flycatchers. Both blue tit and dipper experienced a curve suggesting an optimum laying date (Figure 1).

A much stronger relationship between laying date and nest success was seen than between climate factors and laying date, suggesting an indirect effect of climate on nest success. Dipper and reed warbler appear to benefit with greater survival rates in offspring in warmer, wetter weather, which is consistent with work done by Wegge and Rolstad (2017), and in direct contrast with pied flycatcher. The non-uniformity of responses between species can be attributed to the migratory nature of two of the species.

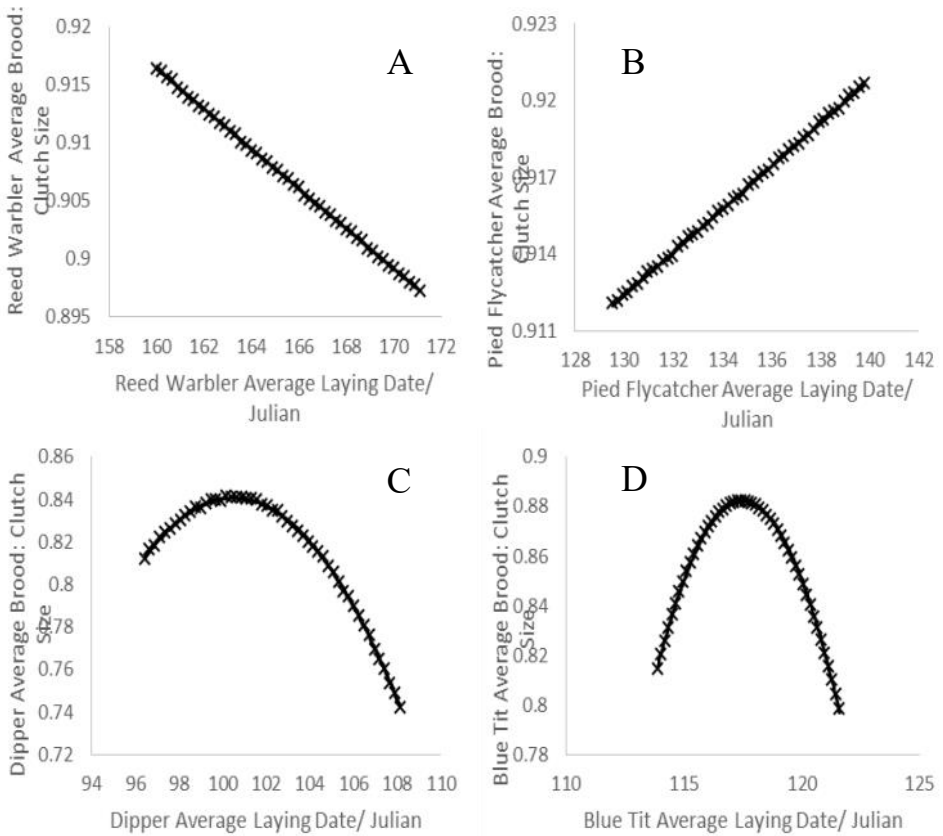


Figure 1. Relationships between Average Brood: Clutch size and Average Laying Date of different species of (a) Reed Warbler, (b) Pied Flycatcher, (c) Dipper and (d) Blue Tit over the period of 1967-2017. (a) $R^2 = 0.9997$, $p < 0.01$, (b) $R^2 = 0.9994$, $p < 0.01$, (c) $R^2 = 0.9995$, $p < 0.01$, (d) $R^2 = 0.9994$, $p < 0.01$.

Migratory birds have previously been found to suffer with warmer climates, struggling to arrive earlier at breeding sites to coincide with peak food ability for the area, and in particular pied flycatcher populations have been shown to decline up to 90% as a result of this asynchrony and so struggle to produce successful nests (World Wide Fund for Nature 2006; Both and Visser 2001; Both et al. 2006).

The success of the dipper in warmer climates can likely be attributed to better access to their food supply as they forage in upland rivers (Yoerg 1994), and frozen rivers reduce the ability of the dipper to dive and forage for its food. All species experienced advanced laying dates, which has previously been associated with a supplemented food supply and with warmer temperatures (Ruffino et al. 2014; Shave et al. 2019). Future research could focus on multiple other species in order to predict species' responses to future climate change. With NAO values tending towards a more positive phase over the last 30 years (Hurrell 1995), earlier laying dates and consequential reduced nest success in two of the four species surveyed can be expected. Houghton et al. (2001) have shown that the warming process is accelerating, and so effects on these species could be magnified with time without conservational intervention.

In summary, current trends of warming weather will lead to advanced laying dates in reed warbler, pied flycatcher, dipper and blue tit, and subsequently reduced survival rates of the offspring of all but the reed warbler as a close relationship between laying date and offspring survival has been found.

References

- Both, C. and Visser, M. E. (2001). Adjustment to climate change is constrained by arrival date in a long-distance migrant bird. *Nature* 411(6835):296-298.
- Both, C., Bouwhuis, S., Lessells, C. M. and Visser, M. E. (2006). Climate change and population declines in a long-distance migratory bird. *Nature* 441():81-83.
- Houghton, J. T., Ding, Y., Griggs, D. J., Noguer, M., van der Linden, P. J., Dai, X., Maskell, K. and Johnson, C. A. (2001) (eds.) *Climate Change 2001: The Scientific Basis*. Cambridge University Press, Cambridge.
- Hurrell, J. W. (1995). Decadal Trends in the North Atlantic Oscillation: Regional Temperatures and Precipitation. *Science* 269(5224): 676-679.
- National Oceanic and Atmospheric Administration (2020) *North Atlantic Oscillation (NAO)*. Available at: <https://www.ncdc.noaa.gov/teleconnections/nao/> [Accessed 04/07/2020]
- Ruffino, L., Salo, P., Koivisto, E. Banks, P. B. and Korpimäki, E. (2014). Reproductive responses of birds to experimental food supplementation: a meta-analysis. *Frontiers in Zoology* 11(1):80 doi: 10.1186/s12983-014-0080-y
- Shave, A., Garroway, C. J., Siegrist, J. and Fraser, K. C. (2019). Timing to temperature: Egg-laying dates respond to temperature and are under stronger selection at northern latitudes. *Ecosphere* 10(12):e02974 doi: 10.1002/ecs2.2974
- Walther, G.-R., Post, E., Convey, P., Menzel, A., Parmesan, C., Beebee, T. J. C., ... and Bairlein, F. (2002). Ecological responses to recent climate change. *Nature* 416: 389–395.
- Wegge, P. and Rolstad, J. (2017). Climate change and bird reproduction: warmer springs benefit breeding success in boreal forest grouse. *Proceedings. Biological Sciences* 284(1866):20171528.
- World Wide Fund for Nature. (2006). *Bird Species and Climate Change*. Available at: <https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwfsummaryfinal.pdf> [Accessed 05/10/2020]
- Yoerg, S. I. (1994) Development of foraging behaviour in the Eurasian dipper, *Cinclus cinclus*, from fledging until dispersal. *Animal Behaviour* 47(3):577-588.



Blue tit and pied wagtail. Photos: Phill Blanning

Herb-paris at Cwm George

Herb-paris (*Paris quadrifolia*), an indicator species of ancient woodland, in flower at Cwm George, Dinas Powys, April 2021.



Photos: Stephen Nottingham.

Group tours of Parc Slip Nature Reserve

Dan Rouse has given talks at Cardiff Naturalists' Society meetings on a couple of occasions, on Vulture Conservation and Welsh Bird Conservation. She wrote to the Society to inform members about a new venture she is involved in.

Tadorna Tours have recently formed a partnership with the Wildlife Trust of South and West Wales to run educational activities and outreach work at the Parc Slip Nature Reserve in Bridgend.

Dan said: "We have a schedule of events now published on our website and soon to be published on the WTSWW website which includes favourites such as bat walks, dawn chorus, nocturnal safaris in search of glow worms, owls and bats but also the rare Great Crested Newt."

"Planned Guided Walk visits for groups will explore the site and visit areas for the iconic species such as Adder, Kestrel, Butterflies and Dragonflies. We are also taking private bookings for all of the events offered, so you are able to have your own bat walk or dawn chorus event. It would be a pleasure to have you visit us at Parc Slip."

The schedule of events can be seen here:

<https://tadornatours.co.uk/events/>

They are hoping to run events as soon as COVID-19 restrictions allow.

Past President Eleanor Vachell inspires Welsh chef

Those of you who read Andy Kendall's posts on the Cardiff Naturalists' Society blog will know that the family of Eleanor Vachell, our 64th and first female President, wrote to the Society telling us that she had inspired a dish on BBC2's 'The Great British Menu'.

Four competing chefs in each round of this programme are asked to invent and prepare dishes based on the theme of British invention and innovation. In the Welsh heats, Welsh scientists and innovators were the source of inspiration for the dishes.

In the episode 'Wales Mains and Dessert' (Series 16, episode 11), broadcast on 15 April 2021, Ali Borer, who is currently the head chef of the Nutbourne Restaurant in London, dedicated his main course, called 'A Botanist's Garden', to Eleanor Vachell, the first female president of Cardiff Naturalists' Society. She was described as one of Wales' most famous 19th century botanists.

Ali Borer's dish was made using red deer from the Rhug estate in Wales: barbequed loin, and faggots from the liver, back fat and some of the venison. The dish included blackcurrants cooked in brine, cep puree and pan-roasted ceps with shaved truffle, and a final flourish of wood sorrel.

The programme may still be available to view on the BBC iPlayer:

<https://www.bbc.co.uk/iplayer/episode/m000v4gv/great-british-menu-series-16-11-wales-mains-and-dessert>



Eleanor Vachell

Read more about the life of Eleanor Vachell on the presidents' pages of the Cardiff Naturalists' Society website:

<https://cardiffnaturalists.org.uk/htmfiles/150th-03.htm>

The Birds of Wales / Adar Cymru

Daniel Jenkins-Jones

On 1 July 2021, an important new book will be published that will add greatly to our understanding of the history of Wales' birds and their conservation, their current populations and what may lie ahead for them in the future.

The Birds of Wales (608 pages/hardback) tells the stories of all the birds that have ever been recorded in Wales, whether common or rare. It's published by Liverpool University Press and the Welsh Ornithological Society (WOS) and, **if you pre-order it before 30 June, you will pay £25, saving £20 on the cover price of £45.**

Edited by volunteers from WOS this book is a once-in-a-generation summary of the state of Wales' birds. It pools the knowledge and data gathered over the last century of all 451 wild bird species recorded in Wales, and also includes shorter accounts of more than 100 non-native species recorded 'in the wild'. The accounts for each species draw on the latest research and expertise from those who have studied birds in Wales and, of course, the records submitted from bird clubs and societies over the years including, of course, members of the Cardiff Naturalists' Society (CNS).

As you can imagine, with the rich ornithological history enjoyed by south east Wales, many of the sites and species familiar to members of CNS feature prominently in this publication. We're delighted to say that CNS receives a special mention in it as one of the earliest wildlife organisations in Wales.

An easy-to-read book, beautifully illustrated and with a wide selection of stunning images, it will have an essential place on the bookshelf of everyone with an interest in birds in Wales.

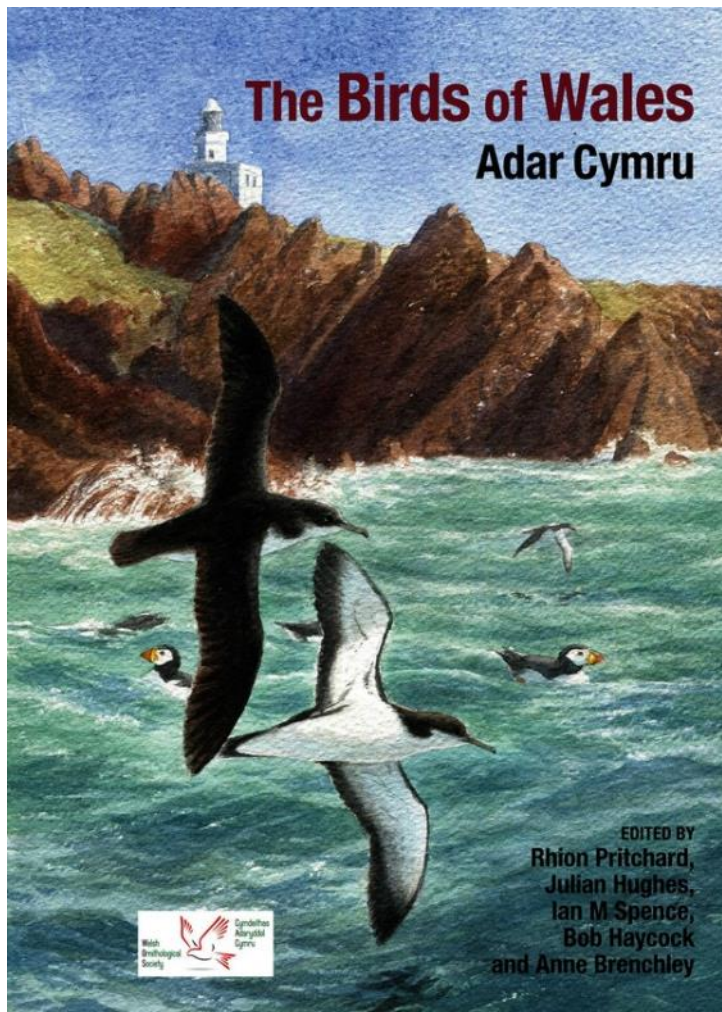
HOW TO ORDER

Use code 'WALES50' online or via phone to pre-order a copy for £25. The pre-publication offer is valid until 30 June 2021.

ONLINE: www.liverpooluniversitypress.co.uk/r/birds-of-wales

EMAIL: janet.mcdermott@liverpool.ac.uk

PHONE: 0151 795 2149



Skomer Island

Mike Alexander

Mike Alexander, chair of the Wildlife Trust of South and West Wales and former warden of Skomer Island for 10 years, has written a new book on the island's history and natural history, the most comprehensive guide to the island to date.

The book is illustrated throughout with the author's photographs of species and habitats, as well as previously unpublished archive photographs from the island's former farming families.

The publishers write: "Skomer is one of Britain's most spectacular National Nature Reserves, attracting tens of thousands of visitors a year and featuring regularly in magazines, radio and TV wildlife programmes. It is a haven for seabirds such as puffin and Manx shearwater, and the breathtaking displays of spring flowers, including coast-to-coast bluebells, give the island an almost unrivalled beauty. It is also one of the best-preserved prehistoric landscapes in Britain.

This book is the fruit of Mike Alexander's close connection with the island for almost 60 years, and will appeal to professional conservationists as well as amateur naturalists, birdwatchers and avid viewers of TV nature programmes such as the BBC's Countryfile and Springwatch.

The book can be pre-ordered online, with profits from sales going towards the work of the Wildlife Trust of South and West Wales:

<https://www.welshwildlife.org/shop/pre-order-skomer-island-by-mike-alexander/>



Last week there was an emergence of immature Large Red Damselflies from our pond. Unfortunately the resident House Sparrows were waiting to swoop and I saw at least three being snatched - their new wings sparkled in the sun as they fluttered away from the pond which made them vulnerable to predators. Text and photos: Mary Salter

The 'Petrels by Night' project

Starting in 2013, Bart Vercruysse and his colleague Pol Dewulf have visited Skokholm to photograph the seabirds. However, they soon realised that flash photography was disturbing the birds at night. They instead started to apply the techniques of infrared (IR) photography to capture images of petrels and shearwaters at night.

In 2014, Bart Vercruysse visited Skokholm with French photographer Eric Médard, whose book *Passeurs de Lunes* ('Moon walkers') summarises 25 years of experience with infrared night photography of bats, mammals and birds.

Following this, Bart Vercruysse launched the 'Petrels by Night' project, dedicated to photographing all the northwest Palearctic petrels and shearwaters in flight, at night, in their breeding territories.

To do this, Bart Vercruysse and Pol Dewulf developed their own system, including a series of flashes in waterproof IR boxes, positioned on four tripods. They adapt the system according to the behaviour of the different bird species and the different environments.

At the end of five or six years of fieldwork, they intend to publish a book of their nocturnal bird photographs. In the meantime, their images are available free of charge to parks, nature reserves, researchers and institutions.

More pictures and project updates can be found at www.bartphotovercruysse.com

Reference:

BB eye – Petrels by night. April 2021. Vol. 114, issue 4, pp 188-191:

<https://britishbirds.co.uk/content/bb-eye-%E2%80%93-petrels-night>



European storm-petrel (*Hydrobates pelagicus*) arriving at its nest in a stone wall on Skokholm, Pembrokeshire, September 2019.

Photo credit: Bart Vercruysse and Pol Dewulf

This extract from an entry in the "Report and Transactions", dated only one year after the Society was established, may prove of interest to present-day members. Field trips are a little different these days (when we are able to hold them)!

Mary Salter

CARDIFF NATURALISTS' SOCIETY "REPORT AND TRANSACTIONS" 1868-9

"The first field meeting of the year was held at the Cefn On Tunnel and Caerphilly on Tuesday, June 22nd. The members assembled at 10 a.m. at the Town Hall, to the number of about 80, with a fair sprinkling of ladies. Mr Adams, the president of the club, led the way in a fly, and like a prudent general went to mark out the line of march, and to arrange the disposition of his forces in the assault that was to be made upon the secrets of Nature. The rank and file followed in three brakes, each drawn by a pair of horses, and the masculine lines were relieved by the brilliant tints of the dresses of the ladies, who might be considered as the vivandieres, or daughters of the regiment. The whole company halted on the top of Thorn Hill, and proceeded in loose order, and by an irregular path, through picturesque and broken ground to Cefn On - which means the Ash Ridge – the first point of interest in the programme of the day. This is a part of a high range of hills, about 850 feet above the level of the sea, and marks the spot where the tunnel of the new Rhymney line passes through to Caerphilly. From this high position the view is magnificent and of varied character. To the south there is a green cultivated slope, well relieved with clumps of trees, with Cardiff and her docks and the Bristol Channel in the distance. On the north side the spectator could see the grand and rugged outline of Caerphilly Castle, embosomed in the midst of sombre-looking hills, which harmonize well with its gloomy and massive aspect. In the distance could be seen the lovely village and church of Bedwas, resting near the bottom of a range of sunny hills, cultivated to the very top.

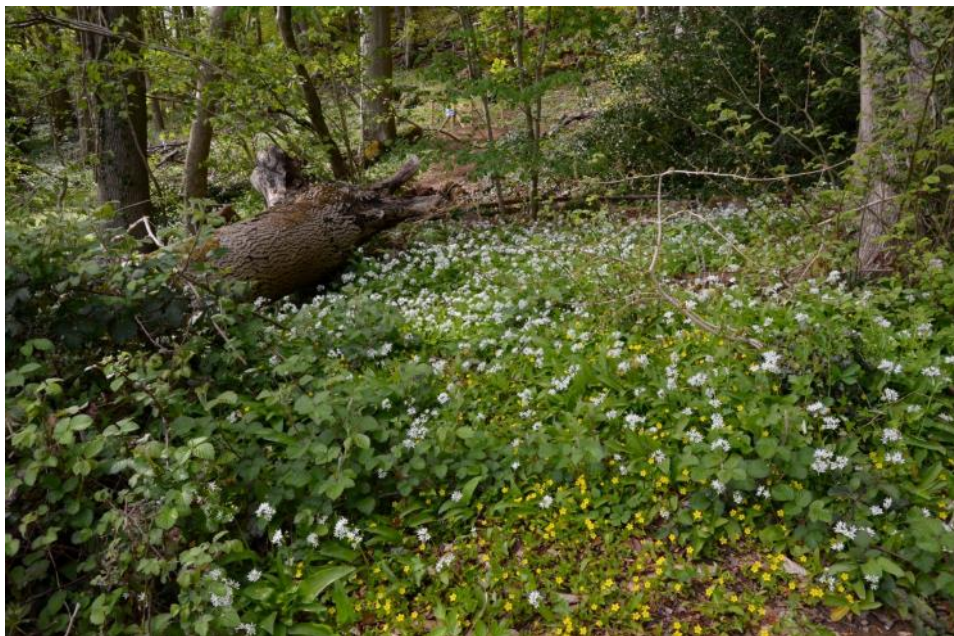
After a little time spent in the enjoyment of the scenery, Mr Adams read the following paper on, 'THE CHARACTERISTICS OF THE CEFN ON TUNNEL'"

(After the delivery of this very long paper the assembled members proceeded to the Van, Caerphilly, where a further paper was read to them! The entry then continues:)

"After this the party made their way to the Castle Inn, at Caerphilly, for the important purpose of refreshing the inner man. This was very necessary, after having been some hours on the mountain top. The dinner provided was ample and good, and reflected credit on the caterers. The repast was the more highly relished, in consequence of a fear of 'short commons' which had taken possession of the members, who were more than twice as numerous as dinner had been provided for."

(After dinner the Society examined a collection of mosses and lichens and listened to yet another paper! The report then continues:)

"The Society then visited the noble ruins of Caerphilly Castle ---- This brought the business of the day to a close, but the assembly continued to stroll for some time afterwards around the ruins, and examined the stones and mortar that enter into the composition of the still firm and strong masonry, and drew comparisons that were very unfavourable to our modern structures, with a few honourable exceptions ----The weather was very fine throughout the day, but sometimes the sky became overcast and seemed to threaten thunder and rain. Happily these gloomy signs, which by the bye, threw an additional sombre hue over the castle, disappeared, and the company returned home through Nantgarw soon after 8 o'clock, thoroughly pleased with their day of rational enjoyment. We sincerely hope that the Cardiff Naturalists' Society may grow and prosper, and be the means of doing much good to the town and neighbourhood of Cardiff."





*"Beech woods full of wild garlic with a smattering of bluebells and yellow pimpernel."
Photos (pp. 22-23) by Linda Morris.*



Speckled wood on celandine, Photo: Phill Blanning.

PRINTED BY GLAMORGAN VOLUNTARY SERVICES (GVS)

Published by the Cardiff Naturalists' Society © 2021

In contributing to the Cardiff Naturalists' Society Newsletter you agree to grant us a royalty-free, non-exclusive licence to publish and otherwise use the material through web as well as print publishing worldwide. This will be in the format of a pdf copy of the newsletter unless otherwise agreed with you. And may include the publishing of the material by the National Library of Wales who have requested permission to do so and are prohibited from altering the material in any way.

(See the **Newsletter Terms and Conditions on the Cardiff Naturalists' Society website** for the full terms of conditions.) It's important to note, however, that you still own the copyright to everything you contribute to CNS Newsletter and that if your images and/or text is accepted, we will endeavor to publish your name alongside it in the Newsletter and/or website wherever it is used.