WSBRC | Wiltshire & Swindon Biological Records Centre

COUNTY RECORDERS' REPORT 2022

Edited by: Chrysoula Drakaki

March 2023

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Introduction

This annual report includes contributions from the County Recorders of Wiltshire and Swindon outlining projects and recording activity that took place in 2022, as well as listing some significant sightings. The County Recorders are specialist volunteers who act as coordinators that receive and check records from across the county for a particular species group. We would like to thank them for generously providing their knowledge and expertise to support WSBRC and the Wiltshire and Swindon recording community.

In August 2022 we said goodbye to Claire Jones who left the role of the County Recorder for Birds. We would like to thank Claire for her work as County Recorder since 2020 and welcome Paul Castle, who has kindly agreed to cover the role. We look forward to working with Paul.

Wildlife recording relies on volunteer recorders and WSBRC values their efforts and contribution. We would like to take the opportunity to thank all volunteer recorders and recording groups that submitted their sightings in 2022. We would also like to thank the consultants that submitted their records and the various organisations that shared their data with us. We appreciate and value everyone's contribution to improving the database of species observations for Wiltshire and Swindon. Last but not least, we would like to thank our volunteers for their hard work and support.

WSBRC Update

In 2022 WSBRC expanded its project work significantly. This was the fourth year of the Curlew Call project and a new project—that will build on and expand the work of the Curlew Call project—was launched, the Waderscapes project. The bird monitoring work at the Langford Lakes Reserve continued in 2022, while Dipper ringing and monitoring was conducted at the By Brook River as part of the Wiltshire Wildlife Trust PEBBLE project. 2022 was also the second year of the Ancient Woodland Inventory Update for Wiltshire and Swindon project. In addition, WSBRC won tenders for two new projects, Wiltshire's Critical Species from Natural England and Nurturing Nature from Cranborne Chase AONB. Finally, WSBRC continued to deliver ArcGIS training and support to Wiltshire Wildlife Trust and other organisations.

In March 2022, Jon Isherwood was appointed WSBRC Manager. Since then two new members of staff have joined the team: Anna Cooper, in the role of Citizen Science Project Officer for the Nurturing Nature project and Rachel Georgiou as Project Officer.

Records: Chrys Drakaki

In 2022, the WSBRC database reached more than three million species records. At the end of the year, it held 3,186,867 records. The majority belongs to three taxon groups: Vascular (flowering) plants 37%, Moths 21% and Birds 19%.

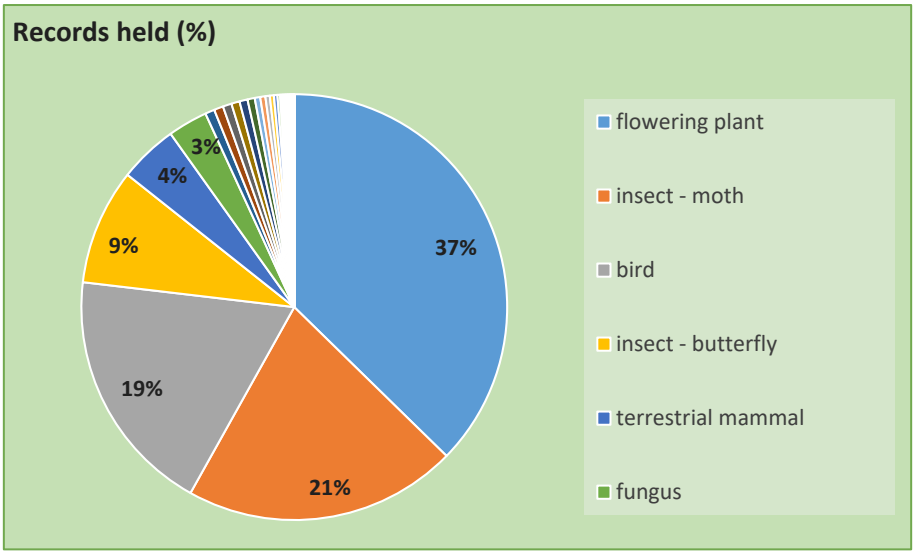

Chart 1. Taxon group representation in the WSBRC database, 31 January 2022

An increased number of species observations were added to the WSBRC database in comparison to 2021. In total, 317,524 records were imported during the 2022 calendar year. You can refer to Chart 2 for further details on total number of records imported per calendar year for the last seven years—please note that total numbers refer to records that are currently in our database.

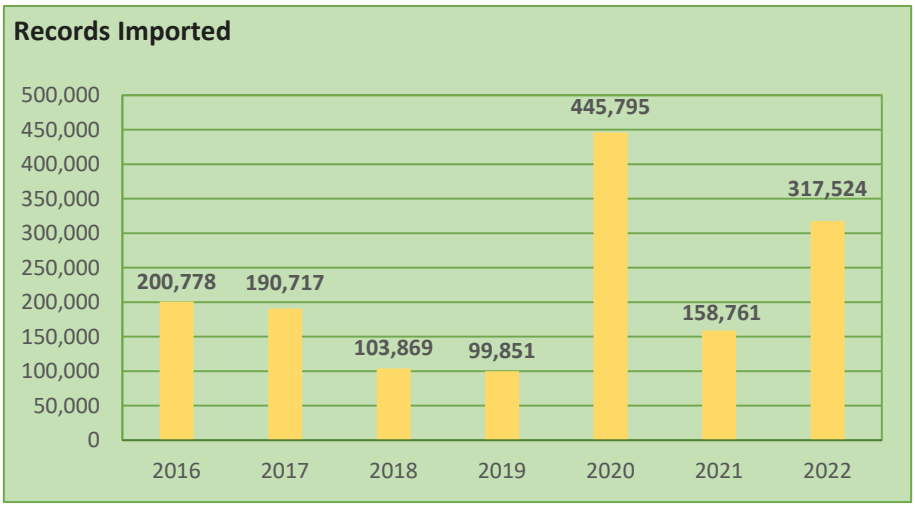

Chart 2. Number of records imported per calendar year

The majority of the records imported during 2022 were Moth records (45%), with imports of Flowering Plant records coming second (23%) and Butterfly records coming third (19%) (Chart 3).

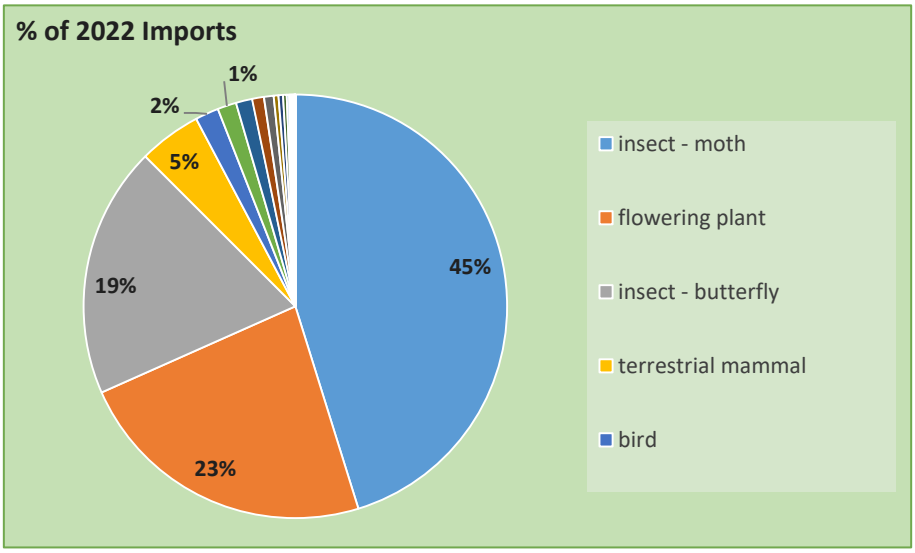

Chart 3. % of Imports per species group during 2022

Braydon Forest Project Work Update: Jonny Cooper

Since 2019 WSBRC has been involved in working to monitor and protect the breeding Curlew of the Braydon Forest. This work continued in 2022, while we also expanded our work in the area.

First to the Curlew; 2022 was a mixed year in many ways. We were able to once again monitor the known breeding pairs and we have fostered closer relationships with the landowners. As a result, we gained access to new areas to survey and helped advise on delaying cutting in areas where Curlew were thought to be nesting. We were also able to protect nests using electric fencing. As a result, two of the five pairs successfully hatched chicks. However, both pairs ultimately failed with the chicks being predated in the first 10 days.

The Braydon Forest also contains a declining population of breeding Lapwing as well as several species of over-wintering wading birds. In 2022, we secured funding to launch our Waderscapes project which will build on and expand the work of the Curlew Call project. We are working with landowners to monitor all wading birds on their land and supporting them to create a more wader friendly landscape.

Figure 1. Lapwing in flight, © Jeff Barber

This work is made easier due to the successful formation of the Braydon Forest Farm Cluster in June 2022. WSBRC works closely with the facilitator of this group to help protect and enhance the Braydon Forest area for wildlife and the environment.

Ancient Woodland Inventory (AWI) Update Progress: Euan McKenzie

Phases 1 and 2 of Wiltshire's Ancient Woodland Inventory Update were completed in July 2022, with an output dataset of 7,178 parcels of long-established woodland and wood-pasture, covering a total area of 259 km^2. These parcels are now being investigated with pre-1880 maps to determine which can be designated ancient (wooded since 1600 AD). So far around 440 such maps have been reviewed with the help of over 200 hours of volunteer time.

Figure 2. Braydon Forest, 1816, © Georeferencer

Field surveys are due to begin this season with the help of Wiltshire Botanical Society. These will focus on Ancient Woodland Vascular Plants and will help support decisions on woodlands that are less well covered by historical maps.

Nurturing Nature: Anna Cooper

In 2019, the Chase & Chalke Landscape Partnership Scheme was awarded a £1.68 million grant from The National Lottery Heritage Fund. The Nurturing Nature project is one strand of this wider Chase & Chalke scheme and is being delivered by us at the Wiltshire & Swindon Biological Records Centre. In November 2022, we recruited Anna Cooper who is the Citizen Science Project Officer for Nurturing Nature and is responsible for recruiting volunteers and organising training and survey work.

The Nurturing Nature project focuses on the distinctive flora and fauna of the Chase & Chalke Landscape Partnership area and aims to train over 100 people who have little or no experience in wildlife surveying to become 'biological recorders' on Cranborne Chase.

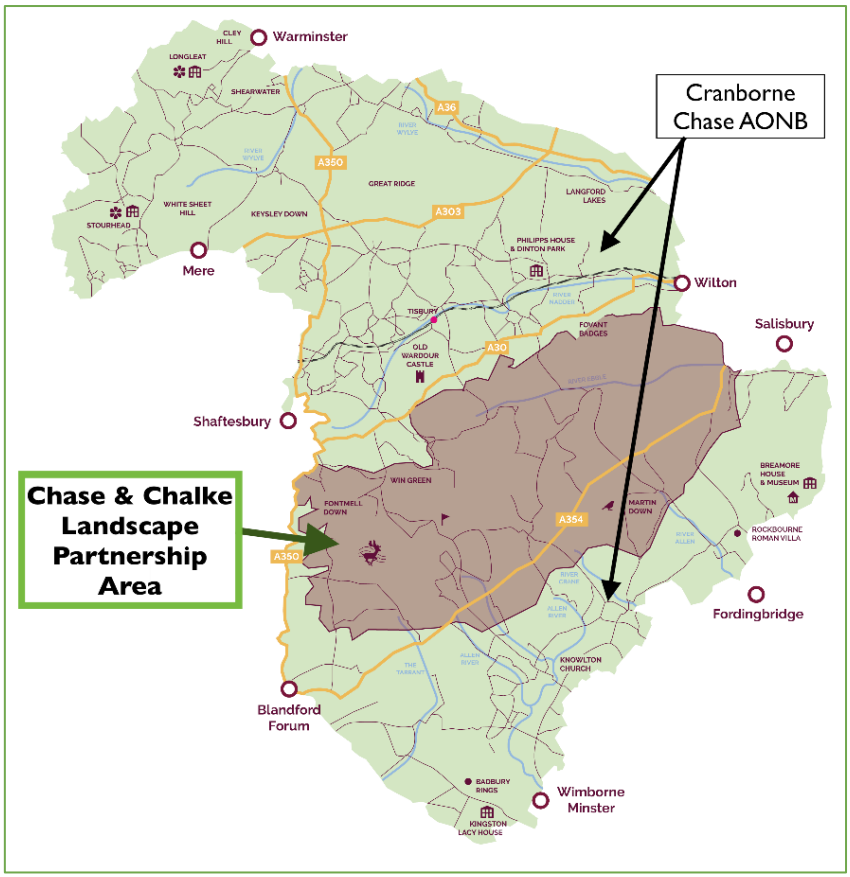

Figure 3. Chase & Chalk Landscape Partnership area

Working with local land managers and local communities, a diverse range of free training courses, talks and walks have been developed by the team that will train, mentor and support a new wave of wildlife surveyors to undertake an in-depth survey of these special habitats and species to help improve our understanding and take practical action to improve habitats through conservation work. Over the next few months the team will be delivering dozens of community events to reach out to local communities across Dorset, Wiltshire and Hampshire and tell people more about the training programme.

The training will be online as well as in-person across the Chase & Chalke Landscape Partnership area, with full details available from the project team and through the Chase & Chalke Volunteer and Training Hub. If you or someone you know would like more information on how to get involved, please email AnnaC@wsbrc.org

County Recorders' Reports for 2022

In this section you can find the reports submitted by the Wiltshire and Swindon County Recorders and their recording groups for 2022. If you wish to learn more, please contact the relevant recorder. You can find their contact details in the County Recorders' leaflet that you can download from the WSBRC website.

Amphibians and Reptiles: Gemma Harding

Records

There has been a good number of records reported this year—no unusual or significant records were noted. Most records were from toad patrol groups and consultants which seems to be an increasing trend, perhaps as public recorders utilise apps. There are still numerous records to approve from Living Record and Record Pool and we are hoping to get help streamlining this, this year.

This year the Wiltshire Amphibian and Reptile Group (WARG) were able to get out and survey a little bit more. The Smallbrook Toad Patrol Group in Warminster have submitted a good number of records and important information for the national toad monitoring project.

Figure 4. Great Created Newt at Sandpool, © Nick Goddard

Recording Events

WARG started a new survey project in conjunction with Wiltshire Wildlife Trust, surveying ponds at Sandpool Farm. The surveys found Smooth *Lissotriton vulgaris* and Great Crested Newts *Triturus cristatus* in the ponds. A small number of survey tiles for reptiles were also on site, and we recorded Slow Worms *Anguis fragilis* and Grass Snakes *Natrix Helvetica*.

Figure 5. Grass Snake playing dead at Sandpool, © Martin Sawyer

Future Projects

WARG have already planned a season of surveys at Sandpool Farm and Blakehill Nature Reserve. It is hoped we will progress on more recording events and try to encourage more submissions of public records to get a better picture across the county. Donations of roofing felt and corrugated iron are welcome.

Bats: Gareth Harris, Wiltshire Bat Group (WBG)

During 2022, survey and monitoring work continued to return to some degree of 'normal' akin to pre-Covid-19 levels. Although the guidance for mammalogists and bat workers remains in place to manage and minimise risks of native mammals catching Covid-19 from people, groups are now used to routinely wearing the necessary PPE at all times and managing the risks. Team sizes on survey events are typically smaller, and some surveys are undertaken less frequently, but conversely, landscape-scale acoustic surveys have been expanded and, if anything, the group is generating more data each year.

2022 was characterised by extremes of weather, commencing with a series of named storms during January – March (which caused considerable disruption to woodland bat box schemes), a dry spring, a blisteringly hot summer drought, followed by an above-average warm wet autumn, before rounding the year off with extreme rainfall and flooding. Climate change continues to be evident during our bat

monitoring in the county, ranging from the impacts of extreme storms upon woodland bat box schemes and tree roosts, to the deaths of bats in bat boxes during extreme summer temperatures. Warmer and wetter winters also impact the numbers of bats using underground hibernacula in the county. This leads the Group to reconsider how we deliver our monitoring in the face of climate change.

During 2022, Wiltshire Bat Group continued to see growth in the membership particularly of those with a more general interest in bats and natural history (rather than specifically consultants who are often engaging for the training opportunities). In combination with the expansion in the provision of training events and online talks for members, this resulted in an increase in records submission, often from general recorders and hobbyists—many of whom walked many kilometres during 2022 with their EchoMeter Touch bat detector generating hundreds of sound files. The Bat Group received several thousand records in this way, from infrequently-visited parts of the county, often resulting in records of pretty interesting species.

Savernake Forest

Monitoring of the bat boxes here continued and resulted in three encounters with the Barbastelle maternity group and some brilliant ring recoveries—most of the colony is ringed, and we are mostly just ringing juveniles now.

Figure 6. Forearm measurement being taken from a Bechstein's Bat, Braydon Forest 2022, © Gareth Harris

Braydon Forest

Monitoring of the original long-term bat box scheme, where we have a ringing study on Bechstein's Bat, continues with success. Elsewhere, monitoring of the bat boxes in another nearby woodland continued with good numbers of Brown Long-eared Bat, Natterer's Bat etc. recorded. The presence of batfly larval cases in the boxes offer tantalising evidence that Bechstein's (or Daubenton's Bat) may be using the boxes, but we are yet to encounter one. The third bat box scheme also continued with Brown Long-eared Bats, Soprano Pipistrelle and a splendid Noctule Bat.

Engagement with a new landowner also enabled expansion of our work here and we repeated some acoustic work on another site, having not visited it in some time despite catching Bechstein's here when we did.

Bath and Bradford-on-Avon Stone Mines

The annual hibernation checks continued on all sites, including those in the Bat SAC. Autumn swarming surveys continued on most key sites, albeit on a smaller scale in line with current Covid-19 guidance.

Trowbridge Woodlands

Keith Cohen et al. continued with the studies at these woodlands including the bat box monitoring and regular monitoring of the transect of tree roosts. Bechstein's Bat were encountered as well as other bat species, such as Noctule Bat and Brown Long-eared Bat, plus Horseshoe Bat monitoring in nearby buildings.

The Farmer Groups

Several of the farmer groups continued with their landscape-scale acoustic surveys, notably Simon Smart's coordination of work with the Pewsey Downs and Chalke Valley farmer groups. This work is generating large volumes of data (and thankfully the resource to fully quality check and verify the extensive outputs).

South Wiltshire Greater Horseshoe Bat Project

This project, coordinated by myself and Simon Smart, received further funds in 2022, enabling further work, including further acoustic surveys, dung beetle surveys, roost monitoring and some practical works.

Acoustic surveys delivered a large amount of data along the Woodford Valley (thank you to volunteer Peter Thompson), Chalke Valley and Pewsey Downs, The Donheads, Westbury, and elsewhere too.

Dung beetle surveys were delivered on a series of sites, continuing to generate novel data on a number of species and locations. Our thanks to Marc Arbuckle for his considerable work on the ID of these samples amounting to several thousand beetles. A joint event was held on Salisbury Plain in conjunction with Defence Infrastructure Organisation, the DELTA Salisbury Plain farmer group, and the Porton to Plain farmer group, with Dung Beetles for Farmers, in relation to the extensive dung beetle and bat surveys undertaken on the training area.

Perhaps most excitingly, construction of the new bat house was commenced and completed in the spring. Monitoring through the summer and current winter indicates it is already being visited, e.g. by roosting Greater Horseshoe and Brown Long-eared Bat, and acoustic monitoring suggesting visitation by Natterer's and perhaps also Barbastelle Bat too.

Roost monitoring as part of the Horseshoe project—including monitoring of the key hibernation sites of Chilmark Quarries SSSI and Fonthill Grottoes SSSI (resulting in counts of several hundred bats), as well as a series of smaller hibernation sites such as small quarries, grottoes, a lime kiln and church crypts—resulted in small numbers of Horseshoe Bats, Natterer's, Daubenton's, Barbastelle, Whiskered Bat and Brown Long-eared Bat.

Media work relating to this project included live interviews with BBC Radio Wiltshire in October 2022 and interviews with TisTalk (a Tisbury-based podcast) in December. A series of talks, presentations and guided walks were also delivered in 2022.

Figure 7. Natterer's Bat and Daubenton's Bat in hibernation, © Gareth Harris

As part of this work we continued with further research at Salisbury Cathedral, yielding further tantalising results but also confirming a roosting site of Brandt's bat in the roof space.

Cotswold Water Park

The monitoring of bats in the Cotswold Water Park continued, encountering the frequently encountered maternity group of Natterer's bat and the mating groups of Soprano pipistrelle. Monitoring of the bat house showed continued usage by Lesser Horseshoe Bat and Brown Long-eared Bat.

Barbastelle Bat, PhD Study

The Bat Group continued supporting the work of Kieran O'Malley, PhD researcher from the University of Sussex, Brighton, studying Barbastelle Bat. A number of WBG members supported his work in 2021 deploying static detectors to selected sites. During the autumn of 2021 and then in 2022, his methodology was tested further by trapping and radiotracking Barbastelle Bats to locate their roosts. In Wiltshire, this resulted in confirmation of 2 new maternity groups.

Species Highlights

2022 was a great year generating new records/locations for some of our rarer bat species, including Greater Horseshoe, Lesser Horseshoe, Bechstein's and Barbastelle Bat. A Bechstein's Bat was trapped at a new site near Tisbury, whilst Barbastelle Bats were trapped or recorded at several new locations. A Barbastelle was also re-trapped at a newly studied swarming site near Salisbury—it was ringed there 2 years ago.

2022 produced a number of new records of Nathusius' Pipistrelle, notably along the Avon south of Salisbury, but elsewhere too. Widespread use of static detectors is likewise generating a few records too, typically at times of the year associated with migration.

One of the roles of the Bat Group, and of the county recorder is, surely, to flag up records and species of note. So I'll end this report by shouting about two species in particular.

Leisler's Bat is a typically under-recorded species in any county, largely because it is typically scarce and overlapping call parameters with Noctule Bat and Serotine Bat lead to difficulties in acoustic ID. The good news is that widespread use of static detectors, and the careful ID, analysis and verification of records is leading to something of a surge in records. A pattern in distribution is beginning to emerge (and not just the geographic spread of recording activity).

So a nudge to those undertaking acoustic surveys, please look out for Leisler's Bat. It is seemingly more widespread than previously considered in the county, and whilst I would encourage some vigilance in areas of open grassland and downland, urban areas (such as Devizes) are also generating records. There remains some difficulty in ID of this species however, and for the time being at least, I will continue to request sound files to accompany records in most cases (so it would greatly help if you can submit those files with your records please).

The second bat worth shouting about is Brandt's Bat (but also, by extension Whiskered Bat and Alcathoe Bat). I have stated previously that Brandt's Bat remains a rare bat in Wiltshire, poorly known and barely studied. Away from swarming sites and hibernation sites, there are still unknown and unconfirmed, maternity roosts. So a plea to consultant ecologists and other fieldworkers; any records and roosts of Brandt's Bat, if confirmed, are probably more significant than Bechstein's Bat these days. If you record a suspected Brandt's Bat, please take a DNA sample to get it confirmed, and please record the biometrics and features you use to make your ID—because I will be in touch for further information to get the record verified. DNA confirmation is always welcomed because of the high potential for confusion with Whiskered Bat and also Alcathoe Bat—you don't want to be the person who overlooked the Alcathoe Bat!

It's also worth reminding recorders and consultants that Brandt's Bat in 99% (or 100%) of cases cannot be identified with confidence from acoustic records (regardless of what your EchoMeter Touch or auto-ID platform is telling you). If you submit such records, I will ask for supporting information and unless you do so, will 'reduce' the record to a 'Small Myotis' record.

Anyone who knows me will know that I like to end with Barbastelle Bat. I still encounter ecologists and bat workers who still think that this species is so rare that it's unlikely to be recorded during surveys. And so I will keep mentioning how frequently we record Barbastelle Bat to continue raising the profile of how widespread this species is in Wiltshire. It is indeed typically found at a low density, but it is widely spread, and I don't know of anywhere in Wiltshire I wouldn't expect to encounter one—I have seen them foraging around streetlights in Trowbridge. It remains concerning that few fieldworkers (outside of WBG's projects) submit many, if any, Barbastelle records—so they are being overlooked. Please look harder.

Incoming Records

As in previous years, 2022 is looking like another productive year, and the Bat Group is on course to generate several thousand records once again. The acoustic surveys of the South Wiltshire Greater Horseshoe Bat Project are perhaps responsible for a sizeable chunk of this, but the combined efforts of all of the Bat Group projects and its membership and the Farmer Groups, is generating thousands of records each year too.

It's also worth noting that increasing numbers of records are arriving via apps and online recording platforms, most notably iRecord, with this platform being favoured by consultants in particular. Many consultants now submit screenshots of sonograms to support some bat records (such as Horseshoe Bats and Barbastelle) and this is a great way to improve the value of your records. Verifying the records mentioned above is typically straightforward, being generated by experienced bat workers and with an abundance of supporting evidence such as sound files, DNA confirmation, biometrics etc.

Finally, a growing area of interest is the acoustic recording by bat workers of terrestrial small mammals, typically as bycatch in static detector surveys. Recent work by Stuart Newson and the BTO Acoustic Pipeline, the forthcoming book from Neil Middleton et al, and the recent talk to Wiltshire Bat Group by Stuart Newson, is really raising the profile of the value of these records. The South Wiltshire Greater Horseshoe Bat Project is generating a small number of such records each year now, including of Common and Pygmy Shrew, and occasional Water Vole and Harvest Mouse.

A plea from me; even when platforms such as BTO Acoustic Pipeline suggest with confidence that a file may contain a small terrestrial mammal species, they are often incorrect and so such records will only be verified and accepted if submitted with the original sound file. But please do submit these records because they do make a difference, particularly for species like Pygmy Shrew, where we receive few other records.

Thanks and Acknowledgements

The list of people, landowners and organisations who support and enable the Group's various projects is vast, from the Group members, many farmers and landowners, to the owners of roosting sites and organisations who provide funding and support. Our funders include Defence Infrastructure

Organisation, Natural England and Cranborne Chase AONB FiPL—if anyone has been omitted, my apologies! Bat conservation efforts in Wiltshire continue to grow and are underpinned by effective partnerships to do so. Long may that continue.

Beetles: Marc Arbuckle

Over the last 2 years I've spent a lot of my spare time gazing down a stereomicroscope identifying specimens from dung beetle surveys carried out across South Wiltshire and the Salisbury Plain Training Area (SPTA)—a project initiated by the Wiltshire Bat Group.

Dung beetles are important ecological indicators and a valuable source of food for birds and mammals including the Greater Horseshoe Bat. Monitoring their status and abundance can provide important data in regard to the ecological 'health' of each survey site. Sadly, many of our dung beetles are in decline, with over half of the species categorized as either Regionally Extinct, Critically Endangered, Endangered, Vulnerable or Near Threatened*.

The major threats are loss of permanent pasture; degradation through pasture improvement; cessation of grazing; changes in grazing regimes and the use of endectocides as a prophylactic treatment for livestock.

Wiltshire had relatively few dung beetle records prior to the initiation of this ongoing project. It's been a huge learning curve for me personally but incredibly interesting. To date, we've recorded a total of over 8,000 specimens of 26 species and it's hugely gratifying to add records for nationally scarce species like *Agrilinus constans*, (and for Wiltshire) locally scarce species like *Acrossus depressus*, *Acrossus luridus*, *Limarus zenkeri* and *Nimbus obliteratus*.

Figure 8. Farmer Andrew Carter with Gareth Harris and Marc Arbuckle at Standlynch Farm, Downton, South Wiltshire, © Colin Hawkins

My thanks must go to Darren Mann, Linda Losito and Mary-Emma Hermand for their help with verification, to Gareth Harris, Simon Smart and Pete Thompson for their time and effort collecting the specimens and of course to the tenants and landowners for granting permission.

Other interesting species recorded this year include:

***Anatis ocellata* (17 March 2022)**

Paul Darby found an Eyed Ladybird (Coccinellidae) in his garden in Oare. This is our largest ladybird, unmistakeable with yellow rings around its black spots—a conifer specialist associated with Scots Pine, Douglas Fir or Larches. My Wiltshire records show that Paul last found this 30 years ago from Little Foxes Meadow near Minety.

Figure 9. Anatis ocellata, © entomart

***Ocypus fuscata* (27 March 2022)**

Antony Coles from Foxham found this rarely recorded rove beetle (Staphylinidae) wandering around his garden patio. This appears to be the first record in Wiltshire since 1938.

***Arhopalus rusticus* (18 July 2022)**

Mike Smith from Calne found this Dusky Longhorn Beetle (Cerambycidae) in his garden MV moth trap—a first for North Wiltshire. Interestingly he has recorded this species before in August 2019 from Tilshead in South Wiltshire, which was a first for the Salisbury Plain Training Area.

***Scymnus schmidti* (4 August 2022)**

Mark Gurney recorded this tiny (2.4 – 2.6 mm) inconspicuous ladybird (Coccinellidae) while surveying on the National Trust's Calstone and Cherhill Downs. A first for Wiltshire.

***Sitaris muralis* (6 August 2022)**

Roger Beckett found a single specimen of this nationally rare Flame-shouldered Blister Beetle (Meloidae) in his garden in Hilperton, near Trowbridge. Rediscovered in the New Forest in 2010, this beetle is a parasite in the nest of the Hairy-footed Flower Bee *Anthophora plumipes*. This is the most north westerly record for this species in Wiltshire. Previous records have come from half a dozen sites in the SE corner of Wiltshire near Salisbury. This species was first recorded in Wiltshire in 2017 by Stuart Roberts. On the 22 August 2022 Roger found another 8 specimens.

Figure 10. Sitaris muralis, © Bart Van Hoof

***Dorytomus filirostris* (10 May 2019 – verified 10 August 2022)**

During a workshop hosted by weevil expert Mark Gurney, Mark noticed that one of my *Dorytomus longimanus* specimens collected from Foxham by Antony Coles on the 10 May 2019 was in fact the much rarer *Dorytomus filirostris* (Curculionidae). Another first for Wiltshire.

Figure 11. Dorytomus filirostris, © Mark Gurney

***Limarus zenkeri* (15 August 2022)**

I identified a single example of this scarce dung beetle (Scarabaeidae) from amongst a number of specimens sent to me by Gareth Harris which he collected from horse dung in Bentley Wood. A first for South Wiltshire and last recorded in North Wiltshire over 30 years ago.

Figure 12. Limarus zenkeri, © Udo Schmidt

***Typhaeus typhoeus* (28 October 2022)**

Simon Smart found a single male specimen of the distinctive Minotaur Beetle *Typhaeus typhoeus* (Geotrupidae) while conducting a dung beetle survey at Pepperbox Hill SSSI near Whiteparish.

Figure 13. Typhaeus typhoeus (male), © Udo Schmidt

My thanks as always go to all the lovely people who continue to send me records, photos and particularly specimens. It's much appreciated.

References:

* LANE, S. A. and MANN, D. J, 2016. A review of the status of the beetles of Great Britain (Lucanidae, Geotrupidae, Trogidae and Scarabaeidae), Natural England Commissioned Report NECR224.

Birds: Paul Castle

I would like to thank Claire for her hard work as Wiltshire Bird Recorder over the past two years. She has stepped down due to a change of career. I have been editor of the Wiltshire Bird report from 1992 to 1996 and 2006 to present, and I have also now taken on the County Recorder role.

In 2021, we received more than 155,000 bird records, many sent direct to Wiltshire Ornithological Society (WOS) and WSBRC but also submitted via apps such as BirdTrack, eBird, and iRecord, which make bird recording more accessible and encourage observers to submit records whilst surveying in the field, which can include photographs and sound recordings. We are also starting to receive some nocturnal sound recordings of birds calling whilst on night-time migration. We will collate the 2022 records later this year.

At the Cotswold Water Park in 2022, five pairs of Great White Egrets bred, Marsh Harriers and Bitterns also bred, whilst Black-headed Gulls and Common Terns nested on the specially provided rafts. Elsewhere, Cranes fledged two young. Whilst the male Montagu's Harrier returned, sadly he failed to find a mate. Willow Tits are just hanging on as breeding birds with two young reported. Also, singing male Turtle Doves were still present but Nightingales now seem to have disappeared as breeding birds. Tree Sparrows had a good season with 1,318 young fledged from nest boxes on the Marlborough Downs. Goosanders nested again on the Salisbury Avon and Peregrines fledged young in Salisbury and Swindon.

Langford Lakes is now one of the premier wader sites in Wiltshire, with a Pectoral Sandpiper staying for three weeks in September – October. Wood Sandpiper and Ruff were also recorded there and at the Cotswold Water Park. Also, at least three White-tailed Eagles from the Isle of Wight reintroduction project visited the county during 2022.

Figure 14. Common Tern, © Pete Blanchard

It was a good year for rare warblers with an Icterine Warbler at Langford Lakes in July, a Yellow-browed Warbler at Coate Water from October into November, a Dusky Warbler at Bradford-on-Avon throughout December, and a Dartford Warbler at Swindon in November and December. Also, a Rose-coloured Starling was at Purton in June.

January was a good month for scarce winter visitors with a Great Northern Diver, Scaup and six Pink-footed Geese at the Cotswold Water Park; four White-fronted Geese at Langford Lakes; a Red-throated Diver at Corsham Lake; a Snow Buntings at Mere Down and Roundway Hill; and a Glossy Ibis at Langford Lakes in March.

Butterflies: Mike Fuller

The 2022 Butterfly Season

Unlike 2021 when the season started quite late, the fine early spring weather suited most of the spring species and many flourished in the fine weather commencing in March, the sunniest on record and driest for 25 years. It then remained generally favourable, culminating in the heatwave just after mid-June and continuing into the 14th of August. I expect many of you will remember the summer of 1976 and 2022 appears to be heading the same way. Several summer species are 'burning out' quickly, their larval foodplants withering and it does not bode well for the 2023 season. Certainly in 1977, many species numbers crashed and recovery was slow. Worrying wildfires, particularly on the MoD land on Salisbury Plain, are also a cause for concern. The late autumn fine weather encouraged several species to have good second and even third generations, achieving latest ever county record dates.

Skippers

Dingy and Grizzled Skippers did well on their favoured sites with some high numbers were reported. As in 2021, there were a few sightings of singletons where they hadn't been seen for several years or at all. The Large Skipper was first reported on the 17th of May with some double-figure counts at several sites. The Small Skipper was first reported on the 7th of June and also did well. Only ones and twos of the very similar Essex Skipper were reported, most recorders 'moving on' having identified it from Small Skippers. Silver-spotted Skippers emerged well on Perham Down with a maximum of 41 on the 29th of July and numbers peaked at 61 on the 10th of August on Porton Down.

Whites and Yellows

Brimstones and Orange-tips both did very well in the spring and were still being reported in mid-June. Of the three 'common' whites, the Large, Small and Green-veined, the latter was commoner than of late. It was another Clouded Yellow year. A singleton was reported on the 28th of April, followed by 4 in May, and a maximum of 115 reported in August. Five were observed in November, the last one on the 20th with a total of 332 for the year; the highest total since 2013.

Browns

Speckled Woods were common in several woodlands in the autumn, one on the 17th of November equalled the latest county record set in 2011. Walls had an excellent season with some high numbers reported—443 of the first generation and 807 of the second giving an annual total of 1,250, the highest since numbers compiled. Meadow Browns and Ringlets emerged in large numbers during June and Small Heath did well in late spring but was scarce after mid-July. The Grayling is still clinging on as a Wiltshire species with 7 seen on the 1st of August at its only known site in the far south at RSPB Franchises Lodge reserve.

Figure 15. Grayling on gravel, Burnt Ground Heath, 14 Aug 2022, © Mike Lockwood

Fritillaries

Sadly, there was only one possible report of Small Pearl-bordered from Bentley Wood and two more were seen in a nearby wood. So not yet extinct in the county. Pearl-bordered did encouragingly well at its few woodland sites in the South East. Highest count was 21 on two Bentley Wood transects in May. The Marsh Fritillary had another good season and was reported once again from sites in the north of the county where it was 'discovered' in 2020. The first Dark Green was reported on the 10th of June on DTE SP(E) Windmill Hill and the Silver-washed on the 12th of June at Green Lane Wood. Both went on to have good but not exceptional seasons.

Figure 16. Small Pearl-bordered Fritillaries, © Roy Cowley

Glanville Fritillaries were reported once again from White Sheet Hill near Mere. The first on the 13th of May, peaking at 22 on the 28th during a Wiltshire Branch of Butterfly Conservation branch visit. The final two faded specimens were seen on the 15th of June—a 4 week flight period. It is beginning to look as if the colony is self-supporting and the species could be added to the Wiltshire list, replacing the Small Pearl-bordered Fritillary.

Figure 17. Glanville Fritillary, © Luke Hepples

Nymphs

White admiral continued to be reported from most of the county's woodlands but in numbers generally less than ten and often just ones and twos, possibly due to the scarcity of Honeysuckle, its sole larval foodplant, growing in the 'right' conditions. The Purple Emperor was first reported on the 28th of June from Bentley Wood and had a good but short season. It was reported from its usual woodland areas of Grovely, Savernake Forest and nearby woodlands, and Everleigh Ashes. Also, more sparingly from Cranborne Chase woods, Black Dog Woods, RSPB Franchises Lodge and Great Ridge Wood. One assumed vagrant was found dead at Upper Upham near Aldbourne.

Overwintered Small Tortoiseshells, Peacocks and Commas were all commonly reported and Commas, in particular, were common in the summer. Small Tortoiseshells have also been widely reported with some impressive counts during June including 30, 57 and 83. This could be the best season since 2015, building on the improvements of the last two years. Many, together with Peacocks, entered exceptionally early hibernation. Painted Ladies were widely reported following an influx from the continent in mid-May. However, the anticipated abundance later in the summer and autumn was disappointing. In January, 13 Red Admirals were reported and at least 64 hibernating individuals. They were commonly seen in each month but like the Painted Lady, autumn numbers were much below par with no high numbers reported from ivy blossom.

Duke of Burgundy

Duke of Burgundy did well on Shaston Ridge with several double-figure counts and maximum 35 counted on Dean Hill. But elsewhere, it was generally encountered in small numbers on its very local sites. It flourished on the site near Marlborough with 39 counted on the 17th of May. Mike Lockwood found a few eggs along the Boscombe Down disused railway cutting where a single adult was reported last year.

Hairstreaks

They were all rather elusive and the Green Hairstreak appeared to have a rather poor season with mainly single-figure counts. The first was reported on the 14th of April on Battlesbury Hill where a maximum number of 20 was seen on the 5th of May. The first Purple was reported on the 16th of June and had its worst year ever on the Picket Wood evening transect which commenced in 1981. However, some early morning counts in Green Lane Wood by Luke Hepples contradicted this—40 on the 19th of July with several low down. The elusive White-letter Hairstreak was reported from 18 sites, mainly singletons, although 10+ were reported at three sites. As usual, there were only a few reports of adult Brown Hairstreak, whereas coordinated egg searches found eggs in 29 new tetrads.

Figure 18. Brown Hairstreak, © Stephen Davis

Copper and Blues

The first generation Small Coppers were mainly ones and twos with a maximum of c.10 in Calstone Coombes, although 160 widely reported. The summer/autumn generations' total was only 306, but it had a long flight period with two and probably three generations. The last one was seen on the 4th of November.

Holly Blue had an excellent first generation with 612 reported with maximum vistas of 7. Early emergence on the 19th of March and last on the 17th of June, a three-month flight period. The summer generation was disappointing, although there was a small third in September with 4 reported—the last on the 13th. Small Blue did well and also had a small third generation in September with 6 reported—the last on the 14th.

Silver-studded Blues had a great season at Landford Bog where John Martin counted 47 on the 17th of June. His previous highest count was 33 in 2014. It had its best season since monitoring began in 2010. The only other site we have is at the RSPB Franchises Lodge reserve where 19 were counted at Burnt Ground Heath on the 21st of June. Both Common Blue and Brown Argus had disappointing first generations but did very well in late summer and autumn with probably a small third generation in October. Both achieved new latest county record dates on the 3rd and 4th of November respectively.

The first generation Adonis Blue excelled. Numbers on Calstone & Cherhill Downs were amazing, with a group of 75 photographed at a small damp patch of chalk and Matthew Oates counted 650 in 4 hours on the 27th of May. On the Bratton Castle transect the maximum count was 99, including at least 20 jostling on one small piece of dog poo. The Index of Abundance (IoA) value of 260 is the 2nd highest since monitoring began in 1980—the highest being 400 in 1982. Chalkhill Blue also did well. However, at our best site, Clearbury Down south of Salisbury, less than 1,000 were recorded where in the recent past thousands have been counted.

As usual, there will be many more up-to-date details in the Annual Butterfly Report, which should be available in April 2023. My thanks to all who submitted records, comments etc., enabling a detailed account of our 45 butterfly species to be produced.

Dragonflies and Damselflies: Rosie Ray

This has been an unusual year in terms of Dragonfly recording. As well as the warm spring which saw many of the early emergers like the Large Red Damselfly, Downy Emerald Dragonfly and Hairy Dragonfly on the wing by mid-April, the summer drought hit many other species hard.

Being part of the Action for Insects team, led by Michael New, I went to more sites than I would normally fit in. Fortunately, there are many volunteer recorders who send me records from much of Wiltshire, but there are still some unrecorded areas which will be targeted in 2023.

Bay Meadows, which was first visited in August, had several terrestrial insect species but only one dragonfly noted and that was a Common Darter. On closer inspection of the stream, it was very clogged up with water plants and not running freely. Also, bankside vegetation was encroaching into the water. With careful management, I'm sure there will be more species of Odonata making use of this prime water course.

Bentley Wood—which was visited in May—had a water course, but again, not free flowing and quite shallow. Broad-bodied Chasers were recorded here but nothing else.

Blackmoor Copse, also visited in May, had a good population of Odonata on the large pond including Downy Emerald Dragonfly, Broad-bodied Chasers and Large Red Damselflies. Another visit later in the season would probably show more species. The banks were well managed and the water was clear.

Figure 19. Broad Bodied Chaser, © Rosie Ray

I only managed three visits to **Blakehill** during the year and observed one Emerald Damselfly, one Migrant Hawker and several Common Darters. The pond levels were severely affected by the drought which would have contributed to this.

Figure 20. Migrant Hawker dragonfly, © Rosie Ray

Conigre Mead proved to be a good site for invertebrates mainly thanks to the abundance of wild flowers. Shield bugs, spiders, butterflies and bees were recorded as well as both species of Demoiselle Damselfly and, a first for this site, White-legged Damselflies.

Figure 21. White Legged Damselfly, © Rosie Ray

Distillery and Emmett Hill Meadows was another good site for invertebrates—especially bugs and the beautiful Forester Moth. This was visited in mid-summer and, although there was a running water course and pond, no Odonata were recorded.

I only visited **Jones's Mill** twice—early in the season in April and again in October. There were no dragonflies or damselflies present on either occasion. However, the habitat was well suited for Odonata and I'll check it out again next year.

At **Langford Lakes** Michael and I did a 'Dragonfly Walk' in mid-summer, which had around half a dozen attendees. Unfortunately, the weather was awful and, consequently, the only species noted were Brown Hawker and Common Blue Damselfly. However, I have been here many times and, during warm weather, the site is buzzing with many species of Odonata.

Figure 22. Brown Hawker dragonfly ovipositing, © Rosie Ray

Lower Moor Farm had a lot of species throughout the season including Downy Emerald, Hairy, Migrant Hawker, Southern Hawker, Broad-bodied Chaser, Black-tailed Skimmer, Brown Hawker, Emperor, Four-spotted Chaser, Ruddy Darter, Common Darter and Lesser Emperor Dragonflies. Plus an unexpected visitor, a Norfolk Hawker, that was potted first by Heather England and verified by myself three days later. It's a complete mystery how it got there but there was no doubt about the ID. It attracted quite a lot of attention for the 10 days or so that it was there.

Figure 23. Norfolk Hawker, © Ellis Warbler

Small Red-eyed Damselflies made an appearance in mid-summer and Migrant and Brown Hawkers flew late into autumn. We also did a 'Dragonfly Walk' here on a warm, sunny day and had 8 attendees—of which three have since sent in records. Damselflies included, Large Red, Common Blue, Azure, Large Red-eyed and Small Red-eyed, Blue-tailed and Scarce Blue-tailed. One species missing from this site this year was the Emerald Damselfly. Historically they were numerous on the ponds in the Education Area of Lower Moor but, since the Covid-19 lockdowns, the ponds have had little or no maintenance and the reeds have completely taken over. The larger of the two ponds was completely dry on the last visit in early October and the smaller one had about an inch of water. This will also impinge on the amphibian population including the Great Crested Newts which used these ponds for breeding. The bankside adjacent to Mallard Lake could also do with attention. It has become very overgrown and the usual emergence places are now buried under overgrown bushes and bankside vegetation.

Figure 24. Large Red Damselfly, © Rosie Ray

Morgan's Hill, as its name suggests, is high on the Wiltshire Downs. Not really a place to find dragonflies but the wooded area at the car park was suitable for hawking dragonflies as they often hunt along woodland rides. However, none was recorded at any of the three visits.

Morningside Meadows has a canal running through it but only Common Darters were noted. This site was visited in September, so another one next year earlier in the season could provide more species. Although, the water quality may not be suitable for many.

Figure 25. Common Darter dragonfly, © Rosie Ray

Ravensroost had a large variety of invertebrates in the woodland but no large dragonflies seen hawking along the rides. However, the pond area had Southern Hawker, Emperor, and Common Darter Dragonflies as well as Common Blue, Large Red and Emerald Damselflies. Volunteers regularly maintain the pond in the wood as well as the main pond in the meadow. The woodland pond is a habitat for newts which may explain the lack of dragonflies.

Figure 26. Emperor dragonfly ovipositing, © Rosie Ray

Sandpool had Migrant, Southern and Brown Hawkers, Emperor, Downy, Hairy, Ruddy Darter and Common Darter Dragonflies. Plus, Common Blue, Blue-tailed and Azure Damselflies. The pond and water course at this site was completely dried up during the drought so time will tell what, if anything, will emerge next year. However, a lot of work has already been done to widen the rides at this site and the larger dragonflies were seen hunting along them.

Upper Waterhay was first visited at the end of August. Southern, Migrant and Common Darter Dragonflies were noted plus Azure Damselflies. Another visit, early next season, should provide more species as there is a large lake nearby.

Last but not least, I must mention Willow Emerald Damselflies. I have had records, with photographs, from the Westbury and Shrewton area in the middle of the county and the eastern section of the Cotswolds Water Park (Wilts, Glos, Oxon border). All records are confirmed. This is very exciting for the coming season and shows how far this iconic species has spread.

The last record for 2022 was of Common Darters ovipositing on the 22nd of November at Lower Moor.

Flies: Marc Taylor

As the new 'boy' I would like to start by offering my thanks to my predecessor Anthony Bainbridge, who was not only County Recorder for Diptera for more years than I can recall, but who played a contingent part in recording continuity through choppy seasons past at WSBRC. Thank you Anthony, I still hope our paths cross in the field seasons to come.

The 2022 field season saw 219 records from 9 recorders. However, a further 125 records from as far back as 1986 were supplied during the period and have been verified.

I contacted all those who had supplied records for 2021 and 2022. This was to introduce myself, glean what I could of their level of enthusiasm and to enquire where we could take Diptera recording in 2023. Their feedback tells me we need to offer some field based sessions to support them whilst recording and a significant number expressed an interest in workshops where honing ID skills could be offered. To this end, I'm exploring sources of funding for the kit which once purchased can be used by other groups. I don't however want to reinvent the wheel, therefore, if any ID kit/resources are known I'd be obliged to know of it and where it is stored.

Presently, the UK list for Diptera contains 109 families and 7,342 species. Wiltshire has at least one record from 81 families and a species list of approximately 1,540. I say approximately as a number of entries are to family/genus level only. We can reconcile the difference between the national list and our county list by recognising we have no mountain, coastal or ancient pine forest habitats which hold species found nowhere else, to name but a few limitations to finding species.

To add to the approximate nature of the figure, my observation is that previously a number of species—which are commonly recognised as requiring morphological examination using a microscope—have been recorded. Some at distance whilst nectaring on flowers and without the benefit of a hand lens being used and from 2021 these have been determined as 'Requires Confirmation', following a dialogue with the recorder in each case.

Last summer I undertook four Diptera surveys at Cloatley Meadows, Emmett Hill Meadows (including Upper Minety), Morgan's Hill and Oysters Coppice WWT Reserves for the Action for Insects project. This resulted in 21 families being recorded, 42 genera and 56 species. Total of 140 specimens were recorded, three of which are still being worked upon to establish species level identification. These and subsequent developments and other taxonomic amendments will be added in a revision of the 2022 dataset once all verifications have been completed. So far, the surveys produced 14 previously unrecorded species.

Table 1. Action for Insects project surveys, previously unrecorded species

Species	Genus	Family	Site
Anthomyia liturata	Anthomyia	Anthomyiidae	Emmet Hill Meadows
Brontaea humilis	Brontaea	Muscidae	Oysters Coppice
Coenosia tigrina	Coenosia	Muscidae	Morgan's Hill

Species	Genus	Family	Site
Delia pallipennis	Delia	Anthomyiidae	Emmett Hill Meadows
Dolichopus cilifemoratus	Dolichopus	Dolichopodidae	Emmett Hill Meadows, Oysters Coppice
Dryomyza anilis	Dryomyza	Dryomyzidae	Emmett Hill Meadows, Oysters Coppice
Epicampocera succincta	Epicampocera	Tachinidae	Cloatley Meadows
Morellia hortorum	Morellia	Muscidae	Cloatley Meadows
Neomyia viridescens	Neomyia	Muscidae	Morgan's Hill, Cloatley Meadows
Gogoplata aestiva	Gogoplata	Anthomyiidae	Cloatley Meadows, Emmett Hill Meadows
Phasia barbifrons	Phasia	Tachinidae	Morgan's Hill
Phryxe vulgaris	Phryxe	Tachinidae	Cloatley Meadows
Pollenia pediculata	Pollenia	Polleniidae	Cloatley Meadows
Sarcophaga villeneuve	Sarcophaga	Sarcophagidae	Cloatley Meadows

The lower than expected number of records and their breadth in terms of families/genera was due to the effects of the mid-July extremely high temperatures in the area, with a peak recorded nearby in Swindon reaching 37°C and a period of almost a fortnight where temperatures remained around 25°C. Such was the effect of the desiccation that Morgan's Hill—whilst worked hard for several hours—produced 10 species, albeit with two new county records. Visiting Oysters Coppice in October, allowing for new emergence and its wetter nature, produced twice the amount.

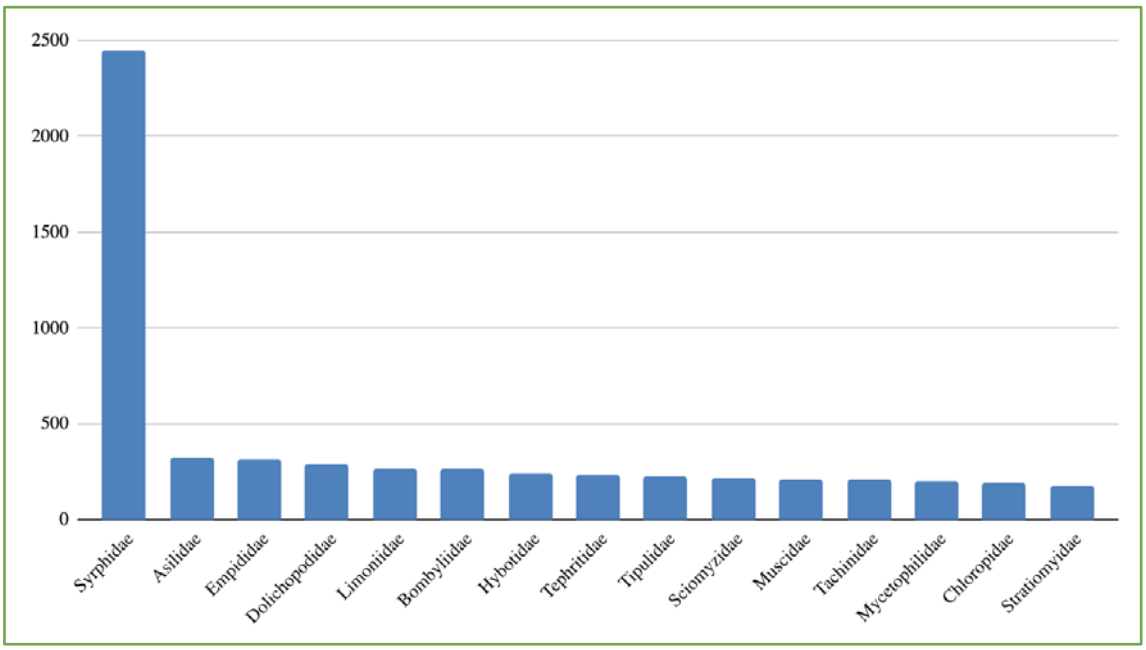

Chart 4. Top 15 families recorded to January 2022

The graph above shows that the 'charismatic' Hoverflies, Syrphidae, are by a long way the most recorded family of flies. However, just this year we have seen advisory caution being offered as new species and species splits are being announced. Could this peg back any rise in that bar? After Hoverflies we see a very steady, but shallow reduction in bar height for the next 14 families. The off the shelf explanation will be recorder bias, that may be a statement of fact. However the provision of modest amounts of training in the field and through workshops—such as The British Entomological and Natural History Society - BENHS offer—has seen the increase in records supplied to Family recording schemes such as: Hoverfly Recording Scheme, Sarcophagidae Recording Scheme and Soldierflies and Allies Recording Scheme.

Figure 27. Hornet Hoverfly Volucella zonaria, © Ralph Harvey

These are three of the 29 Diptera family recording schemes of which ID workshops have seen accurate records generated at/from all levels of identification skill as verifiers are on hand. Indeed, the training is so prized that the Dipterist Forum runs an annual residential fly studying weekend. Held in February at Preston Montford FSC, most families have been covered and some more than twice over the 20 years they've been running and the draw is having national experts on hand as tutors. I myself have attended 10 of them and much learning comes by way of the long lasting friendships and access to the tutors for years after the workshop—I believe 'networking' is the name. The other pertinent point here is that most recorders, when affiliated or as members of these schemes, send records to them directly or digitally. Another of my tasks will be to see how many schemes supply the county its records and how to formalise such a practice.

Dipterist Forum are holding their spring field meeting in Wiltshire over the weekend of 19-21 May 2023. The idea would be to look at a handful of chalk river and grassland sites, including hopefully one or two on MOD ground on Salisbury Plain. These plans are still being worked on and I will keep you all informed as soon as firm details become available.

So wrapping things up for my first report, we have recorders who for 2021/22 at least have supplied records and I've been in touch with them. These discussions point the way to a lack of ID confidence and the wish to have training indoors and outdoors. Wearing my hats as BENHS council member as Lanternist – training workshops organiser, and member of the Dipterist Forum committee, I will work

in 2023 to review training needs, organise some reserve based recording and ID training sessions and plan longer term to bring tutors to Devizes, Langford and Blakehill study rooms and get some reference collection based ID workshops running. Longer term, I wish to get round more reserves to add to the four surveys from 2022, make this a rolling effort and in time conducted by trained volunteers. UKCEH has several Targeting Revisits Schemes for: Grasshoppers and Bushcrickets (since 2020), Craneflies (since 2021), Ground beetles (since 2021), Soldierflies (since 2021) and Ladybirds (new for 2022). The idea is to highlight 'well recorded' squares (with records from more than one year) and squares that are 'targets for revisits' (with records from only one year in the past). This idea is being adopted for hymenoptera and I see no reason why it cannot be undertaken for Diptera as well as part of training/survey events after reviewing a reserve's records.

Thanks for your time. Here's to a successful recording, successful training and successful sharing season.

Mammals (excl. bats): Gareth Harris, Wiltshire Mammal Group (WMG)

As mentioned above in the Bat Report, 2022 was characterised by extremes of weather. The impacts of climate change are becoming increasingly evident in species such as Hazel Dormouse and Harvest Mouse (of which, more later).

Hazel Dormouse

Hazel Dormouse monitoring continued at almost all sites and was compliant with Covid-related guidance. As in previous years, over 20 sites were regularly monitored for dormice across Wiltshire; some of these are coordinated by Wiltshire Mammal Group members, others are coordinated by local groups specific to their sites (such as Wildlife Trust reserves, National Trust sites and so on). During 2022 the Group used the new dormouse footprint tunnel methodologies to assess dormouse activity. At one site where Dormice are well known, the tunnels were used to assess activity levels on different hedgerows and habitats across the site. On a second site, a Wildlife Trust reserve, the tunnels were used to try to establish if Dormouse continued to be present, but unfortunately, the weight of evidence now suggests they are extinct at this location. At a third site, they were also used to assess for presence. Our thanks to those delivering these surveys and to Stella Maddock whose kind donation in memory of her late mother, a Group member, enabled the purchase of this equipment.

Figure 28. Dormouse footprints recorded using footprint tunnels, © Gareth Harris

Harvest Mouse

Wiltshire Mammal Group (WMG) continued with its ongoing programme of Harvest Mouse nest surveys in 2022, delivering 7 training/survey events across the county (mostly targeting under-recorded areas), involving over 60 people, and finding over 40 nests. A huge thank you to all who helped this year, both leading and attending events, and in particular to the landowners who kindly hosted us. This year, once again, our surveys were part of the Mammal Society's National Harvest Mouse Survey.

Interesting to note that we found many fewer nests than in 2021 (despite doing more events) and this is in part (I think) attributed to the weather conditions of summer 2022—the prolonged drought resulted in much of the long grass dying back prematurely, and in some parts of the county grass fires too. Interestingly, the warm wet autumn saw the vegetation growing season somewhat extended and as a result, freshly woven green nests of Harvest Mice were recorded well into December and occupied nests were found in late November. Whilst such events may occur every year, it does feel like 2022 has been a tough year for wildlife such as Harvest Mice—but no, I can't support that with hard data, so don't give me a hard time.

Elsewhere in the county, Anna Forbes and the Action for River Kennet (ARK) Project conducted further surveys at their reserve Stonebridge Meadows in Marlborough, and Tisbury & District Natural History Society and RSPB Winterbourne Downs also supported surveys.

Hedgehogs

2022 saw WMG launch a new study upon Hedgehogs. This was following an invite to promote Hedgehog conservation to a local gardening club in 2021 and led to a partnership project with many of the villagers there supporting us. A Natural England project licence was secured enabling us to catch and apply individually-numbered spine tags to a small number of Hedgehogs. During the pilot study in 2022 we tagged 25 animals and monitored the movements of most of these animals, supported by a network of villagers with hedgehog feeding stations and a few camera traps, supplemented by weekly walked transects. These are two key aspects to this work; firstly the people engagement aspects providing opportunities for promoting Hedgehog conservation, and secondly developing the evidence base to support habitat and land management improvements. We plan to continue this work in 2023.

Figure 29. Hedgehog wearing spine tags, © Gareth Harris

Figure 30. Female Hedgehog participating in the spine tagging study, © Gareth Harris

Water Vole Survey

WMG is increasingly concerned about the health of the Water Vole populations in the county and has raised these concerns with relevant organisations. Catchment-scale Water Vole surveys were undertaken widely in the county in the 2000s – 2010s by organisations such as the Wildlife Trust. But survey activity has declined since then, largely due to a lack of resource to do so. Consequently, Water Vole records in the county are becoming increasingly old, and out-of-date. Greater survey efforts are required in the county from all parts of the environment sector.

Mustelids

In a year very similar to 2021 in this regard, 2022 saw widespread reports of Otters, and only a small number (in relative terms) of Polecat, Stoat and Weasel. The current dearth of Rabbits across the county must surely be impacting these species.

American Mink were reported, and trapped, at a number of locations. We strongly encourage submission of sightings of Mink and their field signs, and we're keen to hear from keepers and land managers undertaking Mink control—Mink control has an absolutely essential role in Water Vole conservation.

Rabbit and Brown Hare

Rabbit numbers remained low as in previous years across much of the county. Although the spring offered signs of recovery, numbers had largely crashed again by the autumn. There were localised reports of apparently healthy numbers but, alarmingly, healthy Rabbit populations are reportedly being targeted by poachers. Perhaps further indication that numbers are generally quite low.

As Rabbit numbers remain low, I wonder what impact this has upon our predators, especially Stoat and Polecat (but not forgetting Red fox and avian predators too) and can only presume times are tough for them too. I would therefore encourage people to keep an eye on their local Rabbit populations—conduct regular counts of adults and juveniles on your regular walks and see if they show signs of recovery.

Details of the research relating to disease in Brown Hares, how to report them, and how to submit their carcasses for research at the University of East Anglia may be found here. Dr Diana Bell and her team at the University of East Anglia, who is leading the research on Hares, reiterated the need to remain vigilant and to continue reporting instances of dead/dying/diseased Hares. There have been several reports of diseased Hares this winter.

Eurasian Beaver

A 2022 round-up cannot be complete without mention of Beavers. It seems that Beaver numbers in the county have reached the threshold at which more and more people are actually noticing them, after a period of several years in which they stayed largely under the radar of most people. So it's worth reiterating that Beavers haven't 'suddenly' arrived in the county and neither have they been recently released here (although they may have moved in from elsewhere).

Figure 31. Evidence of beaver foraging, Semington Brook, January 2023, © Gareth Harris

Going forwards, there will need to be greater planning and partnership working as the county welcomes, and adapts once more, to returning beavers. We stand to gain much from their wetland engineering but it's imperative that nature conservation bodies work together to support landowners and problem-solve together where and when required.

In the meantime, everyone is encouraged to please report beavers and their field signs to Wiltshire Mammal Group to help us monitor their distribution and colonisation of the county. If people are worried about disclosing locations in a public form or recording system, then please contact me directly to discuss (wiltsbatrecords@gmail.com).

Recording and Submitting Records

Recording activity is generally increasing, with more records submitted each year, in particular via online platforms such as iRecord and the Mammal Society's Mammal Mapper app. Added to this, a number of recording schemes recently transferred considerable records onto iRecord for its verifiers to address, check and verify. Most notably, in 2022 this included the British Trust for Ornithology who made available many tens of thousands of non-bird records collected during surveys that its volunteers undertake.

There are a variety of ways to submit records to us—iRecord and the Mammal Society's Mammal Mapper app will be our preferred henceforth, although Living Record is still supported. Several members send in regular updates via our template recording spreadsheet.

Events

In addition to the Harvest Mouse survey events, the Group hosted additional events including online talks relating to the use of trained detection dogs in ecology, and face-to-face training in Dormouse ecology and survey techniques. In December, the Group delivered another winter walk to promote recording of mammals and encourage member involvement.

All events were well supported, promoting recording, mammal ecology, and raising well-need funds for mammal conservation.

Moths: Wayne Clinch

2022 was a good year for moth recorders. The high temperatures and southerly winds in July and August brought in good numbers of migrant moths and many recorders reported new species for their gardens. This included ten Convolvulus Hawk-moths, three Striped Hawk-moths, a Portland Riband Wave and Eastern Bordered Straw—both of the latter are new for the County. Other notable macro moths were Cosmopolitan and Dog's Tooth. The hot weather also resulted in the scarce migrant micro moth Beet Moth *Scrobipalpa ocellatella* becoming nationally abundant. With only three previous Wiltshire records of this species, recorders were now counting this species daily in double figures, with my highest daily count being forty-four.

Figure 32. Beet Moth Scrobipalpa ocellatella

Another exceptional micro record and first for Wiltshire was Comfrey Ermel *Ethmia quadrillella*. The photo below was the moth recorded in Swindon by Graham Deacon on the 19th of July 2022, but a second was recorded on the 21st of July 2022 at Farley by Laurie Evans.

Figure 33. Comfrey Ermel Ethmia quadrellella (New for the County)

Table 2. New to the County

Taxon	Vernacular	Site	Date
Coleophora inulae	Fleabane Case-bearer	Farley	08/08/2022
Triaxomasia caprimulgella	Small Timber Clothes	Farley	26/06/2022
Ethmia quadrillella	Comfrey Ermel	Farley	21/07/2022
Ethmia quadrillella	Comfrey Ermel	Swindon	19/07/2022
Pammene ignorata	Devon Piercer	Pitton Ridge	22/05/2022
Cydia servillana	Sallow-shoot Piercer	Farley	19/05/2022
Idaea degeneraria	Portland Ribbon Wave	Hilperton	28/08/2022
Hellothis nubigera	Eastern Bordered Straw	Salisbury	23/06/2022

Hawk-Moths and Clearwings

Clearwing moth records continue to increase with many recorders using pheromone lures to attract this family of moths. The table below shows the count in 2022 for each species. New to the list is the Sallow Clearwing.

Table 3. Clearwing species record count

Clearwing Species	Record count
Hornet Moth	2
Lunar Hornet Moth	10
Large Red-belted Clearwing	1
Red-tipped Clearwing	5
Sallow Clearwing	8
Orange-tailed Clearwing	20
Red-belted Clearwing	11
Yellow-legged Clearwing	4
Currant Clearwing	9
Six-belted Clearwing	3

Table 4. Hawk-moth species record count

Hawkmoth Species	Record Count
Elephant Hawk-moth	390
Poplar Hawk-moth	328
Humming-bird Hawk-moth	216
Privet Hawk-moth	223
Small Elephant Hawk-moth	102
Pine Hawk-moth	81
Eyed Hawk-moth	41
Lime Hawk-moth	27
Convolvulus Hawk-moth	13
Narrow-bordered Bee Hawk-moth	6
Striped Hawk-moth	3
Broad-bordered Bee Hawk-moth	0

Table 5. Notable micro-moths

Taxon	Vernacular	Site	Date
Caloptilia honoratella	Pale Maple Slender	Swindon	25/08/2022
Agonopterix atomella	Greenweed Flat-body	West Yatton Down	09/06/2022
Ethmia quadrillella	Comfrey Ermel	Swindon	19/07/2022
Monochroa lucidella	Buff-marked Neb	Swindon	08/07/2022
Mirificarma lentiginosella	Greenweed Groundling	Wylye Down	17/05/2022

Taxon	Vernacular	Site	Date
Mirificarma lentiginosella	Greenweed Groundling	West Yatton Down	09/06/2022
Gelechia rhombella	Apple Groundling	Amesbury	03/08/2022
Pseudotelphusa scalella	Black-spotted Groundling	Somerford Common	05/07/2022
Elachista bedellella	Grey Dwarf	Wylye Down	17/05/2022
Elachista gangabella	Yellow-barred Dwarf	West Yatton Down	09/06/2022
Spuleria flavicaput	Yellow-headed Cosmet	Somerford Common	26/05/2022
Merrifieldia leucodactyla	Thyme Plume	Pewsey Downs	12/07/2022
Hellinsia carphodactyla	Citron Plume	SPTA Imber	27/08/2022
Aethes piercei	Devil's-bit Conch	Farley	09/06/2022
Cochylidia implicitana	Chamomile Conch	Swindon	13/08/2022
Epinotia tetraquetrana	Square-barred Bell	Farley	03/06/2022
Gypsonoma aceriana	Rosy Cloaked Shoot	Swindon	17/07/2022
Gypsonoma aceriana	Rosy Cloaked Shoot	Hilperton	28/07/2022
Epiblema sticticana	Colt's-foot Bell	Salisbury	05/05/2022
Cydia strobilella	Spruce Seed Moth	Salisbury	09/05/2022
Cydia servillana	Sallow-shoot Piercer	Farley	19/05/2022
Pammene giganteana	Early Oak Piercer	Salisbury	22/03/2022
Pammene giganteana	Early Oak Piercer	Salisbury	24/03/2022
Pammene giganteana	Early Oak Piercer	Farley	15/04/2022
Oncocera semirubella	Rosy-striped Knot-horn	Farley	18/07/2022
Pempelia genistella	Gorse Knot-horn	Franchises Lodge	19/07/2022
Pempelia genistella	Gorse Knot-horn	Salisbury	19/07/2022
Pempelia palumbella	Heather Knot-horn	Franchises Lodge	19/07/2022
Acrobasis tumidana	Scarce Oak Knot-horn	Swindon	27/07/2022
Apomyelois bistriatella	Heath Knot-horn	Salisbury	08/08/2022
Loxostege sticticalis	Diamond-spot Sable	Marston Meysey	02/09/2022
Loxostege sticticalis	Diamond-spot Sable	Swindon	03/09/2022
Loxostege sticticalis	Diamond-spot Sable	Burbage	04/09/2022

Figure 34. Caloptilia honoratella, Swindon, the second Wiltshire record

Table 6. Notable macro-moths

Taxon	Vernacular	Site	Date
Idaea muricata	Purple-bordered Gold	Franchises Lodge	19/07/2022
Idaea degeneraria	Portland Ribbon Wave	Hilperton	28/08/2022
Ptilodon cucullina	Maple Prominent	Burbage	15/08/2022
Utetheisa pulchella	Crimson Speckled	Cricklade	27/10/2022
Utetheisa pulchella	Crimson Speckled	Farley	27/10/2022
Macrochilo cribrumalis	Dotted Fan-foot	Swindon	14/07/2022
Macrochilo cribrumalis	Dotted Fan-foot	Chippenham	10/07/2022
Trisateles emortualis	Olive Crescent	Franchises Wood	29/07/2022
Trisateles emortualis	Olive Crescent	Bentley Wood	30/07/2022
Eublemma purpurina	Beautiful Marbled	Woodfalls	13/10/2022
Eublemma purpurina	Beautiful Marbled	Riverside	03/08/2022
Heliothis nubigera	Eastern Bordered Straw	Salisbury	23/06/2022
Sedina buettneri	Blair's Wainscot	Woodfalls	07/10/2022
Dryobota labecula	Oak Rustic	Salisbury	28/10/2022
Lacanobia suasa	Dog's Tooth	Swindon	03/08/2022
Leucania loreyi	Cosmopolitan	Chippenham	13/11/2022
Noctua janthina	Langmaid's Yellow Underwing	Salisbury	30/07/2022
Noctua janthina	Langmaid's Yellow Underwing	Salisbury	10/08/2022
Noctua janthina	Langmaid's Yellow Underwing	Wilton	30/07/2022
Noctua janthina	Langmaid's Yellow Underwing	Wilton	14/08/2022

The Records

55,500 plus records have been submitted for the year, most of which come from our regular recorders, but also include 2022 data from iRecord, iNaturalist and Living Record. Our MapMate database currently holds approximately 688,933 records. 1,165 species were recorded—649 micro-moth and 516 macro-moth species. The submitted records covered 44 10km squares, 83% of Wiltshire's 10km Squares.

Moth Recording Form

The moth recording form is continually updated; new scientific names have been added. The Wiltshire status for the micro-moths has been included and many other minor updates have been made. The form can be downloaded here.

Facebook

Our Facebook page is popular and provides an efficient way of communicating with the mothing community and allows for timely species ID confirmation.

Vascular Plants: Richard Aisbitt

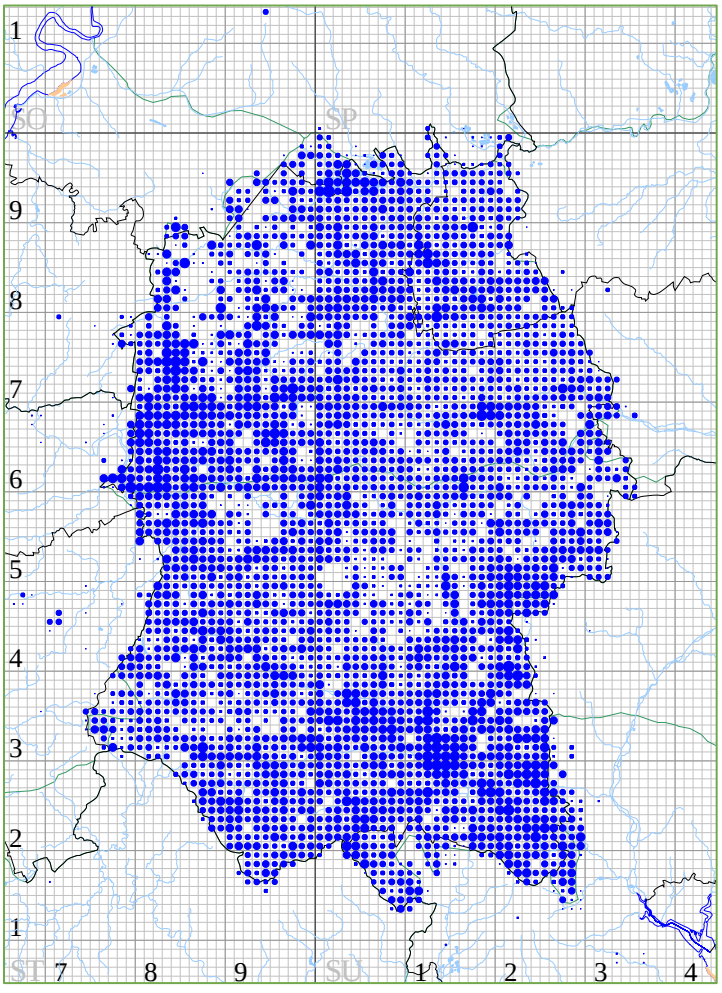

Figure 35. Wiltshire species density, 2000 plus, 26 Jan 2023

Recording in 2022

Members of the Wiltshire Botanical Society want to reach a good enough coverage of Wiltshire within the next two years to publish a new County Flora (there have been four floras so far, going back to 1858—or five, if you count Aubrey's 1847 'Natural History of Wiltshire'). Visits to under-recorded kilometre squares during 2022 added over 25,000 records and filled many gaps. The map shows the current coverage; a blob touching the sides of its kilometre square represents a tally of about 270 different plant species. Downloads of records from other schemes—iRecord, iNaturalist, Living Record—and data sharing with WSBRC brought in another 40,000 records, many from earlier years.

Rare Plant Register

Martin Buckland has completed his update of the Wiltshire Rare Plant

Register (RPR). He gives details of 336 taxa that are county or nationally scarce or rare. There are habitat and other details for each species, a record list when appropriate, and some distribution maps. This RPR follows the 2006 version written and published by Sharon Pilkington. It is a major achievement, both by Sharon and by Martin.

Field Meetings

The Wiltshire Botanical Society had a full programme of spring and summer visits within the county. Excursions to Brean Down in Somerset and Fritham in the New Forest were out-of-county highlights.

Training

Six students completed the Identiplant course with Wiltshire tutors. This course, designed by Brenda Harold, has now been adopted by the Botanical society of Britain and Ireland (BSBI). From the BSBI website:

> Do you want to learn to identify plants correctly, confidently and accurately, to learn to use a flora and to follow a botanical key? Identiplant could be the answer. Created to take near beginners to an intermediate level, Identiplant is for those who want to get started with serious botany.

The course is full this year, but enrolment for 2024 will open in December 2023.

Notable Plant Finds

We continue to see more halophyte species: Grass-leaved Orache *Atriplex litoralis* is a new find in VC7. It was found along with Lesser Sea-spurrey *Spergularia marina*, which is increasingly common. Also, Buck's-horn Plantain *Plantago coronopus* can now be found on many salted roadsides.

Figure 36. Buck's-horn Plantain Plantago coronopus, © Richard Aisbitt

Another salt-lover, Danish Scurvygrass *Cochlearia danica*, first recorded in Wiltshire on the M4 motorway in 1990, continues its colonisation of major roads. It comes into flower in March forming white bands along the roadside.

Beggarticks *Bidens frondosa* has been found along the Kennet and Avon Canal in VC6 Somerset, but had not been recorded in Wiltshire. Suspecting it should also be in Wiltshire, Dave Green searched eastwards along the Kennet and Avon Canal and finally found five plants growing out of canal-side masonry at Murhill in VC8.

Until recently, Common Lady's-mantle *Alchemilla filicaulis subsp. vestita* was the only Alchemilla recorded in Wiltshire apart from Garden Lady's-mantle *A. mollis*. Dave (he keeps spotting rarities) noticed that one of his Alchemilla finds looked odd and re-determined it as Silky Lady's-mantle *A. glaucescens*, a northern species. This was confirmed by the BSBI referee Mark Lynes. It may have arrived on imported limestone chippings.

Figure 37. Silky Lady's-mantle Alchemilla glaucescens, © Dave Green

A colony of Green Hound's-tongue *Cynoglossum germanicum* was a surprise find on Salisbury Plain. How this rare Schedule 8 species got to this isolated spot is a mystery. The plant is also known in Swindon where it is thriving at several sites, but there it is known to be a deliberate introduction.

Figure 38. Green Hound's-tongue Cynoglossum germanicum, © Alex Prendergast