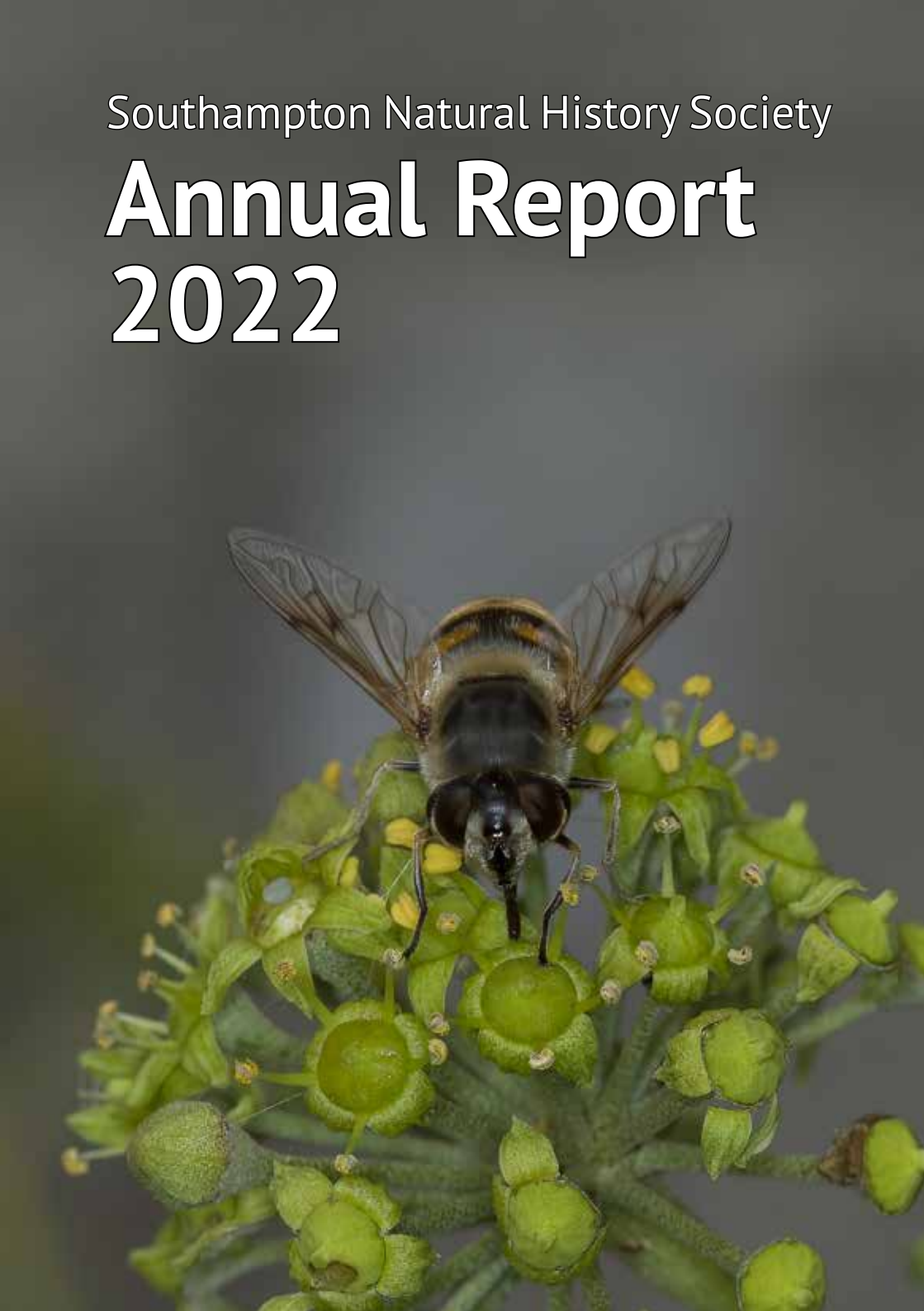
Southampton Natural History Society

Annual Report 2022



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Cover photograph - *Eristalis tenax* **Drone Fly** Bevois Valley, Mike Creighton.

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The 2022 Annual Report

Jan Schubert, Secretary

Welcome to the Annual Report of the Southampton Natural History Society for 2022. Although restrictions following the pandemic continued to ease during the year, we still made use of Zoom for many of our meetings! Many people seem to enjoy being able to attend these talks from the comfort of their own home and we intend to have more Zoom talks in the coming year.

As always, we would welcome your views on this and on any other aspect of the Society's work. Please email us with any views to ***admin@sotonnhs.net***.

Once again, thanks to Daphne Woods for providing many of the reports from the meetings we did manage during the year.

Don't foget to join our Facebook Group which has become a virtual meeting space – ***facebook.com/groups/SotonNatHistSoc***.

Membership Report for 2022

Sue Channon, Membership Secretary

Thanks to the lifting of most Covid restrictions, we were able to arrange a programme of 9 field meetings for 2022. We continued the Zoom talks by local naturalists as Edmund Kell Hall was still unavailable for hire.

We were pleased to welcome new members Viv Cronin, Charley Farley, Terry Crow, Andy Murdock, Helen Boyce, Mary Cockerill, Sue Burford, Nicki Wisby and Geoff Frampton.

We were sorry to have received notice of the death of Jean Velecky.

The total number of members as at 31st December 2022 was 135.

John Vetterlein

A Remarkable Man

We were sorry to hear of the passing of John Vetterlein earlier this year. A true friend of the Society and an active member.

We are delighted that one of his friends, Bruce Larner, has offered a few personal memories as a tribute for the Annual Report.

A sad loss to family, friends and all who knew him. RIP John.

Phil Budd

I was so sorry to hear the sad news that my good friend John Vetterlein, aged 75, passed away in hospital on Monday 6th February. His family were at his bedside.

John's passion was Butterflies. He was an avid photographer of them and over several years had led numerous well attended Wildflower and Butterfly walks in the Old Cemetery. JV aka 'The Hat' (as he had one for all weathers) was incredibly well informed on flora and possessed a wonderful cheeky sense of humour.

During his walks he would invariably find something edible. Having just informed everyone that all parts of Yew trees are poisonous, he then proceeded to offer them some berries, which are actually delicious, but came with a warning to spit out the pips as they are also poisonous!

Another old chestnut was the Trojan Horse plants, actually Wood Anemones – Wooden Enemies! Oh John, not again!

Back in February 2019 he had organised a wonderful exhibition at the 'Harbour Lights Cinema' of his best butterfly pictures called 'Chasing Butterflies'. This event was incredibly well attended and afterwards John admitted that he had felt quite overwhelmed at the response.

In May and June of that year he had also led two walks for 'Home Educated Children'. The first was incredibly popular and afterwards John said that he had felt like the 'Pied Piper of Hamelin'! Consequently for safety reasons the second walk a month later was much smaller. However, the result for one lucky young lady was truly remarkable as they came across a freshly hatched Marble White butterfly that with John's guidance settled on her hand. Her T shirt said 'Always believe that something wonderful is about to happen' and it certainly did for her! Well done JV, what a remarkable man you were and a true butterfly expert.

Rest in peace my friend in the knowledge that you brought so much joy to so many folk, you will be greatly missed.

Bruce Larner

Conserving Hampshire Swifts

Catharine Gale

Illustrated Talk November 2022

Swifts have similarities with swallows and martins but are not related to them. They belong to the family Apodidae meaning having no feet. There are 92 species found on all continents except Antarctica and their nearest relatives are humming birds.

Swifts can be recognised in flight by their short, forked tail and long swept-back wings. They are dark in colour with a pale patch on their chin. They emit loud screams when flying at high speeds in groups between buildings near their nest sites – a characteristic behaviour known as a screaming party.

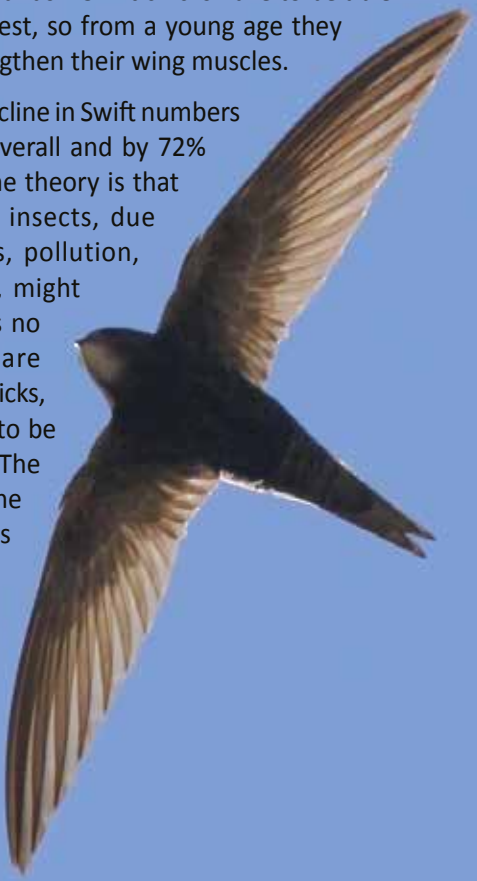
They spend most of their life in the air, flying on average a staggering 500 miles a day. They sleep, mate and feed on the wing and only land to nest. They are the fastest bird in level flight reaching 69 mph. They drink while flying low over water. Swifts cannot perch. They have short legs and tiny feet which enable them to cling to vertical surfaces.

Swifts winter in much of the southern half of Africa, flying north to Europe and Asia to breed and are tracked using geolocation. In spring they migrate along the Atlantic coast via Liberia, with stops along the way to coincide with the mass emergence of insects after the onset of rains. One Swift took just 5 days to travel 5000 km from West Africa to the UK. They spend the shortest time here of any migrant bird, arriving in April and departing in August. They breed from 4 years of age and the oldest Swift recorded was 21, though most of them live between 6 and 10 years.

Swifts are site-faithful, meaning they return to the same nest site every year. On arrival here in Spring they rely on being able to use the nest site they used previously. Swifts nest in holes or crevices in buildings, usually high up under the eaves. A series of photos showed almost unseen entrances to natural Swift nesting sites under tiles, behind drainpipes, under eaves, in soffits, and in old pipe holes in brickwork. Swifts' nests are invisible from the outside. Almost all natural Swift nest sites are in older buildings. It is very rare to find Swifts

nesting in modern buildings because current building techniques mean there are usually no holes or crevices that allow them to access a safe place to nest.

Swifts build a very rudimentary nest, made of material they catch on the wing, mostly feathers and bits of grass bound loosely together with saliva. Swifts usually lay 2 eggs, sometimes 3. They collect up to 1000 insects a time to feed the young, held as a bolus in a pouch in their throat. Rearing chicks takes at least 9 weeks, longer than most birds. Swift chicks have to be able to fly perfectly on leaving the nest, so from a young age they do press-ups in the nest to strengthen their wing muscles.



There has been a catastrophic decline in Swift numbers since 1994, by 62% in the UK overall and by 72% in the South East of the UK. One theory is that a reduction in the number of insects, due to factors such as habitat loss, pollution, pesticides and climate change, might be to blame, but as yet there is no evidence that nesting Swifts are being less successful at rearing chicks, so loss of insects doesn't seem to be a major factor in their decline. The more likely cause of Swifts' decline is loss of nesting places. Thousands of nest sites are lost each year due to building demolition, repairs and renovations, and particularly the UPVC replacement of wooden soffits and fascias. UPVC soffits and fascias fit tightly to the edge of the brickwork and do not shrink or deteriorate with age so leaving no gaps for swifts to access a place to nest. Most species of bird build new nests each year but Swifts rely on the availability of the same nest site. If they return from migration to find their nest site has been destroyed, they may not be able to find a new nest site in time to enable them to breed. Surveys have shown that most towns in Hampshire have some breeding Swifts but they tend to be concentrated in just a few areas,

so are very vulnerable if buildings are redeveloped or renovated. For Swifts to survive as a breeding species in this country, we need to preserve existing nest sites and provide new ones.

Hampshire Swifts was set up in 2016 to try to halt and reverse the decline in Swifts. The Hampshire Swift Survey aims to record the precise location of all Swift nest sites in the county so that they can be protected. Records are sent every year to the Hampshire Biodiversity Information Centre who provide information to planners and ecologists working on new developments. Another major area of work for Hampshire Swifts is making and putting up nest boxes. Over 1,000 have been installed so far. Swifts will readily use nest boxes if they are in a suitable location (they need to have a clear drop below them of at least 4.5 metres and an open aspect, with no trees or shrubs too close). The boxes are also readily used by House Sparrows which, like Swifts, are Red-Listed. Hampshire Swifts are working with Winchester City Council to offer swift nest boxes to all council tenants when their houses are re-roofed.

Hampshire Swifts also make bespoke internal nest boxes for various sites. For example, 15 nest boxes were installed at the Hospital of St Cross in Winchester in 2018. In 2020 two pairs of swifts bred; in 2021 eight pairs bred and two immature pairs made nests for use the following year; in 2022 nine pairs bred and four immature pairs made preparatory nests; there are now 35 nest boxes installed there. In 2020 the first 20 bespoke swift boxes were installed in Winchester Cathedral behind louvres in the bell tower. In 2021 one pair of swifts bred successfully and one immature pair prepared a nest; in 2022 two pairs reared young and five pairs prepared nests for the next year.

Another part of Hampshire Swifts' work is trying to increase the provision of integral Swift nest boxes,

or Swift bricks, in new buildings. Swift bricks are a universal nest brick as they are readily used by Swifts, House Sparrows, Great Tits, Blue Tits and other crevice-nesting birds. These bricks can be easily fitted in new buildings to provide permanent nest sites. To implement this Hampshire Swifts lobby councils to persuade them to make the inclusion of these bricks part of the planning approval for suitable developments; some councils outside Hampshire are already doing this. Hampshire Swifts also monitors all planning applications and comments on many every year requesting swift bricks are installed in appropriate numbers, and gives advice to developers on including swift bricks in new houses. One such example is Cala Homes who now have an Urban Wildlife Strategy whereby all new homes are built with a swift brick and other wildlife features.

We are all encouraged to help by preserving any existing nest sites, put up nest boxes, create new nest sites if soffits and facias are replaced, and persuade friends and neighbours to do the same. Hampshire Swifts will be pleased to give advice and will also supply and install boxes for a very reasonable fee. You can comment on planning applications asking for swift bricks to be included in new buildings and request the provision of swift bricks to be included in their Local Plan. You are also asked to sign the online petition asking the government to make swift bricks compulsory in new housing, which can be found at ***petition.parliament.uk/petitions/626737***

Identifying Fungi

Eric Janke

Illustrated Talk December 2022

After the 2022 AGM Eric Janke gave us a fascinating talk about the changing methods of identifying fungi.

Classification of fungi

He began with a brief introduction to the natural history of fungi. They all need an intermediary (a cyanobacterium) to extract energy from the Sun and have evolved various lifestyles.

1. **Symbiotic** fungi form complex relationships with plants, involving exchange of water and minerals for sugars.

Plants co-evolved with fungi and more than 90% of plants form symbiotic relationships with fungi, but mosses do not. In the oceans, plants are sitting in a sea of water and nutrients, but on land minerals are tied up in rocks, so plants need fungi. Most of these fungi are non-fruiting species, but a few of them produce big flashy fruit bodies.

2. **Saprophytic** fungi decompose organic matter.

They range in size from single-celled yeast to km-sized Armilleria. They can decompose almost any organic substances, including crude oil. Oyster Fungus can be grown on coffee grounds or even books. Sadly fungi can't yet decompose plastics. Their fruits are often found in enormous troops, so if you see an enormous troop, you are probably looking at a 'rotter'. Almost all commercially grown fungi are rotters.

3. **Parasitic** fungi infect living hosts.

Lost of plant diseases are fungal, such as rusts, smuts and some mildews. Honey Fungus is a particularly aggressive species. But the organism that causes Potato Blight is no longer considered to be a fungus. Insects play host to several Cordyceps species. One type of fungus even causes a sexually transmitted disease in beetles! In nutrient-poor habitats, they trap nematodes and other microfauna. Human fungal diseases include athlete's foot, thrush and ringworm. Most are external because our internal temperature is too

Chicken of the Woods
Laetiporus sulphureus

a saprophytic fungus

high for them, but immunosuppressed people (like those being treated for COVID) may get internal infections.

Studying fungi

Studying the majority of fungi faces several challenges:

a) They remain hidden for most of their life cycle.

b) Their form may make identification difficult – some are just strings or look like cotton wool.

c) Only reproductive structures are readily visible.

d) They appear sporadically or are ephemeral.

Classification systems

The earliest systems were based on usefulness:

Food – can you eat it?

Tinder – can you burn it?

Is it a Medicine?

Can it be used as a Dye?

Does it have a Religious use?

The first scientific studies were limited to the five senses: smell, taste, feel, sight (including size and form, colour and location. These are still useful characteristics and form the basis of all field guides.

The arrival of microscopes added spore shapes and decorations. Until recently the microscopic approach was the mainstay of taxonomy. New species were based on (perceived) differences in morphological features. This led to lots of name changes. Keys were based on microscopic features and were difficult to use even by experienced mycologists, especially when they lacked glossaries. To make it even more difficult, not all reproductive species structures from the same organism are identical and some features may not be easy to find.

21st-century techniques based on DNA

These techniques are now the principal method of defining species and have led to a lot more species. The most popular is to use a short section of genome as a 'bar code' for the species. In principle, environmental samples can be taken and compared with a library of eDNA. This is easy with fish (as there

aren't many of them), but is difficult with fungi. The Darwin Tree of Life Project is aiming to sequence the genome of every eukaryote.

DNA barcoding

It has a number of advantages:

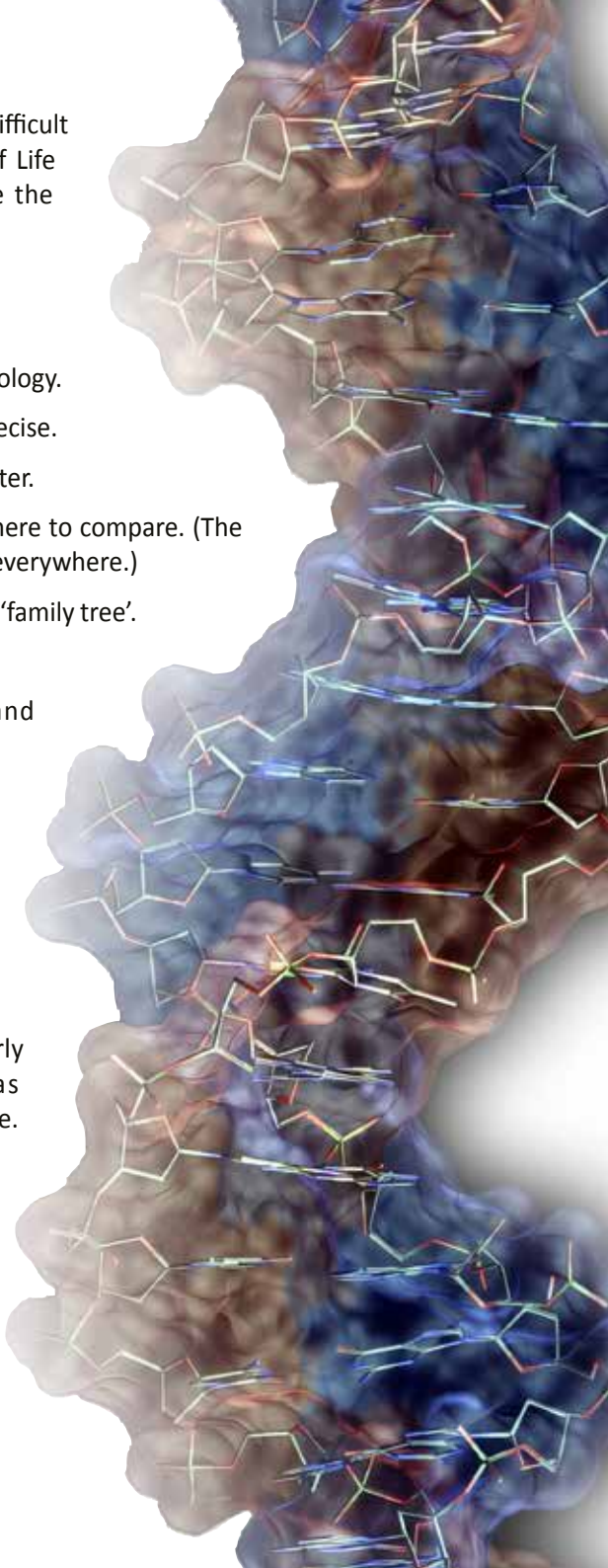
1. It is independent of morphology.
2. It is quite to moderately precise.
3. It compares a single character.
4. It is easy for anyone anywhere to compare. (The strings of letters are the same everywhere.)
5. It can be used to produce a 'family tree'.

Its disadvantages are that:

1. It requires equipment and know-how.
2. It was previously limited to academics.
3. The required reference system is still a work in progress.

Pick your locus

The ITS barcode region is fairly similar across fungi. It has multiple copies in the genome. It is often suitable for placing a sample in a genus. It is good for showing differences between species, but is bad at placing samples in the correct taxonomic level.



What happens in practice?

a) Take a small piece of sample.

b) Mash it up into a 'soapy salt' to release the cells' DNA.

c) Using a filter dip-stick, transfer a small amount to a PCR (Polymer Chain Reaction) machine.

d) Thermocycle many (about 35) times to amplify the ITS segment.

e) Check it worked using electrophoresis. There will be several billion strands of DNA.

f) Send to a commercial/university lab to get the sample sequenced.

Then the fun begins. If it has worked well, you will get a string of letters – the sequence of your sample. You try to match this (BLASTing) with a public database containing several billion named sequences. You can compare the sequence with ones from similar species in a family tree.

If you are really lucky, you will find:

1. a 'perfect match'.

Other results could be:

2. a match to numerous named sequences

3. a match to numerous named species

4. a sequence that is dissimilar to all described species

5. an undescribed sequence – there are so many undescribed species even in Europe.

One problem is that lots of fungi don't have a 'type' specimen that can be sequenced. Many 'type' specimens in museums are so old that they have turned to dust.

Eric Janke extracting DNA with the Hampshire Fungi Recording Group

Eric then described the Hampshire Fungus Recording Group's involvement in the Kew Lost and Found Fungi Project. At the beginning of lockdown, he found himself with the equipment to do the sequencing and a lot of samples. They couldn't be sent to the lab until lockdown was lifted, so the processed samples had to live in his fridge!

Among the 500 samples he sequenced, 70 were novel or new to Britain!

Jan Schubert

The Wonderful World of Lichens
Hugging Trees (and Rocks) Made Acceptable

Duncan Wright

Illustrated Talk December 2022

Duncan started his interest in wildlife as a 'birder' and, living in Lymington, he was ideally located to pursue this interest. He discovered lichens just a couple of years ago after he moved to Petersfield. He became fascinated by the growths on trees. He has since become an avid enthusiast and assesses his knowledge as Beginner plus! He is a member of the British Lichen Society and also its treasurer.

Lichens are not ferns, mosses or plants. They are not a single organism but enjoy a mutually beneficial relationship of fungi with algae and are named after the fungi. These fungi do not obtain their nutrients from live or decaying material but rather from the algaes' ability to photosynthesise. The fungus determines the structure and protects the enclosed algae from, for example, drying out.

They are very much a minority interest for natural history buffs but are very accessible and easy to study as they do not move. They also add variety to the environment at all levels, providing food for moths, snails and mites, and some small birds use lichens for nesting material.

There are approximately 20,000 species worldwide (approximately 2,000 in the UK) in all environments literally from the North to South Poles, some in remote areas. They add interest with their range of colours and shapes, growing on a huge variety of living and non-living surfaces including sand and rocks. The algae photosynthesise across the whole surface and are therefore very susceptible to pollution, but otherwise may live for many years.

An obvious difficulty is that they are very small, not obvious, are described using technical terms, and the terminology needs to be understood in order to apply a structured approach to identifying them. A hand lens or microscope may be needed to study the detail in their shape and fruiting bodies. A full glossary of descriptive terms can be found on The British Lichen Society web-site. Duncan illustrated some of the most common terms including:

Collema auriforme

Growth type foliose

Very common on mossy calcareous rocks and on moist, shaded, mortared walls and tombstones

Thallus – this is the structure of a lichen and contains fungal and algal cells and has three basic types – crusty (crustose), leafy (foliose) and shrub like (fruticose). Crustose forms have a crust which cannot be detached easily, frequently forming small islands and the cortex (surface) protects the underlying algae. Often seen with a differently coloured ring of actively growing fungal hyphae around the margin (prothallus). Foliose forms are generally flattened and leaf-like, loosely attached to the substrate by outgrowths which are not roots. The layer of algae is nearer to the upper surface, resulting in the lower surface being a different colour. Fruticose forms are bushy and attached by a 'holdfast'. They may be rounded or strap shapes. The algae lie just below the cortex.

Prothallus – is where the fungus is growing but without algae at the edge of a crustose thallus.

Cilia – growth looking like eye-lashes on the edge of a number of foliose lichens.

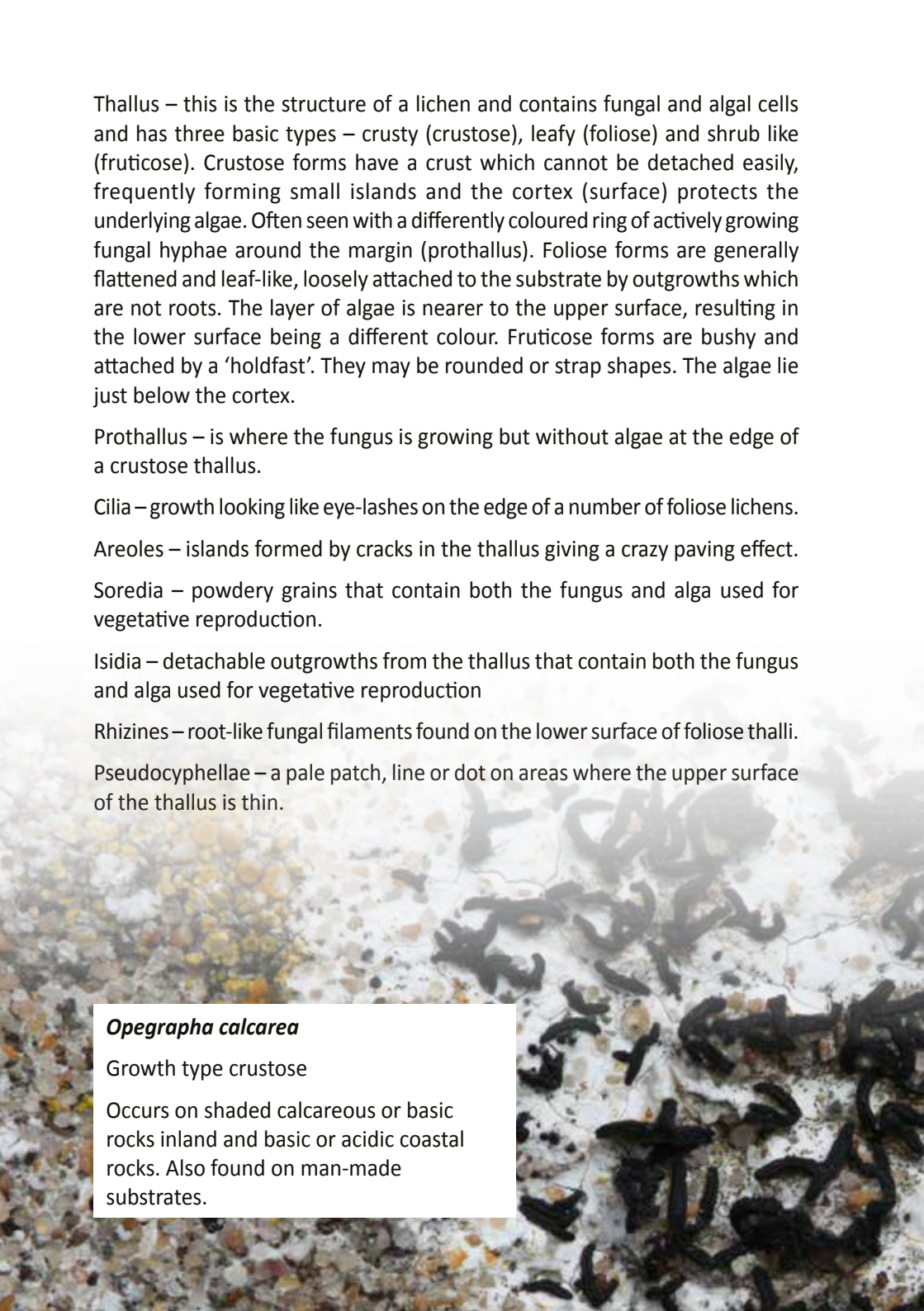
Areoles – islands formed by cracks in the thallus giving a crazy paving effect.

Soredia – powdery grains that contain both the fungus and alga used for vegetative reproduction.

Isidia – detachable outgrowths from the thallus that contain both the fungus and alga used for vegetative reproduction

Rhizines – root-like fungal filaments found on the lower surface of foliose thalli.

Pseudocyphellae – a pale patch, line or dot on areas where the upper surface of the thallus is thin.



Opegrapha calcarea

Growth type crustose

Occurs on shaded calcareous or basic rocks inland and basic or acidic coastal rocks. Also found on man-made substrates.

Maculae patches – blotchy or mottled patches on the thallus where there is an uneven distribution of algae.

Apothecia – fruiting bodies which contain fungal spores. Lecanorine are 'jam tart' shaped with a different coloured centre because the margin contains algae. Leideine are 'wine gum' shaped which are one colour because they have no algae around the edge. Lirellate apothecia look like squiggles with various lines and shapes.

Reproduction may be sexual (through spores) or asexual (soredia and isidia). Photographs of different species in a range of habitats illustrated the variety of forms and colours and the detailed structures to look out for. Using the scientific nomenclature should enable a more accurate identification.

This was a fascinating insight into the detailed complexity of an organism which we have all seen and probably passed over without a proper look.

Duncan ended with a quote from Camille Pissarro, "Blessed are they who see beautiful things in humble places where other people see nothing".

For further information:

Field Study Council Guides
British Lichen Society web-site -- ***britishlichensociety.org.uk***
Frank Dobson's 'Lichen - an illustrated guide to the British and Irish species'.

ORCA : Looking out for Whales and Dolphins!

Abi Groome

Illustrated Talk October 2022

Abi is a very enthusiastic Ocean Conservationist with ORCA, **O**ceans **R**esearch and **C**onservation **A**ssociation. The charity was formed in 2001 to do original science to identify marine species most in need of protection, and monitor cetaceans found in waters around the UK. It has just 8 members of staff and relies on numerous volunteers and citizen science to register sitings to create meaningful data to feed information into action and legislation to best protect them. They focus on education as the key to getting people involved and every October produce a free pack for schools and give talks to make them aware of what they can do to help. They also give talks to any interested groups and these can be requested through their website.

Numerous ferries and cruise ships have been supportive in providing platforms of opportunity, the regular ferries giving transect data throughout the year and cruise ships filling in on other areas further afield. Saga and Brittany Ferries have been particularly helpful, and other ferries are also involved. Members travel on the ships and, in between watching for whales, dolphins and porpoise, give talks and encourage everyone to get involved. ORCA do

Humpback Whale
Megaptera novaeangliae

monthly surveys on a number of ferry routes and work with ships to mitigate strikes. This approach has proved very worthwhile. For example, there were 3,429 cetacean sitings recorded on the ferries from March to November 2019. A map showed larger species tend to be found in the Bay of Biscay. Data can be compared for different months/years/ decades. This is vital information used to assess how well species are doing and to plot migration paths. This can then inform on decisions which could be helpful or disruptive.

Saga cruises fill some of the data gaps in more diverse areas, monitoring the spread and distances travelled by cetaceans. Land-based sightings are also recorded and everyone is encouraged to keep a look out when near the sea. All collected data is freely available to governments and businesses to advise on actions which may impact on the welfare of cetaceans. Data is analysed to determine whether species are in decline or under threat and this will enable more to be done to target and protect the areas most important to that species. The data is used to inform at local, national and international level. A map showed the surprising number of sightings. About a third of all

known species are seen in UK waters, but the great diversity in size means some are rarely seen.

A chart illustrated all cetaceans found worldwide, those found in UK waters, and the great diversity in size and shape. Cetaceans can be divided into toothed whales and baleen whales. Toothed species include porpoise, oceanic and river dolphins, sperm whales, orcas, pilot whales and beaked whales. Baleen whales include blue whales, fin whales, humpbacked whales, grey whales, right whales and bowhead whales. We were encouraged to keep a look out whenever possible and an illustrated guide followed on what to look for and how to identify sightings, including surface water disturbances. Size, position and shape of the dorsal fin, one blow hole or two, shape of the head, colour, method of feeding and other details can be used to distinguish between species and even individuals.

All sightings of course should be reported to ORCA.

Cetaceans are mammals and have live young which they nurse. Having a common ancestor, their closest relative is the hippopotamus. About 54 million years ago they evolved over some 15 million years from land mammals. They developed an aquatic lifestyle but retained many skeletal features, including 5 finger bones in their fins, and the need to surface to breathe air. An evolution chart showed the adaptations in body shape, including ears, while modern whales have no legs, and hair is only seen on the young. They are the only mammal with internal testicles.

Whaling is still ongoing with some countries refusing to acknowledge they are under threat, while the biggest threat to small cetaceans is being caught as bycatch. Overfishing means less food is available, while habitat destruction is more difficult to assess; as some travel long distances, feeding and breeding areas need to be identified and protected. Pollution is a huge problem, cetaceans are 6 steps up the food chain so concentrating toxicity is causing them to be poisoned by plastics and chemicals in food, and PCBs have been recorded in orca. Noise pollution is known to cause confusion and disorientation and may be responsible for some beachings. Climate change is impacting on sea temperatures, seasons, ocean currents and location of food production so leading to changing lifestyles and habitats. Ship strike numbers are unknown, but thought to be under-reported, and disturbance by harassment and live capture can also be harmful. ORCA plans to increase awareness of the problems and improve their viability through education and planning. Species such as humpback can be individually identified by markings, so tracking can be specific over time and long distances. Some species live for around 100 years. Bowhead live for 300+ years, but only with specific data can this be accurately measured. ORCA keep data to species level, so as to better assess those doing well and those most at risk. Their long term data set contains hundreds of thousands of recorded animals.

Abi encourages us to consider becoming a member of ORCA, make a donation, train to become a marine mammal surveyor, and spread the word to friends and family to get more people looking out for cetaceans.

For more information visit their web-site ***www.orcaweb.org.uk*** or email info@orcaweb.org.uk

Long-finned Pilot Whale
Globicephala melas

The Science of Bats

Nik Knight

Illustrated Talk March 2022

We welcomed the return of Nik Knight with a very different talk about bats. Nik is Chair of The Hampshire Bat Group and the County Recorder. What are bats? They are mammals, order Chiroptera, with 1,448 species known worldwide, capable of powered flight. They have fur, external ears, are viviparous (produce live young), and produce milk. Flight is manoeuvrable and fast, up to 50K per hour for our Noctule bat. The wing membrane is attached from the tail to the fingers, making it much more manoeuvrable than a bird wing. Bats have a life span of 15–20 years, smaller species such as Pipistrelles having a shorter life than larger species such as Noctules. There is great diversity worldwide with

Daubenton's Bat
Myotis daubentonii

a huge size range, and some live in massive colonies. Fossil skeletons from 52–54 million years ago are very recognisable as bats.

British bats are small, innocuous but with good teeth. There are 17 breeding species. They are nocturnal, all eat insects, use echolocation, are harmless and beneficial. Rescue bats in care are fed on mealworms. They have powered flight and the wing shape can be adjusted. Different species have different wing shapes. Those with narrow wings have faster flight; broader wings are not so swift but are more manoeuvrable. Wings can be folded against the body, so they are not an encumbrance when resting. They have all seriously declined, are vulnerable, difficult to study, and we lack knowledge on how to best protect them.

Bats are nocturnal and were formerly very difficult to study. The development of thermal imaging cameras has been a game changer. A company in Hampshire, led by Ian Baker, have produced cameras which can detect

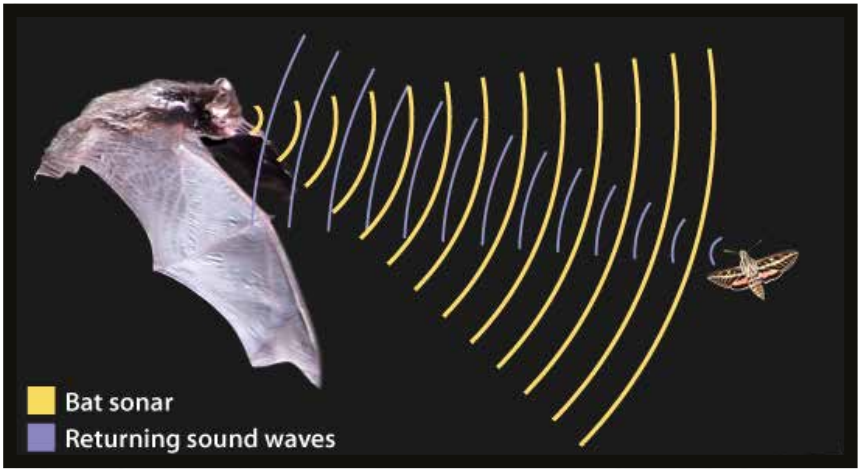
Common Pipistrelle
Pipistrellus pipistrellus

fractions of a degree, with no IR light. They produce clear images of bats flying from trees or emerging from under tiles. It has been found that retiring bats have cold wings but the body is still hot. Bats have higher temperatures than us, but can allow themselves to cool down and keep a core temperature to survive the winter in hibernation. They also move or exercise about every ten days in winter. They roost in the day during summer, and can adjust their temperature according to the conditions, warming up for flight at night. They are torpid while roosting and take 15 minutes of gradually increasing movement to get ready to fly.

Bats use echolocation and have specially adapted ears and hearing. Brown long-eared bats will minimise echolocation so as not to disturb insect and moths. They hover to detect food and have large eyes for vision. In fact, bats are not blind, but it is not their primary sense. Echolocation was discussed by Lazzaro Spallanzani, 1729-1799, a contemporary of Gilbert White who also questioned how bats could navigate at night and why owls bumped into obstacles but bats did not. Experiments in 1793/94 found that bats which were blinded avoided obstacles, but bats which were blinded and also had their ears plugged did bump into things. Cuvier thought this was down to exceptional development of touch. Further experiments using wax to temporarily seal their ears and eyes, by Arthur Whitaker 1882–1949, suggested bats had highly developed perception of air currents, vibrations and resistance which supported the proposal of echolocation. This work was followed up by H Hartridge at Cambridge working on sonar during WW1. In

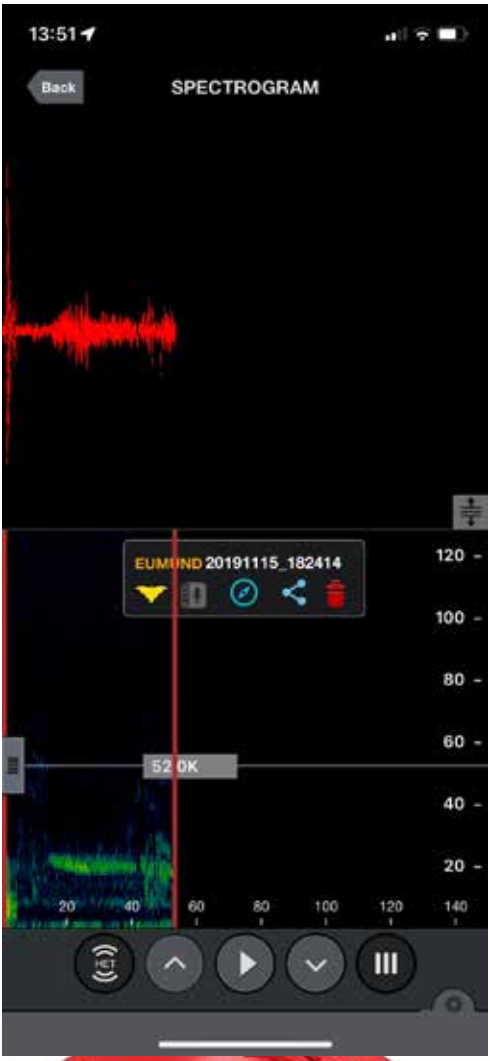
1941 in the USA Galambos and Griffin did experiments with bats and sound, and they proved bats can emit and hear ultrasound, and if their mouths or ears are kept shut, they cannot locate or avoid obstacles thus proving the use of echolocation by bats.

Sound is a longitudinal pressure wave. Ultrasound is way beyond human hearing which decreases with age. Dogs can hear higher frequencies than humans but not as high as bats. Low frequencies have a longer wavelength. Shorter wavelengths are much better at detecting smaller objects such as midges, but lose detail over distance. Different bats have different food preferences and therefore use different strategies and have different wavelength range frequencies. The first commercial bat detectors were made by Holgates in Totton in 1963. By 1970 Q.M.C. was producing smaller detectors lent out for survey work during the summer. They are now much



smaller and easier to use. They can plug into a mobile phone, can record, and playback at a slower speed to interpret results. Bats calls are characteristic, forming a spectrogram which can show direction and range. Pulses and harmonics are distinct, sounds are different, with separate time scales and frequencies for different bat species. Even in a group there may be different forms of echolocation in play. Modern bat detectors can differentiate between individual species even when flying together. Long-term static detectors have been set up in some locations for research.

Bats are captured for research purposes, but not harmed, and only by trained handlers with Natural England licences. Sounds are reproduced by



EchoMeter Touch and screen shot from iPhone

an acoustic lure to attract bats which are caught in a Harp Trap consisting of many vertical threads with a capture bag hanging below. Bats are measured and some fitted with radio tracking devices, which are attached with surgical glue which weakens and falls off after 6 days. This enables roost sites to be located so that they can be protected, much easier than trying to follow them in the dark. At Godshill about 20 Barbastelle bats were found at one roost and later found in bat boxes.

Only in 1992 was it possible to differentiate two separate species of Pipistrelles by their different frequencies. Looking very similar, they do not interbreed, and this was confirmed by DNA analysis. DNA can be used to identify a bat species. Samples are collected from fur or droppings and results compared on a database. They cost £50 a time, so are only used on rare bats. Stable isotope analysis on fur can be used to determine where bats have been, whether they are local or have migrated. The ratios of hydrogen and deuterium will depend on location. Some species migrate, some breed

here and some do both. Using this information migration routes can be determined. Bats are also ringed, and it has been found that Nathusius' pipistrelle make the journey from UK to Russia, some from Spain to Latvia, but many come to grief in a wind farm off the German coast.

Some bats are known to have roost fidelity, but others travel large distances for hibernation and less is known about swarming sites for many. Echolocation is used for local travel, but little is known how they navigate on longer journeys for migration. Echolocation could be used for topography. They may be using other senses, but little is known.

Climate change has to be taken into account when siting bat boxes to lessen the effects of extreme temperatures. This also affects availability of food and insect populations. It is possible bats will move further north. Not enough data has been collected to determine what changes, if any, have yet been caused.

Nik asks anyone who has knowledge of any roost sites to please notify the Hampshire Bat Group.

If anyone is interested in buying an echo meter, the EchoMeter Touch is manufactured by Wildlife Acoustics in the USA but is available from various online retailers. They cost about £200 and fit a phone or tablet and there are Apple and android versions.

Southampton Old Cemetery Birdwatching Group 1977 to 1982

Phil Budd

Coinciding with my secondary school education and my early years as a member of the Southampton Natural History Society, I was involved in another wildlife and birdwatching group which met regularly at Southampton Old Cemetery. This group was formed by the former Southampton representative of the RSPB, Frank Voysey. From memory, I recall somebody saying that about 70 people turned up on the first walk in July 1977!

My first attendance with my father, and as a member of YOC (Young Ornithologists Club) took place on the second such walk on 7th August 1977. We, together with around 40 other people, set off from the Cowherds pub to the cemetery. I don't have a record of what birds or other wildlife were seen that day, but I know that that the group continued albeit with reduced attendances into and then on though 1978.

I have few records of these early cemetery birdwatches but by January 1979 Frank Voysey seems to have left the scene. Nevertheless, a small group averaging about 10 people each time, continued the birdwatches every first Sunday afternoon of the month, meeting at 2pm at the back gate into the cemetery. That's the entrance facing the flat area and the Cemetery Lake. We usually looked in at the lake either before or after making a circuit of the cemetery and dad, my brothers and I sometimes we stopped at Riverside Park on the way back. Once we even arranged an additional winter trip to Farlington Marshes. We tried to go every month and I have records of 28 such visits from 6th January 1979 to 3rd January 1982 inclusive. If we missed a visit, it was usually because the afternoon was wet, or I had schoolwork do to or there was an SNHS field meeting that I wanted to attend on a first Sunday. On average, around 20 species of birds were recorded on each visit. A summary of these and other wildlife items of interest are presented below.

Our 'regulars' who came nearly every time without fail, included Ted who was a churchgoer and was always dressed in his Sunday best. Another was a friendly 'Yorkshireman' (or from up north somewhere) Mr Shannon and his equally pleasant wife; there was also Betty who always wore glasses; the two sisters, one of whom was talkative and the other much less so, and a younger lady named

Margaret,
who I think was also a member of our
society at one time. My father and I attended at least 80% of the birdwatches and were often joined by any or all of my three younger brothers. Other family friends, near neighbours and relatives occasionally joined us.

Like all good things the regular walks eventually stopped and the 3rd January 1982 visit proved to be the final one for dad and me. It was too wet to go to the February 1982 meet, revision for a Chemistry 0-level final exam at Itchen College got in the way in March 1982 and I was to be found in the Brecon Beacons in Wales on a Geography field-trip on the first Sunday in April 1982. After that a combination of educational and domestic issues prevented me from attending again. Whether or not the other regulars continued for a time I don't know but I never saw most of them again.

A summary of birds seen within the actual cemetery

Birds of prey: Sparrowhawk was the most regularly seen raptor but a kestrel was seen in June 1981. Buzzards and red kites, were never seen in those days.

Pigeons and doves: Woodpigeons and collared doves were sighted nearly every visit and sometimes in the autumn there were large numbers of the

former. Feral pigeon was also frequently seen but the first two Stock Doves were not seen until January 1982.

Woodpeckers: The numerous yellow ant nests in the cemetery were a magnet for green woodpecker and juvenile birds were frequently seen. Both other woodpeckers were seen on one occasion, lesser spotted in February 1979, and great spotted in April 1980.

Other non-passerines: Swifts were regularly seen in the summers of 1980 and 1981 but not known to nest. A cuckoo was heard on a birdwatch in the spring of 1978.

Hirundines: Swallows and house martins used the cemetery as a feeding area in summer 1980.

Warblers and flycatchers: Curiously, blackcaps were never seen, indicating that the cemetery was much less bushy then. Chiffchaffs and spotted flycatchers were common in summer, though, and the latter probably bred in the cemetery. 3 pied flycatchers were seen in September 1981.

Thrush family: Blackbirds, song thrushes and robins were all very commonly seen. Mistle thrushes were also regularly seen, especially early in the year. A flock of redwings was seen in February 1979.

Titmice and allies: With all the ornamental conifers the coal tit and the goldcrest were particularly common but blue tit, long-tailed tit, and great tit, were seen during most visits. There were no firecrests in the cemetery in those days. The elusive treecreeper was seen on several visits. Finally, a nuthatch was seen within the cemetery in December 1980, but they were known breed in the oak wood between the cemetery and the old Southampton Zoo.

Finches etc.: Finches were more numerous in those days. Greenfinch was especially common and both chaffinch and bullfinch very often seen. The only goldfinch was seen in July 1981 and one small flock of siskins feeding on cypress cone seeds was a pleasant surprise in December 1980. No buntings were ever seen but house sparrows were often seen.

Corvids: Carrion crow, magpie, and jay, were all common. Jackdaws were seen in August 1979.

Other passerines: Dunnocks and wrens were numerous and usually seen or heard. Starlings were regularly seen, especially in winter. There were two wagtail records; a grey wagtail in March 1980 and a pied wagtail in June 1980.

A summary of birds seen in and around Cemetery Lake

Swans and geese: Mute swans were only occasional visitors and domestic geese appeared from 1981 onward.

Ducks: The most seen ducks on Cemetery Lake were mallard, pochard and non-native Muscovy duck. The pochard occurred in winter as did the occasional tufted duck. A pair of mandarin started frequenting the pond in 1981 and a non-native Bahama pintail was seen once.

Other birds on the lake: Moorhens and coots were constantly present as were gulls. Black-headed Gull was the only species of gull specifically mentioned. There was a little grebe there in November 1981. There were no sightings of heron, cormorant, or kingfisher, surprisingly.

Other wildlife seen during the cemetery birdwatches

We never found any reptiles or amphibians in the cemetery and we were always there in broad daylight so no bats, or for that matter owls, were seen. Grey squirrels were ubiquitous though, and small mammals were found dead, including bank vole, common shrews, and pygmy shrews. Mr and Mrs Shannon said that they thought there were weasels in the cemetery, and I suppose this was possible. Rabbits had disappeared from the cemetery 20 years previously. There were few sightings of identifiable insects – burnet moths were common in the summer and butterflies listed included gatekeeper, meadow brown, speckled wood, small skipper, whites, and tortoiseshell. Other insects found included malachite beetle, lesser stag beetle and scarce silver-lines moth.

The old cemetery is well known for its collection of ornamental trees and most of these seen over 40 years ago are still present now, including Indian bean tree, bottlebrush buckeye, silver pendant lime, a weeping beech tree, monkey puzzles and a plethora of cypresses. Wellingtonia is an addition since. Also, the flowers, both spring and summer, abounded then and perhaps even more so as there was far less ivy and bramble undergrowth then. Primroses, purple crocuses, snowdrops, and wood anemones in spring were followed by yellow toadflax, goldenrod, rosebay, harebell, cat's-ear and heathers in summer and winter heliotrope at Christmas time. In October and November fungi abounded and in the wet late summer of 1979 there were very high numbers as early as September. The most conspicuous fungus was the parasol mushroom and in October 1981 my father and I took several of them for the pot.

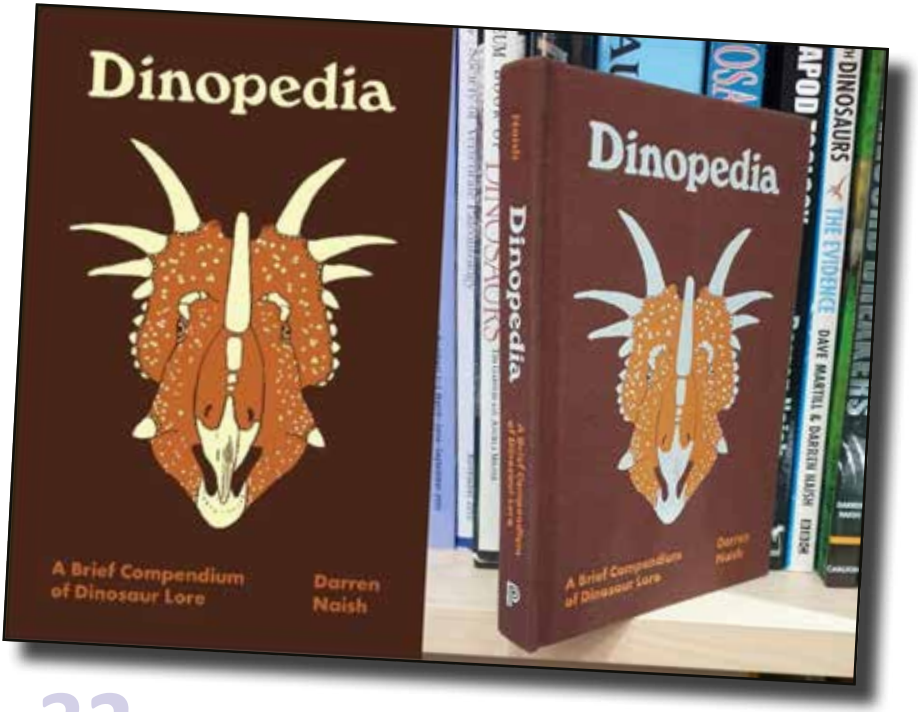
Dinopedia:
A Brief Compendium of Dinosaur Lore

Dr Darren Naish

Illustrated Talk September 2022

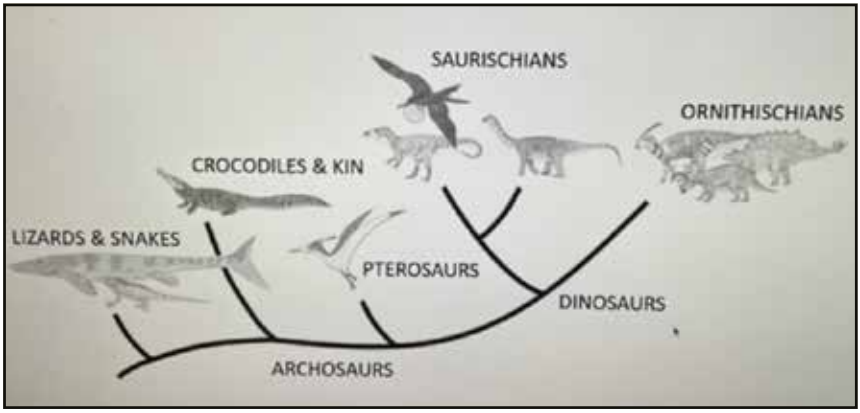
Darren is a vertebrate palaeontologist, author, editor, consultant, science communicator, and researcher affiliated to the University of Southampton. The title above is also the title of his new book, available now from booksellers and Amazon, a bargain at £9.99. Although everyone knows what dinosaurs are it is highly likely that view is out of date. This new book is the current understanding of this complex and varied group and how knowledge was revised.

Until the middle of the 20th century it had been thought that dinosaurs were a group of extinct reptiles. Some palaeontologists in the 1960s argued that they were not all large and cold blooded, could be very active, and very controversially proposed birds were their descendants. This



led to an increased interest with much debate and many publications aimed at the general public, this period being known as the Dinosaur Renaissance.

Dinosaurs are archosaurs, the group which includes crocodiles and birds. Dinosaurs share an early ancestor – saurischians and ornithischians. Birds are part of the saurischian group which also includes dinosaurs. This new version of the family tree caused considerable debate. We are now in the Golden Age, dinosaurs fossils from all groups are found globally, whereas in 1984 they were only found in rocks from the Jurassic and Cretaceous periods in very few locations. The number of fossils now being found is so prolific that about 50 new species are discovered every year. It is difficult to keep up with the names and 30 non-bird dinosaurs were named in 2021. A graph showed the exponential number of new dinosaurs increasing 90% since 2000.



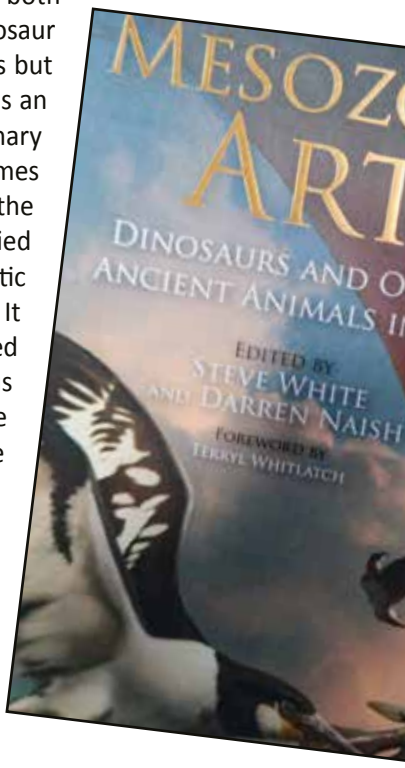
Sauropod dinosaurs were the largest land living animal ever. Small ones were 15 metres long but the largest at 30m weighed 90 tons. Terrestrial mammals have never reached this size. They were obviously very successful. Was this because they had exceptional adaptations, such as erect limbs, warm blooded physiology, and respiratory and pneumatic systems (air system)? X-rays of their skeleton show the bone was full of holes as seen in birds. Circulating large quantities of air is good for maintaining physiology and dumping heat. Birds have evolved sacs used for sexual display and there is speculation that dinosaurs had similar flamboyant structures. Some artist impressions showed possible colourful features.

It had been obvious since the 1800s that feathers might have evolved before birds. In the 1990s two *Caudipteryx* (peacock-sized theropod dinosaurs) with feathers similar to birds were found from the Early Cretaceous in China. The

feathers were not unique. They had evolved from earlier groups. Although bird-like, they were non-bird dinosaurs. Pigment melanosomes were found on the feathers. Active research is now looking at interpreting colours, speculation thar was previously impossible.

Maniraptora is a clade which includes birds and non-avian dinosaurs which had filaments or shafted feathers. Earlier species (including *Tyrannosaurus*) only had filamentous feathers; more recent species including birds only have shafted feathers. *Archaeopteryx* was conventionally called a bird and has remained a source of debate, but has similarities to the group which includes lizards. Over 70 million years of evolution since the Cretaceous Period have produced modifications to original ancestry, with 10,000 species of birds around today.

In 2012 a 27 feet long member of the tyrannosaurus group (*Yutyrannus*) was discovered which was feathery or fuzzy. Ornithischian dinosaurs (horned group) had scales but with filaments or bristles, with filaments being widespread. If feathers and bristles are present in both saurischians and ornithischians, does it mean that dinosaur ancestors had feathers? Pterosaurs are not dinosaurs but they did have filaments, but are they feathers? This is an ongoing debate which could push back the evolutionary tree. It is quite possible feathers evolved several times during evolution and this is a contentious issue and the subject of research. The scales on bird legs are modified feathers. Dinosaurs started out small, with a pneumatic system which could have evolved for flight or gliding. It probably happened several times, but only birds survived the big extinction event at the end of the Cretaceous period 66.5 million years ago. First proposed in the 1970s, when global deposits of iridium were evidence that a large asteroid impact had occurred, making a huge crater on the Yuccatan Peninsula (iridium is extremely rare on earth but more abundant in asteroids), the event caused widespread disruption on weather patterns, increased volcanism, and impacts on all life on earth with about 80% becoming extinct, including all non-avian dinosaurs.



In the showiest birds structures can be multifunctional or sexual. The more extravagant are predominately for sexual selection which works against natural selection. Structures grow faster than the general body (positive allometry). On *Stegosaurus* the plates grew to full size by maturity when ready for reproduction. Dinosaurs had excellent vision, so colour, structure, pigmentation and display would have been important. New ideas are being explored looking at colours and patterns based on predictions and similarities with current species. Four types of melanosomes are linked to specific colours present in animals. If and when these are found in fossils, predictions will no longer be guesswork. Research is ongoing. Non-bird dinosaurs formed social groups which were complex and gregarious in the Mesozoic world, with good evidence of herding and colonial nest sites.

A lot of revision has been done since the 1960s when Robert T. Bakker first argued that everything about dinosaurs was wrong. Although he cited evidence, it was very controversial and attracted the attention of journalists. At the time he was a lone maverick but had a huge influence, resulting in a number of publications and increased research and fossil collecting.

Economies were improving post war and there was more money for scientific investigation, with claims and disputes fuelled by journalism. It influenced artistic interpretations, film makers, and in recent years debates on social media, all appealing to the general public.

Darren maintains that the work of palaeo-artists is essential for the continuing interest and thus funding for research, their artwork driving public interest, journalism, and film makers, the aesthetics having far more influence than scientific research.

Long-tailed Blue at Southampton Old Cemetery

Andy Barker (Butterfly Transect Co-ordinator, Butterfly Conservation Hampshire & Isle of Wight Branch)

Phil Budd's sighting of a rare **Long-tailed Blue** (*Lampides boeticus*) whilst doing the Southampton Old Cemetery butterfly transect must surely rate as Southampton's butterfly highlight of the year. Whether you're an experienced recorder, or a beginner, it's always exciting to spot a new species, so imagine the excitement of spotting a Long-tailed Blue. The first was seen on 19th August 2022, with regular sightings up to 30th August.

It was an unexceptional transect walk, with just twelve butterflies present. The hibernators had already disappeared, and the extreme summer heat and

Long-tailed Blue
Female

Long-tailed Blue
Male with 'tails' intact

drought had caused the season to tail off rather quickly. On this day, however, Phil Budd's attention was drawn to a rather lively blue. The jizz didn't match either Common Blue or Holly Blue, and its rather flighty behaviour, seemed more like a hairstreak. It was patrolling an area with abundant Broad-leaved Everlasting Pea (*Lathyrus latifolius*), and knowing this as a favoured larval foodplant of Long-tailed Blue, the prospect of it being this rare immigrant increased. Eventually it settled, to display the unmistakable stripy underside of a Long-tailed Blue, which combined with the blue upperside confirmed it as a male.

Long-tailed Blue egg
Laid on Broad-leaved Everlasting Pea
Lathyrus latifolius

I visited the site early the following morning, in warm but rather cloudy conditions. I was successful in locating and photographing a Long-tailed Blue, but it was a female, so not the same individual as Phil had seen the previous day. Over the next 10 days, observations and accompanying photographs by several SNHS members confirmed at least four different individuals (2 male, 2 female). Egg-laying was also observed, and a thorough search on 23rd August revealed at least 113 eggs on *Lathyrus latifolius*, the majority located on the calyx of individual flowers. The final Long-tailed Blue sighting at Southampton Old Cemetery was on 30th August. A first instar larva was found on 31st August, so hopes were high for a final brood in late September to early November, but sadly this was not forthcoming. However, two New Forest recorders were lucky enough to have late season Long-tailed Blues turn up in their gardens.

The first was on 30th August at Dibden Purlieu on Everlasting Pea, with a second sighting, perhaps the same individual, the following day. Much later on 13th November one was seen in a garden near Ringwood nectaring on Rosemary (*Salvia rosmarinus*).

There is no doubt that the unexpected appearance of Long-tailed Blue in Southampton gave a very exciting end to the butterfly season in south Hampshire. The only previous Southampton record is of one seen at the Hawthorns Centre on 24th September 2013, but with regular sightings in Sussex more or less annually, there is a good chance there will be more that turn up over the coming years.

It just goes to show you should always be ready for something unexpected, and even in an urban setting, rare butterflies might be encountered.

Long-tailed Blue
Male underside

Recording Officer's Report
Members' Records 2022

Phil Budd

I would like to start by thanking the following individuals for submitting records and reports, from various sources, in 2022: Ian Bailey, Andy Barker, Andy Binns, Freya Brown, John Buckley, Nic Burns, Diana Chapman, Andy Collins, Catherine Corney, Mike Creighton, Viv Cronin, Terry Crow, Jill Doubleday, Kathy Emmott, Geoff Frampton, Graham Harrison-Watts, Peter Hyde, Mac Ince, Sue Lambert, Bruce Larner, Flora Lewis, Jenny Mallinson, Kate Martin, Samuel Merriman-Johnson Mick Milner, Uli Munford, Mark Painter, Gemma Paul, David Payne, Mark Pearce, John Poland, Wolfgang Ritter, Jan Schubert, Hannah Scully, Jeremy Smallwood, Martin Smith, Mike Terry, Dennis Trunecka, Ian Watts, Paul Winter, Rosi Woods. There are many others who have submitted records through various indirect means and some of the records are my own.

There were several other sources of records on Facebook including the following: Friends of Peartree Green, Friends of Wildern Local Nature Reserve (in Hedge End), Butterfly Conservation, our own Southampton Natural History Society and the Southampton Wildlife site (particularly important for bird records). For the first time in 2022, the society was able to extract records for the Southampton area from *iRecord* and we thank the administrators of *iRecord* for this. From *iRecord* we have extracted records from an area extending from the Test Valley to Bursledon and Netley, and north to the M27 corridor. Several recorders other than those listed above are involved in submitting data to *iRecord*. Most of the other records are from within this boundary but a few are from Waterside, NW to Romsey and NE to Bishop's Waltham.

Please see our new web-site: ***sotonnhs.org*** for on-going up to date reports during 2023. Some 2022 records were also submitted to this web-site.

Thank you to everybody who contributed to recording wildlife in 2022.

Myxomycota (slime-moulds)

In 2022 there were reports of two 'new' slime-moulds to the Southampton area according to the SNHS database but both are common species elsewhere, these being *Trichia botrytis* at Millers Pond LNR on 27th February, and *Trichia decipiens* near to the Archery Road end of Mayfield Park on 23rd November.

Fungi

2022 saw another very short autumn fungus season, similar to 2021. The hardened ground after the hot, dry summer didn't really soften up significantly until mid-October and the frigid spell in early December brought the season to an abrupt end. The spring fungi were very poor and the wet spell in August was clearly ineffective.

We have a very interesting report for 2021 received belatedly; this was of **Barometer Earthstar** *Astraeus hygrometricus* found at Westwood Road, Portswood on 21st November 2021 and reported to the Hampshire Fungus Recording Group; this proved to be the third Hampshire record. In 2022 an exceptionally common fungus was a large pink-gilled agaric of fertile grassland and farmland, the **Stubble Rose-gill** *Volvariella gloiocephala* – there were very many reports of this species. Another species that did well in 2022 was **Anise Funnel-cap** *Clitocybe odora*, a species that grows under beech and was recorded locally at Hannay Rise woods on 18th October and at Tesco's car park at Bursledon on 7th November. There were also numerous records of the conspicuous and increasing **Scarlet Elf-cup** *Sarcoscypha sp*., between 2nd February and 13th March with records from Hum Hole (Bitterne), Shoreburs Greenway, Wildern LNR, Hut Wood, and near to Hiltingbury Lakes at Chandler's Ford. A formerly very rare bracket fungus **Red-belted Bracket** *Fomitopsis pinicola* has appeared in the Southampton area, firstly on dead birch at Hut Wood on 23rd January, and then on beech in the sloping woodland at Mayfield Park on 2nd December. Despite the scientific name, beech and birch are the usual hosts elsewhere.

40 species of fungi were seen on the foray at Peartree Green LNR on 22nd October, of which 13 species were new site records including **Cat Dapperling** *Lepiota felina*, and **Hare's-ear Fungus** *Otidea onotica*. 35 species seen at St Mary's Extra Cemetery on 20th November, despite the late date. Species found here included a new one to Southampton area, the **Blushing Dapperling** *Leucoagaricus badhamii* and other species of interest included the **Scarlet Caterpillar Club** *Cordyceps militaris* (also reported at Brookwood Cemetery in Eastleigh on 10th November), **Blushing Rosette** *Abortiporus biennis*, and 9 species of waxcap *Hygrocybe sp*. 60 species of fungi were counted on the society foray at The Holt, near Upham and the highlight here was **Flowery Bolete** *Lepista irina* in quantity on one lawn. 60 species were also recorded on a public fungus foray at Itchen Valley Country Park (IVCP) on 27th October including **Orange Oak Bolete** *Leccinum quercinum*, **Olive Oysterling** *Panellus serotinus*, **Lurid Bolete** *Suillellus luridus*, **Urchin Earthfan** *Thelephora pencillata*, and ***Sparassis spathulata***. The latter species is known in the US at the 'Eastern Cauliflower' and it appears to be a first record for the Southampton area but is known in Ringwood Forest. Another interesting fungus record at IVCP was **Oyster Rollrim** *Tapinella panuoides,* seen on 15th October.

Panther Cap
Amanita pantherina

A sample of other noteworthy and interesting fungi records in 2022 is as follows:

Agaricus haemorrhoidarius, **Bleeding Mushroom,** Beverley Heights, Townhill, 15th October
Aleuria aurantia, **Orange-peel Fungus**, Southampton Civic Centre, 10th November
Amanita pantherina, **Panther-cap**, Peartree Green – new to site, 1st October
Conocybe (Pholiotina) rugosa, NO COMMON NAME, Bitterne Park garden, 15th October
Coriolopsis gallica, **Brown-flesh Bracket**, Cedar Lodge Park, Shirley – new to Southampton, 12th January
Cortinarius violaceus, **Violet Web-cap**, Lord's Wood (east) – new to Southampton, 22nd October
Craterellus cornucopioides, **Horn-of-plenty**, a site in Chandler's Ford, 6th November
Fomes fomentarius, **Tinder Fungus**, Palmerston Park – a new site, 20th February
Geastrum triplex, **Collared Earthstar**, Broadlands Road, Hampton Park, 28th September, and Valley Gardens, Southampton University, 21st November
Helvella crispa, **White Saddle**, Riverside Park – an exceptional 40 found, 9th November
Helvella lacunosa, **Elfin Saddle**, Southampton Crematorium, Bassett, 21st October
Hygrocybe calyptriformis, **Pink Pixie Cap,** Brookwood Cemetery, Eastleigh – 2 seen, 10th November
Inocybe maculata, **Frosty Fibre-cap**, Mayfield Park, 18th October
Inonotus (Pseudoinonotus) hispidus, **Shaggy Bracket**, Woolston – new to Southampton, 12th September
Lactarius fulvissimus, **Tawny Milk-cap**, Riverside Park – rare in Southampton, 6th November
Leccinum duriusculum, **Slate Bolete**, Riverside Park – under poplar, 26th September
Lepiota ignivolvata, **Orange-girdled Parasol**, Southampton Old Cemetery – new to Southampton, 24th September
Mycena acicula, **Orange Bonnet-cap**, Near Colt's-foot Pond, Hedge End, 21st November
Oudemansiella mucida, **Porcelain Fungus**, Peartree Green LNR – on sycamore (unusual), 2nd December
Phallus impudicus, **Common Stinkhorn**, Bitterne Manor garden – an unusual habitat, 2nd November
Puccinea glechomatis, **Ground-ivy Rust**, Nursling Substation, 25th October
Suillellus luridus, **Lurid Bolete**, By Bursledon Road, Thornhill, 4th October
Terana caerulea, **Cobalt Crust**, Thornhill Park Wood – on sweet chestnut wood, 12th February
Ustilago maydis, **Corn Smut**, Old Netley, 20th August
Volvariella bombycina, **Silky Rose-gill**, Westwood Road, Portswood – new to Southampton, 2nd October
Xerocomellus cisalpinus, **Blue-foot Bolete**, Marlands Copse – new to Southampton, 6th October

A lot more information on fungi can be found on certain web-sites such as those produced by the Hampshire Fungus Recording Group: ***www.hampshirefungi.org.uk***.

Bryophytes and Pteridophytes

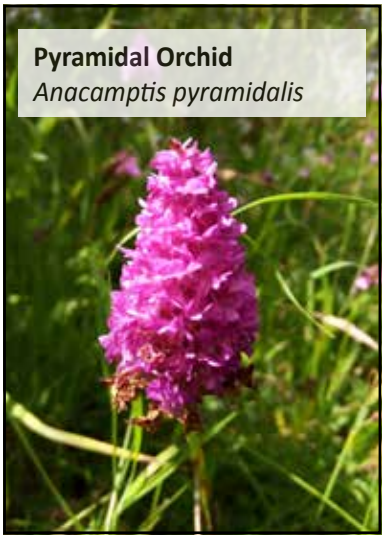
There were three records of Bryophytes (mosses) of interest. A survey on Peartree Green LNR on 21st January confirmed that **Sand Feather-moss** *Brachythecium mildeanum* is still present in 'chalky bottom'. **Long-beaked Water Feather-moss** *Platyhypnidium riparioides* was found to be abundant at Hum Hole ponds in Bitterne on 24th February and **Juniper-leaved Hair Moss** *Polytrichum juniperinum*

was found colonising a balcony flowerpot at Lydgate Road on 31st October. 25 plants of **Maidenhair Fern** *Adiantum capillus-veneris* were found to be well established on an old wall at Rownhams on 26th March.

Vascular Flora: Flowering Plants

Native Species

A systematic list of interesting species records appears in the summary below but the outstanding highlight of the year must be the discovery of a single spike of **Lizard Orchid** *Himantoglossum hircinum* in a grass verge by a footpath in the Bursledon area and admired by many on 23rd June. It is of note that 17 spikes of Lizard Orchid have appeared at Portsdown Hills as well. Other 'new' sites for orchids in 2022 included **Pyramidal Orchid** *Anacamptis pyramidalis* near to Cromarty Pond in Lordshill on 7th July and new sites for **Bee Orchid** *Ophrys apifera* at Ivy Dean, Sholing where leaf rosettes were identified on 21st March and at Peewit Hill, Bursledon where one spike was seen on 20th June. Sadly it appears that **Green-winged Orchid** *Anacamptis morio* no longer occurs at Chilworth Manor Gardens unless anyone knows differently. 2022 was a good year for parasitic broomrapes. **Ivy Broomrape** *Orobanche hederae* was found at new sites at Chessel Bay on 19th July, and at Mayflower Park on 7th August. **Common Broomrape** *Orobanche minor ssp. minor* was found at Hamble Point on 5th June (25 of them), at Brighton Road near Inner Avenue on 16th June, and at Chapel Road in Southampton on 28th June. **Brachyglottis Broomrape** *Orobanche minor ssp. minor var. heliophila* turned up at Quayside Road on 19th July, and at Woodley Road in Woolston on 25th July.



There were some bizarre phenological records with **Dog Rose** *Rosa canina agg*., in full flower at Peartree Green LNR on 28th November, and a male **Goat Willow** *Salix caprea* in partial flower at Hannay Rise, Thornhill on 14th January. The latter was in flower again by 21st January 2023.

It was decided that the **Heath Dog-violet** *Viola canina* at St Mary's Extra Cemetery recorded on 1st May 2022 is erroneous although it is possible that some plants are hybrids. It appears that Heath Dog-violet is extinct within the Southampton city boundary unless anyone knows otherwise.

Other native flowering plants 2022 records of interest are as follows:

Carex echinata, **Star Sedge**, Dumbleton's Copse bog – a new discovery, 20th June
Drosera intermedia, **Long-leaved Sundew**, Peewit Hill – recolonising site with *D. rotundifolia,* 20th June
Drosera rotundifolia, **Round-leaved Sundew**, Dumbleton's Copse bog – recolonising site, 28th October
Hieracium trichocaulon, **Hairy-stemmed Hawkweed**, Southampton Old Cemetery – many on eastern side, 11th June
Lotus subbiflorus, **Hairy Bird's-foot Trefoil**, Orchards Way, Highfield – on grass banks, 3rd June
Lysimachia nummularia, **Creeping-Jenny**, Miller's Pond, Sholing – abundant on new island, 1st July
Mycelis muralis, **Wall Lettuce**, Maycroft Court, Banister Park – third Southampton record, 3rd May

Ranunculus parviflorus, **Small-flowered Buttercup**, By Botley Road, Sholing – near Montagu Avenue, 20th April
Ranunculus sceleratus, **Celery-leaved Buttercup**, Miller's Pond – abundant on mud exposed by works, 1st July
Rhinanthus minor agg., **Yellow-rattle**, St Mary's Extra Cemetery, Sholing – a new site, 1st May
Sanguisorba officinalis, **Great Burnet**, Highfield area – the only Southampton site, 3rd June
Sorbus torminalis, **Wild Service-tree**, Dibden Bay – one tree in hedge by a farmer's track, 9th August
Sorbus × thuringiaca, **Bastard Service-tree**, Near to Nursling Substation, 3rd June
Tilia cordata, **Small-leaved Lime**, By A3024 at Netley Chase, Thornhill – one tree, 27th April
Trifolium glomeratum, **Clustered Clover**, Peartree Green LNR – 2nd So'ton record at bioblitz, 25th June
Trifolium striatum, **Knotted Clover**, Orchards Way, Highfield – on grass banks, 3rd June, and Windover Roundabout, Bursledon – abundant, 8th June

Non-native Species

In 2022 there seems to have been a very dramatic increase in the abundance and range of a species newly identified in 2021. This is the **Jersey Cudweed** *Gnaphalium luteoalbum.* This plant usually appears on pavements, by roadsides or in car parks. Records include at Lydgate Road, Thornhill on 30th May, at Albert Road on 25th June, at Hamble Lane/Hound Road roundabout on 24th August and at Butts Road, Sholing on 3rd October. It has also been recorded in Hedge End.

A selection of other interesting records of naturalised flowering plants seen in 2022 is as follows:

Anisantha diandra, **Great Brome**, Winchester Road, Romsey – in large quantity in a garden, 21st May
Arbutus unedo, **Strawberry Tree**, On NE edge of Southampton Municipal Golf Course – 5 seen, 24th August
Berberis darwinii, **Darwin's Barberry**, Southampton Old Cemetery – one bird-sown bush, 18th April
Chenopodium hybridum, **Maple-leaved Goosefoot**, Western Esplanade, Southampton – 3 plants, 25th August
Digitalis lutea, **Small Yellow Foxglove**, North side of M27 at Hillstreet, Nursling, 24th June
Helleborus × hybridus, **Hybrid Hellebore**, Weston Common, Sholing – in woodland, 26th February
Lepidium virginicum, **Least Pepperwort**, Botley – by allotments near Winchester Road, 12th November
Oxalis incarnata, **Pale Pink Sorrel**, Southampton Old Cemetery – well naturalised on west edge, 8th May
Senecio inaequidens, **Narrow-leaved Ragwort**, Cracknore Hard, Marchwood, 9th August
Spirea alba, **Pale Bridewort**, Southampton Old Cemetery – naturalised on east side, 25th July
Tragopogon polifolius, **Salsify**, By M27 at Junction 8 (Bursledon), 22nd April

For more details of botanical sightings in Hampshire please refer to the Hampshire Flora Group: ***https://hantsplants.uk/***.

Fauna

Non-insect Invertebrates

Formerly there was known to be a large colony of **Lister's Water Snail** *Viviparus contectus* in the Boating Lake on Southampton Common. This colony was thought lost but two live snails found there on 19th June. The very common **Wandering Pond Snail** *Radix balthica* was found to be still surviving at Hum Hole ponds, Bitterne during works there on 24th February. Two specimens of **Two-toothed Door Snail** *Clausilia bidentata* found on the concrete retaining wall of Bitterne Bypass on 27th January.

Land-hoppers *Arcitalitrus dorrieni* were found at Lords Wood (southwest part) on 26th September. At the same location and on the same date the **Blunt-tailed Snake Millipede** *Cylindroiulus punctatus* was recorded. **Signal Crayfish** *Pacifastacus leniusculus* were confirmed as present in the stream at Rownhams Wood on 9th July. An estuarine isopod which is something of a local speciality in the Hampshire area is ***Lekanesphaera hookeri***, this species was identified at Bitterne Park on 8th May.

Arachnida: Aranae (spiders)

In 2022 the very common **Garden Cross Spider** *Araneus diadematus* was recorded on some unusual dates. A female was present on an orb-web at Bitterne Bypass on 20th January and another female on a web seen during freezing weather at Lydgate Road, Thornhill on 8th December. The first report of **Wasp Spider** *Argiope bruennichi* this year was at Weston Meadows on 10th July. Although slightly outside our recording area, it is worth noting that a colony of **Purse-web Spider** *Atypus affinis* found at Beeches Hill near to Bishop's Waltham on 9th February. Here three collapsed webs were discovered in a south-facing rockery.

Other Arachnid records of interest in 2022 included the following

Araneus marmoreus var. pyramidatus, Marbled Orb-web Spider, Nursling Old Gravel Pits, 24th August
Dictyna uncinata, A spider, Peartree Green LNR - bioblitz, 25th June
Gongylidium rufipes, A spider, Southampton Common – south, 18th May
Neriene montana, A spider, Wildern Moor, Hedge End, 24th April
Philodromus buxi, A spider, Bevois valley – confirmed by expert, 26th March
Salticus cingulatus, A zebra spider, Itchen Valley Country Park – 99% ID, 22nd May

Jumping Spider
Salticus cingulatus

Hexapoda: Insects

A summary of the more interesting and noteworthy records for 2022 appears below:

Minor orders

Anacridium aegyptium (Orthoptera), **Egyptian Grasshopper**, Bitterne Park garden – a rare import or migrant, 17th May
Chorthippus albomarginatus (Orthoptera), **Lesser Marsh Grasshopper**, Sports Centre – near pond – new site record, 6th July
Meconema thalassina (Orthoptera), **Oak Bush-cricket**, Lydgate Road, Thornhill – a late date, 12th October
Ectobius lapponicus (Dictyoptera), **Dusky Cockroach**, Millers Pond LNR, 28th May
Hemerobius humulinus (Neuroptera), a lacewing, West End garden near West End Copse, 24th June

Major Orders

Odonata (Dragonflies and damselflies)

The highlight of 2022 was without doubt the sighting of the **Winter Damselfly** *Sympecma fusca* at Wildern Moor, part of Wildern LNR, in Hedge End on 5th May. This turned out to be the second confirmed British record. This species is common on the other side of the English Channel including northern France and it could be colonising the UK. Another species of damselfly that has arrived in the Southampton area and has recently spread from the north-east (originally colonised Essex) is the **Willow Emerald** *Chalcolestes viridis*. This species is now established at a pond just outside the eastern boundary of Southampton and was recorded there from 21st August to 9th October. There are also now two known sites on the western side of Southampton with 2 males seen at one site within the city boundary on 1st September and the very first Southampton record at a private location in the Test valley on 15th August. Three sites in total.

Banded Demoiselle
Calopteryx splendens

There were also some records of unusual varieties of some damselflies including female form *rufescens-obsoleta* of **Blue-tailed Damselfly** *Ischnura elegans* at Coltsfoot Pond, Hedge End on 30th June. At Peartree Green LNR on 20th May the form *melanotum* of Large Red Damselfly *Pyrrhosoma nymphula* was seen.

Some records of earliest dates for selected Odonata species in 2022 include the following:

Calopteryx splendens, **Banded Demoiselle**, Testwood Lakes, 5th May
Calopteryx virgo, **Beautiful Demoiselle**, Testwood Lakes, 5th May
Coenagrion puella, **Azure Damselfly**, Wildern LNR & Nursling Old Gravel Pits, 4th May
Enallagma cyathigerum, **Common Blue Damselfly**, Southampton Old Cemetery, 8th May
Libellula depressa, **Broad-bodied Chaser**, Wildern LNR & Hamble Common, 25th & 26th April
Libellula fulva, **Scarce Chaser**, Nursling Substation, 5th May
Pyyrhosoma nymphula, **Large Red Damselfly**, Coltsfoot Pond, Wildern LNR, 5th April
Sympetrum striolatum, **Common Darter**, Orchards Way, Highfield – a mating pair, 3rd June

Other Odonata records of interest in 2022 included:

Calopteryx splendens, **Banded Demoiselle**, Thornhill Park garden – an unusual location, 15th June
Ceriagrion tenellum, **Small Red Damselfly**, Coltsfoot Pond, Wildern LNR – 2nd record here, 12th July
Cordulegaster boltonii, **Golden-ringed Dragonfly**, Dean Road, Bitterne – an urban location, 24th June
Cordulia aenea, **Downy Emerald**, Cromarty Road & Sports Centre ponds, 28th & 29th May
Orthetrum cancellatum, **Keeled Skimmer**, Cromarty Road Pond, 26th May
Sympetrum striolatum, **Common Darter**, Wildern LNR – latest date, 12th November

Hemiptera (Bugs)

The **White-shouldered Shield-bug** *Dyroderes umbraculatus,* first reported in 2021, was seen in several places in 2022 on its foodplant cleavers (= goosegrass) *Galium aparine*. It was seen at Southampton Old Cemetery on 24th April, 12+ counted at Wildern LNR, Hedge End on 4th May, and it was again seen at several sites in the west of Southampton, including in the Nursling Substation area on 13th May.

Other Hemiptera records of interest in 2022 included the following:

Adomerus biguttatus, **Cow-wheat Shield-bug,** Lord's Wood – central part, 14th July
Aneurus avenius, a flat-bug**,** Nursling area, 15th March & 5th April
Eremocoris fenestratus, a ground-bug, Peartree Church – 4 seen at night on yew, 15th October
Ilyocoris cimicoides, **Saucer Bug,** Coltsfoot Pond, Hedge End, 23rd May
Lamprotettix nitidulus, a leafhopper, Nursling Old Gravel Pits, 22nd October
Leptoglossus occidentalis, **Western Conifer Seed-bug,** The Range, Thornhill – garden section, 3rd October, and Southampton City Centre, 7th October
Polymerus palustris, a mirid bug, Nursling Old Gravel Pits, 3rd July
Polymerus unifasciatus, a mirid bug, Butlocks Heath garden – at moth light, 9th July
Ranatra linearus, **Water Stick Insect,** Cromarty Road Pond, 16th June
Rhopalus maculatus, a glass-bug, Nursling Substation, 16th May
Rhopalus parumpunctatus, a glass-bug, Wildern Moor, Hedge End – new to site, 26th September
Spathocera dalmanii, **Dahlmann's Leatherbug,** Mill Lane area, Nursling, 1st June
Syromastes rhombeus, **Rhombic Leatherbug,** Nursling Substation, 6th May
Tremulicerus tremulae, a leafhopper, Wildern LNR, Hedge End, 23rd November
Viridicerus ustulatus, a leafhopper, Oaktree Road, Bitterne Park, 6th October

The web-site ***micropics.org.uk*** is very useful in the determination of adult Hemiptera. Another useful site which provides abundant, up-to-date information on Hemiptera is the site ***britishbugs.org.uk***

Coleoptera (Beetles)

Rose Beetle (Rose Chafer) *Cetonia aurata* continues to increase in Southampton and can hardly be missed due to its size and brilliant emerald-green colour. There was one extremely early record in the Chessel area of Bitterne on 24th March and further sightings at Southampton Old Cemetery, in a garden at Highfield (2), at Vespasian Road in Bitterne Manor, and at Miller's Pond LNR in Sholing (2 on hogweed) between 21st May and 17th August. Another 'New Forest beetle' that is gaining in status in the more wooded parts of the Southampton area is the distinctive **Minotaur Beetle** *Typhaeus typhoeus* with reports at Stoneham Golf Club on 22nd February, and on Southampton Common on 22nd October. A new ladybird species has appeared in the Southampton area – **Forestier's Ladybird** *Rhyzobius forestieri*. This species was originally native to Australia and in 2022 specimens appeared at a moth lamp at Kathleen Road, Sholing on 1st August, and at LED light at Bevois valley on 11th August. There were as normal, many **Stag Beetle** *Lucanus cervus* reports. The earliest of these was at Oakmount Avenue in Portswood on 12th May, and the last at Uplands Estate Meadow at Highfield on 1st July.

A selection of the other beetle records received in 2022 include the following:

Actenicerus sjaelandicus, **Marsh Click Beetle**, Wildern Moor, Hedge End, 13th June
Ampedus quercicola, a click beetle, Nursling Substation, 21st May
Aphthona nonstriata, **Irish Flea Beetle,** Southampton Common - central, 18th May
Bruchidius siliquastri, a bean beetle, Bitterne Park garden – a recent colonist of the tree *Cercis**, 6th October
Carabus granulatus, a ground beetle, Nursling Old Gravel Pits & Substation, 13th March & 5th April
Clytis arietis, **Wasp Longhorn**, Nursling Old Gravel Pits – a very early date, 17th April
Cocinella 11-punctata, **11-spot Ladybird**, Vespasian Road, Bitterne Manor – on *Vinca major,* 3rd January
Endomychus coccineus, **False Ladybird**, Nursling Substation area, 21st May
Hippodamia variegata, **Adonis' Ladybird**, Trebourba Way, Millbrook, 13th August
Hydrobius fuscipes, a water beetle, Coltsfoot Pond, Wildern LNR, 10th March
Malvapion malvae, a weevil, Peartree Green LNR, 9th July
Nicrophorus interruptus, a carrion beetle, Southampton General Hospital, 20th July
Ochina ptinoides, **Ivy-boring Beetle**, Nutshalling Avenue area, Rownhams, 3rd May
Ontholestes murinus, a rove beetle, Hogsty Corner, Wildern LNR, 8th May
Paracorymbia fulva, **Tawny Longhorn**, Wildern Moor, Wildern LNR, 29th June
Phytoecia cyclindrica, a beetle, Nursling Old Gravel Pits, 14th May
Platyrhinus resinosus, **Cramp-ball Weevil**, Nursling Old Gravel Pits, 14th May
Platystomos albinus, a fungus weevil, Hawthorns Wildlife Centre, Southampton Common, 3rd May
Platystomos albinus, a fungus weevil, Nursling Substation area, 18th May
Prionus coriarius, **Tanner Beetle**, In driveway near Coltsfoot Pond, Hedge End, 31st July
Pyrochroa coccinea, **Black-headed Cardinal Beetle**, Riverside Park, 29th April
Pyrochroa serraticornis, **Cardinal Beetle**, Near Wildern LNR, Hedge End – an early date, 13th April
**Cercis* is the Judas Tree *Cercis siliquastrum*, a Mediterranean tree of the pea family with pink flowers

Diptera (Two-winged Flies)

Earliest dates for selected common species in 2022 are as follows:

Bombylius major, **Dark-edged Bee-fly**, Goodall's Meadow, Wildern LNR – 2nd UK record in 2022, 7th March
Epistrophe eligans, **Early Epistrophe**, Lances Hill, Bitterne, 3rd April
Episyrphus balteatus, **Marmalade Hoverfly,** Montgomery Road, Bitterne, 20th January
Eristalis tenax, **Drone fly**, Hannay Rise, Thornhill, 13th January

Melangyna cincta, a hoverfly, Rownhams garden, 23rd March
Meliscaeva cinctella, a hoverfly, Rownhams garden, 23rd March
Volucella zonaria, **Hornet Hoverfly**, Southampton Old Cemetery, 26th June

Buff-tailed Bear Fly
Criorhina floccosa

A selection of other interesting Diptera (two-winged flies) records from 2022 are as follows:

Anasimyia contracta, a hoverfly, Cromarty Road Pond, Lordshill, 27th May
Anasimyia lineata, a hoverfly, Cromarty Road Pond, Lordshill, 26th May
Bombylius discolor, **Spotted Bee-fly**, Rownhams House garden – 2 seen at new site, 26th March
Bombylius discolor, **Spotted Bee-fly**, Southampton Old Cemetery – new site, 13th & 25th April
Brachyopa scutellaris, **Orange-shouldered Sap Hoverfly**, Home Covert, Nursling, 25th April
Chorisops nagatomii, **Bright Four-spotted Legionnaire**, Bevois Valley, 31st August
Chrysotoxum cautum, **Large Spear-horn Hoverfly**, Southampton Old Cemetery, 30th April
Chrysotoxum cautum, **Large Spear-horn Hoverfly**, Cromarty Road Field, 24th May
Chrysotoxum festivum, **Hook-barred Spear-horn Hoverfly**, Dibden Bay – on hawkweed ox-tongue blooms, 11th September
Conops ceriaeformis, **Puffer-jacket Bee-grabber**, Wildern LNR, 4th August
Criorhina berberina, **Dimorphic Bear-fly**, Nursling Old Gravel Pits, 30th April
Criorhina floccosa, **Buff-tailed Bear-fly**, Home Wood, Stoneham - female, 29th April
Criorhina floccosa, **Buff-tailed Bear-fly**, Lower Test Nature Reserve, 14th April
Criorhina ranunculi, **Large Bear-fly**, Hogsty Corner, Wildern LNR, 26th March
Eudasyphora cyanicolor, a fly, Goodall's Pond, Wildern LNR – conf. I. Andrews (UDF*), 28th July
Exorista larvarum, a fly, Wildern Moor, Wildern LNR – new to site, 10th September
Meigenia mutabilis, a fly, Fishlake Meadows, Romsey – conf. C. Roper, 25th August
Microdon mutabilis sensu.lat., an ant-fly, Near Nursling Substation, 14th May
Odontomyia argentata, **Silver Colonel**, Lower Test Nature Reserve, 18th April
Odontomyia tigrina, **Black Colonel**, Coltsfoot Pond, Wildern LNR, 14th June
Odontomyia tigrina, **Black Colonel**, Cromarty Road Pond, 15th June
Oxycera rara, **Four-barred Major**, Lower Test Nature Reserve, 25th June
Portevinia maculata, **Ramsons Hoverfly**, Horns Drove area, Rownhams – new site, 25th April
Ptychopteris albimana, **Phantom Cranefly**, Wildern LNR – pair in stream, 21st February
Scaeva pyrastri, **Swarming Hoverfly**, Wildern Moor, Wildern LNR – late date, 12th November
Tephritis matricariae, a Tephritid fly, Bevois Valley, 9th April
Trixia caerulescens, a fly, Lord's Wood – near to Tanner's Brook, 27th April
Villa cingulata, **Downland Villa** – a bee-fly, Peartree Green LNR – found dead at bioblitz – 1st for Southampton, 25th June
Xanthandrus comtus, **Migrant Flatbelly**, Wildern LNR – 100th species of hoverfly recorded at site, 5th August

*UDF = UK Diptera Facebook

Hymenoptera (Bees, Wasps, Ants etc.)

The earliest dates in 2022 for selected species are as follows:

Andrena sp., Mining bee - unidentified, Peartree Green, 15th March
Andrena fulva, **Tawny Mining Bee**, Oakmount Avenue, Portswood, 7th April
Andrena haemorrhoa, **Orange-tailed Mining Bee**, Netley Common, 20th March
Andrena nitida, **Grey-patched Mining Bee**, Dumbleton's Copse, Thornhill (colony seen), 19th March
Andrena scotica, **Chocolate Mining Bee**, Hut Wood, 6th April
Anthophora plumipes, **Hairy-legged Flower Bee**, By Millers Pond, Sholing, 26th February
Apis mellifera, **Honeybee**, Thornhill – two at early Goat Willow blossom, 14th January
Bombus hypnorum, **Tree Bumble-bee**, Hedge End garden - queen, 22nd February
Bombus lapidarius, **Red-tailed Bumble-bee**, Wildern LNR – on cherry-plum blossom, 9th February
Bombus sp., **Bumble-bee (unidentified)**, Athelstan Road, Bitterne – three on winter heather, 12th January
Bombus terrestris, **Buff-tailed Bumble-bee**, Bitterne Road East – a queen, 9th February
Colletes hederae, **Ivy Bee**, Hedge End garden & Freemantle Lake Park, 1st & 2nd Sept
Nomada sp., Nomad bee - not identified, Millers Pond LNR, 27th March
Osmia bicornis, **Red Mason Bee**, Bevois valley, 14th April
Vespa crabro, **Hornet**, Goodall's Meadow, Wildern LNR, 5th May
Vespula vulgaris, **Common Wasp**, Lydgate Road, Thornhill, 27th March

There were some late dates of interest too. **Early Bumble-bee** *Bombus pratorum* was seen on Peartree Green LNR on 22nd July; this species is rarely seen after mid-July. A furrow-bee species *Lasioglossum sp*, was seen near to Peartree Church on the late date of 22nd October, and **Hornet** *Vespa crabro* was still to be seen at Ridge Copse, near Romsey, on 22nd October.

A selected list of the other Hymenoptera records received for 2022 is as follows:

Anthidium manicatum, **Wool Carder Bee**, Bugle Street area – a very urban location, 19th June
Apechthis compunctor, an ichneumon wasp, Nursling Old Gravel Pits – ID on Ichneumonoid Facebook Page, 13th June
Callajoppa cirrogaster, an ichneumon wasp, Wildern LNR – a hawkmoth parasite – conf. M. Storey, 6th august
Dyspetes luteomarginatus, a parasitic wasp, Wildern LNR – expertly determined, 4th November
Ectemnius cavifrons, a digger wasp, Bitterne Park garden, 15th July
Ectemnius continuus, a digger wasp, Vespasian Road, Bitterne Manor, 2nd August
Hoplitis claviventris, **Welted Lesser Mason Bee**, Donkey Common, Bitterne, 8th May
Ichneumon xanthorius, an ichneumon wasp, St John's churchyard, Rownhams, 30th June
Ischnus alternator, a parasitic wasp, Wildern LNR - female, 12th May
Lasioglossum morio, **Green Furrow Bee**, Hedge End garden – confirmed by BWARS*, 30th August
Megachile leachella, **Silvery Leafcutter Bee**, Spring Road, Sholing garden – male & female, 24th May
Melecta albifrons, **Mournful Bee**, Hollybrook Cemetery – early date; only 2022 record, 26th March
Nomada zonata, **Variable Nomad**, Wildern LNR – a new colonist to Southampton area, 30th June
Pimpla rufipes, an ichneumon wasp, Fishlake Meadows, Romsey – conf. J. Boparai, 25th August
Sapyga quinquepunctata, an ichneumon wasp, Wildern LNR – new site record, 14th May
Strongylogaster multifasciata, **Bracken Sawfly**, Wildern LNR, 18th May
Temnothorax nylanderi, an ant (scarce species), Bishop's Waltham Moors – conf. M. Fox (BWARS*), 2nd August 2021
Vespa crabro, **Hornet**, Fleming Park, Eastleigh – 10+ around poplars, 10th October

*BWARS = Bees, Wasps & Ants Recording Society

Long-tailed Blue
Lampides boeticus
Mating pair

Lepidoptera: Butterflies

The earliest records of selected species in 2022 are as follows:

Brimstone at Wildern LNR, Hedge End on 2nd February
Clouded Yellow at Test Way, Skidmore on 21st July
Comma at Donkey Common, Bitterne on 8th March
Common Blue at Coxford Road entrance to Lord's Wood on 17th April
Dark Green Fritillary at Cromerty Road Field on 7th July and Southampton Common on 26th June
Green Hairstreak at Peartree Green LNR on 30th April
Green-veined White at Skidmore & Moorcourt in Test valley on 10th April
Holly Blue at Peartree Green LNR & Bitterne Manor on 22nd & 25th March respectively
Large Skipper at Southampton Old Cemetery on 27th May
Large White at Adanac Park, Nursling on 15th April
Meadow Brown at Skidmore area in the Test valley on 31st May
Orange Tip at Wildern LNR, Hedge End on 27th March
Painted Lady at Newtown Road, Weston Park on 16th May
Peacock at Parker's Farm, Rownhams on 1st February
Red Admiral flying in a Swaythling garden on 1st January
Silver-washed Fritillary at Hum Hole, Bitterne on 22nd June
Small Copper on Southampton Common on 26th April
Small Skipper on Southampton Common on 6th June
Small Tortoiseshell at Hamble Point and Wildern LNR at Hedge End on 15th March
Small White at Lydgate Road, Thornhill on 18th March
Speckled Wood at Wildern LNR (near Coltsfoot Pond) on 25th February followed by others at Moorgreen Meadows on 3rd March and Broadlands Valley on 18th March

The latest dates of selected species in 2022 are as follows:

Brimstone at Wildern Moor, Hedge End on 12th November
Clouded Yellow at Hythe on 13th November
Common Blue at Millers Pond LNR on 22nd October
Green-veined White at Testwood area on 16th September
Holly Blue at Coxford Road on 12th November – exceptionally late
Large White at Peartree Green LNR on 24th September
Peacock at Wildern Moor, Hedge End on 11th November
Red Admiral at Botany Bay area on Shoreburs Greenway on 27th December
Small Copper at Millers Pond LNR (2 seen) on 23rd October
Small White at Millers Pond LNR on 23rd October
Speckled Wood on Southampton Common and Southampton Old Cemetery on 12th November

There is one very clear leading news story in Southampton this year when it comes to butterflies as a species was recorded breeding for the first time in the city. The species in question being **Long-tailed Blue** *Lampides boeticus.* A small colony was discovered in Southampton Old Cemetery when two specimens were seen on the transect on 19th August. At least three, including an egg-laying female, were seen at Broad-leaved Everlasting Pea *Lathyrus latifolius* on 20th August and subsequently over 100 eggs were counted. Up to four individuals were seen at any one time and there were still two females and a male there on 28th August. No subsequent autumn brood was seen and I heard of no other reports of this butterfly in Southampton. Please also see ***'Long-tailed Blue at Southampton Old Cemetery'*** by Andy Barker (p36).

Purple Emperor seems to be established in the Wildern LNR, Hedge End area (see records below) and the wing of a dead male was seen at Fishlake Meadows, Romsey on 30th June. A normally under-recorded butterfly is the **Purple Hairstreak** but 2022 seems to have been a good year for this species and I have found 11 records. The reports extended from 21st June to 6th August and the sites seen included Dairy Lane at Nursling, Cromarty Road Field, Nursling Plantation at Aldermoor, the Lordsdale Greenway at Shirley Warren, Daisy Dip, Marlhill Copse, Peartree Green LNR, Freemantle Common at Bitterne, Shoreburs Greenway near Furze Road, at Botany Bay, and at Mayfield Park.

A selection of other butterfly records in 2022 was as follows:

Chalk-hill Blue, Wildern Moor, Hedge End – male – 28th July (previously seen on 14th August 2021)
Clouded Yellow, Peartree Green LNR – '*helice*' form of female, 11th Sept & 1st Oct
Purple Emperor, Wildern Moor, Hedge End - female, 8th July, Bridget Mary Walk, Hedge End, 12th July, and Wildern LNR, Hedge End – near to Goodall's Pond, 24th July
Ringlet, Southampton Old Cemetery – 60 seen on transect, 3rd July
Small Blue*, Donkey Common, Bitterne – female – at a new site, 20th June
Small Heath, Hannay Rise, Thornhill, 19th May, Peartree Green LNR, 24th May, and Southampton Old Cemetery, 27th May
Wall Butterfly, Southampton Common – near Burgess Road – rarely recorded locally, 13th May
White Admiral, West Wood, Netley, 15th June, and Rownhams Wood, 17th June
White-letter Hairstreak, Shoreburs Greenway – Botany Bay area, 21st June

*Small Blue seen again at the usual site at Peartree Green on 17th & 19th June 2022.

Lepidoptera: Moths

The moth records in 2022 were very much boosted by information obtainable via *iRecord* and this has necessitated my being far more selective in what to record in this report. Furthermore, the hot summer weather boosted moth recording. The **Jersey Tiger** continued to be common with the first report at Swaythling on 11th July and the last at Hungerford, Bursledon on 2nd August. 2002 was a good year for the **Hummingbird Hawkmoth** with many sightings in August especially. The first report was at Newtown Road, Weston Park on 7th June and the last was at one at rest on sheltered wall at Lydgate

Bloxworth Snout
Hypena obsitalis

Road, Thornhill on 17th September. Some other early reports were of **Double-striped Pug** at Oak Road, Bishops Waltham on 14th February; **Mint Moth** *Pyrausta aurata* at Orchards Way, Highfield on 4th May; **Ruby Tiger** at Townhill Park on 30th April and **Six-spot Burnet** near to the Southampton Sports Centre pond on 29th May.

The SNHS held a moth lamp event with an M-V light over a sheet in a Butlocks Heath garden backing on to Hound Bunny on 9th July. 55 species were identified including **Brussel's Lace**, **Channel Islands Pug**, **Juniper Webber** *Dichomeris marginella,* and the **Common Mompha** *Mompha epilobiella*. Later on 29th July, a similar event was held on the south edge of woodland at Abbey Meadows, Titchfield (a site run by the Fareham Council). On this occasion 45 species of moth were recorded including **Dusky Sallow**, the form *eremita* of **Black Arches**, and many Tortrix moths including ***Acleris aspersana***, ***Cochylimorpha straminella***, and ***Eucosma campoliliana***. There was a public moth-lamp event at Itchen Valley Country Park on 1st July, reported to me. Species recorded included **Brussel's Lace**, **Dark-streaked Button** *Acleris umbrana*, **Kent Black Arches**, and no fewer than 10 **September Thorn** – an increasing species. The following day **Lunar Hornet Clearwing** was attracted to pheromone lures here.

There were many records from moth lamps in private gardens. At Bevois Valley records included **Bloxworth Snout** on 10th July (now established in central Southampton. Bloxworth Snout is also a recent colonist on the pellitory-of-the-wall plant), **Fern Smut** *Psychoides filicivora* on 7th May, **Marsh Dowd** *Blastobasis rebeli* on11th July, **Pale-bordered Piercer** *Grapholita janthinana* on 19th July, **Pellitory Cosmet** *Cosmopterix pulchrimella* and on 18th July. There were a very large number of records from a garden at Swaythling near Stoneham Lane in 2022. The macro-moths here included **Barred Rivulet** on 12th August**, Clancy's Rustic** on 19th and 28th October, **Clifden Nonpareil** on 27th August, **Dark Crimson Underwing** on 2nd August (both this species and the Light Crimson Underwing are now present in Southampton area), **Langmaid's Yellow Underwing** on 20th August, **Maple Pug** on 11th July**, Oak Rustic** on 29th October, **Red-belted Clearwing** on 1st June, **Scarce Bordered Straw** on 24th October, **Scarce Prominent** on 14th April, **Small Ranunculus** on 27th August, **Toadflax Brocade** on 29th May and the migrant **Vestal** on 24th October (last date recorded). There were several noteworthy micro-moths recorded at this location too, including the following: **Beet Moth** *Scrobipalpa ocellatella* on 3rd September, **Comfrey Ermel** *Ethmia quadrillella* on 22nd July, **Dotted Shade** *Eana osseana* on 5th July, **Heather Twist** *Argyrotaenia ljungiana* on 22nd July, **Marsh Dowd** *Blastobasis rebeli* on 15th July, **Olive-tree Pearl (= Jasmine Moth)** *Palpita vitrealis* on 29th October (a rare migrant closely resembling the Box-tree Moth), **Pine Bell** *Epinotia rubiginosana* on 31st May, **Pine-leaf mining Moth** *Clavistega purdeyi* on 27th July, and **Yarrow Conch** *Aethes smeathmanniana* on 13th July.

Conv
Agri

volvulus Hawk-moth
us convolvuli

Other moth records from 2022 that are of interest are as follows:

Macro-moths:
Convolvulus Hawkmoth, Hamble Old Airfield – a fresh adult near to an area of disturbed soil, 18th August
Frosted Green, Sainsbury's Car Park, Bitterne, 25th March
Old Lady Moth, Spear Pond Gully, Netley – 14 found under bridge over stream, 1st August
Orange-tailed Clearwing, Station Road, Nursling, 22nd June
Red-line Quaker, Lydgate Road, Thornhill – attracted to lighting in block of flats, 25th October
Red-tipped Clearwing, Shirley Avenue – on pheromone lure, 4th June
Red-tipped Clearwing, Wildern Moor, Wildern LNR, 28th July
Small Ranunculus, Hedge End village centre – two larvae on Prickly Lettuce, 18th July
White Satin Moth, Horns Drove, Rownhams, 12th June
Winter Moth, Hightown Centre, Thornhill – sat on an outside wall, 27th December

Micro-moths:
Acompsia schmidtiellus, **Marjoram Crest**, Oak Road, Bishop's Waltham, 13th July
Adella cuprella, **Early Long-horn**, Upper Weston Greenway – 6 around female grey willow, 27th March
Cosmopterix zieglerella, **Hedge Cosmet**, Dairy Lane, Nursling, 24th July
Dichrorampha petiverella, a tortrix moth, Peartree Green LNR - bioblitz, 25th June
Diurnea fagella, **March Tubic**, Lydgate Road, Thornhill – in stairwell of flats, 10th March
Dyseriocrania subpurpurella, **Common Oak Purple**, Upper Weston Greenway – flying around oaks, 20th April
Grapholita compositella, **Triple-stripe Piercer**, Wildern Moor, Wildern LNR, 30th April
Musotima nitidalis, **Golden-brown Fern Moth**, South Stoneham area – first Southampton area record, 7th October
Ypsolopha ustella, **Variable Smudge**, Hannay Rise Woods, Thornhill, 27th December

A very good web-site for information about both macro moths and micro moths is ***www.ukmoths.org.uk*** and for up-to-date and more local information ***www.hantsmoths.org.uk*** is also a very good site.

Vertebrates

Fish, Amphibians & Reptiles

One freshwater fish record, **Bullhead (= Miller's Thumb)** seen in River Itchen southwest of Mansbridge on 13th January.
The first report of **Common Frog spawn** was at Wildern Moor, Hedge End on 31st January, followed by Martin's Pond at Hut Wood on 8th February. There were **Common Toad** records in a garden at Cromarty Road, Lordshill on 17th August, and another at Monks Way, Swaythling on 3rd November.
Adders were confirmed as still present at a site in eastern Southampton on 9th March and seen at a site northwest of Southampton on 26th March and 6th June. There were a number of **Grass Snake** reports in 2022, including at Nursling Substation on 8th May, at Moorgreen Meadows at West End on 19th May, at Horns Drove Wood on 3rd June, and a juvenile by Hill Lane on Southampton Common on 8th June. The most unusual sighting was of a **Bearded Dragon** *Pogona sp*., at Mescott Meadows, Hedge End on 27th October. The latter, one of six species native to Australia, was an escape from captivity.

Birds

The below list is only a summary of bird records in Southampton in 2022 and there are plenty of other sources of information on birds seen in the Southampton area, including the annual Hampshire Bird Report and the Kingfisher magazine produced three times per year by the Hampshire Ornithological Society: ***www.hos.org.uk***. There are also a lot of up-to-date sightings on the web, including our own site: ***www.sotonnhs.org*** site and, particularly the very good Hampshire Going Birding site: ***www.goingbirding.co.uk/hants*** as well as ***www.havantnature.net*** for the Portsmouth area. The Southampton Wildlife Facebook page is particularly useful for detailed and up-to-date reports.
Ring-necked Parakeet's are continuing to be reported widely with records at Lakeside Park, Eastleigh on 20th February, near Testwood Centre on 5th March, at Atherley Road in Lower Shirley on 14th March, and at St Mary's Church at Chapel on 28th June. Another non-native species that was reported in Southampton this year was a **Red-billed Leiothrix (= Pekin Robin)** *Leiothrix lutea*. This bird was seen in the Mansel Road East area of Millbrook on 11th June; it is native to China and is a potential invasive in Hampshire.
There was a large upsurge in **Black Redstart** records in Southampton in 2022 with a report of a pair raising two young at an undisclosed location within the city. Autumn/winter records included sightings at Woolston Sewage Works on 1st January, a male at Centurion Business Park at Bitterne Manor on 6th January, another at Nursling Park and Ride on 17th October, and also at hamble Point on 19th October.
The **Sandwich Tern** is now becoming increasingly common as a winter bird in south Hampshire with reports off of Weston Shore on 15th January, single birds at Town Quay and at Mercury Marsh (Hamble) on 21st February, and another off Hamble Point (Hamble Estuary) on 27th November. There were some very late **Swift sp.,** sightings of two over South Stoneham on 29th October and at Nursling on 30th October and there was speculation that these may have been **Pallid Swifts**. A breeding colony of **Rooks** with 17 nests counted in a park in Southampton on 5th April. **White-tailed Sea Eagle**, recently reintroduced to the Isle of Wight, is starting to be seen over Southampton area with sightings over Weston Shore on 8th Marsh, and over Lower Test Marshes on 13th March

A selection of the many other bird reports in the Southampton area through 2022 included:

Arctic Tern, Off Dibden Bay – a juvenile bird, 3rd November
Brent Goose – pale-bellied, Weston Shore, 7th May & 9th November
Cattle Egret, East of Yew Tree Copse, Broadlands – juvenile, 1st August, and Lower Test Marshes – two seen, 19th September

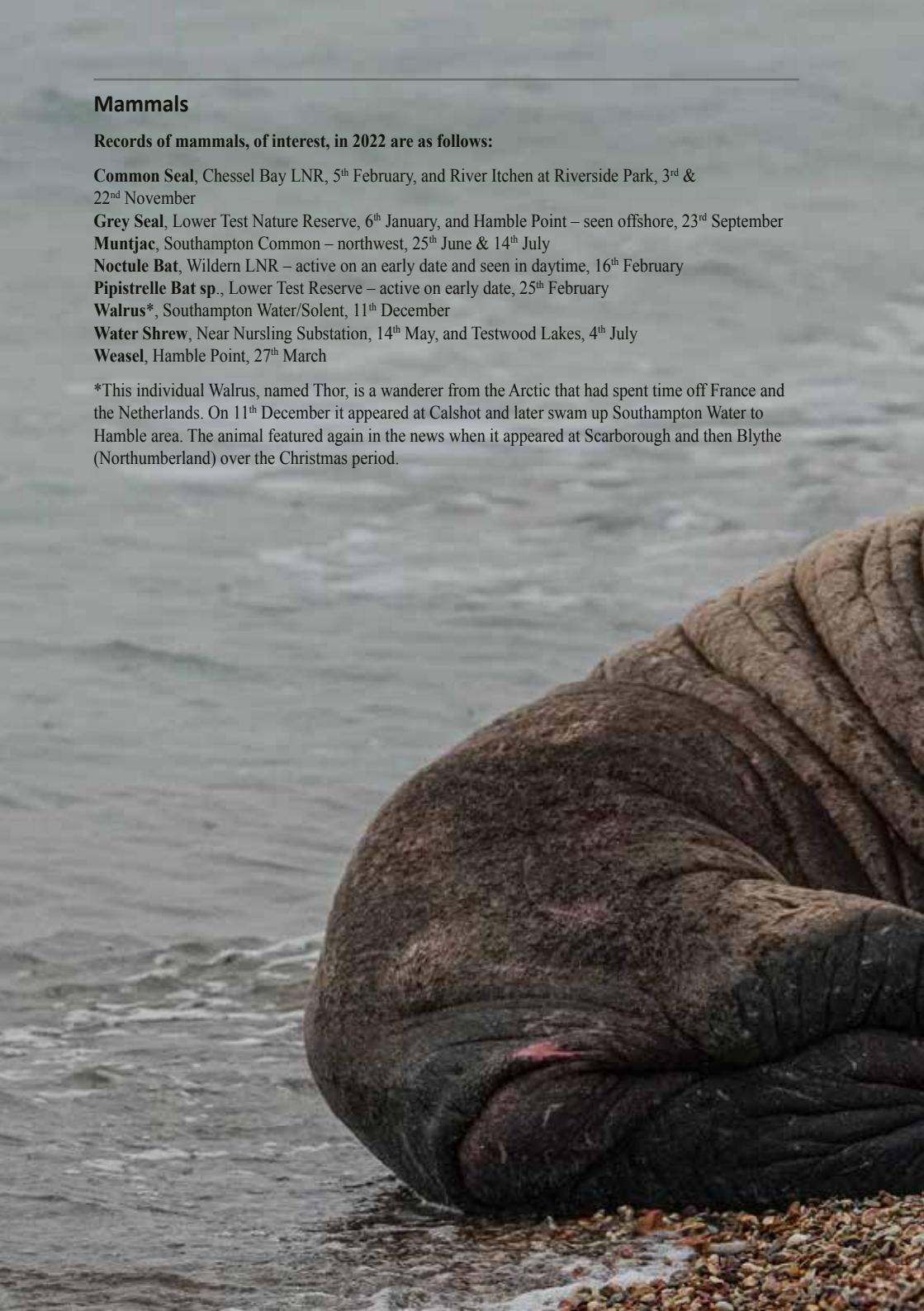
Common Sandpiper, Cemetery Lake, Southampton Common – two seen, 14th August
Cuckoo, Southampton Common – south – one seen, 17th May. There was also a report of Cuckoo at King Edwards School at Hill Lane in 2020
Egyptian Goose, Lower Test Marshes – eight seen, 16th January
Garden Warbler, Peartree Green – in burnt area, 21st August
Garganey, Testwood Lakes – a pair seen, 23rd March
Glossy Ibis, Weston Shore balancing ponds – four seen, 7th August
Great Northern Diver, River Test & Southampton Water – maximum of five birds, late 2022
Great White Egret, Skidmore in Test valley, 10th February, and Testwood Lakes, 16th December
Hobby, Chickenhall Sewage Farm, Eastleigh – three seen, 14th May
Kestrel, Southampton Old Cemetery – not often seen there these days, 18th April
Kingfisher, Peartree Green LNR – feeding on insects in burnt area, 25th August to 17th Sept
Kittiwake, Riverside Park & River Itchen at Priory Road slipway, 26th November, and Chessel Bay LNR – one found dead, 27th November
Leach's Storm Petrel, Off Netley Shore, 4th January
Little Gull, Weston Shore – four seen and one still present on 27th November, 21st November
Little Ringed Plover, Near Moorcourt Farm in the Test Valley, 12th March
Marsh Tit, Rownhams Wood – adult and juvenile, 18th June, and Testwood Lakes, 18th July
Pheasant, Vespasian Road, Bitterne Manor – a female, 2nd August & October, and Janaway Gardens, St Denys – a male, 9th November
Pied Flycatcher, Thornhill Park – garden by Kendall's Wood, 29th June, and Peartree Green LNR – two seen in burnt area, 13th August
Pintail, Chessel Bay LNR – four seen – unusual here, 3rd April
Redstart, Peartree Green LNR – seen in burnt area, 22nd Aug to 5th Sept
Reed Warbler, Shirley Pond & Adanac Park - singles, 11th July
Sanderling, Hamble Point/Shore – a maximum of three, January dates & 11th Dec
Siskin, Hedge End garden – female on feeder – unusual in summer, 19th June
Spoonbill, Weston Shore – unusual here, 17th May
Wheatear, Testwood Lakes – first of the year, 13th March, and Hamble Point – last of the year, 16th October
Whinchat, Lower Test Marshes – early date and early autumn return date, 13th April & 11th July
Whiskered Tern, Fishlake Meadows, Romsey, 4th August
Whitethroat, Mayflower Park – an unusual urban location, 2nd May
Willow Warbler, Near Cemetery Lake, Southampton Common – an early date, 31st March
Wryneck, Peartree Green LNR – burnt area – stayed for several days, 2nd September

Mammals

Records of mammals, of interest, in 2022 are as follows:

Common Seal, Chessel Bay LNR, 5th February, and River Itchen at Riverside Park, 3rd & 22nd November
Grey Seal, Lower Test Nature Reserve, 6th January, and Hamble Point – seen offshore, 23rd September
Muntjac, Southampton Common – northwest, 25th June & 14th July
Noctule Bat, Wildern LNR – active on an early date and seen in daytime, 16th February
Pipistrelle Bat sp., Lower Test Reserve – active on early date, 25th February
Walrus*, Southampton Water/Solent, 11th December
Water Shrew, Near Nursling Substation, 14th May, and Testwood Lakes, 4th July
Weasel, Hamble Point, 27th March

*This individual Walrus, named Thor, is a wanderer from the Arctic that had spent time off France and the Netherlands. On 11th December it appeared at Calshot and later swam up Southampton Water to Hamble area. The animal featured again in the news when it appeared at Scarborough and then Blythe (Northumberland) over the Christmas period.



Walrus
Odobenus rosmarus
Thor at Calshot

© Duncan Whitfield @faunathology

Weather Records 2022
Records recorded by VisualCrossing.com at Southampton International Airport

Phil Budd

A summary of 2022

In early 2022 I moved out from my address at 488 Bitterne Road East to a maisonette in Thornhill without a garden and decided not to set up a new weather station on the small balcony there. I only have complete weather data for Bitterne for January 2022 and so therefore it was considered best to prepare the annual weather report for this year based on data kindly available from Southampton (Eastleigh) Airport and presented on the Southampton Natural History Society website.

In summary 2022 was another very warm year and slightly drier than the long-term average. Every month from January to November was warmer than the long-term average. There was another mild and, at times, stormy early winter period followed by a cool spring with no particularly hot weather, not even in May. The summer was very dry and sunny and at times, very hot. An extreme drought was evident by August. Autumn was very wet and mild but not particularly stormy. Finally, early to mid December was very cold but a very mild and wet Christmas period followed.

A summary of some data from Southampton (Eastleigh) Airport appears in the table below:

I will now summarise the main weather events of 2022:

January: Mild throughout but with occasional frosts. Unsettled and very wet first half but much drier second half. An English record January maximum of 16.2 Celsius at St James Park, London on 1st. Sleet fell on late afternoon of 7th when the winds turned to the NW.

February: Mostly a dry and mild February but some wet and often stormy weather from 13th to 24th. A particularly serious storm (Storm Eunice) on 18th contained gusts of up to force 11. Night-time air frosts recorded at the end of the month.

March: A mild and showery first half of the month followed by very mild, drier, and sunny weather later but chilly weather at the end of the month. Sleet showers recorded in the afternoon of the 31st.

April: After a particularly chilly start April was cool and showery up to 12th. Thereafter April was warm and dry with a fair amount of sunshine. Showers of both hail and sleet recorded on the afternoon of the 8th. No particularly hot temperatures in April as has sometimes happened in recent years.

May: A warm and dry month but not particularly sunny and no hot temperatures recorded. Particularly heavy rain on the afternoon of 11th and thunderstorms recorded on 15th, 19th, and 31st May.

June: An unsettled month early on (up to 8th) and again from 25th onward. Dry, very sunny, and hot at times between 9th and 24th June. Thunderstorm recorded on 8th and very hot around 17th.

July: An extremely dry month with reports of no rain whatsoever at Odiham in Hampshire. Generally, very hot and sunny but significantly cooler and cloudier by month's end. The 19th was a very interesting day, 40.2 Celsius recorded in Lincolnshire – the highest temperatures ever in the UK but only 32 to 35 Celsius in the Southampton area. A rare phenomena, evaporating rain, recorded on the 19th also. For 15 days between 4th and 18th July absolutely no precipitation recorded at Southampton Airport. 12th/13th was the warmest night of the year.

Weather Records for 2022 by VisualCrossing.com from a weather station at Southampton International Airport										
	Mean max temp	Max temp	Mean min temp	Min temp	Total precip	Wetest day		Wind Speed Maximum (Gust)		
	°C	°C	°C	°C	mm	mm	Date	mph	Dir	Date
Jan	8.4	13.1	2.6	-2.9	31.1	8.1	8th	35	SW	6th
Feb	10.1	12.9	4.7	-0.1	48.2	12.0	13th	73	WSW	18th
Mar	11.7	16.9	4.8	1	58.4	17.0	16th	37	E	19th
Apr	13.6	18.3	5.3	-2.1	21.0	9.3	5th	49	W	7th
May	16.8	20.8	9.4	6.2	43.5	11.0	16th	33	WSW	25th
Jun	19.7	27.8	10.5	-0.3	35.1	7.0	5th	34	ENE	4th
Jul	23.2	31.6	14.0	9.5	3.8	2.4	23rd	29	SW	24th
Aug	24.0	31.2	14.5	10.3	23.4	10.0	16th	29	NE	31st
Sep	18.6	23.6	11.3	4.9	76.7	15.0	8th	36	SW	30th
Oct	17.0	19.2	10.6	3.5	91.6	20.0	23rd	42	SSE	31st
Nov	13.3	20.4	8.2	2.2	186.4	25.0	15th	57	SW	1st
Dec	5.3	12.7	-0.1	-4.9	49.4	22.0	19th	42	WSW	29th
Mean/ total	**15.8**	**31.6**	**8.6**	**-4.9**	**668.6**					

Weather records from 2006 to the present day may be found on our website at ***sotonnhs.net/weather***.

August: After a very humid start it was a hot, dry, and sunny first half. More unsettled from 16th to 25th August but still very warm then. Cooler temperatures but dry after 25th. 23 days with no daily rainfall greater than 1mm from 24th July to 15th August. Maximum temperatures exceeded 80 Fahrenheit or 27 Celsius on all days from 8th to 14th August. Thunderstorm on 17th and very wet morning on 25th.

September: A dry September with around average temperatures. After a warm and muggy start there was a cool and thundery spell from 5th to 8th. Cool, dry, and sunny in mid-September but unsettled, showery and very cool from 26th.

October: A wet and warm October so very favourable for fungi growth then. Very wet initially and then dry, warm, and sunny up to 12th. From the 13th the weather became increasingly wet and unsettled but the temperatures were very warm in the final week. A violent thunderstorm recorded in morning of

23rd with hail noted in late afternoon on the same day. 21 Celsius recorded in some other places on 29th.

November: An extremely wet and mild month throughout. Incessant rain and showers prior to a dry spell from 9th to 14th. The 15th to 28th was cooler, cloudy, and very wet before a chilly easterly wind arrived at month's end. Winds reached severe gale force 9 on 1st November and still as warm as 17 Celsius on the 12th.

December: A month of two very contrasting halves. Very cold and mostly dry but with severe frosts and even some freezing fogs up to 17th but wet, windy, and very mild thereafter. There was no significant precipitation from 29th November to 10th December and a dusting of snow at lunchtime on 11th. There were air frosts every night from 7th to 18th and sub-zero day temperatures on 12th to 14th. There was so much rain from 18th that the month finished being wetter than the average December.

Southampton Natural History Society

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