

Dundee Naturalists' Society

Instituted 1874



Bulletin No 44 2019

**DUNDEE NATURALISTS' SOCIETY
ANNUAL BULLETIN No 44
2019**

Hon President:	Dr Gordon Corbet
Hon Vice Presidents:	Mr Bede Pounder (died March 2019) Mr Richard Brinklow Mr Brian Allan Miss Dorothy Fyffe
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The Bulletin cover illustration is by Shelagh Gardiner and shows the Society's emblem, the dwarf cornel. Other illustrations are by Anne Reid, Jim Cook, Christine Reid, Mary Reid and Artfile. Two pages of colour photographs have been included this year. All other, unacknowledged, photographs are by Anne Reid.

EDITOR'S NOTE

Thanks to all members who have submitted articles and reports, especially those who have done so for the first time this year. Thanks to Colin Reid, Jim Cook, and Mary Reid for proof reading and helpful comments. Thanks also to those who have willingly, and promptly, supplied photos at my request.

Contributions for the next Bulletin, articles, line drawings and photos, are always welcome and may be submitted at any time during the year. The deadline for submissions is usually the end of the calendar year.

Our website is www.dundeenats.org.uk . Facebook page: Dundee Naturalists' Society

Anne Reid

SOCIETY REPORTS

PRESIDENT'S REPORT

The Society has had another successful year. There were 15 outings during the summer, seven on Saturdays and eight on Tuesday evenings along with an autumn Saturday morning outing to St Andrews and the New Year barbecue at Templeton woods.

Full day outings included part of the Fife Coastal Trail and Culross, Callander, Rottal Lodge, Cramond, St Cyrus and Pitlochry. Thanks to Barry Caudwell for organising an excellent, full-day dragonfly and damselfly workshop and Daniele Muir for running it. Tuesday evening visits included Shiell Street reserve, Guardswell farm, Tayport, Moncrieffe Island, Brownie Wood and Loch of the Lowes. Again some outings were held in partnership with the Botanical Society of Scotland as part of the urban plant recording project, and we have now contributed records from a number of meetings for this. Full accounts of these are elsewhere in this Bulletin. Thanks to all of the outing leaders.

The weekend excursion to Dumfries was well attended with mostly warm sunny weather and included excellent outings to Carrifran woodland, Caerlaverock WWT reserve and a coastal walk along the Solway from Sandyhills to Rockcliffe. The weekend finished with a walk round Lochmaben on the way back. Thanks to Anne Reid and Barry and Cathy Caudwell. Despite a few issues our 2020 trip to Oban is sold out.

Numbers attending Saturday trips are still low and these are running at a loss. This is a shame as the outings we had over the summer were varied and interesting with much to see and catering for all abilities. The company was excellent and we saw some interesting wildlife. We are encouraging members to come along as the outings are at least partly a social event. To continue with this core part of our activities, Council has decided that the outings are worth subsidising, with a review on an annual basis.

The winter lecture programme of 11 talks which were, once again, all to a good standard, varied, entertaining and informative. Alastair Dawson on weather and climate change gave us food for thought and David Hetherington, on the lynx, attracted 106 people, by far the largest audience for a number of years. Members may have noticed that there have been timing issues with the winter programme talks. This is because the University has set a time of 9pm to close the building where, previously, it was 9.30pm. So we propose that for our next session we bring the start time for talks forward to 7pm, which gives us two hours.

Council has held four committee meetings over the last session. As well as planning our regular outings and meetings, we discussed the future of the quarry and the recording group is off to a good start. We have decided that the current membership fees should enable us to manage for the next few years and it should not be necessary to increase subscriptions for a few years.

The society has taken part in consultations for Dundee City Council's biodiversity action plan and Biodiversity Duty document, and will also be represented on a proposed consultation group. We had our usual stall at the flower and food festival to raise our profile and our thanks goes to Lorna for organising the Society's stand. We are still looking for ways to attract new members and this will include taking part in bioblitzes and open days and attending the flower and food festival.

Jim Cook is convener of the Carsegowniemuir Quarry subcommittee and has developed a ten year plan for its management. Council has also formed a publicity subcommittee to push forward the update and migration of our website to another platform. This should make it easier to update.

2024 is the 150th anniversary of the founding of the society and there are plans afoot to publish a history of the Society. The subcommittee includes Jim Cook, Colin McLeod, Lorna Ward and Anne Reid. Your Council also is mindful that we should organise events to celebrate the anniversary.

For any of these subcommittees and the general running of the Society we are looking for volunteers and new Council Members to represent the views of the members. If anyone is interested in helping with outings then this would be greatly appreciated. We are devising a scheme so that those who may be interested in helping can understudy seasoned leaders.

We have been saddened by the death of a number of well-known and long standing members this year, most notably Bede Pounder, one of our Hon Vice-Presidents (see obituaries, below). We are also grateful to the late Gordon Maxwell who left the society £2000 in his will.

This year we were in the unfortunate position of having to expel a member of the Society for bringing its reputation into disrepute, after an incident during one of the summer outings. So we are reminding members, before outings, to please be aware that they are always on someone's land and although we have a right to cross that land, it is illegal to interfere with legitimate management operations. This is true even if you as individuals disagree with that management. If an incident occurs during an organised outing then the Society can be held responsible for that action.

Finally, a number of members of the Society have been involved in a project "Back from the Brink: Saving the Small Blue". In December 2019 the project won two awards; the Association of Local Government Ecologists Silver Anniversary Biodiversity Project Award and the RSPB Nature of Scotland Community Initiative Award 2019.

David Lampard

CARSEGOWNIEMUIR CONVENOR'S REPORT

The biting cold followed by the snow meant that only one brief visit was made in January and another early in February during a milder spell. Ronnie Ogg and Jim carried a ladder around to inspect most of the bird boxes (apart from the swallow boxes over pond 5) before the start of the nesting season. Several that had blown down needed to be re-sited and mounted higher up in a more suitable tree, another two were taken home to dry out and be repaired while the rest were checked and most cleaned out of old nesting material. Ronnie also donated a bird box of his own and Jackie Mackay contributed another in early March, mounting it up in a large **bird cherry** tree herself. Together with another bat box, all were put up in sheltered locations nearer the west end of the quarry. A number of the boxes, including some of the new ones, were used later in the spring.

In mid-March, Steve Davies, from Aberlemno, was good enough to come along and help finish off planting the **hazels**. The total this spring is one **hawthorn** and six **hazels**, all transplanted from within the quarry. Together with the 18 trees planted last autumn this adds up to 25 trees, not bad for filling in the relatively few spaces left. We've also transplanted a dozen small **gorse** bushes to the very dry and exposed south bank area beside area G3, where we're trying to establish a narrow dense thicket (a bit like a hedge) of **elders** and **willows** together with the **gorse** and a few **hawthorn** bushes to help increase shelter there as the **pine** trees grow up and lose their lower branches. We can only hope that at least some of the gorse transplants may survive the tough conditions and develop into a good dense growth to supplement the **broom** bushes already there. Work to improve the paths continues, including the removal of protruding stones, filling in of hollows, smoothing out of rough parts, widening narrow stretches and grading a few steeper sections.



The dry weather of the spring and early summer meant that the soil was very dry and the ponds sank to an unusually low level. The growth of the trees, though, didn't seem to be greatly affected. Perhaps there was just enough residual moisture in the soil, together with the light showers, to enable them to keep going. Most of the large older **gorse** transplants soon died, however, but the smaller young ones survived and have started to grow.

The annual task of clearing our path network was started earlier than usual, in mid-June, to give time to cut the grass along the main path to the hide and around the barbecue site in good time before our BBQ evening arranged for 9th July. For the first time the job was begun with the strimmer head on the machine instead of the brasher blades. The speed of operation was markedly quicker than with the metal blades, at least when dealing with moist **grass**, soft **willowherb** and **raspberry** stems. Much of the path network was cleared in time for the (abortive) barbecue in early July, although later cutting sessions were difficult, due to the warm and wet weather, with very dense growths of grass, particularly the very lush yet tough **Yorkshire fog** which required several separate passes. In August the continued grass growth even meant that the main path had to be cleared again.

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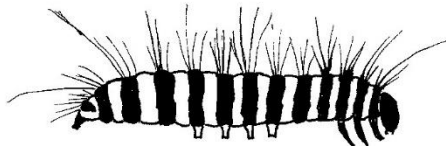
Another task that we began earlier than last year was clearing pond 5 of its dense cover of the alga '**blanket-weed**'. Both Ronnie and Jackie did a great job in taking large quantities of it off with the use of a rake and a light grapnel. However, continued vigorous algal growth meant that the job had to be repeated several times over the summer in an effort to keep the dense swathes in check.

It was from pond 3, on the day of the barbecue (see page 29), that I took a sample of water in a large flat-sided plastic jar that I'd obtained. The water settled for about an hour and then, to my

delight, six specimens of the **common brown Hydra** could be seen under a floating grass leaf. These are tiny delicate creatures like small thin freshwater 'sea-anemones' but hanging upside-down and trailing very long tentacles. *Hydra* are obscure and difficult to find, not only because of their small size but also because, when disturbed, they retract into miniscule brown blobs. The sample also contained numbers of more obvious freshwater life, tiny **shrimps** and **water fleas** (favourite foods of the *Hydra*), **water hog-lice**, **flatworms**, tiny **worms** and other small pond creatures.

Other sampling activities in the quarry this year has included the use of the trail-cam. Two separate weeks in different positions in the hide captured videos of the dogs but none of the hoped-for **mice**. Another week fixed halfway up the feeding table post (below the hide) showed some birds but not much of any great interest. However, a further week attached to the feeder table pole, but this time nearly at ground level, was more than successful. The camera recorded the astonishing total of 1128 x 15-second video clips! Not surprisingly, it took many weeks to go through them all. The vast majority showed **pheasants** guzzling grain on the ground and waiting for more to fall down from the feeders above but **chaffinches** and **yellowhammers** also proved to be regular visitors. Much less common birds under the table were **great** and **coal tits**, **robins** and **dunnocks** with the occasional **woodpigeon**, a pair of **stock doves** and, once, a **carrion crow**. More surprising, though, were regular visits by **jackdaws** and **jays**. On one occasion four jays were there at the same time, and, twice, a single male **tufted duck** could be seen on pond 3 in the background. The trail-cam also demonstrated that both jays and **magpies** could and did fly on and off the raft on pond 3. What the camera also revealed was that there were no **mice** feeding on fallen seeds under the bird table and, even better, no **rats**. Presumably the birds were doing a good job at hoovering up any food on the ground.

In late July an interesting find was made on several **ragwort** plants growing on the bank of dumped stones at the far western end. They were infested with the black-and-orange striped caterpillars of **cinnabar moths**. Great! We'd often thought in the past that we might try to introduce



them to the quarry to help control the numbers of **ragwort** plants. Now that they've arrived by themselves, we'll leave a few ragworts growing for them to feed up on and pupate successfully and, with luck, they'll multiply and spread next year. Our lists of species recorded within the quarry continues to grow and currently stands at a total of 796

identified species of animals, plants and fungi. Anybody who'd like a copy of the lists has only to ask.

The early August deluges caused an unprecedented problem. Although the heavy rain at intervals in late June and July had soused the vegetation, the ponds had remained at a very low level, much lower than usual, an indication that the soil and rocks in the surroundings were parched during the very dry spell in winter and spring. The continuing heavy rain at the beginning of August, though, started to raise the pond levels a little, showing that surrounding soil and rocks were becoming more saturated. What finally did it, though, was the day of heavy rain on 9th of August which raised the pond levels by about half a metre. This was not nearly enough to reach the barbecue site but needed monitoring. However, more heavy rain on Saturday night, together with continued run-off from the hill to the south suddenly raised the water levels overnight by about a metre and a half, enough to join up ponds 2 and 3 and reach the BBQ tables. By then it was too late to go along and move them. They were standing in water up to the seat levels, not enough to float them off but certainly soak them thoroughly, something we've always tried hard to prevent. Fortunately the water receded after just a few days. (It's ironic that last winter, after we'd 'put them to bed' in shelter well above any possible flood levels, there was no flooding at all!) In all our many years at the quarry, there has *never* been any flooding in August; it just shows the vagaries of British weather in these days of global weather changes.

After the barbecue downpour in July, we kept our fingers crossed and were rewarded with a cloudy but dry planting day on Saturday 5th October. A total of 19 members and friends came along. Not everybody planted trees but all enjoyed the barbecue using the plinth and tables which we'd checked and were none the worse for their soaking in August. Isabelle and Steve Davies and Sue Barker from the local Community Council and Ronnie Ogg arrived early and did a power of work in planting a variety of **oaks**, **rowans** and a couple of **pin**es along at the far end beside the main path. The **oaks** were all planted around or near **ash** trees that seemed to be dying due to **ash die-back** disease. Most of the rest of the **pin**es were planted in pre-dug holes along the south bank by the McGregor clan during the afternoon. Meanwhile Anne had the fire lit and ready for everyone, Jenny and Brian dispensed their usual copious libations of hot mulled wine - much appreciated on a damp day - and Barbara and Beryl visited the trees they planted two years ago. They were impressed by the way their trees had grown very well in a warm and very damp summer. And at the end of the barbecue we finished by carrying the picnic tables back up to their dry and sheltered winter roosts.

In mid-October a group of Environmental Science students from the University of Dundee had arranged to come around the quarry to begin to learn about the practicalities of habitat restoration and wildlife management but, tragically, one of them died a very short time before and the outing was cancelled. Their lecturer, however, did come along and was given a guided tour. He seemed to be very impressed by all the work carried out by Nats' members over the years and expressed appreciation of the changes in the quarry.

In the weeks following, the few remaining trees were planted. All were mulched with the green matting and then surrounded with wire cylinders to protect them from the attentions of deer and any rabbits. The total for the autumn was 18 trees: six oaks, four pines, two hazels, three hawthorns, two rowans and a holly. The hazels and hawthorns were all transplanted from self-sown trees within the quarry.

In early winter the days of heavy rain flooded the low ground again and the barbecue plinth was not quite covered. It was just as well that the tables had been moved up into their winter shelter.

Jim Cook

RECORDING CONVENOR'S REPORT

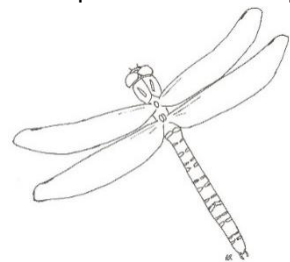
The day flying micro moth the **silver shade** (*Eana argentana*) has an intriguing history. It was first discovered in Glen Tilt in 1875 and this remains its only known UK location. It was originally reported to be confined to a small site in the glen, but in 1878 it was said to be found over a much larger area. Not many sightings followed for several decades and then it was reported in 1940 and was last seen in 2014. Last year a group from Butterfly Conservation, including some Nats, took part in a survey. The good news is that we re-found it, catching it both in moth traps and on the wing, and obtained several good photographs. We also began the process of mapping out how much of the glen it is using. Little is known about its life history or the larval food plants, so any observations are important.

Other moth recording work that Nats are involved in I discussed in last year's report and these continue. Brian Ballinger continues to record for the BSS urban flora, some members are involved in recording fungi in Tayside and recording at Carsegowriemuir, our longest running project, continues.

You never know what invitations are "just around the corner". I was talking to a Highland Perthshire organic farmer at a meeting recently and received two invitations for the Nats to come and do some surveys. Interestingly the two people involved have sites very close together, though very different in habitat. The person that I was initially talking to is Andrew Barbour, who farms at Fincastle, west of Pitlochry, with much of his farm at an altitude of over 300m. The other is a community woodland 8 miles north of Aberfeldy which has a long term plan to re-establish native woodland on part of its land. This is similar in concept to that at Carrifran Wildwood that some of us visited on the Nats weekend last year in the Southern Uplands. Interestingly both projects started about the same time, in the very early years of the Millennium. The plan is to go and recce both sites this year and to come back with a plan for a full Nats visit in 2021. The potential at both sites is restricted only by our imagination!

Other than planning for the future, the more established recording work has been going on. The botanists continue the Botanical Society of Scotland (BSS) 'Urban Flora' project which is a long term one that we add to whenever we have a visit that is in a suitable area. Away from the urban environment the botanical recording continues but the records are sent in to the national plant database.

This year the Nats ran a very successful Dragonfly Identification workshop that is written up elsewhere (see page 30), but it is worth emphasizing that before you can make records, it is essential to know what you are looking at. The idea of running ID workshops is to improve all our ID skill; no one is above improving these skills. The plan is to try and run an ID workshop every year that we can. All it needs is for us to find someone to teach the course, and then to find a date that is suitable for them and fits our busy summer schedule!



You may ask what happens to all these records. Well the recent Moth Atlas (Atlas of Britain & Ireland's Larger Moths 2019) was only possible because of the thousands of moth recorders who submitted records to the national moth database. Currently about 1.5 million moth records are submitted each year - that is a lot of recording! Do not forget that this new atlas is only for the macro moths. The moth I started off with is a micro and as far as I know, no national micro atlas has been published. Is that an opportunity for us?

Barry Caudwell

OBITUARIES

BEDE POUNDER 1930 - 2019

In late March we heard the very sad news of the passing of Honorary Vice-President Bede Pounder; a passing of the generations in this Society. In his younger days, he had been an enthusiastic outdoors-man, a keen hill-walker, often accompanied by his much-loved springer spaniel, Arkle, (brother of Clova, former museum curator of natural history, Adam Ritchie's dog). Bede was a great naturalist with a broad range of interests, including plants and some insects but particularly birds, learning much in his early days from Mike Clegg, that great naturalist at Dundee Museum. While an active member and eventually Chairman of the local branch of the SOC (Scottish Ornithologist's Club), he spent much time studying sea ducks and their behaviour and reporting in a number of articles for 'British Birds' and other journals, all illustrated by his own drawings. Bede meanwhile maintained a wide range of other interests including choral singing and baroque music, aircraft and flight, photography, geology and astronomy and developed a deep knowledge, more than many native Scots, of Scottish culture, history and archaeology. As well as the SOC and the Nats, Bede was a member of the Tree Group, run by the late Bob and Pat McLeod, and an active member and eventually Chairman of the now defunct Museum Society which ran for many years to support the activities of Dundee Museum and in turn encourage the interests of numbers of Dundonians in ornithology, botany, geology and archaeology.

For nearly 30 years Bede was one of the stalwarts of Dundee Naturalists' Society and contributed in so many ways. He led numerous outings and weekend meetings over the years, served several stints on the Council, a three-year term as Vice-President and then another three years as a highly significant President. He contributed items and a few excellent cartoons to the Bulletin - and few could forget his memorable quiz on baroque music at one Nats Social evening. He had an open, friendly and welcoming personality, led the Society on several major conservation projects, and was a good public speaker, ably representing the Society in an active campaign and at a large enquiry on an important issue of local conservation. Further, it was during his term as President that we celebrated our 125th anniversary. The Society marked the year 1999 by organising a big dinner in the Woodlands Hotel, where our guest of honour was the well-known Dundonian author, nature-writer and columnist, Jim Crumley. It was during his speech, in reply to Jim Crumley's address on local natural history, that Bede reflected on the vintage of the Society, the passage of time and its effects on us all, enlivened by the memorable aside that "They don't make mirrors like they used to!". Bede was elected as an Honorary Vice-President of the society in 2003, immediately after his presidency, to mark his very significant contribution to the Nats.

Although Bede was born in Gateshead, his father moved the family to the then-booming railway town of Swindon, where he and his brothers and sister grew up. When he was 10, however, the Second World War intruded on all life in the country. His father held an important post in the civil service and spent a lot of time away from home but Bede was possibly at just the right age, too young to really understand much of the seriousness of the situation but could accept the changes to normal life. He, his many friends and younger brothers were able to revel in the excitement of all the movements, of the many soldiers and much military equipment, of numerous aircraft flying over - and occasionally coming down - and several airfields nearby, within easy range of boys on bikes. He perhaps gained his life-long interest in aircraft at that time and led him on to start work after the war as a technician in the Military College at Shrivenham. Though one of his great friends and colleagues there went on to take up flying as a career, Bede's health problems prevented him following suit and, after his national service, all spent in this country teaching radio use and techniques to servicemen, he returned to Shrivenham as a student and took a number of A-level courses and then an external degree in Physics. He married his wife, Dorothy, a Swindon lass, and moved into lecturing at Colleges of Further Education, first at Chelmsford Technical College, while gaining an MSc in nuclear physics (also as an external student). Then in 1967 he moved up to Dundee to join the staff, as a Lecturer and then Senior Lecturer in Physics, of 'Bell Street Tech' (now Abertay University).

It was during his later years that Bede's old back problem reasserted itself, leading to several spinal operations and increasingly greater restrictions on his mobility. He was forced to give up coming on excursions with the Nats about 15 years ago but continued attending winter lectures until sadly he couldn't even manage that, some eight or nine years ago. Latterly he and Dorothy left Dundee to live in Balmullo, near their daughter, Susan, and son in law. He is survived by Dorothy, a son and daughter and two grown-up grandchildren. We all mark his passing with great regret and a deep sense of loss.

Jim Cook

BOB MCCURLEY

After he retired, Bob's natural history interests became his main pastime. Though birdwatching was his first love, or even passion, he was interested in all aspects of the natural world and I (and others) would receive emailed photographs of anything from plants to insects, often moths, to identify for him. In return, I would send my bird identification queries which would always receive a prompt and helpful reply.

Bob was always keen to share his enthusiasm and was so well-known in birding circles that almost anyone you met in a hide either knew or knew of him, all over Scotland and beyond. Though a long-term member of the Nats he was a regular attendee only at winter lectures. In summer he was out and about most days adding to his 'year list'. He served on the Conservation Committee of Barry Buddon Camp for a long time and was an organiser of the annual joint open day until quite recently. Bob was particularly proud to have been one of the founder members of Angus and Dundee Bird Club and was also active in the local RSPB and SOC groups.

Anne Reid

PETER ELLIS 1946 - 2019

Peter was the miller at the NTS Barry Mill from its opening to the public in the early 1990s until he retired in 2015. With the Pitairlie Burn, the mill lade, mill pond and meadow the site was ideal for visits by the Nats and was rich in natural history. The Nats made full use of this and held a number of barbecues there, both at New Year and in the summer, and took full advantage of the facilities. As a bird ringer, Peter also put on ringing displays on more than one of these occasions, allowing close-up views of familiar garden birds. Peter served on the Nats Council from 1997 - 2000 and used his milling-related expertise to benefit the Society.

On retirement, Peter moved to a cottage at House of Dun and attended Nats events less often. The distance and, latterly, his ill health curtailed his activities somewhat, but he still kept on bird ringing and, most recently, joined us on our spring walk at St Vigeans at the end of March.

It was not until his very well-attended funeral that many of us discovered that Peter had been a skilled and fearless mountaineer in his youth and had taken part in expeditions to Norway and Greenland on which he meticulously collected and recorded plants from these under-explored areas.

Peter's many friends will miss him very much.

Anne Reid

WINNIE TENNANT 1933 - 2019

Winnie, or Wyn, as she was often known in the Nats, had been a member of the Dundee Naturalists' Society for a number of years. She was a very faithful member, coming regularly to the winter meetings and on the summer bus outings. I think it was Davie Stein and Gordon Maxwell who told her about our Society. Davie had known Wyn since he was 17. She was a member of the ladies cycling club, the Heatherbell CC, when Davie was in the Forfarshire RC with her boyfriend, Jack, whom she later married. Wyn came on many of our Nats weekend holidays and Davie recently posted photos of her and other Nats on the Nats Facebook page when on holiday in Fort William a few years ago.

I remember Wyn mainly from winter meetings, when she would say to me "Are you walking home after the meeting?" We would amble down Roseangle together, chatting about that evening's talk. Latterly she had become a bit slower walking, and she always urged me to go on ahead. If one of us missed the AGM, the other would post the mailing envelope through her letterbox. I only found out at the lovely celebration of her life, held in the Invercarse Hotel, on Monday 2nd December, that she had lived in Bellfield Avenue for 60 years!

Wyn took part in several other activities, which could be seen by the large number of friends at the Invercarse. Her latest passion was playing the ukulele, but unfortunately, I never heard her play it. Wyn was a great character and she will be missed by many members of the Dundee Naturalists.

Kati Smith

HELEN BLACKBURN

Helen was a regular at outings and lectures and particularly enjoyed Nats weekends. She had a wide range of interests outside the Nats and always seemed to be on her way to another activity. She served on the Nats Council between 1998 and 2001 and was interested in all aspects of natural history. After a stroke she spent her latter few years in a nursing home but was still interested in Nats' activities and welcomed the distraction of the Bulletin.

Anne Reid

MARGARET PALIN

Margaret Palin died on 17th January aged 96. She joined the Nats aged 83 when she moved to Dundee and came to lectures and outings for several years until unable to do so. She was particularly interested in plants and relished the prospect of any of Brian Allan's talks which helped her to revisit locations and their special plants without the travel. Latterly, Brian's lectures were shown to her on somebody's laptop at home which gave her great pleasure.

David Pullen died suddenly on 19th March. Though only a member for a few years he and his wife Margaret attended regularly at both lectures and outings.

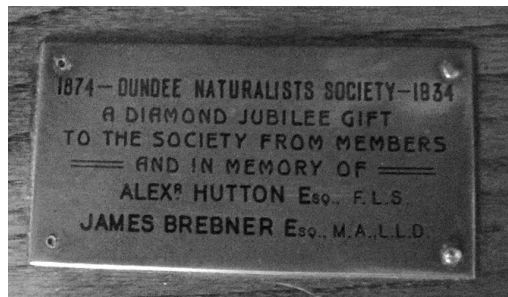
Vivian Tait died on 12th January aged 94.

Mary Saunders died on 26th January 2019. Mary was a member for a while and used to come on outings with Ann Smith. She became heavily involved with the Friends of Barnhill Rock Garden after that.

DUNDEE NATURALISTS' SOCIETY BOOKCASE/CABINET

This cabinet/bookcase (opposite) belonged to Dundee Naturalists' Society but had been in the custody of the late Peter Ellis for a number of years after Dundee Museum no longer had the space for it. Initially it was at his cottage at Barry Mill and, after his retirement, at his home in Montrose. There were glass-panelled doors for the upper shelves, which can be seen stacked to the RHS of the cupboard. The cupboard was in two sections - upper and lower - but was very large. We looked for a new home for this part of Nats history among the membership, but nobody wanted it, or those who did could not fit it in their rooms. Other local organisations were also asked to find it a home but, again, not enough space was the usual reason for being unable to take it.

The bookcase/cabinet was gifted to the Society on its Golden Jubilee in 1934 and was used in Dundee Museum for storing books and other Nats equipment, when the Society used the museum as a base. There was a metal presentation plaque on the base, which was removed and will be put in the custody of the Dundee Museum collections, with other Nats stuff. The plaque reads: "1874 Dundee Naturalists' Society 1934, a Diamond Jubilee Gift to the Society from members and in memory of Alexander Hutton Esq FLS and James Brebner Esq MA LLD" (see photo).



Since we could find no takers, the cupboard was offered to an acquaintance with connections in the antique trade, who would only take it if we collected it from Montrose and delivered it to him at Rait. This 'flitting' was undertaken by Anne and Barry using a borrowed horse-box - not an experience to repeat in a hurry with such a large piece of furniture. Despite having been given the measurements, its size also came as a shock to the recipient! For the record, the measurements are below. We reckon it was probably built 'in situ' in the museum, or at least to fit a designated space there.

Anne Reid



Measurements

Base:
206cm x 64cm x 96cm high

Bookcase:
203.5cm (plus cornice of c5cm) x 44.5cm x
138cm high

The overall height of approx 234cm covers to just over 7ft 8in.

WINTER MEETINGS NEW YEAR BARBECUE - CROMBIE COUNTRY PARK 3rd January

Though overcast, there was little wind and no frost - ideal conditions for our barbecue. Once everyone assembled in front of the main lodge, a 'base camp' was set up on and around some tables and benches and most folk went off for a walk while Anne lit the barbecue. With much less trouble than last year (when it rained!), the charcoal was soon glowing and ready for cooking just as everyone got back from their walk. A **robin** decided we were a likely source of food and perched hopefully on the table. Cathy provided a few crumbs which were eagerly snapped up by the **robin**, with a short pause while it vigorously saw off a competitor.

On the reservoir itself **goldeneye** and **mallard** were present and a few **woodpigeons** burst noisily from the trees. Most of the birds seen were on the feeders behind the lodge where **blue tits**, **great tits** and **coal tits** occupied the feeders themselves while **dunnocks**, **chaffinches** and a **blackbird** fed on the 'fall out' underneath. While we stood around eating or waiting for things to cook we managed to see a **great spotted woodpecker** in one of the tall trees nearby, and a **mistle thrush** put in a brief appearance. Someone saw a **sparrowhawk** take a small bird from one of the feeder areas in the woods and a single **bullfinch** was spotted.

While out and about everyone had been asked to look out for plants in flower for the BSBI New Year Plant Hunt, as we did last year. Having had some sharp frosts in late December it seemed unlikely that much would be found and the list was only two species - **gorse** and **broom** - until Willie Angus (photo, right) said he had a third - frost flowers! Though not strictly within the BSBI criteria, we rather liked adding it to our own list.

Anne Reid



OUR BIRDS IN AFRICA

Will Cresswell - 8th January

The Nats were treated to a fascinating talk by Will Cresswell of St. Andrew's University and the A P Leventis Ornithological Research Institute in Nigeria. As a boy, Will got interested in **spotted flycatchers** when he was visiting his aunt while she was in hospital in the south east of England. As an adult, Will has maintained his fascination with these wonderful birds. However, populations of the **spotted flycatcher** have fallen since then and Will has spent much of his academic life trying to find out why. It isn't just this species, but many types of migratory birds have been in decline in a relatively short space of time and one thing these birds have in common is that they migrate to and from Africa. His work is in cooperation with the RSPB and local African ornithologists.

Will has developed connections in Nigeria to help with his investigations and his team set up nets to monitor 'our' songbirds alongside native species. Will is often based in an area of Central Nigeria that actually looks similar to Scotland (except a little bit drier, warmer and with slightly different vegetation). The migrant birds arrive when plant life is at its best with lots of food available, plus the added bonus of being able to follow cattle in the fields. This means that there is normally an immense amount of invertebrate prey for the songbirds such as **yellow wagtails** and **whinchats** that arrive here. With so many migratory songbirds here the question that is raised is "Why the decline of the populations of those birds that are from Northern Europe?" The majority of these birds seem to travel to the East of Africa and the sub-Saharan belt south of the Sahara Desert.

There are gaps in our knowledge and many researchers still don't know much about what is going on, for instance, many of the distribution maps are rough estimates as the range is often based on scattered sites and not much evidence of species living in the areas in between sites and their distributions turn out to be very patchy. The reason behind our lack of knowledge of these birds is simply that, when compared to European birds, African birds have had much less research performed on them. That is about to change. Will's team have been fitting rings on the legs of birds caught in the nets. These rings help scientists to identify individual birds. There are obstacles out there and one unexpected hurdle was the local **camel** population; one camel even ate a net!

The team are learning new details in a short amount of time. For instance, **wheatears** were monitored, their movements were examined and it was discovered that they may travel far to get to Nigeria, but once they arrive, they stay in a very small area. Will's assistant Mohamad tracks **lesser whitethroats** by radar (one bird is named Michael Palin as it is so well-travelled!). One advantage with this technique is that they do skulk about in the bushes and are hard to see. Radar helps the team know where the **whitethroats** are and helps us to learn that they too, don't travel far once they arrive. **Nightingales** didn't move far either. The **whinchats** were fitted with geolocators with a battery and a clock. From these we learnt that the birds returned to the same winter territory as long as they survive the journey. However, the survivors do not take over the territories of the neighbouring birds that have failed to return. More information is needed for us to reach a suitable conclusion. Capturing birds can be difficult at times and of the 38 **whinchats** that came back, the team could only catch 19. Spring traps seem to be quite effective on whinchats, but these birds have good memories so you won't catch the same bird twice! The nets are much more efficient at recapturing birds in order to retrieve data. The geo tags do not cause the birds any harm and the information we get from the tag allows us to learn where the bird migrated to (both the latitude and longitude) although a bird landing or flying through a steep valley can cause problems in pinpointing exact locations! Interestingly, we have learnt that it could take a whinchat two days to fly over the Sahara Desert and then the bird spends five days rebuilding its strength on the Libyan coast where there is an abundance of gardens to feed in. It is thought that they may fly at night and feed during the day once they have flown past the Mediterranean Sea. The more species and individuals tagged, the more information we have.

What about the bird that started Will's interest in bird migration? The **spotted flycatcher** is monitored in much the same way with some surprising results. One individual took just two weeks to fly from Nigeria to Moscow! Most of these songbirds fly towards Tunisia and Western Libya. They seem to adjust their range towards the west in Nigeria before they return to Europe and migratory birds in general do not wait long when they encounter a barrier (such as the Med) during migration. 45 mph



Spotted flycatcher - Mike Sedakat

is the average flying speed for migrating birds and this speed could be wind-assisted especially if there is a tailwind. This is more so a factor if crossing a sea than on land.

So if these birds are so well-adapted for migration, why the decline? One theory is the 'Chain Link Hypothesis' e.g. when wintering whitethroats a few years ago suffered from the effects of a drought (in Africa) and could not fuel up on food before the migration back to Europe. These birds needed a constant supply of insect prey, and the weakened, hungry birds were just not strong enough to make the return journey back to Europe. Another theory is the connectivity of various sites. Birds (even siblings) living in a small area of Europe during the summer end up spreading over a wide area typically hundreds or thousands of miles apart in Africa. Protection-wise, there is no nature reserve big enough to support them as this is such an immense area. The radars have shown that birds from the same European forests, could wind up thousands of miles apart across several sub-Saharan nations. Once a bird has survived its first migration, it will follow that path as this will be the route that it memorises for the rest of its life as opposed to the (almost random) heading south route the bird will take on the first migration journey. A third theory involves the effects of climate change on the migrating birds. Quite often, the changes in rainfall and temperature cannot be predicted by humans or songbirds. This is especially so in the case of harsh droughts which come and go. Even the Sahara Desert itself is a very young habitat at just 5,000 to 6,000 years old, so this is an area that can develop difficult conditions for small wintering songbirds. It is likely that individual European birds which have spread out when they get to Africa have done so because they cannot predict what the local climate will be or if there is a drought. This seems to be a good survival strategy as birds entering good areas will come back to Europe, while birds that have flown to drought-ridden areas may perish. What of the human-factor? Habitat change by people can destroy vital feeding zones for some birds which may not return if their territory is no longer suitable in providing food, but can actually be beneficial for other species. Any changes in Africa that affect migratory bird populations will lead to a change the population of the European birds. This is mirrored by what happened in Europe 200 years ago with the Industrial Revolution and changes in farming practices and as a result, African birds are generally in decline. Of course the birds must also run the gauntlet of human hunters in certain Mediterranean countries which also adds pressure on bird populations.

There is some hope for the future. When Will started his research there was only one PhD student studying ornithology in Nigeria and now there are between 60-70 students researching the lives of wild birds. There is still a shortage of Nigerian ornithological papers and many of those that have been published and the research carried out have been by Europeans. Increasingly, local men and women are getting involved in the future of birds in Nigeria and that will hopefully strengthen the future for migratory birds not just in Africa but Europe as well.

Mike Sedakat.

MEMBERS' NIGHT

22nd January

As in recent years, members were invited to present a small selection of their slides to the assembled company. The subjects were wide and varied and all were compiled into a single powerpoint presentation by Anne for ease of showing.

Photos shown included:

Alban Houghton - Western Isles Wildlife A trip out to St Kilda (below, photo Alban Houghton) resulted in beautiful shots of birds, including **fulmar**, **gannet**, **Manx shearwater**, **kittiwake** and **St Kilda wren**. The weather was glorious and the shots of cliffs, islands and the deserted village in bright sunshine all made it look less windswept than the actuality.

Stewart Dodd - A Photographic Selection A wide variety of natural history interest including **limestone pavement** at Malham, **cowslips**, **lady's smock**, stone sculpture at Knockan NNR, a **great grey owl** in Canada and a **bearded seal** in South Georgia.

Willie Angus - Tentsmuir Drawing our attention to the delights of Tentsmuir Point



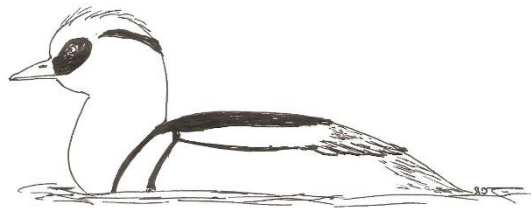
and the NNR with a range of flowers including **blue fleabane** in abundance (once declared extinct there), **common** and **seaside centaury**, **creeping lady's tresses** and **grass of Parnassus**. **Glasswort**, **sea arrowgrass** and **sea milkwort** were shown on the saltmarsh areas.

Brian Ballinger - My 2018 A miscellany ranging from the frozen sea at Tain, via Brian's three woods to plants at Fearn Station, including **common broomrape** and **common twayblade**, to the Nats' stall at the flower show. Then on to the Canaries, back to various Scottish outings, and finishing with a plea to save Coull Links from development by showing some of its specialities.

Stevie Smith - Rambles The rare red **beetle**, *Dictyoptera aurora*, at Montreathmont followed by a **dark-edged beefly** and then a **cleg** and **deerfly** both feeding on Stevie while she took beautiful close-ups of them. More beautiful insect photos included **hummingbird hawkmoth** caterpillars at St Cyrus, a **downy emerald dragonfly** at Loch Garten and the alarming-looking **devil's tooth fungus** at the same site. A young **tawny owl** found at Insh Marshes was followed by the highlight of the year - a **natterjack toad** in Norfolk.

Jim Smith - Mostly Birds Preceded by a **stag** and a close up of an **adder**, the birds ranged from **great white** and **little egrets**, a **crossbill** at Morton Lochs, a male **smew** at Kinnordy and an **avocet** in Norfolk to the **hoopoe** which visited Montrose in the autumn.

Barry Caudwell - Aspects of Recording Distribution maps of **small tortoiseshell butterfly**, **blue tit** and **hen flea** demonstrated that different effort is put in to recording of different species. Though thought ubiquitous, the **flea** has very few records on the map, with localised clusters which may indicate presence of a competent recorder rather than just presence of the flea. Some distributions can also be related to underlying geology, particularly for plants, and this has to be factored in when interpreting distribution maps. The main message was that records for everything are sparse in Scotland - keep on recording!



Jim Cook - A Year of Extremes Carsegowniemuir Quarry flooded in the spring to a great depth - the reason the picnic tables are moved to higher ground for the winter - and a second flood in the autumn of similar severity with the top stone of the barbecue plinth just above water level. A record of the drone which Tracey Dixon brought to survey and photograph the quarry from above and a selection of the resulting, excellent images. Finally, the fun and games involved in installing the floating island (for nesting birds) in pond 3.

Anne Reid - Drones and Herring Gulls Some supplementary photos of the drone in action at the quarry, followed by illustrations of the **herring gulls** which nested on the house roof.

David Lampard - 2018 Nats activities through the year, starting with a very wet barbecue at Riverside and some outings with better weather. In addition there were a number of strandings on the Angus coast including the **sperm whale** at Monifieth and a **basking shark** at Easthaven - both very unusual on the east coast.

Brian Allan - North and South A February cruise on the 'Magellan' up the Norwegian coast to see the northern lights was very cold but produced photos of a beautiful wintry sunrise and snowy fjords and mountains (and the northern lights). Later in the year on Cyprus *Ophrys bicolor* was found followed by *Ophrys balearica* on Majorca.

Everyone was thanked for a such a wide variety of subjects and images which filled the whole evening with no time to spare.

Anne Reid

PEATLANDS - SCOTLAND'S CLIMATE CONTROL IN AN OVERHEATED WORLD

Andrew McBride - 12th February

As naturalists, most of us are familiar with the *biodiversity* value of peatlands, and the characteristic species that they support, but this lecture focused mainly on their importance as providers of ecosystem services, such as carbon storage, regulation of hydrology and supporting fisheries. Peatlands are widely distributed globally, with surprising extents even in the tropics, where they are

normally hidden under the forest canopy. However, we tend to think of peatlands as open, naturally treeless habitats typical in northern Europe. Peat, or peat-based soils, cover 20% of Scotland's land area, and most of us are no more than 5 miles from a peatland (unfortunately not the case for Dundee, the nearest, Dilty Moss, being slightly beyond that radius from the city centre!).

In Scotland we have two types of peatland: lowland raised bogs, which can have up to 12 metres depth of peat; and blanket bogs, which are shallower and cover large areas of our uplands. The key component of peat is *Sphagnum* moss, whose growth leads to the slow accumulation of peat at about 1mm depth per year. At the surface peat is around 96/97% water, the same density as milk, but at depth it is compressed and solid; the carbon stored in these reserves is equivalent to 140 years of Scotland's emissions.

Unfortunately, many of our peatlands (80% in all) have been severely damaged by drainage, development, overgrazing, conversion to agriculture, past afforestation, atmospheric pollution and peat-mining. Much of this damage is many decades old: drains continue to function even when apparently overgrown, and bare peat continues to erode even if the original cause of the damage is removed. Exposed peat releases large amounts of CO₂; the rapid run-off from drained or degraded peatland leads to erosion and flooding, often alternating with drought; while peat in streams causes water-quality problems, blankets aquatic ecosystems and fish-spawning beds, and when it reaches the sea, can cause harmful algal blooms with impacts on marine fish farms. The peat-stained brown, foaming water characteristic of Highland rivers is *not* a natural or desirable feature. Dried-out peat is vulnerable to wildfires such as those that happened in summer 2018; climate change presents an additional threat where peatlands are already damaged.

However, given appropriate management, degraded peatlands can start to recover surprisingly rapidly. Peatland restoration began around 1990, and now over 20,000 ha on 200 sites across Scotland are on the road to recovery. Scotland's National Peatland Plan (2015) was the first in the UK, and in 2012 SNH launched Peatland ACTION which is working with land managers to restore peatlands across Scotland (see www.nature.scot/climate-change/taking-action/peatland-action). Novel techniques for different types of peatland in different parts of the country are being developed, but the key activities are normally to raise the water table and stabilise vegetation cover. This is likely to involve blocking and reprofiling ditches, tree-removal, and seeding of re-wetted bare peat with *Sphagnum* and heather. The aim is to restore the peatland to a functioning ecosystem resilient to pressures such as climate change.

But it is not all good news: despite government targets to phase out peat in horticulture over the next decade, and the availability of alternatives, the UK is using more peat than ever. Peatlands are still being damaged by roads, pipelines, windfarm installation, excessive deer numbers and pollution. And whenever we buy a product containing palm oil (present in a huge range of goods, not only foodstuffs), it was almost certainly grown on deforested tropical peatland.

Colin McLeod



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

Peatland Restoring
ACTION Scotland's
peatlands

SOCIAL EVENING

15th February

The Social evening was held in the Queen's Hotel again this year. As people arrived, between 7.00 and 7.30pm, there were quiz sheets, prepared by Anne Reid, to identify plants and birds. We gathered in groups around the circular tables and did another quiz prepared by Mike Sedakat. The buffet was served between 8.00 and 8.30 and everyone enjoyed cold meats and salads, stovies or vegetable goulash, followed by fresh fruit salad and gateaux, coffee and mints. We had a raffle and then tackled other wildlife quizzes prepared by Mike. The winning table had full marks! We shall have to share the "experts" around a few tables next year! The evening was very enjoyable. 30 tickets were sold, 28 people attended.

Kati Smith

BEAKED WHALES

Aubrey Onoufriou - 26th February

Aubrey, currently working at St Andrews University, gave us a spirited, entertaining and very informative account of the group of **cetaceans** known as **beaked whales** which are, in her estimation, "the coolest whales you've probably never heard of" and that was not a reference to the sea temperature. And they are not sea monsters, or the Pictish Beast, which come up if you Google them.

What are Beaked Whales? Beaked whales belong to the order Cetartiodactyla which also includes **giraffes** and **deer**. The Odontoceti are the **toothed whales** which include the **killer whales**, and the family Ziphiidae are the **beaked whales**. Of this family there are many species, six of which have never yet been seen alive. Aubrey described the different genera of beaked whales. Little is known about most of them, with the exception of **Cuvier's beaked whale** which is one of the well-known species.

Beaked whales usually have a few remarkable tusk-like teeth although one species may have a full dentition. Males and females can be distinguished - males have tusks that arise on maturity while females generally have no teeth. The throat of the whales is unusual in having two grooves which allow them to suddenly expand the throat and to capture prey by suction feeding. The pectoral fins are low down, and the flippers are in pockets which allow them to become streamlined when moving through the water. The tail fin has no fluke notch and the dorsal fin is small and far back on the body. Oval white patches on the dark back are often seen and these are thought to be scars from **shark** attack and these fight scars have been used as recognition features to identify individual animals. Scars on the whales are not fully permanent however.

Where do they live? The **Blainville's beaked whale** (right) and **Cuvier's beaked whale** are widely distributed and are also the only ones found in the Mediterranean. The others are very localised and only known from strandings. **True's**



beaked whale has an anti-tropical distribution, in other words it has North and South Atlantic forms and distribution. DNA has been used to confirm recent strandings, and it has been found recently in new colour morphs. Beaked whales can dive to great depths searching for **squid** to feed on, which are located by echolocation. Feeding is often on continental shelf edges close to deeps or sea mounts with up-welling currents. They are also found around Hawaii, the Bahamas, and off California's Channel Islands where there are drop-offs which plunge down to the abyssal plain.

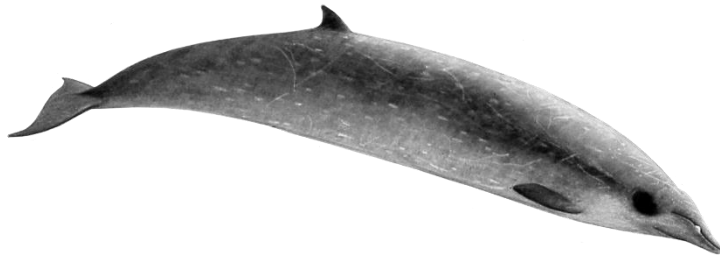
Why Care about Beaked Whales? For a variety of reasons they are a little known group of whales. They are very hard to distinguish by conventional means so alternative methods are needed. DNA analysis has allowed recent progress to be made and has allowed new species to be described based on DNA. The **pygmy beaked whale** was initially described on sightings and then confirmed with DNA. Recently work has allowed an archive library of tissues to be established, for reference. Studying tagged animals has allowed details of their underwater behaviour to be discovered, revealing them to be the deepest diving mammals, diving to below 3000m. These deep dives can be repeated a number of times as they only come up to breathe briefly. Shorter recovery dives have also been seen. The foraging depth has been found to be generally below **killer whale** depth of around 500m. Behaviourally they are mostly resident but do sometimes go off on long journeys.

What are the risks to Beaked Whales? The **northern bottlenose whale** is a large species which is hunted by Norway, and Japan also captures beaked whales. They are also threatened by by-catch through entanglement in fishing nets and in other fishing gear. Pingers can be fitted on nets and these do deter them, reducing the entanglement risk almost totally. Part of the problem is the competition for **squid** between the whales and the fishing industry. Another human action that can be a problem for them is plastic ingestion. This can cause necrosis in the stomach and one stranded in Skye had 4 kg of plastic in its stomach. Plastics also carry contaminants, which, as the whales are at the top of a food chain, can get concentrated in them. For example a massive amount PCBs have been found in killer whales.

Beaked whales often dive close to naval testing ranges and may therefore be susceptible to any sonic noise produced. As they communicate and find food by sonar, any noise pollution can be a big problem for them. Examples known to cause them problems are mid frequency military sonar, shipping noise and underwater explosions. Little is known about the mechanism causing the problem, but any gas embolisms formed by rapid decrease in hydrostatic pressure can cause haemorrhaging

around vital organs. So anything that might change diving behaviour could cause them a problem. Some evidence of haemorrhaging in the brain and in sound receptive areas has been seen. Sixteen individuals in Hawaii were investigated by the US Navy - their CT scans showed blood in the brain. Such evidence can only be seen in fresh tissue, so is not often found.

Beaked Whales in the UK. One fifth of all whales in the UK are beaked whales. Three genera are represented and five species, **Cuvier's**, **Gervais'**, **True's**, **Sowerby's** (below) and **northern bottlenose**. A nursery of baby **Sowerby's** off Western Ireland has been seen. A juvenile female **northern bottlenose** was seen in the Thames in 2006, but unfortunately it died despite a rescue



attempt; the post mortem revealed that it had organ failure. Occasionally mass stranding occurs in British waters. Between August and October 2018 a big mortality of **Cuvier's** occurred. It involved a total of 81 individuals, all very decomposed, most of them from the Western Isles. Aubrey has obtained samples from some of these individuals and is looking

at the DNA, hoping to learn if the animals are related at all. These animals probably all died at sea and drifted ashore. Disease is an unlikely cause as it seemed that they all died at about the same time. So could sonic effects have been a factor in their death? Is it possible that having been scared they bolted for shore or suffered from decompression sickness as a result of rapid change of depth?

Barry Caudwell

PHOTOGRAPHIC COMPETITION 2018

12th March

The results of the 2018 photographic competition, for the Kim Eberst Memorial Trophy, were once again announced at the AGM this year. All the organisation was done by Anne Reid and the competition was judged by Ken Drysdale and Lorna Ward.

The subject for 2018 was 'Woodland Natural History' and a total of 10 entries were received. In order of receipt these were:

One-flowered Wintergreen	Alban Houghton
Buzzard on Norway Spruce	Joy Cammack
Ferns - Glen Esk	Jon Cook
Miniature Forest - Glen Doll (mosses)	Colin Reid
In and Out the Dusty Bluebells (weevil on bluebell)	Stevie Smith
The Early Bird Catches the ???? (green woodpeckers)	Jim Smith
Winter Squirrel	Anne Reid
Fungi of the Far East	Mike Sedakat
Autumn Gold	Jim Cook
Ringlet at Rest	Stewart Dodd

The winner was Jon Cook with his beautifully lit portrait of unfurling fern fronds in the birch woodland of Glen Esk and he was presented with the trophy and a certificate. Second was Jim Smith's green woodpecker feeding something unknown to a juvenile, and third was Alban Houghton's portrait of one-flowered wintergreen, and both were presented with certificates. Lorna and Ken were thanked for judging the competition along with Anne for doing the technical stuff and organisation.

Anne Reid

The winning entry can be seen on page 24 of this Bulletin

ST VIGEANS

30th March

Just over 20 Nats and friends gathered at the St Vigeans car park ready for a gentle pre-lunch stroll. It was a fine morning and the birds were all making themselves obvious by singing loudly. Once lunch orders had been taken and phoned ahead we set out up the old railway footpath.

A **dipper** was seen in the burn near the bridge and the **rooks** were making their rookery very obvious between the burn and the graveyard. Four **curlews** were spotted in the grassy field on the opposite bank and a number of **oystercatchers** were piping loudly beyond the field of ponies. Small birds flitted in the trees above the path, including **blue tits**, **chaffinches**, **goldfinches** and **great tits**. A **wren** trilled loudly and **robins** popped out to investigate us at intervals. Two **jays** were heard by those in the lead - presumably fleeing from the disturbance - but a singing **chiffchaff** confirmed that spring might have actually arrived.

Beside the path the **white butterbur** (*Petasites alba*) was very obvious and the flowers on patches of **celandines** were fully open in the sunshine. A few **wood anemones** were just opening on the bank of the burn and **primroses** were in flower on the shady banks further up the path. **Green alkanet** was just coming into flower in a couple of places and a single **barren strawberry** flower was seen.

From the section of the path beside Letham Grange golf course a **roe deer** was spotted and a number of queen **bumblebees**, mostly **buff-tailed** (*Bombus terrestris*) were ranging around looking for nest sites. The ponds beside the golf course added a number of water birds to the list including **moorhen**, **heron**, **teal** and **mallard**. On the way back a **song thrush** was heard, but not seen, and singing **goldcrests** also were only heard in the conifers beside the path.

Nobody reached the far end of the path as there was too much to look at on the way, but this meant that everyone returned in good time to repair to The Portcullis in Arbroath for a well-earned and enjoyable lunch.

Anne Reid

SUMMER OUTINGS KINCARDINE TO CULROSS

24th April

We started by walking through the arch (below which marks the start of the Fife coastal path. This path now extends all the way along the Forth, up the Fife coast then along the south shore of the



Tay to Newburgh. The section we walked has been industrial in the past, but now makes a very pleasant walk, and easy to follow as much of it is a cycle track. The first part starts right by the Kincardine Bridge and follows the Forth to Inch Farm. Along this section there were **orange tips** and **green-veined whites** flying in the bright morning sunshine. Searching for eggs of the former on *Cardamine pratensis* soon produced both freshly laid and orange eggs which had probably been there for a week or more. By the time we got the short distance to Inch Farm we had seen **swallows**, **kestrel**, **whitethroat**, **yellowhammer** and a **fox** with no tail.

A little further along, where the path crosses the road to Longannet, we heard many **chiffchaffs**, some **willow warblers**, saw **blackcap** and the native **bluebells** *Hyacinthoides non-scripta* and **greater stitchwort** in flower under mature mixed woodland. Several species of **bumblebees** were

out including **white-tailed** and **carder** queens. The **7-spot ladybirds** were particularly numerous, it appears that they survived the winter well having been in great abundance in our area last autumn and winter when large hibernations were noted. We walked along the cycle track behind Longannet power station, now closed down. Much of the rest of the walk was close to the railway track, little used, which runs through Culross. Along this section we were pleased to see the **small tortoiseshell** out, and **red-tailed bumblebees**. The mature woods alongside the path were thick with native **bluebells**.

The final mile alongside the railway track was the best viewing spot for birds feeding on the mud flats of Torrey Bay Nature Reserve. Being spring we saw relatively few water birds, but those seen included **shelduck, curlew, oystercatcher** and **mallard**.

Some members who wanted a shorter walk, were dropped in Culross and walked east along the shore side of the railway line and then back into the town.

It was a good way to see this part of the coast, and we were rewarded by excellent coffee and cake at the NTS tea shop by Culross Palace. Some of us looked around this beautiful, rich ochre, lime-mortared merchant's house and round the lovely walled garden where the paths are made of **cockle** shells, and the herbs and flowers grow luxuriantly despite the Scots Dumpy hens. There was a heavy shower but we had the best of the day for our walks.

Thanks to Brian Ballinger for submitting an extensive plant list for four of the km squares. Some of the rather nice plants along the path-side, in addition to the **bluebells**, were *Geranium lucidum*, *Barbarea vulgaris*, *Lamium album* and *Centaurea nigra*. *Sedum acre* and the **maidenhair spleenwort**, *Asplenium trichomanes*, and also *A. ruta-muraria* were growing on walls. Towards Culross more naturalised plants such as *Buddleia davidii*, *Centranthus ruber* and *Linaria purpurea* were noted.

Cathy Caudwell

SHIELL STREET, BROUGHTY FERRY

7th May

It had been a dry but cool day, but as we travelled towards our meeting place the rain started and some umbrellas stayed up all evening. Nevertheless 18 members came, although some beat an early retreat.

We walked through the colourful Barnhill Rock Garden and then slowly through the Shiell Street Local Nature Reserve, where there was more shelter. Most dog walkers had departed so we had the site largely to ourselves. We had visited Shiell Street three years previously, in June, and so we set out to increase our species list. Recording was difficult in the rain, although a waterproof notebook proved useful once more. My note of previous finds rapidly became soaked and later mislaid in my pocket.

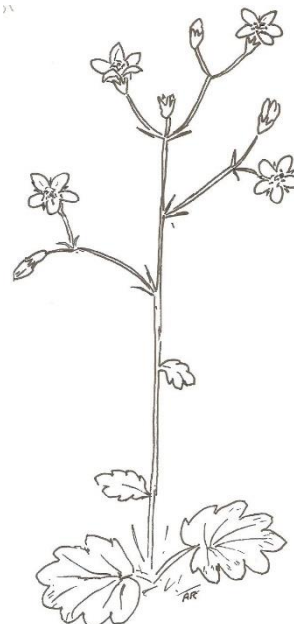
There was a good display of spring flowers and the **meadow saxifrage** (*Saxifraga granulata*) was particularly impressive. The **bulbous buttercup** (*Ranunculus bulbosus*) was also in fine form and we were very pleased to see that the **goldilocks buttercup** (*Ranunculus auricomus*) appeared to have spread, although the old record of **horseradish** could not be confirmed. Examination of the **cornsalad** suggested it was the locally rare *Valerianella carinata* which would be new to Angus, although known from North Fife.

We mainly recorded in the NO4731 square and we re-found 19 of the species recorded on our earlier visit, failed to re-find 36 and found 35 new species. This really showed the value of repeat visits to sites.

We had promised a hunt for the **eelgrass** (*Zostera marina*), not seen on the sands for many years, but the tide was not far enough out, even without taking the weather into account, so this must wait for another time.

Insect life was mainly seeking shelter but the birds were there, though hard to find. **Chiffchaff, blackcap** and **willow warbler** were all singing despite the weather, and **robins, blackbirds, starlings** and **woodpigeons** were also present. A slightly disappointing total of 16 species in all was recorded, with a fly-through by a **magpie** very near the end of the evening being the final record.

Brian Ballinger and Anne Reid



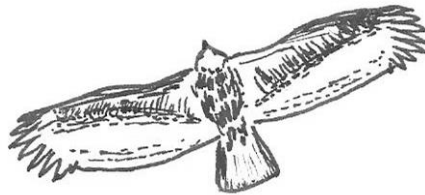
GUARDSWELL FARM

Tuesday 21st May

The farm at Guardswell is situated at an elevation of about 150m in the Sidlaws, and has spectacular views across the Carse of Gowrie and over to the Fife hills beyond. This visit was deliberately scheduled earlier than the normal evening meeting start time as the plan was to target the insects in the Guardswell wildflower meadow. Unfortunately, the weather had other ideas! The cold and damp day resulted in few insects being on the wing. In an attempt to maximise our chance of having some insects to look at, with Trefor Woodford we ran moth traps the previous night in two different habitats on the farm. The catch was small but included **grey pine carpet**, **brimstone moth**, **nut-tree tussock** and **lesser swallow prominent**. The **silver-ground carpet** was also netted by the woodland. Other animals seen during the visit included several **7-spot ladybirds** and molehills as evidence of **mole** activity.

Birds with young in the nest have to find food in all weathers and so the **house martins** nesting on the farm house were constantly travelling back to the nests. **Swallows** and **swifts** also took advantage of whatever food was available well above our heads. We saw the usual range of rural garden birds, including **woodpigeon**, **pieb wagtail**, **blackbird**, **goldfinch**, **siskin** and **wren**, during the visit. As Guardswell is well-wooded it was not that much of a surprise that both **buzzard** and **great spotted woodpecker** were also seen.

Fortunately, plants cannot hide from the weather and our walk produced many interesting plant records. Guardswell is close to the site of the abandoned village of Pitmiddle, which had a long occupation period, from at least the mediaeval, until the 20th century, and it was exciting to find evidence of this human occupation. Situated on a field margin we found a coppiced **ash** (*Fraxinus excelsior*). Historically ash would be coppiced either as a source of stakes and poles, or as feed for livestock. Close by, **monk's-rhubarb** (*Rumex pseudoalpinus*) was growing. It is not a UK native but comes from upland areas of Europe and Western Asia, and is frequently found near human settlement sites in the UK. Its leaves have in the past been used to wrap up food, particularly butter. But we were not the first to find it here - those intrepid botanists Martin Robinson and Les Tucker found it here in May 2011. Jim Cook produced a long plant list on the day and here are some of them. The woodland trees included **oak**, **ash** and **beech** and it was nice to see growing beneath them native **bluebells** and **primrose**. The woodland shrub layer comprised **bramble**, **gooseberry**, **hawthorn**, and **raspberry**. Some of the other plants that can be used by insects include **brooklime**, **dandelion**, **field bindweed**, **foxglove**, **hedge woundwort**, **herb Robert**, **hogweed**, **nettle** and **red campion**.



Barry Caudwell

CALLANDER

25th May

The forecast was somewhat gloomy, predicting rain for most of the day, starting mid morning. It actually started as we left Stirling, but was fairly gentle and, with little wind, was never more than an inconvenience. Once in Callander we split into two groups with Brian leading on the relatively flat old railway path (account below) and Anne leading a smaller party round the Bracklinn Falls circuit.

The seven who chose the falls started off through the woods towards the minor road access to the footpath. We started recording birds, mostly by song, almost immediately with **chaffinch**, **house sparrow** and **willow warbler** before we entered the woods proper. A conifer at the end of a garden had a singing **goldcrest** and near the junction with the road we heard the first of several **wood warblers** singing unmistakably. We saw what must have been the bird flitting amongst the fresh green leaves but nobody got a good look at it against the light as, typically, it stayed well-hidden. **Chiffchaffs**, **blackcaps**, **wrens** and **robins** were also singing in the woods, and we kept stopping to look at the **bugle**, **violets**, **pignut** and **bluebells** flowering on the path edges. As we reached a more open area with scattered trees we stopped to admire the view down over Callander (the path had been steeply uphill) we spotted a bird singing on a low tree and speculated that it might be a **tree pipit**. This was

confirmed when it gave us a text book example of its display flight, parachuting down to the top of another tree to sing again.

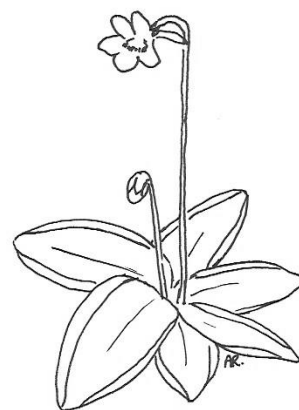
Bracklinn Falls is a very popular destination and the path was busy. We wondered how many people were stopping to appreciate all the things we had already seen and heard. Once across the bridge at the falls the path ran close to the river and in a wet ditch there was a lush plant of **marsh marigold** in full flower with **lady's smock** in small clusters nearby and all along our route. The rain was slightly heavier by now so we decided to stop for lunch under the partial shelter of the trees in the coniferous forest. Slightly to our surprise at this early stage in the season, a few **midges** found us and did their best to get a meal (some succeeded!).

At this point the three fittest members of our party (also the youngest) decided to go on ahead and add an extra loop to the circuit around by Callander Crags, and they left ahead of the rest of us. A short distance on we caught up with them to find them peering into the trees. A **red squirrel** had suddenly landed on the ground nearby, as if pursued by a predator, but they did not see where it went after the landing - presumably back up the far side of a tree trunk.

Once we emerged from the trees there were huge patches of **bluebells** visible on the opposite side of the valley with their colour beautifully offset by the orange of the wet, dead **bracken**. Cathy slipped down the slope into a ditch in her eagerness to search for **orange tip butterfly** eggs, and found (but did not disturb) a roosting adult of the species on **lady's smock flowers**, in addition to eggs found elsewhere. Down at the river bridge we saw a **dipper** downstream and there were **swallows** and **house martins** hunting low over the marshy ground. A **brown silver line moth** was found in the roadside vegetation - its larva, appropriately, eats **bracken**, of which there was plenty. Amongst the rough grassland at the roadside there were **wood anemones** and a few late **primroses** and we saw **wood cranesbill** (*Geranium sylvaticum*) just coming into flower in a few places. The single patch of **butterwort** in the roadside ditch was just beginning to show blue but not yet in flower.

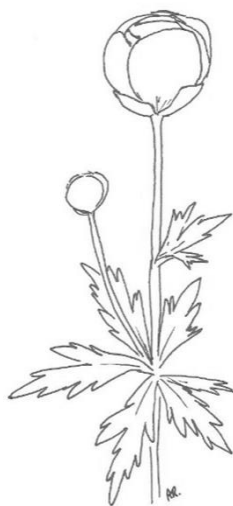
The party who went up Callander Crags reported that the descent was extremely steep which confirmed that the rest of us were wise to avoid it. They also saw a pair of **bullfinches** and very few other people - the two are not unconnected. On return most resorted to teashops while Christine went in search of ice cream - due rewards after our walk.

Anne Reid



CALLANDER - LOW LEVEL

The weather forecast was right this time and the rain started just as we arrived at the car park, but remained gentle and did not inhibit our activities. The low level walk group went down to the river and followed the path to the west towards the Pass of Leny. A few more energetic souls reached the Falls of Leny.



The path mainly followed the disused railway track and made for easy walking, although there were quite a few encounters with speeding bicycles. The first section of the walk was in the town, so our plant records will go to the Botanical Society of Scotland's urban flora project. Here there were typical wall plants such as the ferns **wall rue** (*Asplenium ruta-muraria*) and **maidenhair spleenwort** (*Asplenium tichomanes*). **Danish scurvy grass** (*Cochlearia danica*) lined the car park entrance, presumably due to salt influence.

The meadow in the park included a wet area with **bottle sedge** (*Carex rostrata*) and **tufted forget-me-not** (*Myosotis laxa*). Keen eyes spotted the eggs of **orange tip butterfly** on **cuckoo flower** (*Cardamine pratensis*) leaves.

Further on the flora was at its peak, with a fine display of **bluebells** (*Hyacinthoides non-scripta*). In two places beautiful patches of **globeflower** (*Trollius europaeus*) (left) were to be seen. In all we made 196 plant records.

The air was alive with bird song, including **wood warblers**, **blackcaps**, **chiffchaffs**, a **garden warbler** and **willow warblers**. A **roe deer** made a brief appearance and Jim saw **goosander** and **grey wagtail** on the river. Bob Heath photographed a **clouded border moth** and Jim found a colourful hairy caterpillar, which awaits identification.

An old railway bridge with low walls inside provided an excellent sheltered lunch spot, although one or two of our number became aware of early season **midges**. We later investigated the Callander teashops.

Brian Ballinger

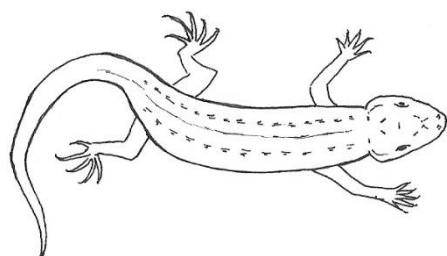
DUMFRIES WEEKEND

7th - 10th June

A dry and bright morning greeted us as we set out for the weekend. We took a 45 minute driver break at Stirling Services, where those of us exploring the shrubberies around its edges (for birds) found considerable quantities of **spindle ermine moth** webs on planted **spindle** bushes. There were no leaves left on some of the plants and the larvae were ready to pupate with some hanging from threads like a strange Christmas tree decoration. A **goldcrest** was singing in the conifers and there were both **whitethroat** and **yellowhammer** at the edge of the trees amongst the **brambles**. A wet patch here had **ragged robin** in flower and a **green-veined white butterfly** flitted past.

Our main visit of the day was to Carrifran Wildwood, just to the north of Moffat. The catchment of the Carrifran Burn was bought by the Borders Forest Trust in 2000 and has since been planted with many thousands of native trees. Bird surveys confirm that woodland species, especially warblers and finches, have become more common as the trees have grown. The whole site is fascinating and further details can be found on www.carrifran.org.uk. The 'before' and 'after' photos are particularly interesting.

As we approached we could see that it was very obviously different from all the relatively bare hillsides and valleys nearby and had a lovely haze of shades of green from the emerging tree leaves. The site is fenced against **sheep** and **feral goats** and **deer** numbers are kept in check if necessary.

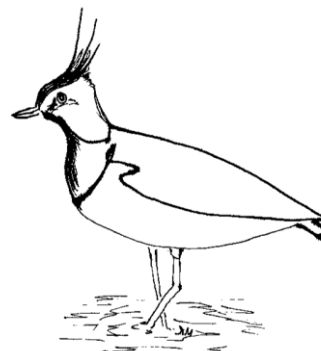


On a wooden stile near the bus David found two **common lizards**, together, which were duly photographed. Most people followed the circular path from the small car park and we soon heard **blackcap**, **willow warbler** and **chaffinch** song amongst the trees. Very few of the birds were actually seen amongst the leaves though Anne caught a glimpse of two **long-tailed tits** and Barry saw a **mistle thrush**. Those who went further up the valley on the rather wet track found **butterwort** in flower, actually on the track, and a few plants of **sundew** nearby and **green-veined white**, **small heath**

and **orange tip butterflies** were seen. Day-flying moths, including **cinnabar**, **brown silver lines**, **small argent and sable** and **clouded border** were recorded, along with the **dor beetle** with the wonderful purple underside. As some of us got to the furthest extent of the walk a very heavy shower made us head back down towards the bus faster than we might otherwise have gone.

We then completed our journey to Dumfries and checked in at the Holiday Inn on the Crichton Campus there. This hotel had been chosen for the parkland setting, highly suitable for after dinner walks, however the weather discouraged most from exploring it though at least three people donned full waterproofs and went out anyway.

Saturday morning was still wet, though brightening up. Our first destination, Caerlaverock Wetlands Centre, seemed ideal with a visitor centre and hides to provide some shelter. The warden gave us an introduction to the site and everyone went their separate ways to explore the extensive site. Noted particularly for its wintering water birds and especially **whooper swans**, there was still plenty to see and hear on a wet summer morning. The raucous song of a **sedge warbler** was heard in addition to the more melodious **willow warbler** and **blackcap**. Many **house martins** were undeterred by the weather, but flying low over the water where the insects were to be found before returning to the numerous nests on the buildings. **Lapwings** and **skylarks** were seen and heard and **mallard** and **gadwall** were present on some of the pools. An unusual bird for the time of year was a male **pintail** which had appeared a few of days previously and, least expected of all, was a singing male **reed warbler** which had vainly been trying to attract a mate for the previous three days, further north than its main distributional range. Though the hoped-for dragonflies and



damselflies were waiting for sunshine, we did see a **silver ground carpet moth**. Some people also admired the giant Lego birds and animals displayed around the site!

After lunch the weather was definitely improving, with even a hint of sun. As we drove up beside the River Nith estuary we could see our next destination, Mabie Forest, across the water. After a slight delay in negotiating the narrow entrance road due to a car driver who seemed unable to cope with an oncoming bus (and reversed a very long way back uphill to the car park) we parked easily in an almost empty car park, much closer to the start of the walks than the official bus parking space. Everyone was given a map of the forest to enable a suitable trail to be followed (though a few found this hard to follow and went round in circles).



Around half the party set off with the objective of exploring the area designated as a reserve by Butterfly Conservation, within the forest and about a mile from the car park. As soon as we entered the woodland we discovered that there was a much higher proportion of deciduous trees than we expected and very soon we had heard **blackcap**, **willow warbler**, **goldcrest**, **wren** and **chaffinch** singing. This was soon topped by two singing **wood warblers** somewhere high up in the trees. At Dalshinnie Loch a **heron** flew off and beyond the loch we joined a wide track with open edges which looked highly suitable for butterflies (photo, left). Though up to 20 species are known from the site, the nearest we got to seeing them was a single

wing of a **small heath** in a **spider's web**. A few **bumblebees**, mostly **common carder**, were seen on **marsh thistle** flowers, but the dull and threatening weather was against us for invertebrates. By way of compensation we did see two **ravens** over the higher ground and a **chiffchaff** was also singing nearby. On the way back downhill we came across a **great spotted woodpecker** and the final record of the day was a **sparrowhawk** which flew over as we gathered beside the bus for our return to Dumfries.

Though more rain was threatening, a number of people did venture out to explore the Crichton site after dinner. We spent a long time in the gardens trying to identify some of the more unusual plants growing there and on the way round heard singing **song thrush**, **blackbird**, **duncock** and **robin**, despite the lateness of the hour.

The main walk on Sunday was from Sandyhills Bay to Rockcliffe and around half the party were dropped off at the start of the path (see account below). The remainder went on to Rockcliffe where it was possible to park the bus and a choice of shorter walks was available. Many chose to explore the wooded paths between Rockcliffe and Kippford, with plenty of options for returning by a different route from that taken outbound. The **bluebells** were mostly over, but **orange tip butterflies** were seen and Dorothy found and photographed a **yellow-barred longhorn moth** and saw a **chimney sweeper moth**.

A few other people walked to Castlehill Point along the shore path. With the sun now shining properly there were others on the shore and we witnessed a spaniel type dog chasing a low flying female **mallard** across the shore for a considerable distance (the tide was out), pursued by a concerned owner. The dog reached the river channel but still did not stop. It was eventually pulled from the water by the owner and, half drowned and exhausted, was dragged and carried back. Later we saw a female **mallard** with six well grown ducklings walking across the top of the shore nearby and can only speculate that the dog had found them and was being led away from the brood by the mother.

In addition to the drama there were plenty of other things to look at. Once beyond the houses and gardens there was more cover and **willow warbler** and **chiffchaff** were heard singing in addition to **wren**, **robin**, **goldfinch** and **chaffinch**. Beside the path were some fine plants of **burnet rose** with **bloody cranesbill** nearby. A couple of plants of **dyer's greenweed** (*Genista tinctoria*) made a splash of bright yellow and **honeysuckle** and **foxgloves** were at their best. In a marshy area at the top of the shore **ragged robin** and **yellow iris** fought for space with a tangle of greenery after the rain-induced lush growth of the spring. Between us all, five **bumblebee** species were seen along with six **butterflies** which included **wall**, **small copper**, **green-veined white** and **peacock** - all brought out by the sunshine. Many folk ended up at the tearoom for a quick coffee and cake before rejoining the bus for the afternoon.

Mersehead RSPB reserve was our next destination, about six miles back along the road. This site is particularly important for wintering **barnacle geese**, but has a variety of habitats and a good range of birds at any time of year. From the hides, which overlook marsh and pools, a number of

mallard with small ducklings were glimpsed and a family of **swans** was more obvious. A few **lapwings** were still around and a single **heron** lurked with intent in the reeds. A number of people undertook the full circular walk which takes in the Solway shore, dunes, woodland and arable hedgerows and saw a pair of **stonechats** at the edge of the dunes, while others were content to sit for a while in the visitor centre watching the feeders with a cup of coffee in the hand. The only birds seen on the shore were a pair of **shelduck** but the woodland was more productive with assorted **warblers**, a couple of **long-tailed tits**, **blue tits**, **great tits** and **wrens** all making themselves more or less obvious. Despite the sunshine butterflies were less plentiful than hoped for, though **speckled wood** and **red admiral** were recorded in addition to assorted **whites**. Those who had done the long walk in the morning arrived later (we sent the bus back for them) but still managed to see a good proportion of the reserve in the time available. Ronnie, who was in this second group, even managed the full circular walk - at speed - in the time available.

It should have taken just over half an hour to get back to Dumfries, but about three miles out of the town we came up behind a large gathering of **horses**, all beautifully turned out, walking along the road ahead of us. All ages and sizes of both horses and riders seemed to be present, and we later found out that this was a community event and took place every year. Despite occasionally breaking into a trot progress was relatively slow, though we got a very good view from our elevated position as we were the first vehicle behind the escort truck. A sigh of relief was heaved when the procession turned into the showground on the outskirts of Dumfries and we were not late for dinner!

Yet more exploration of the Crichton site took place after dinner on the best evening of the weekend. Anne, Barry and Cathy had noticed that there were two **mottes** marked on the map, on opposite sides of the river, fairly nearby, so they went exploring. The first motte was in a public park on the east side of the River Nith and may have been 'adjusted' when the park was laid out. Having crossed the river by the new footbridge they searched for and found the rather underwhelming second motte at the edge of the housing and close to the river. From the riverside path we could see a female **goosander** on the river and a **pipistrelle bat** appeared and patrolled the edge of the trees for the **midges** which we knew were about.

On departure on Monday morning we only travelled the short distance to Lochmaben where the circular walk round Castle Loch was the target. The sun was warm and the first part of the path, through the mature woodland, was pleasantly cool. **Willow warblers**, **robins** and **wrens** were singing and **blackbirds** scolded from the undergrowth. A partly rotted, broken tree trunk had a number of **tree bumblebees** 'dancing' around it and these were much photographed. This was possibly a drone swarm, where the newly emerged males fly near the nest waiting for the new queens to emerge. Whatever the explanation, none of us had seen anything like it before.



In the reeds at the edge of the loch a **sedge warbler** sang its scratchy song, and anywhere in the sun were numerous **damselflies**, some of them newly hatched and not yet in their full colours. **Common damselfly** was positively identified but most of the rest did not hang around long enough to be examined closely. Near the castle ruins at the south end of the loch a **red admiral butterfly** powered past and a couple of **green-veined whites** were spotted elsewhere. Several people saw a **song thrush** feeding three fledglings in the small park at the north end of the loch before we all gathered back at the bus for the journey home.

It was disappointing that only 23 members came on this most successful weekend - those who were there thoroughly enjoyed it. Though the weather was mixed, it was never bad enough to make us change our plans. Our thanks must go to Ally, the bus driver, for patiently getting us in, and out, of some fairly tight spaces.

Anne Reid

SANDYHILLS BAY TO ROCKCLIFFE

We were dropped by bus at the entrance to the caravan park at Sandyhills Bay for the start of the five and a half mile walk to the very interesting and picturesque village of Rockcliffe. The party included several birders as well as Lepidopterists. On the first bit of the path, on the steep slope up from caravan park to cliff-top, the **chimney sweeper moth** and a **large skipper** butterfly were seen.

Continuing along the cliff path, which was fairly well signed, we were serenaded by **yellowhammer** and **whitethroat**. There were wonderful views over the Solway and Mersehead Sands. We were excited to see the **forester moth** - on the Scottish Biodiversity List - basking on the bare earth above the path, where several of us photographed it. **Cinnabar moth** and **green tiger beetle** were also seen nearby. There were plenty of **bumblebees** about, but we were surprised to see how many of them were the recently colonising **tree bumblebee** (below), which seemed to occur all over the place, and far from habitations.



The flora included species not so familiar on the East side of Scotland such as **burnet roses**, **bloody cranesbill**, **sheep's bit scabious** (*Jasione montana*), at least one plant of **sea kale** (*Crambe maritima*) down on the beach below and **sea cabbage** prolific along the shore at Rockcliffe. Also a plant unfamiliar to us which seemed to be **dyer's greenweed**. One of the species that I had hoped to see was the **wall butterfly**, and we were not disappointed. Approaching Portling village we saw our first **wall**, and there were a great many seen from that point all along the path. The day-flying **speckled yellow moth**, and one of its food plants, **wood sage**, were seen along the way. As we approached Castle Point we saw **rockrose**

and profuse *Geranium sanguineum* (**bloody cranesbill**) on the drop down from the shore.

A highlight was the delightful view we had near Cow's Snout, onto a colony of **cormorants** which were nesting below. Some of them had gawky youngers in the nest looking like baby dinosaurs begging for food. Others were protecting their young with the sunshades of their outspread wings.

The view over the Solway was filled with the distant propellers of wind turbines and in addition we were surprised to see two fishermen standing unconcerned in the shallows about a mile offshore. We hoped they knew what to do as the tide started to run in!

Cathy Caudwell

TAYPORT

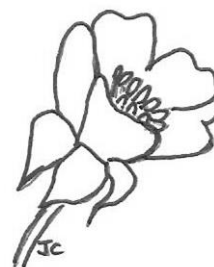
11th June - Joint with BSS

A group of nine gathered by the scenic Tayport harbour on a cool and windy evening. The aim was to record for the Botanical Society of Scotland's urban flora project and also to look for other wildlife and enjoy the summer evening.

We began by exploring the slipway leading down to the water, where the wall was covered in plants, including *Cymbalaria muralis* (**ivy-leaved toadflax**), *Asplenium trichomanes* (**maidenhair spleenwort**), *Polypodium vulgare* (**polypody**) and *Linaria purpurea* (**purple toadflax**). Lower down seven species of **seaweed** were identified, showing some of their typical zonation.

The coastal path led us past sea walls, cliffs and areas of rocky sea defences which now hosted a variety of plants, some native, some alien. Garden escapes such as *Leycesteria formosa* (**Himalayan honeysuckle**) and *Berberis darwinii* (**Darwin's barberry**) were seen, together with some stunted tree seedlings including **pine**, **sycamore**, **rowan** and a **willow**. *Centranthus ruber* (**red valerian**) was present in quantity and gave a red glow in the overcast evening.

Further to the west some patches of grassland by the path had been mown, but others were uncut and herb-rich. Here were *Stellaria graminea* (**lesser stitchwort**), *Stellaria holostea* (**greater stitchwort**) and *Ranunculus bulbosus* (**bulbous buttercup**)(right). By some rocky outcrops *Koeleria macrantha* (**crested hair-grass**) and *Aira praeox* (**early hair-grass**) were spotted. On a cliff below, *Sedum acre* (**biting stonecrop**) shone out and by the water's edge was *Cochlearia officinalis* (**scurvy grass**).



Most of us did not progress far, remaining entirely within one monad (1km square) and only just reaching the edge of the built-up area of Tayport. The bird group did venture as far as the lighthouse however, and the birds recorded included **willow warbler**, **chiffchaff**, **swift**, **pie'd wagtail** and **yellowhammer**. We were finally all pleased to reach the shelter of our cars out of the cool wind.

In all we recorded 118 species of vascular plants, a good total. 14 bird species were also noted.

Brian Ballinger

PHOTOGRAPHS



Ferns - Glen Esk by Jon Cook
Winning entry in the 2018 photographic competition for the Kim Eberst Trophy



Narrow-bordered five spot burnet moth, found on Cramond Island on 6th July.
Photo Cathy Caudwell (see page 27)



Slow worm on Fuar Bheinn, Morvern, mid July.
Photo Brian Williamson
(See page 43)

Dundee Naturalists' Society stall at Dundee Flower and Food Festival, 6th - 8th September.
Botanical Society of Scotland shared the space.
Photo Lorna Ward
(See page 32)



Male orange tip butterfly, 9th May, on the Dighty at Douglas
Photo Jenny Allan
(See page 41)



Pond dipping for damselfly larvae at Murton on 3rd August found two, plus a water scorpion and a water boatman.
Photo Anne Reid
(See page 30)

ROTTAL ESTATE

22nd June

The Rottal Estate covers 8,000 acres on the east side of Glen Clova about 5km south east of the Clova Hotel. It includes three main areas of habitat. There is an area of managed woodland around the estate buildings, with new planting in progress. Most of the hillside is managed moorland to the east, leading up hill and including Loch Wharral, Ben Tirren, Cairn Trench and the White Hill. On the west side of the road the estate is farmland between the road and the River South Esk. It is currently grazed by sheep and cattle. This area has had some large ponds which attract waders, geese and ducks

The estate is run as a game estate and recently the steading has been converted to an event and wedding venue. The owner has positive ambitions to run the estate in a more sustainable manner. There are already bird surveys being carried out on the estate and a large tree planting scheme with a deer exclusion fence is already underway.

The Nats were invited to the estate to record other species and 22 members took part. We were dropped off near the entrance to the estate and the bus parked at a designated parking area about half a kilometre along the road to the north. We naturally divided ourselves into two main groups with a couple of smaller parties heading off to specific areas according to ability.

One large general interest group headed off through the estate paths and out through the deer fence up the slope to Ben Tirran. Along the way we met with two estate workers involved in the tree planting. There were a variety of birds and other species in the hedges and woodland around the lodge including **blackbird, blue tit, buzzard, chaffinch, coal tit, dunnock, wren, goldcrest, goldfinch, greenfinch** and **treecreeper**. A **mistle thrush** was seen taking food to juveniles, close to the road. **Grey wagtail** and **cuckoo** were near the edge of the moorland where a number of **meadow pipits** were active and **swallows** flew overhead. **Rabbit** was the only mammal seen. The **common carder bee** (*Bombus pascuorum*) and a **buff-tailed bumblebee** queen (*Bombus terrestris*) were seen in the hedges and also a *Xylota segnis* (hoverfly).

As we headed uphill across the moorland and across Ben Tirran there were **large red damselfly** (*Pyrrhosoma nymphula*) seen in a ditch by the track with a **scorpion fly** on the track itself. The most interesting find was an **adder** in the grass at the side of the path which beat a hasty retreat from the group. Although it was a warm day with sun shining there was a stiff breeze on the hill which meant few insects were flying. Birds encountered were **kestrel, red grouse, red-legged partridge, skylark** and **wheatear**. Further up the hill Mike spotted a **black grouse**, and **curlew, snipe** and **wheatear** were also seen. **Common frogs** were quite common in the marshy areas.



This group then traversed along the slope stopping at a small lochan for lunch and eventually headed down across the moorland south west to join the track from Loch Wharral to Wheen. Butterflies seen included **green-veined white, red admiral, small heath** and a probable **dark green fritillary**. **Latticed heath moth** (*Chiasmia clathrata*), **white-tailed bumble bee** (*Bombus lucorum*) and **heath bumblebee** (*Bombus jonellus*) were also seen in this area in addition to **heath spotted-orchid, sundew, butterwort, common cotton grass** and **bog asphodel**.

The group still had time to cross the road onto the more grazed area by the pond and River South Esk. We met up here with some of the other groups. **Lapwings** were nesting amongst **rushes** in a field near the river and an agitated **redshank** scolded us from a fence post. By the river we encountered a herd of inquisitive young **cattle** (above, photo David Lampard). **Black-headed gulls** had nested at the pond and some young were still present with **oystercatchers** and **pied wagtail** seen nearby. A **common sandpiper** was seen at the river with a distant **cuckoo** heard and **sand martins** overhead. A **sedge warbler** lurked in the ditch-side hedge and **chimney sweeper moths** (*Odezia atrata*) never stopped for long enough for a good look.

The second, botany, group followed the path opposite the estate entrance towards the South Esk, listing plants along the ditch and around the pond. After lunch this group crossed the road and headed uphill through the estate and eventually finished in the car park where an uncommon, non-native plant, **mossy stonecrop** (*Crassula tillaea*) was found.

The object of the day had been to record as much as possible.
109 plants were found between the River South Esk and the main road
124 plants found between Rottal Lodge and the moorland
12 species of fungi were found overall
37 species of birds recorded overall
Barry and Cathy headed towards Loch Wharral to look for **northern brown argus** on the upper slopes, but, unfortunately, they were not successful this time

David Lampard

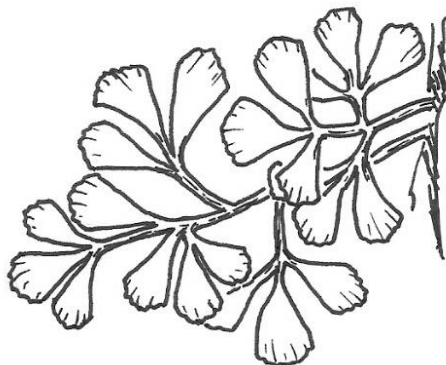
MONCREIFFE ISLAND

25th June

This evening meeting was a joint venture between the Dundee Naturalists' Society, the Perthshire Society of Natural Science and the Botanical Society of Scotland (BSS). We were collecting records for the BSS Urban Flora Project and the Botanical Society of Britain and Ireland's Atlas, as well as making other natural history observations.

After meeting at the South Inch car park, we crossed the road to view the plants on the river bank. This side of the river is in vice-county 88 (mid-Perth) for recording purposes, whereas much, but not all, of the island is in East Perth (vice-county 89). The river bank is steep and slippery, but here was a colourful display, including *Mimulus* (**monkey flower**), *Myosotis scorpioides* (**water forget-me-not**), *Silene flos-cuculi* (**ragged robin**) and *Caltha palustris* (**marsh marigold**).

The island is reached by a footbridge alongside the railway line where trains rumble by. The wall here provided some interest, including the ferns *Asplenium trichomanes*, *A. ruta-muraria* and *Adiantum nigrum* (**maidenhair spleenwort**, **wall-rue** (right) and **black spleenwort**). More unusually *Cystopteris fragilis* (**brittle bladder fern**), seen less often in towns, was also present as well as the commoner *Polypodium* (**polypody**).



Descending the metal staircase at the north end of the island, we found ourselves in woodland, which was quite wild given its position in the middle of the city. At one time this was an open grassed area, formerly the site of filter beds for Perth Corporation Waterworks. The PSNS planted the trees in 1967 to mark its centenary and "to enhance the visual aspect of the town centre". The spot was considered most appropriate as it lies opposite the Society's original museum in Tay Street. The southern part of the island is more developed, with the Perth Working Men's Garden Association allotments and King James VI golf course. The trees included *Salix* (**willow**) species including *pupurea*, *caprea* and *myrsinifolia*. There were considerable quantities of *Symphytum x uplandicum* (**Russian comfrey**) and *Myrrhis odorata* (**sweet cicely**). *Galium boreale* (**northern bedstraw**), *Teucrium scorodonia* (**wood sage**) and *Alchemilla xanthochlora* (**meadow lady's-mantle**) were also noted. A solitary spike of *Dactylorhiza pupurella* (**northern marsh orchid**) was found near the north end of the island.

We spent almost all of our limited time in the northern monad (1km square) and recorded a good total of 131 species. A very brief visit to the more southern square led to the discovery of *Epipactis helleborine* (**broad-leaved helleborine**), not yet in flower and not at all common in eastern Scotland, although more frequent in the west.

Birdlife was not neglected and 13 species were recorded, including a brief glimpse of a **kingfisher**. Several bumblebees were working the **raspberry** flowers, including the increasingly common **tree bumblebee** (*Bombus hypnorum*) which has colonised the area over the last few years.

Although small this island more than filled our evening and another visit would be worthwhile.

Brian Ballinger

CRAMOND AND RIVER ALMOND

6th July

Cramond proved an interesting venue of varied habitat which many of those on the outing had not visited before. First stop on the walk was the grounds of Cramond Kirk on Glebe Road where the layout of a Roman fort is marked out. It occupied the site from AD 140 for over 70 years, and was excavated some years ago. A wooded path leads to the overgrown site of the fort's bath house. Details of both are shown on information boards.

The walk then continued via a stretch of promenade to the beach which has boulders of **calciferous sandstone** and **volcanic technite**. At the top of the beach the sand has been bound together by **lyme grass** (*Leymus arenarius*) to form a low dune-like area with a variety of plants such as **sea mayweed** (*Tripleurospermum maritimum*), **groundsel** (*Senecio vulgaris*) and **common ragwort** (*Senecio jacobaea*).

Fortuitous timing meant that our visit coincided with low tide enabling the more energetic members of the group to walk out along the causeway to Cramond Island where Anne Reid recorded birds. These included the expected seabirds such as **gulls**, **eidler**, **cormorant** and **goosander** and, in the woodland and scrub a selection of small birds including **blackcap**, **willow warbler**, **whitethroat**, **chaffinch** and **linnet**. Cathy Caudwell recorded butterflies and moths which included **meadow brown**, **ringlet**, **peacock**, **painted lady** and, notably, the scarce **narrow-bordered five spot burnet moth** (see photo on page 24).

The main walk continued past the houses of Cramond village and the yacht clubhouse along the bank of the River Almond to the historic Cramond Brig about a mile upstream. The river bank is wooded with a variety of tree species including **oak**, **ash**, **horse chestnut** and **sycamore** and associated woodland vegetation. Brian Ballinger recorded vegetation for the BSS Urban Flora project. A few examples are **butterbur** (*Petasites hybridus*), **hard shield fern** (*Polystichum aculeatum*), **hedge woundwort** (*Stachys sylvatica*), **lesser burdock** (*Arctium minus*) and **soft brome** (*Bromus hordeaceus*).

About 200 metres beyond the boathouse the remains of three stone built quays can be seen on the opposite bank, dating from 1750 to 1830 when the river had a small ironworks industry based in mills along the river and producing items such as nails, spades and iron rod. The first mill reached is Cockle Mill, with the mill cottages restored to form a cafe. A short distance upstream is Fair-a-Far Mill which has a weir and salmon ladder. To proceed further up the river two steep flight of steps up and down bypass a part of the path which has crumbled. Birds seen on the river included **kingfisher**,

goosanders and **herons**. Somewhat surprisingly a **hooded crow** was spotted with **carrion crows** out on the shore.

Peggy's Mill, a little over halfway along the walk once produced paper. Closer to the old Cramond Brig are the cottages of Dowie's Mill and a low weir which was damaged by flooding between the wars. Finally, the old Cramond Brig, (left) built in 1619, was reached. It was the main route from Edinburgh to Queensferry and the north until the 1930s.



Many returned to the village in time for refreshments, but some who had been across to Cramond Island and then up to the old bridge did not manage to fit in such a luxury. An excellent day with sunny weather added to everyone's enjoyment.

Mary Galloway

QUARRY BARBECUE

9th July

This report is easy to write. The barbecue had to be cancelled. It had rained overnight and was still raining lightly in the morning, as forecast, but by lunchtime the rain had increased to a downpour - definitely not in the forecast! It was still raining heavily at about two o'clock when we made a 'dynamic executive decision' and decided to cancel the event - and fortunately managed to contact everyone we knew who was intending to come. Lorna did a good job in putting out a general email early enough to catch most of the membership. Although the rain eventually eased off in the late afternoon - of course! - the trees were still dripping with every breath of air and the ground was sodden. Ah well, we can't win every time (we were lucky last year) and at least it's great weather for growing trees. Rather surprisingly, though, all the precipitation of the previous few days had not increased the low water levels in any of the ponds.

Jim Cook

BROWNIE WOOD, GAULDRY

23rd July

This was a joint visit, with Perthshire Society of Natural Science and Botanical Society of Scotland, to this 25 acre wood in North Fife (owned by the leader). Since buying the wood 25 years ago I have managed it with a light hand and with wildlife in mind.

The early pictures and documents point to an almost tree-less landscape in north Fife in the 18th century and Brownie Wood is probably an old plantation dating from the late 18th or early 19th century, initially, but not currently, devoted to **pheasant** shooting. It is a typical North Fife wood with a mixture of conifers (mainly **pine** and **larch**) and a variety of broadleaves. **Beech** trees guard the exposed edge overlooking the River Tay and are subject to gales. **Sycamores** seed profusely throughout the wood.

We met in the village of Gauldry and walked in past the ruined steading (a listed building) on a very warm evening. Some were delayed by recording butterflies on a large buddleia, including **red admiral**, **small tortoiseshell** and a **large white**. Once in the wood, the group followed the circular paths round the wood. There are spectacular views across the River Tay and towards the North Sea and the wood is much visited by locals.

We were past the main flowering season for woodlands, but there was still a lot to see, with particularly profuse flowering *Silene dioica* (**red campion**) and *Geranium robertianum* (**herb robert**). **Bluebells** (mainly *Hyacinthoides non-scripta*) were well past flowering although dead heads remained and the same applied to many other woodland specialists. There were a couple of areas of *Circaea lutetiana* (**enchanter's nightshade**), a later flowering woodland species. *Lonicera periclymenum* (**honeysuckle**) (below) is present in great quantity and was flowering in some places. We were pleased to be joined by Sandy Edwards, the Botanical Society of Britain and Ireland's recorder for Fife, who recorded plants and noted 85 species.

We did not see any mammals but there were signs of **roe deer**, **badgers** and **squirrels**. On the east side of the wood the remains of a **wasps'** nest that had been dug out, presumably by a **badger**, was found. Only seven species of bird were recorded including **great spotted woodpecker**. There were some day flying moths including **barred straw**, **twin spot carpet**, **silver-ground carpet**, **brown china mark** and **large yellow underwing**.

One of those present thought there might be signs of fairies but this was discounted, in spite of the name of the wood.

It would be good if all our evening outings could be blessed with such summery weather, although it did prove too hot for some.

Brian Ballinger



Note - The temperature was around 25°C when we started out at 7pm and did not cool much by the time we left. Ed.

MURTON DRAGONFLY WORKSHOP

3rd August

It is always a worry when you organise an identification workshop - will the weather be suitable? On this occasion I did not need to be concerned at all, it was fine and sunny. By holding a workshop at Murton a lot of the problems that can get in the way just do not. We were provided with a large room as a classroom, with a screen and projector, the means to make tea/coffee, and a selection of cakes, just to make us feel at home. If that was not sufficient, the Murton Café was just next door!

It was very good that we had a full house of participants, mainly Nats, but we also had two who were non-members - a young girl still at school and she brought her father along. It was a pleasure to meet both of them.

The event was tutored by Daniele Muir from the British Dragonfly Society. The day started with Daniele introducing just what a dragonfly is and what it is not. The dragonfly life cycle was then covered followed by a review of the Scottish species and habitats associated with each species. After lunch it was over to us, going outside looking for live insects, and hunting for dragonfly exuviae, the cast skins of the last larval stage, as the adult emerges. The adults that we saw were **common darter**, **black darter**, **common blue damselfly**, **large red damselfly** and **emerald damselfly**. We also found several exuviae as well which were taken away for identification later. We all had a good day and all improved our knowledge about this fascinating group of insects. A large thank you to Daniele for the day.

Barry Caudwell

LOCH OF THE LOWES - BEAVERWATCH

13th August

After gathering at the SWT visitor centre in evening sunshine and hearing the mewing of **ospreys**, we headed east along a path through the mixed woodland and the minor road that runs alongside the south shore of the Loch. **Holly**, **rowan** and **beech** were evident. We were surprised to see a very large dead fish lying in the water, possibly a **pike** although it was too far from the shore to see clearly. On the ground were some wonderful groups of the fruiting bodies of **chanterelles**, *Cantharellus cibarius*, with their deep rich yellow coloured bodies. A spectacular "fairy ring" in the woodland was the result of the growth of **clustered tuffshank** as we were reliably informed by Jim Cook. The only moth seen was a **shaded broadbar**. We followed a tip from the ranger (Raz), that the **beavers** had been working **rowan** just along the road on the south shore. Sure enough we passed a lot of old evidence of beaver activity, and then found a recently coppiced rowan. A wet track which led from the shore to the tree and back indicated where the beavers had come and taken away the green branches of the tree, leaving the bigger branches behind.

Soon after 8 pm we huddled into the hide. Both upper and lower floors were filled with Nats, and we probably surprised a few innocent people who were looking for a quiet secluded watch. We watched the two immature **ospreys** who sat on the nest, or flew across to perch in trees on the north shore of the loch. The immature birds are recognisable from the light edging to their body coverts. The female osprey had headed south some time previously, but we believed the male was still around although we did not see him.

We did not hold out great hopes of seeing the **beavers**, having tried on a previous official beaverwatch and failed. However just before 9pm a slick brown head followed by a wake headed



outwards from "the inlet" opposite us, the (whispered) cry of "beaver, beaver" went up and we had great (distant) views of a lone **beaver** swimming from the inlet, along the north shore of the Loch to the headland further east, where it made landfall. We did

not see it again but that was enough for us. We'd had a successful evening, and for Barry and I (and many others), it was our first sight of a beaver, in the flesh, in Scotland. And a great time to see them as since this year they are a protected addition to our mammal fauna.

Cathy Caudwell

ST CYRUS

24th August

After the rather wet visit we had a few years ago we hoped for better weather this time. The morning looked promising with little cloud and a blue sky so that, as soon as we arrived at the visitor centre, everyone's hopes were up for a good exploration of the area. St Cyrus is an extensive sand dune system with marshy areas on the old river bed and steep cliffs behind. It is noted for its diverse flora and a wide range of birds and insects and did not disappoint us.

As we started out the grass underfoot was very wet from the previous day but this soon dried and as the air warmed up the insects began to appear. Occasional **small heath butterflies** put in an appearance and **common carder bees** were seen on the **knapweed** flowers. A few people started the visit by heading for the bird hide at the south end of the reserve, overlooking the River North Esk. The long grass in front of the hide windows made for patchy sight lines, but a **little egret** was seen along with a few **wigeon**, a lot of **Canada geese** and the **whooper swan** which had been present all summer. The main attraction on the path to the hide were the baby **lizards** which were basking on the driftwood logs marking the path edge. In some places several were seen together and nearly all were much darker in colour than the adults. Two days previously, on a recce, Anne had seen eight together on a single railway sleeper (and got quite excited!).

The main group headed north along the dunes and followed such a meandering path that it took several hours to cover the mile or so to the furthest extent of the reserve. We kept stopping to look at everything along the way. There were numerous flowers of **maiden pink** in the dune grassland and a few spikes of the **clustered bellflower** were hanging on. A newly-emerged **shaggy ink cap** was seen in some of the lush grass and a number of **puffballs**, in various stages of decay, were also found. A bee-mimic **hoverfly**, *Volucella bombylans*, was feeding on **scabious** flowers with a number of **peacock butterflies** nearby and **swallows** still had young in nests in some of the abandoned buildings of the old fishing station. Near one of these was a large heap of wooden poles, presumably old net supports, which was obviously used as a perch and plucking post by the local raptors. On it, and nearby, we found a **racing pigeon** leg, complete with ring (it came from Arbroath) and parts of small mammal skulls, including at least two different **rabbits** and a **shrew**, and bird pellets (see photo).



As we neared the far end of the reserve, we worked our way to the seaward edge of the dunes and settled ourselves on rocks and driftwood tree trunks to have lunch looking out to sea. A **cormorant** and a single **eidler** were the only seabirds added to the list here but Barry found what turned out to be an **11-spot ladybird** on a rock. One of the large rock stacks had a few plants of **Scots lovage** growing in a cleft on its north-facing side in addition to **curled dock** and **thrift**. Other members found **wild liquorice**, in one of its northernmost sites, on a crag nearby. Gina Angus found a very small, dead, silvery **fish** on the shore but after much discussion we came to no firm conclusion on its identity.

As we made our way back towards the visitor centre **common blue**, **small totoiseshell** and **painted lady butterflies** were added to the list. A few stripy larvae of **cinnabar moth** were found on **ragwort** and a **common carpet moth** was captured (briefly) and identified. Once back at the visitor centre most of the group rested in the sunshine, but a few headed for the hide on the river for a swift visit before bus time. The baby **lizards** were still on view in a number of places, and still as exciting as when first seen!

Anne Reid

DUNDEE FOOD AND FLOWER FESTIVAL

6th - 8th September

Once again we had a presence at the Food and Flower Festival, in the Children's tent with other conservation groups and next to the SWT. Friday was the usual noisy experience with a never ending stream of children, who this year seem much more clued up about the environment and asked so many questions. They seemed to enjoy our collection of **shells**, **leaves** and other natural history artefacts found locally which included **acorns**, **pine cones** and **conkers** plus the wild flower exhibits that Brian Ballinger produced for the BSS. (Photo of the stall on page 25)

Saturday and Sunday, was much more adult, although it was the children who initially came over to put shells to their ears, and to marvel at the different sizes of fir cones. Many interesting conversations followed, especially adults sharing with children how they used to collect shells as a child.

Our purpose for attending the show is to recruit members, raise our profile, raise environmental awareness and the need to protect our natural history, which I think we managed. We had several people interested in joining and gave them leaflets regarding our winter programme. Thanks to Brian, David, Barbara, Kati and Jim for your hard work.

Lorna Ward

BARRY BUDDON JOINT OUTING

8th September

We all wrapped up warm for this outing as it was a chilly start but we soon started shedding layers as it turned into a beautiful sunny day. After we'd split up into our groups our 'bird' group headed for the viewing point over the sea shore where a lot of distant waders and gulls were gathered. We spent some time searching through them to see what was there. We identified quite a variety including **sandwich** and **common terns**, flocks of **bar-tailed godwit**, **ringed plover** and **sanderling** which were later joined by a group of **grey plovers**. The **gulls** included at least one **little gull**, and a flock of **red-breasted mergansers** flew past. There were also several different species of butterfly here - **small copper**, **red admiral**, **peacock**, **common blue** and **painted lady**. As we left about 40 **golden plovers** flew over.

On to Yeomanry Pond next which was a bit disappointing for birds (**coot** and **mallard** being the only birds on the pond!) But, it was excellent for fungi and, in the 'scrape', were dragonflies, with lots of **black** and **common darters** (many of them laying their eggs), **emerald damselflies** and a spectacular **common hawker**.



We all remembered Bob McCurley while we were here as he was the person who had initiated the 'scrape' and Graham had announced earlier that Barry Buddon was thinking of paying tribute to him by re-naming an area after him and putting up a plaque.

After we'd had a good wander here it was time for lunch at the lighthouse. Most people had a look at the **moths** that had been trapped overnight and walked up to the viewpoint overlooking the sea where a **sparrowhawk** flew over. Once again there was a nice variety of fungi along the way including an enormous **parasol fungus** (left, photo Marian Antram) and **blackening** and **parrot waxcaps**.

We were hoping for some **grayling butterflies** at Happy Valley but were out of luck, in fact it was very quiet there with only some **bullfinches** and **coal tits** showing themselves. So, we decided to finish the day by having a look at Carnoustie Bay. This was also pretty quiet, but if you scanned carefully there were **gannets**, at least one **guillemot** and a **red-throated diver**. Closer to shore the **sandwich terns** put on a great display diving into the water and a solitary **common scoter** bobbed about close in giving everyone a good view.

It had been such a beautiful day that the shorter list of bird species than usual really didn't matter as everyone had thoroughly enjoyed themselves.

Marian Antram

LOCH FASKALLY FUNGAL FORAY

21st September

A keen, but small, group of fungal forayers, both Nats and TAFFG (Tayside and Fife Fungal Group) members, met up in the car park near the railway station and over by the dam at Pitlochry. Although it had been fairly dry we were hopeful that there'd be plenty of fungi around. And that soon proved to be correct. Several members of both groups identified several **ochre brittlegills** (*Russula ochroleuca*), one **charcoal burner** (*Russula cyanoxantha*) and a couple of **blushers** (*Amanita rubescens*). Even better, we found several good specimens of **false deathcap** (*Amanita citrina*), with their distinctive cut raw potato smell and then a fine cap of **fly agaric** (*Amanita muscaria*) with its distinctive red cap spotted with white scales, a large **fleecy milkcap** (*Lactarius vellereus*), a few **deceivers** (*Laccaria laccata*) along with two small **amethyst deceivers** (*Laccaria amethystea*) and a deliquescent **common inkcap** (*Coprinus atramentarius*), demonstrating to all why they are called inkcaps.

Further along Alison spotted a fine **bolete**, which turned out to be **slippery jack** (*Suillus luteus*) and then Barry picked up a fine **lilac bonnet** (*Mycena pura* or even *M. rosea*) which was delicately pink. There were several **brown birch boletes** (*Leccinum scabrum*), a few **woolly milkcaps** (*Lactarius torminosus*), lots of small **brackets**, **smoky** (*Bjerkandera adusta*), **turkeytails** (*Trametes versicolor*) and the yellowish brackets of **hairly curtain crust** (*Stereum hirsutum*). With all these species, though, progress was slow and we decided to stop for lunch overlooking the loch.

Meanwhile other members had spread out looking for birds, higher plants and anything else of interest and it wasn't long before we met some of these and heard about their sightings including some fungi. Other good finds included **wood pinkgill** (*Entoloma rhodopolium*), **dead man's fingers** (*Hypoxylon fragiforme*), **brittle crust** (*Kretzschmaria deusta*) and **white fibre-cap** (*Inocybe geophylla*).

Only a few of the party made it along the road and into the large conifer forest but there was a good haul there as well. They included **orange stag's-horn** (*Calocera viscosa*), **sulphur tuft** (*Hypholoma fasciculare*) and **brown webcap** (*Cortinarius brunneus*). In all, it was a great day.

Jim Cook

GARRY BRIDGE TO FASKALLY

21st September



Two members of the group, Anne and Brian Williamson, elected to get the bus to drop them off at Garry Bridge and walk down the river and Loch Faskally back to Pitlochry. The woods near the bridge were very quiet with only a few **blue** and **coal tits** and the occasional **robin** seen. We were distracted, under the bridge itself, by an impending "bungee jump" (left) and waited and watched the whole procedure. It must have been exciting but we agreed that it was not for us!

Beside Loch Faskally there were a few **mallards**, more **tits** and a few **wood pigeons** and preparations were already underway in the woods for the 'Enchanted Forest' light show event. On reaching Pitlochry we came upon the rest of the group who appeared only to have moved a few hundred yards from the start, but had found plenty to look at and record (see above).

Anne Reid

AUTUMN MEETINGS FLOWER HUNTING IN PERU

Richard Brinklow - 7th October

Richard led off our winter programme in fine style with his lecture about Peru. In fact, as he explained, he wasn't going to describe the botanically rich lowlands of Peru with their many thousands of species but confine his talk to the highlands of the country, to the altiplano, the dry, high altitude plains (at around 3,000 to 4,000m), and the higher slopes of the snow-covered Andes themselves. And what a selection there was!

Richard introduced the idea of altitude zonations, including dry slopes and flat wet areas on the altiplano. He conducted us into the mountains near Arequipa at around 3,000m (approx. 10,000ft), covered in dry spiny scrub of various **cacti**, *Ephedra rupestris* and a few bulbs. In damp flat areas the tour party found a colourful little **lupin** (*Lupinus subcaulis*), a **pea** (*Astragalus peruvianus*), a low-growing **lobelia** (*Lobelia oligophylla*), a **gentian** (*Gentiana sedifolia*), the only true one they saw, and the large and showy flowers of *Gentianella luteo-marginata*. In the grasslands were numerous **alpacos** (a type of **llama**) with their young, known as chulungos, and small groups of **Andean flamingos**.

Further exploration days yielded a variety of cushion plants, well adapted to resist the drying winds, sere conditions and nightly harsh frosts. The sparse vegetation included numbers of **umbellifers** and forms of *Campanulas* plus some 40 species of *Senecio*. In damper areas they found the showy red and yellow flowers of a gentian relative, *Gentianella primuloides*.

Moving onto Cuzco, the tour explored archaeological sites including pre-Inca salt pans, some still in use, and found various *Iris* relatives and tall, 1m high, red and yellow-flowered *Bartsia* species. Along stream sides they found a handsome greenish-yellow **orchid**, *Krameria bulbisia*. Nearby, iridescent **sparkling violet-eared hummingbirds** flitted about. On much higher land, 4,000 to 5,000m high (13,000 to 16,000ft), the party came across a further variety of cushion plants including **plantain** species and *Gentianella rima* growths nearly a metre across. On the altiplano were small farms with fields of **Peruvian potatoes**, along with dense growths of weeds, and several companion crops.



North of Lima the party visited the harsh dry Cordillera Negra and saw numerous **cacti** along with *Calceolaria scapiflora* and *Viola micranthella*, high altitude **lobelias** and stands of *Puya raimondii*, which flowers once to form an imposing 10ft flower spike. They visited a botanical garden to see more native plants including *Senecio canescens* in a natural rock garden. In the classic glacial terrain of a U-shaped valley with its lake, they came across *Lupinus erioclanus* and shocking pink *Gentianella formosissima*. Around pink hanging growths of a **bromeliad** they saw **giant hummingbirds** (in comparison to other hummingbirds!). These birds range up to the amazing altitude of 4,000m. In all, Richard's superb photos and informative commentary impressed us all. He was rewarded by a hearty vote of thanks.

Jim Cook

HISTORY OF SCOTLAND'S WEATHER AND CLIMATE CHANGE

Professor Alastair Dawson - 22nd October

Professor Dawson has studied sea level change and the Scottish climate for over 30 years and is interested in the history of weather. His academic career has taken him from Aberdeen University, via a Masters degree in Louisiana and a PhD from Edinburgh University on sea level change, back to Aberdeen and now Dundee. Alastair published "So Foul and Fair a Day; A History of Scotland's Weather and Climate" in 2009.

Professor Dawson has specialised in studying weather through written records from scientific reports, ships' logbooks, lighthouse keepers' logs and other documents such as the diaries of highland estate managers. Some of these reports may be indirect, such as the failure of crops or the colour of a sunset. At the moment he is looking for evidence of a tsunami from the 1780s in local diaries.

Delving deeper back in time he has looked at information gathered from ice cores and other geological processes. Looking through ice core data, the deepest of which are 2.3 km deep, there are

layers of dust, ash and the gas bubbles trapped in the ice which can be used to determine the chemistry of the atmosphere, as well as the concentration of salt in the ice. Ice cores show sea salt changes 10-12,000 years ago.

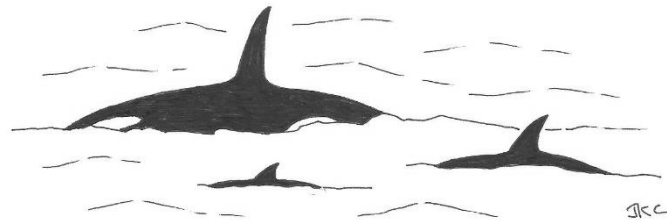
Alastair is particularly interested in how weather or climate events have affected human history particularly in Scotland. In fact, one of Alastair's theories was that the massacre of Glencoe may have been in part due to blizzards during the "Little Ice Age" preventing the Chief of the Clan Macdonald reaching Inverary in time to sign the oath of allegiance to King William.

8,000 years ago at the end of the ice age there was a rapid melting of the Canadian/North American ice sheet. This formed an enormous freshwater lake, Lake Agassiz, which drained into the north Atlantic in a large flood event. Paradoxically this amount of cold fresh water led to the cooling of the earth due to the disruption of north Atlantic circulation. This could have been responsible for the "Lomond readvance" of the ice.

1,000 years ago the climate warmed during the early mediaeval period and at this time, for example, the Vikings settled Greenland and Iceland which were free of ice. It was thought that winters were less stormy helping the Viking expansion. Evidence of sea ice can be detected by cores from the sea bed. 4,000 years ago there was no southerly sea ice in the Atlantic. This warmer spell was followed by the "Little Ice Age" in the 13th century which lasted until 1914. Although no glaciers were formed in Scotland the weather was colder. Since the Little Ice Age ended glaciers worldwide have been retreating.

The changing extent of sea ice affects one of the most important regulators of weather, the global thermohaline conveyor. Surface water warms at the equator and is also less salty. It gradually moves north as the Gulf Stream, which, as it passes the west coast of the UK, is called the North Atlantic Drift. As it approaches Greenland two things happen; the water cools; and also, as water freezes and turns to ice, salt is expelled into the water. The cold salty water is denser and sinks to the sea bed where it moves south as far as the Antarctic before turning north again.

Professor Lamb of the University of East Anglia recorded that ships' logs in 1789 showed a dip in ocean temperature by 1°C. Fisherman in the Haaf fisheries, offshore from Orkney and Shetland, refused to fish there in the 1700s because of the danger of **killer whales** (right) moving south. The **cod** fishery was so rich that it was said you could walk from boat to boat across the fishes' backs. As the cod moved south they were followed by **seals** and **whales**.



Sea ice forms a thin layer over the sea but also helps keep the water cool by reflecting heat back into the atmosphere. Sea ice extending its range has affected fishing, storm tracks, weather and occupancy of countries. A record of ice from 1220 -1250 shows how ice moved south. In 1250 polar bears were first seen in Iceland. From 1500 to 1800 the ice built up in stages. The 1800s when the ice was at its greatest extent, saw the peak of the north Atlantic whaling industry. Between the 1690s and 1715 there are about a dozen reports of Inuit appearing in the Orkneys and northerly coasts. In Aberdeen an Inuit landed in around 1714 but he died of hypothermia four day later. He was called the Finn man and his kayak is still in Aberdeen museum. It is thought the Inuit may have been trapped on ice flows drifting south.

In the 1700s there was great hardship known as the famine years, Blizzard frequency between 1730 and 1860 increased and in the 1800s it was stormier and wetter. As cold water moved south another fish became abundant in British waters - the **herring**. From the 1400s there was more stormy weather with more shipwrecks. a very severe storm was recorded in 1880/1. 1695-1702 were called the 'dear' years of King William, long snowy winters and wet summers. Edinburgh skating club was founded in the 1700s and numerous skating and curling ponds were built around the country.

A whaler from Peterhead, Captain Gray, mapped the extent of the sea ice for the Royal Geographical Society in the 1880s. Elsewhere, Torshavn in the Faroe Islands was surrounded by sea ice. Storminess related to sea ice extent was recorded in Iceland.

From 1895-1905 a new warm period began and the sea ice has been retreating ever since. However, there were notable severe winters in 1947, 1962/63 and 1997.

When, 12,000 years ago, the ice sheet in Canada melted and the glacial lake Agassiz grew, the resultant collapse of the ice dam entrance to this lake probably caused a change in the climate due to the sudden impact of cold freshwater. As the sea level rose there were areas of permafrost that got

buried below the sea level on the sea bed. If, in the near future, the sea starts to warm and this permafrost starts to melt it could release trapped methane and carbon dioxide. In Europe the ice sheet melted faster at the end of the Ice Age. If the Arctic warms, the conveyor system will slow down, and without the warmth of the Gulf Stream the UK would get colder. Research is still needed to tie up the effects of atmospheric warming with ocean circulations - food for thought for all present.

David Lampard

ST ANDREWS

9th November

This was to have been a second attempt to visit the Bell Pettigrew Museum in the University, however, rules on weekend visits and staffing had recently changed and this was again not possible. We made the best of the situation and headed off for a walk along the West Sands.

The sun was shining and, despite there being a lot of other walkers on the beach, we still found plenty of interest. Large numbers of **potato urchin shells** (below) littered the strand line along with **whelk eggs**, **crabs**, **razor shells**, **necklace shells** and **otter shells**. A rubber glove had obviously been in the water a long time as it was encrusted with **barnacles**. There was pleasingly little rubbish visible but Patrick picked up all he found for safe disposal later.

A few made it all the way to the mouth of the River Eden but most of us turned back sooner having worked up enough of an appetite. All made their way to The Saint restaurant on South Street where lunch was very much enjoyed.



Anne Reid

THE FLORA OF CENTRAL SCOTLAND - 50 YEARS OF CHANGE.

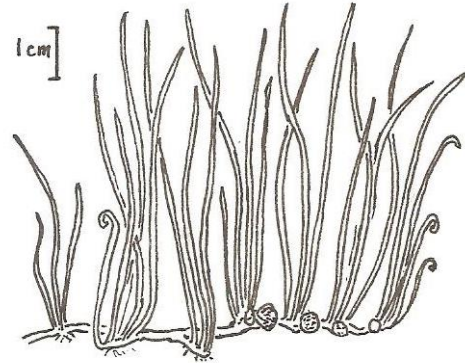
Roy Sexton -12th November
Joint with the Botanical Society of Scotland

In 1974 Professor John Proctor published an account of the flora of what was then the Central Region of Scotland. In his talk Roy Sexton gave a description of floral changes that have taken place in the subsequent 50 years. The old Central Region includes the areas around Stirling, Falkirk and Clackmannan, extending north into the Breadalbane mountains. There is a very wide spectrum of habitats and a rich flora of around 1,500 species.

Roy's illustrated account was based on his own observations together with those of many local botanical specialists. He took us through the various habitats, beginning in the mountain reserves on Ben Lui and Ben Lawers, well known for their alpine flora. Plants such as *Gentiana nivalis* (**alpine gentian**), *Silene acaulis* (**moss campion**), *Minuartia sedoides* (**cyphel**), *Erigeron borealis* (**alpine fleabane**) and *Veronica fruticans* (**rock speedwell**) are carefully monitored and managed by Scottish Natural Heritage and National Trust staff. Changes over the 50 years have been relatively few, although sheep grazing remains a problem and visitor pressure has increased. The impact of grazing was illustrated by the luxuriant growth that occurred in the NTS 'exclosure' areas.

Many of the higher hills in the upland moorlands are covered in blanket bog where peat erosion has been a problem. *Rubus chamaemorus* (**cloudberry**) is still present as described by Proctor (1974) but much of the original heather moor has been replaced by grassland, a process exacerbated by burning and heavy grazing. However, species such as *Genista anglica* (**petty whin**) and *Neottia cordata* (**lesser twayblade**) can still be found. The reduction in grazing pressure resulting from the reform of CAP subsidies in 2005, has had a profound impact on these uplands. **Grasses** and **rushes** have grown up and the area of **bracken** increased by 27%, smothering many of the smaller plants. In the last five years there has also been a major increase in new **Sitka spruce** plantations, encouraged by Government policy.

In the upland flushes some plants such as *Hammarbya paludosa* (**bog orchid**) have been re-found, and the burns that lead from them are generally in good condition. Some major rivers like the Teith and Devon are much the same botanically as they were in the 70s. However, the banks of the Rivers Forth and Allan have been over-run by non-native invasive plants with very little bank area unaffected. The predominant species involved include *Impatiens glandulifera* (**Himalayan balsam**) and *Heracleum mantegazzianum* (**giant hogweed**). In freshwater lochs, rarities such as *Pilularia globulifera* (**pillwort**) (right) and *Nuphar pumila* (**least water-lily**) are still recorded. The fens surrounding the lochs still contain *Stellaria palustris* (**marsh stitchwort**), *Lysimachia thyrsoifolia* (**tufted loosestrife**) and *Dactylorhiza incarnata* (**early marsh orchid**) where they were described in the 70s. The very rare *Rumex aquaticus* (**Scottish dock**) grows round the Endrick, although it does tend to hybridise with more common **dock** species.



The cliffs and gorges of the Ochils hold a large population of the rare and beautiful *Silene viscaria* (**sticky catchfly**), still present in many of its old sites. Grazing by **sheep** and incursion by *Ulex europaeus* (**gorse**) are threats.

With regards to the woodlands one fragment of ancient **pinewood** survives at Cononish near Tyndrum. Native broad-leaved woodlands have been badly affected by **Dutch elm disease** and **ash die back**. Amongst the rare woodland floor species mentioned by Proctor, *Neottia nidus-avis* (**bird's-nest orchid**) and *Lathraea squamaria* (**toothwort**) are doing well, but *Paris quadrifolia* (**herb Paris**) has been lost at all its sites. *Corallorhiza trifida* (**coralroot orchid**), which was thought to have been lost, has been re-found at two woodland sites.

The use of selective herbicides has led to a major reduction in the weeds of arable fields, and many like *Agrostemma githago* (**corn cockle**) and *Centaurea cyanus* (**cornflower**) have disappeared. The CAP set-aside policy of the 1990s led to some spectacular resurgences of those weed species with long lived seed including *Chrysanthemum segetum* (**corn marigold**), *Papaver dubium* (**narrow-headed poppy**) and *Galeopsis speciosa* (**large-flowered hemp-nettle**). Twenty five wildflower-rich grasslands have been monitored by the local SWT over the last 15 years. Each site is evaluated by counting the numbers of selected species. Nine have remained stable and unchanged, 11 have been declining and five have been lost. These changes are mainly attributed to alterations in grazing regimes. In a study of the hedgerows in the Carse of Lecropt, 47% of those present in the 1850s have been uprooted, reflecting the national trend. Forty eight percent of the remaining hedgerow plants are now flailed annually, reducing hawthorn berry production by 60 fold.

The creation of new salt marshes in the Forth Estuary following the breaching of sea walls at RSPB's Skinflats reserve and the flooding of Alloa Inch has been beneficial floristically. Magnificent displays appear when *Cochlearia officinalis* (**scurvy grass**) and *Aster tripolium* (**sea aster**) flower. A new species to the area *Monotropa hypopitys* (**yellow birds-nest**) appeared in 2016 on the old oil-shale ridges at Skinflats.

Of 73 plant species thought to be lost by Proctor in 1974, 35 have subsequently been re-found and several new species such as *Pseudorchis albida* (**small white orchid**) have been discovered.

In summary, there is still an important diversity of plant species in the central Scotland area but threats remain. These include the relentless impact of the intensification of agricultural practices, the influence of subsidies to forestry and agriculture, the irresponsible introduction of non-native invasive species, short-term approaches to conservation and public ignorance of botanical matters.

Brian Ballinger

THE LYNX AND US

David Hetherington - 26th November

This lecture attracted an audience of over 100, including many non-members - a record for recent years, in part reflecting advance publicity which it had received in the local press and on social media, but surely also a testament to the growing interest in rewilding and the restoration of lost species.

Bones in fossil and archaeological deposits show that the **Eurasian lynx** once roamed the full length of the British mainland, and cultural and place-name evidence shows that it survived in Scotland

well into Medieval times. The eastern Grampians were probably its last refuge, but widespread destruction of forests and conflicts with grazing livestock in those forests that remained resulted in the extinction of this woodland predator. Could the large-scale afforestation of the uplands and the growth and spread of **roe deer** mean conditions are right for its return?

In 2002, the woodland cover of Scotland was thought sufficient to support two populations of lynx, one north of the Highland Line supporting 400 animals, and a smaller one of around 50 animals in the Southern Uplands, extending into the Kielder Forest of Northumberland. Although lynx are capable of traveling long distances and can pass through densely populated terrain, it is likely that the Central Belt would be a barrier to their movement. Lynx occur at low density over vast ranges - one Nordic animal had a home range three times the size of Fife.

Internationally, the lynx's decline and recovery has similarities with that of the **beaver**. After being reduced by hunting and habitat loss to relict populations in a few refuges in eastern Europe and Scandinavia, with a much larger population surviving in Russia, Eurasian lynx have been reintroduced to many European countries in their former range. Not all reintroduction attempts have been successful, but reintroduced populations are now established across central Europe.



The diet of lynx was discussed in detail. Its main prey item by far is **roe deer**, although they take a range of species and are capable of taking **red deer** calves or even hinds. The potential effect on other threatened species such as **capercaillie** and Scottish **wildcat** must be considered: a ten-year study of lynx prey in Switzerland recorded only a single capercaillie, but lynx had killed 37 **foxes**, which would be likely to have predated more capercaillie than the lynx. Wildlife monitoring in Sweden and Finland following recolonisation by lynx attributed increases in several species, including capercaillie, to lynx impact on foxes. The Swiss lynx also took a single wildcat, but the presence of domestic or feral cats is by far the greatest threat to Scottish wildcats, and by acting as a potential predator, lynx might help to protect the wildcat too. The two species do not compete for food.

Losses of livestock to lynx are generally few, as the lynx is an ambush predator which does not stray far from woodland, and cannot run down prey in open habitats like wolves can. The sole exception is Norway, where the government pays many more compensation payments to farmers for losses of sheep to lynx than the whole of the rest of Europe combined. This seems to be partly due to Norway's almost unique approach to livestock husbandry, with free-roaming sheep grazing in the forests where the lynx live, and also because farmers there are not required to produce any evidence to support their claims for full market value compensation. Even in Norway, the claimed losses amount to only around 10% of total sheep mortality.

An application for a licence for a trial reintroduction of lynx in Northumberland was rejected by Natural England in 2018; our speaker felt that this was the correct response in this case as the proposals required further work. However, with further expansion of woodland, the continuing decline in hill sheep farming, and growing enthusiasm for wildlife tourism, it seems likely that future applications may attract wider support.

The lecture was illustrated by spectacular images mostly taken by Laurent Geslin, and at the end the speaker sold many copies of his book *The Lynx and Us*, containing the same photos.

Colin McLeod

RECENT MARINE STRANDINGS ON THE TAY

David Lampard - 10th December

The last couple of years have been more eventful than usual for marine strandings on the Tay and locally. Back in March 2018, the well-documented stranding of the **sperm whale** at Monifieth caused a lot of interest locally (see Bulletin 2018, page 37 for full details) and we were shown a number of photos of the stages in its post mortem dissection and given a blow-by-blow account. It was interesting to find out that three or four other juvenile **sperm whales** had washed up in the Netherlands in the same week.

Later in the year a **basking shark** was washed up at Easthaven which is very unusual for the east coast, though not unprecedented. There was another recorded near Longforgan in 1950 and one at Newport-on-Tay in 1954 which were both notable enough to be reported in the Courier.

A **minke whale** washed up at Lunan Bay. This one had been dead for a while before being washed up. This species is used to coastal waters and is rarely stranded. The final occurrence was in summer 2019 when a **porbeagle shark** washed up at Arbroath.

Some commented that the photos had been rather gory and perhaps inappropriate just before we headed for our festive food and drink, but they were quickly forgotten as we got down to the array of goodies brought by members for this, our Christmas meeting.

Anne Reid

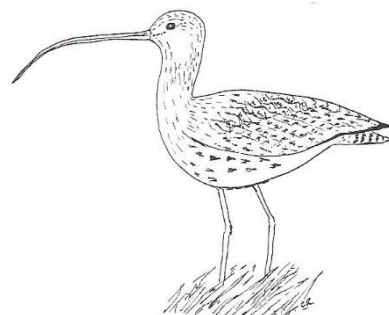
MEMBERS' ARTICLES INTERESTING SIGHTINGS 2019

This compilation is intended to let people know what has been seen locally. All contributions are welcome. Each entry is followed by the initials of the recorder. The location of garden records is noted on the list below.

The second and third weeks of February were abnormally warm, with temperatures in double figures for about two weeks, though often dropping sharply at night. Records were broken in all parts of the UK for February temperatures - in contrast to last year when the 'Beast from the East' struck in late February. After this the year had the usual ups and downs of weather, with some very wet spells.

Please remember to send in your sightings of anything of interest, preferably straight away. By the second half of the year the records drop off somewhat - keep them coming. Ed.

Jenny Allan	JA	Monifieth
Margaret Bainbridge	MB	Monifieth
Brian Ballinger	BB	Dundee, Perth Road area
Jim Cook	JC	Broughty Ferry
Anne Reid	AR	Monifieth
Colin Reid	CR	Monifieth
Lorna Ward	LW	Broughty Ferry
Brian Williamson	BW	Dundee, Law area



- 1st January** A lovely, sunny, new year walk around Forfar Loch was made even better by a fishing **otter** up near the west end of the loch. It seemed unconcerned by walkers and did not move much in the ten minutes I watched it. AR.
- 12th January** On a walk from Tayport to Shanwell Farm, Tentsmuir I saw three **little egrets**, about 50 **curlew** in flight, **oystercatchers** feeding on the playing fields and also **redshank**, **lapwing**, **shelduck** and **mallard** in the saltmarsh. The biggest surprise was a **peregrine falcon** sitting in the middle of a ploughed field. BW.
- 18th January** A **magpie** was heard in the garden fairly early in the morning, the earliest ever in the garden. (The calls were heard a number of times later, confirmation, if any were needed, that the birds certainly have moved into Dundee in a big way in the last few years.) JC.
- 29th January** I found eight **long-tailed tits** in a tree on Dundee University campus. BW.
- 30th January** Below-freezing weather in our garden gave a fine view of female **brambling**, and two **song thrushes** (normally rarely seen here), but also **chaffinch**, **goldfinch**, a pair of **blackcaps** and the usual **tits** on the feeders. BW.
- 30th January** Two **apple trees** next door were laden with fruit in the autumn and now, after the winds, rain and snow, much of it is on the ground. In the morning I counted at least 22 **thrushes** of various kinds (mostly **blackbirds**, a few **redwings** and a solitary **fieldfare**) on the ground and in the trees, pecking at the **apples** and obviously grateful to find such a bonanza in the freezing weather. JC.
- 31st January** A visit with Alban to St. Andrews, by the Golf Museum, gave the remarkable sight of over 1,000 **common scoter**, two **surf scoter**, eight **scaup**, **long-tailed duck**, **eider** and some regular waders. **Fulmars** had already set up their nest positions on the cliffs. BW.
- 2nd February** Awoke to a light covering of snow, after a dusting the previous day. All the garden birds feeding enthusiastically with a maximum of six **tree sparrows**. AR.

18th February A **brambling** is still visiting our garden, and a pair of **bullfinches** and **blackcaps** are now regular visitors. BW.

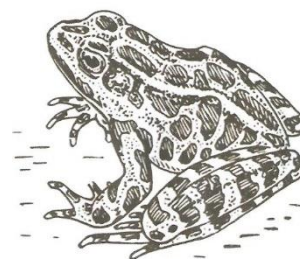
20th February Returning home late in the evening, I happened to catch a glimpse of a large **red fox** crossing Strathern Road. JC.

23rd February A dead **fox** seen on the railway line near the cycle path at the east end of Dundee docks. CR.

24th February My first visit to Portmoak Moss, by Scotlandwell, gave a juvenile **green woodpecker**. BW.

26th February **Frogspawn** in the garden pond today. About 40 **frogs** present. BB.

26th February After two weeks of temperatures in double figures (records were broken for February) I came across a queen **buff-tailed bumblebee**, a **small white butterfly** and a **seven-spot ladybird** on the coast near Johnshaven. All very early and likely to suffer if the weather goes back to normal.



Celandines, coltsfoot, daisies and dandelions all fully open in the sunshine. AR.

2nd March First **buff-tailed bumblebee** seen flying past in the garden. At least all the flowers are early too - **crocuses, daffodils** and **snowdrops** all in full flower. AR.

5th March The lonely hoots of a male **tawny owl** were heard close by on a fairly calm night. The calls were not answered by any of the typical 'kee-wick' calls of a partner owl. I thought I'd heard similar calls earlier, in February, but wasn't sure because they were very faint and seemed to be far away. JC.

5th March At Boghead Farm (north of Arbroath) saw a mixed flock of about 60 **linnets** and **yellowhammers**, and then over 40 **corn buntings**. BW.

7th March I woke at about 4.30am on a rather chilly morning to hear my first good dawn chorus of the year, with a **blackbird** close by, at least one **robin**, several **great tits** and perhaps a **blue tit**, a distant **song thrush**, perhaps a **chaffinch** or two and later a cooing **woodpigeon**. JC.

22nd March A small **red fox** fled across Blackness Road into the safety of Balgay Park, in the darkness of late evening, trying to avoid a speeding car. JC.

23rd March At Loch of Lintrathen found 57 **whooper swans**, **great crested grebes** in courtship display, and several duck species. BW.

28th March A moribund queen **wasp** seen on the back doorstep at 6.30pm. Perhaps the temperature of 5°C was slowing it down. MB.

28th March At the Eden Estuary I heard my first summer migrant singing - a **chiffchaff**. BW.

4th April Heard a **blackcap** singing in the garden next door. Was it a winter remainer or a spring migrant? JC.

10th April After a visit to Letham Pools, Fife where I enjoyed over 200 rather late **pink-footed geese, gadwall, teal, mallard** and **reed bunting**, I went into the neighbouring reserve at the old Mountcastle Quarry. Here it was clear that spring had arrived with **chiffchaff, house martin** and **skylark** seen, and also **tufted duck, great crested grebe, pochard, reed bunting, buzzard**, and others. BW.

16th April Arrived home after an evening out to find that a **tree bumblebee** had somehow got into the bathroom - possibly through the cistern overflow. Released it onto the **flowering currant** flowers in the morning where it fed for half an hour before disappearing. Two nights later another (or the same) **tree bumblebee** appeared in the same place. Again released, but this time I blocked the overflow pipe to discourage it from trying again. These recent arrivals in our area like to nest in holes in houses, or in nest boxes. I know of half a dozen records of tree bumblebees locally in 2018 and they must be fairly well-established by now for me to get a queen (or queens) in the house at this time of year trying to establish a nest. AR.



17th April At Loch of Kinnordy I was pleased to see the return of a male **marsh harrier**, my first **sand martin** of spring, a **ruff**, a pair of **bramblings** and all the usual **ducks**. BW.

18th April A **heron** eating **frogs** in the garden pond again. BB.

25th April Back at Portmoak Moss, Scotlandwell, and also the Kilmagad Woodland above the village, I heard and watched **green woodpeckers**, and enjoyed **blackcap, chiffchaff, willow warbler, song thrush, buzzard, jay** and other woodland birds. BW.

9th May Lots of **orange tip butterflies** beside the Dighty at the Douglas end today. Also one rather ragged **small tortoiseshell**. JA. (Photo on page 25)

9th May A spring ride up Glen Esk gave many of the usual favourite bird species by the river, but the standout surprise was a family of a pair of **woodcock** with four juveniles close to the road in a birch wood near the Dalbrack Junction. Also two **cuckoos** calling, a male **redstart** and a **ring ouzel** by Loch Lee. BW. (I also saw the **woodcock** family, same place, on 7th May, very exciting. Ed.)

17th May A small group of screaming **swifts** could be both heard and seen high over Forfar, my first of the year, and my favourite summer visitors. JC.

22nd May At Easthaven heard a **whitethroat**, and recorded 25 birds including **linnet, goldfinch, reed bunting, pied wagtail, skylark** and **yellowhammer**. BW.

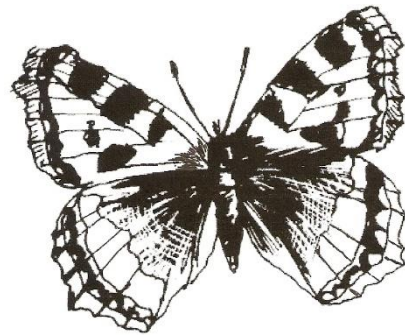
23rd May A **speckled wood butterfly** in Brownie Wood, Gaudry. BB.

28th May In Glen Prosen I enjoyed watching hunting **buzzards, cuckoos** calling, a **spotted flycatcher** feeding above the river, a **great tit** feeding its fledglings and a male **wheatear** amongst many others. BW.

25th June A **painted lady** butterfly was basking in the sun in the garden just after midday, the first I've seen there for a long time. JC.

25th June Back to Portmoak Woodland, Scotlandwell. Saw two **green woodpeckers**, and two **great spotted woodpeckers**: entertained by one of the latter species alighting on the same dead tree as the former, and being chased off by the much more powerful bird! BW.

19th July A total of seven butterflies were resting and sunning themselves at about 8am on the house wall. As they slowly opened and closed their wings, I realised that they were all **small tortoiseshells** (right). JC.



20th July In our garden we are still enjoying a pair of **bullfinches** that are now almost daily visitors, a **swift, house martin, house sparrow, blue tit** and **magpie**. BW.

24th July A riot of about 20 or so butterflies greeted me in the morning in the garden. Looking around, every single one was a **painted lady**, resting on the grass and flitting with delight around the **buddleia**. It was the most butterflies I've ever seen at one time around the house. There were still a good number around the next day and more were seen over the next week or two. JC. (It was, notably, a 'painted lady year'. They were everywhere. Ed.)

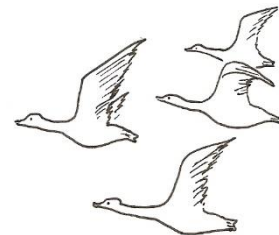
28th July At Loch of Lintrathen I counted six **little grebes**, more than six **great crested grebes**, including one on its nest, **cormorant, tufted duck, mallard, mute swan** and **coot**. An **osprey** overhead was not fishing that day. BW.

8th August On a low tide at the Eden Estuary I found, **dunlin, redshank, curlew** and **lapwing** already returned from breeding grounds; also eight **herons**, three **little egrets**, three **common sandpipers** and a couple of **goosanders**, plus woodland birds on the feeders. BW.

11th August Returning home in the early morning, I caught sight of a fine **red fox** trotting into a driveway near the bottom of Strathern Road, not far from the Gardyne entrance to Dundee and Angus College. JC.

29th August Several fine caps of the **brown rollrim** fungus were growing in the grass under the trees lining the drive into Tigh-na-Muirn care home in Monifieth. JC.

1st September At the Eden Estuary on a rising tide I had wonderful near-views of a **spoonbill** and six **little egrets**. Five **ospreys** were in sight simultaneously and a **greenshank** on the river bank near the hide. BW.



12th September A skein of geese flew high over Central Angus in the late afternoon. I think they were **pink-footed geese**, which would have just finished their migration down to the British Isles for the winter. JC.

- 13th September** My first sight of about 200 **pink-footed geese** flying south at high altitude. BW.
- 19th September** One **7-spot ladybird** looking for somewhere to hibernate was found in the dining room. MB.
- 20th September** Several **common darter dragonflies** were flitting around over the surface of pond 5 at Carsegowniemuir Quarry. At least three were males with red abdomens and there were two breeding pairs as well. JC.
- 23rd September** Another rewarding day on the Eden Estuary when a **white-tailed eagle** sat on a pole for more than two hours. It was a good day for raptors: we also recorded two **buzzards** a **sparrowhawk**, an **osprey**, and also fish eaters, such as **kingfisher** (female), **goosander**, **heron** and **little egret**. More than 300 **lapwings** had arrived and **black-tailed** and a single **bar-tailed godwit**. BW.
- 3rd October** I heard an unusual but familiar call and looked up to see a small thrush fly low over Carsegowniemuir Quarry. It was a lone **redwing**, the first of these small winter migrants that I've seen this winter. JC.
- 3rd October** On the shore at Tangle'ha, north of Montrose with Alban Houghton we enjoyed more than ten **red-throated divers** (some still in summer plumage), **common scoter**, **cormorant**, **turnstone**, **redshank** and **oystercatcher**. Then we spotted a pair of **kestrels** on a power line that alarmed a large flock of **linnets**. BW.
- 29th October** At Backwater Reservoir saw a **great grey shrike** (right) and a hunting **kestrel**. BW.
- 11th November** On a walk from Kingsbarns to Cambo on the Fife Coastal Path enjoyed **purple sandpipers**, **knot**, **redshank** and **oystercatchers**. There were flocks of **starlings** on the strand-line and **long-tailed ducks** in close to shore. BW.
- 19th November** A male **sparrowhawk** seen in Nursery Road, Barnhill, three days running. One day it was sitting on a roof looking splendid in the sunshine and on another it nearly flew into me. LW.
- 24th December** For the second time in a week, I heard the contact calls of a **fox** in the early morning, but this time they were very much closer than before. Over about 10 minutes they grew louder and at one point seemed to be coming from very near the house. Probably it was trotting along the road. JC.
- 24th December** In our garden spotted a single **redwing** and a **fieldfare** on the wild **cherry** and **blackcaps** daily. BW.

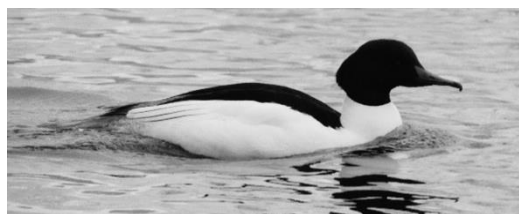


SPRING IN FEBRUARY

17th February

After a week of temperatures in double figures, I was out early to do my monthly WeBS (Waterbird Survey) count for the BTO and found nothing out of the ordinary at the first site, Stobsmuir Ponds. There were the usual large numbers of **black-headed gulls** with a few **herring** and **common gulls** amongst them. Counting the **mallards** was made easier by someone feeding them grain (not bread - things are improving!) and the **swans** joined in this feast. Four **coots** circled warily and a few **tufted ducks** showed no interest at all in free handouts.

The second site is Trottick Ponds where, as soon as I got out of the car, I heard the **dipper** alarm call as it flew along the Dighty nearby. I stood still for a moment once over the bridge and could hear a **robin** singing nearby, **blue** and **great tits** in the trees above and then a **wren** trilled from the undergrowth. As I neared the ponds themselves a **song thrush** was in full song high up in a nearby tree.



On the ponds themselves there were a couple of **moorhens** and a few **mallard** which swam hopefully towards me until they realised I had nothing for them. The most striking sight was a group of **goosanders** (left) in the middle of the pond. My initial count was seven of these striking birds, but with some patience and luck the

final tally was no less than 12 - seven males and five females. The difficulty in counting these moving targets is compounded by their habit of diving, just as you think you have them all above water a couple more dive, to reappear at a distance away.

Round the north side of the ponds there was another **song thrush**, competing with the first one and a **dunnock** was also singing nearby. A small group of **siskins** and **goldfinches** was feeding in the top of an **alder** tree beside the Dighty and four **mistle thrushes** moved noisily through the tall **beech** trees. One of a small group of **chaffinches** was also singing and the **blackbirds** were behaving territorially.

As I completed the circuit of the ponds I spotted a **heron** lurking in the reedy edge of the pond and I got a lovely close view of a **jay** as it flew away into the trees along the Dighty. It seemed as if the warm spell had got all the birds thinking of spring and testing out their songs. I fear we may not be finished with winter yet, but longer daylight helps the illusion that spring is just around the corner.

Anne Reid

DINNER FOR ALL

6th May

Around nine in the morning I heard a thud on the kitchen window, but assumed it to have been a **pigeon** and thought nothing more of it, this being a fairly regular occurrence in our garden. Later in the morning I observed the print on the window and looked out to see two **magpies** at the carcass of a **feral pigeon**. The scatter of feathers and absence of the victim's head suggested a **sparrowhawk** kill, probably disturbed by the pushy **magpies**. The **magpies** persisted at the carcass all day but seemed to be very inefficient in getting anything edible off it - perhaps because the **sparrowhawk** had not plucked the body and started to feed on that.

The corpse migrated a couple of feet during the day and was eventually abandoned by the **magpies** too. As dusk began to fall, just before nine, Colin summoned us to the kitchen to see a healthy-looking **fox** picking up the remains and then sniffing around. After a second circuit, it scent marked the site and left with its prize. The unfortunate **pigeon** was probably destined for a litter of **fox** cubs somewhere nearby. The scatter of feathers rapidly disappeared over the next couple of days, mostly to **house sparrow** nests, leaving just four large tail feathers to remind me of the incident.

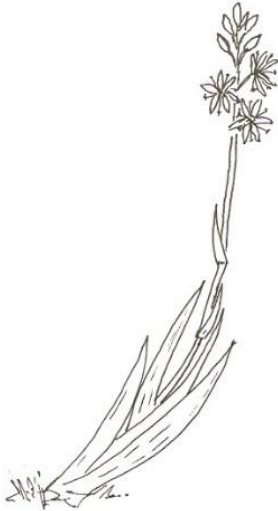
Anne Reid

MORVERN, SUNART AND ARDNAMURCHAN

On a hill walking weekend in Mid-July based in Ariundle, Sunart we set off to explore the rugged hills of Morvern from Glen Galmadale. This is a surprisingly remote corner of west Scotland reached by the Corran Ferry across Loch Linnhe, but the only roads here are not for the faint-hearted! Along Glen Galmadale in sunshine we were pleased to see **whinchats** calling from tall **foxgloves**, **swallows** and **house martins** in flight, and a male **chaffinch** still singing. A **jay** flew across the track, a **common sandpiper** called from the riverbank and a pair of **stonechats** gave their familiar call.

We needed to gain height via a steep rather damp gully taking us through bracken and tall grasses to gain the ridge, but during the ascent we were entertained by several **small pearl-bordered fritillary** and **dark green fritillary butterflies** that were becoming active in the sunshine. Amongst the bracken there were leaves of **dog violet**, the food plant for these fritillaries. We also found several **small heath** and **painted ladies**, and **chimney sweeper moths** too.

The biggest surprise on this climb to the summit of Fuar Bheinn was the number of vertebrates. A **common lizard**, five **frogs** and **slow worms** (see photo on page 25) were encountered, the most remarkable being the violently active shed tail of one slow worm that our large feet had almost crushed. Shedding a tail to escape capture by a predator is a speciality of slow worms, but the dramatic alternate contractions of the dropped tail is most engaging and disturbing! Amongst the bracken was **tormentil**, **lousewort**, **yellow pimpernel** (*Lysimachia nemorum*), **meadow sweet** (*Filipendula ulmaria*) with some plants showing brilliant yellow uredinia of the **rust** *Triphragmium ulmariae*, **eyebright** and **common**



milkwort, field buttercup, bog asphodel (left) and **lady's bedstraw** all brightening up the vegetation. On higher ground we found **fragrant orchid** (*Gymnadenia conopsea* subsp. *borealis*) and **heath spotted orchid** (*Dactylorhiza maculata*). As we drove north beside Loch Linnhe there was a flock of nine **red-breasted mergansers** near the shore.

The following day we travelled further west to Ardnamurchan, dropping in to enjoy the **sea birds** and **seals** from a hide by Loch Sunart at Ardery Woods, before walking the trail through Glenborrodale RSPB Reserve, a wonderful example of conserved Atlantic Rainforest. As we climbed through the mixed deciduous woodland of **oak, birch, hazel** and **rowan**, all covered in mosses, liverworts and ferns, we saw **stonechats**, a juvenile **robin, blue tits, great tits, meadow pipit** and heard **blackcaps** still calling. **Ravens** croaked from the cliffs above. In sunny glades **speckled wood, small pearl bordered** and **dark green fritillary butterflies** flitted, and back at the car park there were several **painted ladies** and a **red admiral**. This most westerly of the RSPB reserves is well worth a visit.

Finally, we climbed the small, though impressive, Ben Hiant overlooking the whole of Ardnamurchan, the islands of Mull, Coll, Tiree, Eigg, Rum, Skye and a distant sighting of the Outer Hebrides. There was a **red admiral** on the summit to welcome us. Ben Hiant is part of the world famous Ardnamurchan volcanic complex (massive ring dykes, lava flows, etc.) arising 60 million years ago as the Atlantic Ocean started markedly to increase in width. All these massive volcanoes have been subsequently eroded down to their roots.

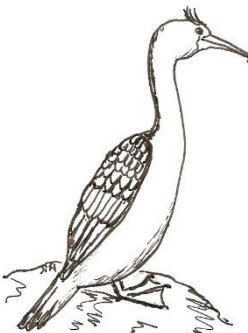
Brian Williamson and Alban Houghton

ISLE OF MAY

7th August

Mum and I set off with some concern about the weather as the forecast suggested that we weren't going to escape heavy showers, and looking up river at black skies only confirmed this, but tickets for the May Princess have to be booked long enough in advance that a decision on date can't be guided by the forecast. It was grey when we arrived in Anstruther but three **swifts** were spotted overhead while waiting near the harbour and the date was late enough to make this noteworthy. A few spots of rain encouraged us to don full waterproofs before boarding the boat but the trip out to the island turned out to be dry and even sunny for some of the time, though a little on the rough side especially for the children on board.

It was getting late in the season for most of the nesting seabirds but a large number of **puffins**, adults and juveniles, were seen out on the water from the boat, along with several **gannets** and a single **guillemot**. The weather conditions meant that the boat wasn't taken round the island to see the cliffs from below but many on board were very excited by the close up views of **grey seals** hauled out at the north end of the island.



After landing, a relatively swift walk through the **arctic tern** nesting colony towards the north of the island quickly left behind the majority of other passengers. A large number of gulls, particularly **herring gulls**, were still resident with nearly full grown chicks but most other sea birds had left. A couple of **puffins** were seen coming into their nesting burrows along with a few **kittiwakes** and **fulmars**, but all of the other auks appeared to have left. **Shags** were no longer on their nests but a mix of adults and young gathered low down on the cliffs. The **sea campion** was in full flower and providing food for a large number of **painted lady** butterflies and a handful of **red admirals**. A few brief showers were signals of what was to come.

As we headed towards the south end of the island the sky looked increasingly threatening and as we neared the visitor centre there was a rumble of thunder and some very heavy rain. We sought shelter, along with a high proportion of the other passengers, but enjoyed close up views of the terns without the danger of being dive bombed by them. At this point a number of people headed back to the boat, probably to ensure

that they had an indoor seat for the return journey. However, when the rain decreased in intensity, despite the continued thunder and lightning, we headed down to the fog horn at the south end of the island. The weather wasn't ideal for birdwatching but we did add **oystercatcher** to our list and there were more **kittiwakes** still on the cliffs there.

As we returned to the boat, in a pause in the rain, we decided that as we were going to get wet wherever we sat we may as well sit upstairs and get a good view while getting wet! Many of our fellow upstairs passengers were also in full waterproofs, though the boat staff also provided umbrellas. Our rucksacks were put in a large plastic bag to keep them drier. As expected it soon started pouring again meaning that it was hard to appreciate the wildlife, but there were more views of **seals**, **puffins** and **gannets**, actually diving this time. During a short break in the rain we were all shown, at very close range, a **puffling** which had got lost trying to leave the island the previous night. The SNH wardens had given it to the boat crew to release out at sea to increase its chances of escaping predation by gulls. Once we'd all had a look (and photographed it, see right) the boat slowed right down and it was released overboard, the first time it had experienced water. It sat on the surface for a minute and then dived and we were pleased to see it resurface a minute later - its instincts clearly kicking in. The torrential rain came on again and continued the rest of the way back to Anstruther, though it abated a bit as we landed. My suspicions about the effectiveness of my waterproof trousers were confirmed and I was very glad that I had dry clothes in the car. Despite the rain we still had an enjoyable day and at least it rained on the way back rather than the way across.

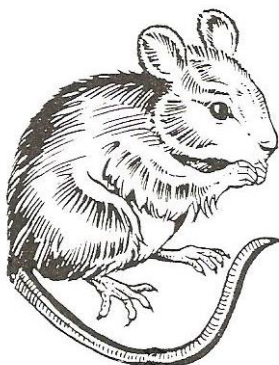


Mary Reid

DIPPY TWITCHING

The Angus and Dundee Bird Club text alerts and Alex Shepherd's Blogs are very useful for the average bird twitcher. For example, Jim Cook received Graham Smith's text at the Nats 2019 New Year BBQ, so he, Liz and myself caught up with a wonderful 50 strong flock of **waxwings** feeding on the **rowans** by the Cutty Sark pub in Dundee. Another good waxwing year as parties were seen all over Dundee and Angus.

It's not a good idea to try to see a **hoopoe** on the way to a funeral tea. That is exactly what we did in November 2018 as we failed to see this southern wanderer at Montrose Basin. We had 'dipped out' (and not for the first time) in birder parlance. I had better luck this March 21st on the way to another errand. A **green sandpiper** was still present at Murton and I heard and saw my first **chiffchaff** of the spring at Balgavies where expectant **osprey** fanatics crammed into the hide. The best was yet to come at the Montreathmont hide, now sporting a resplendent new door, complete with a leaded glass window. Among the blizzard of **chaffinches**, **siskins** and **redpolls** was my target - a rather shy **brambling**. There were non-feathered delights too. A **red squirrel** appeared and a wee **wood mouse** nipped in and out.



Alban Houghton

ISLE OF MAY IN SEPTEMBER: A VISIT BY YACHT

When offered a ride on an 8m yacht from Anstruther in early September, I leapt at the chance, especially when the weather forecast was for a calm crossing. As a landlubber I was not sure how this outing would turn out, but having visited the island on two occasions by the usual *May Princess* ferry during the main bird breeding season I did not know what to expect.

As we gently sailed towards the island I enjoyed watching **gannets** cruising past in follow-my-leader trains close to the water and I became aware of the complete absence of **arctic terns, puffins, guillemots** and **razorbills** near the island. They had all raised their families and gone to sea already. However, as we approached the cliffs from the west it was good to see **fulmars** gliding around and some **shags** sitting sentinel drying their wings on the low rocks.

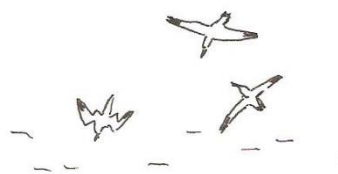
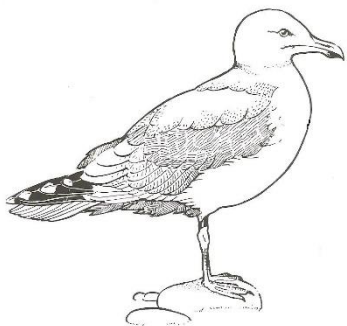
We could not share the narrow channel and quay on the east side of the island used by the fast RIBs and *May Princess* because the channel is too narrow so we had to anchor 100m off Altarstanes West Landing, and paddle a two-man dinghy to the landing ladder to climb ashore. Once on the familiar grassy paths I was pleased to see several **wheatears, pied wagtails, a rock pipit** and some **rock doves** were still present, and I started to check on **gulls**. **Herring gulls** predominated, but I found a **great black back** and some **lesser black back gulls**.

Finally, on the southern cliffs we found a juvenile **kittiwake** still being fed by its parent, and a raft of **kittiwakes** offshore.

Some flowers were still in bloom, especially the **sea campion** (*Silene uniflora*) and **ragwort**. The high number of **red admiral butterflies** attracted to the latter on the island was a surprise and delight. We also saw a few **painted lady** and **large white butterflies**.

One of the dominant plants we found alongside the paths on high ground was **henbane** (*Hyoscyamus niger*), a large plant with toothed greyish-green leaves. Reading about this plant I discovered that "It thrives in open, sandy or manure-rich ground, especially near the sea and around **rabbit warrens**. It only survives around rabbit warrens because of its high toxicity, while thriving on the high

nutrient levels the rabbits provide, a curious ecological niche." There were certainly plenty of **rabbits** here!



Brian Williamson

THE SOCIETY'S PART IN SAVING TENTSMUIR

Tentsmuir is one of Britain's oldest National Nature Reserves, the original Tentsmuir Point NNR having been designated in 1954. Our own Society has long had involvement with Tentsmuir, and played a little-known part in the creation of the Reserve.

In 1881, the Dundee Naturalists' Society heard a paper by Col. H.M. Drummond-Hay of Seggieden advocating the introduction of Wild Bird Protection Acts (with specific reference to Tentsmuir and Buddon Ness), and was moved to publish a transcript "in order to lay the matter fully before the general public" – one of only two ordinary lectures to have been so honoured in the Society's history. This pioneering example of concern for conservation pre-dated the formation of the Society for the Protection of Birds (later to become the RSPB) by some eight years. It seems likely that this publication was influential in the introduction of an Order under the Wild Bird Protection Acts to prevent the persecution of nesting birds at Tentsmuir from 1897.

Tentsmuir a century ago was very different from today's conifer forest, a vast almost treeless expanse of dune heath with wet dune slacks and dry sandy blowouts, supporting very large terneries and great numbers of other breeding birds such as shelduck. Most of the northern portion was part of Scotsraig Estate, with sporting rights held for many years by the neighbouring Tayfield Estate, owned by the Berry family.

In 1918, Dundee Town Council purchased Scotsraig Estate. Despite proposals for industrial development, it seems that Dundee's Council had little genuine interest in developing its new acquisition, but intended to forestall shipyard development along the Tayport/Newport foreshore by rival companies, regarded as a threat to Dundee's own Caledon Yard. Having seen off the threat of competition, Dundee soon began to sell off most of the land piecemeal.

In April 1923, the Dundee Naturalists' Society drew the Town Council's attention to its duty to enforce the Wild Bird Protection Acts (which, 40 years previously, the Society had campaigned to have introduced). Accordingly, the Council took steps to protect breeding birds at Tentsmuir from persecution and egg-collecting, employing a gamekeeper to deter visitors and to trap vermin. Even DNS members had to apply to the City Engineer for a permit if they wished to visit the area. Sadly, the birds only benefited for one or two seasons, because in 1923-24 the moor was sold to the Forestry Commission, and the subsequent afforestation of Tentsmuir resulted in the loss of almost all the habitat the birds depended on.



Arthur Harris 'A bit on Tents Muir, Fife', 1904 (detail). Watercolour, private collection.

In the 1930s, strenuous efforts to protect Tentsmuir for nature proved too late. The Edinburgh Natural History Society petitioned Parliament, prompting the MP for East Fife to ask a question in the House of Commons in February 1935. However, the Forestry Commission rejected offers to buy back the land that supported the ternerries to save them from afforestation, so for five years from 1935 the RSPB rented about 120 acres. But by 1940 "the condition of Tentsmuir, overgrown with long grass and planted with young firs by the Forestry Commission, did not justify the renewal of the lease held by the Society for the purpose of a bird sanctuary". Wartime coastal defence and training activities might also have made it difficult to maintain a reserve there after 1940.

Despite this loss, the Dundee Naturalists' Society retained some sort of rights over an 80-acre area. Little documentation survives, so the exact nature of these rights and how they came to be held is now a mystery, but later it was to prove crucial in negotiating the establishment of Tentsmuir Point NNR. The ground that the Society held influence over was near the coast in the northern part of Tentsmuir, east of Tayport; we don't know if this was part of the same area that RSPB had rented, but it is described as "previously set aside as a bird sanctuary".

In 1954, the Forestry Commission agreed to sell 92 acres to the Nature Conservancy for £120, in fulfilment of an undertaking by the Commission to the Dundee Naturalists' Society that if the latter relinquished all rights to their area, Tentsmuir Point would be released for a nature reserve. The legal commitment imposed on the Commission, and the compromise that was negotiated, proved more successful than any earlier efforts to persuade them to forgo planting some of their land. It is thanks to the Dundee Naturalists' Society that a small part of Tentsmuir was set aside for conservation, and with subsequent accretion of land at Tentsmuir Point, that original 92 acres of NNR has since grown considerably.

NNR designation was not the end of our Society's involvement with Tentsmuir: locally-based members Len Fullerton and Ellis Crapper, assisted by J.R. Colville and other DNS members, carried out an early botanical survey of the new National Nature Reserve. Fullerton had been appointed part-time warden of the Reserve, cycling there daily from his home in Newport. And bringing things full circle, the Director of the Nature Conservancy responsible for purchasing the land was Dr John Berry of Tayfield, whose family had previously held the sporting rights, and who many years later became our Honorary President.

Colin McLeod

THE RAFT

Last summer the quarry group constructed a small raft of old plastic bread crates, floated on large pieces of polystyrene and covered by capillary matting with turfs and tufts of grass on top. It was launched onto pond 3 by four members at last year's summer barbecue. We thought it would take at least a year or so before any birds would show an interest in the raft. However, in early April Ronnie Young reported that he'd seen a duck sitting tight on it. Sure enough, through binoculars we could pick out a female **mallard**. Wonderful! We left her in peace and she sat tight for about another fortnight. Then, however, she disappeared rather suddenly and there was no sign of any ducklings. A week or two later, though, a female **tufted duck** took up residence (with the drake, below, patrolling around, as seen on the trail-cam.) She too only lasted for a week or so. Perhaps raiding **magpies** or **jays** were responsible. (See the report on the quarry.) This winter we'll put more top-cover over the raft in an effort to hide the ducks more securely, hoping that we may tempt one back next spring. Or has anyone else got a better idea?



Jim Cook