

Dundee Naturalists' Society

Instituted 1874



Bulletin No 22 1997

**DUNDEE NATURALISTS' SOCIETY
ANNUAL BULLETIN No 22
1997**

Hon President	Dr John Berry
Hon Vice Presidents	Dr Derek A Robertson Mrs Elizabeth Leitch
President	Mrs Margaret G Duncan
Vice Presidents :	Mr Gordon Maxwell Mr Bede Pounder
Hon Secretary & Membership Secretary	Mr Doug Palmer, 48 Panmure Street, Monifieth, Dundee (01382 533563)
Hon Treasurer:	Miss Dorothy Fyffe, 75 Ireland Street, Carnoustie, Angus. (01241 853053)
Excursion Secretary	Mrs Roma Miller, 6 Macduff Drive, Spinnaker Point, Tayport (01382 553057)
Bulletin Editor .	Mrs Anne Reid, 2 East Navarre Street, Monifieth, Dundee (01382 532486)

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The Bulletin cover illustration is by Leonore Goodliffe nee Fullerton and shows a selection of our area's alpine plants, including the Society's emblem the Dwarf Cornel. Other illustrations by Anne Reid, Jim Cook, Gordon Maxwell, Jenny Allan and Artfile

EDITORIAL

Thanks to all members who have submitted articles and reports, it makes Bulletin production much easier, though there is always space for contributions from new authors. Thanks to Doug Palmer for his help and for typing some of the articles for me, and to Jim Cook and Colin Reid for proof reading and helpful comments.

Contributions for the next Bulletin, both articles and line drawings, are always welcome and may be submitted at any time during the year.

Anne Reid

SOCIETY REPORTS PRESIDENT'S REPORT

This excellent edition of the Society's Bulletin describes the year's full and active programme. It should bring back personal recollections of memorable first sightings and new identifications on the outings, and new ideas and knowledge gained at the lectures.

The main programme was supplemented by the Dundee Afternoon Lecture series. The lecture sponsored by the Nats, on 12th November, was "The thinking person's garden" by Mr Leslie Bisset, Curator of the Dundee University Botanic Gardens (and Nats member). He described the garden's role in education with its collections founded on habitats and natural associations. This series will be concluded by a visit to the garden on 15th April ('98).

I would like to express my thanks to all members for their support during the year, especially to the office bearers who have put so much effort into organisation and have provided backup when someone, including myself, has been unavailable. There is a continuing need for new volunteers to step into gaps on the Council. Do give thought to taking a turn. We also have to think about recruitment of new members. Our exhibition stands are one approach but often an individual invitation is the deciding factor.

Unfortunately our Treasurer, Shelagh Gardiner, had to resign her post in 'mid-term' this year. Dorothy Fyffe was co-opted to the task but serious illness prevented her from taking it up for some time. Many thanks to Brian Allan for stepping in here.

Many members helped to staff our stand at the Dundee Flower Show and succeeded in promoting the Society to a wider public. Our Technical Convenor, Jim Cook, also organised a display on our behalf at short notice for a Conservation Weekend at Camperdown Park.

The Council is considering mounting an exhibit at the big Scottish Wildlife and Countryside Fair which is now an annual event at Vane Farm. In 1998 this two day event will be on the first weekend in September. These are dates to remember whether or not we are on show.

Margaret Duncan

NEWS - DR JOHN BERRY

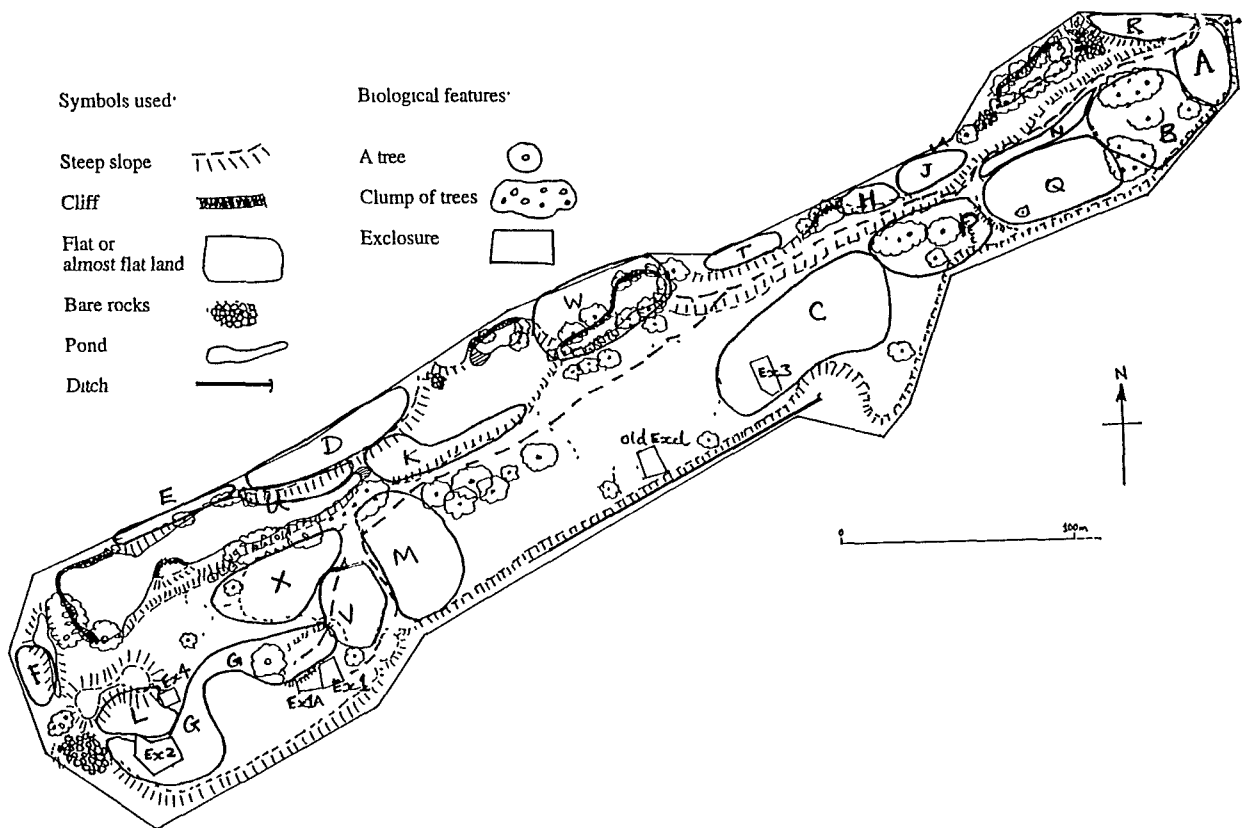
Our honorary president, Dr John Berry, has had a memorable year. His nintieth birthday coincided with convalescence after major surgery to his hip. He is recovering well and has progressed from crutches to a walking stick. His birthday celebrations were crowned by the birth of his first great-grandchild! We all wish Dr and Mrs Berry a successful 1998.

Bob McLeod

CARSEGOWNIEMUIR REPORT 1997

Sunday 16th November was very dull and damp but not cold and with little wind, ideal for planting trees. We had over 40 to plant - mostly ash, with a few wych elms and some birch - but only 20 holes had been prepared earlier. The whole party set to work very energetically. While most of us ferried the tools, stakes, wire and plants along to the quarry, Jean Colquhoun, Margaret MacFarlane, Marjory Tennant and Gordon Maxwell began the job of cutting up the new roll of rabbit wire into metre lengths to form mesh cylinders for the trees. Digging started at the marked sites in areas N and Q and we planted a mixture of ash, elm and birch. By lunchtime 15 trees had been earthed into newly-dug holes, mulched and most of them staked and wired, a very commendable effort. Ewan McGregor and Alastair Fraser, of course, proved their hole-digging prowess yet again but Gordon, Daphne Macfarlane-Smith and college student Claire Butterworth all did a power of work. As an experiment we tried leaving a few of the larger ash planted in sheltered positions without stakes and wire mesh cylinders but with plastic protectors. The idea was that they were strong enough to support themselves, and the absence of rigid protectors would allow them to move in the wind and encourage the growth of a strong root system and trunk.

After the piece break, when Gordon recounted his story of a friend's experience in a tough Detroit bar of being asked if he had his piece with him, we restarted hole digging. Three birches were planted in area P and in the new area J in the so-far undisturbed willowherb on the opposite side of the path. Five ash were planted there. Meanwhile, Jean, Margaret and Marjory earthed hawthorns and rowans into prepared holes in areas R and T. The main party moved on to near the far end of the quarry and planted most of the rest of the ash saplings in areas M and V. We finished just as the rain started but then someone discovered that six trees still remained to be planted! Those (by then!) tough and hard bitten planters, Ewan, Claire and Jim, gritted their teeth and began digging again. By the time the rain eased off the job was finally completed and the 'hard core' could retire back to warmth and coffee. Pfennig was more than ready to return as well; a most successful day. We are very grateful for everyone's efforts and hope they enjoyed it and will come again!



Carsegowriemuir Quarry Map

Later tree planting sessions brought the total last autumn up to over 50 trees but we had also organised a most useful and happy tree planting day in the early spring for the young members of Dundee YOC - and some of the older ones too! This gave us a grand total of over 80 trees planted in 1997. The youngsters finished off with an Easter egg roll and shared the enjoyment of the large chocolate egg that had been won as first prize in the society's AGM quiz. (See account on page 34)

A number of work parties visited the quarry in the spring and summer - to record species, in very poor weather, and, later, in rather better weather, to clear and mulch some of the trees and to pull ragwort. Over the past few years we have been able to build up a considerable species record of invertebrates, particularly due to the efforts of Gordon Maxwell, Adam Garside, Richard Brinklow, Derek Robertson, Jim Cook, Colin McLeod and others and, especially, Anne Reid. (These data are available to members on request - Ed)

During the past year Doug Palmer and Jim Cook have spent considerable periods of time over many evenings sorting out paper records and collating earlier computerised lists, to develop a

complete database on our own machine of all our tree planting and height data recording This work has now been completed and yields the following information.

Total number of trees planted in the quarry, 1986 - 1997 inclusive - 1183

Total number of trees surviving in the quarry, up to December 1997 - 954 (80.6%)

The tree species planted and their surviving totals are -

Birch (Silver and Common)	285
Hawthorn	124
Scots Pine	113
Ash	105
Rowan	95
Hazel	50
Oak (English and Durmast)	50
Blackthorn	27
Bird Cherry	24
Alder	18
Elder	16
Gean	14
Wych Elm	13
Juniper	10
Holly	7
Willow (Goat and others)	2
Aspen	1



The distribution of the plantings is shown on the accompanying map (See page 3)

Since we have reached a total of nearly a thousand surviving trees in the quarry, which should continue to develop into a varied but reasonably wild-looking native woodland, our aim is to continue planting but at a much lower level than in the past We intend to scale down our major efforts but will continue to monitor tree growth, maintain and even increase diversity and carry out a variety of habitat improvement projects. In particular, the evening visits during the spring and summer should be stepped up to increase our tree maintenance work and recording activities We still have much to learn about the site itself and its wildlife and about the surrounding area Carsegowniemuir can also be a most relaxing, friendly, pleasant and even beautiful place to visit!

What do you think? What are your views about the quarry and its future? The Carsegowniemuir sub-committee would be very interested to hear the thoughts of DNS members Please talk to any of the three - Jim Cook, Margaret Duncan and Alastair Fraser.

Jim Cook

TECHNICAL CONVENOR'S REPORT

The cold inclement weather in May and the other field activities in spring limited the number of outings early in the year There were two brief evening outings to Carsegowniemuir quarry but both were very damp and produced few new records A couple of visits to the Dighty Burn to record the fauna at different sites also took place. Later in the year a small group visited the Barry Burn near the Old Mill to record the stream fauna During the summer several visits were made to the smaller sea pea site to assess the number of plants and then, in early autumn, to count and record them (See report on page 35)

Jim Cook

OBITUARY

Ena Davidson

Ena was an enthusiastic member of Dundee Nats and, though always showing an interest in all aspects of natural history, found most pleasure in the botanical side. She was always pleased when called upon to be the official 'recorder' of plants on outings. For some years too she was one of the honorary auditors for the Society's accounts.

Her enthusiasms weren't confined to the Nats, but covered many interests, and in particular music. She attended RSNO concerts regularly and had been to London just days before her heart attack to attend their Prom concert in the Royal Albert Hall. For many years she was a regular visitor to the Edinburgh Festival as well as supporting Scottish Opera performances in Glasgow. Ena had attended classes in art appreciation and was planning to go to one on opera, as she was always keen to learn.

Her outdoor activities apart from the Nats included the CHA walking group of which she was treasurer for more than 30 years, in addition to being involved in their Invited Guests weeks at Kinfauns holiday centre. Indoors, country dancing was another outlet for her energies and she was a founder member and, once again, treasurer of the Dundee branch of the Royal Scottish Country Dance Society. Never one to play a passive role, her keen and active mind was recognised by the many organisations of which she was a member. She was a Sunday School teacher at Meadowside St Paul's for many years and served on the Congregational Board.

Over the years she took on many responsibilities of various kinds, for the society and other organisations, and always carried them out with thoroughness and competence. There are many who will feel they have lost a very good friend.

Frances Towns

WINTER MEETINGS 1997

TEMPLETON WOODS BARBECUE

2nd January

With reports of bitterly cold north-east winds sweeping over snow-blocked and icy roads in many parts of the country, a party of 25 members considered themselves fortunate to be able to enjoy a delightful day for their New Year barbecue at Templeton Woods, which they found calm and sparkling under a bright sky and only a light carpet of thawing snow. There was just sufficient breeze to get a couple of charcoal fires well established by mid-day, in good time for the return of small groups who had headed off along various woodland paths to exercise both their bodies and their minds, the latter with the aid of anagram quiz sheets based on things to be seen and found on their travels. Sausages, burgers, pies and other titbits were soon sizzling on the grills, ready to be slid down hungry 'hatches' lubricated by mulled and in some cases, other wines, which helped to divert attention from some of the rather blackened specimens skewered from above the hot glows. Specimens of other kinds, including seedpods, cones, ferns, buds and leaves picked up along the woodland paths were then retrieved from cold and soggy bags and pockets for identification before allocation of prizes for the best scores in the quiz.

This was a most enjoyable outing, when seasonable cheer combined with the better kind of seasonable weather to ensure a memorable start to our 1997 activities.

Bede Pounder

THE DOLOMITES

Mike and Lynn Almond 14th January

Dr Mike and Mrs Lynn Almond, are a regular and popular attraction at the Dundee Nats. They have travelled extensively throughout Europe from the Algarve in the west to the Caucasus in the east and have visited the Dolomites on numerous occasions.

The Dolomites are in the north of Italy and border the southern Austrian Alps and we were shown some spectacular scenic landscapes to set the scene for this evening's lecture. Through the slides we were to traverse the Dolomites from east to west and we started at Lago di Braies, an area of screes and forest where *Physoplexis comosa* was growing just out of reach. On to Rif Lavarela where, on limestone steps *Dianthus glacialis* and *Rhododendron ferrugineum* were found together with two **orchids** *Gymnadenia conopsea* and *Nigritella rubra*. Further on at the upper falls in well wooded terrain more orchids were found, *Gymnadenia odoratissima* and *Epipactis atrorubens* alongside *Pyrola rotundifolia* and the delightful **one-flowered wintergreen** (*Moneses uniflora*)

From Mount Lagazuoi (2778m) we viewed the Piz d'les Cunturines and Lagazuoi Grande where on the cliffs above the screes *Silene acaulis* and *Potentilla nitida* were found, while in the valleys *Thlaspi rotundifolium* was in abundance along with a blue **saxifrage**, *Saxifraga caesia*. It was here that Mike and Lynn found a number of **gentians** including, the **bladder gentian** (*Gentiana utriculosa*), the lime loving *Gentianella germanica*, the more acid loving *G. tenella* and a **speedwell** with hanging blue flowers, *Paederota bonarota*. Close by on Tofana di Mezzo (3244m) more orchids were seen, *Gymnadenia* and the tiny **burnt-tip orchid** (*Orchis ustulata*)

Onwards again past Cinque Torri with a lake of bright blue water and bright yellow **globe flower** (*Trollius europaeus*) to the Passo di Giau (2223m) with the compact *Globularia cordifolia* and then to the Tre Croci Pass where the plants found included:

<i>Campanula caespitosa</i>	<i>Saxifraga crustata</i>
<i>Rhododendron ferrugineum</i>	<i>Ranunculus seguieri</i>
<i>Potentilla nitida</i>	<i>R. parnassifolius</i>
<i>Papaver rhaeticum</i>	<i>Androsace hausmanii</i>
<i>Valeriana supina</i>	<i>Gentiana clusii</i>

Saxifraga crustata has lime encrusted leaves and *Ranunculus parnassifolius* is rare here in the Alps. It is mainly found in the Pyrenees. *Gentiana clusii* is a magnificent blue trumpet gentian. At this point we were treated to spectacular views of the surrounding mountains including Tre Cime (2999m)

Further west at Vallon Popera *Primula auricula* ssp *ciliata*, *Gentiana brachyphylla*, *G. verna*, *Dryas octopetala* and *Rhodothamnus chamaecistus* were all recorded as was a view of the Carnic Alps. At Kreuzkofeljoch on the Peitlerkofel ridge the **bird's-eye primrose** (*Primula farinosa*) and the tiny plant with large pink flowers *Primula minima* were both found together with *Pulsatilla vernalis* and *Daphne striata*

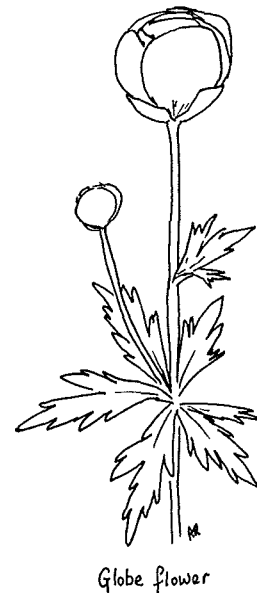
We moved on swiftly past Lech de Crespina, Vallunga and the snow covered Passo di Sella to Bindelweg at Passo Pordoi where the vibrant blue **king of the Alps** (*Eritrichium nanum*), was seen alongside **globe flower**, the **early-purple orchid** (*Orchis mascula*), *Androsace alpina* and *Phyteuma sieberi*

Our next port of call was the spectacular Sella Group where a kaleidoscope of colours greeted us. The alpinists which were found here included:

<i>Gentiana punctata</i>	<i>Anemone baldensis</i>
<i>G. terglouensis</i>	<i>Potentilla nitida</i>
<i>Ranunculus glacialis</i>	<i>Pedicularis kernerii</i>
<i>Saxifraga oppositifolia</i>	<i>R. seguieri</i>
<i>S. bryoides</i>	<i>Primula glutinosa</i>
<i>Soldanella pusilla</i>	<i>Geum reptans</i>
<i>Aster alpina</i>	<i>Silene alpinus</i>
<i>Eritrichium nanum</i>	<i>Rhododendron ferrugineum</i>

Our Dolomites journey came to an end at Pale di San Martino where among the striking scenery we saw *Aquilegia atrata*, *Astrantia major*, the two forms of the **box-leaved milkwort** (*Polygala chamaebuxus*), *Cyclamen purpurascens*, the **fly orchid** (*Ophrys insectivera*) and the "piece de resistance", for me anyway, the **lady's slipper orchid** (*Cypripedium calceolus*)

Brian Allan



Globe flower

MEMBERS' NIGHT

4th February

After all the usual announcements of forthcoming events and requests for information the real business of the evening commenced.

The results of the members' photographic competition were announced first. These had been judged by Dr Derek Robertson for natural history content and by Fred Duncan for landscape and photographic input. The quality of the entries was very high and everyone enjoyed and admired the photographs.

The winners were.

British Wildlife 1996	Gordon Maxwell; Lizards at St. Cyrus
Foreign Wildlife 1996	Alban Houghton; Chamois.
Landscape 1996	Bede Pounder Backmuir Edge
Joke Slide	Dorothy Fyffe, No diving
Print 1996	Anne Reid, Golden Ringed Dragonfly

Brian Allan then compered the wide range of members' slides shown for interest. These included

Jim Cook	Shetland, a 'taster' for those going on the summer trip
Gordon Maxwell	Local wildlife, including the vapourer moth life cycle
Barbara Hogarth.	French Alps and some of the things found there.
Brian Allan.	Northern Cyprus, mostly beautifully photographed orchids
Doreen Fraser:	Iceland, volcanic and glacial scenery and waterfalls
Bob McCurley	Local birdwatching sites, and birds including the black winged pratincole seen at Monikie in '96, and a grasshopper warbler
Margaret Duncan:	Carsegowniemuir, summer barbecue and workers!

Margaret then thanked everyone for providing us with such an enjoyable evening, and recommended that we take plenty of photographs in 1997 ready for next year's members' night

Anne Reid

REEDS, RINGING AND RADIOS

Bruce Lynch 18th February

Bruce Lynch, one of Tayside's most active ornithologists and chairman of the Tay Ringing Group, started his talk with a full description of the Tay reed beds where he has carried out mist netting, ringing and biometric work over several years. The beds are the largest in the UK and cover an area of 600ha along an 18km stretch of the river. They grow outwards from the foot of a strip of rough grazing and slope gently to the edge of the river where there are many runnels. The rough grazing itself slopes downwards, but more steeply, from the rich arable land and carries some mature trees and **hawthorn** scrub, and lots of **wild rose**, **broom** and wet areas at the interface with the reeds. The **rose** bushes provide good nesting sites, especially for **sedge warblers** which use the reeds for cover.

The central parts of the reed beds are dry and harvested, but with good cooperation between commercial and wildlife interests. Reeds in harvested areas regrow rapidly in early spring and attain a height of about 2m, whereas the much less uniform unharvested areas contain plants up to 3m in height. The latter areas are important roost sites for **reed warblers**, **sedge warblers**, **sand martins** and **swallows**, and Bruce described how taped bird calls were used to lure birds into mist nets set up on the old stone dykes which cross the reed beds. Interesting results obtained with the hirundines indicate the origins of **sand martins** caught to be from colonies on the Moray Firth and from a band which lies approximately along the Highland Boundary Fault, and that in the post-breeding dispersal, the birds visit several widely scattered roosting sites including one in Norway. Netted **swallows** are from north and west Scotland migrating through the area thence down the east coastal areas where they often feed above cereal fields. Recoveries of **swallows** ringed on the Tay were reported from the west coast of France, Morocco and South Africa (2 birds).

From the reed beds, the talk continued with a description of studies on the **sanderling** flocks that are found by day between Monifieth and Broughty Ferry. They feed throughout the whole tidal cycle, unlike other waders which move inland or roost at high tide. The flocks arrive from Tentsmuir Point at first light to sites on the shore determined by the state of the tide, feeding amongst rotting seaweed at high tide, and in some of the permanent pools between the groynes at other states of the tide. Successful cannon net work was described, and the fitting of six birds with radio transmitters capable of indicating whether a bird was standing up at roost, or feeding with its head held down. The results of radio tracking showed with certainty that the flocks never fed during the hours of full darkness when they were roosting at Tentsmuir Point, but under calm mid-winter conditions with a full moon, they would cross to a site near Carnoustie to feed. This behaviour provides an adequate explanation for the need to feed continuously during the short hours of mid-winter daylight.

Bruce concluded by describing how a small number of ringing recoveries of **sanderling** to date indicate a dispersal from our area in March to the Waddensee, where advantage can be taken of rich food sources, before flying northwards via Iceland to nest sites in north east Greenland. A possible post breeding return route might be one which brings the birds along the Swedish coasts and the Baltic in September before these waters freeze over.

This was an absorbing lecture, showing how painstaking and methodical work by dedicated amateurs is able to throw light on how these tiny creatures manage to achieve what appears to us to be the impossible as they go through their fascinating life cycles.

Bede Pounder

SOCIAL EVENING

28th February

After such a successful evening last year a repeat was included in the winter syllabus. This time over 40 members and friends attended and were duly entertained and puzzled by Jim Cook's wide ranging and fascinating series of quizzes. Everything from **lugworms** (preserved) to birdsong (taped) was tested, via slides of scenery, plants and animals. We did have a break for supper, which was demolished very swiftly - was everyone so keen to get back to the quiz, or just hungry? Jim's final slide of a muddy looking plant bud was a complete mystery to most of us but was correctly identified by Gordon Maxwell as a **roseroot** shoot at a very early stage! A good time was had by all and this event looks as if it has gained a permanent place in the fixture list.

Anne Reid

WEATHER AND ITS EFFECT ON LIVING THINGS

Dr Donald McKerron 4th March

Dr McKerron started his talk by describing the various bits of equipment used at SCRI to record the weather, viz, the anemometer, rain gauges, air and ground thermometers and a spherical lens used to measure sunlight intensity.

The four weather features which have most effect on living things were listed as day length, wind, light, and temperature. Dr McKerron was able to show, for example, that bird migration and **red deer** breeding cycles are controlled by day length and not temperature as was commonly believed.

Several slides from Orkney were used to show the dramatic effect of wind on trees and plants. These grew very little unless they were growing in locations sheltered from the wind. The principal adverse effect was one of damage to foliage by rubbing of leaves and twigs over each other thereby removing the protective waxy coating thus allowing the leaves to dry out and die.

The effect of light is directly related to the plant's ability to convert the light energy into food via the chlorophyll in the leaves. It was shown that the most effective leaves in this respect in a sample of **broad beans** were the leaves roughly mid-way up the plant. The leaves at the top were too immature to be effective converters whereas the leaves at the bottom were too old and 'past it'. The amount of light caught by these middle leaves accounted for about 86% of the weight gain in a sample of potatoes. This demonstrated the need for careful spacing of cultivated plants to ensure

maximum exposure to light but at the same time offer least resistance to the wind Dr McKerron showed a slide of a **Scots pine** as an example of a plant which was successful in adverse conditions due to the arrangement of the branches and leaves which form a structure able to trap the maximum amount of light but at the same time offering least resistance to the wind

The temperature may have a beneficial or adverse effect on plants, e.g. by warming the soil and promoting growth or by mis-timing the pollination process, causing male flowers to produce pollen before the female flowers are ready to receive it Temperature also affects the spread of flying insects but has less effect on their survival For example **Colorado beetles** are found as widely dispersed as from the cold of the Ural mountains to the heat of the Iberian Peninsula Dr McKerron concluded his talk by showing slides of commercially grown **tulips** to demonstrate that the time at which they bloom can be determined by controlling the temperature regime in which they are grown

Doug Palmer

MONIKIE MORNING

22nd March

First we met at ten o'clock in Monkie Country Park car park There were about thirty people One of the Rangers gave us a talk with slides It was about the history of the country park and what animals and birds live there.

When we had had the talk the Rangers offered us a cup of tea or coffee. Afterwards we started to walk round the island reservoir. On island reservoir we saw lots of wildlife including a **common gull**, a **great crested grebe**, lots of **tufted ducks** including a pair mixed in with the **mallard**, four **cormorants**, and **ash trees** and **pussy willows** on the bank

On Denfind there were lots of things including a few **teal**, one female **goldeneye**, two **pied wagtails** on a tree in the water and some **redshank** The **goldeneye** was in such shallow water it could not dive so it was just sticking its head in and looking very odd In a field we saw two **oystercatchers** and one **lapwing**

Afterwards some people went directly to the Craigton Coach Inn to have lunch while others walked the rest of the way round the reservoir to get their cars and bring them to the Inn

After lunch we walked the rest of the way round the reservoir and saw lots of **pied wagtails** and a **meadow pipit** We saw a lorry with tanks on In the tanks there were **brown trout** Christine and I got to go on the lorry to look at them We saw some of the **trout** getting released for anglers.

Then we went for a walk in the woods We found an almost complete empty **duck egg** We went to the playground!



Mary Reid (age 9)

SUMMER OUTINGS 1997

POLLOCK PARK AND BURRELL COLLECTION

10th May

More than usual excitement met our first outing of the season when one of our coach wheels flew off and overtook us not long after setting off - at Inchyra. We started botanising early during our 45 minute wait for a replacement coach We estimated that the massive **oak** at the roadside was approximately 200 years old The hedgerow also sported **whitebeam**, **sycamore**, **willow**, **hawthorn**, **garlic mustard**, **sweet cicely** and **dandelion**

Our appointed leader, Shelagh, had called in sick, but we found our way to Pollock Park even though the driver had never been there. Lunch at the picnic tables provided was the first priority, attended by a flock of **magpies** - a bird not seen in Dundee.

The weather was grey but the small group of members (20) managed a walk through the gardens of Pollock House, admiring particularly the flowering **azaleas**, the knot garden and noticing a **manna ash**. The indoor Burrell Collection was particularly welcome and thoroughly enjoyed, as much for the atmosphere of communication between architecture and woodland as for the *objets d'art*.

Margaret Duncan

BIRKS OF ABERFELDY AND ACHARN

24th May

Almost a full coach load of members turned out for this trip to sample the delights of central Perthshire at its best. Everywhere we looked we could relish the lush greens of the rolling countryside basking under a blue sky and warm sun. Wildlife was evident even as we descended from the coach in the carpark in Aberfeldy where we watched **swallows** and, for many in the party, the first screaming **swifts** of summer, while overhead a pair of **buzzards** wheeled and mewed.

The walk started from the bridge over the Moness Burn in the centre of the town and we were greeted almost immediately by carpets of **sweet cicely**, **cow parsley** and **ramsons**. **Field germander** and **slender speedwells**, **pink purslane**, **pignut**, **dandelion**, **daisies**, **greater stitchwort** and still flowerless **hogweed** were added for good measure, and all in just a few metres. The same flora was seen again when we crossed the main road to reach the footbridge over the Moness a few metres from the Birks carparks, but a clump of **cuckoo flower** was added to the list plus an **orange tip butterfly** which is to be expected near this species at this time of year.



Lesser celandine

The walk up the east bank of the Moness was a sheer delight, especially at the nearly vertically sided walls of the gorges with their beautiful falls of water cascading from tributary burns. We were thankful for the well-engineered wooden walkways and foot-bridges in what would otherwise have been extremely dangerous sections of the path. It was soon evident that although we were a little late to see the **wood sorrel** and **lesser celandine** at their best, the optimum time had been picked for **greater stitchwort** and **sweet woodruff**, both of which were flowering in profusion. **Wood anemones** were past their peak, but still sufficiently numerous to present fine spectacles in places. Other flowers recorded included **bush** and **bitter vetches**, **dog violet**, **dog's mercury**, **lady's mantle**, **bluebells** and **meadow cranesbill**, all in the

expected densities and states of development. Several other species although seen were surprisingly uncommon, including **bugle**, **yellow pimpernel**, **red campion**, **chickweed**, **wintergreen**, **primrose** and **sanicle**. We also found **bird's nest orchid**, **goldilocks buttercup** and **common wintergreen**. **Male** and **broad buckler ferns** were plentiful on the east bank of the burn and **bracken** was widespread in the **birch** woods along the west bank.

Other items of interest included a single sighting of a **red squirrel**, and some flattened remains of cumbersome **dor beetles** which had failed to find sanctuary at the sides of the path when the boots of several of our members bore down upon them. At least one each of **dipper** and **grey wagtail** were seen near the large Moness fall, and **chaffinches**, **blackbirds**, **wrens**, **goldfinches** and a **spotted flycatcher** were seen in the woods.

From Aberfeldy we followed the Tay to its source at the outlet from Loch Tay, and comment was made that some members of the party had in fact followed the whole course of the river from sea to source on this trip. Just over one mile along the south shore of Loch Tay brought us to Acharn where we tackled the relentlessly steep farm road up to the falls of Acharn. Spectacular views of the falls were had from a platform built out from a substantial 'Hermit's Cave' building near the top, and

from a wooden footbridge built across huge potholes lower down. **Tormentil**, **milkwort** and **mouse-eared hawkweed** were added to the flower list on the climb to the falls, while an **early purple orchid** and another **goldilocks buttercup** were found on the way down. As at the Birks, carpets of **greater stitchwort** and **woodruff** were features of the mostly **beech** woodland on the path down. An interesting colony of **mining bees** (*Andrena* sp) was studied on a bare patch of earth on the side of the path at one point.

The outing ended in a rather unique way in that we were seen off from Acharn by a pair of **ospreys** lazily circling in the thermals as they drifted towards Kenmore and probably, like us, wondering what was going on at the newly erected Acharn crannog where a 'spin-in' was in progress.

Bede Pounder

DUMFRIES AND GALLOWAY WEEKEND

6th - 9th June

The weekend got off to an inauspicious start with rain and mist over the whole country and a forecast that, while mentioning changes, gave little hope that these would be for the better. However, despite a slight shower in Biggar where a refuelling stop was made, things began to brighten up, and we were able to sit back and enjoy the rolling green countryside as we took a very roundabout but scenic route to Dumfries. This took us through the majestic Dalveen Pass and on the 'birly' road through Moniaive to New Galloway and Clatterinshaws, then back to New Galloway and down the east side of Loch Ken for the final run to Dumfries and Galloway College where we were to be based for the weekend. A stop was made at Clatterinshaws for a welcome by some real wildlife - the still and humid air, heavily scented with **bog myrtle** in places, was suddenly filled with a swarm of hungry **midges** which homed in on us at high speed. These made our visit very memorable indeed by their itchy bites which lasted nearly a fortnight. Some botanising and birdwatching was done at the lochside, and a brief encounter was had with a baby **adder** which wriggled out from some **heath bedstraw** into which a finger had been incautiously poked.

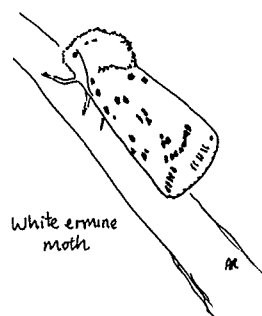
Saturday started with a short run along the east bank of the Nith estuary to where it meets the Solway at the Caerlaverock reserve, home of the **natterjack toad** and, in winter, the Svalbard population of **barnacle geese**. We looked over the impressive Caerlaverock castle where we hobnobbed with a group of Americans from President Clinton's home town of Little Rock, Arkansas, against a background of birdsong from **chaffinches**, **willow warblers** and a very noisy **sedge warbler** hiding in thick vegetation in the moat. The castle surrounds were very interesting, with lots of **willow** and **alder** carr, fragments of **oak** wood, a **conifer** plantation and plenty of **iris**-choked standing water above which **blue** and **red damselflies** darted all the while, defying every attempt by photographers to record their passage on film. Another insect of interest seen was an orange and black **sexton beetle**, so named not because of its striking appearance, but because of its habit of burying carrion to provide food for its larvae. A rich ground flora was checked out and found to be what one would expect at this time of year in such a place, but it was interesting to see **greater**, **lesser** and **bog stitchwort** growing together, and both **bramble** and the very similar **dewberry** (*Rubus caesius*), a typically southern species. Very few lepidoptera were seen, but these included several **orange tip butterflies** and a pair of **large skippers**.

From Caerlaverock we proceeded to the other side of the Nith and drove round to Rockcliffe from where a variety of paths led to Kippford to which the coach had been sent on ahead. Depending on the choice of path we were able to sample rocky shores, small cliffs, woods, meadows, **birch** scrub and a steep scramble up a rocky path to a 5th century hillfort, the Motte of Mark. In addition we were able to admire the expensive architecture along the Kippford shoreline where large verandahed dwellings set amongst Mediterranean-like rock gardens soaked up the sun shining through heavily scented warm and humid air. After Kippford time was available for a short stop by the Nith weir in Dumfries where we mixed with the crowds drawn by the Scottish Motor Rally. While rally enthusiasts watched rally cars, some of us admired the flora of the river wall and bank, rich in **hemlock water dropwort**, **monkey flower** and **figwort**, and the river fauna with **lesser black backed gulls**, **mallard**, **mute swans** and relatively diminutive **sand martins**, watched in their comings and goings by a **fallow deer** on the opposite bank.

The next full day took us on a 60 mile run through lovely countryside and along scenic coastal roads to the RSPB reserve at Wood of Cree near Newton Stewart. Access to the wood was

gained by heading north from Newton Stewart on the Girvan road and crossing the foaming Cree at the first sight of a bridge. We had been assured that this bridge would take a bus - it did, but only just. Once over the bridge we drove gingerly along a forest road, fringed with **bog myrtle**, through conifers which gradually gave way to **birch** scrub and then **oak** as the reserve was reached. Many of the **oaks** we passed on the approach were fine specimens, but those on the steep slopes of the reserve proper were of the same age, the wood having been felled in the 1920s. Under RSPB management the wood is acquiring a good under-storey, with **hazel** being prominent, and extensive ground coverings of **blaeberry**, **honeysuckle** and **cow-wheat**. Carpets of **cow-wheat** were a bit of a surprise and caused the sharp eyed to engage in a little research which showed the species to be the unusual **wood cow-wheat** (*Melampyrum sylvaticum*) rather than the **common cow-wheat** (*M. pratense*) we are more used to seeing at home. Woodland plants such as **pignut**, **bluebell**, **dog's mercury** and **bugle** were common, but there was a surprising shortage of **wood anemone**. Meadows on the flat ground between the river and wooded slopes were full of **clovers**, **stitchwort**, **pignut**, **speedwells**, **sorrel** and **buttercups**, with **marsh cinquefoil** in the wetter patches, but despite a diligent search, no **orchids** were found. Being an RSPB reserve woodland birds were obviously on hand, but at the time we were there they seemed rather loath to advertise their presence by song. However, **song thrushes** and **willow warblers** were evident, a **cuckoo** was heard, and **wrens**, **redstart**, **whitethroat** and **pied** and **spotted flycatchers** were seen. The latter two were watched feeding young, and for this thanks are due to the reserve management for providing nest boxes conveniently sited for visitors to see. On returning to the Girvan road we were intrigued to see a row of **mole** skins tied to a fence, presumably as evidence of the prowess of a local gamekeeper.

From the Wood of Cree we transferred to the other side of Newton Stewart to the Kirroughtree forest where we received a warm welcome from Forest Enterprise personnel at the visitor centre. Well laid out displays were examined here, tea drunk, and **swallows** watched as they flew in and out at about 60mph, missing our heads by inches. The group soon split into several small parties to sample the various colour-marked trails on offer. Most of these went through conifer woods, but one, the Papy Ha' Bird Trail, was more open and varied. **Thrushes**, **chaffinches** and **willow warblers** were common in the scrub and farmland areas, while **goldcrests** made their presence heard in the conifers. A mewing **buzzard** made a very low swoop at one point near the farm. Several of the sections of conifer trails were much more varied and interesting than had been at first expected, with one breaking out above the trees near the Bruntis Lochs where **bogbean** was in bloom and a few **heath spotted orchids** were found in one spot. We decided that the



White ermine moth

times allowed for each trail as published on the noticeboards had probably been suggested by persons of extraordinary fleetness of foot.

It was a rather tired group that returned that day to Dumfries with approach roads edged by banks of **ox-eye daisies**, and surrounded by fields on which **rabbits** scampered, seemingly by the hundred. However, the usual band managed to make its way after dinner to the Vacuna Hotel, named by its South African proprietor after a snake of that country, *Loxodonta africana* ssp *rosea*, had been reported from this area. Despite a diligent search no sighting was reported by members of our band, who had to content themselves on their homeward treks in the darkness with captures of one **frog**, one **white ermine moth** and an encounter with a **hedgehog**. We are told in books that hedgehogs curl up in balls of prickly spines when threatened by danger. However, some of a more sprightly nature are said to be increasing in number as evolutionary processes favour them relative to their brothers who prefer to test the effectiveness of a curl-up against the threat of an oncoming motor vehicle. Our hedgehog responded to a gentle prod with a walking stick by quickly scuttling away, so was probably one of the more successful variety.

Monday, going home day, was one of those glorious clear summer days we dream about but so seldom see, and gave us a real treat, especially when the bus was coaxed up the narrow defile of the Mennock Pass towards the exposed heights of Wanlockhead. Here we split into two parties to visit the **lead** mine and other facilities of the Wanlockhead Museum Trust, whose volunteer guides gave us fascinating and thought-provoking accounts of the history of the complex, though one or two members preferred to hunt out **galena** samples from the mine spoil heaps. Not surprisingly, little of natural history interest was reported, except for one sighting of a **common newt**, an animal once so well known, but nowadays regarded as a relative rarity. However, the final record for the weekend's

log, and the first to be put forward by Jim our coach driver, was of an even rarer species - an **ostrich** seen in a field near Stirling!

Bede Pounder

KINNORDY LOCH AND REEKIE LINN

14th June

The visit to Kinnordy Loch took place on a fine sunny morning. The bus stopped at the car park to unload an enthusiastic group of bird-watchers, and others, who promptly scattered to the three hides. By far the main sightings were of the ever-present **black headed gulls** but disappointingly few rarer birds were seen. The bus and contents then moved a few hundred yards along the road to Mamie Bruce-Gardyne's home at Airlie where she had a roaring barbecue ready and everyone enjoyed an open air meal. Afterwards, those interested enjoyed a conducted tour of Mamie's house and, for the more able, a visit to the local well-preserved souterrain.

When everyone was fully sated the party moved on to the Reekie Linn to enjoy a pleasant walk along the banks of the River Isla.

Doug Palmer

WALK ALONG THE MILEY

17th June

Twenty or so people turned up for the walk, led by John Whyman, on a fine evening. The diversity of wild plants to be seen provoked much comment and several enthusiasts took notes. The walk appears to be quite popular with the local people and little evidence of vandalism was seen. The future of the walk as a nature track within the city seems good and it will be interesting to see how it develops over the years.

A list of the plants recorded on the walk is available from the Secretary.

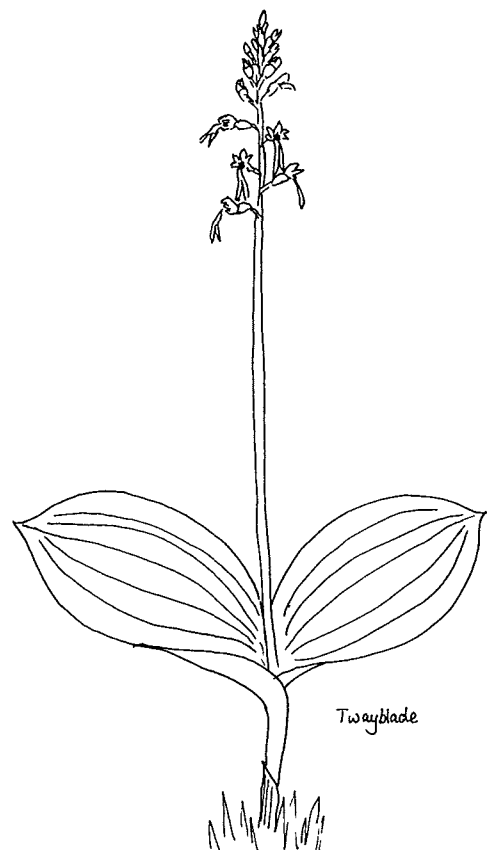
Doug Palmer

ABERLADY BAY

28th June

The outing started at the Aberlady Reserve car park where a long footbridge crosses the mini estuary of the Mill Burn. The tide was well out, exposing wide areas of mud from which spikes of **glasswort** and other salt marsh plants could be seen, but the party ignored this visually unattractive area and headed across carpets of flowering **silverweed** to get their heads down in the first damp ditch likely to produce an orchid. They were lucky, for here they found the first of very many **northern marsh orchids** to be seen that day, as well as **twayblades**, the flower stems of which had been grazed presumably by the **rabbits** that were seen scurrying about in the vicinity. **Bulbous buttercup** and **greater stitchwort** were found hereabouts, the latter being surprisingly short in stature and with small leaves. These could possibly have been **marsh stitchwort** (*Stellaria palustris*), except for the flower head size which was as big as that found in *Stellaria holostea*.

From here the trek along the main reserve path was commenced, and a good sample of **white bryony**



was examined after the start. The path trended roughly northwards, separating extensive areas of coastal marsh on the seaward (west) side from drier dune grassland rising up towards Gullane links on the other side. The drier ground was covered in places by **viper's bugloss** which made a very fine spectacle indeed, and small 'woods' of **sea buckthorn**. These gave the area a quite different appearance from similar dune grasslands at the mouth of the Tay. The marshy ground was very wet in places, the water table being more or less at ground surface level, and even in the slightly less wet areas, water filled ditches lay in wait for the unwary foot. **Meadowsweet** was the dominant cover over the marsh, and would be giving the whole area a wonderful aroma a week or so after our visit when the flowers were out. With the **meadowsweet** were lots of other typical wetland plants such as **ragged robin**, **valerian**, **marsh pennywort**, **water mint**, **marsh marigolds**, **marsh lousewort**, **spearwort**, **horsetails** and **orchids**. Everywhere one looked, a **northern marsh orchid** was certain to be seen, and closer inspection of any particular area would soon yield the salmon-pink **early marsh orchid** (*Dactylorhiza incarnata* ssp. *incarnata*), and it was not long before a particularly beautiful specimen of the dense brick-red *D. incarnata* ssp. *coccinea* was found. **Common spotted orchids** were also found as well as more **twayblades**, this time in full flower. **Twayblades** seemed quite at home in the wettest areas as well as the less wet or even bone dry dune grassland. In some areas of damp grassland the **twayblades** were joined by very large numbers of **cowslips**. These must have given quite a show earlier in the year when in full bloom. Also common on the less wet ground were **cuckoo flower** and **butterwort**, and **common centaury**, **grass of Parnassus** and **bog pimpernel** were also found. These last two were interesting since the **Parnassus** was in flower despite the early date, while the **pimpernel** is relatively rare in Angus and Perthshire.

Two spots along the path were of special interest. The first was a fair sized pond on which **flag iris** and **bogbean** were abundant, and on which three female **aiders** disported near enough to make it clear that none was the female **king eider** reported as spending its third consecutive summer at Aberlady. The second was a section where some welcome shelter from the cold north-east wind was provided by a dense stand of **sea buckthorn** and **elder** and in which we examined one of several magnificent **musk thistles** on the reserve, lots of **crosswort** in full flower, **spring beauty**, and a species new to several of us, **common fiddleneck** (*Amsinckia micrantha*). **Sedge warblers** were heard in the marsh, and a pair of **reed buntings** seen as well as **meadow pipits**, **skylarks**, a **yellowhammer**, **swifts** and **swallows**. Butterflies were quite uncommon, as were moths, but a **latticed heath moth** was identified.

The path eventually began to swing further inland towards the dry dune grassland where the ground flora was similar to that found behind the dunes at Barry Buddon or Tentsmuir - lots of **birdsfoot trefoil**, **restharrow**, **black knapweed**, **mouse-ear hawkweed**, **biting stonecrop**, **thyme** etc, but there was a notable lack of **creeping willow**. **Hound's tongue**, **orange hawkweed** and **peach-leaved bellflower** were three unusual species reported.

The large dunes which had to be negotiated to gain access to the beach contained **bramble**, **wild strawberry**, **dog** and **burnet roses**, **sweet briar**, **common catsear** and **smooth hawksbeard**, but, although it was seen in places, **rosebay willowherb** was nowhere as dominant as at similar sites on the Tay. There was also a lack of dune-front flora - **sea rocket**, **oraches** and **sandwort** being conspicuous by their absences. Seabirds should have been apparent offshore, but a heavy sea driven by the strong wind made both seeing and hearing too difficult to pick out **terns** which must have been about.

A walk along the beach gave a welcome if short-lived relief from the ups and downs of the dunes, and led via Gullane Point and Hummell Rocks to the high grassland from which an easy descent was made to Gullane carpark where the bus was waiting, and in which a rapid identification of a specimen of **bur chervil** was made - yet another umbellifer to be remembered from now on!

Bede Pounder

LAND OF THE SIMMER DIM - SHETLAND

29th June to 7th July

This was the third of the DNS 'island hopping' weeks and completed the series of the major island groups of Scotland. The party of 10 met at the ferry terminal in Aberdeen in the late afternoon of Friday 29th June, ready to board the St Clair. The scudding clouds promised a rough crossing, a forecast which proved all too true. All that we could do was 'batten down the hatches' and retire to

our berths in cabins deep in the bowels of the ship.

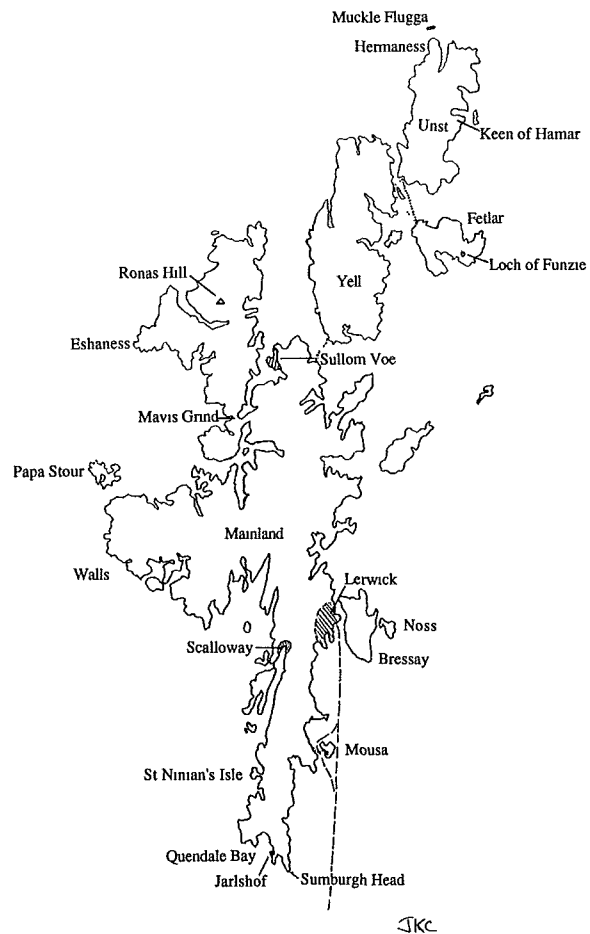
By 7am the next morning we were in the lee of the mainland of Shetland and the keener members of the group were scanning the misty sea for northern wildlife. A few **bonxies** showed themselves as we approached Lerwick, with the islands of Bressay and Noss looming off the starboard bow. Alastair made sure that he got off to a good start with a large bacon butty. Very sensible, it turned out, because an early breakfast in Lerwick on a Saturday morning proved rather difficult to find.

We were soon settled in and ready to move off, to Clickhimin broch, on the outskirts of Lerwick. It seemed almost surreal to be on a very ancient site dating back some two thousand years and facing a modern housing estate just across the small loch. I wonder how long those houses will last? Just before lunch the party moved on to Scalloway to visit the castle and drop in on the small but interesting museum. In the harbour a pair of **black-throated divers** sported themselves and gradually moved off. We walked round to visit the site of the Shetland Bus slipway and headquarters, the service that provided fishing boats to travel clandestinely over to Norway during the war. In the evening the twitching urge overtook us and we all piled back into the minibus for a

location beside a lonely farmhouse where a **bee-eater**, of all things, had been seen. You can guess what happened. It was obvious as soon as we arrived. The group of birders with binoculars and telescopes at the ready were standing around with their hands in their pockets and looking bored. The bird had displayed well in the morning but the good weather during the day must have encouraged it to fly off. Our only good tick was Bill Oddie, who appeared, looked fed up and disappeared fairly rapidly. Just like the bee-eater, perhaps.

Sunday took us on the road south towards Sumburgh Head. We stopped off at the ancient dwelling site of Jarlishof, with an incredible historical record that can be traced from the Bronze age, through the Iron age and Pictish times to the Viking period and right up to the 16th century. A small but fascinating museum helped to explain the various levels and excavations at the site. The minibus pulled into the carpark at Sumburgh Head, nicely timed for lunch. We were able to sit almost on the edge of the cliff and look out over the wheeling seabirds. **Guillemots** dotted the water surface, a few **razorbills** and **puffins** whirred past and **kittiwakes** and other **gulls** glided by. Within a few minutes Dorothy called out and we rushed over to see the item of interest - three **dolphins**, the first and auspicious cetacean sighting of the trip. (See the details of cetacean sightings in the following article Ed.)

Later the party walked up to the lighthouse for better views of both the birds, **puffins** and **gannets** and particularly a **bonxie** killing and eating a young **auk**, and of an Italian film crew making a TV documentary. So far as we know, none of us starred! Soon after, Alastair and Dorothy had an excellent although brief sighting of a brightly coloured male (**common?**) **crossbill**, but eventually we all had superb sightings of the almost tame female. The birds spent most of their time pecking through the tufts of **sea campion** and **thrift**; **pine** trees being in rather short supply in Shetland! Later in the afternoon we headed round to the site of the wreck of the Braer and a mournful sight it was. Only the green seaweed-covered bow was visible, although that was large enough. It demonstrated just how deep the water must be, to completely cover such an enormous vessel. The numerous seabirds flying about and on nearby cliffs and the good sized **seal** colony appeared not to show any ill effects.



The next day we had placed a booking for the whole party to take the small ferry over to Mousa at midday. To kill some time we stopped off on the way south at the Catpund **steatite** quarry just beyond the township of Cunningsburgh. On the way up the hill Dorothy and Ina pointed out a singing **Shetland wren** flitting in and around one of the old tiny stone enclosures formerly used to grow vegetables. We soon found a few of the squared-off rock cuttings with the cut marks from ancient times. Janey led the way further up the stream and soon came across the main quarry site. Literally hundreds of stone containers and cooking pots must have been laboriously chiselled out of the living rock - over a long period from the Neolithic to Viking times.

Meanwhile Daphne was heading downhill and heard a splash and a heavy sigh from the water below. At first she thought it was a group of seals but she called to Alastair and the answer was brief and to the point - **killer whales!** We all had magnificent views of them circling, broaching and rolling close inshore, probably hunting **seals** (See below Ed.) They moved on but we had to as well, to be in time for the ferry to Mousa. While we were on the pier a few of the whales were seen crossing the mouth of the bay.

The island of Mousa was superb. The party had lunch in the shelter of the largest and only intact dry-stane broch in Scotland - and the world - and while exploring the passageways we were all able to hear the crooning of the **storm petrels**. The broch impressed us greatly, particularly since most of us had seen Dun Carloway in Lewis the year before. We moved on to visit a shallow bay on the north side of the island but could find only a few **common seals** in the water. There were a few **terns** but we had to endure attacks by stropy **bonxies** and **arctic skuas** on our way back to the ferry. We all remarked how dry the ground was - it should have been spongy wet. There was only time in the late afternoon for a brief visit across one of the best **tombolos** in Britain, to St Ninian's Isle and the site of the famous treasure hoard; and then on to a good dinner in the new Nautical College in Scalloway. Another excellent day!

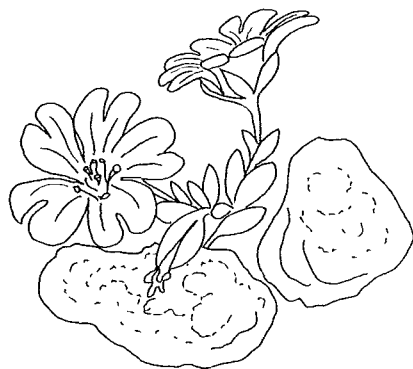
Tuesday was bright and sunny, although a little breezy. The minibus's silencer had packed up the evening before and the first job was to have it repaired. That took over an hour but by mid-morning we had set off for the north west. A detour took us past the huge Sullom Voe oil terminal and on to the isthmus of Mavis Grind. None of us, though, was able to throw a stone from the North Sea into the Atlantic. By early afternoon we were eating our sandwiches at the top of the cliffs near the lighthouse at the tip of the Eshaness peninsula. An exploratory walk took the scattered party in both directions along the rocky cliffs. There was lots of interest, plants, birds, another cetacean - a **white sided dolphin** - plus a large blowhole some distance back from the cliff edge, a series of tiny ruined clickmills and the large mound of a fallen broch.

On the way back we made a northern detour and decided to climb (!) the shoulder of Ronas Hill. While the minibus strained upwards our surroundings gradually turned into an almost lunar landscape of loose red gravel and large boulders with a few small clumps of scattered vegetation sheltering in between the rocks. Some of us rock-hopped over to a damp green hollow but couldn't find the one species we hoped for - **mountain bearberry** (*Arctous alpinus*).

The weather closed down. Wednesday morning greeted us with wind and rain. The unanimous decision was that this would be an excellent day to spend time in the museum in Lerwick, a fascinating place. By late morning the wind and rain seemed to ease off and we decided to make for the Walls peninsula. Although it was very windy and wet the whole party trudged over the moor to see the famous 'temple' - if that's what it is - at Staneydale, and then visit the site of a neolithic village. By this time we were all rather bedraggled and after a spell of rather fruitless seabird, or rather wave, watching, we decided to stop off at a small hotel in the hope of finding a hot cup of tea.

We were very lucky. At the drop of a hat they laid on a feast of lashings of tea and scones and cream and jam and delicious fruit meringue pie and . Millions of calories but just what was needed, for morale, if not the waistline!

Thursday was the day for Unst, the most northerly of the islands. An early start took us to the ferry to Yell and then over to Unst. Our destination was the Keen of Hamar, a bare low hillside beside the sea. But what a hill! The rock is **serpentine** which forms a distinctive gravel and boulder bed in which relatively few plants can grow. Most of them are very interesting and a considerable list was quickly recorded, with help from all the members of the party. It took some time though to find the speciality of the site, **Edmonstone's chickweed** (*Cerastium arcticum* ssp. *edmonstonii*) with its

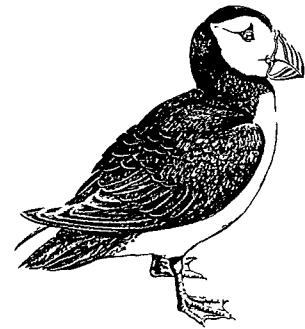


Edmonstone's Chickweed

distinctively large white flowers. The open site also afforded good views of calling **golden plovers** and several other species. In the morning the weather had been excellent but by early afternoon thick clouds rolled up, the wind rose and it began to rain heavily. The idea of visiting the Hermaness reserve and walking over to view Muckle Flugga and its lighthouse was abandoned. Instead a visit to Haroldswick to the most northerly church in Britain, the most northerly museum and the most northerly tearoom attracted our attention. We took in Munness Castle and on the ferry on the way back to the mainland a few of us were able to pinpoint a small **harbour porpoise**, another species for our growing list.

Friday saw us off to an early start again on the ferry over to Yell. This time the destination was Fetlar. As the ferry went past the small islet of Linga a few of us were lucky enough to have an excellent sighting of a large dog **otter**, over a metre long, as it emerged from the water, climbed the high grassy bank, ran along the top and then dropped into a hole. Once on Fetlar we headed for the Loch of Funzie but stopped a few times on the road to admire calling **whimbrels**. At the loch it was obvious that **red-necked phalaropes** were about. The telescopes, cameras and binoculars all pointed to their presence. We parked on the road by the side of the loch and were soon rewarded by excellent close range views of these confiding little birds working their way through the small stones and plants by the side of the loch. It was marvellous. If you sat still they would come almost to your feet as they hunted for insects and other small prey. At almost the same time we were able to admire displays in the loch by a pair of **black-throated divers**. In the afternoon most of us walked round to the hide looking over the marsh next door but couldn't see much of interest. On the way back the group stopped off at the community centre and museum and had excellent views of a **crossbill** in the carpark. Since it was a lovely evening we decided to spend some time, while waiting for the ferry, by walking over to a nearby headland to watch for **otters**. No luck, but we did have yet another **dolphin** sighting from the ferry on the way back to the mainland. Shetland certainly is the place to visit to see cetaceans!

Saturday was our last full day and not to be wasted. It was an open day on Noss, an excellent chance to visit that island. We crossed over to Bressay on an early ferry and drove straight over to the crossing for Noss - much more precarious - in a little inflatable tossing in the waves. The weather, however, was anything but open and soon closed down. On the way round the island we ran the gauntlet of a group of **arctic skuas** and then climbed uphill to enter a thick blanket of low cloud. Fortunately the path was well marked because to our right we could just make out the sheer cliffs in the swirling mist. Surf boomed dully on the rocks far below, but then we found an enchanting sight. Angelica was instantly in her element amongst her favourite birds. By waiting patiently she was able to get



within a few metres of hordes of hopping, preening, whirring **puffins**. Some paced around in flat-footed clumsiness, others just stood stolidly and stared back at her with sad-eyed clown faces. But we had to press on. At the summit of the hill and the top of the cliff the cloud was so thick it was almost difficult to see our feet let alone any view, but as the group descended visibility improved. Back at the visitor centre the open day activities were in full swing, displays of several kinds, sheep-shearing demonstrations and supplies of hot food and drink. The trip back to Bressay seemed less precarious but we had to wait for nearly an hour for the ferry back to Lerwick.

Sunday morning was excellent. The first visit was to the Bod of Grimster, the birthplace of Arthur Anderson, the founder of P&O. The ground floor was reconstructed to show the building in its original use, a factory and a warehouse for drying and storing fish. The upstairs rooms are a museum to the great man and we were royally entertained and informed by the excellent custodian. Because we had to be back early for the ferry - and considering the state of the minibus - we didn't want to travel too far. The decision was to visit a working woollen museum, but we were considerably disappointed to find that although the display of traditional Shetland woollens was good, there were no working displays, not even a spinning wheel. Fortunately a visitor from south of the border was able to demonstrate how to card wool and use a wheel to produce yarn. Only a mile or two out of Lerwick on the way back the minibus suddenly started to spew out clouds of smoke. It had finally given up the ghost but was just able to limp back to the garage. We'd made it. A dull and chill evening saw the party leave in the ferry and we all waved goodbye to Jean, who had decided to stay on and travel back via Orkney.

Jim Cook

WHALES AND DOLPHINS (CETACEANS) IN SHETLAND

29th June - 4th July

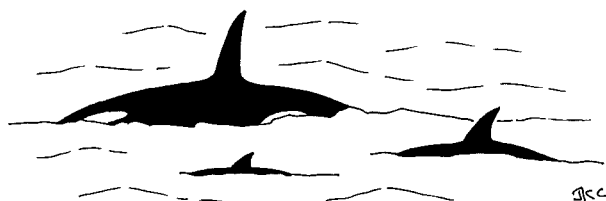
All the sightings of cetaceans mentioned in the account of the trip to Shetland (see above) are given in greater detail here. Approximate grid references (GR) are given for each record.

29th June Three **dolphins** of uncertain species, possibly **white-beaked dolphins**, were seen from the cliff top beside the carpark at Sumburgh Head at about 1.45pm and observed for about 10 minutes. GR HU 410083.

Two of the dolphins were seen several times surfacing to breathe and then diving again, moving from north to south towards Sumburgh Head, before being lost to view. Almost immediately another animal appeared from the same direction apparently following the other two. It continued in a similar direction but was only seen to surface twice.

30th June Six **orcas (killer whales)** seen from near Catpund Quarry, off Red Stane at about 11.50am and watched for about 20 minutes. GR HU 428272.

The DNS party was spread out on the slope above the road on the way up to the neolithic Catpund steatite quarry site when one member heard a splash and saw a dark shape in the water. On drawing the attention of the rest of the party, it could be seen that the animals were not dolphins



but killer whales. The splashes and even their respiration could be heard clearly. When first seen the animals were highly active and several, particularly the largest ones, partly came out of the water. They seemed to be circling around and diving and surfacing vigorously within about 50m or less of the shore. At one point one of the smaller (presumably female) whales rolled over onto its back and showed its white underside very clearly. Although it was difficult to make out any details we

assumed that they were hunting one or more seals. No blood in the water was seen and we could not tell if the hunt was successful. After 5 minutes or so they seemed to calm down and moved further out to sea, perhaps between 100 and 200m offshore and gradually swam off slowly in a generally southerly or SSE direction. All members of our party had good views for a relatively long period of time and, judging the whales' direction and speed, we hoped to see them again since our next intended destination was the pier for the Mousa ferry. The sea was almost flat calm at first but a breeze got up.

After observing and counting the animals several times we determined that the pod consisted of six whales; one large male with a particularly prominent and straight dorsal fin, estimated to be roughly 8 - 10m long, two smaller individuals with more curved dorsal fins, possibly 5 - 6m long, presumably females, and three small whales, perhaps between about 2.5 - 3 (or 3.5?)m in length, presumably juveniles, one being a little larger than the other two.

Second sighting Almost certainly the same pod of whales was seen, from the ferry pier, crossing the Wick of Sansayre just after 12.30pm. Only the bull, a cow and a juvenile were observed coming up to breathe twice as they quickly crossed the end of the pier about 200 - 300m offshore. They were swimming rapidly south-east down the Sound of Mousa. The animals rounded the exposed rocks (the tide was low) at the south end of the Wick and were lost to view. This second sighting lasted only two to three minutes. Presumably the other three whales were in the vicinity but were not seen. Though the ferry left the pier to cross the Sound of Mousa only five minutes after the last sighting, and a very sharp look-out was kept from the boat, the whales were not seen again.

2nd July One **white sided dolphin** seen from the cliffs north and east of Esha Ness lighthouse near Drd Geo at 2.30pm. GR HU 208791.

This animal was seen surfacing several times to breathe and appeared to circle around about 150 - 300m offshore. It was estimated to be approximately 3 - 4m in length and at one point surfaced enough to show a light-coloured patch on its flank. It seemed to be moving from south-west to north-east. It was observed several times over a period of about five minutes and, although the party watched carefully for a further 10 minutes, was not seen again. The moderately choppy conditions meant that distant sightings were difficult.

3rd July One **harbour porpoise**, seen from the ferry Bigga, in Yell Sound at about 10 15am GR HU 460786, very approximately

This small (1.5 - 2m long) and uniformly grey individual was seen surfacing several times in the wake of the ferry at a distance of about 200m and then lost to view. The total sighting time was less than 5 minutes.

4th July One **dolphin**, of unidentified species, seen from the ferry Bigga, in Yell Sound at about 8 50pm GR HU 446776 very approximately.

The sighting lasted only a few minutes and the animal was seen to break surface only twice. It was certainly larger and bulkier than the animal seen the previous day and appeared to be darker in colour. The dorsal fin was distinctly curved backwards. The briefness of the sighting meant that it proved impossible to identify the species with any degree of certainty. The choppy sea made observations from the deck of the ferry difficult.

Jim Cook

CRATHES CASTLE COY BURN TRAIL AND GARDEN

12th July

Because of the journey time we had to limit our walk to the Coy Burn Trail and missed the unusual arboretum on the longest trail, but managed to fit in a tour of the famous pleasure gardens and the little wildlife garden.

A commendable list of 142 plants was compiled on the Coy Trail, many of which would have been missed without the eagle eyes of our Technical Convener, Jim Cook. We certainly identified more grasses, sedges and ferns than would otherwise have been the case. Attention was also drawn to 15 species of fungi and some interesting insects - including **beeflies**, handsome brown **shield bugs**, **Chrysomelid beetles** and **7-spot ladybirds**. *Carex remota*, a new plant for the Society on an outing, was seen several times on the edge of the burn. This is said to be common in England and Wales and in lowland and west Scotland but absent from the extreme north. **Bur chervil** (*Anthriscus caucalis*), which caused excitement when identified on the previous outing at Aberlady, was seen again here. Warm sunshine contributed to the pleasure of the day but quite thick mist spoiled the visibility on the journey.

Margaret Duncan

MICROSCOPE EVENING AT CROMBIE COUNTRY PARK

17th July

A group of 14 keen naturalists, young and not quite so young, met in the classroom at Crombie Park to probe the secrets of the miniature world. A selection of hand lenses, stereomagnifiers and compound microscopes stood ready to help us explore a different aspect of natural history. We started off by examining a few previously prepared specimens and then looked at a variety of items picked up in the park, ranging from the wonderfully ordered barbs and barbules of feathers through a number of small 'creepy-crawlies' to **moss** leaves with their intricate and beautifully arranged cells and squashes of **lichens** to show their algal and fungal components. The intimate secrets of natural history laid bare before our very eyes!

It had been a little damp earlier, but when the rain stopped we were able to get out and collect more specimens for closer examination. Of course, we replaced all these in their original habitats when we had finished. The fun really began with the nets probing the edge of the reservoir. The most enthusiastic and successful 'small game hunters' were our youngest members and visitor Christine caught a small but fascinating **water beetle**, Mary found a **caddis** larva in the net, but the prize of the evening was a wonderfully delicate live **damselfly** larva (or nymph) captured triumphantly by Andrew. They all, the beasties that is, not the young Nats, went back into the pond.

very much alive and kicking!! Everyone had the opportunity, though, to have a very close and leisurely look at these specimens, certainly worth examining minutely

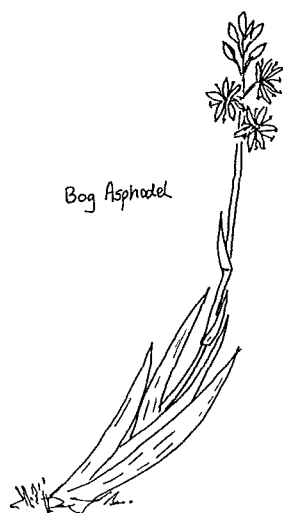
We are very grateful to the rangers, and in particular to chief ranger Lesley Wood, for their help and for making available the small laboratory and associated apparatus.

Jim Cook

GLEN CLOVA AND LOCH BRANDY

26th July

Around 30 hardy souls left Lindsay Street at 9am bound for the corrie loch of Brandy in Glen Clova. A short break in Kirriemuir enabled some to have a lightning tour of the burgh, famous for, among other things, JM Barrie and "starry rock". The approach to the loch from Wheen Farm, a few miles short of the Clova Hotel, had been chosen to avoid the busy and rather eroded path from the hotel. The first denizen of the area spotted was a very large **frog**; not surprising considering the very wet nature of the lower slopes of the glen. In this area **bog asphodel** was very common (usually an indicator of impending wet feet - Ed!)



Farther on up the slope an interesting beetle was found by Hasso Cezanne; the **oil beetle**, which has a most interesting life history. The female produces thousands of eggs, and when hatched, the larvae climb into spring flowers to await their host, a **solitary bee**. They hitch a lift to the bee's nest where they proceed to eat the eggs of the host, then the pollen and nectar, before pupating in the nest. The beetle's name comes from the oily, blistering fluid the adult beetle can produce when disturbed.

Some **red grouse** were seen by Alastair Fraser during his detour to Loch Wharral, another corrie loch nearby. Around six **mountain hares** were seen by the main group, plus a surprised **roe deer** on the approach to Brandy. By this time some members of the party had succumbed to the tussocky nature of the ground and had fallen a fair distance behind the group. However, the loch was reached on schedule, and a well-earned break was enhanced by the sighting of a **peregrine** by Dorothy Fyffe. Meantime, David Stein, who had led a shorter route into the Corrie of Clova, had seen a number of things including **emperor moth** and **fox moth** caterpillars and a **small pearl bordered fritillary** butterfly.

Some in the main party, now on their way down, paused to look at the large boulders on the route which contain minerals such as **tourmaline**, **garnet** and **kyanite**, the result of heat and pressure from the large **granite** mass in the area millions of years ago. Although the terrain had caught out a few whose legs had lagged behind their enthusiasm, the consensus seemed to be that it had been an enjoyable walk to a classic Angus locality.

Gordon Maxwell

GLEN LEDNOCK

9th August

After some delay due to the poor toilet facilities in Comrie the party eventually set off on the circular walk in Glen Lednock, starting from the car park in Comrie. The weather was fine and everyone set off in good heart. The short but steep detour to the Melville Monument at the top of Dunmore Hill was not to everyone's liking but for those who reached the top the fine views of the surrounding countryside made the effort worthwhile. Because of the interest in the plants etc., the walk took a little longer than expected and the leader and a substantial group of stragglers were further delayed by the bonus of watching the arrival of the decorated floats at the local park for the summer fete, with the result that there was insufficient time for a proper visit to the wildlife park. After a hasty consultation it was decided to offer various alternatives and, while the main party made the trip to the wildlife park where tea and cakes were available, some took the short walk round to

visit the famous earthquake house on the outskirts of Comrie. Yet others, (who shall remain nameless) took an extended nature walk to a nearby pub! The whole party then re-assembled on the bus at about 4pm for the journey home.

A list of the plants recorded on this trip is available from the Secretary.

Doug Palmer

ST ANDREWS ROCK AND SPINDLE AND BOTANIC GARDENS 23rd August

It was cloudy as the group of thirty or so Nats set out from the leisure centre at the East Sands to walk along the cliff top path in the morning. This made it more comfortable for walking, though it was still very warm. Some of us were walking very slowly indeed to begin with as we attempted to make a comprehensive list of the plants seen on the walk. The first notable one seen was a single specimen of **scarlet pimpernel**, which doesn't seem to be found as often as it once was.

Along the cliff top path many people had good views of **linnets** and **yellowhammers** sitting high on the **gorse** bushes, and a **peregrine** and **kestrel** were also seen briefly. From this elevation the folding pattern of the intertidal rocks was clearly visible as the tide was conveniently far out. At the water's edge the **eider**, in eclipse plumage, were easily confused with resting **oystercatchers** - when that long orange bill is tucked under a wing one of the main 'trademarks' is missing! All the usual **gulls** were seen but also a single **great skua**, looking for an easy meal no doubt, and a number of **sandwich terns**. Further along the cliff top Dorothy spotted a **wheatear**, already on its way south to warmer climes.

Where the path descends from the cliff top down to shore level we found the extremely smelly remains of a dead **seal**. The tail portion was being investigated by a very attractive black and orange **sexton beetle**, though whether it decided to set about burying this potentially outsize nursery we shall never know! The only other mammal seen was a **common shrew**, also dead, on the path.

When those of us who were recording plants finally caught up with the main group, we found everyone sitting down near the rock and spindle having their lunch. The **basalt** formation of the spindle was duly admired and marvelled at while eating. One of the more unusual lunchtime 'pests' made its presence felt here - instead of **wasps** we had large numbers of **hoverflies** (mostly *Episyrphus balteatus*) landing on our sandwiches, cups and lunchboxes. After eating we looked at the numerous fossils in the Carboniferous sandstone on the upper beach. These are mostly **tree fern** (*Stigmaria*) stem and root imprints, but there are also some very clear **fossilised ripple marks**. Just beyond the rock and spindle there is a small area of salt marsh at the top of the shore, and here the **sea aster** was in full flower and at its very best.

As we made our way back along the path the sun came out, and with it some butterflies. Gordon had commented that no **painted ladies** had been seen this year after last year's abundance, so one duly obliged and put in an appearance! A single **peacock** butterfly was also seen, again the first one this year, and a number of the delightfully cheerful **small coppers**, flitting about on the **ragwort** flowers.

When everyone had regrouped at the East Sands the bus took us on to the St Andrews Botanic Gardens. These once belonged to the University, but their upkeep and maintenance is now in the care of Fife Council. Before we had even entered the garden proper we admired a number of butterflies on a large **buddleia** by the gate. These were mostly **red admirals** and **small tortoiseshells** with a few **small whites**, with some very large queen **buff tailed bumble bees** competing for the nectar rich flowers. Once inside, everyone went their separate ways and explored the rockery, pond area, herbaceous border and greenhouses in their own time. An interesting **broomrape** (*Orobanche* sp.) was found growing under a mixture of shrubs near the order beds, but none of us managed to identify it from the books we had available. The forecast had threatened rain at some time in the day, but we were fortunate to avoid any of the heavy showers which were visible around St Andrews just before we left in late afternoon. As we came back across the Tay Bridge it was obvious that Dundee had just had a very heavy shower, which once again we had missed.

Anne Reid

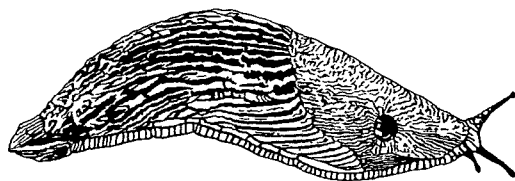
BARBECUE AND MOTH TRAPPING

2nd September

Once again we were very grateful to Lesley Wood and the other staff at Crombie Country Park. Our sincere thanks also to Dundee Museum and its natural history staff for lending us their moth traps and bat detectors. These were put to good use. The fire had been lit by the time we reached the centre and the early arrivals busied themselves setting out the traps and painting patches of 'moth mixture' on some surrounding trees and walls. Jim had had fun preparing a sticky, black and very sweet concoction from heavy beer, molasses, dark brown sugar and honey in an effort to lure in moths panting for a decent shot of sugar. It tasted good to us anyway, we just had to wait and see if the moths were equally enthusiastic!

By the time all was ready the rest of the party appeared, almost as if on cue. It was the smell of all that barbecued food. The feast didn't last long as everyone set to with a right good will and made short work of all the victuals. It was dark enough by about 8 o'clock and, suitably armed with torches and an array of insect nets, the whole party started off on its rounds of the moth mixture patches and the traps. Richard led the way and Gordon followed along, toting one of the bat detectors. We had to be careful, of course, to shield our eyes from the intense ultra-violet light from the traps as we passed them. There were, as yet, very few moths, although hosts of **woodlice** were found on several of the moth mixture patches. They obviously have a taste for sugar, or perhaps "I'm only here for the beer" applies in the case of *Oniscus asellus*. The bat detectors, human and electronic, performed better. Gordon and Jim picked up fleeting calls of what was probably a **pipistrelle**, several of us definitely saw a **pipistrelle**, and Marjory caught a glimpse of a larger bat flying from the reservoir into the trees.

On the second round of the patches and traps, Gordon stopped off beside the reservoir and picked up good signals from the detector. Obviously several bats were circling low over the dark water. They were impossible to see, but with Marjory's earlier sighting, their location, calls and habits we decided that they were almost certainly **Daubenton's bats**, the first time they had been recorded at Crombie for several years (probably since someone else had brought a bat detector along). You had absolutely no chance of knowing where they were without electronic help, either from a bat detector or from a night sight light amplifier.



We finished up by examining the moth mixture patches again. They had attracted an interesting range of **flies** and other small insects and arthropods, and a number of **slugs**. The light traps were brought into the lab and their contents examined and released. A total of 22 moths of seven species was recorded for the evening, a far better total than had seemed likely earlier on. There were also a number of caddis flies in

the traps, closely related to the proximity of the reservoir. Altogether a most productive, interesting and enjoyable evening.

Jim Cook

FUNGUS FORAY - LINN OF TUMMEL

20th September

We ventured further afield than usual for our annual fungus foray and a very pleasant occasion it turned out to be. The sun shone almost all day. Our leader, Peter Christopher, had recruited Ben Notley, the NTS Ranger/Naturalist, and his own wife and two children. With Margaret Duncan, Gordon Maxwell and Jim Cook also present, there was a wide range of expertise on tap. This factor operated to the mutual benefit of the leaders and of the uninitiated. Enthusiasm was sustained from 11am to 4.30 pm.

Because of dry conditions the fungi were not prolific but with so many eyes searching (39 pairs) a wide range of species was discovered. A list of 90 was identified plus 8 others found on the recce two days previously. Notable finds were. *Gyroporus castaneus*, *Leptopodia elastica*, *Helvella crispa*, *Helvella lacinosa*, *Fistulina hepatica*, *Phaeolus schwenitzii*, and *Pleurotus* (*Pleurotellus* or *Phyllotus* or *Nothopanus*) *porrigens*. [This one said to be restricted to the Scottish Highlands. Take your pick of genus name.]

The day was not without incident as the Christopher children, after benefiting us with their eagle eyes, went missing at the end, having missed the turning to the Garry Bridge carpark and gone on to the Killiecrankie Visitor Centre. All were reunited after an hour of anxiety.

Jenny was stung by a **wasp** and **ticks** attempted to accompany several members home. In case they succeeded remedies were discussed.

The antics of three **dippers** on the Garry River were enjoyed at the lunch stop and **buzzards**, up to four in number, were seen and heard overhead. A memorable day.

Margaret Duncan

AUTUMN MEETINGS 1997

THE WILDLIFE OF INVERGOWRIE BAY AND ENVIRONS

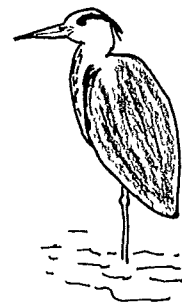
Dr Derek Robertson 14th October

In this talk, Derek Robertson, one of our Honorary Vice-Presidents, gave us a wide ranging account of the natural history of the short stretch of the north bank of the Tay from the reclaimed land near Dundee Airport to Monorgan, east of Kingoodie. He demonstrated most ably that this area, despite its small size, has a wide range of habitats and associated wildlife on offer for study and enjoyment by enthusiasts, no matter what their specialised fields of interest, and that much of the variety is the result of natural processes exploiting the results of human activities. The most important legacies of human activities are the area of land reclaimed by waste dumping between Invergowrie and the airport, large scale quarrying behind Kingoodie, and the railway that crosses the area.

Land reclamation at the eastern end of the area has resulted in the establishment of pasture, lightly grazed by Highland cattle and Clydesdale horses, which supports a good range of wild flowers such as **birdsfoot trefoil**, **viper's bugloss**, **wild carrot** and **ox-eye daisy**, most of which were probably derived from deliberate planting. The distribution of these flower species is changing with time as competition from the grasses increases. The pasture also supports a large population of **rabbits** and some **brown hares**, **oystercatchers**, **lapwings**, **skylarks**, **six-spot burnet moths**, and **common blue** and **ringlet** butterflies. The common blues appear similar to those of the Irish race rather than to those found in England. There is another stretch of grassland at the western end of the section near Monorgan. Here, light grazing by horses is just sufficient to maintain good floral range which includes **northern marsh orchids** in damp patches, and **red bartsia** on which caterpillars of the **barred rivulet moth** feed. **Carpet moths** are also common here.

Trees are of considerable interest, and with the exception of some **birch** and **Scots pine** which appear to have been planted, most are self sown and are regenerating naturally. In places, where a small cliff has been cut in the **old red sandstone** and **felsite** along the railway line, one finds a jungle of **ash**, **wych elm** and **gean**, with an under-layer of **hawthorn**, **whin** and **broom**, all providing ideal habitats for **blackcaps**, **chiffchaffs**, **sedge warblers**, **blackbirds**, **linnets**, **greenfinches**, **sparrowhawks** and **kestrels**. **Weld** (*Reseda luteola*) can be found along the track, with **great mullein**, **musk thistle** and **musk mallow**. The thistle could have been introduced with the railway ballast or commercial wild flower seed, while a local garden is a likely source of the mallow, here at the northern limit of its range. At the quarry-spoil peninsula of the railway a small natural grove of **gean** has established itself with **ash**, **wych elm** and **sloe**, and in the actual quarries there is a wide range of tree species, each covering a wide age range. These include **birch**, **Scots pine**, **ash**, **sycamore**, **wych elm**, **oak** (mostly **pedunculata**), **gean** and **rowan**, with a good shrubby under-storey and ground flora particularly rich in **wild garlic** and **willowherb**. Needless to say the quarries provide good habitats for warblers.

Despite encroachment from the reclaimed land, the intertidal mudflats of Invergowrie Bay are still of importance to **mallards**, **shelduck**, **redshank**, **curlew**, **herons** and **gulls**. In many places, the bay foreshore consists of a **shingle** derived from quarry-spoil. It supports a good **reed bed** off Invergowrie station where one also finds **sea bulrush** (or **clubrush**, *Scirpus maritimus*) and **sea aster**, and another west of



Kingoodie where there is dense growth of **willowherb** and **reed sweet grass** (*Glyceria maxima*) **Sea aster** also occurs with **arrow grass** in a small saltmarsh where **seaweeds** (*Fucus* spp) indicate the presence of brackish water, and again with **sea bulrush** and **curled dock** in a natural habitat at the old harbour, built at Kingoodie for the shipment of quarried stone

This fascinating lecture even included a mention of some of the 'goodies' on a garden rubbish tip near the station, including an interesting **earth star** fungus. Nothing escapes the keen eyes of Derek Robertson!

Bede Pounder

BLASTS, BUBBLES AND PLANT ECOLOGY IN THE PACIFIC RING OF FIRE

Dr Edith Cormack 4th November

Dr Cormack is an ecologist based in the Continuing Education Department at St Andrews University and is also involved with the SWT Fife and Kinross Branch and the Friends of St Andrews Botanic Gardens. She has been in St Andrews since 1972 and has also spent some time in the NW United States with her husband, Prof James Cormack, who spoke to the Nats in 1995 ('From the Olympics to Yellowstone, A Naturalist's View of NW USA', Bulletin No 20, p 8) and has travelled elsewhere in the world with him, enabling her to gather the material for this lecture. Indeed, she acknowledged that some of the wonderful slides she showed us had been taken by him.

Dr Cormack started her lecture with the 'bubbles' aspect of volcanic activity in the region. At their most benign these are the hot pools and springs, which can be of various colours and consistencies, depending on the minerals dissolved in the water. Orange pools have dissolved antimony and sulphur, the wonderful green colour of the 'morning glory pools' is due to arsenic, antimony and iron, 'champagne pools' have bubbles caused by carbon dioxide, and then there are the bubbling mud pools. In places where pressure builds up in these areas the result is a geyser - there are 272 of these in Yellowstone National Park in the USA alone. Perhaps surprisingly there are microorganisms growing in many of these pools, despite the very high temperatures and often highly acidic conditions. These are known as extremophiles and some bacterial examples can grow in temperatures of near 100C, while there are blue-green algae found at 70-80C, creating a wide range of colours and patterns in the water. Despite such extreme conditions the effect of this activity is very localised, having no consequences for the surrounding forest.

'Blasts' covered the direct activity of volcanoes, which are of two types - conical or explosive ones where pressure builds up near the boundaries of the plates on the earth's crust, and slow ones such as those on Hawaii which are hot-spots in the crust. There are a number of the conical type in the NW United States, including Crater Lake in Oregon which is considered extinct, Mount Ranier near Seattle, currently dormant but with some recent associated earthquake activity, and Lassen Peak in California which was last active in 1914-21. The volcanoes on Hawaii are of the slow magma type and include Mauna Loa which is a shield volcano. Mauna Kea has been dormant for a long time and has an observatory on the summit and rich forest containing a number of endemic species on its slopes. When one of these becomes active it is usually in the form of lava flows which destroy the forest, and anything else in their path, but the damage done depends on the size and speed of the lava flow. When the lava cools it can take on a variety of forms but can also flow to the sea where an acidic cloud of steam occurs.

The volcanic activity results in very extreme habitats once everything has cooled. The dark coloured lava absorbs heat and retains no water, so any plant colonists have to be very tough. Some of these pioneer species may have aerial roots to extract water from the air. Eventually pockets of earth develop between the chunks of lava and colonisation speeds up.

Dr Cormack then used the example of Mount St Helens in Washington State in the USA to illustrate the ecology of recolonisation. Prior to its eruption the mountain was a 9,677ft cone with a snow-capped summit, alpine meadows and forest mainly consisting of **Douglas fir**, **western hemlock** and **Pacific silver fir**. When the volcano erupted explosively, on 18th May 1980, the top blew off to one side reducing its height to 8,365ft, and the blast completely devastated an inner area of 70,000 acres and flattened all the trees in a further 50,000 acres. Though there was no lava, there were large quantities of ash which covered large areas for at least 60 miles. The blast killed at least 5,000 **black tailed deer**, 3,000 **black bears**, 15 **goats** and a number of **people** who were in the

area The melted snow resulted in hot avalanches of mud, and the blast caused a tidal wave in Spirit Lake which swept all the trees nearest the shoreline into the lake

In 1986 there was mostly bare earth/ash in the inner area and no tree regeneration at all Where there had been snow at the time of the eruption it had afforded a little protection and a few plants of such things as *Vaccinium* sp. were to be found, especially in the lee of fallen tree trunks The timber in Spirit Lake was still floating there, too remote to be removed and too cold to rot

By 1996 some **Pacific silver fir** had started to recolonise but there was no sign of **Douglas fir** or **western hemlock** yet, and very little regeneration in the Spirit Lake area close to the volcano There was also a timber planting programme at the edges of the area **Pearly everlasting** and **rosebay willowherb** were the main pioneer species and a zonation was apparent, with bierred plants coming in relatively early, presumably due to bird dispersal Where there had been mud flows a new lake, called Cold Water Lake, formed which initially looked horrid The water cleared naturally within three years, and **lupin** species, with their root nodules, were very effective colonisers on the mud As much as 20 miles from the mountain the layer of ash became very compacted and plants such as **phlox** and **delphinium** struggle to become established Regeneration is helped by landslips which help to loosen the soil and expose seeds, and by *burrowing animals* which add organic matter to it.

Insects were the first animals to recolonise, and were even present in the first year **Bears**, **porcupines**, **beaver** and **elk** are now back to within 15 miles of the mountain. The crater developed a new dome which grew until 1991 or 1992. The Mount St Helens area has now become a popular tourist area and over 20,000 people climb the mountain annually, limited by permit to 100 per day

This was a fascinating lecture demonstrating by first hand observation the changes which have taken place in the Mount St Helens area in addition to the general review of volcanic activity in the Pacific region

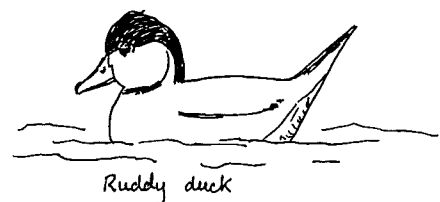
Anne Reid

FORFAR LOCH WALK

8th November

It had to happen sometime. In the four years of Saturday morning winter walks up till now we'd not had a wet day Certainly, there'd been a few close calls - into the hostelry with the rain on our heels - but we'd never got wet This outing broke the spell, however And how. It was drizzling when we arrived and met the ranger naturalist at the centre, Steve O'Kane Considering the weather it was a good turn-out; 23 well-clad souls. Within a few minutes of starting to walk round to the hide on the north shore the heavy clouds above us could hold no more. The curving grey sheets almost tore open at the seams and the rain streamed out.

At least it was good for the ducks and geese - loads of **mallards** that scanned us for signs of bread, numerous **tufted ducks** bobbing up, a few **pochards** actively duck-diving, numbers of **coots** and **moorhens** pecking around the water's edge, a few **shovellers** sieving the surface, one or two indolent **scaup** and a dozen or so **ruddy ducks** chugging around like busy little tug boats Steven told us that the ruddy ducks had bred at the loch for the first time this past spring



We crowded into the hide but didn't stay long as not all of us could fit in and, anyway, the view was little improved The trees dripped, the rushes and sedges dripped, water gathered in muddy pools on the track, but when you are well clad and shod what does it matter? Within a few minutes a charm of **goldfinches** flitted past to lighten our day Many of the fallen **willow** leaves proved to be carrying **bean galls** (caused by larvae of the **sawfly** *Pontania proxima*) and a fair crop of fungi could still be found, including some waterlogged **blewits** (*Lepista saeva*) and **puffballs** (*Lycoperdon perlatum*) A few flowers of **red campion** and a very occasional **herb robert** still glowed in the gloom At the water's edge, surprisingly close, **coots** probed and pecked at the vegetation and resplendent **mallards** cruised by. There's always lots to see for those prepared to look.

Steven led the main party round to the far end of the loch and described the work the rangers had already done there and their plans for the future A number of members picked out the bright red berries of a planted **guelder rose** (*Viburnum opulus*) close to the path. A pair of **mute swans**

could be seen further down the loch and closer in a group of **pochards** popped up like corks and then jack-knifed down again, while numerous **mallards** dabbled in the shallows

Just after this the rain started to come on heavily again and most of us headed back towards the other end of the loch - and a hot lunch. A couple of those lovely northern thrushes, **fieldfares**, flitted across our path and we couldn't help but notice the sight, and smell, of the sewage works but Steven reassured the party of the improvements being carried out. From the south shore we could clearly see the concrete wall and pipes of the **sand martin** bank but were disappointed to learn of the lack of nesting activity earlier in the summer, probably due to disturbance.

Once back, the group didn't hang around but headed straight to the Royal Hotel and its reserved tables, warmed up and ready to go - as we were. This time very few of the party were late!

Jim Cook

WILD PLANTS OF THE MEDITERRANEAN

Dr Chris North 18th November

Dr North retired from the Scottish Horticultural Research Institute in 1976 where he was the Head of Plant Breeding and Deputy Director. For many years he has enjoyed an "obsession" (his word) for visiting the Mediterranean and studying the wealth of flowering plants to be found there, with 25,000 to look for.

In his recently published book 'Botanical Tour Round the Mediterranean' he introduced his work as "a traveller's introductory guide to the flora of the region". His beautifully illustrated talk certainly gave us a packaged introduction to the richness of the flora of many parts of the Mediterranean.

Standing on any beach and turning to face land, Dr North explained that the Mediterranean was essentially surrounded by ranges of hills and limestone mountains - much higher than our Scottish mountains - attaining an altitude of 3,481m in the Spanish Sierra Nevada. His talk focused on five main habitats, ranging from woodland through the 'maquis', the 'garrigue', mountains and back to the coastal fringe.

He explained that most of the Mediterranean woodlands have been planted, as much of the original forest had been cleared in historic times for use as building materials and fuel. Typical trees of the region were **Aleppo pine** (*Pinus halepensis*), **black pine** (*P. nigra*), **cork oak** (*Quercus suber*), **carob** or **locust tree** (*Ceratonia siliqua*), **Judas tree** (*Cercis siliquastrum*) and **Lombardy poplar** (*Populus nigra* 'Italica'). Growing among the trees were many small brightly coloured bulbous plants including species of **tulip**, **anemone**, **cyclamen**, **fritillary** and **crocus**, as well as **orchids**.

The habitat known as 'maquis' consists of thickets of tall shrubs up to 2m in height and scattered trees. Typical of this area was the **strawberry tree** (*Arbutus unedo*).

The larger part of the Mediterranean consists of the 'garrigue' - the typical dry stony grazed area with low scattered bushes. The heavy grazing has produced conditions suited to many more species of bulbous plants and orchids including the **white hoop-petticoat daffodil** (*Narcissus cantabricus*), **giant orchid** (*Himantoglossum longibracteatum*), **sawfly orchid** (*Ophrys tenthredinifera*) and a **red tulip** (*Tulipa cypria*). Also found here were **thorny burnet** (*Sarcopoterium spinosum*), **dwarf fan palm** (*Chamaerops humilis*) and **mandrake** (*Mandragora officinarum*).

Moving up into the mountains Dr North showed more bulbous species including **crocus**, **scilla** and the **dog's tooth violet** (*Erythronium dens-canis*).

Back at sea level we saw Mediterranean oddities like the **squirting cucumber** (*Ecballium elaterium*), **Bermuda buttercup** (*Oxalis pes-caprae*) and **Sodom apple** (*Solanum sodomaeum*). Dr North explained that many parts of the coastal region were particularly under threat from tourist orientated development, and there were cases of whole colonies of plants being bulldozed away.

Having thoroughly whetted our appetites, we were told that the best time to plan our visits was the principal flowering period of March and April. During the hot dry summer many plants have their resting period, though a number of plants do flower later in the year. There was much to see, Dr North never having visited anywhere twice. For identification he recommended "Mediterranean Flora" by Marjorie Blamey and Christopher Grey-Wilson. Finally, a reminder to resist the temptation to dig up bulbs and plants to bring back to our own gardens, instead, make use of the RHS Plantfinder to seek out specialist growers and suppliers.

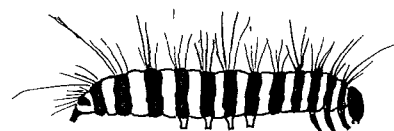
Peter Ellis

CONSERVING SCOTLAND'S BUTTERFLIES AND MOTHS

Dr Mark Young 2nd December

Approximately 45 members attended the talk which Dr Young opened by showing some data relevant to the subject, and outlining the criteria considered when deciding on the urgency or otherwise for conservation action to be taken. Examples quoted were endemic species, particularly if rare, and species restricted to specific localities or habitats. Two widespread species given were the **small tortoiseshell** (*Aglais urticae*) and the **garden tiger** (*Arctia caja*). The great majority of butterflies and moths such as the **emperor moth** (*Saturnia pavonia*), are restricted to specific localities or habitats.

Most of Scotland's butterflies and moths are southern species which move up to Scotland. Dr. Young showed a distribution map of the **cinnabar moth** (*Tyria jacobaeae*) to illustrate this. This moth thrives wherever its specialised food plant, **ragwort**, is plentiful. Northern species of butterflies and moths, e.g. the **Scotch argus** (*Erebia aethiops*), which is fairly widespread in central and eastern Scotland, are more



Cinnabar moth larva

significant to us from the point of view of conservation. We can have less effect on the conservation of migrants but it may be helpful to conserve their favoured habitats if this is possible. Examples of migrants were the **blue underwing moth** and the **death's head hawk-moth**. The death's head mark on this moth is probably related to its original name of '**bee-eater**'. It is believed to raid bees nests and the distinctive marking is considered to resemble a queen bee!

An example of a specialised habitat is the Cairngorm Mountains and the **black mountain-moth** is a very specialised inhabitant of this area. The caterpillars of this upland moth may take two years to develop. There are very few examples of mountain butterflies but the **mountain ringlet** is one. These require a grassy habitat and where this is grazed, e.g. by sheep, their numbers become seriously depleted. In more northern latitudes butterflies and moths tend to inhabit lower altitudes, for example down to the sea shore.

Other examples of specialised localities and their common inhabitants are

Rich wet heathland -- **Rannoch brindled beauty**, an early moth the females of which are wingless

Machair grassland -- **Common blue**, restricted mainly to the coastal areas of Angus and Moray, possibly due to the milder climates of these areas

Western coasts of islands -- **Belted beauty** and **transparent burnet**, probably another climatic restriction.

Reasons given for conservation included the fact that butterflies are good environmental indicators, they are also pretty and popular with the public (a fact which makes conservation measures more readily accepted), and survival of a species endangered elsewhere, e.g. the **marsh fritillary** (*Eurodryas aurinia*) which is becoming very scarce in Europe but which still occurs in Scotland, although still scarce.

Dr. Young concluded by talking about the need for conservation in general and the difficulties encountered. Some of these included moths which lay eggs in very restricted places - for example one moth only lays eggs on the outer twigs of young birch trees, up to five metres in height, in a zone between one metre and two metres above ground. The **chequered skipper** needs wet grassland and drier flower pasture. Another butterfly feeds only on **birdsfoot trefoil** and then rests and digests the food on dry sunny soil. In general rare butterflies and moths feed on common plants and therefore other factors must govern their survival.

Doug Palmer

NATURE IN CLOSE UP

Gordon Maxwell 16th December

Our Christmas meeting was opened by a selection of Gordon's excellent slides on a wide variety of wildlife, mostly local. He opened with stunning images of **alpine catchfly** (*Lychnis alpina*) in the mountains and worked down towards the coast. In between, the slides ranged from **tiger beetles** and **emperor moths** through a selection of **butterflies** to **goldfinches** and **sexton beetles**. On the coast we saw **lizards** and **scarlet pimpernel**, followed by **chitons** and **sea anemones** in the

rock pools. Slides of a predatory **farmyard goose** disrupting lunchtime on an outing to Barry Buddon rounded off the talk on a lighthearted note.

Afterwards we settled down to the serious business of the seasonal refreshments and a good blether. The table was laden with good things brought by members, and we were spoilt for choice. Thanks to everyone who contributed to the festive fare.

Anne Reid

MEMBERS' ARTICLES

AMPHIBIANS AND REPTILES IN ANGUS

The 1975 issue of the "Angus Wildlife Review" carried a short article about local amphibians and reptiles. It stated that, apart from JA Harvie-Brown's account in 1906, little had been published and that the distribution and abundance were still poorly known. Although Dundee Museum started to collect records with the intention of producing a report on their current status in the late 1970s, this failed to materialise. However, when several months ago, the charity "Froglife" contacted me to ask what information was available and had been published, it was obvious that, as Barrack Street Natural History Museum now has well over a thousand reptile and amphibian records on Naturebase, this information should be published and the Dundee Naturalists' Society "Annual Bulletin" was the obvious vehicle. The maps show the distribution of each species in Angus.

Common frog (*Rana temporaria*) 555 records

Our commonest and most widespread amphibian, frogs are most frequently seen on the hills and in the glens. They appear to be much less common in lowland arable areas. There is no evidence, to date, of any dramatic decline in numbers as reported in parts of England. Few records are currently from urban or suburban garden ponds, so whether these are important for lowland frogs is not really known.

Toad (*Bufo bufo*) 263 records

Widespread, but not as abundant as the common frog, the majority of sightings are of single animals. The data also shows that many of the same breeding sites are used year after year unaffected by casualties on nearby roads.

Palmate newt (*Triturus helveticus*) 79 records

The common local newt, palmate newts are widely distributed and found in a variety of habitats. Pitfall sampling of invertebrates has provided many of the records for this species which is inconspicuous and rarely seen.

Common newt (*Triturus vulgaris*) 18 records

Much rarer than the palmate newt and thought to be almost restricted to lowland sites. The frequency of this species may have been previously overestimated due to the misidentification of palmate newts.

Common lizard (*Lacerta vivipara*) 134 records

Widespread and relatively numerous in the upland area, but with very few records from the lowlands. Common lizards are most frequently seen sun-bathing on rocks or disappearing at speed into a drystone dyke.

Adder (*Vipera berus*) 81 records

With the exception of one or two unlocalised records from near Dundee, all sightings of adders are from the highland part of Angus. Although widespread it is much commoner in Glen Esk than most of the other glens.

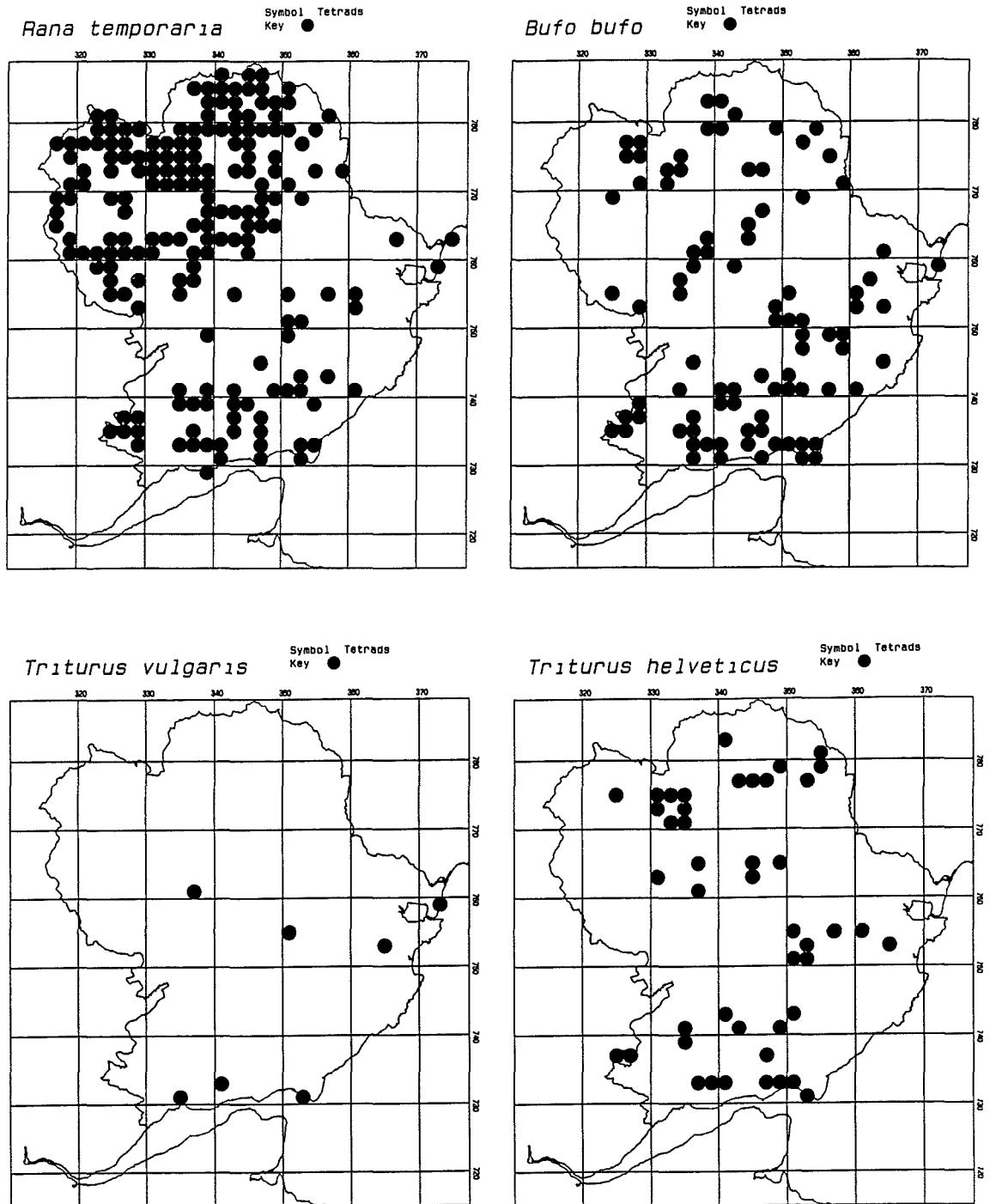
Slow-worm (*Anguis fragilis*) 21 records

The rarest, or possibly most elusive reptile in Angus. With the exception of one record near Dundee and another from the coast, all sightings have been in Glen Esk.

Although our knowledge of local amphibians and reptiles has improved very considerably in the last twenty years, it is clearly far from complete. Members are encouraged to keep an eye open for these creatures and to send their records in to Barrack Street Natural History Museum. Records of breeding sites, including garden ponds, would be especially valuable. (Details of Naturebase recording scheme inside back cover)

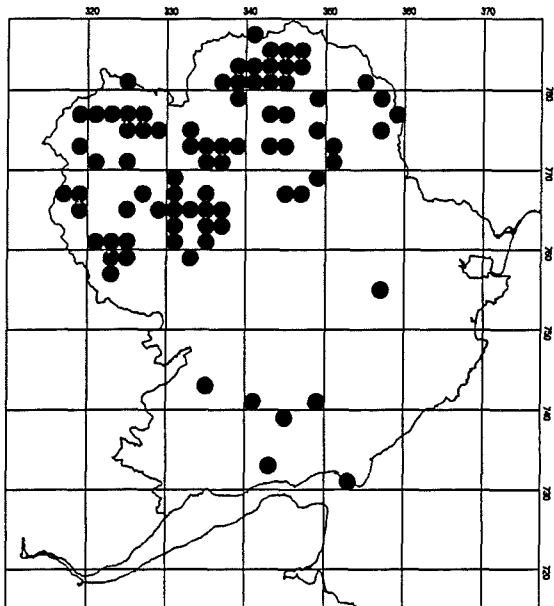
Richard Brinklow

DISTRIBUTION MAPS OF AMPHIBIANS AND REPTILES IN ANGUS



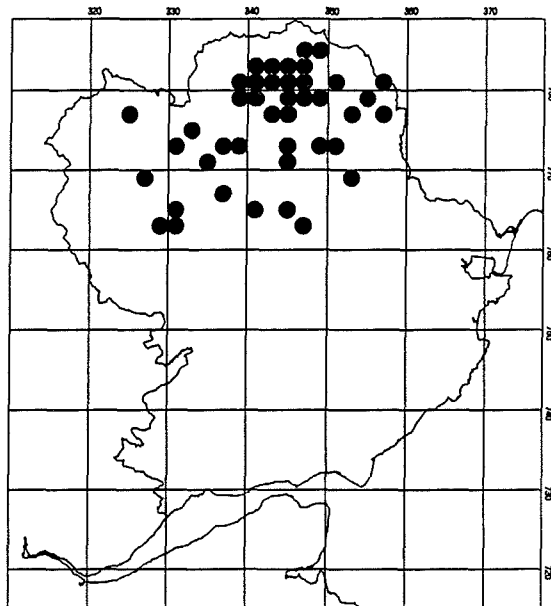
Lacerta vivipara

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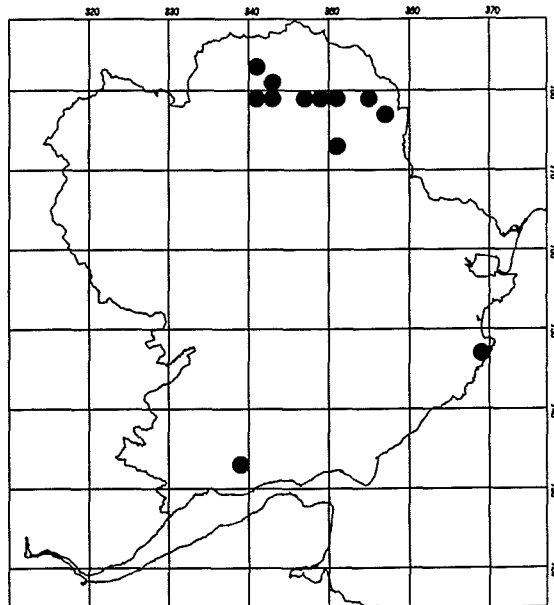
Vipera berus

Symbol Tetrads
Key ●



Anguis fragilis

Symbol Tetrads
Key ●



JAYS

26th October

It was the movements that first attracted notice. The tight clump of oaks loomed large and leafy on the slope above us, their orange-brown and green foliage seeming to attract the autumnal light in the clear morning air. Flashes of grey and pink and glimpses of barred black and white plumage soon told us that the moving birds were all jays. Then one bird erupted from the largest oak and swooped over the space to the furthest tree and landed heavily in the branches. We stood quietly on the road and were able to count a total of twelve birds among the four trees, and not a harsh call among them. But what was the cause of their intense interest in the foliage?

We had a pretty good idea but waited to have it confirmed. Within a few minutes one bird, bolder than the rest, worked out onto a branch in full view and then dropped out of the tree. A few quick flaps carried it thirty metres across the bare slope. It dropped lightly onto the grass and then

began to plod deliberately around. We could clearly see the bulging crop. Suddenly it put its head down and probed the ground with its bill, moved a little and tried again among the tussocks. Finding a softer spot the bird fussed around and made some swift movements with its bill, stood up looking satisfied and moved on to repeat the performance. It was burying acorns. Perhaps that was how those venerable oaks had begun life themselves. I wondered if any acorns that the jay missed this coming winter would ever be allowed by the sheep and deer to grow into a sturdy tree.

Jim Cook

MURROES WOODLAND

A proposed community woodland may transform the appearance of Murroes. Mr France Smoor, laird of the adjoining Gagie House, has discussed with the owner of the former old quarries area opposite Westhall Terrace, planting with trees the large stretch which was used as a dump after quarrying ceased.

As a first step, a meeting was called on site, and Mr Smoor was joined by Fred Conacher, who volunteered his skills as Forestry Officer for Angus, nearby residents and adjoining farmers. Bob and Pat McLeod represented Dundee Tree Group. The site is exposed to westerly winds and the soil difficult, but the idea is to plant tough species as a windbreak and eventually plant a wide variety of trees, with clearings and picnic areas. It is hoped that grants would be available to get the scheme going.

Bob McLeod

DEFINITELY WORTH THE CLIMB

18th July

It had been a bit of a flog hauling ourselves up Jock's road and then over rough heather slopes to the bare hill top, unusually free of vegetation even at that altitude, but at least the July weather was reasonable and it wasn't too windy. We'd spent some time searching the wet gravel and boulders and had found a variety of interesting species, most notably a hairy **mouse-ear chickweed** and **alpine scurvy grass**, but only two patches of the pink flowers and a few non-flowering plants. Perhaps you can guess what we were after; one of the shyest and most charismatic of our mountain flowers, **alpine catchfly** (*Lychnis alpina*).

After a while someone said "Well, that looks like the lot. We'd better photograph it", and we all took turns to get down in a most awkward spot between tussocks on wet gravel to record these exquisite blooms. The plants seemed to nestle in the shelter at the base of the tussocks of grass and sedge with their roots in among the wet stones and rock fragments. The leaves grow as low tussocks with the flower spikes emerging laterally and straightening up to bear up to a dozen flowers about 10 cm above the ground. Individual leaves are rather stiff, narrow and sword-like and bright green at first, though darkening at the edges and tips to a reddish brown. The flowers are bright pink with each of the five petals split to nearly a third of the length, all set off very well by the white stamens and twin styles standing well out from the corolla. A most attractive plant.

Just after all six of us had finished our photography, Sheila called out. What was over on the other side of the hill but a far better cluster of plants with flowers! Some of them carried as many as five flower spikes per plant. Out with the cameras again and down to work on much more attractive subjects in far better conditions.



Alpine Catchfly

We were all very pleased A fine set of photographs, interesting plants, including **alpine timothy** (*Phleum alpinum*) beside a tiny stream in a gully at the bottom of the hill, plus good views of herds of **red deer** and, later, **mountain hares**, calling **golden plovers** and, later, a flight of three **peregrines** wheeling above our heads

Jim Cook

INTERESTING RECORDS 1997

Many of us find that we only have a few good or rare natural history sightings each year in the local area, possibly not enough to write a whole article, but certainly worth passing on to other members. I hope that this compilation will become a regular feature of the Bulletin, but its success depends on members submitting their records to the editor Even a single sighting will be of interest, so please send them to me at any time of year. Thank you

Anne Reid - Editor

Each of the records below has the initials of the recorder at the end of the entry

JC Jim Cook
GM Gordon Maxwell
AR Anne Reid
AU Anne Urquhart

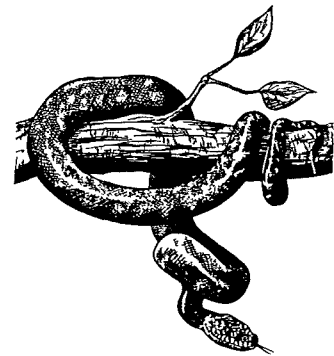
- 11th January** Visited the wild **whooper swan** (again) in Broughty Ferry harbour, still feeding with and behaving like a **mute swan** (Bet you couldn't get near it in the breeding season in Iceland!) JC (This swan and a mate plus two young in the harbour in late February AR)
- 7th February** Large raft of **mallard** with small numbers of **eider** and **pochard** on the Tay off Stannergate in early evening JC
- 9th February** Nine **herons** in field beside St Andrews - Guardbridge road, behind stone dyke. This appears to be a regular roost GM
- 9th February** **Small tortoiseshell** butterfly, sunning itself on road and **hoverfly** (*Episyrphus balteatus*) on *Hammamellis mollis* in garden Air temperature 6C, though warm sunshine. AR
- 15th March** **Mink** beside Dighty under seven arches, Monifieth Also seen on 30th October AR
- 23rd March** Female **goosander** on Redmyre Loch, possibly same bird as seen earlier on Laird's Loch GM
- 23rd March** A flock of small birds including at least 20 **tree sparrows** (!) at quarry. JC
- 30th March** 15 **whooper swans** on Loch Ordie, also **slow worm** basking in spring sunshine GM
- 7th April** About 30 **waxwings** on tree near seven arches, Monifieth Exactly same date as several seen in 1996, presumably heading north for the summer AR
- 10th April** Male and female **adders** (2) rearing up in mating ritual near Mill Dam near Dunkeld A number of **small tortoiseshell** butterflies also seen in same area GM
- 11th April** **Ring ouzel** seen at Kingseat Hill near Abernethy, probably on passage to higher ground in the Glens GM
- 23rd April** **Grasshopper warbler** heard near Dighty on YOC outing AR
- 24th April** **Emperor moths**, both male and female, in Sidlaws near Auchterhouse Hill GM
- 26th April** One tattered **small tortoiseshell** butterfly in garden, Broughty Ferry JC
- 27th April** Three **buzzards** displaying and calling ("mewing") over and around the quarry Buzzard are seen and heard every time the quarry is visited throughout the year. JC
- 9th May** **Orange tip** butterfly near seven arches, Barnhill Second record on 27th May Not seen in this area previously AR
- 21st May** **St George's mushrooms**, common on slopes of Sidlaws, a popular, early and edible species. GM
- 21st May** **Redpoll**, northern race, seen near Dighty. AR
- 27th May** Good range of **mosses** and **liverworts** found at Crombie Country Park, some still fertile, plus the **woodlouse** *Oniscus asellus* very active on a damp evening JC
- 28th May** Approximately 40 **green hairstreak** butterflies to rear of Auchterhouse Hill GM
- 29th May** 19 **puffins** counted near Castlesea Bay near Auchmithie GM

16th June Hobby, hunting **sand martins** and **swallows** beside seven arches, Monifieth AR
24th June Three **goldfinches** on **thistles** on waste ground at Foggyley area of Lochee GM
24th June Five **newts** in small fire stank in forestry plantation near Tullybaccart GM
18th July About 500 **red deer** near top of Jock's Road, Glen Clova area A few **golden plover** also seen Three **peregrines** performing aerobatics near Kilbo path on return GM
9th August **Stoat** ran across the road in front of car (and survived!) between Camperdown Park and Templeton Woods JC
22nd August **Peacock** butterfly in garden, Westferry, Dundee AU
30th August A different **peacock** butterfly (the first one had a torn wing), Westferry Also **grey squirrel** passed through garden AU
9th September **Eyed ladybird** on dunes at Elliot. AR
15th September **Eyed ladybird** in garden, Monifieth Recent southerly gales may have brought this conifer associated species across from Tentsmuir AR
18th September By standing perfectly quiet and still, treated to a marvellous view of **red squirrels** running down tree trunks, bounding across the leaf litter and chasing each other around Templeton Woods in the evening JC
4th October **Large white** butterfly still flying around garden, Broughty Ferry JC
26th October **Barred warbler** at Fife Ness Also juvenile **kittiwake**, resting on rock for several hours. AR
4th November **Kestrel** patrolling Kingsway, seen while going to work. JC

WE JUST DON'T KNOW HOW LUCKY WE ARE!

I was taking a group of botanists out on a rather dull and damp June evening to look at the plants of Gagie marsh, a good local site We were finding it a little difficult to walk through the dense growth of **rushes** and **sedges** of the marsh and at the same time trying to balance on the tussocks to avoid sinking into soggy pools However, one of the party, a lady from Thailand, was making especially heavy weather of the vegetation Nani was looking about, very concerned, and I thought she was thinking of her ankles or was worried about going head-first into one of the juicier patches. After a while Daphne asked her what the matter was The answer was - to our delight and amusement - **snakes!**

But Nani was serious, and rightly so Back home in Thailand this type of wet and heavily vegetated habitat would be literally hoaching with scaly reptiles - **cobras**, **kraits** and the like, and all deadly poisonous We were able to reassure her that in Britain the **adder** was the only species of venomous snake and that in this particular marsh adders were as rare as hen's teeth (and we had to explain that one as well!). Nani visibly relaxed and became confident enough to enjoy finding the wide range of plants in the marsh Aren't we so very fortunate that in Britain hardly any wildlife will bite or is poisonous or dangerous?



Jim Cook

A YEAR OF DISCOVERIES

Another year gone! How like the birds they fly Anne requests an article from me Of course I will, but what will I write? So much has happened on the natural history front this year, all of it good as always, why not put in down on paper? A medley of memorable memories? Why not? Here goes - hope you enjoy reading it as much as I enjoyed taking part

BEN LAWERS This was a new discovery for me not having ventured beyond the visitor centre on previous visits. On this botanising trip in early August we were heading for the summit area in our quest for arctic-alpine plants, which entailed a trek of four miles each way On our way

up the track I was greatly impressed by the profusion of **yellow mountain saxifrage** and **wild thyme**. As we progressed higher we were given a croaking welcome by a pair of **ravens**, and were kept company by inquisitive **wheatears**. As we came upon a mountain stream which crossed the track we came upon **starry saxifrage** and **hairy stonecrop**, which was a new discovery for me and my companion, Lawson Grant. Encouraged by this and climbing ever higher we soon started adding such gems as **mossy saxifrage**, **alpine mouse-ear**, **alpine lady's mantle**, **grass of Parnassus**, **butterwort** and **milkwort**.

We eventually reached the area above 3000ft where we began searching for our hoped-for alpine plants. We enjoyed a greater measure of success than I had expected, and after a lengthy diligent search, where I found on occasions that my binoculars came in very handy for scanning inaccessible ledges, we logged **alpine forget-me-not**, **alpine gentian**, **alpine fleabane**, **moss campion**, **roseroot** and **alpine bistort**, all of which gave us enormous pleasure and satisfaction. In addition, we enjoyed outstanding scenic views of the Loch Tay area far below us, plus a pair of **twite** joined us above 3000ft, and it didn't rain!

GLEN DOLL YOC OUTING As acting liaison officer between the RSPB and YOC local groups, I have found myself attending YOC field outings, especially now, since my seven year old grand-daughter Laura loves to come along and enjoy the company of her YOC friends. The age group is five to twelve, they are all very bright and intelligent, they ask lots of questions and expect you to know the answers! They are very keen eyed and can very often see things first without the aid of binoculars.

April 27th found us walking up Glen Doll on a rather dull day with low lying cloud, not the best conditions for **eagle** spotting, but the forecast promised it would lift in the afternoon. Our walk produced many new discoveries for the group which included **tiger beetle**, **dor beetle**, **toads**, **frogs**, **frog spawn**, **newts**, and **red deer**. A false alarm caused a stir when a large raptor appeared, which at first was thought to be our hoped-for **eagle**. Alas, no, this one was a **buzzard**. Half a mile further on, with the cloud now lifting, we spotted a pair of **golden eagles**, being mobbed by a **peregrine**. You can imagine the excitement that this caused!

Our **GLEN MARK** outing on June 29th proved to be another high point in our summer programme, providing many new discoveries for all present. The objective was to walk to the Queen's Well and back. We had walked barely 500 yards when our attention was drawn to a butterfly which proved to be a **small blue**, more often seen in coastal habitats. A little further on we came upon several more butterflies which turned out to be **small pearl bordered fritillaries**, a new discovery for me personally.

Pressing on towards the Queen's Well a keen-eyed YOC spotted an **adder** in the heather, which we viewed from a safe distance, admiring the beautiful markings. Next, in a damp area with small pools we discovered **frogs** and **fish**! Keeping botany to the fore our list included **sundew**, **ragged robin**, **lousewort**, **fragrant orchid**, and **common spotted orchid**. Not forgetting the birds, we had sightings of **common sandpiper**, **cuckoo**, **spotted flycatcher**, **peregrine** and **kestrel**. After reaching the Queen's Well the kids enjoyed a foot dip in the well where Queen Victoria and her consort once paid a notable visit. Like them, we enjoyed our visit too.

Bob McCurley

TREE PLANTING

30th March - Easter Sunday

We went on a YOC (Young Ornithologists Club) and Nats outing to Carsegowniemuir quarry to plant trees. We planted about 20 trees, **birch**, **ash**, **hawthorn** and **alder**. In pond 2 we found some **frog spawn** but we did not see any **frogs**. Then we set up base camp and went to plant some of the trees. Then we had lunch in a dip out of the wind. After we had had lunch we rolled Easter eggs. We did not see many birds but we did see **blue tits**, and a **buzzard** and there were **tufted ducks** on pond 5. Some people saw a **stoat**. It looked grey because it was changing from its winter coat to its summer coat. Mary, Margaret and I went to plant an **alder** by pond 5.

While Mary, Andrew, Mummy, and David Gow (YOC) looked to see if there was anything in the bird boxes, Daddy and I helped Jim to measure trees. At the end we skipped stones with Jim. I enjoyed rolling Easter eggs best. (And eating them! Ed)

Christine Reid (age 7)

SERENDIPITY STRIKES AGAIN

or
COUNTING THE SEA PEA

A small group of keen naturalists spent another evening early this autumn counting the threatened patch of **sea pea** plants (*Lathyrus japonica* var *acutifolia*) at one of its two sites along the Angus coast. The first problem was to find the plants. We went over to where it had been seen flowering - albeit rather shyly - during the summer. Fortunately it was a very pleasant evening. **Pipits** and **goldfinches** flitted about the dune area, and a number of **gulls** of various species and **terns** were flying up and down the coast. Much further offshore occasional strings of **gannets** could be seen undulating low over the water surface.

It took quite some time to find the scattered plants even although the location was well known. Then, using the markers present, we were able to divide the area up into a grid and start counting. It was immediately obvious that the plants had not had a good year. The individual plants were mostly small and very few bore any seed pods. The map shows the distribution and numbers of the plants. (33 plants compared with 118 in 1996). While this was going on someone looked up and saw an **owl** flying out to sea. Ron and Bob, who have ingrowing binocs, were immediately up and pronounced that it was not a **short-eared** as we all thought, but a **long-eared**, as shown by its dark wing patches. The ear tufts, of course, are folded back while in flight. We all had the opportunity for an excellent view as it headed out to sea. Bound for the Fife coast perhaps?

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	1	0	0	0	0	0	0	1	2	0	0	0
	0	0	1	0	1	2	1	0	0	0	0	0
	0	0	0	1	0	1	0	0	0	1	0	0
	2	0	0	0	0	5	0	0	0	0	0	0
	1	2	0	1	0	0	1	4	0	0	0	0
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By the time we had finished it was almost dark. The party collected all the poles, chains, ropes, string and sticks and headed back to the level crossing. On the way another **owl** flew over, a **tawny** this time. It all goes to show that keeping your eyes peeled is an important aspect of natural history. An otherwise busy but mundane evening turned out to be exceptionally interesting. As the saying goes "Many eyes make light work".

(This article is a follow up to that in the 1996 Bulletin on page 33 Ed.)

Jim Cook

THE FOSSILS OF THE BURGESS SHALES

The small township of Field is situated within Yoho National Park, high in the Canadian Rockies. The fast flowing Kicking Horse River cuts a wide braided course as it tumbles down the valley. On either side of the river The Canadian Pacific Railway and the Trans-Canada Highway traverse the magnificent scenery, heading ultimately towards the coast at Vancouver.

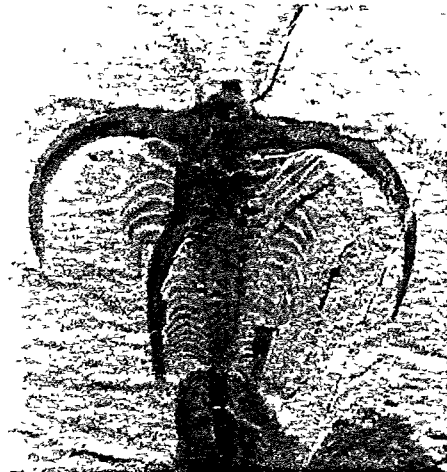
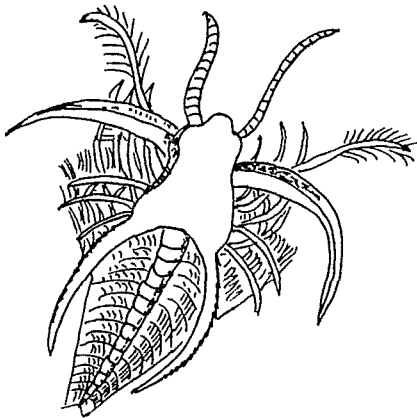
Field has become rather famous in recent years, a Mecca for palaeontologists and other assorted rock-hounds like ourselves, keen to visit the site of the world famous **Burgess shales**. An impressive visitors' centre with excellent interpretive displays and which sells everything from books and tee shirts to rock specimens has grown up in response to the volume of visiting tourists. A large telescope is permanently trained on the fossil ridge on Mount Stephen where the red marker posts used by scientists involved in mapping the outcrops can be clearly seen. Casual treks to the fossil sites are strongly discouraged and fossil collecting is strictly illegal. During the summer months a few specially led treks take people to the two most famous locations, the Walcott Quarry in the Burgess shales and the **trilobite** site on Mount Stephen. Both treks are arduous and require a high level of fitness. We made do with the two interpretive centres at Field and Lake Louise.

Probably the first hint of how rich this area was in fossils occurred during the latter part of the last century when the Canadian Pacific Railway was being built. A great deal of rock was blasted to make way for the railway and workers reported finding "stone bugs and critters" in the rocks. Geologist RG McConnel was sent to investigate in 1886. He found several species of wonderfully preserved trilobites on Mount Stephen.

Charles D Walcott was an established expert on the rocks and fossils of the Cambrian period. He was spending the summer of 1909 in Yoho National Park with his family studying Proterozoic and Cambrian rocks. Legend has it that his way was blocked by a large slab of slate. Typically, instead of moving the slab out of his way he reached instead for his rock hammer and split the slab open. The rest is history.

Walcott was familiar with many different types of fossils and had seen many 3-D impressions of shells and other hard body parts on his travels. The Burgess shales yielded something else previously unknown, fossil impressions of soft bodied animals such as **worms** etc, these were preserved as a dark film on the surfaces of the split rocks. Around 140 Burgess shale species have so far been identified. Around 85% of these are distantly related to groups of animals living today. The remaining 15% are regarded as evolutionary failures, destined for extinction. Walcott's collection is now held in the Smithsonian Institution.

The Burgess shales were formed in a Cambrian Sea around 530 million years ago. The plants and animals are thought to have been typical shallow water marine organisms of the times. What makes them exceptional is the amount of detail preserved, thought to be due to oxygen deficiency after burial in the surrounding sediments. The fauna included **sponges**, (**corals** had not yet evolved), **molluscs**, **brachiopods**, **annelids** and other **worms**, and **arthropods** such as the **trilobites** and **lace crabs**. Plant life was primitive **algal** growths.



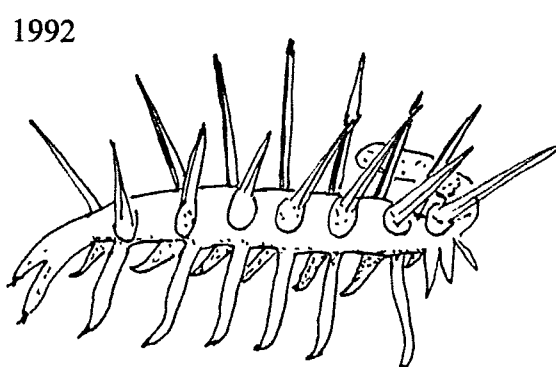
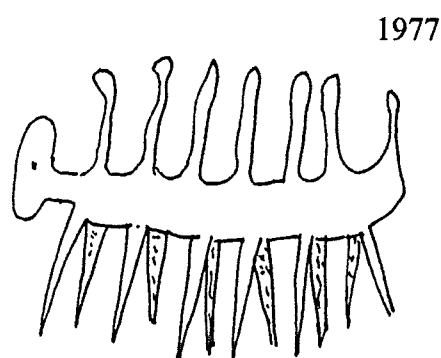
The intricate Lace Crabs, *Marrella splendens*, the most abundant fossil found

Harry Whittington, from Harvard University, an international authority on trilobites, approached the Geological Survey of Canada with the suggestion that a Burgess shale project be carried out as part of a wider review of Cambrian stratigraphy within the area. Walcott's quarry was re-excavated during 1966 and 1967 to record the exact levels where each fossil occurred. This project also enabled a collection of the fossils to be made for Canada. The project continued for a number of years during which Whittington moved to Cambridge University, England. In 1972 two graduate students, Derek Briggs (arthropods) and Simon Conway Morris (worms), were recruited to assist with reconstructing the anatomy of the fauna from the fossils. A great deal of painstaking work was carried out trying to work out the 3-D appearance of the animals and how they co-existed within the fossil communities. Walcott's original collection was extensively re-examined as part of this research.

With hindsight it was probably inevitable that some of this intricate detective work, invariably combined with guesswork where fossil parts were missing or indistinct, would result in the scientists getting some things wrong!

During his fairly brief but productive spell with the Open University Earth Sciences Department during the early 80's Simon Conway Morris was, among other things, assigned the task

of re-writing the fossil units for the Geology course. The Burgess shales were included and undergraduates like myself and others enjoyed Simon's hilarious accounts about his work, camped out in Yoho often in sub zero temperatures, and his painstaking reconstruction work re-creating the palaeo-environment of the Burgess shales' fauna. One particularly weird specimen apparently walked around on spikes. A line of tentacles on the animal's back were thought to be feeding appendages, presumably resulting in permanently chronic indigestion! Simon named this apparition "*Hallucigenia*" because of its "bizarre and dreamlike" qualities. Over the years *Hallucigenia* achieved considerable notoriety worldwide ultimately becoming a sort of icon for the Burgess shales.



Hallucigenia sparsa, the fossil and the 1977 and 1992 interpretations

Science moves on with techniques becoming ever more sophisticated. After Burgess several more Cambrian sites worldwide were found with similarly preserved fossils. I wasn't the only person to feel saddened when other palaeontologists, who were studying a group of Lower Cambrian fauna in Chengjiang, China, found similar creatures to *Hallucigenia*. These had two rows of spikes on their backs and two rows of well preserved limbs and appeared to be a type of worm, similar to the **velvet worms**. In 1992 a scientist called Ramsköld using new scientific techniques, re-examined the best preserved specimen of *Hallucigenia* and yes there were traces of another row of "tentacles" now regarded as walking limb appendages. *Hallucigenia* had previously been portrayed both upside down and back to front!

Back in Field in the summer of 1997, five years after this discovery, *Hallucigenia* is still depicted Simon style within the literature and on large posters and banners. There seems little doubt that whatever science dictates, people obviously prefer the original version!

Jenny Allan

Further reading:- The Animals of the Burgess Shale - Conway Morris/Whittington
(Scientific American)
The Fossils of the Burgess Shale - Briggs/Erwin/Collier (Smithsonian Institution Press)

THE OLD MAN OF THE WOODS

Several autumns ago on a fungus foray on the banks of the Tay at Inver, I came across the cap of a mushroom in rather poor condition. I was nevertheless convinced that it had been part of a rather rare species, *Strobilomyces floccopus*, its common name is the title of this article. Despite searching the area in question, I failed to discover the elusive - or should it be reclusive - 'old man'. Doubts about my identification of the mushroom were creeping in, when, in August of this year ('97), as so often happens, I almost stumbled across no less than 16 of them; ironically only yards from where I had found the first cap.



The sequel to this tale is that I wrote to Dr Roy Watling at the Royal Botanic Garden in Edinburgh. He was most interested in the find and said that it was the largest number in one group that he knew of and that it had not been found north of Blair Atholl. Another interesting facet of the story that I mentioned to Dr Watling was that it had been recorded by Beatrix Potter many years before in the area. He was aware of this connection and added that she had painted it a number of times during her early years when she lived in the Dunkeld area.

Gordon Maxwell

IT WAS WORTH IT, I TELL YOU!

29th November

It was the quickest bird finding I've ever done. We'd just got out of the car and I was piling on layers of clothing when we both looked up and at the same time saw the little grey bird sitting like a tiny gull on the water of the old tidal mill pool. "There it is!" we chorused. Our binoculars soon confirmed it.

We'd been concerned as soon as the car pulled in to see only two (but surely very keen!) bird enthusiasts huddled beside the water but looking rather unhappy and fed-up. "The bird can't be around?" we thought, "Dipped out again!" The reason became obvious as soon as the car doors were opened. A chill on-shore wind penetrated right through to breakfast, a mixture of rain and spray blew horizontally into our faces and green mountains of water pounded the rocks only yards away, sending white flecks of sea-foam scudding over the pool - not quite ideal birding conditions! The two birders were trying to shelter themselves and their telescope behind the remains of the information sign, but not very successfully. No wonder they looked a bit miserable.

But what the heck, the bird was there. We'd not come all the way to Crail to sit in the car and miss the chance of a good view of a **grey phalarope**. A number of Nats members had seen **red-necked phalarope** in Iceland in earlier years, in Fetlar this past summer, and even on the Barry Buddon scrape in autumn 1996. Neither of us had seen a grey phalarope, though, and we were made of stern stuff (weren't we?) - hence the multiple layers of clothing. On with the thermal jacket, cagoule, woolly hat, scarf, gloves, over-trousers and boots. Ah, the joys of twitching!

The bird was extremely obliging and paid no heed to the conditions nor to us. It was rather larger and certainly chunkier than the red-necked species, and the light grey back and almost luminous white chest, neck and head stood out in the gloomy conditions. Dorothy had trouble holding her telescope steady in the strong wind but was rewarded with clear views of the grey stripe down the back of the head and the dark eye patch, rather like a heavy coating of mascara that had started to run (not surprising, considering the weather!). To obtain a better view we edged closer around the other side of the pool. The only way to hold binoculars steady was to lie on the long grass at the edge of the golf course and the telescope lens had to be cleared of water droplets every few minutes, but it was all in a good cause. We had excellent views of the bird swimming, with little jerky movements of its head, in wide circles on the water and pecking through the masses of kelp and other seaweeds at the water's edge. The dark bill looked distinctly heavier than that of a red-necked. At times the phalarope disappeared behind large rocks and then energetically nipped out again to grab some small morsel. We couldn't see what the bird was eating but it seemed to be finding plenty to keep itself satisfied.

Suddenly it took off and flew up the pond past us. The white stripe on the wings appeared much more marked than on the diagram we'd studied in the book. It landed less than 30 metres away - terrific, even better views. We didn't move and it continued to swim and hunt. The head stripe was very clear and the eye at the upper edge of the dark area looked soft and friendly, like those of other phalaropes, but we couldn't quite make out the yellow patch that was supposed to be on the dark bill. However, by this time we'd had about as much joy as we could stand and Dorothy muttered "Let's have some coffee". Great, someone else with a one track mind - comfort and coffee! It was only 10 o'clock but time enough to beat a retreat.

After thawing out our gizzards and waiting for a break in the weather we walked right to the tip of Fife Ness and joined a small group of binos and scopes sheltering in the lee of the concrete shelter directly below the lighthouse. Above us the light was still, at that time of day, blinking its warning out to sea. Eventually someone located a key to let us in to the brand-new Fife bird club hide and we stood and watched there for half an hour in the vain hope of a good sighting of a **little auk**. Needless to say, one had flown past just offshore only a few minutes before we arrived!

Back to the pool and the little grey bird. Neither Dorothy nor I could leave without another good look but still had problems holding the telescope steady. We studied the phalarope carefully for a while and gradually other watchers joined the party. A number of times it swam in the tight circles of the supposedly classic phalarope feeding behaviour. The two of us again tried for a better view and moved to the other side of the pool. We crouched in the sand and the bird was obliging enough to swim confidently to less than about 10 metres away. At last Dorothy's telescope revealed the yellowish patch at the base of the bill; this one was a female. Our friend hopped onto the seaweed and finally showed us her dark legs but the lobed feet remained invisible. Considering the dull and very windy conditions we were very pleased overall with our excellent views. Superb. We'd be certain to recognise a grey phalarope if ever one presented itself again.

Before leaving we walked a short distance round the golf course and found a small and miserable-looking **grey seal pup** but it was lively enough. We kept well clear and can only hope that everyone else, especially dog-walkers, would also leave it alone. We could only hope, as well, that our very obliging bird would be able to join all the other sensible and self-respecting grey phalaropes in the balmy regions of the central mid-Atlantic. The poor weather of the last week had, presumably, done us a favour after all by holding this lonely bird at Fife Ness.

Jim Cook

BARRY BUDDON - SPRING 1997 REPORT

This spring has been an outstanding period for Barry Buddon, the best in fact since I became involved as a member of the conservation committee and organiser of the annual MOD bird count. My involvement with Barry Buddon over the last five or six years has been very rewarding and made me realise more fully what a wonderfully unspoilt area it is, fully deserving its status as an SSSI. It is also being considered as a possible Special Area of Conservation (SAC) because it contains habitat types and species which are rare or threatened within a European context.

Before outlining the ornithological highlights and activities which took place in spring 1997 I thought that an outline of the historical aspects of Barry Buddon may be of interest to members. The area has been used as a military training ground since 1865. It was purchased in 1892 and is currently the main training area in Scotland with its 22 ranges. The first lighthouse was built in 1687 and the present two, now disused, were built in 1866. Public access is pedestrian only and is permitted when there is no range activity (outwith the exclusion zone).

The MOD Conservation Group was established in 1975 with members from the MOD, the NCC (now SNH), the SWT and other local volunteer naturalist organisations such as the Tay Ringing Group. Meetings are held twice a year in spring and autumn and management plans of five year duration are agreed, one of which is currently in progress.

Large numbers of birds use the area during the course of the year and Barry Buddon is one of the sites where records have been collated from information taken from the MOD bird count, the BTO common bird census and by work carried out by the Tay Ringing Group. The western boundary is contiguous with Monifieth Bay SSSI (part of the potential Tay SPA Ramsar site) which is of

international importance for the numbers of wintering **eider** and **sanderling** and of national importance for overwintering **red-breasted merganser**, **bar-tailed godwit** and **ringed plover**

The 1997 MOD bird count took place during the period May 17th-27th, the object being to record all species seen and to establish whether they were breeding, passage or fly-over birds. The total number of species seen this year was 71 of which 39 were breeding. The season, with the help of easterly winds, proved to be exceptional for rare passage birds. The first was a superb male **subalpine warbler** which did prove elusive for some in its favoured **buckthorn** habitat. Next, near the mouth of the Buddon Burn, came one of my favourites, a lovely male **yellow wagtail** followed shortly after at the same location by a **Temminck's stint**, the second in three years for Barry Buddon. The good run continued with a female **red-backed shrike** and a single **long eared owl**. Last, and by no means least, was my discovery of a female **red-necked phalarope** on the evening of Friday 13th June (lucky for some!) on the Yeomanry Pond, the wader scrape created only last September by the Hampshire Yeomanry Brigade. This scrape will hopefully continue to attract passage waders on migration and to be used by resident birds.

The annual Nature Open Day, the joint outing of the local groups of the RSPB, SOC, SWT and the Nats, was held this year at the earlier date of June 15th. It was a great success with 33 people turning out, proving once again that those members attending do really appreciate the opportunity of visiting Barry Buddon on this special day. They were to be rewarded with sightings of 42 bird species and seven butterflies including **small pearl bordered fritillary**. The botanists, ably led by Margaret Duncan, had a field day with many **orchid** finds as well as the 'Buddon specials'. Another excellent sighting was a **Mother Shipton moth**, reported by Adam Garside, last seen on Buddon in 1979!

So there you have it, an exciting, eventful season. Barry Buddon is an area of natural history treasures which will continue to give us endless hours of pleasure in the future.

Bob McCurley

TAY RINGING GROUP

A request for your help

The following letter has been received by the Society

Dear Secretary,

Would it be possible for your group to assist the Tay Ringing Group in gathering information on birds with rings found by your members and submitted to the BTO or British Museum

Unfortunately the BTO do not inform us of birds that are ringed by other ringing groups and subsequently found in our area. It would be helpful if any member of Dundee Naturalists should receive the relevant information on a recovery from the BTO which was not ringed by the Tay Ringing Group if they would send a copy of the details to Mike Nicoll, Barrack Street Museum, Dundee. Thank you.

Yours sincerely,

David Arthur

MILLENNIUM

If any member has any ideas for a way for the Society to mark the millennium please tell any council member. Thank you.

W N A T U R A L H I S T O R Y M



As many of you will know, the Natural History Museum, Barrack Street, Dundee has a computerised wildlife database [Naturebase] which covers the local area.

We are always interested in obtaining any records for inclusion in this project. They can be brought or sent to the museum as extracts from your field notebooks or on one of our many recording forms. The computer is best at processing long lists of species very quickly where details of Locality (with Grid reference), Date and Observer remain constant. All records are welcome, and recording forms are always available at the museum.

Further Information.-
Telephone 01382 432069

