Dundee Naturalists' Society

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DUNDEE NATURALISTS' SOCIETY

Annual Bulletin 1979 - 80 No. 4

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EDITORIAL

It is with regret that the post of Honorary President is now vacant. This is due, as many of you will know, to the death during last year of Professor D. Rutherford - Dow. Professor Rutherford-Dow had had a long association with our society and will be greatly missed.

The Society continues to thrive however with many new members joining our ranks. Another encouraging aspect is that many more of our members are not only coming to the meetings and outings but are taking active part in the surveys and other facets of society life.

We look forward, at this time, to the summer months with, as usual, a well balanced programme of outings to suit all tastes. We also look forward to further close contact, throughout the year, with other like minded groups, such as The Scottish Wildlife Trust, The Scottish Ornithologists' Club and The Royal Society for the Protection of Birds.

Finally we have strayed from the now normal method of recording our meetings and outings in the bulletin by having "Potted Histories" of the various summer venues compiled by different members and also having a longer article, embracing all the winter topics, also compiled by one of our members.

SUMMER OUTINGS 1979

Sat. April 21st	Edinburgh Botanic Gardens
Sat. May 5th	Arbroath - Auchmithie - cliff top and shore walk
18th/20th May	Ayr weekend
Sat. May 26th	Wormit or Balmerino/Birkhill. Woodland ramble
Sat. June 2nd	Glen Tilt Trail - glen walk
Sat. June 16th	Bass Rock
Sat. June 30th	Loch Brandy & Loch Wharral - high plateau walk
7th/14th July	Bettyhill
Sat. July 21st	Tentsmuir - visit to Nature Reserve
Sat. Aug. 11th	Glen Fincastle - moorland walk
Sat. Aug. 25th	Glen Clova/Glen Prosen - hill walk
Sat. Sept. 15th	Black Wood of Rannoch - woodland walk
Sat. Sept. 29th	Kingsbarns - sea shore walk

ARBROATH TO AUCHMITHIE

Owing to the late spring, wild flowers were not blooming in abundance during this walk on 5th May 1979. The bravest show was provided by carpets of lesser celandine (Ranunculus ficaria) on the marshland slopes of the first bay on the nature trail. These are accentuated by the deep gold of marsh marigold (Caltha palustris) and the contrasting pale yellow primrose (Primula vulgaris) flowers were easily spotted from a distance. The plants which usually dominate the scene along the path and down the cliffs, such as scurvy grass and sea campion, were not so evident on this occassion.

The leader, J. Cook, concentrated on the interesting rock formations of the area. The sea, and the tilted horizontal stratifications of Old Red Sandstone and conglomerate with their cracks and faults, have together created the magnificent cliffs, coves, caves, arches and pinnacles and shingly beaches which characterise this coast.

The calcareous sandstone provides a home for an unusually wide range of plants (and snails). Its inaccessible nature protects plants from people and ploughs, and provides ideal nesting sites for numerous sea birds. Bird spotters in the party found a good number of species to interest them.

Close contact with the rocks was achieved during the negotiation of the two caves at the northern end of Carlinheugh Bay - a highlight of the day. The few members equipped with torches were stationed at intervals along the dark 70-yard cave to light the way for others - but there were one or two bumped heads!

Those who reached Auchmithie early enough were rewarded with a collection of seaweed, starfish and sea urchin specimens gathered by Dr. Bennett and his divers and held in a tank for examination before being returned to the sea.

M.D.

AYRSHIRE WEEKEND - 18/20TH MAY, 1979

46 members took part in our spring field trip which in 1979 was spent exploring the Ayrshire countryside. Our very full programme commenced on Saturday morning with a visit to the small coastal village of Dunure. Dr. Kirkwood, the President of the Ayrshire Branch of the Scottish Wildlife Trust joined us there and guided us along the beach pointing out the plants of special interest and explained the manner in which sand dunes are formed.

Undoubtedly the highlight for the botanists among us was the drifts of spring squill (Scilla verna) which abounded on the landward facing banks above the dunes. At lunch time we moved on to the Culzean Country Park which has been formed in the grounds of Culzean Castle. Some members enjoyed a guided tour of the Castle before embarking on a ramble of the park itself escorted by two of the Rangers. No sooner was dinner devoured at the Sundrum Castle Hotel (our base for the weekend) then we were whisked away to the West of Scotland Agricultural College at Auchencruive. A member of the staff outlined the aims of the college and illustrated these during our tour of the glasshouses, demonstration plots and trial beds cultivated by the horticultural students during the course of their training.

On Sunday morning our first destination was the Nature Trail at Enterkin Wood (leaders Dr. Kirkwood and Mr. David Gwynne, the Secretary of the local branch of the S.W.T.) At first glance this was a most attractive beech wood with a ground cover (among other plants) of bluebells and wood anemones; but there were pointed out to us signs of interesting animal life as well - roe deer tracks through the woodland, tell-tale stripped fir cones evidencing the presence of squirrels, and badger tracks leading to their easily identifiable sett, including one track which crossed a stream by means of a fallen tree.

Our final call of the weekend was at the R.S.P.B. Nature Centre at Lochwinnoch, near Beith. The visit was too short for many of the birds known to frequent the area to make their appearance, but we were surprised to see the somewhat unusual sight of cormorants sitting motionless on stumps of wood protruding from this fresh water loch.

The success of this weekend illustrates how much the Dundee Naturalists' Society owes to the cooperation of members of other bodies of nature lovers, by enabling us to see so much of interest in unfamiliar territory in such a short space of time.

GLEN TILT TRAIL R.E.A.

On a beautiful sunny day in June the Society paid its first visit to the Glen Tilt Trail which begins behind the Blair Atholl Caravan Site. The trail penetrates five miles into Glen Tilt providing a delightful walk of 10½ miles for the energetic; alternatively a convenient bridge allows a more leisurely stroll of 4 miles. The route commences at the riverside among stately beech trees with glimpses of the parkland around Blair Castle and moves along through a plantation of Japanese larch and out on to open grass land with grazing sheep. In this area potatoes and turnips were introduced around 1750 as experimental crops for winter use as animal fodder. Very now and again ruins provide evidence of former settlements in the glen. Near the furthermost point of the trail a view can be obtained of the glacially-gouged U-shaped trough of upper Glen Tilt which was the old route through to upper Deeside used by cattle drovers on their way to the gathering point at Kirkmichael.

On the homeward leg walkers pass the rock outcrop which produces the attractive green-streaked Glen Tilt marble used nowadays for ashtrays, knife handles, etc. In the past it was quarried for larger objects such as the great fireplace in the entrance hall of Blair Castle. Although this part of the glen appears to be completely natural with heather and rough grass clothing the steep sides, close examination will reveal shallow water-filled depressions which are the remains of lint-pools used about 150 years ago in the production of flax. The crop was mainly tended by the women and in due course spun beside the cottage fire. Several spinners supplied one Weaver and the Highland linen was well-known for its good quality.

The path continues down the glen past a shepherd's cottage and wooded areas of birch, the timber of which the glen folk put to so many uses in the past - from domestic utensils to house construction. Even the twigs were put to such diverse uses as pe and harness making and road bottoming when crossing boggy ground. Habitations are few and far between nowadays though in 1700 several hundred people obtained a living in the glen.

The last part of the trail follows the public road through Fenderbridge and crosses the river by the Old Bridge of Tilt constructed in 1734 by General Wade.

Our group thoroughly enjoyed the walk with its many and varied views, and the botanists among us were thrilled to find lily-of-the-valley (Convallaria majalis) and herb paris (Paris quadrifolia) along the way. All were ready for a meal and several cups of tea when Blair Atholl was reached again.

J.L.T.

THE BASS ROCK

The Bass Rock is the most famous & spectacular of the Forth bird islands. It is reached by boat from North Berwick, and is a privately owned Nature Reserve. Interested individuals or groups can obtain special permission to land, as our Society did on 16th June 1979.

The Rock is a precipitous small rocky island, towering 100 metres above the sea, a remnant of a volcano active 320 million years ago. Only the hard lava neck of the volcano, composed of Phonolite, remains, the slopes of softer ash and sediments were eroded away over millions of years. A cave runs right through the Rock.

The Bass Rock is rich in history and legend. St. Baldred is said to have been the first human inhabitant, in the 6th Century, and a ruined chapel still stands on the site of his cell. Soon after the first chapel was built, the Rock became a fortress which saw many sieges over the centuries and was captured by various attackers several times. In the 17th Century it became a prison for Covenanters. The castle ruins were still impressive, and modern visitors must pass through the old gateway after landing. In former times they had to climb from the boat by rope before hauled up in an open basket. There is a lighthouse and huge foghorn. These were built in 1902 at a cost of £8,087, 10s. 4d.

Only 44 species of flowering plant are recorded from the Bass Rock, but it is an interesting plant community, noted for the rare tree mallow (Lavratera arborea), which grows up to 3m high, and the sea beet (Beta vulgaris ssp. maritima). Lichens, mosses, algae, and fungi also grow, but the sides of the Rock are mostly too steep and exposed to support much in the way of seaweeds. At one time, sheep were pastured on the Rock, but the introduction of rabbits destroyed the grazings. In the 1950's the entire rabbit colony was wiped out by Myxamatosis and the plant life began to recover.

An interesting animal is (Helix aspersa) the common garden snail, which is very common around the lighthouse-keeper's gardens. It is possible that they were introduced by French soldiers garrisoning the fortress, but they are probably native, as this species is found along the East Lothian mainland coast.

It is the seabirds that make the island famous; gannets, fulmars, shags, herring gulls, lesser black-backed gulls, kittiwakes, razorbills, guillemots (common and bridled varieties), puffin, blackbird, dunnock, rock pipit and linnet are all breeding birds, and most of these were seen by the visiting Naturalists. We also added a new one to the list: a nesting eider duck. Other birds land on the Rock as passage migrants or occasional visitors, notably Scotland's lone black-browed albatross, a stray from the Southern Hemisphere. The best known of these birds is the gannet. The gannetries are not the biggest in Britain, with over 10,000 breeding pairs (Ailsa Craig has 15,000 and St. Kilda 60,000), but it is the most famous, and like the others is growing fast. The gannet gets its specific name, (Sula bassana) from the Rock. For many centuries until the end of the 19th Century, the gannets were exploited for meat, oil, eggs, and feathers. Countless thousands of eggs and young were collected. In the mid - 19th Century young gannets fetched just 6d. each, but the tastier eggs sold at 6 shillings a dozen ! Today they are the subject of a number of research projects. The increasing size of the colony means that the cliffs are overcrowded and the birds are overflowing into the clifftop. The gull population on the grassy top of the Rock is also growing fast, and the nesting gannets and gulls pose a new threat to the vegetation and other nesting sea-birds.

Probably culling of the birds will soon be necessary in the interests of conservation, as on the Isle of May.

However, the Bass Rock is still a most interesting place to visit, even if it is seen only from one of the pleasure-boat sailings round the island in summer.

Many books and articles have been written about the Bass Rock and its birds, but for introductory reading I recommend "The Bass Rock" published by East Lothian County Council Education Committee, 1974 (20p), which has a good bibliography for further reading.

C. McL.

BETTYHILL

Bettyhill lies on the north coast of Scotland. On a clear day, from a point nearby one can see from Cape Wrath to Dunnet Head and north east to the Orkney Island of Hoy. The Sutherland landscape is flat with plenty of lochans and mountains that rise suddenly from the plain. The area is interesting geologically, archaeologically and botanically.

Near Bettyhill the alpine flowers and plants grow at sea level. This is because of the climate as well as the soil. The long cold summer days and short winter ones, the exposure to strong winds and the lime rich shell borne sand give them a suitable habitat. In the Strathnaver Nature Reserve just across the Naver from Bettyhill are a wide variety of alpines and unusual plants growing. The curved sedge (Carex maritima) - grows in abundance on sandy slopes near the river. Higher up the sand dune cliff is protected from erosion by the mountain avens (Dryas octopetala) still higher near the old broch the dark red helleborine (Epipactis atrorubens) grows. Closer to Bettyhill grows the lovely Scottish primrose (Primula scotica) - with its rich pink petals and golden centre, little more than an inch above the ground. The sight of a sand dune cliff covered with purple mountain milk-vetch (Oxytropis halleri) - is not easily forgotten. There is the pale butterwort (Pinguicula lusitanica) - to be found on marshy ground, though admittedly the common butterwort (P. vulgaris) is more handsome. There was moonwort (Botrychium lunaria) - and sea spleenwort (Asplenium marinum) growing, one on the sand dunes the other on the sea splashed rocks at Bettyhill. Field gentian (Gentianella campestris) - is another plant which grows in profusion on sand dune hills and cliffs.

On the lower slopes of Ben Loyal the dwarf birch (Betula nana) - grows, usually in a circle. In the centre of this very often grow the hybrid birch, a hybrid of Betula nana and B. pubescens odorata. These are of especial interest to the professional botanists not far from this is a profusion of dwarf cornel (Cornus succicum) - which is the badge of our society. These named are only a selection of many more. The archaeology and the ornithology would need another article. A most worthwhile and rewarding area for a naturalist to visit.

E. McC.

GLEN FINCASTLE

To be such a small glen, Fincastle, south east of Blair Atholl, holds much to delight the naturalist.

I first saw it one hot July week-end, camping by the Fincastle burn where dippers were nesting. Late at night two large hares "danced" on a hill performing a strange ritual, with high-pitched cries. Since then, there have been other surprises. Kestrels and buzzards at various times, wheatears, stonechats and herons from the heronry near Tulloch Hill. Some Dundee naturalists have been wildcats reared by the McArthurs of Drumnagowan Farm and on Tulloch Hill, the surprise of a limestone bridge, or pavement, though small by Hutton Roof standards. Here also, is one of the old drove roads and Bonskied House at the foot of the glen is a latter day castle. Fincastle takes its name from having anciently contained no fewer than fifteen castles.

Near Tulloch Hill is the ruin of a Victorian folly, cleverly situated on a rise which gives an almost perfect panorama of mountains.

Bleak in winter, Fincastle blooms into a rich lushness from May onwards showing its variety of flora ranging from orchids, insectiverous plants, a multitude of grasses and a wintergreen to the many common wayside plants. But the former inhabitant of Fincastle House, the Hon. Mrs. Barber, a descendant of Walter Scott, has chronicled the history of Fincastle and its plant life in far greater detail than this brief summary - and to her we owe our thanks for having visited this glen in 1979.

M.W.

WINTER MEETINGS 1979/80

The Art Galleries were bursting at the seams on October 9 for the opening of the Naturalists' Society winter season, when Dr. Jeremy Greenwood, leader of Dundee University expedition to Greenland, charmed us with his transparencies showing the stark beauty of the frozen wastes. He was followed on October 23 by Dr. Peter Gibb, with his lucid talk on bat and beetle pollination of Brazilian flowers.

A late-autumn outing to Vane farm on November 3 to see the geese of Loch Leven left everybody well drenched and half frozen. Back to the lecture hall on November 13 when Mr. Duncan I. McEwan overcame travel problems to give a remarkable display of bird, insect and flower photographs at breakneck pace, while Richard Brinklow waited with a fast car to rush him back to the station!

"Coral Reefs" was the subject of Dr. C.J. Braithwaite on November 27 (why did we keep dreaming of South Sea holidays?). Our joint meeting with the R.S.P.B. on December 11 brought Mr. John Hunt, assistant regional officer, to speak on the future of birds in Scotland.

The New Year saw our own members to the fore. Mrs. Joy Ingram had loads of splendid pictures of New Zealand to show on January 8. Then on January 22 we enjoyed a variety of slides shown by members ranging from teenagers to the more mature members, with Brian Allan as the imperturbable linkman. It was the turn of our vice-president, Adam Ritchie, on February 12, to share with us his thrilling six weeks in Northern Territory of Australia.

Professor C.M. Brown was unable to give his talk on the microbiology of brewing and distilling on February 26, but a very able substitute was Dr. R.A. Herbert, of Dundee University, who showed a stunning collection of slides to illustrate his recollections of an expedition to the Antarctic.

There followed a joint meeting with the Scottish Wildlife Trust, when Ekkehard Glode came from Germany with wonderful pictures of the birds of the sea marshes and islands of the North Sea.

R.T. McL.

STREAM SURVEY - SUMMER 1979

During the late summer and early autumn of 1978 the Society's intreped band of stream surveyors examined the Dighty stream in some detail, looking for those "creepy-crawlies" that would indicate the state of the water. These indicator organisms, as they are known, can be used to determine the relative levels of pollution by sewage or other organic wastes in the water.

Starting in the early summer of 1979 we cast our net wider and guddled around in the other streams around Dundee. In fact by the end of the summer the stream survey group had had a look at all the major burns, and fair number of the tiny tributaries, between Elliot, near Arbroath, and Invergowrie to the east of Dundee. The summer survey programme was a great success - nobody fell in or, to be more truthful, nobody was pushed. Everybody got on well.

The survey technique was kept as simple as possible. The party of surveyors worked as two separate groups for much of the time to speed up the work rate and to prevent surveyors getting in each others way. It was found that survey groups of between and 6 members were ideal. A number of sites were picked from the map to be at half-mile to one-mile intervals along the burn and each of these sites was visited in turn. Sometimes it was impossible to reach the water because of the steepness of the banks, or the thickness of the vegetation or perhaps because there wasn't any water in the stream bed. If this happened the surveyors moved to the nearest site where they could get their feet wet. On average, between 15 and 20 minutes was spent at each survey site upturning boulders, sifting through sand and mud and carefully searching the vegetation in the water and along the side of the burn for a distance of about 20 metres on either side of the survey point. The presence of clean water was indicated by large numbers of may fly or stonefly nymphs and even, on the odd occasion, by tiny trout in the nets. Increasingly polluted water contained, in order, caddisfly larvae and freshwater shrimps, water hog-lice, bloodworms and sludge worms. The nature of the stream-bed, the approximate rate of flow, and the colour and smell of the water were also noted on the record sheet.

The survey teams found that the water quality as indicated by the stream fauna of the burns around Dundee was fairly good, in places very good, but run-off from cattlesheds, silage pits, cattle drinking areas decreased the purity of the water along short stretches. These pollution sources did not seem to have a major effect along the hole lengths of the burns.

I am greatly indebted to all the enthusiasts especially, Mr. A. Garside of Dundee Museum and his temporary assistant Mr. D. Smith.

J.C.

ROADSIDE VERGE SURVEY

The survey of the random roadside verge sites was completed last summer. A total of 70 verges were selected, distributed vandomly throughout Angus on the basis of one on each A, B and C class road per 10 kilometre square on the map. The surveyors marked out a 30 metre long strip on the selected verge and, after noting the physical characteristics, recorded the plant species growing there. Four separate survey groups were operating at peak times, although the maximum number of sites examined in one day was the 16 verges surveyed by only two pairs of enthusiasts.

Although the first part of the survey has been completed - and currently the results are being processed before being sent to the Scottish Wildlife Trust, the survey of the special interest verges has not been finished yet. Volunteers are needed to help with the estimated 10-15 sites in the early summer. If you are interested in this survey or in the other field work this summer please contact either Mr. J. Cook or myself.

B.A.

BRIGHT LIGHTS IN THE WOODS

Bright lights in the woods of Dundee and Angus. Is it a white witch coven - No! It is the Dundee Naturalist Society. Moth catchers at work, adding to the knowledge of the areas insects.

Most moths fly at night and are attracted to light, especially ultra-violet. They land on a white sheet placed near a light by the moth catchers, who nab them as they land.

Poor weather last summer resulted in fewer moths than expected, about 100 of the 240 recorded in this area, and 10 of the 30 butterflies recorded. Moths need warm weather and butterflies need warm sunshine for flight.

BUTTERFLIES AND MOTHS IN DUNDEE AND ANGUS, IN 1979

The butterflies seen in this area were mostly common, some of a rather local distribution being found only in a few places.

The common species were:-

Small tortoiseshell; large, small and green-veined whites; small copper and small heath. Usually found almost everywhere.

The local species were:-

Dark green and small pearl bordered fritillary; ringlet and grayling. Restricted but found in open areas of heath and near woodland.

The moths found were again mostly common, some interesting local species and seven new records were found.

Many species were found almost everywhere at a number of inland sites; Backmuir, Templeton and Douglas Woods; Balgay Hill; Auchterhouse; Lairds Loch; Caenlochan Glen and Wellbank. Some examples of the species caught are:-

Silver ground carpet, green carpet, common white wave, shaded broad bar, common carpet, garden carpet, yellow shell, scalloped oak, mottled beauty, light emerald, swallow prominent, garden tiger, garden dart, turnip dart, heart and dart, large yellow underwing, antler, true lovers knot, ingrailed clay, smoky wainscot, brown spot pinion, sallow, mouse, plain golden Y, and snouts.

Some were found mainly on the coastal strip from; Barry Buddon, Carnoustie, Kingoodie and Arbroath. These were:-

White-line dart, archers dart and light arches. Some were found associated with pine woods, these were:-

Bordered white, grey pine carpet and pine carpet.

Those of local distribution, being found in restricted places were:-

Small dotted buff, latticed heath, mother shipton and chimney sweeper - From woodland and open heath.

The new records for Angus and Dundee were:-

Hedge rustic, straw underwing, grass rivulet, tawny barred angle, blue bordered carpet, red northern carpet and canary shouldered thorn. The royal mantle moth was also taken, confirming a doubtful record of 1851.

A.G.

ELIMINATION PUZZLE
(with due acknowledgements to The Sunday Telegraph)

Below are listed 16 places or areas to which the Dundee Naturalists have gone on summer outings or weekends. Alongside are listed 33 items - birds, plants, events etc.. Try to allocate 2 of these items to each excursion. If you succeed, there will be one item left over. Which is it?

If you haven't been to some of the places, ask your friends who may have been, before looking at the answers on page 10. If you're a new member, at least you'll know now of just a few of the places we get to, and the things we see.

a) St. Cyrus
b) Ben Vrackie
c) Vane Farm
d) Tentsmuir
e) Bettyhill
f) Ayr
g) Auchmithie
h) Loch Muick
i) Elie & Kilconquhar
j) Glen Esk
k) Keltney Burn
l) Tilt Trail
m) Newtonmore
n) Loch of Lowes
o) Elliott
p) Bass Rock

1) Osprey
2) Moss campion
3) Small white orchid
4) Primula scotica
5) Puffin
6) Forest on fire
7) Duke of Argyll's tea tree
8) Fulmar
9) Nottingham catchfly
10) Gannet
11) Site of extinct volcano
12) Badger tracks
13) Herb Paris
14) Kingfisher
15) Dianthus deltoides
16) Sandwich tern and arctic tern
17) Whooper Swan
18) Astragalus alpinus
19) Butterfly orchid
20) Dark red Helleborine
21) Stone Bramble
22) Little gulls
23) Helicopter rescue
24) Long tailed tits
25) Scilla verna
26) Common tern and little tern
27) Oxytropus halleri
28) Pinkfooted geese
29) Dwarf Cornel
30) Dead adder on path
31) Naturalists paddling
32) Peregrine falcon
33) Kittiewake

ACCOUNTS - 1979-80

Income		Expenses	
Bank balance 1978-79	£345.90	Insurance	£ 17.31
Subscriptions	£250.75	Advertisements	£ 31.23
Badges	£ 23.00	Council for Nature	£ 15.58
Half share sale of Cross books	£ 43.75	Printing	£ 56.44
Dividend on War Bond	£ 00.87	Stationery	£ 7.37
Bank interest	£ 37.95	Postage	£ 48.10
Sale of flower lists	£ 7.92	Donations (S.W.T. R.S.P.B. etc.)	£ 16.00
Credit balance Ayr weekend	£ 10.40	Lecturers' Expenses	£ 27.69
Miscellaneous	£ 1.00	Officebearers Expenses	£ 12.93
		Hire of film	£ 10.89
Total	£721.54		
Expenses	£243.54	Total Expenses	£243.54
		Bank	£478.00
Bank	£478.00		
	=======		£721.54
			=======

£50 War Bond nominal value £10.

Summer outings separately accounted

Income £1,602.52 Expenses £1,602.52

717 members travelled. Average 60 members per outing.

N.S. Reid, Treasurer

SOLUTION

Item 14) is left over after pairing as follows:-

a) 9,15 b) 18,27 c) 17,28 d) 16,26 e) 4,20 f) 12,25 g) 8,33 h) 23,29
i) 11,22 j) 2,30 k) 3,19 l) 13,21 m) 6,32 n) 1,24 o) 7,31 p) 5,10