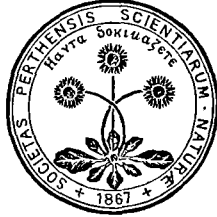


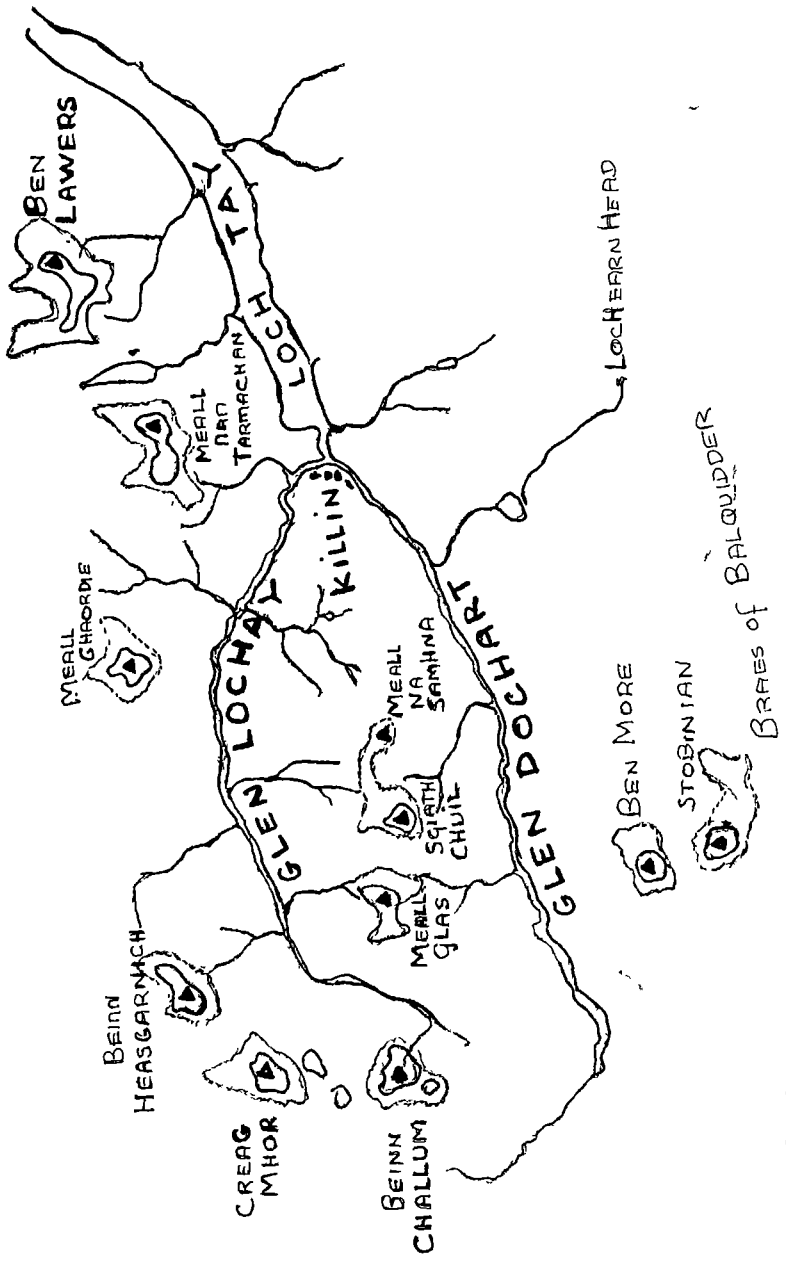
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BOTANICAL SECTION

Bulletin Number 10



AN ALPINE FLORAL TOUR OF THE GLEN LOCHAY VALLEY, IN THE
SCOTTISH CENTRAL HIGHLANDS - WITH JACKIE MUSCOTT AS YOUR
GUIDE

(From an illustrated talk given to the Botanical Section
in October 1985 in the Museum, Perth)

This tour is confined spatially to the valley of the
Lochay River and its surrounding heights. However the
terms "alpine" and "flora" are interpreted somewhat
loosely: plants from the lower levels are included, as
indeed are some non-flowering plants - not to mention a
few insects!

Glen Lochay lies to the west of Killin and to the botanically more famous Lawers range of hills. To the north-east of the Glen stands Meall nan Tarmachan the most westerly of the Lawers range. If we start a circuit of the Glen Lochay hills from this point, we come first to Meall Ghaordie, then traverse a series of lower tops to Beinn Heasgarnich, which brings us to Crean Mhor and Beinn Challum at the head of the Glen. Beinn Glas, Sgiath Chuil and Meall na Samhna complete the circuit on the south side. I have walked on all these hills but have yet to botanise Beinn Challum and Meall Glas, and indeed my first botanical trip to Creag Mhor was with the PSNS Botanical Section this year (1985).

A good position from which to view the area is the top of Beinn Heasgarnich. From here one can see the steep grassy ridges of the surrounding hills, some of the alpine cliffs on Creag Mhor, the peat-covered plateaux of the north and east, and the meadows and woodland in the valley bottom. The botanical richness of the area can be attributed to the underlying rock which is base-rich and crumbly: part of the band of mica-schist which extends from Ben Lui in the south-west to Glendoll in the north-east. In places the rock is overlaid with peat, giving

a typical heathland vegetation, while higher up the climate (with snow cover for around 6 months of the year) ensures the survival of an arctic-alpine plant community.

We start the tour from the roadside. Although it is a recent immigrant to Britain I could not resist including a large patch of bright yellow Monkey Flower (Mimulus guttatus) which can be found in a ditch some way up the Glen. The real journey starts lower down however where many attractive tall herbs can be found by the roadside and among the remnant woodland - one of the most handsome being Melancholy Thistle (Cirsium helenoides). These delightful "herbaceous borders" attract many insects on a fine day - the Common Blue butterfly and Chimney Sweeper moth among them. Also to be found is a small coppery beetle which I have tentatively identified as the Garden Chafer.

Immediately above the road are some lush meadows. An interesting find there is Spignel (Meum athamantum), while in the wet areas the Broad-leaved Cotton Grass (Eriophorum latifolium), Yellow Sedge (Carex demissa) and Quaking grass (Briza media) all indicate flushing from the basic rocks above.

As we continue uphill we reach flatter ground where peat has been laid down, and the vegetation changes to a typical heathland flora: Calluna, Erica and Vaccinium species, with Common Cotton Grass (Eriophorum angustifolium) and Star Sedge (Carex echinata) in the wetter areas. This acid vegetation, only too familiar to the Scottish botanist, is important in the European context where Calluna heath is relatively uncommon. Two interesting plants can be found tucked in among the heather, Chickweed Wintergreen (Trientalis europeaus) and Lesser Twayblade (Listera cordata) - the latter small inconspicuous and easily overlooked. Both plants are indicative of former woodlands covering the area.

On a sunny day one should be able to see Small Heath, Meadow Brown and Fritillary butterflies on these lower slopes.

Peat deposits result from poor drainage, so as the slope steepens the heathland is replaced by upland grassland. One of the most common upland grasses is Viviparous Fescue (Festuca vivipara) a plant which reproduces entirely vegetatively. Tiny plantlets are grown on the flower-head instead of the normal seeds, plantlets which are genetically identical to the parent. A number of other alpine plants have adopted this type of reproduction (sometimes retaining the option of sexual reproduction as well), presumably because of the problems of fertilisation and seed-setting at high altitude. A plant which "has it both ways" is Alpine Bistort (Polygonum viviparum) which produces normal flowers at the top of the flower-spike, and tiny bulbils lower down - the latter again being clones of the parent. Drooping Saxifrage (Saxifrage cernua) which is found on Lawers (but not so far on the Lochay Hills) is similar. A fairly common non-flowering plant which also adopts this strategy is the Fir Clubmoss (Huperzia selago) which can be seen growing plantlets as well as spore cases.

The summit ridges provide a number of different habitats: fairly sheltered grassland, exposed tops, rocky areas and steep alpine cliffs. The wetness or dryness and the length of time the snow lies also affect the vegetation. The commonest high-level "flower" is probably Alpine Lady's Mantle (Alchemilla alpina), while a high-level grass able to withstand snow-lie is Mat Grass (Nardus stricta). A Tough grass disliked by sheep, it nevertheless provides food for the caterpillars of our highest-flying butterfly, the Mountain Ringlet, usually found at over 2000 feet.

Wet basic areas are likely to be bright with Yellow Mountain Saxifrage (Saxifrage aizoides), a plant sometimes found at lower levels, where, brought down by

mountain streams it colonises disturbed ground. The dwarf alpine form of Marsh Marigold (Caltha palustris) is another plant of wet patches or guillies, as is the alpine form of Thyme-leaved Speedwell (Veronica serpyllifolia humifusa) which, in contrast to the marigold has much larger flowers than its lowland counterpart.

A wet area near the top of Meall na Samhna contains the rare Alpine Rush (Juncus alpinus) together with other more common plants of basic (and less basic) flushes: Three-flowered Rush (Juncus triglumis), Separate Sedge (Carex dioica), Common Sedge (Carex nigra) and C. echinata and C. demissa. Marsh Horsetail (Equisetum palustre) and Marsh Arrow-grass (Triglochin palustris), which do not normally occur quite so high up complete this interesting group of plants.

This summer (1985) a damp area on Creag Mhor revealed a little - known member of the Cyperaceae, Kobresia simpliciuscula. The plant, which Dick David would probably describe as a "failed sedge" was recognised by Nick Stewart, and may be more common than is realised. It is easily missed when growing among other small sedges and grasses. I certainly would not have spotted it.

Plants of somewhat drier basic grassland include the Mountain Pansy (Viola lutea) which despite its name (lutea means yellow) is usually purple, and the delicate Hair Sedge (Carex capillaris). Lesser Clubmoss (Selaginella selaginoides) and the attractive little fern Moonwort (Botrychium lunaria) can also be found hiding in the grass, as well as on alpine ledges. In really dry areas Wild Thyme (Thymus praecox) is frequent, while in exposed situations pink cushions of Moss Champion (Silene acaulis) can be found hugging the ground. Typical plants of areas where the snow lies late are Mossy Cyphel (Minuartia sedoides), Dwarf Cudweed (Gnaphalium supinum), and Sibbaldia (Sibbaldia procumbens), the latter a cousin of the Cinquefoils, with three-toothed bluish leaves and inconspicuous yellowish flowers.

We come at last to what many will consider the most interesting habitat of these mountains - the alpine cliff-ledge. The best cliffs are usually on the north or east sides of mountains, but there are exceptions (notably on Ben Lawers itself). Many alpine cliffs contain plants not regarded as alpine but more natural to valley-floor and woodland. On the Lochay cliffs for instance Wood Anemone (Anemone nemorosa) and Wood Sorrel (Oxalis acetosella) can often be found, together with various woodland ferns. Moschatel (Adoxa moschatellina) and Dog's Mercury (Mercurialis perennis) are rather less common.

Some attractive herbaceous plants which grow on the lush ledges include Globeflower (Trollius europaea), Wood Cranesbill (Geranium sylvaticum) and Goldenrod (Solidago virguerea). The Frog Orchid (Coeloglossum viride) can also be found there, as can Blue Sesleria (Sesleria albicans) a grass of limestone pastures.

Among these "intruders" may be found the true alpines. These include many beautiful flowers; Mountain Avens (Dryas octopetala), Alpine Cinquefoil (Potentilla crantzii), Alpine Bartsia (Bartsia alpina), various Saxifrages, and our loveliest speedwell Veronica fruticans, the Rock Speedwell, with its vivid scarlet "eye". But we must not forget the less spectacular plants, such as the Black Alpine Sedge (Carex atrata), and the very rare Scorched Alpine Sedge (Carex atrofusca), which has a site on the western hills. The Two-flowered Rush (Juncus biglumis) is also an exciting find.

Non-flowering plants are represented by ferns such as Holly Fern (Polystichum lonchitis), Green Spleenwort (Asplenium viride) and Brittle Bladder Fern (Cystopteris fragilis), all lime-lovers. Brittle Bladder Fern is quite common and is not confined to mountain habitats - unlike its much rarer cousin, Mountain Bladder Fern (Cystopteris montana), which also has several stations in Glen Lochay. Interestingly Mountain Bladder Fern is not to be found on Lawers; nor is Mountain Avens nor

Alpine Bartsia. Lawers despite its great richness does have some gaps in its flora.

Some of the plants mentioned above are quite rare, but others like Roseroot (Sedum rosea) and Mountain Sorrel (Oxyria digyna) can be found on almost any damp cliff. The Mountain Willow (Salix arbuscula) is also quite common. It is a small shrub with shiny leaves - though only on the upper surface - which distinguishes it from the Whortle-leaved Willow (S. myrsinites) whose leaves are shiny on both sides. Much rarer is Woolly Willow (Salix lanata) which is at the western edge of its range and is only to be found on Meall na Samhna.

Of the lower plants, mosses and lichens, the red moss Orthothecium rufescens is a good indicator of a base-rich habitat, and the Navel Fungus Omphalina luteovitellina is frequently to be found on the cliffs. This tiny bright yellow fungus lives in symbiosis with a dark green alga (which sets off its colour well): I suppose the combination may be described as a "failed lichen". The true lichen Solarina crocea can also be found. It is a distinctive foliose lichen, grey-brown but curling up at the edges to reveal its orange underside. Small black spots on this lichen could be a fungal infection, Rhagastoma lichenicola, which is rarely reported, so it is worth checking!

BIRKS OF ABERFELDY
FUNGUS FORAY

6 October 1985

Seven members of the Section gathered on a wet and gloomy day at the Birks of Aberfeldy car-park, and set out in the rain to look for fungi. We were amply rewarded by finding a good variety of species within a few hundred yards, particularly among the mature beech trees. Species of note included a morel-type, Trogia crispa, and Paxillus atrotomentosus, a giant relative of the Roll-rim. The highlight of the morning was the discovery of several specimens

of Cordiceps ophioglossoides, a club-shaped fungus parasitic on the False Truffle, Elaphomyces granulatus.

After lunch back at the picnic benches in the car-park, and a quick check of our reference books, we set off up the path along the gorge. By now the weather had completely changed and we marvelled at the sunlight illuminating the autumn colours. To our surprise the more natural woodland, though richer for plants, was less productive, at the time of our visit, in numbers both of fungal species and of individuals within a species. Many of those we found were specialised in growing on dead wood.

More species of interest were present in the open, acid, birch woodland in the top part of the valley, and we were also rewarded by a view, from the bridge, of the Falls in full spate.

A full list of finds is available from the Editor.

Helen Stace

CORRECTION - PREVIOUS BULLETIN - SORBUS ARRANENSIS?

In the last issue I referred to the Rowan found at the Priory on Inchmahome in the Lake of Menteith as Sorbus Arranensis. I was subsequently corrected by Nick Stewart. The plants are in fact Sorbus pseudofennica.

The seeds I collected have germinated and I now have three seedlings.

W F French

INVERVAR, GLEN LYON

7 June 1986

Several members and friends met near Invervar in Glen Lyon to make further records for a Perthshire Flora. The quadrants covered were 64NW and 74NE. The party walked westwards along the north bank of the river and returned eastwards along the south bank.

The two banks contrasted sharply; the north bank is extensively wooded with ash, beech, lime, sycamore, oak and a rich herb layer with a neutral soil; the south side is much more open, with some silver birch and a decidedly more acid soil.

Notable finds were Goldilocks (Ranunculus auricomus), Kidney Vetch (Anthyllis vulneraria), Meadow Cranesbill (Geranium pratense), the two Geum species, Spiguel (Meum athamanticum), and two separate small amounts of Sweet Spurge (Euphorbia dulcis), "Introduced and naturalised in a few places, chiefly in Scotland". (CTW 3), but here not growing in proximity to any gardens. A total of 177 records were made for Square 74NE.

We should like to thank J. Campbell Smith, Dr Riddell, and Major-General Ramsay for permission to visit.

R.E.Thomas

DEN OF AIRLIE

22 June 1986

Five members of the Section visited the Den of Airlie on 22 June 1986 with the prime object of relocating Whorled Solomon's Seal, known there from historical records.

Present in the party was Bob Brien (now a sprightly 82) who had been brought up at Airlie Castle, and had last visited the Den some 35 years ago. He took us along the east side of it, pointing out areas of interest. The weather was warm and sunny, and no difficulties were encountered. During the afternoon the party, minus Bob, explored the west side of the Den, but the terrain is steep and difficult to work, and only

a small area was covered.

Two species of note - Meadow Saxifrage and Bird's Nest Orchid - were not found, but a major find was a large colony of Herb Paris on the Perthshire side, some 2-3 metres square.

Other species of note found on the Angus side of the Den were:-

Campanula latifolia (probable)

Giant Bellflower

Carex remota

Remote Sedge

Carex sylvatica

Wood Sedge

Chrysosplenium alternifolium

Alternate-leaved Golden Saxifrage

Hypericum hirsutum

Hairy St John's Wort

Listera ovata (some 20 spikes)

Twayblade

Melica nutans

Mountain Melick

Paris quadrifolia

Herb Paris

Polystichum aculeatum

Hard Shield Fern

Rubus saxatilis

Stone Bramble

Sanicula europaea

Sanicle

By far the most significant find was a colony of Polygonatum verticillatum - Whorled Solomon's Seal - on the Perthshire side of the Den. The species had last been seen there by Bob Brien 35 years ago, though he thought that the present find was some distance from his record.

A total of 97 species was recorded.

Jeff Lunn

ARABLE WEED SURVEY

27 July 1986

The purpose of this excursion was to assist the BSBI with a survey of arable weeds requested by the NCC during the field sessions 1986 and 1987.

Twenty-five species have been chosen for survey, eleven of these have previous records from Perthshire Vice-Counties; most of these records are documented by Buchanan White (1898), but three species (Anthemis arvensis, Papaver argemone, and Stachys arvensis) have post 1930 records in the area. Virtually all the species were confined to the warmest parts of the area, viz. the southern slopes of the Sidlaws.

We searched two farms where several of the species had been recorded by Buchanan White. In the morning we walked round Northlees Farm, Kinfauns, which was unfortunately from our point of view, very well farmed and hence had extremely weed-free fields. A few species of southern affinity were found, viz. Chaerophyllum temulentum, Geranium dissectum, and Agrimonia eupatoria, mostly on road verges, and a very nice area of unimproved dry bank (at NO 161231) held Trifolium striatum, a species very local in Perthshire. None of the 25 "target" species was located. The afternoon's exploration of Fingask Farm was no more successful in achieving our objective, although we did locate one field grazed by horses where the marginal fence had apparently been moved a few yards into a barley field, and thus had escaped spraying. This strip had a fine display of Thlaspi arvense, together with Euphorbia helioscopia, Galeopsis speciosa, and Linaria vulgaris.

The general feeling was that we are most unlikely to find any of the 25 species still surviving in Perthshire. However, since we understand that buried seed of some of these species

may survive 50 years or more, it is just possible that if we could locate a farm in a suitable area which does not use herbicides we may be lucky! Enquiries are to be made to the Organic Growers Association as to possible farms, and also to the Game Conservancy which has a project leaving farm headlands experimentally unsprayed to investigate whether game, especially partridges, increase.

Rosalind Smith

CAMPSIE LINN

9 August 1986

This was a joint excursion with the Dundee Naturalists. The weather was excellent, and there seems to have been an element of friendly competition, since "we" recorded a hundred plants, mainly on the river bank, while the Dundee Nats, under Jim Cook, chalked up about 120, and are to send their list to the Vice-County Recorder, Richard Thomas.

Some of the Dundonians concentrated on scented plants, and were particularly pleased to log Sweet Cicely (Myrrhis odorata), Marjoram (Origanum vulgare), Wild Basil (Clinopodium vulgare), and Valerian (Valeriana officinalis).

As this was the third PSNS visit to the area I have attended, I feel that it has been well recorded. Nevertheless some additions were made, including:-

Leopard's Bane

Doronicum pardalianches

Pink Purslane

Montia sibirica

Large Bellflower

Campanula latifolia

Burnet Saxifrage

Pimpinella saxifraga

Long-eared Couch Grass

Elymus (= Agropyron) caninus

The vegetation near the river bank had been scythed to provide access for fishers, and we contrasted the regrowth

in that area with the dense vegetation further from the river.

This was a most successful and enjoyable excursion.

W.F. French

BANKS OF THE RIVER ISLA

16 August 1986

On a warm and sunny day with a light breeze we visited the banks and ox-bows of the River Isla between Crathies and Boat Bridge, four subsections of Square NO 24, because we had no records at all of this area.

There was a varied selection of habitats - river bank, arable land, rough grazing, ox-bows, ditches, bogs, and a little broad-leaved woodland. The underlying rock is Old Red Sandstone.

Two new records were Slender Thistle (Carduus tenuiflorus) and Broad-leaved Ragwort (Senecio fluviatilis) up to five feet high and much grazed by cattle. Fiddle Neck (Amsinckia lycopsoides), from North America, was found at one point close to the river.

In twenty years of attending excursions of the Botanical Section I have never seen Botanical Keys referred to more frequently than on this occasion. It was most interesting, informative and enjoyable excursion.

W.F. French

KINNOULL HILL
FUNGUS FORAY

7 September 1986

This was a joint meeting with the Botanical Society of Edinburgh, some of whose members had travelled from Ayr to attend. It was encouraging to see several "junior mycologists" in the party, and their keen eyes helped to swell the total of fungus species collected, which ranged from the conspicuous Birch Bracket Fungus (Piptoporus betulinus) on

dead standing birch trees to the tiny Horse-hair Fungus (Marasmius androsaceus) on fallen pine-needles.

The foray was led by Dr Roy Watling, of the Royal Botanic Garden, Edinburgh, and he had been asked by a professor in Sweden to collect Chanterelles (Cantharellus cibarius), as it had been found that this species could concentrate heavy metals, such as Caesium, and so, if collected from various parts of Europe, would provide evidence on the pattern of fall-out from the nuclear disaster at Chernobyl.

Our route lay along the face of the Kinnoull Hill above the Monastery, up to the "Castle", through the wood at the top of the hill, and back down to the Quarry car park by the path leading behind the old weavers' village of Corsie.

The excursion was enlivened by the fund of information produced by Roy on all the specimens collected, explanations of the generic names, folk-lore and history - such as the fact that Magna Carta had been signed using ink made from the Shaggy Ink-cap, or Lawyer's Wig (Coprinus comatus). Many "paddock stools", as he called them, could be identified by aroma, eg aniseed - Clitocybe fragrans, bed-bugs - Lactarius quietus (Oak Milk-cap) geranium - Russula fellea, apricot - Chanterelle, and so on. Also discussed were habitats and host plants, taste, and methods of cooking some of the edible species. We were also warned about the deadly poisonous qualities of many of the Amanita group, and the extremely dangerous effect of Ergot (Clavipes purpurea) which was spotted in the seed heads of Sweet Vernal Grass (Anthoxanthum odoratum) whilst we were enjoying our picnic lunches.

A most informative day was enjoyed by all. Some of the specimens went back in baskets to be examined microscopically. Others, including a few chanterelles rescued from science, together with Lawyer's Wigs and Puffballs made a very tasty fry-up for supper!

Our grateful thanks to Roy for coming, and for his

patient exposition of points of interest. He has provided a full list of fungi found, and copies of this will be obtainable from the Secretary.

From accounts by Joan L Thomson and W F French

BLACK WOOD OF RANNOCH

27 October 1986

Thirteen members and friends assembled at the east end of the Black Wood on a typically damp back-end day. We were particularly pleased to welcome three local people. Our guide for the day was Graham Jeffrey, Forest District Manager, Tummel Forest.

Graham, and then Ros Smith, gave a short introduction on the management history and scientific interest of the Wood, which is a Grade I SSSI and a Forest Nature Reserve by agreement between FC and NCC. The entire forest is now fenced against red deer, and is divided into three blocks. No work at all is to be done in Block I, and it is hoped that the Scots Pine will regenerate naturally. In Block II all exotic conifers will be removed in time and replaced by Scots Pine of Rannoch provenance. In Block III a minimum of work will be done. The ultimate objective is to restore the whole wood to semi-natural state, approaching the ancient Caledonian forest that once covered so much of Scotland.

First we walked up the Dall Burn, admiring the autumn colours and the rowan berries, as well as the Scots Pine and Birch woodland. We looked across the burn to an area where the FC are about to remove the exotic species. We were then driven in a mini-bus along the southern boundary of the FRN looking at the area to be converted to Pine of local origin. We stopped to look at the section of the Black Wood at the head of the Camghouran Burn that is privately owned, and also the extensive view of snow-covered Mamore Hills across Lochs Finnart and Monaghan. We ate our pieces by the last loch and then drove down the Camghouran glen to the north-west end of the Wood. This is the non-disturbance zone.

The oldest parts of the Wood are uneven-aged, some trees being up to an estimated 350 years old, and a number of different phenotypes could be distinguished, eg fastigiate, umbrella, etc. It does appear that the younger trees are much straighter than the "grannies", which are extremely rough and much branched. It could well be that this is the result of "creaming off" the better timber trees over the years. At the east end the birches were B. pendula, and rather better specimens than the B. pubescens at the west end. Only one specimen of juniper was spotted. Juniper is not uncommon as an understory in other remnants of the Caledonian forest, and its scarcity here could well be due to grazing by red deer in the past. There was little of interest in the ground cover, which was mainly Calluna and Vaccinium myrtillus/vitis-idaea with a deep layer of Sphagnum and hypnaceous mosses, and patches of Molinia in wetter places. We found some Common Wintergreen (Pyrola minor), and a large patch of One-sided Wintergreen (Orthilia secunda), but that was the only real excitement. The chief interest of the Wood is entomological and lichenological. The only noteworthy bird was a Blackcock.

As we walked up through the Wood we looked at the old FC enclosures, which have an extremely valuable record of trees within them, going back over forty years, and the ITE plots monitoring the effects of grazing removal, with abundant regeneration of rowan, birch, and Scots Pine, within an enclosure.

We were relayed back to our starting point by vehicle, ending an extremely interesting day, blessed with weather surprisingly improved from the beginning of the day, lovely views, and glorious autumn colours.

Our grateful thanks to Graham for giving up his Saturday to showing us round and giving us the benefit of his extensive knowledge.

NATURE CONSERVANCY COUNCIL - NEWS

Our main news is probably that of staff changes. We welcomed Jeff Lunn as second ARO covering the District in December 1985. He covered chiefly that part of the District lying S and E of the A9, Ros Smith continuing to cover the rest. Although his chief interest was ornithological he was an extremely competent botanist as those of you at the Den of Airlie will know. Unfortunately Jeff left for domestic reasons in December 1986 and in January 1987 will be replaced by Neale Taylor, presently working for NCC in Forfar. Neale has been mainly doing botanical survey work in Angus, and we look forward to welcoming him to NCC and the Section in Perthshire.

Otherwise we are as busy as ever but certainly finding benefit being locally based at Cleve. Items of conservation news which may be of interest to the Section include the proposal to add Erigeron borealis (Boreal Fleabane) to the protected list of plants under the Wildlife and Countryside Act (1981) as amended, and the Secretary of State's announced intention to designate a large part of the N of Perthshire as an Environmentally Sensitive Area (ESA). This is a voluntary scheme whereby farmers will be paid for maintaining habitats of conservation interest. Particularly of interest in this area are unimproved pastures with many orchids such as Greater and Lesser Butterfly, Fragrant and Small White.

ROS SMITH

BOOK REVIEW - "THE COLOUR CAULDRON" BY SU GRIERSON (1986)

It would be wrong to let this number of the Botanical Section Bulletin go to press without mention of our fellow-member's second book, following "WHORL and WHEEL: The story of Handspinning in Scotland", this time in hard-back, "THE COLOUR CAULDRON", all about plant dyes.

With some diffidence, since I know nothing about any of the crafts on which Su writes, I rate this book very highly indeed, for its thoroughness and for the comprehensiveness of its approach, and for the intense practicality which prevades every page. None of this will surprise those of us who heard her talk to the Section in November 1984, saw her beautiful slides and inspected her most colourful and orderly folders of dyed skeins of wool. The book is as interesting and informative as was the talk.

Everyone who is at all interested in the uses of plants, and in the history and practice of the native craft and industry of dyeing, should get a copy of this book. Price £10.50, plus 50p packing and postage, from Mill Books, Newmiln Farm, Tibbermore, Perth, PH1 1QN.

BILL GAULD