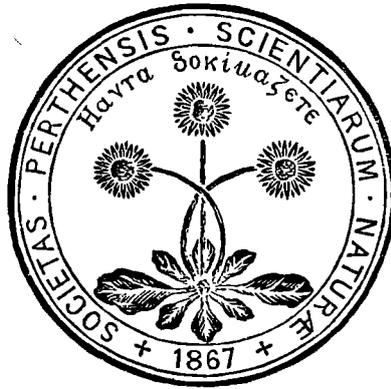


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BOTANICAL SECTION

II

Bulletin

PERTSHIRE SOCIETY OF NATURAL SCIENCE - BOTANICAL SECTION

BULLETIN No.11 - 1987

EDITOR'S NOTE

This Bulletin continues the practice of including a full report of one of last winter's talks, in this case Prof C.W.Jones' most interesting and helpful talk on propagating exotic wild plants for the garden from seed. Reporters of the summer excursions, in 1987 mostly surveys for the BSBI Monitoring Scheme (see Richard Thomas' note below), have endeavoured to capture the lighter side of these events, in the hope that we may entice more of our members to come and help. Every extra pair of eyes will be immensely valuable. Even if you don't know for sure what a strange plant is, it is enough to spot that it is different from anything seen so far on the day, and call attention to it for identification by the more experienced. We have a lot more surveying to carry out in 1988, and if you turn out regularly you will soon become more familiar with the flora of Perthshire, as well as contributing to the good work. Do join us if you can. You will be very welcome.

BILL GAULD

BSBI MONITORING SCHEME

Every Section member will know by now that the BSBI is organising a Flora survey in selected squares of the National Grid. Its purpose is to assess changes that have occurred since the last full census (the 1962 Atlas scheme), and to provide a means of monitoring further changes in the future - also a first step perhaps towards a new Atlas in the 1990s. A regular pattern of 10x10 km squares was selected, and within each of these particular attention had to be paid to three 2x2 km squares (the A, J, and W "tetrads") in the 1987 and 1988 seasons. For the botanical Vice-Counties of Mid and East Perth the chosen squares and tetrads are given in the following table:-

TETRADES OF MID AND EAST PERTH

10x10 KM SQUARE	GENERAL LOCALITY	TETRADES		
		A	J	W
VC 88 MID PERTH				
NN 43	Heasgarnich/Lochay	Challum	Heasgarnich	Meall na Saone
NN 46	Rannoch	Rannoch Sta	-	Loch Ericht
NN 73	Loch Tay/Almond	Lednock	Ardtalnaig	Glen Almond
NN 76	Glen Errochty	Mullinavadie	Dalnacardoch	Errochty
NO 00	Dunning	-	South Dunning	-
NO 03	Bankfoot	Chapelhill	Obney	Stanley
VC 89 EAST PERTH				
NO 06	Creag Dubh	Brerachan	Fearnach	Enochdhu
NO 33	Dundee	[Dundee]	-	-

The 1987 field season is now over, and an excellent start has been made, thanks to the organising, leading, and recording by many members of the Section. Five field meetings, together with further recording mainly by Ros Smith, mean that more than a 100 species have been recorded from seven tetrads, and somewhat fewer than that from one further tetrad, in Mid Perth, and that two of the three tetrads in East Perth are complete. While I was working hard in Malaysia and sweating in the constant and humid temperature of around 34° C, you were experiencing the invigorating Scottish weather - sunny and bright for one outing, and cold continuous rain for another. How I envied you!

In 1988, seven tetrads remain to be surveyed: all three in NN 73, together with NN 46-A, NO 00-J, and NO 03-J in Mid Perth, and NO 06-J in East Perth. The Vice-County Recorders fervently hope that you will show the same enthusiasm for next year's recording meetings, the dates of which will be announced in due course.

R.E.THOMAS

PROGRESS WITH THE FLORA OF PERTSHIRE

Some progress is being made towards the ultimate goal of a new Flora of Perthshire with the completion of the 5x5 km² cards for Vice-Counties 87 and 89. This means that we have listed all post- 1970 records for each 5x5 km² within these two VCs. Thanks to Anne Mathers we now also have a 'Master Card' collating all post-1970 records for VC 89. This contains an impressive list of species, and surprisingly few of the plants on the Scottish base card have not been recorded on it. We hope before Christmas to produce Master cards for the other two VCs, and from the three of them together it should be a relatively easy step to produce a Check-List for the whole of Perthshire.

We envisage that the Check-List would contain a brief description of the occurrence of each species in the area. This we hope would be of interest both on its own account, and particularly as a spur to further recording, identifying, and publicising both under-recorded species (arable weeds we already know of), and under-recorded areas (thanks to Anne we already have a list of those in VC 89). We are optimistic that with this good start and support from others we shall be in a position to produce a proper Flora within a few years!

ROS SMITH

N. STEWART

R.C.THOMAS

NEWMILL and FIVE MILE WOOD

24 JUNE 1987

Nine members arrived at the meeting point at 6 pm. Our aim was to survey the various habitats, eg stream-bank, grassland, woodland, and dry banks, in Tetrad W of the 10 kilometer square NN 0832.

We divided into two groups. Group A, with Neale Taylor in charge, along with Anne Mathers, Freddie French, Bill Gauld and Clem Jones, went to the woodland, while the rest, led by Ros Smith, and consisting of Su Grierson, Margaret Macdonald, and Irene McKinnie, took on the streamside, grassland and

dry bank areas of Newmill - a distribution of labour they regarded as unfair. (Did they sing out at the time? -Ed)

Although mild, the evening was overcast, and rain seemed likely to dampen enthusiasm sooner rather than later, so Neale and Clem did a habitat survey, while the rest of Group A recorded species on recently cleared ground. Opportunists such as Ragwort (Senecio jacobaea), and Rose-bay Willow-herb (Chamerion angustifolium), were much in evidence on either side of the track, while species more natural to the peaty gley were dominated by Tufted Hair-grass (Deschampsia cespitosa), on the hummocks, and Soft Rush (Juncus effusus), in the wetter hollows. The whole group then went into the plantation of mature conifers, but we were able to add few species, apart from Yorkshire Fog, (Holcus lanatus), and Oval Sedge (Carex ovalis). So the survey was hardly exciting botanically, though enjoyable enough.

Group B reported a more rewarding evening. Starting from Newmill Farm, they followed the Ordie Stream to the Tullybelton road. The more interesting species recorded included Yellow Flag (Iris pseudacorus), Smith's Pepperwort (Lepidium heterophyllum), Upright Hedge-parsley (Torilis japonica), Wall Speedwell (Veronica arvensis), Cut-leaved Cranesbill (Geranium dissectum), and Dove's-foot Cranesbill (G. molle), Monkey Flower (Mimulus guttatus), and Orpine (Sedum telephium),

Next a dry bank between the Tullybelton road and the A 9 was surveyed, the dominant species being Sweet Vernal-grass (Anthoxanthum odoratum), and Red Fescue (Festuca rubra). Among these grasses the most interesting of the less frequently occurring species was Burnet Saxifrage (Pimpinella saxifraga).

The embankment of the now disused railway south of Newmill Cottages was then examined by the whole group, and recording completed the following evening by Margaret Macdonald on her own. Spray drift from the neighbouring fields had clearly affected the bank and this could well have influenced the species distribution. The dominant grass was Oat-grass (Arrhenatherum elatius, and of other species, the commonest was Meadow Vetchling (Lathyrus pratensis). Imperforate St John's Wort (Hypericum maculatum) was an unexpected find amongst the less frequently occurring species.

A sudden downpour of rain at about 9.30 pm brought the meeting to an abrupt close, but as far as this tetrad was concerned, recording had been completed to the leaders' satisfaction.

ANNE MATHERS

CHAPELHILL

1 JULY 1987

It is not usual for the Botanical section to meet at a pub, but on this occasion the Chapelhill Inn provided a convenient car park and start and finish for the survey of tetrad A of the ten kilometre square NO 03.

We divided into two groups, the first to explore the Chapelhill Den from the roadside to the disused mill dam, and then to prove the moor to the

west of Greenfield Farm, now unoccupied, and the second to do the wide flat moor north of Shannoch Farm.

Three of us went along to the Den, gaining access to it from the drying green of the new Chapelhill farmhouse. It was just the sort of place children would find it irresistible to explore - wild and overgrown - down to the shoulder high beds of stinging nettles, and the silted floor of the dam the farmer's wife warned us on no account to venture upon! But it was interesting enough botanically, though it held no more than the sort of plants one could expect to find in such places. We were there to list what we found, and this we happily did. After a sufficiency of nettles etc, we came out on the edge of the green, and went along the field edge, noting the different array of plants in that habitat, and looking down upon the forbidden dam, only Freddie venturing to its margin to check what was growing there. At the top end it merged into a marshy meadow, with yet another assemblage of plants, and then a field with horses, whom after greeting we went circumspectly round, to reach the track leading back to the steading, counting the hedgerow plants as we went.

We then took the car up the Little Glenshee road, and along the track as far as we could towards the Greenfield steading. The fields themselves were heavily stocked with cattle, and we saw no more than the usual field weeds, but the moor beyond was an ancient cut-over wood, ungrazed then, but soon to be stocked with sheep, according to the tenant of Shannoch, who holds it. It was mostly Common Bent (Agrostis capillaris), or Purple Moor Grass (Molinia caerulea), with large patches of deer sedge and others of that ilk, and some heather and blaeberry, seemingly monotonous, but one kept coming across the odd variation on a theme, while the infrequent open drains repaid a scout along them. Unfortunately time was running out, so we did not stay too long, but hurried back to the pub to meet the others.

Meanwhile the other three of us called at Shannoch Farm. Mr Macgregor, the tenant, kindly offered to lead us to a very boggy area on his moor. We duly followed him, trying to spot things as we went and point them out to our guide. We saw little of interest on the way there, it was mainly featureless acid rushy pasture. The bog however was real schwing-mor - quaking mire - and quite soon our sharp-eyed Field Secretary espied Hairy Stonecrop (Sedum villosum), a new record for the 10 km square and the surrounding area. Nearby were Sundew (Drosera rotundifolia) and Northern Marsh Orchid (Dactylorhiza purpurella). At this point our guide left us, and we quartered the rest of the somewhat uniform heathery moor, finding little more of interest.

After returning to Shannoch we set off southwards to explore a strip of rough ground "in hand" to the Estate. We had had dire warnings from Mr Macgregor about how dangerous parts of it were. The western section of it proved to be neutral marshy grassland with a very varied flora, including Ragged Robin (Lychnis flos-cuculi), Northern Marsh Orchid (D. purpurella), Marsh Lousewort (Pedicularis palustris), and about twenty spikes of Lesser Butterfly Orchid (Platanthera bifolia), the last being a new record for the 10 km square. Further east we came to the dangerous part, deep water- and sphagnum-filled holes in peat bog covered with deep heather and the occasional Rhododendron bush. We wondered whether the holes could have been dug originally for flax retting. We then went back to Shannoch by the road and the farm track to collect the car, adding some more species, the identification of several arable

weeds taxing our skills. We then rejoined the rest of the party, and in thanks for the use of their car park, refreshed ourselves at the inn.

Our Field Secretary was so thrilled at finding the Hairy Stonecrop that she persuaded the Chairman to come back with her the next evening on a photographic expedition. But she had not reckoned without our farmer guide and with the featureless moor; the plant was not to be found again. So the challenge is on for next year!

ROS SMITH MARGARET MACDONALD W.W.GAULD

DALNACARDOCH and MULLINAVADIE

12 JULY 1987

This day three of us did tetrads A and J of NN 76. I think Ros would really have liked us to do one each, but Freddie and I were well satisfied with what we did that day, which was a good one, both botanically and weatherwise.

We did J first, meeting at the road bridge on the northern edge of the tetrad, surveying the riverside haughs and old oxbows of the Garry, making sure that we kept within J territory, though this excluded some good-looking areas. Nevertheless we quickly built up a goodly list, of riverside, meadow and wet-flush plants, the best find being a small group of Marsh Orchid (Dactylorhiza incarnata) which Ros reckoned worthy of special mention in the report. They were bonny too. We then went up a side burn, through a little gorge under, or in Ros's case over, a railway bridge, then back along the railway embankment to the main road. Each had its typical flora and our list grew apace.

While we were eating our pieces the RSPB passed, flourishing a specimen of Wood Vetch (Vicia sylvatica), a bonny white flower with blue veins, unfortunately from outside the magic square, so it did not count.

After lunch we drove up the road, stopping first to walk over to a higher gorge on the same burn as before - called Allt an Eachdraidh (Burn of the Chronicle - what chronicle, I wonder) on the six-inch map - which had various ferns and other nice plants in it, and then again at a hill track where the burn passed under the road. We had just been discussing the best way to find the Lesser Twayblade (Listera cordata), which is to sit down beside a heather bush to eat your lunch, when Ros getting out of the car, fell over a specimen, proving the efficacy of the method, and enabling us to include this elusive species in our report. Thus ended Tetrad J.

By this time it was mid-afternoon, and we had barely time to do the second Tetrad. Ros would no longer be denied, she left Freddie and me to do a corner on our own, and herself plunged off into the mixed moor, wet-flushes and scrub woodlands to do the other three-quarters of it on her own.

Freddie and I walked sedately up a rough track, past a fishers' hut, to a dry limestone outcrop covered with Rockroses (Helianthemum nummularium) in full bloom. We kept adding to the list, without finding any special rarity, and in due course returned to the cars. Ros joined us a little later, confessing she had got a little "wandered" in the middle, and had not found all the sedges, etc she had hoped, but in general satisfied that she had "done" her squares. Indeed, between the three of us we had fairly "done" tetrads A and J of NN 76 - a good

day's work for the Review. The Vice-County Recorder could not feel we had neglected his cabbage-patch while he was away in foreign parts!

W.W.GAULD

GLEN LOCHAY AREA

26 JULY 1987

This was a joint excursion, organised by the BSBI for the revision of the Atlas of the British Flora, to survey two Tetrads in the 10 km square NN43.

It was a dull grey day, and developed into a 'wet' one! Altogether thirteen people attended, meeting at Kenknock (NN 469368). The party divided into three groups, two consisting of the young and physically fit were led by Neale Taylor and Tim Rich, the Monitoring Scheme Organiser, on to Meall na Samhna. The other, comprising the less young and perhaps less fit, on to Ben Heasgarnich was led by P.J.O.Trist, who although an octogenarian and suffering from asthma, proved an able leader and a superb botanist.

The Heasgarnich party motored up the Hydro-Board road past Lochan Learg nan Lunn to the march fence. From there we walked westwards towards tetrad J, which lay on the east face of the mountain.

The land was damp, there was peat of varying depth, and the vegetation consisted largely of Calluna vulgaris, with some Erica tetralix and Erica cinerea. There were a few willows, most of them kept down by grazing. Chamaepericlymenum suecicum was common. There was a lot of Vaccinium myrtillus and some specimens of V. uliginosum. one specimen of Juniperus communis nana was found growing over a rock which gave it some protection from grazing animals.

Despite the fact that the party was not able to reach the richer crags within the Tetrad because of the weather, a number of typical Breadalbane high montane species were recorded. One specimen of Saussurea alpina was found, Saxifraga oppositifolia was also seen, though not common, especially at the upper limits. Also recorded were Tofieldia pusilla, Carex capillaris, Potentilla crantzii, Avena alpina, and Deschampsia flexuosa var alpina, the last two presumably down to John Trist, a grass specialist! The weather forced an early termination to the search, nevertheless the area had been thoroughly combed.

On the way down, but outside the tetrad, Oxyria digyna was found in detritus brought down by a stream.

On Meall na Samhna the comparatively more sheltered conditions allowed more time to be spent recording. One party went up the renowned Allt Innischoarach and the other the less well known Coire Dubhchclair

The mica-schist crags in both proved to be the main centre of interest, and between them the following more local species additional to the above were recorded: Saxifraga nivalis, Dryas octopetala, Draba incana, Salix reticulata, Botrychium lunaria, Carex atrata, C. vaginata, Epilobium anagallidifolium, Galium sternerii, Luzula spicata, Poa alpina, Pyrola minor, Salix arbuscula, S. lapponum, Sibbaldia procumbens, Cerastium alpinum, Vaccinium

uliginosum, Deschampsia alpina, and Gnaphalium supinum, providing a good selection of typical Breadalbane species (an immature Golden eagle was also seen for good measure). The undoubted highlights were however a patch of Cystopteris montana and several groups of Bartsia alpina.

A day well spent, and enjoyed, despite the dismal weather, although a lot of potentially highly productive ground, particularly at high altitude, was not visited on both mountains. But then there's always next year....!

F.W.FRENCH NEALE TAYLOR

LOCH ERICHT, RANNOCH

9 AUGUST 1987

Three intrepid members of the Section went to explore tetrad W of square NN 46, and were rewarded by a day of magical weather. We had arranged to get the key to the Hydro Board road to Loch Ericht dam from the keeper who lives beside the gate, so we drove up it and across the dam, Ros somewhat hesitantly, as she was driving her brand new car. We decided to follow the loch shore westward below the new Forestry Commission fence, recording both on the wet heath above the shore-line, and on the "draw-down" shore of the loch itself. The latter was fascinating; all sorts of plants, including Spurrey (Spargula arvensis), had established themselves on the shingly zone exposed by the fluctuations in water level caused by the operations of the HEB.

We ate our pieces on a heathery knoll where we could see down the length of the loch to the huge mass of Ben Alder and the ridge of Stob an Aonaich Mhoir across the loch from it. The air was crystal clear, the sky was cloudless and the water was deep blue- an absolutely perfect view!

After lunch we headed inland, Margaret and Ros to 'do' an interesting-looking bog, while Bill trudged up the ridge alongside it. The bog proved to contain lots of Slender Sedge (Carex lasiocarpa) and Mud Sedge (C. limosa). A steep grassy bank above the far end of the bog had a surprisingly rich flora, including abundant Field Gentian (Gentianella campestris), which Margaret tried to photograph against the backdrop of the magnificent view, but sadly the film expired - too many photogenic views already! Meanwhile Bill added several records of higher altitude plants from the top of the ridge and returned bearing bouquets of white heather for Margaret and Ros.

We then went along the road through the new FC planting, with a diversion to look at Lochan na h-aon Craoibh (Lone Tree Loch), which had Few-flowered Sedge (C. pauciflora) growing at its edge. We were horrified to see cuttings of non-native willow, probably Crack Willow (Salix fragilis), which had recently been planted beside the lochan, presumably in a well-intentioned but somewhat misguided attempt at conservation. We also recorded the flora in the forest for an NCC project on vegetation changes consequent on afforestation on which they have asked Vice-County Recorders to help.

When we had reached the far end of the planting we went up a small hill on the southern edge of our tetrad, and were rewarded not only

with plants such as Scottish Asphodel (Tofieldia pusilla), and other additions to the day's tally, but also with wonderful views over Loch Laidon and Rannoch Moor. The glorious weather did not last, however, and the shower which had been threatening for some time over Loch Ericht finally caught up with us.

Now we had only to go back across the planting to the car. We spied a good route via several lochans running more or less parallel to the deep plough furrows, the only problem being the deer fence, and no sign of gates or roads. Ros enthusiastically set about scaling it, but the mesh gave way at several joints, landing her back down on the ground. Eventually we got over, and at the other side squeezed through a rather large gap under a locked gate.

The rain had unfortunately brought out the midges, and we had been driven to screaming pitch by their attentions, so it was a blessed relief to get back into the car. So ended a long but very rewarding day, with a total of 122 species recorded from W Tetrad, NN 46.

MARGARET MACDONALD

ROS SMITH

ARABLE WEED SURVEY - GANNOCHY FARM & WALNUT GROVE HOLDINGS 15 AUGUST 1987

This afternoon meeting, attended by Ros Smith, Margaret Macdonald, Anne Mathers, and Freddie French, was the second survey undertaken by the Section to assist the BSBI 1986/7 Arable Weed Survey.

We started at Gannochy Farm, where the weeds in a field of 'organically grown' potatoes were recorded. The finding of a third species of Fumaria in addition to F. officinalis and F. muralis, later determined by Nick Stewart to be F. micrantha, was an exciting addition to our species list which reached a respectable 46. Our thanks to Mr David Yellowlees, the owner, for giving us permission to enter his field and helping us to locate it.

His other fields were ineligible for survey, being pasture grazed by cattle, so we moved on to No.3 Holding, Walnut Grove, where Mr David Patterson, the owner, made us welcome. His fields contained a variety of organically grown vegetables and a vigorous population of weeds. A heavy downpour made our survey a rapid one, and this may perhaps excuse our failure to spot Anagallis arvensis, the 'demned elusive' Pimpernel, although it had been reported as present by Mr Patterson. It was pleasing to find a large population of Field Penny-cress (Thlaspi arvensis). By their vigour and numbers Chenopodium spp and Atriplex patula dominated many of the plots. Common Orache (A. patula), in spite of its name, is in fact a new record for VC 89. The species list, again over 40, contained many species in common with the Gannochy list.

The meeting closed with a visit to Mr Patterson's shop, from which our Treasurer emerged with a pot of raspberry honey and eggs from free range 'organically' fed hens.

ANNE MATHERS

KINNABER LINKS, MONTROSE

12 SEPTEMBER 1987

This was a combined meet of the Perthshire Society and the Dundee Naturalists. We foregathered at Montrose Beach Car Park and proceeded north-east along the the dunes.

Jim Cook, of the Dundee Society, who led the party, explained the formation and development of dunes from the 'moving' to the 'fixed' state, and the colonising and fixing effects of Marram-Grass (Ammophila arenaria). The xerophytic modifications on the foliage of Marram and Lyme-Grass (Lymus arenarius) were demonstrated.

Though most of the plants seen on the fixed dunes were those typical of such an ecosystem, we were surprised to find Valerian (Valeriana officinalis) and Angelica (A. sylvestris). The most unusual find was Maiden Pink (Dianthus deltoides) in flower. This was stated to have been on the site for a hundred years. Another plant of special interest was Purple Milk Vetch (Astragalus danicus).

A full record of plants found was kept by Jim Cook.

The ornithologists present were not disappointed. Looking out to sea they spotted Merganser, Eider, Shelduck, Red-Throated Diver, Common Scoter, Shag, and Gannet.

Although a cold wind was blowing the sun shone and made the day pleasant. Altogether it was a most enjoyable excursion.

W. F. FRENCH

FALLS OF BRUAR

26 SEPTEMBER 1987

This excursion was organised by the parent body, and led by Jim Aitken. Cars were parked at the hamlet of Pitagowan (NN 818659), from where we crossed the railway line and went through the woods to the Bruar Water gorge. It is well known that the Gorge was visited by Robert Burns in company with the then Duke of Atholl, and that the poet mentioned that the visual amenity of the area would be improved if trees were planted. Subsequently this was done, and the surroundings of the gorge were planted with Scots Pine, Norway Spruce, and European Larch. At the lower levels their growth is good. Higher up it is slow.

Some Mountain Pine (Pinus montana, also known as P. uncinata, or P. mugo, which is the name for the low spreading form) was planted in the gorge. They are mostly of the erect form, and appear older than the trees round about them. Bearberry (Arctostaphylos uva-ursi) and Cowberry (Vaccinium vitis-idaea) lined the path. Below the second bridge, Mr Aitken indicated where One-sided Wintergreen (Orthilia secunda) had been found in an inaccessible position. On the bridge itself were growing the ferns Black and Green Spleenwort (Asplenium nigrum and A. viride), and in the woods above a site for Cranberry (V. oxycoccus) was pointed out, but there was no sign of it at this time. Common Wintergreen (Pyrola minor - Freddie says this is what Jim said on site, although in his article in the PSNS Journal

he has media. (A loose end for someone to verify next summer. -Ed) was found on a dry site near some birch trees, and Mr Aitken added that the early-flowering Purple Saxifrage (Saxifraga oppositifolia) was found in the gorge at this point.

This was an excellent excursion, the weather was beautiful, and it was a pity other members of the Section had not managed to come along. There is so much of botanical interest in this area that a full-scale botanical excursion to it would be justified. Meantime an article on it by Mr Aitken has appeared in the October 1987 issue of the PSNS Journal

W. F. FRENCH

MORE HOPS

In previous issues findings of Hops (Humulus lupulus) have been recorded. (see eg No.7, 1983,, FF-2, No.8, 1984, FF-1, WG-1),

My latest observation is at CAPUTH (NO 088399). The plant is growing in a hawthorn hedge at the roadside. Behind the hedge are gardens, possibly allotments. Like previous discoveries this plant is female. There is no 'hostelry' close to the site. How long can these plants live?

W. F. FRENCH

NCC NEWS

For myself, the last nine months or so have been very exciting after moving across from my previous job in Angus to Perth and Kinross to replace Jeff Lunn, who sadly had to move back to his native Yorkshire. I do not think that there is a richer area in Scotland, and now that I am at last living in Perthshire I am greatly looking forward to playing a full and active role in the activities of the PSNS.

There have been no major controversies concerning NCC in Perthshire during the last six months, in marked contrast to other parts of Scotland (eg the Flow Country, Islay, the Morrish More, Glen Lochay), although we are still very concerned over the very high rate of afforestation in certain parts of the District, mainly because we do not know the ultimate effect of so great a loss of semi-natural habitat on our wildlife. There may be some gains, but with such large areas going under the big plough, losses will surely be much greater.

We have recently taken on three temporary members of staff. Anita Burch was the SWT Warden at Keltneyburn during the summer and Simon Jarvis had been working for NTS on Ben Lawers. Both have been mapping the vegetation in Perthshire's more important SSSIs. Wendy Mattingly also joined us for a short time to reorganise our filing system. So the office has become very busy all of a sudden, although by Christmas we should be back to our normal selves. There are plenty more projects to be done and we are hopeful that next year we shall have an extra person for a whole twelvemonth.

NEALE TAYLOR

WILD PLANTS FOR YOUR GARDEN

(From a talk given to the Section on 18 February 1987 by Prof C.W. Jones)

The talk, illustrated with superb slides, described plants, many of them native to the eastern Mediterranean, which could be grown from seed in our gardens. Starting with examples from his own garden and from the Alpine House at Kew. Prof Jones picked out five easily grown species: -

ARENARIA montana. A sandwort in the Pink family (Caryophyllaceae). S.W. Europe, eg roadsides in Spain above 1000 m. For a show of white, it is far better than *Cerastium tomentosum* (Snow-in-Summer, Dusty Miller) in the same family.

OXALIS adenophylla. From Chile and Argentina. Found in the Andes in 1905 by H.J. Elwes. Long-lived. Why do flowers open and shut as they do? Temperature, sun, shade - taking a siesta! - may all be factors. (*Oxalis laciniata*, from Patagonia, which was introduced in the 1950s, has even better flowers, but is less easy to establish)

DODECATHEON ('Shooting Star'). A member of the Primulaceae from North America. Widespread, common on Vancouver Island and in Alaska. One species, *D. media*, was brought here by Tradescant in the 17th century. They like moist shade. The young seedlings appear to die out but then reappear.

DELPHINIUM tatsienense. A species of Ranunculaceae from W. China, Tatsien and Szechwan regions. Not long-lived but easy to grow from seed. It bears cobalt blue flowers with long spurs. There are other beautiful species of Delphinium; but they tend to hybridise in gardens.

POTENTILLA nepalensis 'Miss Willmott'. Rosaceae, This is a hybrid, but it seems to come true from seed.

The next part of the talk illustrated the native habitats of plants from the following families - Cistus, or Sun Rose; Euphorbia, Spurges; Labiatae, Mints and Sages; Campanulaceae, or Bell Flowers, including various species of *Cyananthus*.

A final tour led us from coastal regions - with poppies, oxalis, and crown daisies, through fields and waysides - with species such as *Linum pubescens*, a flax, *Onosma frutescens*, or Golden Drop, *Cerinthe major*, Honeywort, *Glaucium flavum*, Yellow Horned Poppy, *Centranthus ruber*, Red Valerian, *Oxalis pes-caprae*, Bermuda Buttercup, to alpine meadows - with *Orchis quadripunctata* and *O. provincialis*, along with the better known and much grown *Aubretia*.

Clem then described in detail how to carry out cultivations from seed, and offered a generous supply of packets of home-grown seed for us try out for ourselves. For the benefit of experimenters his instructions are reproduced in full below. Altogether this was a most enjoyable and instructive evening.

SEED SOWING - By C. W. JONES

There are many potential advantages in growing plants from seed. Obviously, for the gardener, it is much cheaper and should yield disease-free plants. They should be better plants through being grown from the start in their final environment. It gives a worthwhile winter occupation when little is possible out of doors. It often achieves results more quickly than by buying plants from nurseries in S. England: such plants, if they don't fail here, take time to establish. Instead of a single, expensive, bought plant there will be a batch of seedlings - only the best of which need be retained - which can be tried in various soils and situations to find out what suits them best.

Some plants are, of course, annuals and have to be grown from seed. Others are, in our gardens, monocarpic, taking a year or two to build up to flowering condition and afterwards dying, whether or not they would do so in the wild. To maintain such plants one must be prepared to collect and sow seed. Seed-sowing greatly extends the list of plant species one may try. Some, for example, which are perennial in their native habitat, but which would not survive our winters, can be grown as annuals. It may be the only way to obtain rare species one would like. It is a contribution to saving endangered species, whether wild plants or old garden varieties, close to native species, which have been almost lost. Old-fashioned sweet peas are an example.

Bulbs, too, can be grown from seed, though the process requires patience. This is preferable to wholesale digging up of bulbs in countries like Turkey. It seems that half a million kilograms of bulbs a year have recently been exported from Turkey. Anthony Huxley referred in a recent article to an example of ignorant collecting when, in 1973, 50,000 cyclamen tubers were sent to a Covent Garden firm. They were supposed to be C. hederifolium (the best known, perhaps easiest to grow, with a very wide distribution) but turned out to be C. mirabile, a much rarer, localised, species. Now C. hederifolium is easily raised from seed - and even C. mirabile is possible - so why import tubers on this scale anyway? Incidentally, as Huxley remarks, it makes little difference whether a few peasants dig up 50,000 tubers, or 50,000 tourists take one each, thinking it won't matter.

Digging up plants and bulbs is only one way in which wild species are being endangered. So perhaps an amateur gardener can make a real contribution, provided that he or she has access to supplies of seed and is also willing to collect seed. (Stachys germanica, 'Downy Woundwort', about which there was a fuss recently when all its seeds were stolen from an Oxfordshire site, is widespread in S.E. Europe. Could it not be reintroduced here? This suggestion proved to be controversial))

The specialist gardening societies - like the Alpine Garden Society with 10,000 members world-wide - and the Scottish Rock Garden Club - maintain seed exchanges, with annual lists of several thousand species. Some of the seed on offer is collected in the wild by home or overseas members, but most of it comes from established garden plants which, however, may be of recent wild origin. Specialist commercial nurseries increasingly offer their own seed lists. The emphasis in all these lists is

on named botanical species rather than hybrids with fancy names and unclear origins.

A surprising omission from the popular botanical guides is a detailed description of a plant's seed. Yet if seed is examined through a magnifying glass at the time it is being sown by the gardener it can be seen to have interesting characteristics. Size, shape, colour, hardness, shininess, etc. combine to make the seed of particular species quite recognisable. It might help in collecting wild seed to know what it should look like for, at that stage, the flowers and many of the leaves may have vanished, and identification is not easy.

Achieving optimal conditions for germination of the seeds of particular species is not easy for the amateur gardener. Even if someone knows, the necessary information may not be accessible to him when sowing. Compost needs to be water-retentive but well-drained - so as to allow a supply of both water and air to the seedling - and seeds should be uniformly sown on an even, flat surface, watered from below initially and probably from above later, if uniform germination and good growth is to be achieved. Germination is helped, in various cases, by (i) warmth, (ii) chilling, (iii) alternating hot and cold. Dry storage in a refrigerator is merely a method of preserving seed: soaking, then chilling is what is needed. If in doubt, seed may be split into batches and different treatments applied, sowing perhaps at different times.

Seeds of Mediterranean species rarely need chilling, nor do they need heat above (say) 15°C. In nature they are produced early in the calendar year and lie dormant through the long hot dry summer. They germinate when the temperature falls in autumn and the winter rains start. Accordingly, they should be easy to germinate here, even if they might be difficult in later stages of growth.

Example. Honeywort seed, collected in late summer in my own garden, will germinate in September or October, but if sowing is delayed until January or February, the germination is quicker and more complete. The same applies to honeywort seed collected in Cephalonia in mid-May.