



Parnassia
The Newsletter of the Liverpool
Botanical Society

2002



Creeping Thistle, *Cirsium arvense*

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Plus more.....



Editorial

Welcome to *Parnassia* 2002. Once again I have to apologise for only managing to accomplish the production of one issue this year. At least this belated issue allows us to get ourselves up to date by covering the reports of all of the field meetings for 2001 as well as the indoor meeting for winter 2001/ 2002. I hope to get the next issue out in Spring 2003, but I always was an optimist!

Thanks for the help with this issue go to Gill Haynes and Sally Thompson at Ness and to Wendy Atkinson at the Museum and to all of the many contributors who gladly give their work and time freely to *Parnassia*. One of these contributors, Michael Hickey, has indeed given me permission to publish freely from his books and works of botanical illustration, and this issue of *Parnassia* sees the first of what I would like to be a series of extracts from Michael's work, *Botany for Beginners*. I hope you enjoy this.

Thanks

Keith Hatton
November 2002

Liverpool Museum News

It's been a busy time for us in the museum, but I'm pleased and excited to announce that we are finally back in Liverpool Museum! The whole decant operation, as I'm sure you can imagine, was a massive undertaking. The move back from our stores at Bootle started in February and took until May to complete. We have been

relocated to the basement of the Mountford building (to be known as the Sir Richard Foster Wing, in memory of our former director). Our new location used to be the Sport Science dept. belonging to John Moores University. The former botany area – the upper horseshoe gallery - is going to be a new 'World Cultures' gallery.

On the upper horseshoe gallery, we were limited in terms of space for both the collections and staff/visitors. The collections are now stored in a roller-racking system which has given us ample room for our existing collections plus expansion space for future growth. Provision has also been made for library growth with roller-racking tracks in situ for the future. Accessibility of the specimens is much improved, and everything but the plant models, rare books and LBS library are housed in the one collection room. We have a new suite of bright offices and purpose built preparation and quarantine rooms. The herbarium is temperature and humidity controlled. We also have improved facilities for researchers, students and volunteers with 18m of bench space and 18 computer network points. We are very keen to get a volunteer programme up and running in the Botany section (see advert in this issue!!) and would welcome offers of help – contact me for more information.

We are, at long last, now fully operational and are able to receive visitors to the collection areas. New procedures are in place which means visitors will have to sign in and out of the building and coats and bags will have to be left in a cloakroom. Please contact me for information on this. I'm



sure many of you will take up the opportunity to come in and use the collections and library and we hope to see you at the tour in December (see note in this issue).

Many of you will be aware that the staffing of the Botany section has changed, with Dr John Edmondson and Dr Angus Gunn moving to more senior roles. The current staffing of the botany section with contact details are given below and we look forward to hearing from you!

Head of Botany: Dr Leander
Wolstenholme Tel: 0151 478
4278

leander.wolstenholme@nmgm.org

Collections Manager: *Donna
Young Tel: 0151 478 4269

donna.young@nmgm.org

Assistant Curator: Wendy
Atkinson Tel: 0151 478 4216

wendy.atkinson@nmgm.org

**Research Assistant (Linnean
Society Herbaria):** **Claire
Sedgwick Tel: 0151 478 4275

claire.sedgwick@nmgm.org

*Donna Young works Mon.-Wed. only

** Claire Sedgwick works Mon.-

Thurs. only

Wendy Atkinson

November 2002

News from Ness Gardens

In this issue of Parnassia, Hugh McAllister gives us an update on some of his current work.

Studies on Native British Species at Ness Gardens

In addition to monographic studies on Rowans, Birches, Ivies, Cotoneasters and some other groups I haven't completely neglected British native species and am particularly interested in Red Fescue and Tufted Hair-grass, *Deschampsia cespitosa*. Even in the groups studied on a world scale, the British species have been of some interest, perhaps surprisingly with the British flora being such a minor offshoot of the flora of adjacent continental Europe.

Birches Just above the large pond at Ness is a group of Birches, mainly from high altitude in the eastern Scottish Highlands. Three of the trees towards the front of the group are decidedly odd with small, rhombic leaves with double toothing as is characteristic of *B. pendula*, the lowland silver birch. These trees are almost hairless, also a characteristic of the silver birch, but they are tetraploid ($2n=56$) like the hairy birch, *B. pubescens*. A colleague in Scotland is about to describe these as a new species, believing that they form distinct populations near the treeline in the Cairngorm area and may have survived the recent glaciation on land off the west coast of Scotland. Similar pre-glacial survival is suggested for the distinctive populations of Scots Pine and molecular evidence gives some support to this idea. How such a tetraploid birch could migrate for a



refugium off the west coast to its present site without being hybridised out of existence by *B.pubescens* is difficult to imagine. There may be some mechanism which prevents crossing – though this would be unusual in birch. Seed from these trees will be grown this year to see if it comes true or if hybridisation is possible.

Ivies It was work on the native Ivies started by Allison Rutherford in Scotland, which first interested me in the genus. The discovery that Ivies in western and southern Britain were tetraploid, ($2n=96$), while those roughly north and east of a line from the Isle of Wight to about Flint were diploid, ($2n=48$), led to the recognition that there were two species in Britain and three in western Europe. Whereas the common, smaller leaved ivy, *H. helix*, occurs from Scotland to the Crimea, only reaching the Atlantic in northern Scotland, the western *H. hibernica* occupies the Atlantic coast of Europe from an outlying population in Galloway in south-west Scotland, through Ireland, west France, north and west Spain and Portugal. It was unfortunate that the name *H. hibernica*, previously used only for the distinctive cultivated clone or group of clones with broad leaf lobes, had to be used to cover a much wider range of plants, most of which would previously been placed in *H. helix*.

Whereas the rays of the hairs of *H. helix* stand out at an angle to the leaf surface, those of *H. hibernica* lie parallel to the surface, making the young leaves and shoots look much less hairy than those of *H. helix*.



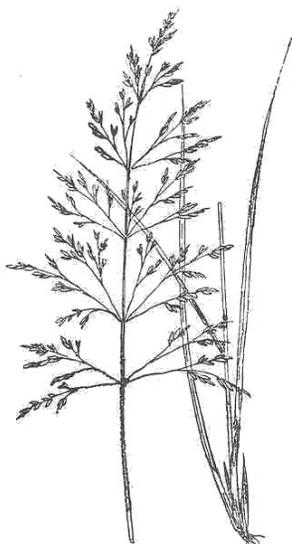
Common Ivy, *Hedera helix*

Cotoneaster Though I have been growing the *Cotoneaster* from the Great Orme for many years and have been aware of the controversy as to its status – genuine native or introduced by monks – it was a chance reference on a quite different matter which led me to Godwin's paper on the Post-Glacial flora of Moss Lake. Much of the University of Liverpool is now built over the site of Moss Lake. In the 1950s the then Professor of Botany, Alan Burges, suggested to Professor Godwin of Cambridge that he might like to investigate the subfossil peat which had been bared in preparation for the building of the present Senate House. One of his finds was 8,000 year old leaves of a *Cotoneaster* indistinguishable from those of the plant currently growing on the Orme. This evidence of the presence of a *Cotoneaster* native to Britain before there is any suggestion that man could have introduced such a species makes it much more likely that the occurrence on the Orme is not the result of human introduction. Further down the



sequence there is evidence for the occurrence of *Ephedra* about 12,000 years ago though this no longer occurs in Britain and its closest occurrence on the coast of Brittany.

Deschampsia cespitosa In Britain this complex has been shown to consist of three distinct groups of breeding populations (i.e. species in a genetic sense) and one apomictic species reproducing by pseudoviviparous plantlets. *D. cespitosa* in the strict sense contains the common tetraploid ($2n=52$) over most of Britain and a diploid in peripheral areas of Scotland and at high altitudes in the central and northern Highlands.



Tufted Hair-grass, *Deschampsia cespitosa*

Unfortunately no means of separating these morphologically has yet been found. In addition to these, the lowland clay woodland diploid, *D. parviflora* appears to be quite easily distinguishable and distinct ecologically and genetically, though CTW completely ignored it – Hubbard didn't. Also, *D. alpina* of the central

and northern Highlands is easily recognisable, at least in cultivation, by its triangular panicle and large brittle spikelets, though it is usually confused with the viviparous forms of tetraploid *D. cespitosa* found in the south-west Highlands, Scafell Pike and Snowdonia. This work should soon be written up for publication though a previous submission was rejected as too naturalistic and anecdotal.

Festuca rubra This is the species which I am most actively working on at the moment, following the discovery in an honours student project of plants with $2n=42, 49, 56, 63,$ and 70 on a single stretch of shore in Argyll. I suspect that the $2n=70$ plants, which are large, glaucous-leaved, and distinctive, may be relicts from the glacial period. This chromosome number has only been found elsewhere in Britain on Beinn Alligin in Torridon in north-west Scotland, suggesting that it may be a taxon with a coastal and mountain distribution like so many relicts from the glacial period such as *Armeria maritima*, *Cochlearia officinalis*, etc. There are suggestions of odd red fescues on Snowdon which I hope to follow up. Red fescues with $2n=70$ also occur in Spain (*F. nevadensis*) and the relationship between these and the Scottish plants is being investigated.

Hugh McAllister

Local News

It's Your Money I'm After!

Members at the 2002 Annual General Meeting discussed the subscriptions for 2003. This was because the expenditure for the year 2001 exceeded the income. Although we have money



in the bank to cover the deficiency, it was decided to increase the subscription to £4.00 in 2003. This will not apply to members under the age of 18 and full time students under 25 years.

This year we have become affiliated to the North West Naturalists Union. By doing so members, non-members and children attending our meetings are covered by insurance at a very economical cost to the Society.

Douglas Lockwood (Hon. Treasurer)

ANYONE INTERESTED?

It has come to my attention that some members may not be aware of certain privileges afforded to the LBS from other societies. These include:

- Attendance at North-Western Naturalists Union field meetings.
- 10% discount on full price merchandise at all Millets stores from the Ramblers' Association.
- Hire of the Ramblers' Association Merseyside & W. Cheshire's area chalet, set in the Clwydian Hills.

If members are interested in any of the above please contact me.

Wendy Atkinson

Success for Botanical Artists

The preview that we had, of the work of The Ness Botanical Artists Group, in the last issue of *Parnassia* formed part of a display of 'Rare Plants and

Endangered Species' at Gardeners' World Live 2002 at the NEC in June. The work was awarded a silver medal by The Royal Horticultural Society.

The watercolour final copy of the hybrid rush that was featured in *Parnassia*, went on to sell for £300. A tremendous achievement for the artist Vicky Marsh, for what was her first attempt at trying to capture the subtle charm of this group.

Keith Hatton

Vice County Recorder

The contact addresses for Dave Earl, the vice county 59 recorder are: -

Dave Earl,
The Herbarium,
Manchester Museum,
The University of Manchester,
Oxford Road,
Manchester
M13 9PL

OR

The Caretaker's House,
2A Ash Street,
Southport
PR8 6JH

V.C. News

Update for Vascular Plant Recording in VC59

Firstly, may I begin with some very good news for vascular plant recorders. After some debate the Flora Committee recently agreed to extend the deadline for recording to the end of 2004. This means that it should be possible to reach the target of 200+ vascular plant species for the majority



of tetrads in VC59 by the new deadline.

Several readers will be aware of the use of John Lowell's CD Flora of VC59 which is now the standard tool used to assist our field recording. The recording team can not only carry out a search of the species recorded for any given tetrad before venturing out into the field but also print out a BSBI card which illustrates which species have been recorded (or rather entered onto Recorder By Earl and Gateley) for any given tetrad within a requested date range. In addition a counts map can be produced to which various limits can be imposed. Once the counts map is produced, placing the cursor arrow over a tetrad and clicking the mouse can obtain the number of species recorded for a tetrad.

In this issue of *Parnassia* I will focus on those tetrads with totals of <100 species in order to encourage field workers to carry out further research over the winter months of 2002 - 2003. By setting the above mentioned CD counts map upper limit to >99 it is possible to see which tetrads require imminent research. During the main season of 2003 we will focus on tetrads with totals of <150 and in 2004 we will endeavour to see that where feasible most tetrad totals exceed 200.

A major factor to consider is the presence of data on a number of databases. We can not be sure of the situation for the far northeast section of VC59 but very significant progress is currently being made with data entry on the Lancashire tetrads. It is clear that SD61, SD62, SD71, SD72 have been very intensively recorded by Peter Jepson so do not be drawn to the

above mentioned hectads by the counts map on the CD. We will be able to plan a productive programme of recording in the northeast during the 2003 recording season, so for the time being the north eastern section does not require any great efforts until the spring although any data for the northeast would be greatly appreciated.

The counts map on the CD clearly demonstrates that the western section of VC59 has been intensively recorded and only a few marginal tetrads (most of which are of low vascular plant diversity) have totals of <100 species.

The key areas to focus on during the winter months are within the south east section of VC59, there being over 40 tetrads with totals of <100. With the decision that modern day records are classified as from 1995, my 'old' 1991-92 records for the Salford Borough are historic and therefore we have very low modern day totals for the SJ89, SD60, SD70 and SD80 tetrads of the Salford Borough. Further work also needs to be carried out in SD90 & SD91. Several LBS members are resident to Manchester and are very active members of the recording team. I would like to encourage such members to work very closely with each other, to plan and to venture out to the under recorded 'Manchester' tetrads for our mini project "The Winter Months Manchester Vascular Plant Hunting Scheme". Please do send any new records to me straight away so that the data can be processed quickly. With some favourable weather the elementary flora of Manchester north of the Mersey and Tame, which is visible throughout the year should be evaluated, prior to the main recording season of 2003.



Liverpool botanists can also be very busy this winter for the counts map for bryophytes shows tetrad totals of <25 species for most of the tetrads in the Liverpool district. Anyone who wishes to study bryophytes in the Liverpool district of VC59 can contact John Lowell or myself.

A brief mention is made here of the launch of a second phase of the Monitoring Scheme Project - "The Local Change Project". For VC59 this project will be carried out during 2003 - 2004 for the following tetrads SD30 A, J & W; SD60 A, J & W; SD90 A, & J; SD63 A & W; SD93 A & J. More details of this will follow in the spring issue of *Parnassia*.

Anyone interested in the being actively involved in "The Manchester Winter Months Plant Hunting Scheme", "The Local Change Project" or "The Liverpool Bryophytes Project" should contact me in writing as soon as possible to establish which tetrads they may wish to visit.

Dave Earl

Field Trips 2001

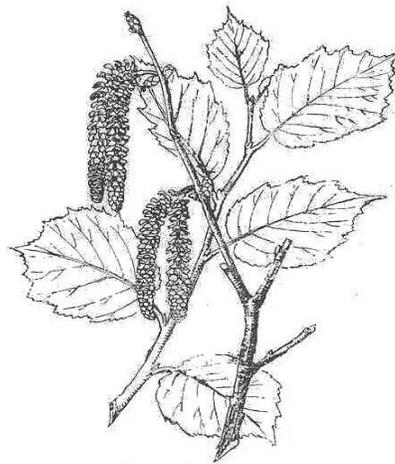
Dibbinsdale

31st March 2001

Leader - Keith Watson

On a cold and cloudy morning, eight members met at Bromborough Rake Station. Despite the early meeting and rather late spring some early flowers were very welcome, such as Wood Anemone, *Anemone nemorosa*, Dog's Mercury, *Mercurialis perennis* and Opposite-leaved Golden-saxifrage, *Chrysosplenium oppositifolium*, the latter in drifts in places. Marsh-marigold, *Caltha palustris* was just coming into flower in wet places near the Dibbin. The shrubs and trees just

coming into leaf were compared, with catkins of Hazel, *Corylus avellana* and young shoots of Ash, Sycamore Hawthorn, Blackthorn and eventually catkins of Hornbeam, *Carpinus betulus*.



Hazel, *Corylus avellana*

We went along paths to the tunnel, the rain started and we eventually found some shelter for lunch at Woodslee near the walled garden.

This meeting was interesting for the chance to identify plants in the early stage of growth and leaves of Barren Strawberry, *Potentilla sterilis*, Ramsons, *Allium ursinum*, Pignut, *Conopodium majus*, Wood Speedwell, *Veronica montana* and all three species of Currant, red, black and gooseberry, *Ribes rubrum*, *nigrum*, *uva-crispa* were found. We then walked down to St. Patrick's well and then back along the wet sandstone path where Hard-fern, *Blechnum spicant*, Great Wood-rush, *Luzula sylvatica* and a liverwort in fruit were found. A carpet of Indian Balsam, *Impatiens glandulifera*



seedlings were very conspicuous on the other side of the river.

Then it was back through the tunnel, up the steep steps to Spitalfields and along to Boden's Hey meadow, but it was too early in the year to find much of interest. Returning across the bridge into the woods again, we had a stop for tea before walking up the steps back to the Station. This was a good meeting, despite the early date and poor weather, there was still much to be seen.

Keith Watson

Caergwrle

21 April 2001

Leader - Vera Gordon

Due to the widespread Foot and Mouth epidemic, our party for this favourite locality was only 11, much smaller than usual. We paid our respects to the Hornbeam tree, *Carpinus betulus* growing on the banks of the river Alyn, leaning over the bridge so that we could see the catkins easily. They were later than usual due to the long winter and this was the same with most of the spring flowers.

We started off along the wood on the bank of the river Alyn where the leaves of Ramsons made an almost complete carpet, but only one of the white flowers was seen, however, the flowers of Butterbur, *Petasites hybridus* were at their best. We were saddened to see the damaged pack-horse bridge due to the recent floods and disappointed not to find the Toothwort, *Lathraea squamaria* due to repairing of the riverbanks with large stones and piles of soil.

We then made our way to the lane up to Bryn Yorkin and along the side of

Hope Mountain. On the hedge-banks were the flowers of Wild Strawberry, *Fragaria vesca*. Further uphill were a few flowers of Wood-sorrel, *Oxalis acetosella* and Wood Anemone, *Anemone nemorosa* but most were still in tight bud.

On the wall and hedge side of a lane grew the common Polypody Fern, *Polypodium vulgare*, and amongst these were spotted two plants of Intermediate Polypody, *Polypodium interjectum*. Higher up the lane, the leaves of Navelwort, *Umbilicus rupestris* were abundant. Coming down towards the village of Cymau, the Shining Crane's-bill *Geranium lucidum*, which usually makes a lovely border of dainty deep pink flowers, had only one flower out this year.



Polypody, *Polypodium vulgare*

Because of the Foot and Mouth disease we had to avoid our usual footpaths but the steep lanes with high banks gave eye level botany. Going over to the Cegidog Valley we saw some Lesser Celandine *Ranunculus ficaria*, Common Dog-violet, *Viola riviniana*



and a few Early Dog-violet's *V. reichenbachiana*.

Higher up the lane where the banks were lower there was a good place to have our lunch. Restored, we continued over the shoulder of the hill and down to the valley road where after a short walk to another lane we started the return back. Greater Stitchwort, *Stellaria holostea* was in flower here and on a flat area by a stream was a large golden patch of Alternate-leaved Golden-saxifrage, *Chrysosplenium alternifolium*. Below the hedge in sheltered places we saw the tiny green flowers of Moschatel, *Adoxa moschatellina*. This flower is sometimes known as Town Hall Clock having a flower on each side of the stem, however, the flower on the top spoils the illusion.

On the upper millstone grit of the hill, the small pink bell flowers of the Bilberry, *Vaccinium myrtillus* were admired. Down the steep hill we had to stop to see the fine display of deep coloured Common Dog-violet *Viola riviniana* and by a stream we saw some more Alternate-leaved Golden Saxifrage with a few Opposite-leaved Golden-saxifrage, *Chrysosplenium oppositifolium*. Finally, along the short stretch of road to Hope railway station, we saw golden clumps of Marsh-marigold, *Caltha palustris* by a small pond.

Vera Gordon

Penketh

19th May

Leader - Tony Parker

It was a cloudy but dry day as 11 members of the group assembled at the car park of the Ferry Tavern on the

banks of the River Mersey before heading to our main destination, the former Gatewarth landfill site. Here we were met by one of the Warrington Borough Council rangers who was responsible for site access along with health and safety (such sites have a habit of spontaneously combusting).

On leaving the car park we proceeded along the towpath of the Sankey-St. Helens Canal. This is one of Britain's oldest canals having opened in 1757; it is now only used for leisure purposes but is also important for wildlife. Amongst species recorded here were Cuckooflower, *Cardamine pratensis*, Hemlock Water-dropwort, *Oenanthe crocata*, Marsh Valerian, *Valeriana dioica* and Gipsywort, *Lycopus europaeus*. The hairy caterpillar of the Garden Tiger Moth also aroused much interest.

We then reached the landfill site itself, disused since the mid 1980's the site is now maintained for its nature conservation importance having a good population of breeding Skylark and Meadow Pipit. It also has the added interest of being sited on saltmarsh adjacent to the Upper Mersey Estuary which can be observed from the footpath running around the site.

The period before lunch was spent recording species along the footpath and the grassy bank leading down to the marshes. Amongst the plants recorded were Cowslip *Primula veris*, Common Comfrey, *Symphytum officinale*, Oxeye Daisy, *Leucanthemum vulgare*, Meadow Vetchling, *Lathyrus pratensis*, Lucerne, *Medicago sativa ssp. sativa*, Common Bird's-foot-trefoil, *Lotus corniculatus* and Common Vetch,



Vicia sativa, which had both blue and white flowers



Common Comfrey, *Symphytum officinale*

After lunch the group went walkabout on the area of rough grassland, which now covers the original tip site. A variety of grasses, sedges and rushes were recorded e.g. Marsh Foxtail, *Alopecurus geniculatus*, False Fox-sedge *Carex otrubae*, Tall Fescue, *Festuca arundinacea*, Jointed Rush, *Juncus articulatus*, Narrow-leaved Meadow-grass, *Poa angustifolia* and Branched Bur-reed *Sparganium erectum*. The site still retains a variety of garden escapes including various Geraniums, Hebe and Pampas Grass! A large caterpillar of the Drinker Moth attracted a good deal of attention whilst some of the group also managed a brief glimpse of one of the local Brown Hare population.

After the regulation stop for refreshments we returned to the car park, again by way of the canal towpath part of which runs adjacent to the former tip. This is the only part of

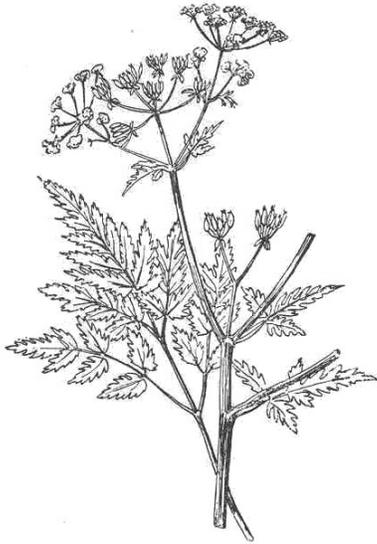
the site that has any reasonable sized trees, Birch, Maple and various Willows being noted.

Species recorded from Liverpool Botanical Society visit to Gatewarth: 19.5.01

- Acer platanoides*, Norway Maple
- Achillea millefolium*, Yarrow
- Achillea ptarmica*, Sneezewort
- Aegopodium podagraria*, Ground-elder
- Alliaria petiolata*, Garlic Mustard
- Alisma plantago-aquatica*, Water-plantain
- Alnus glutinosa*, Alder
- Alopecurus geniculatus*, Marsh Foxtail
- Alopecurus pratensis*, Meadow Foxtail
- Angelica sylvestris*, Wild Angelica
- Anthriscus sylvestris*, Cow Parsley
- Anthoxanthum odoratum*, Sweet Vernal-grass
- Aquilegia vulgaris*, Columbine
- Armoracia rusticana*, Horse-radish
- Artemisia vulgaris*, Mugwort
- Barbarea vulgaris*, Winter-ress
- Bellis perennis*, Daisy
- Betula pubescens*, Downy Birch
- Bromus hordeaceus* Ssp. *hordeaceus*, Soft Brome
- Cardamine hirsuta*, Hairy Bitter-ress
- Cardamine pratensis*, Cuckooflower
- Carex otrubae*, False Fox-sedge
- Carex flacca*, Glaucous Sedge
- Carex hirta*, Hairy Sedge
- Carex remota*, Remote Sedge
- Centaurea montana*, Perennial Cornflower
- Centaurea nigra*, Common Knapweed
- Cerastium glomeratum*, Sticky Mouse-ear
- Chamerion angustifolium*, Rosebay Willowherb
- Chelidonium majus*, Greater Celandine
- Cirsium arvense*, Creeping Thistle
- Crataegus monogyna*, Hawthorn
- Cytisus scoparius*, Broom



Dactylis glomerata, Cock's-foot
Daucus carota, Wild Carrot
Deschampsia flexuosa, Wavy Hair-grass



Cow Parsley, *Anthriscus sylvestris*

Dipsacus fullonum, Wild Teasel
Dryopteris felix-mas, Male-fern
Epilobium hirsutum, Great Willowherb
Equisetum arvense, Field Horsetail
Eupatorium cannabinum, Hemp-agrimony
Fallopia japonica, Japanese Knotweed
Festuca arundinacea, Tall Fescue
Galium aparine, Cleavers
Geranium dissectum, Cut-leaved Crane's-bill
Geranium endressii, French Crane's-bill
Geranium lucidum, Shining Crane's-bill
Geranium robertianum, Herb-Robert
Heracleum mantegazzianum, Giant Hogweed
Holcus lanatus, Yorkshire-fog
Hyacinthoides hispanica, Spanish Bluebell
Hypochaeris radicata, Cat's-ear

Iris pseudacorus, Yellow Iris
Juncus articulatus, Jointed Rush
Juncus inflexus, Hard Rush
Laburnum alpinum, Scottish Laburnum
Lamium album, White Dead-nettle
Lathyrus pratensis, Meadow Vetchling
Leucanthemum vulgare, Oxeye Daisy
Lotus corniculatus, Common Birds-foot-trefoil
Lysimachia punctata, Dotted Loosestrife
Medicago lupulina, Black Medick
Medicago sativa ssp. sativa, Lucerne
Mentha spicata, Spear Mint
Oenanthe crocata, Hemlock Water-dropwort
Persicaria amphibia, Amphibious Bistort
Phalaris arundinacea, Reed Canary-grass
Phragmites australis, Common Reed
Plantago major, Greater Plantain
Poa angustifolia, Narrow-leaved Meadow-grass
Poa annua, Annual Meadow-grass
Poa pratensis, Smooth Meadow-grass
Potentilla anserine, Silverweed
Potentilla reptans, Creeping Cinquefoil
Primula veris, Cowslip
Prunella vulgaris, Selfheal
Ranunculus acris, Meadow Buttercup
Ranunculus repens, Creeping Buttercup
Ranunculus sceleratus, Celery-leaved Buttercup
Rosa arvensis, Field-rose
Rumex crispus, Curled Dock
Sagina procumbens, Procumbent Pearlwort
Salix cinerea, Grey Willow
Salix fragilis, Crack-willow
Salix viminalis, Osier
Sambucus nigra, Elder
Sanguisorba minor ssp. minor, Salad Burnet



Scrophularia nodosa, Common Figwort
Silene dioica, Red Campion
Sonchus oleraceus, Smooth Sowthistle
Sorbus aucuparia, Rowan
Sparganium erectum, Branched Bur-reed
Stachys sylvatica, Hedge Woundwort
Symphytum officinale, Common Comfrey
Tanacetum vulgare, Tansy
Trifolium pratense, Red Clover
Tripleurospermum inodorum, Scentless Mayweed
Tussilago farfara, Colt's-foot
Urtica dioica, Common Nettle
Valeriana dioica, Marsh Valerian
Veronica persica, Common Field-speedwell
Viburnum opulus, Guelder-rose
Vicia hirsuta, Hairy Tare
Vicia sativa, Common Vetch
Vicia sepium, Bush Vetch

Tony Parker

Waterloo

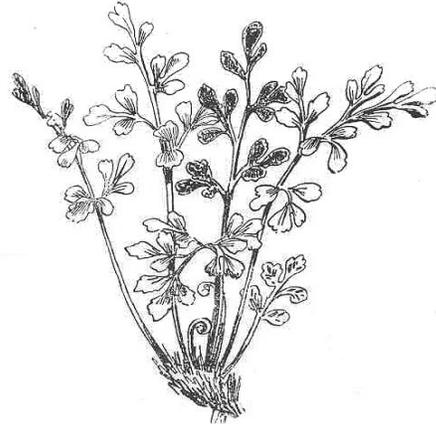
9th June 2001

Leader - Vera Gordon

13 members from places as far apart as Manchester and Freshfield left home in fine weather but rain started as we met at Waterloo. However, rainproofs ready, we set off down the road and spent the first half hour in one of the four small parks adjoining the shore fields. The bryologists of the party examined the limestone rocks of the neglected rockeries where there were a few small tufts of the fern Wall-rue, *Asplenium ruta-muraria*.

Many common weeds along the path edges in flower beds included poppies, *Papaver rhoeas* and *P. dubium*, the Cranes-bills *Geranium dissectum* and *G. molle*, Cut-leaved Dead-nettle

Lamium hybridum, the Henbit Dead-nettle *L. amplexicaule*, the annual Field Woundwort *Stachys arvensis*, Scarlet Pimpernel, *Anagallis arvensis* and the Small Nettle, *Urtica urens* and Danish Scurvygrass *Cochlearia danica*.



Wall-rue, *Asplenium ruta-muraria*

Then on to the area, which had been "Seaforth Sands" until 1970-71 when, a seawall was built to enclose a Marine Lake for boating and large grassy areas for recreation. Where the vegetation was thin and sandy we found plenty of Bird's-foot *Ornithopus perpusillus* among a sward of Silver Hair Grass, *Aira caryophyllea*; further on Hare's-foot Clover, *Trifolium arvense* was seen.

Near the lakeside a fenced-off area had been left to nature, where many Southern Marsh Orchids *Dactylorhiza praetermissa*, a few Early Marsh Orchids *D. incarnata*, some Common Spotted Orchids, *D. fuchsii* all grew together making a fine site although the flowers were a week later than usual. Near the lake the few Bee Orchids, *Ophrys apifera* and Marsh Helleborine, *Epipactus palustris* were not yet in flower. The shingle of the lakeside was carpeted in places with



pink flowered Sea-milkwort, *Glaux maritima* and much taller Sea Arrowgrass, *Triglochin maritimum* and the daintier Marsh Arrowgrass, *T. palustre*. There were large and spreading clumps of Sea Club-rush, *Bolboschoenus maritimus* and taller plants of Yellow Iris, *Iris pseudacorus* and lush plants of Hemlock Water-dropwort, *Oenanthe crocata* with a few smaller plants of Parsley Water-dropwort *O. lachenalii*. Other plants included Compact Rush, *Juncus conglomeratus*, Dotted Loosestrife, *Lysimachia punctata* as well as alien Michaelmas Daisy plants not yet in flower.

Leaving this fenced in area we walked around the lake towards the sea where on the steep grassy banks sloping down from the promenade to the lake we found the small stiff Sea Fern-grass, *Catapodium marinum*, remains of Early Forget-me-not, *Myosotis ramosissima*, Sea Pearlwort, *Sagina maritima* and some stunted windblown Common Spotted-orchid, *Dactylorhiza fuchsii*. Lunch was enjoyed out of the wind below a belt of Sea-buckthorn, *Hippophae rhamnoides* and alongside the lake.

Leaving the lake and walking on the landward side of the dunes there was plenty of Sea-holly, *Eryngium maritimum* not yet in flower and three patches of Isle of Man Cabbage, *Coincya monensis ssp. monensis* in good flower. A fenced in area built and sown with grass seed etc had masses of Common Bird's-foot-trefoil, *Lotus corniculatus var. sativus* among which we found plants in good flower of the hairy Rough Hawkbit, *Leontodon hispidus*. On the seaward side of the dunes a couple of Rock

Samphire, *Crithmum maritimum* were growing between the small concrete wall of the promenade and dense Marram Grass, *Ammophila arenaria*. In large areas of short grass between the promenade and the road were quite big patches of Danish Scurvygrass now in seed which a few weeks earlier could be seen in the distance as big mauve pools. Then a short walk up to the railway station and train either for the cars at Waterloo or onwards to Liverpool or a train in the opposite direction to Freshfield.

Vera Gordon

Freshfield **7th July 2001**

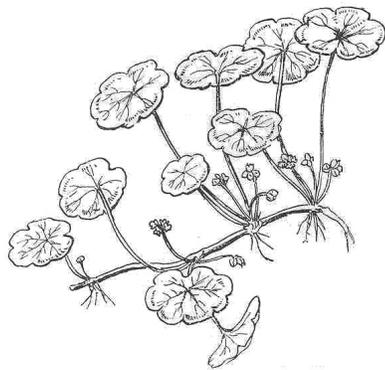
Leader - Pat Lockwood

15 members and friends made a happy sound walking along Montagu Road to Fishermans Path crossing. Before going across the line we looked at Bird's-foot, *Ornithopus perpusillus*, with wonderful birdsfoot like pods, also Common Cudweed, *Filago vulgaris*. Over the railway line there were good specimens of Yellow Bartsia, *Parentucellia viscosa* and masses of Corn Spurrey, *Spergula arvensis* and a favourite of mine, Scarlet Pimpernel, *Anagallis arvensis ssp. arvensis*.

Further down Fisherman's Path we found Ploughman's-spikenard, *Inula conyzae* and White Bryony, *Bryonia dioica*. An area owned by the Formby Golf Club was once a wonderful place for Marsh Helleborine, *Epipactis palustris* and Adder's-tongue, *Ophioglossum vulgatum*. It is now covered with Creeping Willow, *Salix repens*. However, Yellow Bird's-nest, *Monotropa hypopitys* was very well spotted, also Bog Pimpernel, *Anagallis*



tenella, Water Mint, *Mentha aquatica*, Eyebright, *Euphrasia officinalis* agg. and Marsh Pennywort, *Hydrocotyle vulgaris*.



Marsh Pennywort, *Hydrocotyle vulgaris*

We sat in an 'arena' for our butties, or could it really be a lay-by? There was a bird calling and Henry said it was a Crossbill and Joyce agreed. Unfortunately, we didn't see it; I would have liked to have done. At the end of Fisherman's Path we turned north and climbed up the dunes (all we needed were a few camels!), dutifully following the white posts.

The area and time of year to visit was especially chosen to see the Pyramidal Orchid, *Anacamptis pyramidalis*, and we were not disappointed, for there were hundreds of them. In a wet slack we viewed, in very good flower, Lesser Water-plantain, *Baldellia ranunculoides*, Common Spike-rush, *Eleocharis palustris*, Yellow Iris, *Iris pseudacorus*, Common Valerian, *Valeriana officinalis*, Early Marsh-orchid, *Dactylorhiza incarnata*, Common Centaury, *Centaureum erythraea*, and Seaside Centaury, *Centaureum littorale*, alongside Yellow-wort, *Blackstonia perfoliata* and Bee Orchid, *Ophrys apifera*.

Round-leaved Wintergreen, *Pyrola rotundifolia*, was well spotted, unfortunately not in flower. Carlina Thistle, *Carlina vulgaris*, was in good flower all over the dunes and the Narrow-lipped Helleborine, *Epipactis leptochila* var. *dunensis* was growing side by side with Green-flowered Helleborine, *Epipactis phyllanthes*.

A lot of the dune paths were very damp, wet in places. We had to be careful where we put our feet as there were hundreds (no exaggeration!) of baby natterjack toads as well as tiny newts. There were many butterflies, but the most prominent was the Dark Green Fritillary. On the edge of a wet slack, Brookweed, *Samolus valerandi*, appeared to be struggling and nearby, in good flower, was Blue Water-Speedwell, *Veronica anagallis-aquatica*. Here Grass-of-Parnassus, *Parnassia palustris*, was just coming out and growing nearby was Knotted Pearlwort, *Sagina nodosa*. At the end of our walk several members went into the Ainsdale Discovery Centre where they obtained leaflets and copies of 'Coastlines'. The slacks at Ainsdale are usually covered in orchids at this time of year, but this year they were full of water, fuller I think than I have ever seen them. If I have left out your favourite flower I am sorry, but the list would be endless. Thank you for your support.

Pat Lockwood

Manchester Airport

28 July 2001

Leader Eric Greenwood

For the first time in many years the Society hired a mini bus to take members to Manchester Airport. The



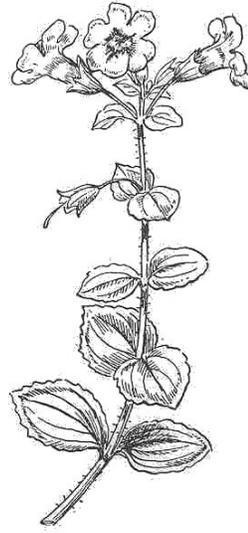
purpose of the trip was to see the mitigation measures taken by the airport authorities to safeguard the wild life disturbed by the construction of the second runway. This had become operational earlier in the year.

Tim Walmsley, Ecologist for the Runway 2 Project Management Team to whom the Society is greatly indebted for his guidance during the day met the party. He gave an introductory talk explaining what the mitigation measures entailed. After the talk, Tim joined the coach and took the party on a tour of some of the rehabilitation measures undertaken.

The first stop was to see developing grassland overlooking the second runway. As this was at an early stage of development some members may have been more interested in aircraft movements on one of the busiest days of the year. Tim explained that stiff stemmed grasses are planted and dead-headed in the grassland areas to deter birds from getting too close to Runway Two.

The runway had involved building over the Bollin valley and controversially felled old woodland. Apart from culverting the river in a large tunnel the mitigation measures involved re-planting felled woodland with broad-leaved trees and shrubs together with ground flora species typical of the area. The new woodland was at an early stage of development but it was clear already that the massive tunnel portals would in future years become well hidden and that the new woods would be floristically rich. At the tunnel entrance we found species such as Monkeyflower, *Mimulus guttatus*, Scarlet Pimpernel,

Anagallis arvensis ssp. arvensis, Red Bartsia, *Odontites vernus*, and Cut-leaved Crane's-bill, *Geranium dissectum*.



Monkeyflower, *Mimulus guttatus*

During the building works many ponds were destroyed but great care was taken to rescue more than 30 000 specimen of amphibians and relocate them to other ponds including 46 newly created ones. Tim took us to one of the new ponds. On a hill nearby we noticed Common Knapweed, *Centaurea nigra*, Marsh Thistle, *Cirsium palustre*, Silverweed, *Potentilla anserina* and Fox-and-cubs, *Pilosella aurantiaca*. Tim said that there had also been orchids on this site but it was too late in the season to see them. Members were also impressed at how well the flora of one of these new ponds was developing. Growing in the pond we spotted Water-plantain, *Alisma plantago-aquatica*, Branched Bur-reed, *Sparganium erectum*, Small Pondweed, *Potamogeton berchtoldii* and Broad-leaved Pondweed, *P. natans*, while on the muddy banks we



found Soft-rush, *Juncus effusus*, Tufted Forget-me-not, *Myosotis laxa* and Bittersweet, *Solanum dulcamara*. Although this was not a day to see rare species just yet, on disturbed ground at one of the stops on the tour, a fine colony of Yellow Bartsia, *Parentucellia viscosa* was seen.

Although the 16-seat coach was not full, members felt that the convenience and flexibility of the coach went a long way to making the day a success.

Eric Greenwood & Wendy Atkinson

Heswall

11 August 2001

Leader - Susan Taylor

On a cloudy, but mild, morning 14 members gathered at Heswall Bus Station. For some it was the first time this year that they had been able to join us and we were delighted to see them. We set off to walk to the Beacons, only a short distance away. The present-day 'Beacons' is the last remnant of open heathland that, 150 years ago, extended northwards to link up with the Dales and eastwards to Pensby. Here we met a Wirral Ranger and were pleased that one area had recently been cleared of scrub to allow the Heather, *Calluna vulgaris*, Western Gorse, *Ulex gallii* and a lesser amount of Bell Heather, *Erica cinerea* to continue to flourish amongst the outcrops of red sandstone. At the summit we stopped to admire the view across the Dee Estuary, below us.

We descended down a narrow footpath to stroll along some of the old lanes of Heswall. A sandstone wall in Lower Heswall Village (a conservation area) provided a home for Harts-tongue

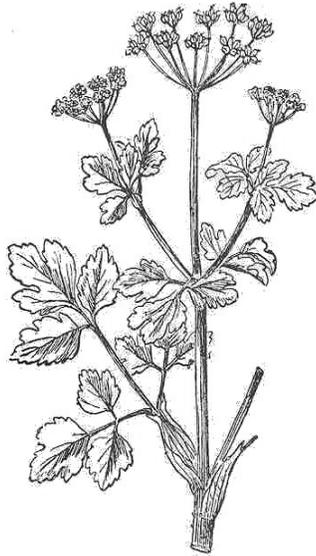
ferns, *Phyllitis scolopendrium*, Maidenhair Spleenwort, *Asplenium trichomanes* and common Polypody, *Polypodium vulgare*; nearby Male-ferns, *Dryopteris filix-mas* were growing. We stopped for our picnic lunch near St Peter's Church, with its very fine tower dating from the 14th century.

Along part of the Wirral Way (originally the Hooton to West Kirby railway line) we admired the tiny flowers of Scarlet Pimpernel, *Anagallis arvensis ssp. arvensis*. The path had recently been re-surfaced with stone chippings and Small Toadflax *Chaenorhinum minus* was noted. Tall clumps of Great Willowherb, *Epilobium hirsutum* and Hemp-agrimony, *Eupatorium cannabinum* were in flower in the damper areas. The shiny, broad heart-shaped leaves of Black Bryony, *Tamus communis* twined amongst some of the thickets, their fruits not yet scarlet. On reaching the road, which led down to the shore, we examined the large black and sharply ridged fruits of Alexanders, *Smyrniolum olusatrum*, growing alongside a hedge. This plant is quite common in the area.

The Dee Estuary provided a wealth of botanical interest. The saltmarsh continues to spread, since the deliberate introduction of Common Cord-grass, *Spartina anglica* in 1928. Other saltmarsh plants included Common Glasswort, *Salicornia europaea*, Sea Aster, *Aster tripolium*, Sea Club-rush *Bolboschoenus maritimus*, Sea Arrowgrass, *Triglochin maritimum*, Annual Sea-blite, *Suaeda maritima* and Grass-leaved Orache, *Atriplex littoralis*. A bank of boulder clay provided us with a Tree-mallow,



Lavatera arborea with its purplish-pink and purple veined flowers. Spiny Restharrow, *Ononis spinosa*, Trifid Bur-marigold, *Bidens tripartita* and Bristly Oxtongue, *Picris echioides* were nearby.



Alexanders, *Smyrniolum olusatrum*

Perhaps the most interesting find of the day were the upright plants of Peppersaxifrage, *Silaum silaus*, with their sulphurous yellow flowers. This was a plant that some of us had not seen before. Heading back, towards Upper Heswall, we spotted a single plant of Hard Shield-fern, *Polystichum aculeatum* growing in a shady spot. We followed a path skirting the edge of Heswall Dales Local Nature Reserve. In a damp area clumps of Pendulous Sedge, *Carex pendula* thrived. From there we were soon back in the busy centre of Heswall.

Susan Taylor

Bidston 8th September 2001

Leader - Keith Watson

A rather large party of about 25 met at Bidston Station on a fine, but windy day, and walked through Bidston Village to the footpath past Bidston Hall. Hairy Bamboo, *Sasaella ramosa* was seen in the woods on the way up to the Observatory. There was Heather, *Calluna vulgaris*, Western Gorse, *Ulex gallii* and Purple Moor-grass, *Molinia caerulea* on top of the hill, and Climbing Corydalis, *Ceratocarpus claviculata* was found near the old windmill where we stopped for lunch. Then we went over the bridge along the path towards Tam o' Shanter Farm. Amongst much Common Bent, *Agrostis capillaris*, Velvet Bent, *Agrostis canina* was found in a wet place. A number of interesting plants were found in Taylor's Wood including Goldenrod, *Solidago virgaurea*, Rustyback, *Ceterach officinarum*, Shallon, *Gaultheria shallon*, Prickly Heath, *Gaultheria mucronata*, and both Holm Oak, *Quercus ilex* and Turkey Oak, *Q. cerris*.

After a brief visit to the farm, we walked through Flaybrick Hill Cemetery, passing an old cut-leaved form of Elder, *Sambucus nigra var. laciniata* and back past the Model Yacht Lake towards Bidston Station. Flattened Meadow-grass, *Poa compressa* was found on waste ground near the supermarket. We stopped near the station for tea, and then some of the party proceeded to Bidston Moss. Fennel Pondweed, *Potamogeton pectinatus* was found in the Birket and Parrot's-feather, *Myriophyllum aquaticum* and Alder Buckthorn,



Frangula alnus in the Nature reserve. The paths in the reserve are now becoming very overgrown but we penetrated some distance where Vera spotted Cut-leaved Teasel, *Dipsacus laciniatus*, probably a new Cheshire record. There was much Tansy, *Tanacetum vulgare* and also Hedge Bedstraw, *Galium mollugo* ssp. *erectum*. We then walked along the new cycle track to the DIY store car park to look for Meadow Barley, *Hordeum secalinum*. Many planted shrubs were of interest and Square-stalked Willowherb, *Epilobium tetragonum* was found.

Keith Watson

Maghull

22 September 2001

Leader - Peter Gateley

About a dozen members met at Maghull Station on a pleasant Autumn morning and immediately began recording the platform and car park weeds adding to the data for tetrad SD30V. Yes we were in for a day of "square-bashing"; attempting to record as many species as possible within each tetrad visited, updating the records for the proposed new Flora. In the paving cracks Lesser Swine-cress, *Coronopus didymus* soon made its presence felt with mats of bright green leaves, clusters of almost spherical fruits and strong cressy smell, its larger native relative Swine-cress, *C. squamatus* was also found nearby.

From the station a short section of suburban road was negotiated to reach the banks of the Leeds to Liverpool Canal, from then on we followed the towpath in a mainly easterly direction. Here the usual trawl of ruderal weeds

was augmented not only by aquatics and marginals but also by typical arable field weeds as we left the banks for adjacent field edges. It was pleasing to find the usual trio of annual dead-nettles, Red Dead-nettle, *Lamium purpureum*, Cut-leaved Dead-nettle, *L. hybridum* and Henbit Dead-nettle, *L. amplexicaule*. Of these the latter is a favourite with its dark green ruffs around the stems and slender magenta flowers. We also came across a small population of Field Penny-cress, *Thlaspi arvense* with its round seedpods looking especially penny-like at this time of year. There were also some areas of sandstone wall, both along the canal and small linking lanes, and two species of annual grass were recorded, Early Hair-grass, *Aira praecox* and Silver Hair-grass, *A. caryophyllea*. These walls also provided a habitat for Pellitory-of-the-wall, *Parietaria judaica*.



Early Hair-grass, *Aira praecox*

Along the lanes from the canal we reached Melling Church where we explored the churchyard and then crossed the road to the long-filled in quarry where a range of species



introduced in a "wildflower" planting scheme over two decades ago were still thriving. These plants brightening the Autumn scene included Yellow-rattle *Rhinanthus minor*, Agrimony, *Agrimonia eupatoria*, Lady's Bedstraw, *Galium verum* and Wild Carrot, *Daucus carota* as well as a range of planted trees.

Our route then delved deep into the arable farmland of Melling, curving north along the side of an old-established drainage ditch and through a small bit of woodland before crossing the M58 motorway and passing through the heavily managed Ball's Wood before returning to Maghull Station. No rarities were noted but a wide range of the habitats within tetrad SD30V were visited recording over 200 plant species, as well as shorter lists for the parts of two adjoining tetrads also passed through. It was a fun day, illustrating that even quite unlikely-looking areas can hold a surprisingly wide range of common plants; all you have to do is go and look for them. If anyone has spare time to do more square-bashing please contact the vice-county recorder, David Earl who will be able to direct you to the areas most needing up-to-date information for the new Flora.

Peter Gateley

Evening Meeting Reports

Holiday Exhibits 13th November 2001

Eric Greenwood was in the chair and 9 members were present Apologies for absence were received from Wendy Atkinson, Angus Gunn, Donna Young,

Claire Sedgwick, Jean Bentley and Joan Vincent.

Vera Gordon showed slides of a botanical exploration to Slovenia, an area in the Julian Alps that she had previously visited in August 1961. In 2001 her visit was in June so she was able to see later flowering species this time round. The following species were shown: -

Mountain Avens, *Dryas octopetala*, Three-leaved Windflower, *Anemone trifolia*, a species very like Wood Anemone, *A. nemorosa*, except for its leaves, Alpine Clematis, *Clematis alpina*, a species abundant in the valleys of the Julian Alps. Lesser Londonpride, *Saxifraga cuneifolia*, was shown with its leaves obscured by Liverleaf, *Hepatica nobilis*. Other species also shown were Christmas-rose, *Helleborus niger*, the yellow violet, *Viola biflora*, and the Fleabane, *Erigeron uniflorus*, which is common on the Julian Alps and also grows on Ben Lawers, Scotland.

May Lily, *Maianthemum bifolium* was shown, it is common in Norway and grows in Scotland and also adjacent to a road near Scarborough; it was also formerly known from Lancashire. Slides were also shown of *Veronica aphylla* a small plant of high ground, Orange Lily, *Lilium bulbiferum*, Meadow Crane's-bill, *Geranium pratense*, and Sticky Flax, *Linum viscosum* (despite its name only the bracts, and not the leaves, are sticky).

Other species shown included Trumpet Gentian, *Gentiana clusii*, Common Spotted-orchid, *Dactylorhiza fuschii*, the Meadow-rue, *Thalictrum reptans*, Fringed Pink, *Dianthus*



monspessulanus, growing on a very steep bank, Alpine Champion, *Silene quadrifida*, Yellow Thistle, *Cirsium erisithales*, Whorled Solomon's-seal, *Polygonatum verticillatum*, Masterwort, *Astrantia carniolica*, Alpine Winter Savory, *Satureja alpinus*, Common Cottongrass, *Eriophorum angustifolium*, Bastard Balm, *Melittis melissophyllum*, Yellow Bellflower, *Campanula thyrsoides*, the oddly named Thyme Broomrape, *Orobanche alba*, which appeared dark red and Vera has never actually seen it white. It parasitises thyme. Rayed Broom, *Genista radiata*, was shown as was Mistletoe, *Viscum album*, on many species of trees adjacent to a lake, and one fungi specimen, *Clavaria* sp. was also shown.

More slides showed Laburnum, *Laburnum anagyroides*, growing in the wild, Wood Vetch, *Vicia sylvatica*, Mossy Sandwort, *Moehringia muscosa*, Red Helleborine, *Cephalanthera rubra*, Greater Butterfly-orchid, *Platanthera chlorantha*, and Hardy Cyclamen, *Cyclamen purpurascens*. Marsh Helleborine, *Epipactis palustris* was shown growing in wet places, Buck's-beard, *Aruncus dioicus* was very common and another slide showed the flowers of Yellow Foxglove, *Digitalis grandiflora*, Foxglove, *D. purpurea* being rare on the continent.

Eric Greenwood showed slides of the dwelling places associated with old Lancashire botanists. We were shown the 18th Century house of Yealand and the boarding house of James Jenkinson, a Quaker.

A slide of the Lamb and Packet pub in Preston where the Artisan Naturalists

of Preston used to meet was shown. We were told the story of the mythical Flora Prestonensis allegedly published in the 1830's. It doesn't actually exist and was only a proposal thought up by the publisher Peter Whittle.

We then learnt of the Fieldings of Church and were shown the former house and cotton weaving shed of Joseph Fielding. Joseph Fielding became a wealthy man during the cotton revolution. His neighbour at that time built a calico printing factory. Now, only the mill lodges remain and the site of the old factory is now a nature reserve – the Fox Hill Bank nature reserve. Next, a slide of Henry Fielding's Georgian house in Winkly Square, Preston was shown. Henry was privately educated and had been sickly in childhood so had little to do with the Fieldings cotton business. He was interested in Natural History as a boy and had access to the Shepherd library, it was his collection that founded the Oxford University herbarium.



Common Broomrape, *Orobanche minor*

Eric showed slides of the Lancaster canal. Photographs from 100 years ago showed barely any trees, but there are



plenty there today. He had also re-visited hedgerows which are much less floristically rich than they once were. A flower rich bank of a motorway was shown. Bee Orchid, *Ophrys apifera* and Common Broomrape, *Orobanche minor* grew in this calcareous grassland.

Slides of flushes from Port Erin, Isle of Man showed the native vegetation of Bell Heather, *Erica cinerea*, Western Gorse, *Ulex gallii* and Spring Squill, *Scilla verna*. An abandoned, but fertilised, former turnip field was shown to illustrate how the heath is unable to re-colonise this nitrogen rich area. Alexanders, *Smyrniololus atrum* is a common wayside plant in spring on the Isle of Man, but Cow parsley, *Anthriscus sylvestris* is rarely seen on the Isle of Man.

Wendy Atkinson

Christmas Turkey **11th December 2001**

Leander Wolstenholme

Turkey possesses an extraordinarily rich flora with approximately 9000 vascular species, one third of which are endemic. What's more a new species is discovered every 8 days and 20 hours!

To some extent this great diversity of species can be attributed to the great diversity of habitats that exist in Turkey. The mountain flora is characterised by many species that live shortly after the snow has melted such as Silvery Crocus, *Crocus biflorus*, Golden Crocus, *Crocus chrysanthus*, Glory-of-the-snow, *Chionodoxa forbesii*, Alpine Squill, *Scilla bifolia*, Large Red Deadnettle, *Lamium*

garganicum and Balkan Anemone, *Anemone blanda*. The lower slopes of mountains are dominated by Cedar-of-Lebanon, *Cedrus libani ssp. stenocoma* and the pine, *Pinus brutia*. In these areas woodland orchids such as Violet Bird's Nest Orchid, *Limodorum abortivum* and Helleborines, *Cephalanthera sp.* are often found. Wetland areas in southwest Turkey are characterised by the endemic yellow iris, *Iris xanthospuria*.

St. Nicholas (who later became caricatured as Santa Claus/Father Christmas) was bishop in the small town of Myra in southwest Turkey. Many other legends originating in Turkey come from a time when the Greek empire covered much of the Mediterranean regions of Turkey. In southwest Turkey Lycian tombs carved into rock faces are clearly Greek in form.

Greek legends associated with plants include that of Demeter, Hades and Persephone. Hades, the god of the underworld, forced Persephone (the daughter of the god of crops, Demeter) to join him and marry him in the underworld. Demeter, distraught at the loss of her daughter, refused to allow the crops to grow. Mankind appeared to be on the verge of mass famine when Zeus intervened and persuaded Hades to allow Persephone to return to the daylight world for three months a year...and so the seasons were born.

Plants have evolved various ways of coping with the changing seasons. In areas with a Mediterranean climate, the main problem is how to cope with hot dry summers. Plants can either survive the summer as dormant seeds (i.e. annuals) e.g. Medicks with their hard



spiny pods, Corn Marigolds, Corn Cockles and blue Scarlet Pimpernels. Other species survive the summer as tubers e.g. Holy Orchid, *Orchis sancta*, *Ophrys iricolor*, Late Spider Orchid, *Ophrys fuciflora*, Barbary Nut, *Gynandris sisyrinchium* and Star-of-Bethlehem, *Ornithogalum sp.* Other species survive as sclerophyllous perennials with specially adapted leaves such as French Lavender, *Lavandula stoechas*, with thin leaves, Kermes Oak, *Quercus coccifera* with spiny leaves with a thick waxy cuticle – very much like Holly or Jerusalem Sage, *Phlomis fruticosa*, with woolly hairy leaves.

The ancient Greeks read meaning into the forms of flowers and tubers. For example, the interesting form of tubers belonging to the genus *Ophrys* strongly resembles the male sexual organs. The marking on the flowers of species such as Gladioli and Irises were said to represent the tears of Demeter as she mourned the loss of her daughter Persephone.

Tulips are, of course, the national flower of Turkey and, according to Turkish legend Tulips originated when a youth named Ferhad killed himself with an axe on discovering that the love of his life, Şirin, had died after he had tunnelled through a mountain to demonstrate his love for her. Out of his blood grew tulips. Slides were shown of the Tulips, *Tulipa armena var. lycica* (an endemic species listed in the new Turkish Red Data Book), *Tulipa bakeri* and *Tulipa doeflori*.

Wendy Atkinson

Meols Meadows SSSI

8th January 2002

Keith Hatton.

Meols Meadows are an area of traditional hay meadows, whose management has remained unchanged for 350 years. In 1986, SSSI status was granted to the meadows. The unimproved grassland overlies sandstone, boulder clay and alluvial deposits. It is somewhat disjoint in nature by watercourses that cross the area, it is bounded on all sides by ditches and streams and it has a country lane running through it. Housing developments are encroaching more and more up to the meadow's boundary, but a railway line forms a natural barrier to this encroachment and a sea wall bounds the area on another side.

In 2000, Keith and Jan Hatton and Leander Wolstenholme surveyed the area but were hampered in 2001 due to the foot and mouth outbreak. Keith decided to look at historical records of the site, using the Ellenberg Indicator values to assess typical soil fertility that the plants would normally be associated with. These indicator values give each plant a score on a scale of 1-9 for a range of environmental factors. For soil fertility, the scale can be roughly divided as follows: -

1. Extremely infertile (eg. *Drosera rotundifolia*)
3. More or Less Infertile
5. Moderately Fertile
7. Richly fertile
9. Extremely rich (eg. *Rumex obtusifolius*)

Comparisons were made between the years 2000 and Alan Newton's 1967



data. In 1967 only 21 species were recorded. With such a small data set no statistical inferences could be made. However, the 2000 data was then compared to 1982's data. The results showed several losses in group 3 plants as opposed to a lot of gains in group 7. This could be due to eutrophication of the site due to changes in land use in the surrounding area; riding stables have been built next to the meadows.

We were then shown slides of the site. Cattle graze the site in early winter, and by March the meadows produce one of the largest Cheshire populations of Cowslips, *Primula veris*. Adder's-tongue, *Ophioglossum vulgatum*, appears before the grass gets too long. Marsh orchids, *Dactylorhiza sp.*, Tormentil, *Potentilla erecta*, Dyer's Greenweed, *Genista tinctoria*, and Brown Sedge, *Carex disticha* all follow. Fen-like areas with Common Reed, *Phragmites australis* and *Carex spp.* separate and encroach onto the fields. Typical hay meadow plants were shown, including: Yorkshire-fog, *Holcus lanatus*, Crested Dog's-tail, *Cynosurus cristatus*, Meadow Foxtail, *Alopecurus pratensis*, Yellow-rattle, *Rhinanthus minor*, Wild Carrot, *Daucus carota*, Yellow Oat-grass, *Trisetum flavescens*, Selfheal, *Prunella vulgaris*, Tufted Vetch, *Vicia cracca*, Ragged Robin, *Lychnis flos-cuculi*, and Betony, *Stachys officinalis*, though this is not abundant at Meols.

Later in the season, the yellow flowers of Pepper-saxifrage, *Silaum silaus*, and the golden spikes of the ripening Meadow Barley, *Hordeum secalinum*, add to the crescendo of flowers that appear before the meadows are harvested in mid July.



Yellow Oat-grass, *Trisetum flavescens*

From the Ellenberg Indicator values it can be seen that there has been changes in the numbers of plants in the meadows. The surveys point out the faults present. The ditches need cleaning out and management of the meadows now has to change to meet changed needs. Invasive species such as Common Ragwort, *Senecio jacobaea*, and Rape, *Brassica napus*, need to be removed, maybe then we may see other species returning to Meols such as Green-winged Orchid, *Orchis morio*, which was present 20 years ago but has not been seen here since then.

Report by Wendy Atkinson

Annual General Meeting 12th February 2002

The president Mr. Greenwood was in the chair and 18 members were present. The Hon. Secretary's report summarising membership details, indoor and field meetings held during the year was presented. Its adoption



was proposed by Vera Gordon and seconded by Eric Greenwood.

The Hon. Treasurer Mr. Lockwood presented the balance sheet and summary of accounts. Mr. Lockwood explained that £300 had been transferred from our investment account to the current account to cover a shortfall of £267.71. This was due to the cost of hiring the room at the Bluecoat chambers, the cost of hiring a mini-bus in the summer, the printing, post & packing of *Parnassia* and the lower interest rate on the current account. Mr. Lockwood thanked the auditors & the typist for all their work. Adoption of the report was proposed by Eric Greenwood and seconded by Joan Davis.

In light of rising costs for the LBS, a discussion was held as to whether subscription rates should be raised. It was put to a vote and agreed that subscription rates will be raised to £4.00 for full members and £2.00 for junior members/full time students under 25 as from January 2003

The Hon. Librarian Claire Sedgwick presented her report. She explained that we need to decide whether to gift the library to NMGM or draw up a loan agreement for 3 years' duration, as NMGM is currently under no obligation to house the LBS library. Adoption of the report was proposed by Wendy Atkinson and seconded by Eric Greenwood.

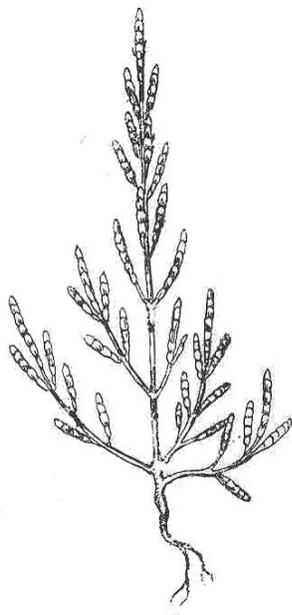
Election of Officers followed: -

President	Dr. John Edmondson
Vice-President	Peter Gateley Dr. Angus Gunn
Hon. Secretary	Miss Wendy Atkinson
Hon. Treasurer	Douglas Lockwood
Hon. Librarian	Claire Sedgwick
Hon Editor	Keith Hatton
Council Members	J. Bentley J. Davis V.Gordon E.Greenwood P.Lockwood D. Messenger T. Smale P. Tipping

Holiday exhibits were then shown:

Vera Gordon showed slides of the marine lake at Waterloo with Long-spiked Glasswort, *Salicornia dolichostachya*, and Purple Glasswort, *S. ramosissima* growing there. Slides were also shown of Freshfield dunes showing Massam's slack, which is now covered in Yellow Iris, *Iris pseudacorus*. Eric commented that there are now 5 species of *Salicornia* on the NW coast, but they're very difficult to identify.

Sheila Mason showed slides of Bee Orchid, *Ophrys apifera*, Rock Samphire, *Crithmum maritimum* from North shore, Llandudno, Carline Thistle, *Carlina vulgaris* and Musk Thistle, *Carduus nutans* both from the Great Orme and Blue Lettuce, *Lactuca tatarica* and Small Cow-wheat, *Melampyrum sylvaticum*.



Common Glasswort, *Salicornia europaea*

Eric Greenwood showed slides of Manchester airport's Runway Two, one year before we visited in summer 2001. He showed the bridge over the river, some ponds and a bat house. Eric then showed various slides; Fleetwood showing accretion of sand dunes, an alien pea, Sea Bindweed, *Calystegia soldanella*, which is rare south of the Ribble, although it occurs at Hightown and between Ainsdale and Freshfield. Evening Primrose, *Oenothera sp.* Snow-in-summer, *Cerastium tomentosum*, Cypress Spurge, *Euphorbia cyparissias* and Bloody Crane's-bill, *Geranium sanguineum* – the last two being probable garden escapes.

Wendy Atkinson

Lichens of Cheshire

Jonathan Guest

12th March 2002

Jonathan explained that his work follows on from that of the late Brian Fox who looked at lichens on Willows, *Salix sp.* Up until the 1980's Cheshire had been somewhat of a lichen desert with only a few species recorded such as *Lecanora conizaeoides* and *Ramalina fraxinea*, which are found on trees in polluted areas. However, there are now over 300 species of lichens recorded for Cheshire with 14 new species recorded last year. Lichens are good indicators of air quality – many species are sulphur sensitive and will not grow in polluted areas. *Parmelia perlata*, for example, grows only in areas of clean air quality.

Changes in air quality are often mirrored in changes in the lichen flora. In Cheshire, in the 1970's and 80's species such as *Hypogymnia physodes* grew on acidic tree bark, caused by pollution, but now *Evernia*, *Ramalina* and *Parmelia* species that are characteristic of unpolluted or slightly polluted areas, are making a comeback. *Graphis scripta*, a crustose lichen from Hazel coppices in south Cheshire is now also found in north Cheshire on Rowan bark. Cleaner air in the region means that species of low to moderately polluted areas such as the crustose *Arthonia radiata* and *Lecanora chlarotera* are now spreading across the county. It is thought that birds such as tree creepers also help to spread lichens as their propagules stick to their feathers. However, pollutants from vehicle exhaust fumes are enriching tree bark and this is leading to increasing



numbers of some species such as *Xanthoria parietina*.

We were informed that *Salix* bark is very spongy and will soak up pollutants. This gives rise to localised lichen zonation on the tree. However, some lichens merge with the tree bark such as the brown *Parmelia* species, and this makes them harder to spot. Old trees have very characteristic epiphytic lichen floras. The genus *Lobaria* is an old forest relic. It is confined to Western areas and the Western highlands of Scotland owing to air pollution and the destruction of ancient woodlands. *Cladonia parasitica* grows on dead tree stumps, and some *Lecanora* species are found on worked timber.



Grey Willow, *Salix cinerea*- Host to several specific lichens

Wood and tree bark are of course not the only substrates on which lichens will grow. Jonathan showed many slides to illustrate this. For example; *Lecanora campestris*, (which has red-brown ascocarps), and *Xanthoria elegans* which grows on concrete, and *Parmelia incurva* which grows on gritstone walls on Bidston Hill.

Candelariella vitellina is a very common lichen, bright mustard-yellow in colour. It can be found on wood or iron but prefers acidic rocks especially where there is nitrate enrichment as from bird droppings. *Lecanora muralis* also grows in this type of nitrate enriched environment on roof tiles and calcareous gravestones and is one of the easiest of lichens to record. It is greenish to pale yellow-brown in colour, with white radiating marginal lobes. *Baeomyces rufus* colonises sandy or peaty soils in heathy areas and hedges provide a home to *Xanthoria polycarpa*. Other *Xanthoria* species can even be found growing on oil drums.

Jonathan showed a wealth of slides and gave a very interesting talk on this fascinating group of organisms.

Wendy Atkinson

Articles

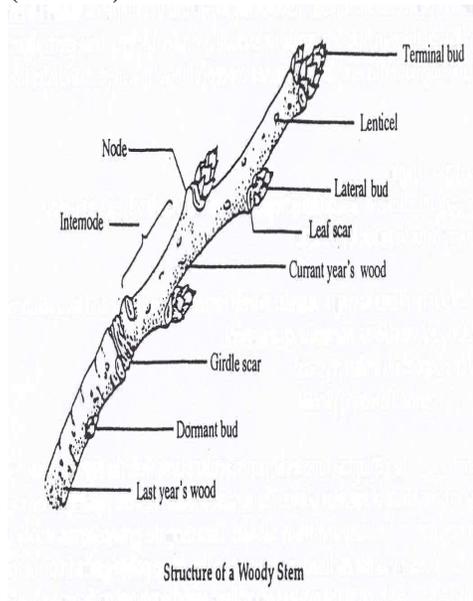
Botany for Beginner's-Part 1

Shoots, Bracts and The Like

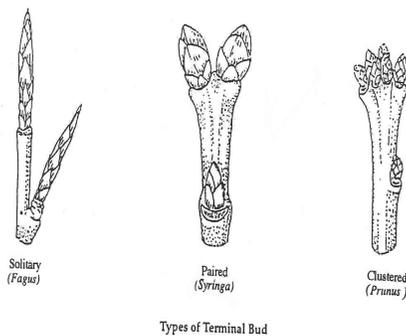
The shoot system consists of one or more stems bearing leaves that are arranged in opposite pairs, spirally, or more rarely, in whorls of three or more. The leaves arise from a joint termed a node and the gap between each node is termed the internode. Arising in the axil of many leaves (the angle between leaf and stem) are lateral or axillary buds. At the apex of each stem there is usually a single bud known as a terminal (or apical) bud, but in some plants the terminal buds may be in pairs, e.g. *Syringa*, or form



clusters as in *Prunus*, and *Quercus*, (the Oak).

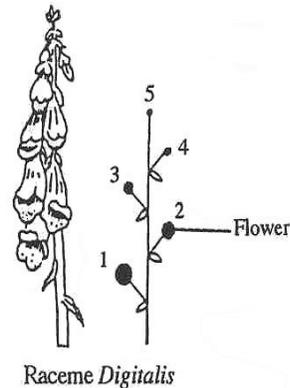


A flower bud may be regarded as a bud which is modified for the purpose of reproduction. The outermost leaves or bud scales have changed little and retain their leaf-like appearance and function as a form of protection to the encased floral parts. It is agreed by most botanists that the parts of the flower, e.g. stamens and carpels, etc. are modified leaves adapted to achieve the process of sexual reproduction.



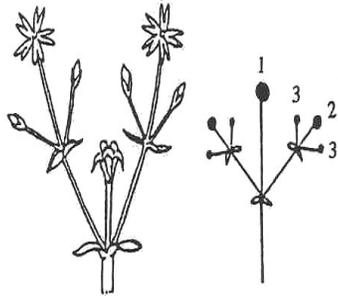
As the apex of a stem extends in growth it may have an apical extension, in which case the growth is

monopodial and finally terminates in an inflorescence known as a raceme. In contrast to this, the main stem may cease to lengthen owing to flower formation at the apex. If this does occur, side or lateral branches may arise from buds below this flower. This is called sympodial growth and results in an inflorescence known as a cyme. Determining whether an inflorescence is a cyme (cymose) or a raceme (racemose) can be difficult, but they are usually distinguishable by the order of flower development. In a raceme, the youngest flower is situated at the apex, while in a cyme, the oldest flower is at the apex.



Monopodial Growth

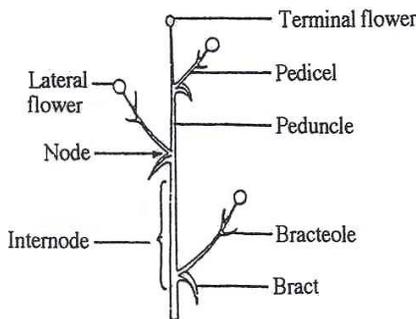
The term inflorescence is often used to include only a collection of flowers, but if the term is correctly employed it includes the stem from which the flowers arise, which is termed the peduncle. In the Snowdrop (*Galanthus*), the individual flower has no flower stalk and is said to be sessile, while the leafless stalk of the Snowdrop is termed a scape.



Compound cyme *Stellaria*

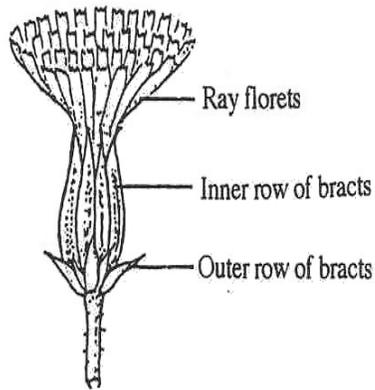
Sympodial Growth
(Note: Number 1 is the oldest flower)

Leafless stalks, or scapes, also occur in such plants as the Plantains, (*Plantago sp.*) and the Dandelions (*Taraxacum sp.*). Arising from the peduncles, or pedicels, are leaf-like structures known as bracts and bracteoles, and are simpler in shape to that of foliage leaves. Bracts subtend a flower or inflorescence, while bracteoles, which are tiny bracts, are born on the pedicel above the bract and below the calyx, which belongs to the individual flower. Bracts are usually paired in dicotyledons and single in monocotyledons.



Flowers in the *Compositae* (Daisy family) and *Dipsacaceae* (Scabious

family) form dense heads known as a capitulum, which are formed from a thickened apex of the peduncle. The bracts of these families are crowded to form one or more whorls round the capitulum. In monocotyledon families, the bract is termed a spathe and has particular prominence among the *Araceae* (Arum family).



Composite 'flower' (inflorescence)

It is important to stress that the pedicel is the flower stalk and the peduncle is the inflorescence stalk and flowers are usually subtended by bracts and bracteoles. Do not confuse the leaf-like structure that is attached to the leaf stalk (petiole) as a bract or bracteole, for this is known as a stipule, the stipule of a rose leaf being a typical example.

Hoping that I have managed to explain what is understandably confusing.

Michael Hickey



UKBotany -- an Internet Resource for Botanists

Britain's botanists now have their very own internet discussion group.

UKBotany, run by Bristol botanist Steve Preddy, was set up in November 2000 to plug an obvious gap in the range of wildlife-related e-groups - groups already existed for moths, butterflies, dragonflies, beetles, birds and fungi but there was no active group devoted to the discussion of wild plants.

The group exists to enable discussions about any topics relating to plants growing in the wild in Britain and Ireland - not just the flowering plants, but all higher and lower plants. Topics could include: identification, distribution, requests for info such as "where can I see...?" or "what can I see in...?", taxonomy, escapes & introductions, vegetation/habitats, plant/animal interactions.

Communication using the egroup is very easy - anyone can send a message to a central email address, and this message is then forwarded on to all other members of the egroup without having to do anything else. Although Yahoo, the company that runs the service, is a commercial venture, the groups they host are not - they are simply set up and joined by people with a common interest. It doesn't cost anything to use the service; Egroups.com make their money by appending discreet adverts onto some messages.

The group already has over 150 members from across Britain and the discussion topics so far have been very varied. One particularly useful feature of the egroup is that it allows you to upload files to a central vault on the internet - several members have taken advantage of this to upload digitised photographs of mystery plants to seek advice on their identification.

If you're interested in joining UKBotany, all you need to do is send an email to the following address,

[UKBotany-
subscribe@yahogroups.com](mailto:UKBotany-subscribe@yahogroups.com)

or, if you'd like to know more, email Steve Preddy. His address is

Steve.Preddy@blueyonder.co.uk

Steve Preddy

Scotland Trip 14 July-1st August 2002

We headed to Scotland on Sunday 14 July, with the first port of call being the botanists' mecca that is Ben Lawers. A couple of days here yielded many of the specialities including Scottish Asphodel, *Tofieldia pusilla*, Alpine Mouse-ear, *Cerastium alpinum*, Drooping Saxifrage, *Saxifraga cernua*, Alpine Saxifrage, *Saxifraga nivalis*, Rock Whitlowgrass, *Draba norvegica*, Alpine Meadow-grass, *Poa alpina*, an impressive display of Alpine Forget-me-not, *Myosotis alpestris*, *Sibbaldia*, *Sibbaldia procumbens*, the diminutive Mountain Sandwort, *Minuartia rubella*, Alpine Gentian, *Gentiana nivalis*, Cyphel, *Minuartia sedoides*,



Hairy Stonecrop, *Sedum villosum*, Mountain Scurvygrass, *Cochlearia micacea*, Two-flowered Rush, *Juncus biglumis*, Chestnut Rush, *Juncus castaneus*, Russet Sedge, *Carex saxatilis*, Autumnal Water-starwort, *Callitriche hermaphroditica* and Alpine Cinquefoil, *Potentilla crantzii*. However, the Pearlworts, *Sagina sp.* proved inconclusive, and a few other species eluded us, including Alpine Woodsia, *Woodsia alpina*, at its “well-known” station above the loch. Other welcome distractions included flocks of Ring Ousels and Twite, Mountain Hare and several small Mountain Ringlets.

After the exertions of Ben Lawers, Keltneyburn was less strenuous, but no less rewarding, with Whorled Solomon’s-seal, *Polygonatum verticillatum*, Spignel, *Meum athamanticum* and Small Cow-wheat, *Melampyrum sylvaticum*, an amazing display of orchids, mostly Common Spotted-orchid, *Dactylorhiza fuchsii* and Greater Butterfly-orchid, *Platanthera chlorantha*, with a few Small-white Orchid, *Pseudorchis albida*, and an early highlight of the trip: a Pine Marten which ran across the path in front of us not once, but three times, while it decided which way to go!

At Rannoch Station, Rannoch-rush, *Scheuchzeria palustris*, had finished flowering, whilst on Ben Vrackie, Alpine Milk-vetch, *Astragalus alpinus* and Purple Oxytropis, *Oxytropis halleri*, were both abundant, but with very few flowers. Brown Bog-rush, *Schoenus ferrugineus*, appears to be doing well in its ‘receptor site’, together with Scottish Asphodel, *Tofieldia pusilla*. This and the next day

were two of only five where we saw any rain, but we did manage to see Coralroot Orchid, *Corallorrhiza trifida*, (in seed) at Blairgowrie, and the Osprey family at Loch of the Lowes.

Fortunately the weather was superb again for two days in Glen Clova, allowing full appreciation of Alpine Catchfly, *Lychnis alpina*, flowering in profusion on Meikle Kilrannoch, together with Cyphel, *Minuartia sedoides* and the Common Mouse-ear, *Cerastium fontanum ssp. scoticum*, with Interrupted Clubmoss, *Lycopodium annotinum* in the area. In Corrie Fiadh, Yellow Oxytropis, *Oxytropis campestris*, also put on a fine show, together with Oblong Woodsia, *Woodsia ilvensis*, Downy Willow, *Salix lapponum*, and Woolly Willow, *Salix lanata*.

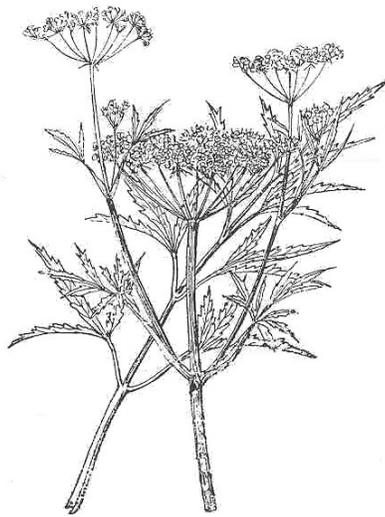
Caenlochan Glen, accessed via Glas Maol, proved particularly rewarding. Along the way, Alpine Cat’s-tail, *Phleum alpinum*, and Alpine Foxtail, *Alopecurus borealis*, were found, whilst 10 Dotterel and 14 Ptarmigan were highly entertaining, and supported by more Ring Ousels, Twite, Merlin, Short-eared Owl and 55 Mountain Hares. Caenlochan Glen contained Alpine Blue-sow-thistle, *Cicerbita alpina*, Alpine Fleabane, *Erigeron borealis*, Mountain Avens, *Dryas octopetala*, and Alpine Woodsia, *Woodsia alpina*, amongst an impressive alpine-arctic display, in which Rock Speedwell, *Veronica fruticans* and Hair Sedge, *Carex capillaris* were notable by their abundance.

Moving on towards Aviemore, we failed to find Blue Heath, *Phyllodoce*



caerulea, which had presumably finished flowering on the Sow of Atholl. However Creeping Lady's-tresses, *Goodyera repens*, was flourishing at Drumguish, where Intermediate Wintergreen, *Pyrola media*, and a 37cm-tall Lesser Twayblade, *Listera cordata*, were also found.

Cairngorm appeared noticeably less species rich than previous sites, but nevertheless produced Curved Wood-rush, *Luzula arcuata*, Arctic Mouse-ear, *Cerastium arcticum*, Alpine Speedwell, *Veronica alpina* and Alpine Lady-fern, *Athyrium distentifolium*. It also provided a too-close-for-comfort moment when a large, loose boulder gave way half-way up the cliff - a reminder as to just how careful you need to be when plant-hunting in such potentially dangerous areas.



Cowbane, *Cicuta virosa*

Other plants in Strathspey included Twinflower, *Linnaea borealis*, (which had unfortunately finished flowering at Loch an Eilean), Awlwort, *Subularia*

aquatica, Water Lobelia, *Lobelia dortmanna*, Cowbane, *Cicuta virosa*, Least Water-lily, *Nuphar pumila*, Heath Cudweed, *Gnaphalium sylvaticum*, Northern Yellow-cress, *Rorippa islandica*, and of course Scots Pine, *Pinus sylvestris*, whilst Creeping Lady's-tresses, *Goodyera repens* was again prolific in many areas. Other notable wildlife included Scotch Argus, Northern Damsel fly and Crested Tit.

The correctly forecast rain did not deter our venture to Creag Meagaidh, where Highland Cudweed, *Gnaphalium norvegicum*, was starting to send up flower-spikes. Alpine Speedwell, *Veronica alpina*, Alpine Mouse-ear, *Cerastium alpinum* and Sibbaldia, *Sibbaldia procumbens*, were also found in a slightly curtailed search. At this point, we decided that there was not enough time to follow our intended route, taking in the far north coast, and decided to leave certain target species (including Scottish Primrose, *Primula scotica* and Norwegian Mugwort, *Artemisia norvegica*) until next year.

Instead we headed first to Loch Shiel, where Pigmyweed, *Crassula aquatica*, and Irish Lady's-tresses, *Spiranthes romanzoffiana*, grew in close proximity, followed by Skye, where we finally caught up with a Golden Eagle, plus Black-throated Diver, Black Guillemot, Bonxie and Highland Darter. We found Pipewort, *Eriocaulon aquaticum*, and Bog Hair-grass, *Deschampsia setacea*, in a lochan, whilst at the Storr were Northern Rock-cress, *Arabis petraea*, Glaucous Meadow-grass, *Poa glauca*, Cyphel, *Minuartia sedoides*, and the diminutive, but appealing Iceland-



purslane, *Koenigia islandica*, was widespread in suitable areas.

The final day saw a very unrewarding search for Creeping Spearwort, *Ranunculus reptans* at Loch Awe, followed by a trip to Loch Lomond for Scottish Dock, *Rumex aquaticus* - a rather fitting finale to a highly successful three weeks, in which the round trip mileage from Cirencester was 2056 miles.

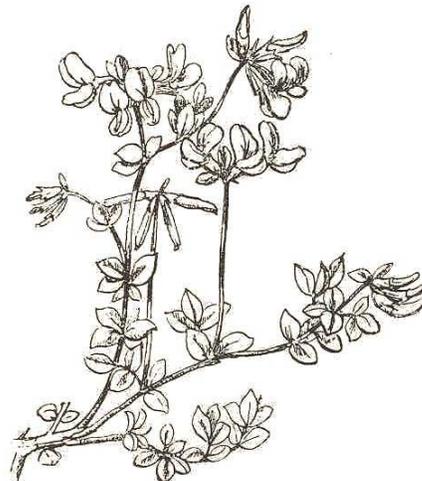
Andy Johnson & Andy Shaw

Larva Flow

Anyone taking a close interest in plants is bound to come across some of the insects, which feed upon them. These plant-eaters, termed by entomologists "phytophagous" organisms, come from a wide range of families and can be found almost everywhere. For example on last years trip to Helsby (6th June 2000) led by Dave Parry a patch of sweetly-flowering Creeping Thistle yielded two species of beetle, both adults and larvae of Green Tortoise Beetle, *Cassida viridis*, which graze on the leaf surfaces and the black and yellow Wasp Beetle, *Clytus arietis*, skittering over the flowers. However both of these species are quite small and infrequent and could easily be over-looked.

On the other hand during the trip to Waterloo, (9th June 2001) led by Vera Gordon, two species of moth made their presence very obvious. Firstly there was a species of burnet, either 5-Spot or 6-Spot, over the urban sand dune areas south of the Marine Lake. At first many pupa cases were seen attached to slender grass stems, just below the seedheads, these are

yellowish and papery and normally quite noticeable at that time of year. However a cursory inspection of the abundant larval food plant, Common Bird's-foot-trefoil, *Lotus corniculatus*, showed that there were many thousands of larvae still to pupate, though given the ravages already made on the food supply not all of them would be able to get enough leaves to get that far. Members remarked that they had never before seen so many of these caterpillars, some of them were large and plump (the caterpillars that is) and ready to climb the grass stems and spin form their cocoons but many were still very small and skinny. These caterpillars are quite brightly coloured and strongly marked and visible in daytime, a good sign that they protected from normal predation by birds by their toxic qualities. It is interesting to speculate about what usual constraints on population size were relaxed this season to allow such an explosion in numbers of larvae here. It is not often that beds of Bird's-foot Trefoil look so literally moth-eaten.



Bird's-foot Trefoil, *Lotus corniculatus*



The second moth-eaten looking plant specimen noted was a small clump of Crack-willow, *Salix fragilis*, growing in amongst the Marram and Lyme Grass on the low dune ridge north of the Marine Lake. The bare woody stems stood out from surrounding plants and closer inspection quickly revealed masses of caterpillars, they had already consumed all of the leaves and seemed to be wandering around searching for more, the majority of them were still far too small to be able to pupate successfully. The more-mature specimens were readily recognisable as larvae of the White Satin, *Leucoma salicis*. These are actually very handsome caterpillars and quite frequent on various places along the dune coast, for example there is generally a readily observed colony right on the main dune path just south of Ainsdale Lido, on the seaward side, and for many years there was also a colony beneath the timber structure of the roller coaster in Southport fun fair. In both of these cases the foodplant was poplar (two different species) however, as the specific epithet "*salicis*" implies, willows are also regularly consumed. The adult moth is a night flier so not so regularly observed as the diurnal burnets, but it is a handsome creature being quite large, with all four wings white and with a noticeable satin-like sheen.

Despite their different larval foodplants, adult feeding strategies and appearance these two species of moth do have something in common. Both species over-winter as larvae, that is to say eggs laid by the adults emerging in mid-to-late summer hatch out into tiny larvae, feed for a short time and then migrate downwards to nestle amongst dense fibrous vegetation to survive the

winter. In this instance it appears that a mild winter, or series of mild winters, has allowed more larvae to survive than there is foodplant to feed them all. Whilst there was plenty of evidence that many of the burnets were pupating and would emerge as adults to repeat the cycle, it seemed doubtful that many of the White Satins would survive. There were so many larvae on the bare twigs that some LBS members were repulsed by the dark mobile masses. Perhaps the liveliest ones had already eaten enough and had safely pupated, very few of those remaining were large enough to develop the distinctive dorsal row of large creamy spots along their length and given that their food had all gone they would probably develop no further.

There are so many species of insects found in Britain that it is often very difficult to successfully identify them, but we are bound to come across many more on our field meetings, either as larvae eating the plants, or via traces in the form of leaf holes or distinctive droppings. We also come across adult insects feeding on flowers, as instanced in the opening paragraph, or simply sheltering on stems or under leaves. Be they butterflies, moths, bees or beetles they are very enjoyable to look at even if we don't know what all of them are!

Peter Gateley

...And Finally

Please note the full page advertisement on the back cover of *Parnassia*. Your Botany Department needs you!!



Contacts

President: John Edmondson

**Vice-
Presidents:** Angus Gunn
Peter Gateley

Hon. Secretary: Wendy Atkinson

Hon. Treasurer: Douglas Lockwood

Hon. Librarian: Claire Sedgwick

Hon. Editor: Keith Hatton

Please send all articles and contributions for *Parnassia* to either :-

Keith Hatton
The University of Liverpool
School of Biological Sciences
Ness Botanic Gardens
Neston
South Wirral
CH64 4AY

Tel : 07790 352394

Email : kjhatton@liverpool.ac.uk

OR

Wendy Atkinson
The Botany Section
Liverpool Museum
William Brown Street
Liverpool
L3 8EN

Tel : 0151 478 4216