



Editorial

Hello and welcome to the Spring issue of *Parnassia*. This is a 'double issue', covering the missing issue of last year and hopefully bringing us up to date, so that we can get back on line with the usual delivery of two issues per year, one in Spring and the other in Autumn.

Although Leander has moved on from his role of Editor of our famous journal, I will be carrying on in the role, so direct all your comments to me.

Another major change within our Society comes with the announcement that Vera Gordon is standing down from the office of Honorary Secretary after a mere 60 years. Young people these days have no staying power!

I am sure Vera will still continue to support us, above and beyond the call of duty. Taking on the awesome task of following in Vera's footsteps is Wendy Atkinson, Assistant Curator in the Liverpool Museum herbarium.

I must offer a big thank you to all of our contributors. The response to my continued badgering has been excellent, so keep those articles flying in and together we will create a Newsletter that we can all be proud of.

Particular thanks must go out to all who have assisted me with the preparation of *Parnassia*, namely Alan Atherton, Jan Hatton, Gill Haynes and Sally Thompson at the Ness end of the production, and to Wendy Atkinson, Judith Riley and Donna Young at the Museum. Without their aid this edition would simply not exist.

Have a fruitful season's botanising and enjoy the field trips.

Keith Hatton
March 2001

Liverpool Museum News

Liverpool Museum continues to battle on, in the face of its massive building programme!

The building on William Brown Street is shrouded in scaffolding, and lots of tremendous alterations are taking place inside. Technical problems and noise from the building works meant that Liverpool Museum had to close to visitors during the summer, apart from at weekends. We re-opened for seven days a week again in mid-October, and fortunately our visitors, particularly school groups, have all returned. There is only a small selection of our usual exhibits on show, but the Natural History Centre is fully operational, and we will be pleased to see anyone who likes to call, and to help with any botanical or other enquiries.

The continuing building work, and associated moving, packing and fumigating of collections has caused considerable disruption to the working lives of the staff. Some of our Botany curatorial staff have been so busy packing and manoeuvring crates of material around our warehouse store, that they have almost forgotten what it is like to work with research specimens in the calm of the herbarium!

However, when all is complete, Liverpool will truly have a museum to be proud of. As always seems to happen with such large-scale projects,



the date for the grand opening has been put back several times, but we are now looking at being able to celebrate in July 2002. Natural History will be well served in the new Museum, with plenty of hands-on, interactive learning experiences, easy access to a wide selection of specimens in drawer units, a comprehensive library, and information and advice from a team of demonstrators. A brand-new Aquarium, Bug House and Discovery Centre will combine with the Natural History Centre to provide visitors with a first-class resource for exploring the wonders of the natural world. The new herbarium is going to be "state of the art", and I am sure many members will be interested to view the collections and the new storage system when they are installed in their new premises.

So LBS must face another year of evening meetings courtesy of Bluecoat Arts Centre, but can look forward to splendid accommodation at the Museum in Autumn 2002.

Judith Riley
November 2000

News from Ness Gardens

One of the strands of activity that The University of Liverpool's School of Biological Sciences is currently developing at Ness is the work on the 'Conservation of Biodiversity.' The University of Liverpool is one of the few Universities to possess its own Botanic Gardens and research into plant conservation and environmental science is actively carried out here.

At Ness we can provide a place where conservation and experimentation on

cultural management techniques can be undertaken without endangering wild populations. We have the capability to undertake a full study of the biology of the plant, thereby enhancing the chances of species survival in the wild or increasing the chances of survival of any re-introduced species via a fuller understanding of the management practices necessary.

The areas of research in this field fall into the following, broad somewhat overlapping categories.

Ex-situ conservation Historically, large collections of certain genera of known biological provenance have been collected at Ness. These, as well as forming a valuable resource for cytotaxonomic and phytogeographical work, form a valuable gene bank of living specimens that are under increasing pressure in the wild. Some of the genera held in our collections are *Sorbus*, *Betula*, *Cotoneaster*, *Hedera*, *Rhododendron* and *Salix*.

Material is currently being supplied for molecular taxonomic research to Kew (*Cotoneaster*) Madrid (*Hedera*) and Fort Collins (*Hedera* & *Prunus*).

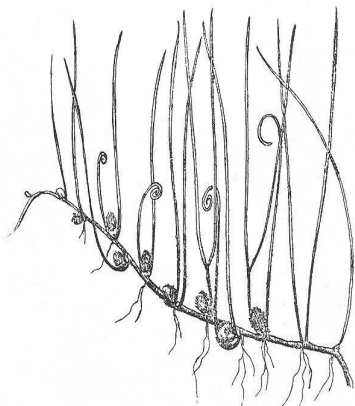
In the course of cultivation and study of these taxa, much has been learnt about growth requirements, breeding systems and propagation. This knowledge can be fed back into the conservation of the species.

Investigation of Management strategies

A number of endangered Red Data Book species are held at Ness, including Limestone Woundwort, *Stachys alpina*, (see account in last *Parnassia*), Starfruit, *Damasonium alisma*, Corncockle, *Agrostemma*



githago, Pillwort, *Pilularia globulifera*, Wild Cotoneaster, *Cotoneaster cambricus* and Floating Water-plantain, *Luronium natans*.



Pillwort, *Pilularia globulifera*

Understanding Reproductive Biology of Species at the edges of their Distribution. For a detailed example of this aspect of our work, see the article on Floating Water-plantain, *Luronium natans*, on page 26 of this issue of *Parnassia*.

We cannot let this column pass by without a mention of the rainfall that we experienced in the year 2000. At Ness, we are a Met. Office weather recording station, and have weather data going back to 1965, the year that the weather station was set up. It will probably come as no surprise to learn that last year was the wettest that we have had at Ness since our records began. We had a total annual rainfall of 1006.9 mm (39.64 inches). The yearly average for the previous 30 years (1970-1999) was 692.5 mm (27.26 inches), so we had a staggering 46% increase above the average. The

elevated levels of rainfall started in April 2000, in which we had double the average rainfall for that month. The rain then continued to fall at above average rates for each of the next 8 months, with October and November being particularly wet.

In all we had 219 days of rain. The wettest day was the 29th October in which 42.2 mm (1.66 inches) fell and the wettest spell was between 24/10/00 and 23/11/00 when we had 31 consecutive days when rain fell. Amazingly when you read through the accounts of last Summer's field trips, it is noticeable how many of them appeared to have occurred on relatively fine days, a sure sign of blessing upon our botanical endeavours!

Keith Hatton

Local News

rECOrd - Biodiversity Information System

It is official: Cheshire finally has a Biodiversity Information System (a Local Record Centre by any other name) and it is called **rECOrd** - note the 'ECO' in the middle. **rECOrd** will cover Cheshire, Halton, Warrington and the Wirral (the Cheshire region - for short) including the Vice County of Chester which takes in the old 'pan-handle' around Stockport. We are here to make pro-active use of the data generated by local naturalists for the benefit of wildlife, habitats and ultimately our own, and the future's, quality of life. An exciting project if ever there was one, and definitely one via which you can make a difference for wildlife and the environment.



rECOrd is still very much in its early days but we now have a manager, Steve McWilliam, and we are promised housing in the new office buildings which are under construction at Chester Zoo; due for completion at the end of February 2001.

Currently work is being undertaken in setting the scene with Policies and Procedures being developed, funding being sought, staff job descriptions and adverts written and publicised in the National Press (*The Guardian*).

On the Internet, discussion fora for recorders and users are being set up so that they can have a voice in the running of the centre, and a web site is evolving which will be used to raise awareness of the organisation and the project (see: www.record-lrc.co.uk) - there are over 400 species distribution maps already available on the site.

Should you wish to know more about how you can get involved, about how you can submit records for the Cheshire region, about how you can work as a volunteer, or to have your questions and queries answered please do give us a call on 01928 573697 or via e-mail on: info@record-lrc.co.uk Hope to talk to you soon.

Steve J. McWilliam
<http://www.record-lrc.co.uk>

New B.S.B.I. Recorder

The new recorder for v.c. 59 (S. Lancs.) is Mr D.P.Earl
4 Meadow Way
Brooklyn Park
Gravel Lane
Banks
Nr. Southport
PR9 8BV

Evening Meeting Reports

Holiday Slides 12th October 1999

This was a holiday exhibits meeting but first Miss Gordon drew members attention to an article in the BSBI *Watsonia* by Hugh McAllister describing *Lysimachia verticillata* not mentioned in British Floras. He detailed the differences between it and Dotted Loosestrife, *Lysimachia punctata*.

Mr Greenwood showed specimens of hybrid willows from the Sefton coast. These included the triple hybrid *Salix x angusensis* (*S. repens* x *S. viminalis* x *S. cinerea*). The hybrid *Salix x friesiana* (*Salix viminalis* x *repens*) is the commonest hybrid there and he also showed many forms of Creeping Willow, *Salix repens*.



Creeping Willow, *Salix repens*

He then drew attention to an item in BSBI News by Lawrie Spalden about an unusual Brome previously identified as the Meadow Brome, *Bromus commutatus* var. *pubens* found in Cornwall and lately in Devon and Somerset. This, it was pointed out



could be a new species or an alien. Mr Spalden had examined many herbarium specimens but more were needed and notes on further distribution.

Member's holiday exhibits followed with Eric Greenwood's slides of some West Lancashire plants such as Limestone Polypody from the Wyre valley, Butterwort and Andromeda from Longridge, turf erosion on the Kent estuary salt marshes and the Kellet Limestone quarry as a future interesting habitat.

Susan Taylor's contributions were from Slapton Sands and included Viper's-bugloss, *Echium vulgare*.

Leander Wolstenholme had been to Southwest Turkey where he had photographed *Aubretia deltoides*, *Anthemis rosea*, the purple orchid *Limodorum abortivum*, *Orchis sancta* and *Orchis coriophora*, the Late Spider-orchid, *Ophrys fuciflora*, *Cephalanthera epipactoides* and the root parasite, *Cytinus hypocistis* and many others.

Tom Smales' slides illustrated plants seen on some LBS field meetings such as plants at Ness Gardens and the three *Asplenium* species on a brick wall at Hindley.

One of Peter Gateley's holidays was to Barcelona from where he had a 3-hour train journey to the Pyrenees. Among the many spring alpines he showed Spring Gentian, *Gentiana verna*, the Toadflax, *Linaria alpina*, *Soldanella alpina*, one of the trumpet Gentians and a pink Primula species.

Miss Gordon's slides were taken in the Pontic Alps of Northeast Turkey and the Caucasian Mountains of Georgia. They included a few scenes of the area and the plants included *Swertia iberica* of the Gentian family and the Ghost orchid, *Epipogium aphyllum* and *Lilium kesselringianum*.

Vera Gordon

Our Green and Pleasant Land November 9th 1999

Mr Greenwood gave his lecture "Our Green and Pleasant Land?"

He first reminded us that Merseyside had the longest history of pollution anywhere in the world. He then detailed the history of the area from the Ice Age followed by the many changes in climate conditions. Land types included dunes, saltmarshes, cliffs, millstone grit and sandstone hills, lakes, peat bogs, mosses and woodlands.

Neolithic man settled and influenced the area, clearing woodlands and draining land.

Drastic changes took place about 200 years ago which included canal and marl pit digging, salt marshes were enclosed for grazing and water was harnessed. Steam engines evolved, followed by mills, potteries and chemical works. The use of coal and chemicals caused worse pollution, which killed off plants.

Other losses include hedges, havens for select woodland species, less grassland and woodland and the growth of large quarries.



However, there have been many gains of alien taxa, which are still on the increase. Many garden species have become naturalised and are still spreading.

Some plants have hybridised and examples were given. Some species from one continent are hybridising with those of another, such as two *Oenothera*. During the last 100 years the increased pollution by nitrates and phosphates is causing concern.



Evening-primrose, *Oenothera biennis*

Graphs showed the climate getting warmer and increased rainfall was shown to benefit some plants. Future changes such as floods are feared.

Many members joined in the discussion that followed.

Vera Gordon

Note! A full account of this talk is given in the article on page 22 of this issue.

A Botanical Christmas Quiz December 14th 1999

A Botanical Quiz was arranged by Angus Gunn on the lines of a popular TV programme 'Who wants to be a Millionaire.'

We were all given 4 cards labelled A-D, then questions were asked such as which flowers earliest of 4 named plants. We then had to each hold up the card relevant to the individual decision.

Some questions related to Botanists past and present. It was great fun and the answers to some questions were quite informative.

Our efforts were rewarded with mince pies and chocolate biscuits provided by our questionmaster.

Vera Gordon

Annual General Meeting January 11th 2000

In the absence of President Angus Gunn, Vice Presidents John Edmondson and Peter Gateley and Eric Greenwood, Leander Wolstenholme agreed to take the chair with 8 other members present.

The Hon. Secretary's Annual Report summarising membership details and indoor and field meetings held during the year was presented.

The Hon. Treasurer, Douglas Lockwood presented the Balance Sheet and summary of accounts for 1999, duly audited by Miss Bentley and Miss Davis. Copies were handed out and items fully explained. The accumulated fund had risen from £3,722 at the end



of 1998 to £3,900 at the end of 1999. The adoption of the Treasurer's Report was proposed and seconded.

After long discussion, it was proposed by Doug Messenger and duly seconded that a donation be given to Plantlife. This was carried by a majority vote. The amount was to be discussed at the February meeting.

In the absence of the Librarian, no report was available.

The Editors report by Leander Wolstenholme reminded us that 2 issues of *Parnassia* had been published during the year 1999. Mr. Messenger was thanked for getting the printing done free by his friends from Brian Green Printers.

Mr Lockwood told that members unable to get to meetings renewed membership because they enjoyed *Parnassia*.

Election of Officers followed :-

President	Eric Greenwood
Vice-Presidents	Angus Gunn Peter Gateley
Hon. Secretary	Vera Gordon
Hon. Treasurer	Douglas Lockwood
Hon. Librarian	Claire Sedgwick
Editors	Leander Wolstenholme Keith Hatton

Peter Tipping read out a letter about the National Biodiversity Action Plan, copies of which had been sent to Angus Gunn and v.c. recorder Peter Gateley.

Volunteers were requested to study 5 nationally rare species in our area and to give localities, habitats and abundance of 5 species. The Liverwort *Petalophyllum ralfsii*, the tiny Early Sand-grass, *Mibora minima*, the Narrow-lipped Helleborine, *Epipactis leptochila*, Purple Ramping-fumitory, *Fumaria purpurea*, and Isle of Man Cabbage, *Coincya monensis ssp. monensis*. It was requested that this and the society's policy regarding threatened Botanical sites would be considered further at the February meeting.

The AGM ended at 9:20 p.m. leaving no time for the usual resumé of 1999 field meetings, plants seen and photo's taken.

Vera Gordon

'Crete, Its flowers and the Legacy of King Minos'
February 8th 2000

Leander Wolstenholme gave his talk "Crete, Its Flowers and the Legacy of King Minos."

After reading Homer's description of Crete he showed a succession of drawings illustrating Crete's geological history.

The diversity of species and why rarities and endemics are so localised was explained by the fact that Crete had been four mountainous islands that eventually became joined together.



He then described the mythological and historical accounts of Crete and explained how many excavations had shown that, in some cases, history and myth had merged.

Slides were shown of the excavated and partly restored ruins of Knossos and of the Minoan town of Gournia. Slides also showed many frescoes, some of recognisable flowers such as Sea Daffodil, *Pancratium maritimum*, and the Prince of Lilies.

The legend of the Minotaur was recalled and the fresco of the bull and Minoan athlete was shown.

Slides of some of the endemics included *Ebenus cretica*, *Aristolochia cretica*, *Arum creticum*, White *Cyclamen creticum*, *Petromarula pinnata*, *Zelkova cretica*, and the palm *Phoenix theophrasti*.

Of the sixty orchids of Crete, slides were shown of *Orchis sancta*, *Orchis provincialis*, *Orchis quadripunctata*, *Orchis coriophora ssp. fragrans*, and the Late Spider-orchid, *Ophrys fuciflora*.

Other plants illustrated were Dragon Arum, *Dracunculus vulgaris*, the parasite of pink *Cistus* species, *Cytinus hypocistus* and *Asphodelus aestivus*.

Some photos, taken in Turkey near Fethiye, included the recent discovery, *Aristolochia poluninii*, and ancient, house shaped carved tombs.

Vera Gordon

Plants of the Sefton Coast March 14th 2000

John Houston and Daniel Wrench gave an illustrated account entitled 'Habitat Change and Rare Plants on the Sefton Coast.'

John Houston reminded us that the Sefton Coast is the largest dune system in England and a good example of West Coast dunes. All systems are unique depending upon climate, wind, rain, soil, whether calcareous or acid. Slides illustrating this area were shown and also of coasts in Norway, Holland and Harlech in Wales.

Examples were shown of erosion and accretion on the Sefton Coast and the effect of shelter from scrub or introduced pine woods. Many aerial photos helped to explain the changes. Young slacks succeeding old overgrown and dried out ones, blow outs of old dunes and the development of a type of shingle at Hightown on tide worn old building rubble tipped as coastal defence.



Sea Bindweed, *Calystegia soldanella*



Daniel Wrench then showed a series of less common plants photographed during the 4 years he had known the area. Sharp Club-rush, *Schoenoplectus pungens* was shown doing well and spreading where it had been transplanted from its well-known site now completely dried out and overgrown.

Other slides included Grey Hair-grass, *Corynephorus canescens* abundant on one of the golf courses. A greatly enlarged photo of the tiny flowers of the spreading alien New Zealand Pigmyweed, *Crassula helmsii*, Lesser Centaury, *Centaureum pulchellum*, and Seaside Centaury, *Centaureum littorale*, Baltic Rush, *Juncus balticus*, Sea Bindweed, *Calystegia soldanella*, Dune Fescue, *Vulpia fasciculata*, Yellow Bird's-nest, *Monotropa hypopitys*, the Round-leaved Wintergreen, *Pyrola rotundifolia ssp. maritima* and hybrids of the many willows. We finished with the tiny liverwort *Petalophyllum ralfsii* and some of the many species of fungi.

Angus Gunn and Eric Greenwood joined in the discussion that followed.

Vera Gordon

Field Trips 2000

Caergwle

4th April

(Leader-Guy Sloman)

The by now traditional first walk of the season in the Hope Mountain area started at Caergwle station when twenty of us met, including a few welcome guests. We made our way to the packhorse bridge over the River Alyn but were disappointed that there

was no trace this year of the Toothwort, *Lathraea squamaria*, despite a spirited search amongst the plentiful and pungent Ramsons, *Allium ursinum*. On the other side of the path Butterbur, *Petasites hybridus*, was still in flower. Walking south along the Alyn, Black Currant, *Ribes nigrum* was in flower as was a single plant of Gooseberry, *Ribes uva-crispa*, in the town a little later. On waste ground there were several well developed stems of Caper Spurge, *Euphorbia lathyris*. Turning north through the town we rejoined the Alyn at Hope station and walked through the meadows, undistinguished except for fine displays of Blackthorn, *Prunus spinosa*, to the Hope road and headed for the mountain itself passing on the way a well established clump of Greater Periwinkle, *Vinca major*.



Ramsons, *Allium ursinum*

At the foot of the mountain a small area of waste land proved interesting with Charlock, *Sinapis arvensis*, Green Field-speedwell, *Veronica agrestis*, Common Field-speedwell, *Veronica persica*, a fumitory, probably Common Ramping-fumitory, *Fumaria muralis*,



Herb-Robert, *Geranium robertianum* and the attractive Shining Crane's-bill, *Geranium lucidum*, just coming into flower. The glen leading up to Horeb was botanically disappointing and the stiles difficult but there was an abundance of Wood Anemone, *Anemone nemorosa* and much Opposite-leaved Golden-saxifrage, *Chrysosplenium oppositifolium*. Half way up we stopped for lunch in full sunshine and a panoramic view. Here there was much Ground-ivy, *Glechoma hederacea*.

On reaching the top we headed south along the lanes to Cymau. Initially they were uninteresting but later they became steep sided hosting, even at this time of year, many attractive plants such as Greater Stitchwort, *Stellaria holostea*, Barren Strawberry, *Potentilla sterilis*, the facinating Town Hall Clock, *Adoxa moschatellina*, Bilberry, *Vaccinium myrtillus*, Common Dog-violet, *Viola riviniana*, Wood-sorrel, *Oxalis acetosella*, occasional Bluebells, *Hyacinthoides non-scripta*, and a single clump of Climbing Corydalis, *Ceratocarpus claviculata*. A search for Orchids along the woodland edge of the lane leading down into Cymau produced only a few rosettes of spotted leaves of the Early-purple Orchid, *Orchis mascula* but for the cold winds of the last ten days it would have been well in flower. However massed Primroses on the nearby banks were some compensation.

Leaving Cymau by the path leading to the now filled sandpits we saw Bush Vetch, *Vicia sepium*, and Crosswort, *Cruciata laevipes*. From here we headed, somewhat deviously, for Cefny-bedd station and home but not

without seeing Marsh Valerian, *Valeriana dioica* on the way and some of us chanced upon the Morel fungus, *Morchella esculenta* on a steep bank under the trees.



Early-purple Orchid, *Orchis mascula*

Not a day for striking botanical finds, more an opportunity to renew friendships after our winter hibernation and to sharpen our faculties for the coming summer.

Guy Sloman

Gathurst

6th May

(Leader-Mrs E.Stephenson)

A day spent around Gathurst and Crooke, to the west of Wigan, took in a variety of habitats: the 'Dirty Duggie' (the river, that is!!), a reclaimed and replanted area, old clay pits, and a wood 'of ancient origin'.

The day's highlight, and underlying reason for the choice of date, was Porter's Wood. Crammed with



Bluebell, *Hyacinthoides non-scripta*, Ramsons, *Allium ursinum*, Lesser Celandine, *Ranunculus ficaria* (ssp. *ficaria* & ssp. *bulbilifer*), Marsh-marigold, *Caltha palustris*, Three-nerved Sandwort, *Moehringia trinervia*, to name but a few, and trees in fresh leaf, it was a delight. In the sunshine, birds sang and butterflies flitted through the glades, most notably Speckled Wood *Pararge aegeria* and a Brimstone *Gonepteryx rhamni*, both increasing locally. Many more than 57 varieties here – who would have thought we were cheek-by-jowl with the giant Heinz factory?

And then there was the Hoax Apple! Golf ball size, pink and puffy – undoubtedly an Oak Apple, except that it was allegedly growing on Sycamore. The leader (that's me) roundly asserted that gall wasps don't make mistakes in their tree identification, so back we went. Tree buds were swelling though not yet open, but careful searching produced a few of last year's leaves still attached. Oak. Faces pink and puffy!

Later reflection, however, makes leader's head feel uncomfortably large. The truth of the matter is that unless extremely patient researchers have kept careful watch, we cannot be certain that Oak-gall causers never mistakenly lay eggs on other tree species. Crucially, it is the tree, which manufactures the gall-tissue in response to stimulation by the insect. Maybe the gall wasp, *Biorrhiza pallida* does sometimes lay on Sycamore buds, but no galls will form. My apologies for a hasty remark.

On a very hot day, a stop at the canal-side pub at Crooke provided welcome

refreshment and enabled good timing for the return train.

Edna Stephenson

Moston

13th May

(Leader- Miss P.Tolfree)

Nine members and two visitors assembled for our walk on a very hot day near Mills Hill station. We started by descending the very steep steps on the far side of the railway line to join a path by the River Irk, which here is narrow, clean and fast flowing. It rises less than three miles away at Low Crompton and flows southwest, with the addition of several brooks to join the River Irwell, near Victoria Station and thence to the Manchester Ship Canal.

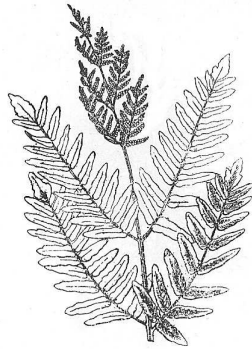
The party from Liverpool were interested to see so much Common Bistort, *Persicaria bistorta* growing by the river. Conversely it was good to see abundant Marsh-marigold, *Caltha palustris*, none too common in the Manchester area. There were clumps of Tall Fescue, *Festuca arundinacea*, which is a typical grass of South Lancashire. A Liverwort, thought to be *Lunularia cruciata* was also seen here. Spotting many other plants on our way, we skirted around the British Vita works to reach the Myrtle Pools, originally mill lodges. The leaves of Flowering-rush, *Butomus umbellatus* were very much in evidence, which will later make a wonderful sight. We had our lunch here with the anglers.

We then continued to Boarshaw Bridge to join The Rochdale Canal, which, over the last few years has been much cleaned out with a view to



'environmental improvement'. However, there is still a very interesting moss, Willow moss, *Fontinalis antipyretica*, floating in it, looking much more like a vascular plant. It was too early to see the introduced American Pondweed, *Potamogeton epihydrus*, that is known from this section of the canal. We walked northwards to Slattocks, where we left the canal and continued along Thornham Lane, which was formerly an early packhorse route between Lancashire and Yorkshire. We passed the tollhouse going into Stakehill Lane and passed also several farms. Common spring flowers were growing all along in the hedgebanks such as Bluebell, *Hyacinthoides non-scripta*, Greater Stitchwort, *Stellaria holostea*, and various vetches.

On reaching the canal again, we were greeted with Royal Fern, *Osmunda regalis* and a bit farther along in a damp meadow we saw Round-leaved Crowfoot, *Ranunculus omiophyllus*. Nearby was Reed Sweet-grass, *Glyceria maxima*, growing so prolifically as almost to look like a crop.



Royal Fern, *Osmunda regalis*

On the railway bridge we looked in vain for the fern Rustyback, *Ceterach officinarum*, seen seven years ago. Back at the starting place on the waste

ground near the Irk, someone spotted Quince, *Cydonia oblonga*, no doubt bird sown.

Priscilla Tolfree

Silverdale & Gait Barrows

10th June

(Leader- Peter Tipping)

The tenth of June dawned warm and fair, unlike the days either side of it: was this to be a blessing on the day? A party of ten met at Silverdale Station and was ferried in cars to the Nature Reserve itself, thank you for the lifts.

Gait Barrows National Nature Reserve is one of the most important areas of limestone pavement in Britain and is home to a not inconsiderable collection of rare plants. The limestone was shaped by glaciers 15,000 to 18,000 years ago and has since been the subject of weathering to form the pavement areas we can see today. On the walk to the first pavement we were rewarded with some splendid views of Herb-Paris, *Paris quadrifolia*, nestling behind a large limestone block and in the shade of Hazel, *Corylus avellana*, and Spindle, *Euonymus europaeus*.

The first pavement gave us views of Yew, *Taxus baccata*, Rowan, *Sorbus aucuparia*, and Common Juniper, *Juniperus communis* in various sizes and forms, some being very stunted due to dry conditions on the pavement. It was here that we found our first specimens of Orpine, *Sedum telephium*.

As the different pavements were encountered, we were lucky enough to find many of the rare plants we had hoped to see including, albeit not in full flower, Dark-red Helleborine,



Epipactis atrorubens. Ferns were to be had in plenty, including Broad Buckler-fern, *Dryopteris dilatata*, Scaly Male-fern, *Dryopteris affinis*, Male-fern, *Dryopteris filix-mas* and Rigid Buckler-fern, *Dryopteris submontana*.

Should we stop for lunch or search for another rarity, Angular Solomon's-seal, *Polygonatum odoratum*? Of course the plant won out and lunch was deferred until all had seen it. Lunch on the pavement, but beware of deer ticks we were informed by the warden, Robert Petley-Jones, words I was to remember all too vividly on my return home only to find unwanted visitors! During the lunch break an interesting discussion took place, we looked at Common Valerian, *Valeriana officinalis*, or was it Saw-wort *Serratula tinctoria*? Never mind we won't go into that now!



Common Valerian, *Valeriana officinalis* OR Saw-wort, *Serratula tinctoria* ? (Answer at bottom of page 34)

As we began to leave the pavements we saw considerable quantities of Lily-of-the-valley, *Convallaria majalis* and a little further Jacob's-ladder, *Polemonium caeruleum* and Stinking Hellebore, *Helleborus foetidus*.

Continuing downhill we approached a wet area with meadowland. Here we encountered beautiful displays of Ragged-Robin, *Lychnis flos-cuculi*, Changing Forget-me-not, *Myosotis discolor*, and Yellow-rattle, *Rhinanthus minor*. Passing many specimens of the Cranesbill family, we again met up with Mr. Petley-Jones who showed us a rare leaf beetle that inhabits Wood Ants' nests. This creature goes under the name of *Clytra quadripunctata*.

Beetles notwithstanding we must move on if we are going to see Haweswater. En route we were lucky enough to see Rue-leaved Saxifrage, *Saxifraga tridactylites*, Rustyback, *Ceterach officinarum*, and some rather splendid examples of Ostrich Fern, *Matteuccia struthiopteris*. What if they had been planted! As Haweswater loomed into sight so did some wonderful plants, Common Gromwell, *Lithospermum officinale*, Bird's-eye Primrose, *Primula farinosa*, and Common Butterwort, *Pinguicula vulgaris*. Great Fen-sedge, *Cladium mariscus*, Common Sedge, *Carex nigra*, Glaucous Sedge, *Carex flacca*, and Wood-sedge, *Carex sylvatica*. Black Bog-rush, *Schoenus nigricans* was also seen at this location. By this time it was appropriate to make for the station for those returning by train.

Those in cars made a short detour to Jack Scout and were able to add Thrift, *Armeria maritima* and Carlina thistle, *Carlina vulgaris* to the day's list as well as learn about the complexities of limekilns! All in all a day blessed by good weather and even better flora.

Peter Tipping



Cefn y bedd

24th June

(Leader-Vera Gordon)

Soon after leaving the station we went down a steep track to where a once busy water mill has now been turned into a “des res”. The huge water wheel still stands intact. Crossing a float bridge we went up a steep muddy path in a wood, to a lane, which we crossed after admiring flowering Wood Melick, *Melica uniflora*, growing on the huge bank.

Over the style we walked below a hillside hay meadow with Oxeye Daisies and occasional Common Spotted-orchid, *Dactylorhiza fuchsii*.

We were all brought to a halt when a lovely black and white rabbit came out of the hedge to us. It had obviously been dumped there, but with a cardboard box for shelter, and a choice of greens from the hedge and field. We hoped that a local would find it and give it a home.

Then there was a short steep climb next to a field hedge, which was draped here and there with honeysuckle in flower, and plenty of foxgloves on the bank. We soon reached an old mineral railway line, now disused, cut into the hillside, with a densely wooded drop on the right, and a wide muddy cutting on the left, the land rising to an unseen village above. Here were Ladies Smock, or Cuckooflowers, *Cardamine pratensis*, lots of pink Ragged Robin, and remains of Marsh Marigolds.

Although the ladies had spent half an hour or so the previous very, very hot Saturday clearing the largest brambles

with secateurs, what were left were still a pest, as well as low twigs and branches of trees and shrubs. A footpath ascended steeply between hedges to a road.

Many common wild flowers adorned the hedges along some quiet lanes. There were Wild Strawberries, *Fragaria vesca*, some ripe enough to eat, and thick stems of glossy red berries of Lords-and-Ladies, *Arum maculatum*.

Then down a side lane, at the bottom of which a brook flowed across, with a ford for vehicles and a footbridge for walkers. It was here we missed one of the party. Three searchers climbed up to the road again, two of them to where we had last seen him, but no luck. We found out later that when he could not see us he went the way he knew to the gravel quarry, (we were then looking for him), and returned home by the train before ours.

Meanwhile, after lunch, we went up to the now abandoned gravel quarry where there was an abundance of wild flowers. Hundreds of Common Spotted-orchid, *Dactylorhiza fuchsii*, a few Bee Orchids, *Ophrys apifera*, beds of Spiny Restharrow, *Ononis spinosa*, lots of Common Centaury, *Centaureum erythraea*, and Yellow-wort, *Blackstonia perfoliata*, and in wet places forests of Great Horsetail, *Equisetum telmateia*.

We prowled about there and then went on our way down a lane cut between high banks, and in one place a spring trickled down the bank, forming a bed of tufa.



The last part of the walk was along a footpath on a line of springs, always very wet, even in high summer. The woods on each side are lovely in the Spring, with primroses, wood anemones, wild hyacinths and violets.

Vera Gordon

Mersey Shore

1st July

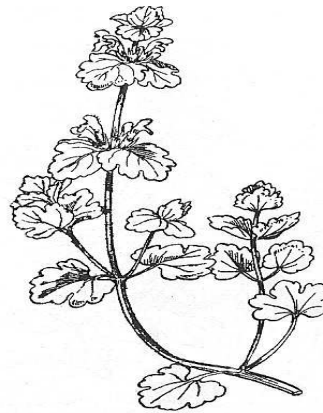
(Leader-Joan Davis)

From Hale Road, just east of Speke, the party of ten went through a small wood to join a path between the wood and an arable field with plenty of weeds in it, such as Field Pansy, *Viola arvensis*, the annual Small Nettle, *Urtica urens*, Cut-leaved Crane's-bill, *Geranium dissectum*, Common Field-speedwell, *Veronica persica* and Fat-hen, *Chenopodium album*.

We stayed along the cliff top path because the full tide had covered the salt marsh and was almost up to the cliff. Again there were plenty of weeds growing among the crops, such as Red Dead-nettle, *Lamium purpureum*, Cut-leaved Dead-nettle, *Lamium hybridum*, and Henbit Dead-nettle, *Lamium amplexicaule*, the three colour forms of Wild Radish, *Raphanus raphanistrum* ssp. *raphanistrum*, white, mauve and yellow. The flax, *Linum usitatissimum*, reminded us that the flax had been the previous year's crop.

We enjoyed our picnic near a wood and John Benson pointed out a very tall slender Aspen, *Populus tremula*, growing just along the cliff edge, whose leaves quivered from base to top as though controlled by an electrical current.

After lunch, the tide having receded a yard or two we walked along the shore to Hale Lighthouse. On the cliff were large plants of the Garden Angelica, *Angelica archangelica*, many tall Teasels, *Dipsacus fullonum*, the Bristly Oxtongue, *Picris echioides*, Yellow-wort, *Blackstonia perfoliata*, Common Centaury, *Centaureum erythraea*, Large Bindweed, *Calystegia silvatica*, and the Hedge Bindweed, *Calystegia sepium* ssp. *roseata*. The Field Bindweed, *Convolvulus arvensis*, grew nearby.



Henbit Dead-nettle, *Lamium amplexicaule*

On the salt marsh the Sea Pinks, or Thrift, had finished flowering but it was obvious that they had increased from just a few plants some years ago. A few Sea Asters, *Aster tripolium*, were in flower, but they would not be at their best for three or four weeks.

Passing the lighthouse we walked along the cliff top to where the coast path ended at a barbed wire fence. A road led inland to Hale Village where we duly visited the grave of the nine-foot Childe of Hale before getting the bus back.

Vera Gordon



Helsby

15th July 2000

(Leader-Dave Parry)

On a bright sunny day, fifteen members met at Helsby station to visit Helsby Hill. There were enough cars to transport everyone to the car park half way up the hill which avoided half a mile of uphill road walking. Our footpath climbed through woodland, where Climbing Corydalis, *Ceratocarpus claviculata* was growing, to emerge on the grassy and rocky top of the hill with good views over the River Mersey and Ship canal to Runcorn and beyond.

Among grasses in flower were Wavy Hair-grass, *Deschampsia flexuosa* and Yorkshire-fog, *Holcus lanatus*. Other plants in this area included Green Alkanet, *Pentaglottis sempervirens*, Black Horehound, *Ballota nigra*, Heath Groundsel, *Senecio sylvaticus* and Corn Spurrey, *Spergula arvensis*. We had our lunch break here.



Black Horehound, *Ballota nigra*

Dropping down steeply below the escarpment, the high-level path continued through woods, where Hard-fern, *Blechnum spicant*, was growing,

to emerge into a pleasant unmade lane. At the junction was a magnificent Silver Birch, *Betula pendula* with a girth of 96 inches (244cms) Marsh Cudweed, *Gnaphalium uliginosum*, was growing among crops in a north field. At the end of the lane, a semi-luminous moss, *Schistostega pennata*, occupied a cavity in the sandstone.

We joined a road, which led back to the top of the hill. Common Hemp-nettle, *Galeopsis tetrahit* was profuse at one point, also Barren Brome, *Anisantha sterilis*. After a tea break, another path downhill through woodland led us back to the car park. On returning to the station, some members briefly explored the salt marsh to the north.

Joan S. Duerden

Neston

July 29th 2000

(Leader- Joan Duerden)

Sixteen members met at Neston station on a warm sunny day and we made our way via the Wirral Way for field paths leading to the Dee estuary shore. There were many plants of Yarrow, *Achillea millefolium*, Wild Carrot, *Daucus carota*, and Wild Celery, *Apium graveolens*, growing on the shoreline the last named having the characteristic strong smell of celery.

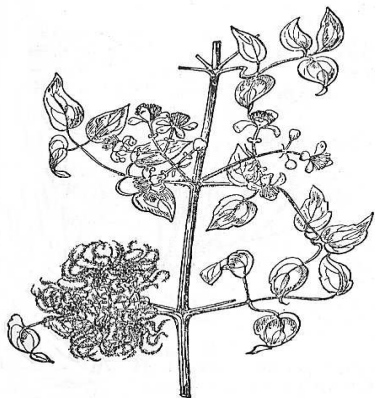
Further along the shore path were Common Bird's-foot-trefoil, *Lotus corniculatus*, Mugwort, *Artemisia vulgaris*, Field Bindweed, *Convolvulus arvensis*, and Cut-leaved Crane's-bill, *Geranium dissectum*. Near a patch of Creeping Thistle, *Cirsium arvense*, we stopped to admire four species of butterfly feeding on the flowers-Red Admiral, Small Tortoiseshell, Meadow



Brown and Gatekeeper. Sea Plantain, *Plantago maritima* and Sea-purslane, *Atriplex portulacoides* were in a damp area here, also Lesser Sea-spurrey, *Spergularia marina*.

Reaching an old shipway at Old Quay, we stopped for lunch in a pleasant grassy area with trees. Traveller's-joy, *Clematis vitalba*, grows here. Out on the salt marshes were Hard-grass, *Parapholis strigosa* and Sea Aster, *Aster tripolium*.

Leaving the shore, we followed a path and lane heading for Ness village seeing Hedgerow Crane's-bill, *Geranium pyrenaicum*, in the verges. Briefly following roads we joined a footpath heading across fields to Cuckoo Lane and the Wirral Way. A short break at Lees Lane was made where Least Duckweed, *Lemna minuta*, was growing in one of the ponds.



Traveller's-joy, *Clematis vitalba*

To return to Neston, our way was through the cutting on the Wirral Way where numerous ferns were growing in the walls.

Joan S. Duerden

Ellesmere Port

5th August 2000

(Leaders-Doug Messenger and Carl Clee.)

The party was met at Ellesmere Port Railway Station by our leaders who took us to the ferry. It was a lovely day and we all felt it quite a treat to be crossing the Manchester Ship Canal by ferry to the huge expanse of salt marsh.

The object was to record all the plants growing there so we wandered about shouting out what we had seen. Typical salt marsh plants included Seamilkwort, *Glaux maritima*, Sea Aster, *Aster tripolium*, Sea Plantain, *Plantago maritima*, Sea Arrowgrass, *Triglochin maritimum*, Sea Mayweed, *Tripleurospermum maritimum*, Saltmarsh Rush, *Juncus gerardii*, Annual Sea-blite, *Suaeda maritima*, Lesser Sea-spurrey, *Spergularia marina*, and Greater Sea-spurrey, *Spergularia media*, and two species of Glasswort, Long-spiked Glasswort, *Salicornia dolichostachya* and Purple Glasswort, *Salicornia ramosissima*.

There was Parsley Water-dropwort, *Oenanthe lachenalii*, which does not grow on every salt marsh and it was interesting to come across one plant of the Bindweed, *Calystegia sepium ssp. roseata*, here, maybe the seed had been washed across the Mersey from its original site at Hale from where Dick Brummitt first described it. Some waste ground on the bank of the Ship Canal where we first landed, provided some common plants like the large golden patches of Common Bird's-foot-trefoil, *Lotus corniculatus*, and even the larger areas of Scentless Mayweed, *Tripleurospermum inodorum*.



Drainage from the built up bank of the Ship canal produced shallow pools where we recorded Bulrush, *Typha latifolia*, Branched Bur-reed, *Sparganium erectum*, Common Duckweed, *Lemna minor*, and Water-plantain, *Alisma plantago-aquatica*. Among common plants on the upper edge of the salt marsh were four species of *Epilobium sp.*, four species of Dock, *Rumex sp.*, Perennial Sowthistle, *Sonchus arvensis*, Creeping Thistle, *Cirsium arvense*, and Spear Thistle, *Cirsium vulgare*.

It was warm and the sun shone all day. We had our lunch on a sandstone outcrop trying to name all the places we could see clearly across the water.

Vera Gordon

North Wirral Coast

19th August 2000

(Leader-Keith Watson.)

A party of eight met at Wallasey Grove Road station with the weather dry in Wirral, but with black thunderstorm clouds and rain over Liverpool. We walked towards the coast finding Persian ivy, *Hedera colchica*, with its characteristic smell, and rosette leaves of Dark Mullein, *Verbascum nigrum* on waste ground near the new station car park. White Mignonette, *Reseda alba*, was not as common as formerly at the corner of the golf course. On the edge of the miniature golf course were Sea Rocket, *Cakile maritima*, Sea-purslane, *Atriplex portulacoides*, and a plant of Trifid Bur-marigold, *Bidens tripartita*, at the site of the old baths.

Tetrad SJ 29R was recorded during the meeting (a total of about 125 records); notable was frequent Sheep's-bit,

Jasione montana. Lunch was taken on the gun site dunes, near Isle of Man Cabbage, *Coincya monensis ssp. monensis* and Spanish Broom, *Spartium junceum*. Other interesting plants were the abundant small leaved elm (never properly identified) and Hungarian Brome, *Bromopsis inermis*. Continuing along the coast towards the old lighthouse, Sea-holly, *Eryngium maritimum*, and Sea Spurge, *Euphorbia paralias*, were good records.

The afternoon weather became increasingly warm and pleasant as some of the party left to walk to Moreton station, but the rest of the party continued past the lighthouse for a tea break at the ponds. Greater Spearwort, *Ranunculus lingua*, Fringed Water-lily *Nymphoides peltata*, Blunt-flowered Rush, *Juncus subnodulosus*, Strawberry Clover, *Trifolium fragiferum* and Spiked Water-milfoil, *Myriophyllum spicatum*, are interesting at this site, and a new record of Parsley Water-dropwort *Oenanthe lachenalii*, was made.



Sheep's-bit, *Jasione montana*



As we walked towards Meols, Lesser Centaury, *Centaureum pulchellum*, was found in the old dug-out with a few plants of Hound's-tongue, *Cynoglossum officinale*, in the dunes. The day ended in warm sunshine with quite a long walk to Meols station.

Keith Watson

Hightown

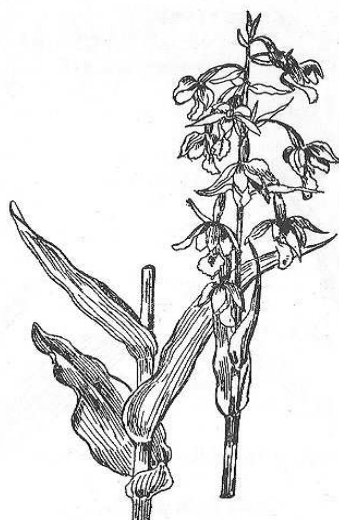
23rd September 2000

(Leader-Pat Lockwood)

A very happy crowd left Hightown station, walking north alongside the railway towards the Altcar Training Camp, particularly to see the Traveller's-joy, *Clematis vitalba*, a beautiful plant in both flower and fruit which has colonised there. Further down the road, Hop, *Humulus lupulus*, was twining through bushes and brambles. Nearing the Training Camp we veered left, down a narrow path leading toward the River Alt, the best plant being Twiggy Spurge, *Euphorbia x pseudovirgata*, also Sea Spurge, *Euphorbia paralias* and Petty Spurge, *Euphorbia peplus*. Very soon the River Alt, its muddy banks being covered by Sea Aster, *Aster tripolium*, joined the sea and we found a place for lunch, some of us sitting on the sands, others in the dunes.

We continued along the shore where Vera identified Sea-purslane, *Atriplex portulacoides*, and Common Orache, *Atriplex patula*, members of a very difficult group to identify. Sea Beet, *Beta vulgaris ssp. maritima*, was increasing well, also Annual Sea-blite, *Suaeda maritima*, and Prickly Saltwort, *Salsola kali ssp. kali*, in fruit. A speciality was Yellow Horned-poppo, *Glaucium flavum*, still in good

flower. We feared we would lose it during the winter storms but it was better than ever, some plants surviving in pure sand. We compared Sea Sandwort, *Honckenia peploides* and Sea-milkwort, *Glaux maritima*, often confused. Further along the coast there was Sea-kale, *Crambe maritima*, and the beautiful Rock Samphire, *Crithmum maritimum*, very much on the increase. We also compared Sea Plantain, *Plantago maritima* and Buck's-horn Plantain, *Plantago coronopus* and also the Arrowgrasses, namely Marsh arrowgrass, *Triglochin palustre* and Sea arrowgrass, *Triglochin maritimum*, which were growing close together. We turned inland into the dune system, passing an enormous spread of Japanese Rose, *Rosa rugosa*. The slacks were very interesting, full of fruiting orchids, hundreds of Marsh Helleborine, *Epipactis palustris*, also Autumn Gentian, *Gentianella amarella*. On the edge of a path we saw the Narrow-lipped Helleborine, *Epipactis leptochila var. dunensis*.



Marsh Helleborine, *Epipactis palustris*



We made our way home passing Soapwort, *Saponaria officinalis*. Finally, I must apologise to Joan Duerden and Margaret Brown for presuming they had gone on ahead, when in fact they were lost in the dunes, an unfortunate happening and scary. I am so sorry.

Patricia A. Lockwood

Birkdale

21st October 2000

(Leader-Duncan Rothwell.)

We gathered at Birkdale Railway Station and then walked down towards the beach. First a visit to the Queen's Jubilee Nature Trail that lies between the Marine Drive and the Esplanade. This could now be more accurately renamed "Q.T. Doggie Walkers' Trail." Every time someone stopped to look at a plant, they had to be warned of something nasty nearby.

There was an interesting evergreen shrub, Broad-leaved Oleaster, *Eleagnus macrophylla*, a native from Japan and Korea. It flowers in late autumn, and had plenty of tiny buds, but only two or three flowers yet. Like the rest of the family it produces no petals. The sepals in *Eleagnus* species look like petals. The only British native of this family is Sea-buckthorn, *Hippophae rhamnoides*, and there is only one more genus in the small family *Eleagnaceae*.

Note! The other genus belonging to the Eleagnaceae is Shepherdia, an example of which, Shepherdia argentea, can be seen in the Spinney at Ness.

We then walked along the foreshore, noting the accretion at the end of the Sefton dunes compared to the erosion at the Hightown and Formby end.

We came to a new dune slack that had been part of the beach but was now enclosed by a line of low dunes gradually formed by blown sand and still growing after strong winds.

Along the edge of the slack were remarkable lines of Brookweed, *Samolus valerandi*, some more than 20cms tall and very bushy. Among them were fine plants of Long-bracted Sedge, *Carex extensa*.



Sea Rush, *Juncus maritimus*

On the drier margins there were plenty of tiny Lesser Centaury, *Centaureum pulchellum*, taller Seaside Centaury, *Centaureum littorale*, and Common Centaury *Centaureum erythraea*. We walked along the bank of an old brook now in need of clearing out at the slack end. Higher up where it emerges from a culvert and the water is deeper and not so choked with common water plants, the Lesser Bulrush, *Typha angustifolia*, has spread.

Baltic Rush, *Juncus balticus*, was seen in a few of the old slacks and Sea



Rush, *Juncus maritimus*, also grows on this northern Sefton coast.

We returned up the long and now very sandy path to Hillside Railway Station.

Vera Gordon

Articles

History Of The Fuchsia

It is believed that the discovery of the Fuchsia can be attributed to Charles Plumier, a French missionary and botanist working in the hills above Santo Domingo, South America around 1670 to 1690. He named the first plant *Fuchsia triphylla flore coccinia*, after another well known German botanist Leonhart Fuchs, who strangely enough, never knew about 'his plant', having died in 1566. Fuchs, who was also an eminent doctor of medicine, documented some five hundred plants indigenous to his native Germany.

The first evidence recorded in Britain was documented in *Hortus Kewensis*, the botanical inventory of the time, when a Captain Frith brought a *Fuchsia coccinia* back from Brazil in 1788, but it wasn't long before nurserymen Lee and Kennedy started selling rooted cuttings, probably purloined from Kew, somewhat deviously.

Fuchsia species were also discovered in New Zealand and Tahiti, so it wasn't long before keen plantmen were hybridising. *Fuchsia coccinia* was crossed with *Fuchsia arborescens* and in 1835 an unintentional seedling produced a plant with a flower having a purple corolla and white sepals

known as *Fuchsia 'Venus Vitrix'*. This was the parent of many present day cultivars.

New hybridisers were constantly appearing – W.H. Story of Devon brought out *Fuchsia 'Queen Victoria'* the first double flowered *Fuchsia* and *Fuchsia 'Striata'* the first striped *Fuchsia*. The French nurseries of Victor Lemoine produced over four hundred new cultivars. German Carl Bonstedt continued hybridising *Fuchsia triphylla* and in 1904 and 1906 gave us *Fuchsia 'Tharlia'* and *Fuchsia 'Gartenmeister Bonstedt'*. The latter can be seen in the glasshouses at Ness.

Interest waned in the U.K. during the First World War, but it was the Americans who persevered by opening a Fuchsia Society in 1929, followed by The British Fuchsia Society in 1938. As mentioned previously, Fuchsias are not native to Britain, but some of the hardy specimens have become naturalised in British gardens. With great flowering hedges to be seen in Devon, Cornwall, Wales and Scotland. How many of us, as children, remember squeezing a flower bud to make it pop?

Of the Family *Onagraceae*, fossilised pollen grains found in New Zealand, age the *Fuchsia* at over 30 million years old, however, our hardy *Fuchsias* originate from Brazil, Chile, and Argentina, forming one of nine sections of the genus. The hardy section is known as *Quelusia*. Of the five species within this section, the hardiest is probably *Fuchsia magellanica 'Riccantonii'*, usually best for hedging - growing to a height of six or seven feet in warmer climes.



With long stamens, the flower stalk and calyx are red, and the corolla, blue. Not always of this colour, crosses have brought hardy cultivars like *Fuchsia magellanica* 'White Knight's Pearl', a spectacular small flowered pale pink and *Fuchsia magellanica* 'Hawkshead', again with small flowers, but of pure white. Both can grow up to 2m and can be used for hedging or as specimen plants, so are very versatile immigrants. Other species of *Fuchsia* in this section are *F. bracteata*, *F. campos-portoi*, *F. coccinea* and *F. regia*, though these are not hardy, hence the need for over-wintering treatment.



Fuchsia 'Gartenmeister Bonstedt'

There have been many growers worthy of note, such as, Veitch of the U.K. who introduced many new plants, species and hybrids. It was their collector William Lobb, better known for finding the Wellingtonia tree,

Sequoiadendron giganteum and the Monkey Puzzle tree, *Araucaria araucana* who found *Fuchsia spectabilis* or *Fuchsia denticulata* in 1847.

World wide today, growers continue to introduce new cultivars and the list runs into many thousands. Such is the love for and popularity of The *Fuchsia*.

Alan Atherton.

Sources: *FUCHSIAS, The complete handbook*, Miep Nijhuis

What is happening to our green and pleasant land?

In 1986 shortly after the National Museums and Galleries on Merseyside (NMGM) was formed it was decided that the NMGM should lead a study on the interactions between humans and other living organisms since the retreat of the last ice age. This study was based on the Mersey Basin; an area that had a long history of human intervention, saw one of the earliest developments of the Industrial Revolution and had suffered pollution as severe as anywhere in the world. Yet, the area today retains regions of wildscape ranging from open moorland on the Pennine hills through wood and moors to the estuaries and coast of Liverpool Bay. It is home to wildlife that on a European scale is significant. The study culminated in the publication in 1999 of *Ecology and Landscape Development A History of the Mersey Basin*. This article looks at some aspects of what has happened to the flowering plants and ferns of the region concentrating on data from north of the Mersey Basin in Lancashire.



To understand what has happened to the plants it is necessary to look at history; to examine the changes that have taken place since the retreat of the ice sheet some 14000 years ago. For the ice to retreat the climate must have got warmer and whilst there have been fluctuations since then the climate has remained remarkably stable. This climate depends upon a heat-pump that brings warm surface water from the Caribbean to our shores maintaining a mild damp, oceanic climate: damp cool summers and mild damp winters with little frost or snow.

Significantly, however, the climate did get a little warmer than today about 9000 years ago allowing forest development across the whole land from the tops of the hills to beyond the present shore line. A little later, around 6000 years ago the sea levels rose and it got wetter with an increasing extent of bog everywhere. At this time humans also settled in the region. Since then there have been minor climatic variations but the causes for vegetation change have been a mixture of climate change and human intervention.

It is probable that with relatively minor variations the natural landscape of the Mersey Basin today would closely resemble that of 6000 years ago. Glimpses of that landscape can be seen in the sand dunes, salt-marshes, cliffs, deciduous woodlands, limestone pavements and more rarely, as at Haweswater at Silverdale, lakes and fens. None of the lowland bogs or mosses is in a natural state and the blanket bogs on the hills are very much modified.

Once humans started to settle they brought with them grazing animals and began to cultivate crops. They chose areas that were relatively easy to clear of forest and were well drained. These activities probably introduced the first weeds and gave rise to the heaths on the sandstone areas of Cheshire and Wirral. Natural heaths and grasslands free of trees possibly occurred in coastal areas between the mosses and the sand dunes and further inland within the forest where exposure or large herbivores maintained clear areas.

Over the millennia the processes of settlement led to further forest clearance and drainage until 200 years ago little forest remained and then mostly in steep sided river valleys where it was often cropped for various purposes. Determined efforts to drain the last of the lowland bogs, lakes and fens were also well under way. However at this time the loss of trees was appreciated and this together with a need to improve agriculture led to many woodlands being planted and elsewhere an improvement in agricultural techniques. Early efforts at using fertilizers often depended upon marl, hence water filled marl pits, and lime leaving behind old quarries. Also on the coast many estuaries were reclaimed for agriculture or amenity use.

It was at this time that the Industrial Revolution started. Extensive towns and cities developed, which are still expanding, creating their own habitats. Large extractive industries (coal mining, stone quarries etc) developed leaving holes that often filled with water or heaps of often-toxic waste. The factories and domestic grates



burned coal, giving rise to huge amounts of sulphur dioxide and soot. These atmospheric pollutants had a devastating effect on the vegetation, killing off lichens and damaging structure of the blanket bogs, especially in the southern Pennines. Improved communications, first by canal, then by rail and finally motorways led to transport corridors each with a new and different series of habitats being created whilst building the motorways also gave rise to a series of water gravel pits.

These developments have therefore created new habitats despite the onslaught on the natural ones of the region. The profit and loss account shows an increase in fens, salt-marshes, gravel pits and reservoirs, planted woods, marshes and scrub, townscape and nutrient rich wetlands. Losses include mosses and heaths, sand dunes, neutral grasslands (in themselves dependant on traditional management by humans), ponds (dug by humans), natural broad-leaved woods and nutrient poor wetlands.

So how has the long established or native flora managed with such massive changes? Surprisingly plants have done remarkably well. In West Lancaster (VC60) species that are newly recorded or appear to be increasing since 1907 are found in aquatic, ruderal (townscape) and coastal habitats whilst losses are confined to heaths, rocky places and grasslands. Indeed there are far more new and increasing species than there are losses or decreasing species. Overall there has been a considerable increase, 44%, in the number of species that are established in the vice-county whilst many more are found

casually. This increase in plant diversity is almost entirely due to the horticultural industry introducing plants into gardens and more recently as amenity plantings. Many of these garden plants escape and become established as part of the wild flora. There are some losses but these represent only some 2% of the flora; rather more in the most urbanised areas.

A further cause for the increase in the number of taxa in the flora is the proliferation and recognition of hybrids. Hybridization in some groups is well known but why should there be so many willow hybrids on the sand dunes? Some are very rare elsewhere, e.g. *Salix x angusensis* and *Salix x friesiana*. The confusing forms of the Evening-primrose on the sand dunes are due to hybridisation between Evening-primrose, *Oenothera biennis* and Large-flowered Evening-primrose *Oenothera glazoviana*, the former was known from Bootle two hundred years ago but the latter only appeared towards the end of the 19th century. The story of Common Cord-grass, *Spartina anglica*, appearing as a new species is well known but it would not have appeared without human intervention. Today it is arguably the most abundant and conspicuous salt-marsh species. Examples of introduced species, which are still expanding and which are now common include Large Bindweed, *Calystegia silvatica*, a garden escape; Slender Speedwell, *Veronica filiformis*, another garden escape and Pineappleweed, *Matricaria discoidea*, introduced with grain from North America. As a reflection of the increased nutrient level of many marshy areas Celery-leaved Buttercup, *Ranunculus sceleratus*, has become



much more common over the last 100 years.

At the present time there is much discussion about climatic warming but as Travis' Flora of South Lancashire showed this is not a new phenomenon. There has been a gradual warming with a pause in mid-century for over a hundred years whilst it has been getting erratically wetter over a longer time-scale. As yet these changes are relatively minor but some plants are sensitive to them. In particular milder winters allow the survival of frost sensitive species but also prevent the proper flowering of some northern or montane plants that require an extended period of frost, e.g. Cloudberry, *Rubus chamaemorus*. Hot summers will allow the fertilization and seed set for plants that are typically found further south, e.g. Small-leaved Lime, *Tilia cordata*.



Celery-leaved Buttercup, *Ranunculus sceleratus*

With these ideas in mind the West Lancaster flora was analysed to see whether or not the recorded climatic changes were reflected in changed flora. Not surprisingly there was a significant increase in the number of

new and increasing species more characteristic of localities further south whilst species more characteristic of further north or on mountains had decreased. Most increases were however for species with no climatic preferences within the overall range of temperate climate. Nevertheless these changes should become more marked as the prediction for a warmer and wetter climate accelerates. Perhaps these changes will allow one of Britain's rarest plants to flourish in the region again. The Killarney Fern, *Trichomanes speciosum*, was found in a very few Pennine localities in the 19th century until it became extinct through collecting. However the attractive plant the Victorians gathered was a sporophyte but recently it was realised that a very insignificant gametophyte survives in the absence of the sporophyte. This inconspicuous generation of the Killarney Fern has now been found in a number of localities and presumably it is a survival from the warm and moist Atlantic Period of 6000 years ago. Time will tell if what are thought to be man induced changes in our climate (thought to be caused by an increase in greenhouse gasses derived in large part by burning fossil fuels) will enable this very delicate fern to flourish as a sporophyte again.

So what has happened over the millennia? Overall the vast majority of native species have survived and on occasion adapted to new environments. The Royal Fern, *Osmunda regalis*, is now found on railway banks and in old quarries rather than on the edge of the mosses or in woodlands. But native species have been joined by many new and alien species. So long as humans continue to be untidy and leave waste



ground in all its forms untouched and go on introducing plants for whatever reason the pace of change with a warmer and wetter climate will accelerate. Even more species will become established but plants requiring a cooler climate may be lost. Nevertheless these plants did survive the warm and wet Atlantic period.

Today the most floristically rich areas are where the native flora is richest, e.g. sand dunes and the limestone area around Morecambe Bay, and where there are many gardens and amenity areas in the vicinity. They are also found in these areas. However the urban and industrial areas are floristically rich and here some of the derelict industrial sites provide refugia for many native species.



Common Butterwort, *Pinguicula vulgaris*

The least diverse areas are the farmed landscapes where intensive agriculture has produced monocultures of grain crops or Rye-grasses, *Lolium spp.* Here few other species survive the intensive use of fertilizers and herbicides. It is probable that the fertilizers in particular escape into

surrounding areas so that roadside verges and other nearby wild areas become much more lush. As a result less competitive species die out. During the last 100 years and especially in the last 30 the numbers of sheep grazing in the uplands has greatly increased. It is likely that this is the cause for the reduction of some species in these areas. Indeed habitat loss and change, especially where they were in any case rare and grazing are probably the main causes for species loss.

For some species the reason for their decline in frequency is less obvious. For example plenty of apparently suitable habitats exist for Common Butterwort, *Pinguicula vulgaris*, but this once common Lancashire species is rapidly becoming one of the rarest. It does not tolerate nutrient enriched soils so disappears from sites where there is run-off from intensively farmed land but could the problem of nutrient enrichment also come from increased levels of atmospheric nitrogen?

To conclude there is no doubt that the landscape is greener and overall there are more species but whether or not it is pleasanter is a matter for the reader to decide.

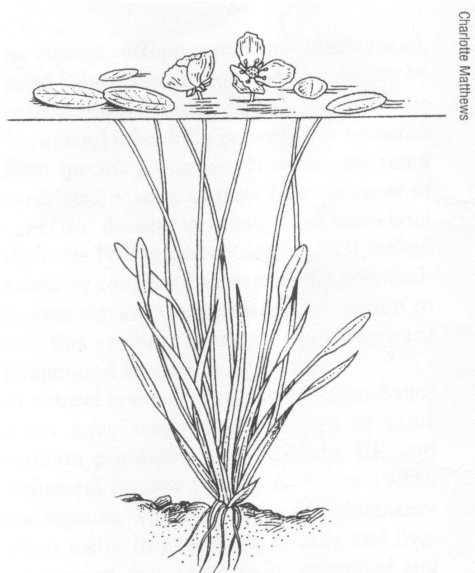
Eric Greenwood

***Luronium natans* at Ness**

One particular plant under current investigation at Ness is Floating Water-plantain, *Luronium natans*. This is an endangered aquatic plant native to Britain and Europe with its stronghold being in Northwest and Central England. It exists naturally in



several Welsh mountain lakes and rivers, Derwentwater in the Lake District and interestingly is abundant in several, North western and Welsh canals such as the Montgomery canal. It occurs sporadically in several other sites, but its means of distribution is unclear. It roots in the mud at the bottom of lakes from which arise procumbent or floating stems that can root at intervals and thus spread along the lakebed. It has two distinct forms of leaves; narrow linear submerged leaves and floating, elliptic leaves. Both forms of leaves are often present on the same plant, although the plant can persist with just the submerged form of leaf, usually in deeper water. In June, the plant produces simple, bisexual flowers with 3 white petals with a yellow blotch at the base, either singly or in a loose umbel of 2-5 flowers.



Floating Water-plantain, *Luronium natans*

(Image reproduced with kind permission of British Waterways)

Luronium natans is classed as rare and endangered and is listed in the Schedule of Protected Plants of The

Wildlife and Countryside Act, 1981 and also under the Bern Convention and the EC Habitats Directive. This protection means that it is illegal to pick, remove or destroy any part (including seeds) of the plant from the wild. It is on the list of species covered by the UK Biodiversity Plan and has its own Species Action Plan.

At Ness, we are part of a team contributing to this Species Action Plan, by undertaking research that is needed to answer some of the following questions:-

- Is its rarity a result of the characteristics of the plant? Is it fastidious as to its growth requirements? Is it a poor competitor with other aquatic plants? Does it have problems in naturally distributing itself from site to site?
- Is Human activity a major cause for the decline of the species? Does Water Pollution (e.g. eutrophication) restrict the number of available sites. Is this a problem in itself or is it due to an accompanying change of habitat?
- Is *Luronium natans* actually declining? Has it always been an opportunist coloniser of freshly cleared waterways and thus always had a rather patchy distribution? It is a difficult plant to see and recognise in the field, so has its distribution been underestimated?
- Are features of its reproductive biology a particular constraint?

The area of research that we are focusing on at Ness is an investigation into the reproductive biology of the



plant, an area that has already given us a small but vital piece of information as a direct result of our ability to study the plant at close quarters rather than in the field.

It has always been presumed that the flowers are insect pollinated, though there does not seem to be any record of this occurring. That was until last Autumn!!

At Ness we hold several, wild collected populations of *Luronium natans*, which have been collected under licence for research purposes. Whilst making observation on these plants, it was noticed that a second flush of flowers was being produced in late Summer.

Realising that this was the perfect opportunity to perhaps observe the flowers being pollinated naturally, we eagerly awaited at the poolside, with a small plastic container at the ready, for any flying visitors to call. We did not have long to wait before it was observed that several tiny flies were busily hovering from flower to flower, and after several abortive attempts we finally managed to capture a single specimen for identification.

With the help of Tom Mawdsley from Liverpool Museum's Entomology team, the fly was identified as most likely to be *Hydrellia modesta* of the family *Ephydriidae*. This is a small fly found in damp places, with most species within the genus being leaf miners of aquatic plants, so it fits the bill quite nicely as a possible suspect for the candidate of pollinator of our *Luronium natans*. However the fly was smaller than the type specimens held at the Museum so further specimens will

need to be caught to confirm the identification, with the possibility that we may be looking at a new, previously un-recorded species of fly. Of course this particular fly may be only one of several different species that pollinate *Luronium natans*, but it is one more than was previously known about.

Following on from this, we are now putting together an insect collecting kit that can be easily carried in the field so that field workers and recorders can keep their eyes open for further specimens as they carry out their own fieldwork. It is to be hoped that by this time next year we will have been deluged by swarms of flying beasties.

As can be seen, the moment we start to examine a particular species in any great detail, it becomes immediately obvious how little we actually do know about it. Hopefully the upshot of all these questions will at least be some answers that will go part way toward a greater understanding of this rare and endangered plant. This greater knowledge will hopefully benefit the long-term survival of *Luronium natans* so that future generations will be as fortunate as ourselves and be able to see and appreciate Floating Water-plantain in all its natural beauty.

Keith Hatton

GARSTON GASWORKS

Garston Gasworks is 6.94 hectares of former industrial land sold by British Gas to Liverpool Council in 1976. It is situated between Banks Road and Speke Road in Garston, South Liverpool and is bordered on the west



side by the still operational gasworks and on the east by a public footpath. High perimeter walls and railings surround the land, and its soil in places is contaminated with hydrocarbons and spent oxides. It is this contamination, and the subsequent danger to the public, which has resulted in the land being closed to public access and left derelict and completely unmanaged for over twenty-five years.

I attended the recently demolished Banks Road Junior and Infant School in the late 1960's- early 1970's and remember the site, directly opposite the school, being predominantly bare, cindery ground with sparse grasses and shrubs, some old railway sidings and a few small buildings. The buildings and tracks have long gone and during its thirty years of neglect the gasworks has developed naturally into an amazingly diverse habitat for such a small area of land.

I have, so far, recorded 39 species of trees and shrubs including Creeping Willow, *Salix repens*, Alder, *Alnus glutinosa*, Guelder-rose, *Viburnum opulus*, Aspen, *Populus tremula*, Sitka Spruce, *Picea sitchensis*, Scots pine, *Pinus sylvestris*, and five species of *Cotoneaster*. The most dominant trees present are Birches and Sallows, forming young woodland, which covers about a third of the site. The remainder of the land is composed of grassland / open shrub land (I find the term, 'scrub' or 'scrubland' undesirable, used by people who are complaining about it colonising a 'more preferable' open habitat or who see it as somehow inferior to mature woodland), damp, rushy and reedy ground, some shallow pools and ditches, three sand mounds with their

own, unique flora, and a few bare patches of land still so heavily contaminated that nothing has yet colonised them.

At least 21 species of grass grow on Garston Gasworks and include Sand Cat's-tail, *Phleum arenarium*, Fern-grass, *Catapodium rigidum*, Early Hair-grass, *Aira praecox*, Silver Hair-grass, *Aira caryophyllea*, and Marram, *Ammophila arenaria* on one or more of the sand mounds. Others include Squirreltail Fescue, *Vulpia bromoides* and Tufted Hair-grass, *Deschampsia cespitosa*.

Common Polypody, *Polypodium vulgare*, on the sand mounds, Hart's-tongue, *Phyllitis scolopendrium* and Maidenhair Spleenwort, *Asplenium trichomanes*, are among the six species of fern present.



Common Reed, *Phragmites australis*

The 17 Rushes and Sedges I have recorded used to include a tuft of Common Club-rush, *Scnoenoplectus lacustris*, but a patch of Common Reed, *Phragmites australis*, swamped it. Common Spike-rush, *Eleocharis palustris*, Sand Sedge, *Carex arenaria*, Oval Sedge, *Carex ovalis*, Slender



Tufted-sedge, *Carex acuta*, and Glaucous Sedge, *Carex flacca* are also present.

So far I have listed 80 species of herbaceous wild flowers and expect to add to this on future visits. The more notable ones are Thyme-leaved Sandwort, *Arenaria serpyllifolia*, Biting Stonecrop, *Sedum acre*, Kidney Vetch, *Anthyllis vulneraria*, Hare's-foot Clover, *Trifolium arvense*, Common Stork's-bill, *Erodium cicutarium*, Blue Fleabane, *Erigeron acer*, all found on or around the sand mounds. However, each summer five species of Orchid present, Northern Marsh-orchid, *Dactylorhiza purpurella*, Southern Marsh-orchid, *Dactylorhiza praetermissa*, Early Marsh-orchid, *Dactylorhiza incarnata*, Common Spotted-orchid, *Dactylorhiza fuchsii*, and Bee Orchid, *Ophrys apifera* steal the show. All together I have counted over 4000 orchids in some years, with many hybrid swarms between the *Dactylorhiza spp.* often making identification impossible.



Blue Fleabane, *Erigeron acer*

At least 31 species of Moss and Liverwort are on the site including *Sphagnum fimbriatum*, *Thuidium tamariscinum*, *Homalothecium sericeum* and *Aulacomnium palustre*.

Partridge and Oystercatcher are among the birds recorded breeding on the gasworks, along with Whitethroat and Reed Bunting, whilst Snipe and Woodcock are regular winter visitors.

Sixteen species of butterfly can be found using the land with Common Blue, *Polyommatus icarus*, Speckled wood, *Pararge aegeria*, Meadow Brown, *Maniola jurtina*, and Hedge Brown, *Pyronia tithonus*, among the residents. Also large and small Skippers, *Ochlodes venatus* and *Thymelicus sylvestris* are resident.

I have yet to compile lists of Fungi, Mammals, insects, spiders etc., but have already recorded some interesting species, such as the four-spotted Chaser Dragonfly, *Libellula quadrimaculata*, and the spider, *Arctosa perita*.

Unfortunately, Garston Gasworks appears to be earmarked for development of some sort or another, although, how to deal with the contaminated soil seems to be the biggest problem faced by the council. There has been mention of part of the site being managed as a nature reserve, but this would result in the whole character of the gasworks being lost as it degenerates into nothing more than a landscaped garden.

Garston Gasworks developed naturally without management from man and if, by some miracle it escapes the developers, it should be allowed to evolve naturally. This may well result in the loss of its Orchids and sand-dune flora, but other plants and animals will colonise and replace them. It is my belief that in our desire to manage every square inch of our



nature reserves to be as diverse as possible, we are losing the most important thing, nature.

Stephen Fletcher

John Gerard



John Gerard in 1598, aged 53, potato plant in hand

During the last five or six years, one has seen quite a few anniversaries, ranging from the millennium to the founding of Ness Botanic Gardens by Arthur Kilpin Bulley. However 1997 was outstanding from a botanical point of view, being the 400th anniversary of the publishing of Gerard's *Herball or General Historie of Plantes*. Gerard was a native of Nantwich, Cheshire.

Not that herbals were anything new, even in Gerard's day. One of the earliest recorded manuscripts is *The Leech Book of Bald* (AD 900-950), a Saxon manuscript, said to be in almost perfect condition, and now located in the British Museum.

During the 16th and early 17th centuries there also appear to have been quite a spate of herbals published in London by authors such as William Turner, John Frampton, Henry Lyte, Thomas Newton, John Parkinson and Nicholas Culpeper. But Gerard was one up on his contemporaries, having in 1596 produced the first catalogue of any garden, public or private. Such was the demand for the 24-page catalogue that a second edition was published in 1599.

Of Gerard himself, very little is known. He was born in Sweetbriar Hall, Hospital Street in the year 1545. The Hall was one of only three buildings to survive the Great Fire of 1583, the other two being the parish Church and Church's mansion which some years ago was turned into a museum and a very good restaurant.

A coat of arms printed below his portrait in the first edition of *The Herball* does show that he belonged to a younger branch of the Gerard family that hailed from Ince in Lancashire. In the portrait itself Gerard, aged 53, is holding a potato plant. It is said that he was only the second person in England to grow potatoes. No records of Gerard's baptism exist, and any information about his life appears to be restricted to odd snippets of information gleaned from his *Herball*. It is known, however, that he did marry, and that his wife helped him with his work. Yet no maiden or Christian names of his wife have been revealed.

The earliest references to Gerard's childhood found in his *Herball* is when he speaks of *Raspis* or raspberries. '*Raspis* grow wild as I have found it



among the bushes of a causey, neere unto a village called Wisteron, where I went to school, two miles from Nantwich in Cheshire'

On reading this passage for the first time, it struck me as very odd that Gerard should attend a village school. Was there not a higher grade school in a town the size of Nantwich? It took me many hours of searching before I came up with an answer in the Chantry Rolls of 1548, which refers to the necessity for a grammar school. Webb in his *Itinery of the Nantwich Hundred* (c.1621) tells us that a grammar school was founded by Mr. John and Mr. Thomas Thrush, woolpackers of Long but natives of Nantwich, who purchased the Guild Hall (located within the confines of the churchyard) from no less a person than Queen Elizabeth the First. The Nantwich church rolls for the year 1608 also reveal that John Thrush was a churchwarden that year and that his name was inscribed on the 2,300 lb Great Bell that was cast in Macclesfield in the same year.

At another point in his *Herball*, Gerard speaks of 'Denmake, Swenia, Poland, Livonia or Russia, the cold countries I have travelled'. It is known that at a very early age he spent much time in the study of medicine. It is assumed that at this period he was a ship's surgeon, having in 1562 been apprenticed to an Alexander Mason, a surgeon of some standing, twice warden of the Barber-Surgeons Company formed in 1505. Gerard himself was elected a junior warden of the company in 1596 and in 1598 he became an examiner of candidates for admission to said company.

In 1602 the committee of the company met to consider the question of 'a garden for Mr. Gerard'. It is assumed that Queen Anne of Denmark, consort to James I, was involved in some way, as soon after she granted Gerard a plot of land 'to the east of Somerset House' for the sum of fourpence per year with the proviso that he provided 'a proportion of herbes, flowers and fruit' for royal use. Gerard only worked the garden, wherein he grew over 1,300 species of plants, for a few years. Eventually he leased it to Robert, Earl of Salisbury, in 1605.

In 1608 Gerard became Master of the Barber-Surgeons Company. A note exists that in 1639 the Company paid the sum of 25 shillings and six pence for a copy of *The Herball*.

Gerard died in either 1611 or 1612. No firm record exists, and he was buried in St. Andrew's Church, Holborn, which at that time was but a village.

Of friends and acquaintances Gerard had many. Pre-eminent among them was Queen Anne, but there were also Sir Walter Raleigh, Jean Robin, keeper of the King's Garden in Paris, Lord Zouch, who sent him seeds from continental countries, Stephen Bredwell, a collector of simples or wildflowers from the West of England, James Garret, a tulip grower, Nicholas Lete of London, and, to come nearer home Thomas Hesketh of Lancashire, whom Gerard describes as 'the curious gentleman in the knowledge of plants'.

In *The Old English Herbals* (1922), Eleanor Sinclair Rohde referred to a certain Canon Ellacombe who point out that Shakespeare's writings are full of herb lore, far in excess of many



authors of that period. Could it be that Gerard and Shakespeare knew each other? We know that they were neighbours. Shakespeare lived in the house of a Huguenot refugee named Mountjoy from 1598 to 1604. The house was situated on the corner of Mugwell Street and Silver Street, almost opposite the Barber-Surgeons Hall.

John Arrowsmith FLS

other things, 'An Appreciation of Lawn Weeds', sites in Britain for Childing Pink, *Petrorhagia nanteuilii*, discussions on the naming of *Agrostemma githago*, and how to define whether or not a plant can be regarded as native.

If you have trouble finding this site, contact the Editor and I will help to enrol you.

Keith Hatton

Notes and Queries

Please Use this Column as a botanical and horticultural notice board . Any questions can be sent to the Editor at the contact addresses listed below, and I will endeavour to answer (or find someone who can !) your questions.

To start the ball rolling I will throw open for discussion the following questions that I have been asked this last few months.

Q. How can a selective weedkiller kill off the 'weeds' in my lawn without harming the grasses?

Q. Is there a simple way of identifying conifers in the field , without recourse to a cumbersome key ?

Many of you may have seen the article in the BSBI News about the e-group UKBotany. This site has been taken over by Yahoo, and its new address is <http://groups.yahoo.com/group/UKBotany> (Phew!) .

I have tried out this site and can thoroughly recommend it for its lively and informative botanical chat. Recent discussions have covered, amongst

.... And Finally

Time for Tea

Whilst engaged in some routine maintenance in the glasshouses at Ness, namely the never-ending job of weeding, it was noticed that some of the staff, and one willing volunteer (myself), were feeling rather peckish. We were directed to the nearest source of sustenance, a large clump of Wavy Bittercress, *Cardamine flexuosa*.

It proved to have an interesting flavour, not unpleasant. However, hunger was not to be beaten so easily, and the group had to resort to consuming their more usual fare of hot buttered toast at break time.

Jan Hatton.

.... And Finally Finally

I'm sure all members will join me in offering their heartiest congratulations to Leander and Katy on the birth of their daughter, Maisie, who was born on the 26th February 2001. Now the fun begins!



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Answer to picture caption on page 13
is Saw-wort, *Serratula tinctoria*