

Parnassia

The Newsletter of the Liverpool Botanical Society



“Star fruit, *Damasonium alisma*,.....probably South Lancashire’s oldest ‘new’ vice-county record.”

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January 1996

Editorial

Members are reminded that the annual subscription has been increased to £2.00 to help pay for the extra cost of *Parnassia* (This decision was made at the Council meeting on 14th November 1995). Please note that subscriptions for 1996 are now due.

With this third issue, *Parnassia* has now completed one full year of production. Members, therefore, should be in a position to offer their considered opinion on what they feel about the style and content of the publication and, in particular, how to improve it. All ideas welcome. It is worth noting that the last two years has seen a 62 percent increase in the Society's membership. With more members it would be nice to see more participation with the newsletter. Please tell us about your particular botanical interests, personal projects or even queries. If you would like to contribute and have access to a computer please contact me, as sending information on disc vastly speeds up the compilation process. If you don't, however, don't worry, paper will still be much appreciated. Also, do you know of any other local (north-west) botanists, who are currently not members, but may have something interesting or relevant to contribute. Please remember that although we are called the Liverpool Botanical Society our field meetings, recording activities and membership stretch out into a greater area.

Finally, this issue sees the launch of the 1996 field and indoor meetings programme. Everyone is welcome to these and it would be nice to see some new faces.

Mike Palmer

1996 A.G.M. Report.

The 1996 Liverpool Botanical Society's A.G.M. was held at Liverpool Museum. Vice-President Dr John Edmondson was in the chair owing to President Peter Gateley being unable to attend due to illness.

Secretary's Report.

(Figures in brackets refer to 1994)

During 1995, 25 (17) new members were elected and 5 (1) deleted. Membership now totals 94 (74) which includes one honorary member.

During the winter months six indoor meetings were held at which the average attendance was 14 (14). Each was preceded by a council meeting at which the average attendance was 11 (10).

9 (10) field meetings were held at which the average attendance was 12 (17). Seven were held in South Lancashire, one in Wirral and one in North Wales.

The Society is indebted to those who arranged, conducted and, above all, attended the meetings and thus ensuring their success.

Vera Gordon.

Treasurer's Report.

The accounts were circulated and a debt of gratitude expressed to the auditors, Miss Joan Davis and Mr Douglas Lockwood.

It was decided during the year that the money needed to cover the production of *Parnassia* was to be covered by interest gained from the NSB Investment Account (£154.50). The original estimate for 4 copies a year was £200 but the two editions of 1995 cost £105. Therefore, in November the council voted to increase the subscription costs to £2.00 (from £1.50) to cover future publication costs. 1996 subscriptions are now due.

Jean Bentley.

Librarian's Report.

Librarian Mike Palmer was unable to attend the A.G.M. due to being on holiday. The valuation of the Society's library, publication of H. Mottram's library catalogue and storage of items into archival boxes were all unavoidably postponed during 1995 due to his effort and commitment to the launch and acting joint editorship of *Parnassia*. The value of this work to the Society was acknowledged by the members.

Donna Hughes.

Election of Officers.

Having spent two years as President Peter Gateley has, according to rules established at the 1992 A.G.M., stood down from his lofty post. A debt of gratitude was paid by all members present Dr Angus Gunn was duly elected President for the next two years.

Peter, however, does not get off lightly, replacing Angus to join Dr John Edmondson as vice-president and teaming up with newly elected Mike Palmer as joint Honorary Editor after Joan Vincent's decision to stand down due to commitments elsewhere.

Mike Palmer's year as acting editor for *Parnassia* has led to his role as Honorary Librarian being somewhat neglected. The official move to the joint editorial team means that the role of Librarian can now be taken up by another member. Donna Hughes, assistant curator of Liverpool Museum's Botany Department, was duly elected.

Members voted unanimously in favour of the present Secretary, Vera Gordon, and treasurer, Jean Bentley, continuing their sterling work.

Any Other Business.

A resolution was passed thanking the Museum for hosting the Society's A.G.M. and winter programme of indoor meetings.

Angus Gunn.

1996/7 Programme

INDOOR MEETINGS

12th March. *Mushrooms & Magic, adventures in the 5th Kingdom.*

Professor Tony Whalley.

8th October. *Plants, People, Places, a cultural flora for the North-west.*

Mike Palmer.

12th November. *Holiday Exhibits 1996.* All members are urged to contribute.

10th December. *Trees & and their timbers.* Dr Angus Gunn.

14th January. *Annual General Meeting* followed by a resume of the 1996 field meetings. Members are encouraged to contribute slides and specimens.

11th February. *The Conservation of Mosslands and their Plant Communities.*

Dr Martha Newton.

Field Meetings 1996

Members are advised to check train times after the summer service comes into force on 2nd June.

20th April. **Hope.**

Leader - Miss Vera Gordon.

9.11 West Kirby train from Central Station to Bidston for the 9.32 Wrexham train. Alight at Hope at 10.13.

18th May. **Littleborough.**

Leader - VC59 Recorder, Mr Peter Gateley.

9.27 Rochdale Train from Lime Street arriving at Rochdale at 10.58am for the 11.03 York train. Alight at Littleborough 11.10. This will be a recording meeting for Atlas 2000 and should be interesting to those who have not yet participated.

1st June. **Wirral Coast.**

Leader - Dr Keith Watson.

9.56 West Kirby train from Liverpool Central to Morton arriving 10.12.

15th June. **Hall Road.**

Leader - Mrs Pat Lockwood.

9.51 Southport train from Liverpool Lime Street to Hall Road arriving 10.10.

6th July. **Seaforth.**

Leader - Mrs Pat Lockwood.

9.51 Southport train from Liverpool Central to Seaforth arriving 10.04 to explore the new nature reserve at the Whabbs.

27th July. **Fazakerly.**

Leader - Miss Vera Gordon.

10.10 Kirkby train from Liverpool Central arriving Fazakerly 10.04 to explore the

site of the proposed prison and continue along one of the tributaries of the Alt.

17th August. **Moore Nature Reserve.**

Leader - Mr John Holness.

9.28 Warrington train from Liverpool Lime Street (or same train from Hunts Cross at 9.42) arriving at 9.57 (or take the 9.52 express train from Lime Street. Then at nearby bus station take the 62 bus at 10.44 to Moore.

7th September. **Bebington.**

Leader - Dr Keith Watson.

9.46 Chester train from Liverpool Central arriving at Bebington at 9.58, to explore the new nature reserve by the station, then down to the river bank to continue the walk curtailed by drenching rain in 1992.

5th October. **Childwall.**

Leader - Mr Mike Palmer.

10.12 train from Liverpool Lime Street to Broad Green arriving 10.21, then along the Loop Line for about a mile and up through Childwall and Black Woods.

Vice-county News

The main events of winter 1995/6 have been concerned with the computerisation of the vice-county records. We are very lucky to have full records of all our plants on card file and 10km square record cards, this body of data will be made much more accessible and useful once it is available at the touch of a button. Well things have begun to progress. After months of being over-awed at the prospect of loading up ten computer disks, the bullet has at last been bitten and RECORDER 3.21b was loaded at the beginning of January. RECORDER centre number 366, South Lancashire, is now up and running. So far names of all local recorders have been listed and each of the 46 part or entire hectads (10km squares) has been entered as a "site". This will enable both the hectad and tetrad records to be entered and retrieved with equal ease, with all tetrad records being merged into hectads for the purpose of Atlas 2000. The other main happening has been a steady trickle of 1995 season records coming in for loading onto computer. This process has started and is underway, hopefully it will be

possible to print off some species distribution maps for the next edition of *Parnassia*.

1995 was a good year for the recording of new species and species not found for many years. Amongst those species forwarded to the records centre on pink cards, for possible publication in *Watsonia*, are:- *Allium carinatum*, keeled garlic, found by the canal at Ewood, Blackburn by Peter Jepson, *Atriplex x gustafassoniana*, a hybrid orache found by the mouth of the Alt by Vera Gordon, *Cirsium x wankelii*, hybrid between melancholy and marsh thistle, found 2km from Entwistle railway station by Peter Jepson, *Mentha pulegium*, pennyroyal found in Penwortham by Richard Parkinson and *Myriophyllum aquaticum*, parrot's feather in an old marl pit north of Halewood, found by Vera Gordon. Amongst other species found were a whole raft of brambles found and identified by Dave Earl. Watch out for the full list of vc59 records in the next issue of *Watsonia*.

Other BSBI news with a local flavour is the recent appointment of a national co-ordinator, with a whole range of duties. The new appointee is Cameron Crook from Lostock Hall, Preston. Cameron is also one of our local recorders.

Peter Gateley.

Liverpool Museum News

February 26th will see the Museum hosting a one day workshop '*Plant Collections for Non-Botanists*', on behalf of the Biological Curators Group. Although the day is primarily aimed at zoological and geological curators who have plant collections within their care, it will also be of interest to anybody, botanist and non-botanist alike, who would like to find out more about the techniques and methods employed in looking after botanical collections. Specialists have been invited from across the country to share their wisdom with delegates. Rob Huxley (Natural History Museum) will look at algae, John Lowell (Manchester Museum) will cover bryophytes, Patricia Francis (Bolton

Museum) will deal with lichens, Brian Spooner and/or Peter Roberts (Royal Botanic Gardens, Kew) will indulge in fungi, while our own Angus Gunn will talk about timber and economic botany collections. Also a number of techniques for mounting pressed plants on to herbarium sheets will be demonstrated by Rita Calder (Royal Botanic Garden, Edinburgh), Tony Tipper (National Museum of Wales) and Jenny Smithers (Natural History Museum), while John Edmondson will look at the processes involved in the preparation of material in the field and Donna Hughes will review the arrangements of specimens in the collection. In addition, there will be the opportunity to tour the collections and current botanical displays. There is a fee of £8.00 to cover the cost of speakers travelling from afar. If anybody would like further details on this please contact Mike Palmer on (0151) 478 4291.

The *James Bolton of Halifax* exhibition continues to run (until 8th April) on the ground floor - see John Edmondson's article on page 9.

A display of *Poisonous Plants and Fungi* continues until May, when it will be replaced by specimens illustrating the three years of the *Plants, People, Places* project over the summer.

Mike Palmer.

North West Fungus Group Update

The Group will shortly be celebrating its second year when it holds its AGM at Worden Hall, Worden Park, Leyland on Saturday 17th February, 2.00 - 4.30. In addition to the annual business, two presentations will be given. The first by the group's president, Professor Tony Whalley, of Liverpool John Moores University on 'Why Mycology Matters' and the second from staff from the Institute of Terrestrial Ecology's Grange-over-Sands site on their survey of radiocaesium levels in wild edible fungi, in which several of the group's members have already participated. The meeting is

open to all. If you would like to come or need assistance with travel, please contact me.

The Group's 1996 programme will shortly be available, and will include a couple of spring forays to look for those elusive morels. Again, please contact me if you would like a copy.

Mike Palmer.

From the Liverpool Botanical Society Archives

As this edition of *Parnassia* concludes the reviews of the 1995 field meetings I thought it would be interesting to share the following prose. This is the introduction to the resume of field meetings of 1909 by the, then, Secretary, A.A. Dallman.

Donna Hughes

"As the seasons glide by with seeming ever-interesting rapidity the meditative pilgrim occasionally looks back with strange feelings on that mystic ocean we call the Past. The intensely silent and gradually-deepening waters are enveloped in ever-increasing mist, and as the wayfarer endeavours to pierce this vague retrospect, an islet or land-mark stands out here and there with varying degrees of definition. And so as we linger in the gloaming casting a backward glance over the rising mists of the fast fading year, there emerges the shadowy profile of an occasional pinnacle, and as the eye wanders from peak to peak the mind throbs with successive alternations of pain and pleasure; and while one stands and gazes thereon, mystic figures seem to pass in far-off pageant of a dream.

When the glare of the summer sunshine is over, and the falling of the autumnal leaves has ceased, there comes that strange funeral period when Nature seems asleep. To most of us this is a season of sadness. Out of doors all is dismal and damp, and strangely silent, save for the song of the wind cutting its way through the leafless trees or rustling over the rigid stems and pedicels of some lifeless flower. Yet, pervading all there is a subtle, sweet

melancholy, that lingers like an old and nameless fragrance, while Nature is left lonely to her own still spirit of reflection
At this season it is pleasant to sojourn for a time on certain delightful isles which stand out in the sea of memories of the past, and so once again I am called upon to act as historiographer, and to collect and weave together some of the results and reminiscences of the field meetings of the past year”.

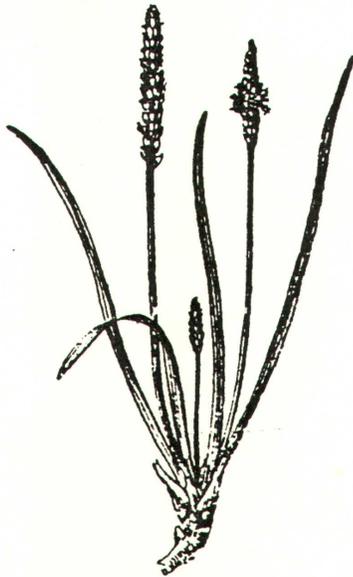
1995 Field Meeting Reports - part 2

Hale to Garston 22nd July.

(Leader - Joan Davis)

On a fine sunny day a party of twelve enjoyed a walk from Hale Village to Garston along the shore of the Mersey.

From the village we went along a country lane where common hedge and field species were observed until we reached the upper salt marsh bordering the river. Here sea asters, *Aster trifolium*, were just coming into flower and tufts of sea plantain, *Plantago maritima*, bordered the river edge. Large clumps of sea arrowgrass, *Triglochin maritima*, were also observed.



Sea plantain *Plantago maritima*.

The tide was out so we were able to walk along the saltmarsh below the clay cliffs and, in places, through tall common reed, *Phragmites australis*. On the cliffs the pink form of hedge bindweed, *Calystegia sepium* ssp. *roseata*, was seen in the locality where this sub-species was first named by Dr Dick Brummitt, an ex-president of the Liverpool Botanical Society, now at Kew. This occurred at intervals all the way to Garston as did the garden angelica, *Angelica archangelica*, which had spread from its well known locality on the Mersey banks near Warrington. Some plants were easily 2 metres tall and the scented leaves recalled the crystallised angelica used in cakes.

At Hale Head lunch was taken on the red sandstone cliffs below the lighthouse where the Duke of Argyll's tea plant, *Lycium barbarum*, was seen both in flower and fruit, spreading over the saltmarsh.

From here the walk was on sand between the cliffs and the lower saltmarsh bordered by English scurveygrass, *Cochlearia anglica*. Beyond we noted annual sea-blite, *Suaeda maritima*, some clumps of common cord-grass, *Spartina anglica*, sea club-rush, *Bolboschoenus maritimum*, and long-spiked glasswort, *Salicornia dolichostachya*. Drier hummocks had thrift, *Armeria maritima*, the flowers of which had mostly gone over.

Some of the higher cliffs were scrubby and wooded and the first ripe brambles of the year were enjoyed. Teasels, *Dipsacus fullonum*, were seen here in twos and threes and then, further along, in hundreds. Bristly oxtongue, *Picris echioides*, an uncommon plant in South Lancashire, was abundant here and further along near Speke, where the cliffs were eroding a little. Other species added to the botanical scene. Among these were the hoary ragwort, *Senecio erucifolius*, common centaury, *Centaurium erythraea*, and yellow-wort, *Blackstonia perfoliata*. The sandy shore had gradually changed to a pebble beach so we gladly took the cliff road to Garston. During the course of the

day over 200 species of flowering plant were recorded.

Vera Gordon

Newton-le-Willows 12th August.

(Leader - Pat Lockwood)

We had such a wonderful day after a traumatic beginning. The days approaching the 12th August were so very hot and I wondered if any members would be able to face walking in the heat. As it happened there were seven of us. Four of us travelled by train, two by bus and one by car. Our train was scheduled to leave at 9.27. from Lime Street station. At 9.40 Vera left the train to find out the cause of the delay. The guard had failed to turn up, so of course the train was cancelled, and to our horror so was the next one, half an hour later. Guy told an official that we had arranged to meet a party at Lowton, and they would be waiting and so a taxi was laid on for us. The two members who travelled by bus also experienced great difficulties, but they coped so very well and eventually we were all gathered together.

Our walk started and we made our way across the fields to Highfield Moss. The flora was wonderful in spite of the heatwave. A selection of flowers, grasses, sedges and rushes are listed below;

Tormentil, *Potentilla erecta*, marsh pennywort, *Hydrocotyle vulgaris*, golden rod, *Solidago virgaurea*, heather, *Calluna vulgaris*, bell heather, *Erica cinerea*, cross-leaved heather, *Erica tetralix*, common hemp nettle, *Galeopsis tetrahit*, sticky groundsel, *Senecio viscosus*, heath groundsel, *Senecio sylvaticus*, lesser stitchwort, *Stellaria graminea*, greater birdsfoot trefoil, *Lotus pedunculatus*, western gorse, *Ulex gallii*, marsh bedstraw, *Galium palustre*, sheep's sorrel, *Rumex acetosella*, curled dock, *Rumex crispus*, Redshank, *Polygonum persicaria*, wood sage, *Teucrium scorodonia*, devil'sbit scabious, *Succisa pratensis*, zig-zag clover, *Trifolium media*, foxglove, *Digitalis purpurea*, sneezewort, *Achillea ptarmica*, petty whin, *Genista anglica*, marsh gentian, *Gentiana pneumonanthe*, lousewort, *Pedicularis sylvatica*, cottongrass, *Eriophorum angustifolium*,

black horehound, *Ballota nigra*, jointed rush, *Juncus articulatus*, bulbous rush, *Juncus bulbosus*, sharp-flowered rush, *Juncus acutifloris*, soft rush, *Juncus effusus*, heath rush, *Juncus squarrosus*, compact rush, *Juncus conglomeratus*, common sedge, *Carex nigra*, oval sedge, *Carex ovalis*, purple moorgrass, *Molinia caerulea*, creeping softgrass, *Holcus mollis*, timothy, *Phleum pratense*, false atgrass, *Arrhenatherum elatius*, tufted hairgrass, *Descampsia cespitosa*, wavy hairgrass, *Descampsia flexuosa*.

By the lake, near to Newton-le-Willows station : trifid bur-marigold, *Bidens tripartita*, water pepper, *Polygonum hydropiper*, marsh yellowcress, *Rorippa palustris*, celery-leaved buttercup, *Ranunculus sceleratus*, water chickweed, *Myosoton aquaticum*, hare'sfoot clover, *Trifolium arvense*, sunflower, *Helianthus annuus*, and lastly, canary-grass, *Phalaris canariensis*.

Pat Lockwood

Blackburn and Plesington 26th August.

(Led by Miss M. Wilson)

The most abundant plant in the canal for a few miles from Blackburn was arrowhead, *Sagittaria sagittifolia*, which was mainly in fruit although a few late flowers were seen. Other species included sweet flag, *Acorus calamus*, with its unusual flowering spike, yellow water-lily, *Nuphar lutea*, water plantain, *Alisma plantago-aquatica*, and reed sweetgrass, *Glyceria maxima*. Along the canal bank gypsywort, *Lycopus europaeus*, and marsh woundwort, *Stachys palustris*, were abundant.



Yellow water-lily *Nuphar lutea*.

At Fennisco a track led to a path through an old wood and down a steep wooded bank to river side meadows. The woodland plants included upland enchanter's nightshade, *Circaea x intermedia*, wood stitchwort, *Stellaria nemorum*, wood horsetail, *Equisetum sylvaticum*, lemon-scented fern, *Phegopteris oreopteris*, and hard fern, *Blechnum spicant*.

The River Darwen was followed through a rocky and wooded gorge with a railway viaduct crossing high overhead. The abundant plant here was Indian balsam, *Impatiens glandulifera*.

After the river was crossed to hilly ground the flora was quite different. There was a bank of harebells, *Campanula rotundifolia*, then tormentil, *Potentilla erecta*, tufts of purple moorgrass, *Malinia caerulea*, and sheets of common bent, *Agrostis capillaris*, which looked particularly lovely with a rain drop hanging on every spikelet. This sight was a compensation for the much needed rain which had drizzled for the last hour or so.

Vera
Gord

Formby 7th October
(Leader Angus Gunn)

Eleven members set off on a beautiful autumn day from Formby station to look at the woodland and dunes off Lifeboat Road.

The first area studied was the deciduous woodland at the end of Kirk Lane Road. By the path we found false chantarelle, *Hygrophoropsis aurantiaca*, *Boletus subtomentosus* and the false death cap *Amanita citrina*. The predominant ground mosses were *Eurynchium praelongum* and *Brachythecium rutabulum*. On decaying branches the bracket-like caps of *Crepidotus mollis* could be found while one of the slender varieties of the moss *Hypnum cupressiforme* was common on the tree trunks. Both Irish ivy and English ivy, *Hedera helix* ssp. *helix* & ssp. *hibernica*, were present in the woodland. Where the path left the wood to go onto the dunes violet-willow, *Salix daphnoides*, had been planted, the bluish boom on the twigs being very striking.

We then took the path through a large stand of poplar growing in areas of old fixed dunes and slacks. Fungi were present in enormous numbers and in places it was almost impossible to walk without treading them. Species present included: panther cap, *Amanita patherina*; penny bun, *Boletus edulis*; several *Cortinarius* species including *C. cinnamomeus* and *C. delibutus*; velvet shank, *Collybia velutina*; the coconut scented milk-cap *Lactarius glycosmus*, the peppery milk-cap *L. piperatus*, *L. mitissimus* as well as several other *Lactarius* which we could not name; the brown birch bolete, *Leccinum scabrum*; the brown roll-rim, *Paxillus involutus*; the sickener, *Russula emetica*; and the sulphur tuft, *Hypholoma fasciculare*. As well as the species seen earlier, mosses in this scrubby woodland included *Polytrichum formosum*, *Mnium punctatum*, *M. Hornum* and *M. affine* and the liverwort *Lophocolea bidentata*. On a few of the poplars the lichen *Evernia prunastri* had established itself.

In the slacks not yet overgrown, self-heal, *Prunella vulgaris* was still in flower and

fruits of the marsh pennywort, *Hydrocotyle vulgaris* could still be found hidden amongst its leaves. Hard rush, *Juncus inflexus* was also noticeable. *Calliergon cuspidatum* was the predominant moss here.

Moving toward onto the Raven Meols sand dunes proved rather unproductive for fungi. Candle snuff, *Xylaria hypoxylon* and an unidentified species of *Pleurotus* were found on decaying wood. In contrast, mosses were abundant in numbers if not in species. The bright green of *Tortula ruraliformis* covered much of the dunes while toward the sea *Brachythecium albicans* and *Tortula ruralis* added a bit of variety. Around the car park small cushions of *Barbula* sp. covered much of the ground and on large logs of beech marking the car park boundary, large brackets of *Ganoderma adspersum* were abundant.

On the way back to the station the party took the path close to Lifeboat Road where on the bark chippings, the common bird's-nest fungus, *Crucibulum laeve* was found. Other species here included *Cortinarius semisanguineus*; the puffballs *Calvatia excipuliformis* (syn. *Lycoperdon saccatum*) and *Lycoperdon perlatum*; and the Ascomycete *Otidia leporina*. Just before leaving the site the party crossed through part of the pine plantation. The ground here was still extremely dry but the beautiful plums and custard fungus *Tricholomopsis rutilans* was a welcome final addition to our species list.

Dr Angus Gunn

Holiday Exhibits 1995

A report of an evening meeting held on 14th November 1995.

Mr Harry Mottram showed some fresh plants which included the apple of Peru, *Nicandra physalodes*, of the Solanaceae.

Slides shown by Miss Davies illustrated a holiday in North America, mainly in the Grand Teton and Yellowstone National Park, at the end of June. Views included

the Grand Teton Mountains and the Old Faithful geyser performing. Some of the lovely flowers shown were the alpine laurel, *Kalmia microphylla*, balsam root, a golden composite, *Balsamorhiza sagittata*, rose pussytoes, *Antennaria microphylla*, sticky geranium, *Geranium viscosissim*, and a larkspur, *Delphinium nuttallianum*.

John Richardson showed slides taken in Skye. One was of a treeless hillside blue with wild hyacinths.

Peter Gateley's venues were many and varied. From the south coast of England, north to the Cairngorms, west to Ben Lawers. There he saw alpine forget-me-not, *Myosotis alpestris*, rock speedwell, *Veronica fruticans*, drooping saxifrage, *Saxifraga cernua*, and bearberry, *Arctostaphylos uva-ursi*. A trip with the BSBI to the Burren in the west of Ireland led him to the spring gentian, *Gentiana verna*, and dense-flowered orchid, *Neotinea maculata*. A BSBI meeting to Yorkshire led him to thistle broomrape, *Orobanche reticulata*. With another group in Worcestershire he saw mistletoe, *Viscum album*, and a field of green-winged orchids, *Orchis morio*.

Vera Gordon showed some of the plants seen in Madeira in April and Elba in May. Unfortunately time did not allow the Pyrenean slides.

Vera Gordon.

Origins of the Sefton Coastal Sand Dune Flora

A report of an evening meeting presented to the Society by Dr Phil Smith on 12th December 1995.

The Sefton coast has the largest sand-dune system in England supporting, at the most recent count, 530 vascular plant species. All these plants have colonised the area since dunes began to form here about 6000 years ago. Clues to the origin of the flora can be found by looking at their present day distributions in Britain.

First there are coastal dune specialists found on dunes throughout the country. Familiar examples are marram grass *Ammophila arenaria* and sea couch-grass *Elytrigia juncea*. Both are adapted to the harsh environment of mobile sand and would have been among the earliest colonisers 6000 years ago. Secondly, there are plants here with a mainly northern and western distribution in Britain. This group probably also includes early colonisers - part of a flora more suited to cooler conditions in the early post-glacial, whose members retreated north and west as the climate improved. Such plants were adapted to the open ground conditions prevailing in the dunes, enabling them to survive in competition with later invaders.

The latter includes species which probably arrived more slowly as the climate ameliorated. These have a mainly southern and eastern distribution in the country as a whole. Thus we have an interesting mix of northern and southern plants on the Sefton coast.

Northerners include saltmarsh flat sedge *Blysmus rufus*, variegated horsetail *Equisetum variegatum*, northern marsh orchid, *Dactylorhiza purpurella*, grass of parnassus, *Parnassia palustris*, Isle of Man cabbage, *Coincya monensis* ssp. *monensis*, and baltic rush, *Juncus Balticus*, the last named having its only English locality at Birkdale.



Isle of Man cabbage *Coincya monensis* ssp. *monensis*.

Typical southerners are lesser centaury, *Centaureum pulchellum*, yellow bartsia, *Parentucellia viscosa*, southern marsh orchid, *D. praetermissa*, strawberry clover, *Trifolium fragiferum*, ploughman's spikenard, *Inula conyzae* and yellow bird's nest, *Monotropa hypopitys*.

Next is a small group of hybrids, several of which are very rare nationally for reasons which are not clear. Examples include two willows *Salix x friesiana* and *S. x doniana*, both of which are otherwise known only from single localities from Scotland. The two rush hybrids *Juncus balticus* x *J. inflexus* and *J. balticus* x *J. effusus* are unique to Lancashire.

Finally, perhaps as many as 25% of the dunes plants have been introduced, either deliberately or accidentally, by man. Some of these, such as Sea buckthorn, *Hippophae rhamnoides*, balsam poplar, *Populus candicans*, white poplar, *P. alba* and New Zealand pigmyweed, *Crassula helmsii*, can be highly deleterious to the dune ecology and have to be controlled. Others contribute to the attractive variety of summer flowers on the dunes and appear to have no adverse impact. Good examples are the evening-primroses, large flowered evening-primrose, *Oenothera glazioviana*, from North America, a European species, common evening-primrose, *O. biennis* and their hybrid intermediate evening-primrose, *O. fallax*, the latter being the commoner species in many parts of the dunes.

Conservation of this unique floral heritage is a priority of the various land owners and users on the coast, co-ordinated through the Sefton coast Management Scheme.

Philip H. Smith

James Bolton Exhibition

Liverpool Museum is currently showing a collection of botanical paintings, books and manuscripts by the Halifax naturalist James Bolton (1735-1799). The exhibition runs until April 8, 1996 (Easter Monday)

and is open from 10 am - 5 pm Mon-Sat and 12 - 5 pm Sun; admission is free (catalogue £9.95 to LBS members: please use the enclosed form).

James Bolton was a remarkable man who though he was born in a rural area and probably received little formal education became a distinguished botanical artist, naturalist and author of three books on fungi, ferns and songbirds. He specialised in lower plants, and his lichen paintings are among the first to be made in Britain. His major work, *An history of fungusses growing about Halifax*, contained many newly described species of fungi as well as recording continental species for the first time from Britain. He had a network of correspondents and supplied specimens to John Lightfoot, the Duchess of Portland and James Dickson among others.

James Bolton travelled widely in northern England and North Wales and made several visits to the Craven district of Yorkshire. During research for the exhibition it was also discovered that he made at least one visit to Liverpool, botanising on the sandhills and lowland heathland which once occurred in the area of Kirkdale near to Bank Hall (an historic house, now demolished). Among the long-extinct species he recorded there, probably around the year 1780, were autumn lady's tresses orchid, *Spiranthes spiralis*, marsh gentian, *Gentiana pneumonantha*, and marsh St. John's wort, *Hypericum elodes*. He also discovered star fruit, *Damasonium alisma*, in the marshes which lay between Fiddler's Ferry and Norton Priory on the banks of the River Mersey. This is probably South Lancashire's oldest 'new' vice-county record!



Autumn lady's tresses orchid *Spiranthes spiralis*

What relevance does James Bolton's work have for today's naturalists? Clearly his paintings and notes provide a unique record of the wildlife of Yorkshire and other parts of northern England in the early years of the Industrial Revolution. As we strive to restore wildlife habitats to their undisturbed state, it is helpful to have some idea of which plants, lichens and fungi might once have occurred in these now heavily modified areas. Most of all, James Bolton's paintings demonstrate a love of nature and a deep appreciation of the beauty of natural objects, an enjoyment we can all share.

John Edmondson

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