BSBI NEWS

January 2001

Edited by Gwynn Ellis, FLS

No. 86

41 Marlborough Road, Roath

Cardiff CF23 5BU

Bidens ferulifolia del. G.M.S. Easy © 2000 (see p. 48)

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CONTRIBUTIONS INTENDED FOR

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should reach the Editor before

MARCH 1st 2001

IMPORTANT NOTICES

COUNCIL NOMINATIONS

Nominations for vacancies on Council, in writing, signed by two members of the Society and accompanied by the written consent of the candidate to serve, if elected, should be sent to the Acting Hon. General Secretary, at 3 Rosliston Road, Stapenhill, Burton-upon-Trent, Staffordshire DE15 9RJ, to arrive **before February 19th 2001** (see *Year Book 2001* for the list of present Council members May 2000–2001).

Members are reminded that Officers are also elected or re-elected at the AGM, and Committee members are appointed by Council at the meeting following the AGM. The Hon. Gen. Sec. will be pleased to receive nominations for consideration by the Executive Committee which meets next on February 26th 2000.

Ailsa Burns, Acting Hon. General Secretary

BSBI STRATEGY 2000

A draft of the Strategy, a statement of the Society's objectives for the next five years, will be presented to Council on March 14th for final comments and to the Annual General Meeting on May 5th for approval. Anyone wishing to see the Strategy as approved by Council and prior to the AGM should send an S.A.E. (A4 or A5 size) to the Acting Hon. General Secretary (address inside front cover).

GEOFFREY HALLIDAY, President

THE BSBI EDUCATION INITIATIVE

A major strength of the BSBI is its ability to use a large number of highly skilled field botanists to produce invaluable books like *Scarce Plants* and *Atlas 2000* – and the value of these works will increase with time so long as we are able to repeat such enterprises at regular intervals. But that raises the question 'Will there be such a large number of field botanists in the future?' Certainly not if we were dependent upon University Botany (Plant Sciences) Departments to give the next generation inspiration and training, with a few notable exceptions. Thus, in future, the Society itself will have to be more involved in attracting young people (and older ones), inspiring them and training them to become a competent field force.

Some of us have been working on this problem for a few years and feel it may be time to draw attention to what we are calling *The BSBI Education Initiative* – reporting progress and indicating how members could participate in what we believe is of vital importance to the future health of the Society.

The initiative has so far developed in four areas:

1. Support for the University of Birmingham's Biological Recording Programme
2. A botanical course to inspire GCSE Students
3. A Trees and Shrubs website
4. The development of local, county education networks

University of Birmingham's Biological Recording Programme

Following an approach by the BSBI in 1995 about the need for better integration of botanical courses offered by the Field Sudies Council, Birmingham University started a Biological Recording Programme in 1996 which is run in partnership with the FSC with the support of the BSBI. Each year a choice can

be made from around 50 individual courses to make up 60 credits to gain the Post-experience Certificate in Biological Recording and Species Identification awarded by the University as part of its programme of professional development. The Programme has been extremely popular – over 30 students have completed the certificate so far. The students are usually either volunteer naturalists or professional ecologists, and indeed one of the requirements for entry onto the programme is that the student is actively involved in some aspect of biological recording and identification.

Although various invertebrate groups, lower plants and fungi, as well as National Vegetation Classification, are now covered as well, vascular plant identification continues to constitute a large proportion of the programme.

Specialist tutors are still required for a range of plant groups so, if you would be interested in offering your expertise, or would like to find out more about the programme and the courses in 2001, please contact Sarah Whild or her Secretary, Linda Marsh, at the University of Birmingham, The Gateway, Chester Street, Shrewsbury SY1 1NB Tel: 01743 355137 email: S.J.Whild@bham.ac.uk

A Course for GCSE Students

Ask an active BSBI member where their interest in field botany first came from and they will incredibly often trace it to a relative, family friend or school teacher who inspired and then encouraged them to pursue an interest which developed into a passion – they were lucky. But what about the others who may have had the potential but not the opportunity? That is why we are working with the Field Studies Council and Science and Plants for Schools (SAPS) to run an exciting course at Preston Montford Field Centre for students who are sitting their GCSE exams this summer (2001). Thanks to the generosity of new member Allan Hamerschlag, himself a former Secondary School teacher and enthusiastic field botanist, there are 15 **FREE** places on this course from 22-29 June – which will not only introduce students to the formal use of Floras for identification and to many new techniques such as multi-access keys and the use of CD Roms but will also emphasise the importance of plants to man and the many careers in which a knowledge of plants is invaluable such as wildlife conservation, forensic science, ecological consultancies, park wardens and rangers. If you already know someone of the right age who you think would benefit from this course please get hold of a copy of the leaflet '*Spotlight on Plants*' which describes the course in detail and includes an application form. This can be found on the SAPS website www.saps.plantsci.cam.ac.uk or on the BSBI website www.rbge.org.uk/bsbi Hard copies are available from Sue Townsend, Preston Montford Field Centre, Montford Bridge, Shrewsbury SY4 1DX. Tel: 01743 850380; Fax: 01743 851066; email: fsc.montford@ukonline.co.uk **Hurry – the closing date is 23 February 2001!**

Trees and Shrubs website

Working with SAPS and John Hewitson of Oundle School we are developing a website aimed to help anyone, but especially the young, to identify 80 native and widely introduced trees and shrubs using leaf characters as an entry to a page of other features, pictures and a distribution map. Whilst technical terms will be minimal, where they are used they will be highlighted and when clicked on will produce a definition, and drawings where necessary. It will operate through the SAPS website (see above) and be cross-referenced from the BSBI website. The site will also promote the BSBI, membership and all its courses. This part of the initiative is being funded jointly by SAPS and BSBI, again with generous help from Allan Hamerschlag.

To improve the website we need access to more colour slides. There is a list of desiderata. If you have a good collection and would be prepared to lend them briefly so that we can scan them in please send for the list to Franklyn Perring, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP Tel: 01832 274892; Fax: 01832 274568; email: perring@btinternet.com

Local Education Network

However for most members (and non-members) who want to improve their plant identification skills FSC courses may not be practicable – something nearer home which caters for beginners as well as specialists could be far more convenient. At present there are courses, run by a variety of providers but

only rarely are they co-ordinated so that they provide a natural progression which can be followed over a period of years. For this reason we have been using Northamptonshire as a test-bed to see how far providers would be willing to co-ordinate courses. It has been easy!

Two short meetings with representatives of the Wildlife Trust, Leicester University Department of Adult Education, our Residential Adult Centre, a Field Centre, WEA and the Northamptonshire Flora Group (BSBI) has resulted in a programme of courses for 2001 which will be launched with 12,000 leaflets produced by the Trust going out with their January mailing. BSBI has only to contribute a portion of the printing costs. Included in the programme are eight Saturday courses led by Ioan Thomas, Gill Gent (v.c. Recorder) and Franklyn Perring to cover the 25 most widespread families in our flora. We have found a venue at the National Dragonfly Museum at Ashton which has space for 12 students and binocular microscopes which we can hire for £30/day: this means the courses can be offered for £4/day for adults and it will be free for students under 20. We shall give priority to the young and to those involved in voluntary recording/conservation work.

We hope that BSBI members in every county will follow this example and see it as a major way of solving the problem of where the next generation of field botanists will come from.

We do not have a botanical garden in Northamptonshire but in counties where they do exist they are obvious institutions to draw into the net: indeed they could be leading players. Recent discussions with Professor John Parker, Cambridge and Dr Richard Gornall, Leicester show that teaching plants to the public is one of their priorities. Such gardens often have not only living plants but classrooms and facilities ideal for teaching.

Every member of the Society could be involved in this education initiative under any of the four heads above – and even if you cannot participate yourself, please draw to the attention of anyone who shows the slightest interest in plants, the opportunities which now, or will soon, exist to find out more (and give them a BSBI membership form whilst you are about it!).

FRANKLYN PERRING, Green Acre, Wood Lane, Oundle, Peterborough PE8 5TP.

DIARY

N.B. These dates are supplementary to those in the 2001 Calendar in *BSBI Year Book* 2001.

2001

April 30th - May 3rd	The National Trust *Gardens* Conference, Bath (see page 81)
May 28th - June 3rd	*Building bridges with traditional knowledge*, Honolulu, an International Conference organised by the University of Hawaii (see *BSBI News* **83**: 57)
June 15th - 16th	*Alien Species – Friends or Foes?* 150th Anniversary Conference, Glasgow Natural History Society (see page 57)
June 2nd	Druce Dinner, Oxford, Ashmolean Natural History Society of Oxfordshire (see page 56)
June 2nd, 16th & 30th	*Valley Fens of Oxfordshire*. Three 1-day courses organised by Ashmolean Natural History Society of Oxfordshire and the Oxford University Department for Continuing Education (see page 56).

EDITOR

EDITORIAL & NOTES

Happy New Year (or New Millennium?) to you all. I am just finalising *BSBI News* after a Christmas season of far too much over indulgence and an expanding waistline, all my good intentions and new year resolutions have fallen by the wayside – and it's only January 2nd.

Congratulations to me and mine on the safe delivery of my 5th grandchild, Rueben, on Christmas Eve – yet another excuse to celebrate!

Correction and Apology – to Peter Thomas, author of the article *Suitability of handheld GPS for fieldwork – an update* in *BSBI News* **85**. Peter points out that the date for the GPS45 in the first table on page 16 should start with 12, not 2; correct in the proofs he received but subsequently mangled when the editor tried to align the figures.

More 'spots' on the 'box' – my thanks to Elizabeth Rich for sending the following note:

'On the day of our Patron, H.M. Queen Elizabeth The Queen Mother's Birthday Parade, I was watching the national ITN News at 12.30 p.m. when who should I see but Elizabeth Young holding a branch of Butcher's broom aloft and being interviewed during rehearsals for the day's parade. I do not know how many participants were spoken to, but Elizabeth was the only one to appear! Quite an achievement for BSBI I think, considering she was one of 5000 people taking part. Was I the only member to have witnessed this? I seem to remember Elizabeth smiling broadly and being asked if she felt nervous. She replied "How can we be nervous with all these Guardsmen taking care of us"'.

The Hampshire Lady's Slipper 'on the radio' – Patrick Woods has sent a note referring to a broadcast and which supplements the comments in *BSBI News* **83**: 26 & **84**: 28-30.

'During October 2000, BBC Radio 4 repeated a four-part series *The Charm of Birds* based on a diary kept by Edward Grey and his wife Dorothy from 1897 to 1906. The Diary, which they called *The Cottage Book*, contains mostly bird and weather observations, but plants – cultivated and wild – are commented on also and I pricked up my ears when I heard lady's-slipper mentioned:

> "Could anyone do a more summery thing than to lie in the middle of a mass of yellow lady's slipper and listen to bees in it? . . . to the north of Itchen Wood nature gives ladies' slipper by the acre. So I lay in it and put my eyes level with the flowers and listened to the bees."

I would guess that the Greys were most likely referring to *Anthyllis vulneraria*, the kidney-vetch (sometimes called lady's fingers). I do not know the area but my cousin, Edward Little, who does, confirms that *Anthyllis* is frequent on the chalk around Itchen Abbas and the Itchen Valley and that lady's fingers was the name he was familiar with for this plant in Buckinghamshire.'

Field Studies Council Overseas – For a copy of the 2001catalogue please contact Anne Stevens or Karen Griffiths, Field Studies Council Overseas, Montford Bridge, Shrewsbury SY4 1HW; Tel.: 01743 852150; Fax: 01743 852155; Email: fsc.overseas@ukonline.co.uk

Inserts – Included with this issue of *News* are: *Year Book 2001*, AGM 2001 leaflet, Welsh AGM 2001 leaflet, BSBI Publications leaflet, and flyers for three new books – *The Changing Flora of Glasgow*, *Flowering Plants of the Falkland Islands*, and *The Flora of the Bristol Region*.

Thank you – to all members who continue to send in items for *News*. The inclusion of some colour pages in the last issue appears to have been well received (at least I have not heard of any adverse comments) and I have several papers with colour photographs which I am holding over until the next colour issue, which I hope will be in April 2001. Members are reminded that illustrations of all sorts are always welcome – black & white or colour photos (prints or slides), photocopied silhouettes (p. 30), scanned colour or b/w images (p. 42) or line drawings and for the latter, members are referred to the note on page 58 where Phil Rye offers his services for free!

EDITOR

ATLAS 2000

ATLAS 2000 REPORT

With the deadline for the delivery of maps and text to DETR looming in January, I'm afraid we simply haven't had any time to put a complete report together for this edition of *News*. Many apologies; a full report will appear in the April 2001 edition. Suffice to say that all the data has just been sent to Vice-county Recorders in Britain for a final check, and that all the captions are now in and awaiting the final round of editing.

There is, unfortunately, some bad news. Henry Arnold, the database manager at Monks Wood and the person on whom we all rely heavily for providing data and maps, was knocked off his bicycle on his way to work on October 19th. Fortunately, his injuries were not very serious, but did result in a long and painful period of recuperation at home. He has only just returned to work, and we wish him all the very best in making a full recovery as quickly as possible.

Negotiations regarding the development of the CD-ROM are still ongoing, and we will report fully on this next time.

Finally, I'd like to thank everyone again for all their help with the project (and especially the final checking of records in Britain, which came so close to Christmas!). The end is beginning to swing into sight, and we are all looking forward to the completion of the project soon, after which we can perhaps get out social lives back in order!

TREVOR DINES, Rhyd y Fuwch, Bethel, Caernarfon, Gywnedd LL55 3PS. Tel: 01248 670789
e-mail: Trevor@rhydyfuwch.freeserve.co.uk

ATLAS 2000 CAPTIONS

Most members will recall that the main part of the Atlas will comprise of maps, each accompanied by a short caption (about 100 words in all) with paragraphs covering a) ecology, b) status and any changes in distribution since the 1962 *Atlas*, c) World distribution and d) bibliography.

Paragraph a) includes a note of the highest known altitude over 300m in the British Isles. Until the recent *Flora of Cumbria* there has been little work on this since Wilson's 1950's monograph. The BSBI hopes to run a post-Atlas scheme, possibly for each of England, Wales, Scotland and Ireland, to collect reliable information.

Paragraph b) includes, for all alien plants, a date for the first known cultivation or introduction, and a date for the first record in the wild. We think, in many cases, that these 'first dates' are very relevant to the spread of the plant in the British Isles. Again, the standard sources are not at all recent, with most dating from a hundred or more years ago.

We have researched widely and we hope we have meaningful dates for most of the plants we are mapping. But there must be further published and unpublished information, and herbaria may well hold specimens with earlier dates, especially for the further 900 odd alien species that we are not mapping, but that will be included in the CD ROM that will be sold with the Atlas. Again there is scope here for assistance from many members.

DAVID PEARMAN, The Old Rectory, Frome St Quintin, Dorchester, Dorset DT2 0HF

CO-ORDINATOR'S CORNER

Fieldwork for 2001

For next year we have a modest proposal for a fieldwork project for all BSBI members to join in with. We want to sample the arable field flora of the whole of the British Isles, and to do that we need surveys of all vice-counties.

The arable weed flora is an exceptionally difficult subject to study. Plants can come and go over very short periods of time. They may be present in vast numbers one year and completely absent the next, depending on the crop sown and the methods used. An increasing problem, blurring the issue greatly, is that of deliberate conservation initiatives – seed mixes, often of alien species, being sown. To judge from the data coming into the TPDB project and the Atlas 2000, the 'natural' distributions of arable plants are likely to be completely obscured by deliberate planting schemes and reintroductions over the next few years. This survey might be one of our last opportunities to acquire knowledge of unplanted populations.

So what we are asking people to do is to identify a small number of farms or fields in each vice-county and survey them twice in 2001 and ideally again in the following two years. Fields should be selected because they are good for arable weeds. 'Good' is not generally considered a very scientific criterion, but we want to know what the flora is of the very best remaining arable fields, and I can't think of a better way to define them. Among the criteria for selection should be a degree of confidence that the farmer has not been deliberately planting conservation mixes.

Each field should be identified uniquely, by an accurate grid reference and ideally on a large-scale map. A list should be made of all the species in the field (not in the hedgerows), giving their relative abundance. A visit in the spring and another in the summer should enable you to find all the species present. Notes on management would help place this information into context.

The details of the survey methodology will be available early in the new year. If we can accomplish a survey of farms throughout Britain and Ireland, it will allow comparable studies of the farm flora of the different regions. One reason for this proposal is that at the moment our 'arable weed' data is often skewed towards extremely rare alien species found in abandoned quarries in Oxfordshire – by this methodology, we will hopefully get a more balanced view of the current status of farm ecology.

Vice-county recorders will receive details in about April. Anyone else who would like to help can contact either their local v.c. recorder or me directly. All survey results will of course be made available to v.c. recorders, but the data will be compiled systematically onto the TPDB, so it can be analysed in full.

The economics of botanical recording

In the past most botanical recording has been undertaken in a largely cash-free economy. Records are exchanged using a subtle economic system without coinage. In some ways it is rather like a potlatch – people give away the results of their summer's fieldwork with no immediate and obvious benefit to themselves. Of course, to those within the system it is perfectly obvious that this is not really an outrageous show of generosity. Recorders expect something in return for their work, whether that is kudos, commercial contracts, research grants or records.

It is a system that works well. People who don't necessarily know or like me will phone up and report the discovery of a rare species, confident in the knowledge that some day I will have to return the favour, by recommending them for a particular task, or acknowledging their discovery. And they are right, I do have to return the favour, or the status and success of my project will soon start to decline.

This is not a system that is well understood in our modern world, where money tends to change hands at the point of exchange. One thing that springs to mind is the confusion that Karl Sabbagh expresses repeatedly in his book *A Rum Affair* at the unwillingness of botanists to expose the dubious

activities of John Heslop-Harrison. What Sabbagh fails to understand is the workings of botanical economics, which can very effectively regulate such things. It is a system which is quite good at reducing people's losses to fraudsters, and confining them to a limited sphere of influence.

But it is not enough any more. The world of botany has grown since those days, and now the average request received by a vice-county recorder is no longer from a well-known and respected figure, but from some junior clerk in a conservation charity office that they have never heard of. Whereas one would be only too pleased to help a Stace with his latest *Flora* or a Pearman with the *Atlas*, it is altogether a different matter to spend time and money helping a complete stranger who obviously has nothing to offer in return. And yet, collectively, they do have something to offer: money, in ever increasing quantities.

I am concerned that the economics of the real world is beginning to impact seriously on botanical recording. Computers and records centres and GIS mapping are all expensive things, and becoming increasingly important. Whereas once it was volunteers who made the majority of all records, there are now armies of surveyors and consultants. A lot of these people don't see any reason to participate in the old-fashioned exchange system: they can sell their records to the highest bidder instead.

This is of course what destroyed the economics of the native American potlatch, and it is having the same effect on the BSBI. Yes, the Society is still by far the leading authority on British botany, but that lead is being eroded. Several of our vice-county recorders already have arrangements with local records centres to manage their data; arrangements under which people have to pay to gain access to the records. Some major data sets, collected largely by volunteers, were inaccessible to us for the Atlas 2000 project, for example. There may eventually come the day when the BSBI cannot afford to use its own records if this trend continues.

But look at it from the other side. The BSBI has a reputation for being awkward about providing information. People who have no real knowledge or understanding of botany now want to know things like which biodiversity species occur in their area. These people know we do not charge cash, but they don't understand how our cash-less system works. As a result, we are seen to be unhelpful and aloof, and conservation can suffer from a lack of good information.

There are two solutions on offer. One is to participate in the cash economy, where records are bought and sold. The BSBI could set up its own records centre and sell its data to all and sundry. This would probably work well for the Society because we are, collectively, enormously productive. It would, however, cause uproar amongst traditional allies such as the Biological Records Centre if we started charging them for information that we used to give for free. It would have the advantage that we could afford to offer a botanical information service of the sort that the country is crying out for.

The alternative is to participate in the system being offered by the National Biodiversity Network. This is based on a blatantly communist theory that everyone should contribute their own work into the common pool and take out only as much as they need. No cash changes hands – the entire system is paid for by government. This central system would provide us with software and data management – all you and I would need is a computer and modem to gain access to the database. By this system the BSBI would not have to commercialise. All the products that the outside world needs would be available from the NBN, and we could continue as we have always done, gathering records and sharing them freely. The NBN people assure us that it would still reward contributors, because the meta data associated with each record would document who found the plant in question and who identified it. The 'reward' is that you would become well-known for your accomplishments.

Sounds too good to be true? Well, maybe it is. It is not obvious how people who abuse the system could be kept out. It is unpopular with the emerging records centres because it undermines their vision of economics. And while it allows the BSBI to contribute, it doesn't really offer very much in return. But in contrast to the cut-throat future of buying and selling botanical information, it seems worth giving it a try. If you would like a preview of the NBN Gateway, it is available for viewing at www.searchnbn.org.uk We've contributed records of *Pilularia globulifera* (Pillwort) and *Lycopodiella inundata* (Marsh Clubmoss) to the sample data. If you look at this web site, you may well find yourself underwhelmed, but the processes at work to bring it into being will have ramifications for the whole future of the BSBI and natural history recording generally. It is worth watching closely.

Perth Museum

True to the spirit of potlatch, I have received some very interesting data sets recently. One of these was from Mark Simmons at Perth Museum, who has been databasing the herbarium there. The whole catalogue will be launched on their own web site in the new year. In the meantime I have been sent a preview, and it turns out to have some excellent records. Several new (old) sites for Pillwort and Marsh Clubmoss were revealed, and SNH has been sending people along to check them out. Another find, which I haven't told SNH about yet, was of several sites for Red Hemp-nettle, *Galeopsis angustifolia*, on a range of hills called the Braes of Carse in the east of Perthshire. Red Hemp-nettle, as I mentioned in the last edition of *News*, seems to have a semi-natural habitat in Britain in addition to its more well-known arable situation. This includes natural base-rich rock exposures, and it is interesting to note that one of the very first records is from St Vincent's Rock in the Avon Gorge. Well, the Braes of Carse are base-rich basalt hills which I doubt were intensively cultivated in the 19th century, and which might represent a 'native' site for the species north of the border, adding a new biodiversity species to Scotland's list. It is just a shame that it is almost certainly an extinct one, but if global warming takes effect, it may well make a comeback. If that happens it will be important to know whether the species has a historic place in the country's ecology, or is merely an invader.

ALEX LOCKTON, 66 North Street, Shrewsbury, SY1 2JL 01743 343789: alex@whild.icom-web.com

RECORDERS AND RECORDING

PANEL OF REFEREES & VICE-COUNTY RECORDERS

Members will receive the current lists with their *Year Book for 2001*, but it may be of assistance to list below the changes since *BSBI News* **85**

Panel of Referees and Specialists

Cameron Crook has resigned from refereeing Introduced and cultivated trees (but will remain as referee for General coniferous trees), and Peter Green from Garden plants. We are grateful to them both for the help they have given to members.

We still get many complaints from referees about the condition in which material reaches them. When you send specimens please read the instructions carefully, and if necessary contact referees beforehand to make sure that the material doesn't get reduced to slime before they can deal with it.

Several referees can now be contacted quickly by email, and I would incidentally be grateful to know of any other referees who would be happy for their email addresses to be added.

MARY CLARE SHEAHAN, 61 Westmoreland Road, Barnes, London SW13 9RZ;
e-mail: m.sheahan@rbgkew.org.uk

Changes in vice-county recorders

Appointments

V.c.	59 (S. Lancs)	Mr D.P. Earl, 4 Meadow Way, Brooklyn Park, Gravel Lane, Banks, Nr Southport, PR9 8BV

Change of address

V.c	29 (Cambs.)	Mr D.A. Wells – change of postcode to PE28 9NR
	38 (Warks.)	Mrs P. Copson, 40 Hammerton Way, Wellesbourne, Warwick CV35 9NT.
	41 (Glam, West)	Dr Q.O.N. Kay, School of Biological Sciences, University of Wales, Singleton Park, Swansea SA2 8PP
	62 (N.E. Yorks)	Mr T. Medd, 27 Sitwell Grove, Acomb, Yorks YO26 5JG
	69 (Westm'land)	Dr G. Halliday, 26 Mowbray Drive, Burton-in Kendal, Carnforth, Lancs. LA6 1NF)
	70 (Cumberland)	Dr G. Halliday, 26 Mowbray Drive, Burton-in Kendal, Carnforth, Lancs. LA6 1NF)

Resignations

V.c.	59 (S. Lancs)	Peter Gateley. We thank Peter for his help over the last years, especially over the Atlas 2000, and for compiling his database and passing it to his successor.

Following my note in September 2000 about long-serving Vice-county recorders, Mr P.M. Benoit forwarded a letter from Dr David Allen, the then secretary of the Records Committee, dated 18th May 1954, asking him to take over as v.c. recorder!

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GRID REFERENCES

In the last issue of *BSBI News* (No. 85) Alex Lockton made a plea for the use of Ordnance Survey letters for the 100km squares when citing grid references. The Editor signalled his intention of using this notation in *News* and *Watsonia* has already changed. Thankfully, BRC still uses the full numeric notation in its Atlas print-outs. The plea, however, has fallen on deaf ears as far as I am concerned. I have yet to see any reasoned argument to persuade me that the immediately self-explanatory '34/532.761' is less preferable than the esoteric alternative 'SD 532.761'. The same applies to the use of letters to denote tetrads. How can 'SD5.7 I' be more informative and helpful than '34/52.76'? It has been said that the use of numerals leads to confusion in computerising data. Having computerised nearly half a million fully numerical tetrad records over 20 years I can honestly say I have never encountered a single problem in this respect.

While on the subject, an obvious but never (?) alluded to defect of the new-style BRC maps, compared with the familiar ones of the old *Atlas*, is the absence of co-ordinates. This is a consequence of adopting the Irish National Grid instead of the previous arbitrary one. If you wish to know the co-ordinates of a record, or the absence of one, you have to extrapolate from your familiar home 100km squares. Then, if you want to be trendy, you need to locate a key to the appropriate 100km letters. A further difficulty arises with common species where the 100km grid may be obscured by the adjacent dots and only detected by the fact that the latter have the illusion of being of a denser colour. A good example is the map of *Myosotis scorpioides* (Water Forget-me-not) in *Aquatic Plants in Britain and Ireland* (p.127). The square symbols of the new Atlas will no doubt make the problem worse.

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OBSERVATIONS ON THE FLORA ASSOCIATED WITH STREET FURNITURE

Introduction

Following the papers by Scott and Davison (1982, 1985) on the colonisation of roadsides by maritime species numerous notes were published (mostly in *BSBI News*; see Wyse Jackson 2000) on the spread of *Cochlearia danica* (Danish Scurvygrass) and other halophytes in to these habitats.

However, whilst the use of de-icing salt was clearly a major factor influencing the spread of these species it was felt that this may not be the only factor that created suitable habitats for *C. danica* and other halophytes. Allen (1996) and D'Oyly (1996) pointed out that *C. danica* was found growing on railway ballast in the Rugby area and elsewhere in the English midlands from at least 1946, whilst in Ireland Wyse Jackson (2000) refers to published inland records from 1934.

Observations

In Wirral (v.c. 58) and elsewhere in north-western England the spread of *C. danica* on to motorways and A class roads was as swift and as remarkable as elsewhere in the country. However at Gayton, Wirral on the A 540 Chester – Hoylake road *C. danica* colonised bare ground at the base of a *Crataegus monogyna* (Hawthorn) hedge. This was separated from the carriageway by a 1.5m approximately wide paved footpath. The A 540 was salted whenever frost or snow was forecast but observations showed that the hedge bottom was beyond the main splash zone from vehicles using the road. This suggested that some other factor was involved limiting the growth of other species yet allowed *C. danica* to flourish.

In the autumn of 1997 it was realised that the local authority was using a herbicide that appeared to kill all plants but was applied in specific and limited areas. The herbicide was Glyphosate, which is an organophosphorus herbicide. It is a broad-spectrum systemic herbicide lethal to most higher plants and is absorbed by the leaves and translocated throughout the plant. Whilst it remains active in the plants it is inactivated almost immediately when it reaches the soil (Mellanby, 1981).

In addition to the hedge-bottom on the A 540 it was also applied in places in a 10-20cm strip where a grass verge meets the highway or in a strip about 50cm wide surrounding the base of street furniture, e.g. lamp posts, road traffic signs and ornamental trees, etc. Following application of the herbicide, vegetation turns yellow after four or five days before becoming brown as if suffering from severe drought. Thus, in dry weather the longer term affects of Glyphosate are difficult to distinguish from the affects of drought. The ground then remains bare for several weeks before seedlings start to reappear.

Given the initial observations it was decided to record the species around the base of street furniture, where *C. danica* was observed at the base of a lamppost, in an urban road near to the A540. Between the carriageway and the paved path there was a grass verge about 1.5m wide in which the street furniture was situated. Further in the path was bordered by a brick wall forming the boundary between the street and private gardens. The road was a bus route and de-icing salt was applied in the worst winter weather. With recent mild winters de-icing salt was applied lightly and on only a few occasions; in the winter 1999 – 2000 on only about five occasions. The grass verge was cut regularly, about once every ten days, between April and October with the cuttings left on the verge. Herbicide treatments were made in autumn 1997, late April 1998, April 1999 and during late April and August 2000. Herbicide was not applied where the grass verge met the carriageway and despite the application of de-icing salt on the carriageway the vegetation was unaffected here.

Records of plants growing at the base of street furniture were made before herbicide treatments in April 1998 and in April and August 2000. Between the two years of observations there were some changes in the location and numbers of some items of street furniture. Nevertheless the number of observation points was increased from 16 to 25. All sites were unshaded. A summary of the observations is shown in table 1 whilst table 2 lists the species found in the grass verge.

Table 1. The flora associated with street furniture 1998 and 2000

SPECIES	% frequency of occurrence 1998	% frequency of occurrence 2000
Agrostis stolonifera		4
Anagallis arvensis		16
Arabidopsis thaliana	12.5	20
Bellis perennis		20
Capsella bursa-pastoris	25	24
Cardamine hirsuta	75	60
Cerastium fontana	12.5	
Cerastium glomeratum	68.75	72
Cochlearia danica	6.25	8
Dactylis glomerata	6.25	
Epilobium ciliatum		4
Epilobium obscurum		4
Epilobium spp.		24
Erophila verna	12.5	16
Euphorbia peplus		8
Geranium dissectum	6.25	
Geranium molle		16
Geum urbanum		4
Helianthus annuus (planted)		4
Hordeum distichon		4
Laburnum sp. (seedling)		12
Lamium hybridum	6.25	4
Lolium perenne	6.25	
Montia fontana subsp. *chondrosperma*		4
Plantago major	6.25	16
Poa annua	81.25	92
Poa humilis		4
Polygonum aviculare s.l.		4
Prunella vulgaris		4
Ranunculus repens		4
Sagina apetala		4
Sagina procumbens	18.75	8
Senecio vulgaris	68.75	68
Sonchus asper		12
Sonchus oleraceus		4
Sonchus oleraceus/asper	37.5	
Stellaria media	93.75	88
Taraxacum officinale agg.		40
Trifolium dubium		52
Trifolium micranthum		8
Trifolium repens		32
Trifolium spp.	18.75	
Valerianella carinata		4
Veronica arvensis		8
Veronica filiformis	12.5	
Veronica hederifolia subsp. *lucorum*	12.5	20
Veronica longifolia		4
Veronica serpyllifolia	12.5	20
Veronica sp.	6.25	8
Hypnum cupresseforme		+
Weissia controversa		+

Table 2. Species found in an urban grass verge

Achillea millefolium	*Luzula campestris*
Agrostis solonifera	*Plantago major*
Agrostis vinealis	*Poa annua*
Anthoxanthum odoratum	*Poa pratensis* s.l.
Bellis perennis	*Prunella vulgaris*
Centaurea nigra	*Ranunculus bulbosus*
Cerastium glomeratum	*Senecio jacobaea*
Cerastium tomentosum	*Senecio vulgaris*
Dactylis glomerata	*Stellaria media*
Festuca rubra	*Taraxacum officinale* agg.
Geranium molle	*Trifolium repens*
Holcus lanatus	*Viola riviniana*
Hypochaeris radicata	*Veronica filiformis*
Lolium perenne	

Most of the species that were found in the herbicide treated areas were short lived ephemerals or longer lived species that germinated between the herbicide treatments. The most frequently occurring species were *Cardamine hirsuta* (Hairy Bitter-cress), *Cerastium glomeratum* (Sticky Mouse-ear), *Poa annua* (Annual Meadow-grass), *Senecio vulgaris* (Groundsel) and *Trifolium* spp. (probably mostly *T. dubium* (Lesser Trefoil) in both years). *Cochlearia danica* flourished in both years and in 2000 a few plants had spread to a second lamp post. Although the presence and frequency of occurrence of these species is unremarkable there were notable changes between 1998 and 2000. The total number of species increased from 22 to 40. However the number of sites increased from 16 to 25 and five species were only recorded in the summer of 2000. If these changes are taken into account the increase in species numbers was nevertheless significant (where $p = 0.001$). These new species include *Montia fontana* subsp. *chondrosperma* (Blinks), *Trifolium micranthum* (Slender Trefoil) and *Valerianella carinata* (Keeled-fruited Cornsalad). Newton (1971) did not record *M. fontana* subsp. *chondrosperma* or *V. carinata* and suggested *T. micranthum* was extinct in Cheshire (v.c. 58). By 1990 it was evident that *T. micranthum* was becoming frequent in Wirral lawns and a tentative first record for *M. fontana* subsp. *chondrosperma* was noted (Newton, 1990). By 1998 *T. micranthum* was abundant in nearby garden lawns and was a constituent of the roadside grass verge. It is probably an atypical member of the open habitats associated with street furniture. *M. fontana* subsp. *chondrosperma* was first noted in the area in the mid 1980s but it was not until the mid 1990s that it was found in nearby garden lawns. *V. carinata* was first observed in nearby roads in the early 1990s where by 2000 it was abundant. All these taxa appear to be becoming more frequent in the area. In Oxfordshire Killick (2000) refers to the recent spread of *V. carinata.* No doubt publication of the new 'Atlas' will confirm if the local spread of these species is part of a widespread phenomenon.

In terms of their salt tolerance few of the species recorded have Ellenberg's values of more than 0 (Hill *et. al.*). Exceptions are *Agrostis stolonifera* (Creeping Bent), *Sagina procumbens* (Procumbent Pearlwort), *Taraxacum* agg. (Dandelions) and *Poa annua* (Annual Meadow-grass) (all 1), *P. humilis* (Spreading Meadow-grass) (2) and *C. danica* (4). Ellenberg's indicator values for salt tolerance range from 0 (least tolerant) to 9 (most tolerant, e.g. *Salicornia* spp. (Glasswort)). Of these only *P. annua* is a frequent constituent of the flora at 81% frequency of occurrence.

Whilst the amount of salt deposited at the base of the street furniture examined may be small it may be significant. The distribution of *C. danica* around the base of the lamppost where it was found was almost all on the roadside, i.e. the side where most salt would be deposited. This observation was consistent with the distribution found at the base of street furniture on the A540. However a further observation showed that uniquely for vascular plants the seedlings of *C. danica* appeared unaffected by the August 2000 application of Glyphosate. Furthermore four weeks later at the end of September many more *C. danica* seedlings had emerged around three sides of the lamppost (it was absent only on

the side furthest from the road but even here by late October seedlings were present). No seedlings of other species had emerged by this time. In the spring *C. danica* had already seeded by the time the herbicide was applied. The moss *Weissia controversa* also seemed unaffected by Glyphosate.

Conclusion

These observations suggest that the local application of Glyphosate enhances species diversity and seems to be favouring the spread of some formerly rare or localised species. The open habitat created is suitable for a number of ephemeral species including *C. danica*. *C. danica* is probably a weak competitor and the application of Glyphosate to which it seems resistant and the de-icing salt gives the species a competitive edge. However it is suggested that *C. danica* does not require de-icing salt treatment to flourish at inland sites, e.g. roadside verges, railway ballast etc. but that it does require open well-drained habitats free from the competition of other species. Thus it is likely that herbicides and de-icing salt treatment of roadside verges creates just the right habitat for this species.

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NOTES AND ARTICLES

WHY HAS ITS NAME CHANGED?

It is hard enough to try to remember the names of all our wild flora, so name changes are at best unwelcome and sometimes extremely annoying. I have been asked to explain the reasons behind some of the changes that have occurred since 1991/92, when *New Flora of the British Isles* and *List of Vascular Plants of the British Isles* first appeared. Rather than deal tediously with all the changes one by one, I have decided to categorise the different reasons for changes and give examples of each. In this way most changes will be covered, including all the more important ones. I suggest that the best way to understand the following is to read it with a copy of the *List* and its two Supplements and five Errata sheets at hand. Space does not permit me to give literature references for the reasoning behind all these changes.

A general point of great importance is that name changes are of two main kinds:

- **Nomenclatural** – these are changes made when the name in use is found to be not in accordance with the regulations ('articles') in the *International Code of Botanical Nomenclature* (ICBN) or the *International Code of Nomenclature of Cultivated Plants*. Sometimes the regulations change between editions, rendering a once correct name now incorrect. With few exceptions, nomenclatural name changes are mandatory.
- **Taxonomic** – these are changes made as a result of new taxonomic discoveries or interpretations. All such changes are a matter of opinion, and there is always the doubly annoying chance that a taxonomic change might be reversed. In the interests of name stability it is important that taxonomic changes should be effected only when the evidence is overwhelming.

In practice many name changes involve both nomenclatural and taxonomic aspects, and nomenclatural investigations should not be undertaken unless the taxonomic background is understood.

A second major point is that the *correct* name of a taxon is the name applied under the regulations of the ICBN to that taxon given one particular classification of it. Hence any one taxon can have more than one correct name according to how it is classified, and sometimes its epithet will be different under the various schemes. For example, *Polygonum cuspidatum* is correct when the plant is considered a *Polygonum*, but has to be called *Reynoutria japonica* or *Fallopia japonica* when considered a *Reynoutria* or a *Fallopia*; similarly *Festuca richardsonii* becomes *F. rubra* subsp. *arctica* when it is considered a subspecies of *F. rubra*, or *F. rubra* var. *alaica* when it is considered a variety.

REASONS FOR TAXONOMIC NAME CHANGES

1. Study has indicated that two or more taxa are not after all distinct, so must be united, or are not as distinct as formerly believed, so must be reduced to a lower rank. *Helianthemum canum* has been reduced to *H. oelandicum* subsp. *incanum* (note also the nomenclatural change of epithet); *Schoenoplectus tabernaemontani* has been reduced to *S. lacustris* subsp. *tabernaemontani*; *Aconitum vulparia* has been reduced to *A. lycoctonum* subsp. *vulparia*; *Dactylorhiza lapponica* has been reduced to *D. traunsteineri* subsp. *lapponica*; *Rubus pergratus* has been sunk into *R. canadensis*; *Arenaria serpyllifolia* subsp. *lloydii* has been sunk into subsp. *serpyllifolia*; *Taraxacum linguatum* has been sunk into *T. subexpallidum*.

2. Research indicates that a taxon should be split into two or more taxa, or should be raised in rank. *Cotoneaster integerrimus* has been divided into a number of segregates, of which our plant is *C. cambricus*. *Brachypodium pinnatum* so-called in this country covers both that species and *B. rupestre*, which is in fact the commoner species. *Pteridium aquilinum* has been divided into two species, with two and three subspecies respectively. [I personally do not agree with this change (almost the only point of disagreement between Duggie Kent and me, and hence between the *New Flora* and the *List*), but instead recognise two subspecies under *P. aquilinum*]. The three subspecies of *Arctium minus* have been raised to two species, *A. minus* and *A. nemorosum*. *Orobanche artemisiae-campestris* has been split into two species, of which ours is *O. picridis* (a reversal of a previous opinion!). *Cochlearia scotica* and *C. alpina* have been raised from synonymic to subspecific status under *C. pyrenaica* and *C. officinalis* respectively.

3. Investigations, usually of the type specimens, have shown that a name previously used had been applied to the wrong taxon, so a new name needs to be used. There are examples ranging from simple misidentifications to the results of detailed analyses of type specimens. *Sinarundinaria* is not a separate genus but a synonym of *Fargesia*, and *S. anceps* has to be transferred to *Yushania*; *Crocus flavus* becomes *C.* × *stellaris*; *Fascicularia pitcairniifolia* becomes *F. bicolor*; *Galanthus ikariae* becomes *G. woronowii*; *Populus candicans* becomes *P.* × *jackii* (*P. balsamifera* × *P. deltoides*; our plant is a Balsam × Black Poplar hybrid, not a Balsam Poplar); *Papaver orientale* becomes *P. pseudoorientale*; *Cotoneaster multiflorus* becomes *C. monopyrenus*; *Cotoneaster buxifolius* becomes *C. prostratus*; *Amomyrtus luma* becomes *Luma apiculata*; *Alchemilla gracilis* becomes *A. micans* (the type of *A. gracilis* is a specimen of *A. monticola*); *Myrica cerifera* becomes *M. pensylvanica*; *Lavatera olbia* becomes *L. thuringiaca* (in fact this is also wrong, and as soon as a name is provided for the hybrid

between the two, which most if not all of our plants are, it will replace *L. thuringiaca*); *Fragaria muricata* becomes *F. moschata*; *Crataegus laciniata* becomes *C. orientalis* (the type of *C. laciniata* is a specimen of *C. monogyna*); *Crataegus* × *macrocarpa* becomes *C.* × *media*; *Carduus* × *dubius* becomes *C.* × *stangii*; *Heracleum sphondylium* subsp. *sibiricum* becomes subsp. *flavescens*; and *Potentilla neumanniana* becomes *P. tabernaemontani*. The last case is complicated. The original change from *P. tabernaemontani* to *P. neumanniana* was suggested because the former name is illegitimate. However, it has been shown that the latter name should be applied to a central European hybrid, not to our Spring Cinquefoil, for which there is apparently no legitimate name. It is to be hoped that the name will not be changed yet again by a new name being coined for our plant, but that *P. tabernaemontani* will be retained by conservation of the name, which is now allowed for by the ICBN. A name previously changed, *Rumex alpinus* to *R. pseudoalpinus*, might be reversed by a recently proposed conservation of the former.

4. Literature searches have found earlier names for the same taxon; in general the ICBN demands use of the earliest name at the rank in question. Some of these changes have involved new identifications of type specimens of older names. *Hieracium* sect. *Umbellata* becomes sect. *Hieracioides*; *Rubus milesii* becomes *R. asperidens*; *Nothofagus nervosa* becomes *N. alpina*; *Rosa glauca* becomes *R. ferruginea*; *Dactylorhiza majalis* becomes *D. comosa*; *Epipactis leptochila* becomes *E. muelleri*; *Taraxacum silesiacum* becomes *T. parnassicum*; *Salsola kali* subsp. *ruthenica* becomes subsp. *iberica*; *Coincya monensis* subsp. *recurvata* becomes subsp. *cheiranthos*; *Ballota nigra* subsp. *foetida* becomes subsp. *meridionalis*; *Euphorbia characias* subsp. *wulfenii* becomes subsp. *veneta*; × *Dactyloglossum dominianum* becomes × *D. conigerum*; *Quercus* × *pseudosuber* becomes *Q.* × *crenata*; *Tilia* × *vulgaris* becomes *T.* × *europaea*; *Persicaria* × *lenticularis* becomes *P.* × *pseudolapathum*; *Potamogeton* × *zizii* becomes *P.* × *angustifolius*; *Epilobium* × *grenieri* becomes *E.* × *facchinii*; *Carex* × *binderi* becomes *C.* × *luteola*; and there are seven examples among *Rosa* hybrids.

5. Earlier misidentifications have led to the removal of some taxa from our list, e.g. *Quercus castaneifolia* (plants so-called were abnormal-leaved young *Q. ilex*); × *Pseudanthera breadalbanensis* (plants so-called were abnormal *Platanthera chlorantha*); *Quercus robur* × *Q. cerris* (this hybrid probably does not exist anywhere); *Sorbus rupicola* × *S. torminalis* (ditto); *Brachypodium sylvaticum* × *B. pinnatum* (plants so-called are *B. pinnatum*); *Rosa multiflora* × *R. rubiginosa* (plants so-called were *R. micrantha*); and several hybrids in *Euphrasia* and *Salix*.

6. New publications have provided names for hybrids previously without a legitimate name, e.g. *Rumex* × *akeroydii*, *Artemisia* × *wurzelii*, *Hyacinthoides* × *massartiana*, *Dactylorhiza* × *silvae-gabretae*, and several involving *Epilobium ciliatum*, *E. brunnescens* or *E. pedunculare* as one parent. In other cases literature research discovered names not previously in use, at least in Britain, e.g. *Isoetes* × *hickeyi*, several in *Rosa*, and two in *Euphrasia*.

Some other significant name changes do not fit into a single category. *Elytrigia repens* subsp. *arenosa* is a misapplied name (not a British taxon), and also our plants have been removed from *E. repens* and placed in the hitherto non-British *E. campestris* as subsp. *maritima*. *Zostera angustifolia* does not apply to a separate taxon close to *Z. marina*, but is the same as *Z. noltei* and becomes its synonym; in addition the taxon to which it was formerly applied has been reduced in rank to *Z. marina* var. *stenophylla*. Our plants known as *Galanthus caucasicus* have been sunk into *G. elwesii*; the true *G. caucasicus* is a distinct species but does not occur here. Plants known as *Gentianella anglica* subsp. *cornubiensis* have been shown to be *G. amarella* × *G. anglica*, for which the name *G.* × *davidiana* has been coined. Field work followed by cultivation studies have removed a number of Scottish mountain *Salix* hybrids from our list, but added several new ones; many of these changes involve redeterminations. *Oenothera fallax* has been changed from species to hybrid status, involving a number of knock-on effects.

REASONS FOR NOMENCLATURAL NAME CHANGES

1. Nomenclatural decisions concerning the conservation and/or rejection of certain names aim at greater stability or a minimum number of changes, but some changes are often consequential. *Rhus typhina*, *Drosera anglica*, *Erica carnea* and *Corallorhiza* are names that have been conserved over others that would otherwise have been correct, and represent recent changes to our list. *Rumex alpinus* might become another.

2. Names that have been found to be illegitimate (i.e. not in accordance with the ICBN, and this includes invalid names which are names not properly published) have to be dropped; if a legitimate name exists for the plant, it must be used; if not, a new name has to be coined. The names *Cerastium* × *maureri*, *Polygala* × *skrivanekii*, *Viola* × *lambertii* and *V.* × *militaris* have to be abandoned and the hybrids concerned now have no legitimate binomial, but *Alnus* × *pubescens* has *A.* × *hybrida* to replace it. The illegitimate *Phymatodes* is replaced by *Phymatosorus*, *Cotoneaster ellipticus* by *C. insignis*, *Montia fontana* subsp. *minor* by subsp. *chondrosperma*, *Asplenium trichomanes-ramosum* by *A. viride*, *Juniperus communis* subsp. *alpina* by subsp. *nana*, and *Anagallis arvensis* subsp. *caerulea* by subsp. *foemina*. Sometimes it is the basionym that is illegitimate, and the epithet can be retained with only a different author citation, e.g. *Rhinanthus minor* subsp. *stenophyllus* and *Sedum telephium* subsp. *fabaria*. *Veronica repens* Clarion ex DC. was wrongly thought to be illegitimate because it is predated by *V. repens* Gilib. (a different species), so the new name *V. reptans* was coined. However, *V. repens* Gilib. is itself deemed to be illegitimate because it appeared in a publication which did not utilise binomial nomenclature throughout; hence it does not render illegitimate the later *V. repens*, which is the correct name for the plant. In fact *V. reptans* is illegitimate because it is superfluous.

3. Some names were not spelled according to the regulations in the ICBN and have been altered accordingly: *Sidalcea malviflora* vice *malvaeflora*; *Rubus merlinii* and *R. naldrettii* vice *merlini* and *naldretti* (named after people); *Oxalis megalorrhiza* vice *megalorhiza*; *Potamogeton* × *sudermanicus* vice *sudermannicus* (named after Suderman); *Drosera* × *belezeana* vice *beleziana* (named after Beleze); *Zostera noltei* vice *noltii* (named after Nolte); *Echinochloa crus-galli* vice *crusgalli*; *Scilla liliohyacinthus* vice *lilio-hyacinthus* (hyphens should be used only when each part of the word could be a separate word in its own right); *Aremonia agrimonioides* vice *agrimonoides* (named after *Agrimonia*); *Iva xanthiifolia* vice *xanthifolia* (named after *Xanthium*). But *Baccharis halimiifolia* and *Lycium halimiifolium* were wrongly altered from *halimifolia/um* because they are named after *Halimus*, not *Halimium*.

4. Two genera were wrongly considered to have the feminine gender, whereas both are neuter; hence it should be *Iochroma australe* and *Lythrum hyssopifolium*.

5. Apart from as noted under 2 above, changes in author citation have not so far been covered, and will get only a very brief mention now. Five groups of situations can be recognised:

a. The name has been found to have been published by an earlier author than previously thought, e.g. several sections of *Taraxacum* and *Hieracium*, *Stellaria palustris*, *Rumex salicifolius*, four species of *Persicaria*, *Rubus conjungens*, *Chenopodium capitatum*, *Chionodoxa sardensis*, and *Erica* × *stuartii*.

b. The name was thought to have been entirely new, but has been found to be a new combination based on an earlier name, e.g. *Erucastrum* and *Silene vulgaris*, or one based on an earlier unpublished name, e.g. *Myosotis sylvatica* and *Taraxacum subxanthostigma*, or an earlier basionym has been found, e.g. *Seriphidium*, or the name was in fact entirely new when published but had been thought to be only a new combination, e.g. *Amsinckia lycopsoides*.

c. The name was wrongly thought to have been published correctly by an author but in fact needed to be legitimised by a later author, e.g. *Lagarosiphon major*, *Taraxacum haematicum* and *Rubus melanodermis*, or was wrongly thought not to have been published correctly by an author and to have

been later validated by another, but in fact was correctly published in the first instance, e.g. *Taraxacum proximiforme* and *Oenothera glazioviana*.

d. The original publication of the name has been reassessed according to its legitimacy, e.g. *Fragaria ananassa*, or its authorship, e.g. *Rosa rugosa*, *Celastrus orbiculatus*, *Prunus incisa* and *Lonicera japonica*. Sometimes changes to the ICBN have necessitated a change in interpretation of authorship, e.g. *Cytisus multiflorus*, *Malcolmia*, *Matthiola*, *Barbarea* and others in the Brassicaceae.

e. Many authorities have been slightly modified because they were not the correct abbreviations in the standard list of author abbreviations that was utilised. The *List* and *New Flora* ed. 1 use Meikie (1980), whereas *New Flora* ed. 2 uses Brummitt & Powell (1992), which is now the standard source. There are important differences between the two and it is therefore essential that a work consistently follows the same standard. For example, the elder George Don is 'G. Don' and the younger George Don (the son) is 'Don' in Meikle, whereas the situation is reversed in Brummitt & Powell (not a unique example). Therefore, although the Meikle standard has been superseded, the *List* cannot move to the Brummitt & Powell standard until such time as an entirely new edition is prepared. The BSBI Database contains both versions and data can be extracted specifying either.

I hope that I have explained the above cases reasonably clearly; I am grateful to Arthur Chater for suggesting changes that improved their clarity. The cases are, however, often very complicated, and I and most other taxonomists are truly delighted that there are still people willing to devote themselves to unravelling nomenclatural problems on our behalf. One has to try to steer a course between being fairly up to date and not adopting changes too hastily; the latter can all too often lead to a second change reversing the first, examples of which are mentioned above. Those of you who kept your winkle-pickers and mini-skirts found that in due course they returned to fashion!

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CHLOROPHYLL AND VIOLET HELLEBORINE

In parts of Savernake Forest, the stems of Violet Helleborine plants (*Epipactis purpurata*) are translucent, albeit with some chlorophyll. Davies & Huxley (1984) mention a variety (*E. purpurata* var. *chlorotica* Erdner) entirely without chlorophyll.

In mid-June 2000, a spectacularly beautiful plant appeared off Grand Avenue in the Forest in the shade of a large beech tree. It had 3 completely transparent stems with developing leaves, all with pink-lilac transparency comparable to Venetian Glass. At a distance I assumed it was an unfamiliar and startling fungus. Most of the surrounding young greyish-green, purplish-tinged young violet helleborines had been truncated or killed by deer, but this plant was vigorous and unmolested.

Between June 27th and July 4th 2000 this plant started to develop chlorophyll, becoming suffused with greyish-green, and much less transparent. Deer (probably Muntjac) then bit the middle out from the plant, but leaving 2 flowering lateral stems. These reached 70cm, bigger than most (or perhaps any) of the other surviving deer-mutilated violet helleborines. Possibly starting off with the appearance of an exotic unappetising fungus might have given this plant a selective advantage.

Reference:

Davies, P. & J. & Huxley, A., 1984. *Wild Orchids of Britain & Europe*. Chatto & Windus – The Hogarth Press, London.

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OBSERVATIONS ON PLANT COLONISATION AT THE CIVIL AVIATION AUTHORITY STATION ON THE SUMMIT OF GREAT DUN FELL (848M), CUMBRIA WITH COMPARISONS TO THE ICELANDIC FLORA

On 22nd July 1996, LR visited the fenced and ungrazed surroundings of the C.A.A. radar station on the summit of Great Dun Fell in Westmorland (v.c. 69) with the permission of the authorities. The large white dome on the high western escarpment of the northern Pennines is a conspicuous feature from the Eden Valley. She was amazed to find a relatively lush and diverse flora at this exposed and high site. Several species were growing at their highest altitude not only in Cumbria but in the British Isles and the data she collected was incorporated into the *Flora of Cumbria* in which a photograph of part of the site appears (Halliday 1997).

A joint visit was made with RC on 22nd July 1999 in gale force winds with driving mist and rain and several additional species were seen but, in order to cover the site more adequately, a further visit was made on 28th July, when 2 hours were spent examining the flora in more benign conditions and again several further species were seen or refound.

Table 1 gives the list of species seen with details of their relative frequency and performance. Only four species; a *Hieracium* sp., *Matricaria discoidea*, *Rumex crispus* and *Stachys sylvatica* were not refound in 1999.

TABLE 1

* denotes recorded by LR on 22/7/96, additional species recorded on the second visit are unmarked and additions seen on the third visit are denoted #. Species unrecorded since 1996 are denoted --.
The relative frequency of the species is given as: v r (very rare), r (rare), v l (very local), l (local), l c (locally common), c (common), 1 a (locally abundant).

#Achillea millefolium (r) Non-flowering.
#Agrostis canina s.l. (l) Inflorescences.
Agrostis stolonifera (l) Inflorescences.
Alchemilla alpina One large plant with *Saxifraga aizoides*.
Alchemilla glabra (l) Several vigorous colonies. Sterile.
#Alchemilla xanthochlora (l) Several vigorous colonies. Sterile.
**Alopecurus geniculatus* (l) Inflorescences.
**Alopecurus pratensis* (l c) Inflorescences.
Anthoxanthum odoratum (r) Inflorescences.
**Anthriscus sylvestris* (l c) Flowering.
**Bellis perennis* (r) Flowering.
#Cardamine hirsuta (v r) Seeding.
**Cardamine pratensis* (c) Flowering and seeding.
Carex bigelowii (l c) Inflorescences.
#Carex curta (v r) Inflorescences.
Carex flacca (v r) Non- flowering.
Carex nigra (r) Inflorescences.
**Carex ovalis* Two flowering plants seen.
Carex viridula subsp. *oedocarpa* (r) Inflorescences.
**Centaurea nigra* (v l) In bud.
**Cerastium fontanum* (c) Flowering.
**Chamerion angustifolium* (c) Non-flowering.
**Cirsium arvense* (r) Non-flowering.
#Cirsium palustre (r) Flowering.
**Cirsium vulgare* (r) Flowering.
Conopodium majus (v r) Flowering.
#Cryptogramma crispa One large tuft.
**Cynosurus cristatus* (v r) Inflorescences.
Dactylis glomerata (v r) Inflorescences.
#Dactylorhiza fuchsii Two tall flowering plants together.
**Deschampsia cespitosa* (c) Inflorescences.
**Deschampsia flexuosa* (l) Inflorescences.
Dryopteris sp. (v r) Immature pinnae only.
Elytrigia repens (l a) Immature inflorescences.
**Epilobium brunnescens* (c) Flowering and seeding.
Epilobium hirsutum (v l) Non flowering.
**Epilobium montanum* (r) Flowering.
Epilobium obscurum (l c) Flowering.
Epilobium palustre (l) Flowering.
Equisetum arvense (r) Sterile.
Erophila verna (l) Seeding and flowering.
Euphrasia confusa (r) Flowering.
**Festuca ovina* (l) Inflorescences.
#Festuca pratensis (r) Immature inflorescences.
**Festuca rubra* (l a) Inflorescences.
Festuca vivipara (v l) Proliferative heads.
#Galium mollugo One plant. Sterile.
**Galium saxatile* (l c) Flowering.
#Geranium pratensis One plant in bud.
**Heracleum sphondylium* (i) Flowering.
**--Hieracium* sp. (v r) Leafy stemmed sp.
#Hieracium ampliatum (r) Flowering.
#Hieracium grandidens (r) Flowering.
#Holcus lanatus (r) immature inflorescences.
Hypericum perforatum One plant in bud.
#Juncus articulatus (v l) Several inflorescences.
#Juncus conglomeratus (v l) Inflorescences.
**Juncus effusus* (l) Inflorescences.
Juncus squarrosus (r) Inflorescences.
**Lathyrus pratensis* (v l) Flowering.

#*Leontodon autumnalis* (r) One plant in flower. Branched heads but phyllaries with long dark hairs, so close to the subsp. *pratensis*.
Leontodon hispidus One plant. Sterile.
**Leucanthemum vulgare* (l) Flowering.
**Luzula campestris* (r) Inflorescences.
Luzula luzuloides (l a) Inflorescences.
**Luzula multiflora* (l) Inflorescences.
**Malva moschata* 2 plants in tight bud.
*--*Matricaria discoidea* (v r)
Montia fontana subsp. *fontana* (l c) Fruiting.
Myosotis arvensis (r) Flowering.
Myosotis discolor (r) Flowering.
Phalaris arundinacea (v r) One small group with inflorescences.
**Phleum pratense* (r) Inflorescences.
#*Plantago lanceolata* (r) Inflorescences.
**Plantago major* (l) Inflorescences.
**Poa annua* (l) Inflorescences.
Poa humilis (l a) Inflorescences.
Potentilla anserina (v l) Non- flowering.
**Primula veris* (v r)
**Prunella vulgaris* (r) In bud.
**Ranunculus acris* (l c) Flowering.
**Ranunculus repens* (l a) Flowering.
**Rumex acetosa* (l) Flowering.
**Rumex acetosella* (r) Flowering.
*--*Rumex crispus* (v r)
**Rumex obtusifolius* (v l) Flowering.
#*Sagina nodosa* (v l) In bud
**Sagina procumbens* (c) Flowering and fruiting.
Salix caprea × *S. cinerea*. (Probably this) Two tiny plants. Sterile.
**Salix cinerea* subsp. *oleifolia*. (r) Sterile.
#*Saxifraga aizoides* One flowering clump with *Alchemilla alpina*.
**Saxifraga hypnoides* (l c) Flowering and fruiting.
**Sedum acre* (r) Flowering.
#*Sedum rupestre* One sterile clump.
**Senecio jacobaea* (l) In bud.
**Silene dioica* (l c) One large colony. Flowering.
*--*Stachys sylvatica* (v r)
**Stellaria media* (l) Flowering.
**Stellaria uliginosa* (l c) Flowering.
**Taraxacum* spp. (c) Flowering.
**Trifolium repens* (v l) Mainly sterile.
**Tussilago farfara* (l c) Sterile.
**Urtica dioica* (l) Sterile.
Valeriana officinalis (v r) One small group in bud.
#*Veronica arvensis* (v r) Fruiting.
**Veronica beccabunga* (r) One moderate colony. Flowering.
#*Veronica officinalis* (r) One small group in flower.
**Veronica serpyllifolia* subsp. *serpyllifolia* (c) Flowering and fruiting
Viola riviniana One large plant. Sterile.

Luzula luzuloides was probably the least expected species of the site. It dominated the eastern part of the site with large beds and had scattered plants throughout. *Ranunculus repens* was flowering and forming conspicuous beds and *Tussilago farfara* and the two *Alchemilla vulgaris* species had healthy colonies although there was no evidence of flowering. *Chamerion* was common and scattered but all plants seemed sterile. At the most sheltered eastern side there was a good flowering colony of *Silene dioica* and remarkably, two plants of *Malva moschata* in bud. They were healthy and had been there for at least 3 years. *Anthriscus sylvestris* was probably amongst the tallest of the species seen and was flowering well on this eastern side. Of the grasses, *Poa humilis* and *Festuca rubra* were dominant in places and flowering freely.

Deschampsia cespitosa and *Alopecurus pratensis* were conspicuous but *Elytrigia repens* although forming sizeable colonies seemed reluctant to flower. This eastern side is more sheltered from the prevailing westerlies by the dome buildings themselves but also by two substantial circular brick built ventilation ducts from which warm air is emitted. Although the immediate surroundings may be warmed on still days, the frequency of strong winds and gales giving an average daily wind speed of 20 knots (Manley 1950) means that any heating effect on the flora is probably negligible.

The bare areas were colonised by cushions of *Saxifraga hypnoides* and other common species of this habitat were *Epilobium brunnescens*, *Sagina procumbens* and *Veronica serpyllifolia* subsp. *serpyllifolia*. The north side of the site was wet and poorly drained and surprisingly a few sterile plants of *Epilobium hirsutum* occurred with stunted flowering stems of *Phalaris arundinacea*. This was the main site for the Carices and Junci with *Veronica beccabunga*, and the other *Epilobium* species present.

The flora of the site before development included *Carex bigelowii*, *Cryptogramma crispa*, *Festuca vivipara* and *Galium saxatile*.

Table 2 gives a list of species which now appear to be at their highest altitude in the British Isles and Ireland on the summit of Great Dun Fell. The previous highest altitude is given and is taken from Wilson (1956) and supplemented by the *Flora of Cumbria* (FOC) (Halliday 1997) and the personal observations of the authors. The altitude of plants on Great Dun Fell is given as 845m to conform with *The Flora of Cumbria*.

TABLE 2

Agrostis stolonifera (747m)
Alchemilla xanthochlora?
Alopecurus geniculatus (740m)
Alopecurus pratensis (610m)
Centaurea nigra (580m)
Cirsium arvense (700m)
Cirsium palustre (760m)
Cirsium vulgatum (724m)
Conopodium majus (700m)
Cynosurus cristatus (580m)
Dactylis glomerata (686m)
Elytrigia repens (457m)
Epilobium hirsutum (366m)
Epilobium montanum (790m)
Epilobium obscurum (777m)
Epilobium palustre (792m)
Erophila verna (770m, FOC)
Festuca pratensis (575m, FOC)
Galium mollugo (365m)
Geranium pratensis (365m)
Holcus lanatus (610m)
Hypericum perforatum (457m)
Juncus conglomeratus (838m)
Lathyrus pratensis (526m)
Leontodon hispidus (579m)
Leucanthemum vulgare (800m)
Luzula luzuloides (365m, FOC)
Malva moschata (305m)
Matricaria discoidea (670m, FOC)
Myosotis arvensis (610m, FOC)
Myosotis discolor (610m, FOC)
Phalaris arundinacea (412m)
Phleum pratense (445m)
Plantago lanceolata (793m)
Plantago major (625m)
Potentilla anserina (580m, FOC)
Primula veris (753m)
Prunella vulgaris (756m)
Rumex crispus (594m)
Rumex obtusifolius (564m)
Sagina nodosa (740m, FOC)
Salix caprea × *S. cinerea* (450m, FOC)
Salix cinerea subsp. *oleifolia* (610m)
Sedum acre (610m)
Sedum rupestre (366m)
Senecio jacobaea (560m)
Stachys sylvatica (457m)
Urtica dioica (838m)
Valeriana officinalis (808m)
Veronica arvensis (823m)
Veronica beccabunga 850m)

It is of considerable interest to know how this site has been colonised especially by species not normally considered to be montane. Mr J.W. Begg in charge of the station stated that the enclosure bad been set up in 1985 when the new station was being built. A cattle grid on the road prevents access to the site by sheep. The previous station was housed in wooden huts and was open to sheep grazing and therefore had no special botanical interest. He is certain that no plants were deliberately introduced when the site was upgraded as this would have been contrary to the planning procedures attached to the Moorhouse National Nature Reserve in which the site lies. Seed from grasses on the site had been collected prior to the building work to be sown later but was never used.

Many of the weedy species could have come in accidentally from seed carried on vehicles and machinery and would be expected to occur. Dispersal of wind born seed from the Composites, *Chamerion* and *Epilobium* spp. could explain their presence. *Saxifraga hypnoides* and *Sagina nodosa* will have arisen from seed from nearby local populations as could *Anthriscus sylvestris* and *Primula veris*. It is more difficult to explain the origins of *Luzula luzuloides*. Normally an introduced woodland species in the British Isles, it also occurs on an upland railway site in Cumbria (Halliday 1997) but is unknown elsewhere. Similarly the presence of the two large contiguous clumps of *Saxifraga aizoides* and *Alchemilla alpina* are difficult to explain without bringing in the possibility of deliberate planting. However the Saxifrage does occur in Upper Teesdale some 10km away to the south east and the *Alchemilla* is present in an enclosure 1.3km from the site as an introduction, so it is not entirely impossible for them to have arisen naturally. The sterile colony of the non-native *Sedum rupestre* however would seem to have been introduced accidentally with soil and perhaps this also explains the presence of *Malva moschata*.

Great Dun Fell lies on the steep western edge of the Pennine Escarpment overlooking the Eden Valley with only a relatively narrow fringe of hill land between it and lowland habitats. There is therefore a greater chance of seed dispersal on the predominating westerly winds from the neighbouring lowlands.

The temperature conditions over 610m in the Northern Pennines have been described as subarctic and resemble those from just above sea level on the south coast of Iceland (Pearsall 1950) and the climate of Great Dun Fell is described by Manley (1950). Winds of around 100mph occur regularly through the winter months. We thought it would be of interest to compare the plants surviving the relatively severe conditions on the summit of Great Dun Fell with those which occur in Iceland.

Table 3 shows the status of the Dun Fell plants in the Icelandic flora. 73 out of the 108 (68%) are found in Iceland of which 31(42%) are considered to have been introduced there at some time (Löve 1983). The native Icelandic species found on the Dun Fell site tend to be more northern and montane in the British Isles as one would expect. Those introductions to the Icelandic flora are also widespread and common in the lowlands of the British Isles and are known to be highly successful and adaptable

species. One should therefore not be too surprised by their presence at this site and their ability to withstand the climatic conditions.

TABLE 3 * denotes a probable introduction to the Icelandic flora.

Achillea millefolium – frequent.
Agrostis canina – common.
Agrostis stolonifera – common.
Alchemilla alpina – common.
Alchemilla glabra – rare but widespread.
Alopecurus geniculatus – frequent.
**Alopecurus pratensis* – cultivated in grasslands and common casual around homesteads.
Anthoxanthum odoratum – frequent.
**Anthriscus sylvestris* – a frequent introduction.
Cardamine hirsuta – common to rare.
Cardamine pratensis – common.
Carex bigelowii – common.
Carex curta – common
Carex flacca – frequent to rare.
Carex nigra – common.
Carex viridula subsp. *oedocarpa* – rare.
**Cerastium fontanum* subsp. *triviale* – naturalised in home fields.
**Chamerion angustifolium* – frequent introduction.
**Cirsium arvense* – naturalised near homesteads.
Cryptogramma crispa – very rare.
**Dactylis glomerata* – cultivated, rarely casual in grasslands.
Dactylorhiza fuchsii – rare.
Deschampsia cespitosa – common.
Deschampsia flexuosa – common.
Dryopteris filix-mas – frequent to rare.
**Elytrigia repens* – naturalised and common in home fields.
Epilobium palustre – common.
Equisetum arvense – common.
Erophila verna – common to rare.
**Festuca ovina* – naturalised in grasslands near home fields, frequent or rare in the lowland.
**Festuca pratensis* – cultivated and alien in home fields.
**Festuca rubra* subsp. *rubra* – cultivated and naturalised near home fields.
Festuca vivipara – common.
**Holcus lanatus* – grasslands and meadows; may have been originally naturalised.
Juncus articulatus – frequent to rare.
Juncus squarrosus – frequent.
**Lathyrus pratensis* – naturalised in grassland.
Leontodon autumnalis – common.
**Leucanthemum vulgare* – a rare introduction near homesteads.
Luzula multiflora – common.
**Matricaria discoidea* – common on beaches and near homesteads.
Montia fontana – common.
Myosotis arvensis – common.
Myosotis discolor – frequent to rare.
**Phalaris arundinacea* – cultivated in gardens, rare casual.
**Phleum pratense* – cultivated and a common casual in grasslands.
Plantago lanceolata – common to rare.
**Plantago major* – naturalised near home fields.
**Poa annua* – naturalised, common.
Poa humilis – common.
Potentilla anserina – common.
Prunella vulgaris – common to rare.
**Ranunculus acris* – may be naturalised, common in home fields.
**Ranunculus repens* – naturalised in home fields, frequent.
**Rumex acetosa* subsp. *pratensis* – naturalised and restricted to cultivated or disturbed soil.
**Rumex acetosella* – naturalised and common.
**Rumex crispus* – introduced in disturbed places.
**Rumex obtusifolius* – introduced in some places.
Sagina nodosa – common.
Sagina procumbens – common.
Saxifraga aizoides – common.
Saxifraga hypnoides – common.
Sedum acre – common.
**Silene dioica* – introduced in a few places.
**Stellaria media* – perhaps originally naturalised, common.
Taraxacum agg. – common.
Trifolium repens – common.
**Tussilago farfara* – a frequent introduction.
**Urtica dioica* – naturalised near homesteads in a few places.
**Valeriana officinalis* – a rare escape from gardens.
**Veronica arvensis* – naturalised at one site.
Veronica officinalis – common.
Veronica serpyllifolia subsp. *serpyllifolia* – common.
Viola riviniana – rare.

Additional observations on hilltop sites with communication installations have been made at four further sites. They are all open to grazing and details are given below.

The bare grazed surroundings of the radio station on the top of Broad Law (839m) in Peeblesshire (v.c. 78) was visited on 21st June 1986 and produced only two adventive species; *Cerastium fontanum* and *Sagina procumbens*.

In August 1999, Peter Macpherson looked at the CAA stations on Green Lowther (732m) and Lowther Hill (725m) in Lanarkshire (v.c. 77). He found only *Epilobium brunnescens* as an introduction on the bare stony and grazed summits.

Two lower and less exposed sites were also examined. Catcleuch Shin, Carter Bar, Roxburghshire (v.c. 80), at 550m was visited on 25th November 1995. The installations had been constructed on blanket bog with soil brought in along a track over 10 years previously and 37 species were recorded of which 29 (78%) occurred on Great Dun Fell. Only 8 species, *Arenaria serpyllifolia* subsp. *serpyllifolia*, *Capsella bursa-pastoris**, *Holcus mollis*, *Lotus corniculatus**, *Pilosella officinalis*, *Rubus idaeus*, *Senecio vulgaris* and *Sonchus aspera* were absent from the latter. Tiny shrubs of *Salix cinerea* subsp. *oleifolia* also occurred here.

Observations on the top of Comb Hill, Roxburghshire (v.c. 80) at 514m on 26th September 1999 produced 21 adventive species of which 5 were unrecorded from Great Dun Fell. They were *Arenaria serpyllifolia* subsp. *serpyllifolia*, *Capsella bursa-pastoris**, *Cerastium glomeratum**, *Geranium molle* and *Veronica chamaedrys**.

Swan (1998) mentions *Spergularia rubra* as occurring at 560m by the road to the radar installation at the top of Deadwater Fell in Northumberland (v.c. 67). This species has not been seen at any of the other hilltop stations but is a well known coloniser of Border forestry tracks at lower altitudes.

Five of the 12 species mentioned above are found in Iceland where they have been introduced. They are marked with an asterisk.

Although the flora of further hilltop sites affected by installations needs to be examined, it seems that the summit flora of Great Dun Fell may be unique within the British Isles in supporting such a diverse number of 'lowland' species at this altitude. Although the complete absence of grazing is the major factor here, it is interesting to speculate whether the recent run of relatively mild winters over the past two decades has been partly responsible for the development of this flora. Some of the species present are probably short lived opportunists at the site but others by their vigour seems destined to be longer residents. A long term follow up of the site would be of great interest. With the proliferation of hilltop communication installations there are opportunities to observe plant colonisation and the performance of species out of their usual altitudinal range in other parts of the British Isles and Ireland. This could be especially rewarding at this time of climatic change.

Acknowledgements:
We wish to thank Mr J.W. Begg in charge of the CAA station on Great Dun Fell for information and permission to visit the site. The road to the site is private with no unauthorised vehicles allowed. Thanks are also due to Peter Macpherson for visiting the Lowther Hill sites, and Geoffrey Halliday for identifying the *Hieracium* species.

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LURGANBRAE – A GREEN AND PLEASANT LAND

Introduction

Lurganbrae is a town-land to the northwest of the village of Brookeborough in Co. Fermanagh (v.c. H33). It is bisected by the main road from Belfast to Enniskillen (A4). If you are driving along this road from Enniskillen and pass the turn-off for Brookeborough, you make a long sweeping right bend and you can see Lurganbrae's towering giant trees on the left-hand side. An acre of woodland lies north of the road surmounting a cutting and trailing off ending in the field boundaries behind it whilst a half-acre parcel lies to the south of the road, comprising a small copse and mature ornamental species.

The town-land is much bigger than this and it straddles a large drumlin, which is typical of the area, and besides the mixed woodland there are about thirty acres of pasture partitioned by blackthorn hedges. Lurganbrae was originally the property of one Colonel Doran in the 19th century and possessed a large house with extensive parkland which evolved into the present wood. However, much has been lost due to:

- the realignment of the A4 in the 1950s;
- the demolition of the old house and out-buildings and the construction of a new house at this time;
- the creation of a small public amenity park in the 1980s;
- and the removal of timber for firewood.

When I moved to Lurganbrae, I was a young boy keen on botany: it was my favourite part of biology, which was my favourite subject in school thanks to my teachers, parents and grandparents. I began to study the town-land, in which I was living by recording as many different plants as possible, however the problem was to learn how to identify them. I struck on the idea of collecting voucher specimens of each plant and press them, and this in turn was to develop into a full-blown herbarium years later. Interestingly, when I reflect now on my learning to identify plants, it mirrors what ethnobotanists have described in indigenous peoples. First, one learns to identify genera of flowering plants in one's own tongue and second, from these one learns to identify the species within; i.e., the genus is the basic cognitive unit in botany, whereas the species is more abstract and experience in differentiating these is required. What follows then, is a boy's record of his naïve botanising. The data presented in tables may not be very useful as it was intended for his own use but it is a lesson for botany educators (such as myself) to take note: some young people do find botany interesting as it is, it just needs a little encouragement. If anyone finds the data useful or interesting in any way, all the better.

Covert Dynamics

When I arrived in Lurganbrae in 1984 there were many fine specimens of oak, elm, ash, beech and fully-grown cypress, many aged a century or more. However, the elm trees were all dead by the time I left the area in 1990. Originally, covert was planted initially as part of a landscaping plan and probably in the long-term for the covering of game. Three species are present in large dominating patches: *Prunus laurocerasus* (Cherry Laurel), *P. lusitanica* (Portugal Laurel) and *Rhododendron ponticum* (Rhododendron); other species of *Rhododendron* were planted in the old extant gardens but sadly all but two specimens had died out. The vegetation to be found under their canopies was noted (Table 1.). These patches each originated from three or four separate plants which had grown to full maturity with extensive canopies. Three of the *P. laurocerasus* patches were cleared in succeeding years and the colonising vegetation was noted (Table 2). Occasionally during winter storms, large branches from the mature gymnosperms would come crashing through the canopy of the laurels and a version of the rainforest *chablis* would be effected. Under cherry laurel, very little can grow, but when they are cut back to the ground, life soon reappears. In the year following cutback the laurels can grow shoots of up to 3 m tall (though between 1–2 m is more common). This new growth is vigorous and in the second year a maximum number of species is found trying to establish themselves. However, in the third year, the competition for light and space being too great, there is a great reduction in species, as expected. The Portugal laurel (a curious plant which has flowers with the scent of cats' urine!) can exclude light from beneath its canopy with an even greater efficiency; the strategies adopted by *Rhododendron* in competing with other plants are described elsewhere. Note from Table 1 that next to nothing grows under the canopies of *Prunus lusitanica* and *Rhododendron ponticum*, whereas under *Prunus laurocerasus*, reasonably small selections of plants attempt to establish themselves there.

Elms

There were many fine specimens of elm (*Ulmus procera* (English Elm)) as mentioned earlier but all were dead within six years. They did, however, fight back through suckering and in earlier years with a tremendous fecundity. I remember standing beneath the elms on a windy day late in summer being showered by elm fruits, like great big green snowflakes or confetti! Another thing about all the elms here were the curious outgrowths from the trunk – they appeared to be tumours of some kind. Even

more curious was the fact that they could break off easily, leaving virtually no scar on the tree. I experimented in trying to plant these tumours in the ground to see if they would sprout, but none did!

Plants of Note

By plants of note, I mean plants which interested me at the time and which I made into mini research projects as my years and expertise at the time would allow. Above the elms are mentioned, later the orchids are examined. I definitely had a penchant for trees at this time as I was fastidious in recording the tree species, especially when I got wind that firewood was to be cut. There were some surprises: *Quercus ilex* (Evergreen Oak) being one and seeing a dense patch of *Lathraea squamaria* (Toothwort) parasitising *Alnus glutinosa* (Alder). Then there were of course the many garden escapes: double forms of snowdrops (*Galanthus nivalis*) had become naturalised; the white form of *Viola odorata* (Sweet Violet) naturalised in a *Prunus spinosa* (Blackthorn) hedge; Pink *Primula vulgaris* (Primrose) also in a *Prunus spinosa* hedge; *Vinca minor* (Lesser Periwinkle), *Aconitum napellus* (Monk's-hood), *Artemisia abrotanum* (Southernwood), *Lysimachia nummularia* (Creeping-Jenny), *Pilosella aurantiaca* (Fox-and-cubs), *Salvia officinalis* (Sage), *Viburnum opulus* (Guelder-rose), *Fallopia japonica* (Japanese Knotweed) as well as garden varieties of holly (*Ilex aquifolium*) and probably more. At the time I was also interested in food and medicinal plants, and of course, preserves were made from the fruits of *Prunus domestica* (Wild Plum), *Malus sylvestris* (Crab Apple) and *Rubus* spp. (Bramble); not to mention the collection of wild honey! In fact, the wild fruit was of a far superior quality and quantity than that from trees in the old orchard. I suppose, had I been a gin tippler, I would have had some flavoured with *Prunus spinosa* (Sloe) fruits!

Orchids

Although the species of Orchidaceae were reckoned to be two (besides *Listera ovata* (Common Twayblade)), i.e., *Dactylorhiza fuchsii* (Common Spotted-orchid) and *D. maculata* (Heath Spotted-orchid), there was a remarkable variation in the physical appearance of the spotted-orchids in the colour of flowers, patterns of spots on the leaves and the petals, and other features. A small population (n=14) of spotted-orchids was selected, all the more remarkable as this tiny population grew in 5 cm of soil above the old gravel driveway to the ruined house. The orchids were in a 39 m^2 square with beech, ash, cherry laurel, willow and Portugal laurel growing on the south side of this square. A trampled path cut across the square, was grassed, not mown but sometimes grazed by goats. By collecting as much information as possible on each specimen, I hoped that I would have been able to ascribe each specimen to a species easily. However the converse was true. It appears that rather than collating data and deducing a specific name, the best way was to select a feature, which holds a special status. In other words, the essence of the plant could be abbreviated in one or two features. Perhaps in the collecting of characteristics like this, principal components analysis would be useful in identifying species and subspecies.

[A table recording the detailed variation in a small *Dactylorhiza* population is available from the editor. Space did not allow it to be reproduced here.]

Conclusion

There were some notable absentees such as *Galium verum* (Lady's Bedstraw), *Solanum dulcamara* (Bittersweet), and very few representatives the Asteraceae, Campanulaceae or Dipsacaceae, considering the range of habitats to found in the town-land. Although the variation found in the orchid population was interesting the species variety was low. There appeared to be very many garden escapes, and indeed, there exists in this place an interesting melange of native, introduced, planted herbs and shrubs in a complex array of microhabitats ranging from ruined out-buildings, decayed gardens, new gardens, planted woodland, woodland resulting from wild sown seeds, covert, old copse, hedgerows and ditches. This place is obviously special to me but aside from this sentimentality, it is under threat. The trees have been consistently cut for firewood regardless of age, species and quality. Derelict buildings, interesting pieces of agricultural archaeology and somehow seeming to be part of the natural landscape are being demolished and the stone hauled away. I hoped once that this place could

have been developed into an amenity for the local community but I fear that it's too late now. I suspect that the somewhat eccentric species list (some 185 taxa) will be much shorter now.

[A full list of taxa is available from the editor. Space did not allow it to be reproduced here.]

Many of the herbarium sheets of specimens from Lurganbrae can be viewed at: http://www.geocities.com/CollegePark/Square/9801/botany.html

Table 1. Records of vegetation found beneath covert canopies

Site	4	5	6	7
Species of Covert	*R. ponticum* *P. laurocerasus* *S. nigra* *A. pseudoplatanus*	*Prunus laurocerasus*	*Prunus lusitanica*	*Rhododendron ponticum*
Acer pseudoplatanus	x			
Aegopodium podagraria	x	x	xα	xβ
Cerastium fontanum		x		
Fern sp. 1		xγ		
Fraxinus excelsior		xγ		
Galium aparine		xγ		
Hedera helix		x		
Polypodium vulgare	x			
Urtica dioica	x			
TOTAL NO. OF SPECIES	4	6	1	1
OF WHICH PERMANENT	4	3	0	0

α very weak specimens; β spindly growth; γ growth near edge of canopy only

Table 2. Relationship between *Prunus laurocerasus* recovery and colonial species

Site	1	2	3
Covert age (in years)	4	2	1
Maximum height (m)	>3	3	<3
Acer pseudoplatanus		x	x
Aegopodium podagraria		x	
Anthriscus sylvestris		x	
Arctium minus	x	x	
Bellis perennis		x	x
Cardamine hirsuta			x
Cerastium fontanum	x		
Chamerion angustifolium	x	x	
Cirsium palustre	x		
Cirsium vulgare	x	x	x
Epilobium hirsutum	x		
Epilobium montanum	x	x	
Fern sp.			x
Fraxinus excelsior		x	x
Galium aparine	x	x	
Geranium robertianum	x	x	x
Geum urbanum			x
Grass sp. 1			x
Grass sp. 2	x		
Hedera helix		x	x
Hieracium sp.		x	
Leycesteria formosa	x	x	

Site	1	2	3
Covert age (years)	4	2	1
Maximum height (m)	>3	3	<3
Myosotis arvensis	x	x	x
Plantago lanceolata		x	
Plantago major	x		
Polypodium vulgare		x	
Ranunculus acris			x
Ranunculus repens	x	x	
Rubus fruticosus agg.	x	x	x
Rubus idaeus	x	x	
Rumex obtusifolius	x	x	x
Juncus sp. 1	x	x	
Juncus sp. 2			x
Salix caprea	x		x
Sambucus nigra		x	
Sedge sp.		x	
Stellaria media			x
Taraxacum officinale agg.	x	x	
Trifolium pratense		x	
Trifolium repens		x	
Urtica dioica	x	x	x
Veronica chamaedrys		x	x
Vicia cracca		x	
Total number of species	**21**	**30**	**18**

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TWO TRIPLE HYBRID WILLOWS IN THE YORKSHIRE DALES

Having initially made a trip to Marsett in v.c. 65 with Brian Byrne to look at willows, we became aware of a rather complex range of puzzling hybrids showing much variation. Many willow specimens were collected from a small section of the stream running through the village.

These were sent to R.D. Meikle (RDM) as at the time familiarity with these willows was lacking. Most of the specimens were the hybrid *Salix* × *tetrapla* (*S. myrsinifolia* × *S. phylicifolia*), mostly det. RDM. Also, RDM commented that the two parents would appear to survive only as this hybrid in many areas but the full extent of this is uncertain. *Salix phylicifolia* (Tea-leaved Willow) will be over-recorded and no doubt many (or all) of these are the hybrid. Six specimens from this streamside were determined (RDM) as *S. cinerea* × *S. myrsinifolia* × *S. phylicifolia*. (*S.* × *cinerioides* Druce, *nom. nud.* – see below), which is likely to have arisen from *S. cinerea* × *S.* × *tetrapla*.

Having thought that *S. phylicifolia*, and to a lesser extent *S. myrsinifolia*, may indeed not occur in most of the Yorkshire Dales as separate species, I have since made an attempt, on a tetrad basis in v.c. 64, to see to what extent they are affected. (It was decided to start in v.c. 64 as there is an on-going 'Flora' slowly being written for the area by Mrs P.P. Abbott and therefore is of the most immediate use.) Unfortunately, this willow project has started rather late and so far only 16 tetrads have been covered, roughly between Cray and Grassington but the survey will resume again next year.

However, the hybrid *S.* × *tetrapla* has again been found with dozens of specimens being confirmed by RDM. I have also determined numerous specimens from v.c. 64 as the hybrid, *S. cinerea* × *S. myrsinifolia* × *S. phylicifolia* and these have been confirmed as well. This triple hybrid is rather frequent and in some tetrads has been more frequent than *S.* × *tetrapla* itself. As a bonus, two specimens (v.c. 64) that I determined as *S. caprea* × *S. myrsinifolia* × *S. phylicifolia*, have also been confirmed by RDM but this triple hybrid appears to be very scarce so far. The two triple hybrids, although they seem to be new to the Yorkshire Dales, do appear in literature, (see below).

The hybrid, *S. cinerea* × *S. myrsinifolia* × *S. phylicifolia* is listed in the *Checklist of the Plants of Perthshire*, and given the name, *S.* × *cinerioides*. The other hybrid (*S. caprea* × *S. myrsinifolia* × *S. phylicifolia*) is mentioned in the *Flora of Angus*, which suggests it could still be there. It is quoted as:

> '*S. caprea* × *nigricans* × *phylicifolia*. Old record: 37 (Clova valley, some 3 miles below Clova. 'Probably', Linton, 1913). However, Meikle has not seen specimens of this and the record must remain doubtful.'

It has been confirmed from the two specimens I sent RDM and therefore, may still be valid from the Clova area and elsewhere. This latter hybrid has a name of *S.* × *phylicioides* Druce, *nom. nud.* Neither of the triple hybrids are listed in Stace's *New Flora of the British Isles*. However, both *S.* × *cinerioides* and *S.* × *phylicioides* are mentioned in *Hybridisation and the Flora of the British Isles* edited by C.A. Stace. It is also likely, that a number of records for *S.* × *laurina* (*S. cinerea* × *S. phylicifolia*) in Yorkshire are no doubt *S.* × *cinerioides*, (RDM pers. comm.)

Next year and beyond, from August through to October I would be interested in receiving specimens of possible hybrids from any area with or without a determination and not necessarily pressed as I will be happy to do all this. It would be useful if this was done on a tetrad basis, (unless 'you' are recording in some other way) with details given, (recorder, date, locality, etc.) and as many specimens as possible even from the same tetrad and to some extent almost from every bush in order to determine some kind of frequency. (Other willow species and hybrids will be welcome also.)

It may turn out that *S. phylicifolia* could be extinct in many parts of Yorkshire and other areas, and a similar fate may have befallen *S. myrsinifolia* although to a lesser extent as I have seen the latter occasionally in Yorkshire and it is still not infrequent in some parts of upland Britain. The hybrid, *S.* × *cinerioides* I imagine will be widespread and perhaps a few more *S.* × *phylicioides* might occur, though this, I am sure, will remain scarce. Interestingly, D. Tennant tells me he found the hybrid, *S.* × *phylicioides* in July 1997 in v.c. 88, Perthshire, confirmed RDM. Therefore, old records may possibly be correct. There may still be more new hybrids out there waiting to be discovered. Perhaps more details

will follow at a later stage and I hope to hear from any interested parties. Many thanks go to R.D. Meikle without whose help this work would not have been possible.

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T.W. WOODHEAD, A MEMOIR

Dr Thomas William Woodhead was renowned as a botanist, ecologist and naturalist of the first half of the last century. He was, for thirty years, Head of Biology at Huddersfield Technical College before 'retiring' to become Curator of the Tolson Memorial Museum, also in Huddersfield.

His career structure was somewhat unusual; as a young man he was in the woollen industry but he attended evening classes where he met other keen naturalists – these included a night watchman who was an expert geologist and a butcher who specialised in fungi. He became a member of the Huddersfield Natural History Society where there were more amateur specialists; he learned directly from them, rather than from books.

So it was, with no formal academic background, that T.W. Woodhead went as a lecturer to Huddersfield Technical College, becoming Head of Department at the age of thirty.

After this, he started to travel when he met and studied with the eminent figures of the day. He researched and wrote on many subjects and he was awarded an Honorary Degree in Science by the University of Leeds and a Doctorate by the University of Zurich.

But, to me, he was Uncle Tom.

Uncle Tom died when I was only seven years old and, as he was one of our Yorkshire relatives and we lived in Blackpool, I do not think I saw him more than two or three times a year. But I remember him as a great man, usually busy at the Museum, where I and my brother were always welcome, or writing in his study. He taught me the difference between red campion and ragged robin and he could bring Roman ruins to life for a child!

The bluebell was one of his special interests and his house backed onto a bluebell wood. The garden sloped down to a stream, the path wound down through ferns (another of his special interests) to a small bridge. His own enclosed patch of woodland was on the other side of the stream – a dream place for a child.

A campaign of his which failed was to prevent the formation of Thirlmere in the Lake District – but perhaps he would be happier now that the Water Authorities are opening up access and have thinned out the conifer plantations around the lake.

One legacy remains, a niece who has never lost her interest in wild flowers – and the bluebells in my Derbyshire garden are descendants of his, via Blackpool and Manchester.

PAT NEWTON

When I heard her answer after having asked a friend (a non-member) how she first became interested in wild flowers, I asked if she would write a note for '*News*'. This is the result.

AILSA BURNS, Acting Hon. General Secretary

FODDER BURNET AND SALAD BURNET LEAF VARIANTS

The cultivation of *Sanguisorba minor* subsp. *muricata* as Fodder Burnet may be less recent than formerly believed. There are reports by Gilbert White in his *Natural History of Selborne* of Fodder Burnet grown prior to Sainfoin.

The reference to previous nomenclature as *Poterium sanguisorba* or *P. polygamum* suggests both previous as well as existing confusion between native and cultivated forms.

The fruits of *Sanguisorba minor* subsp. *muricata* are usually described as more often winged than Salad Burnet, *S. minor* subsp. *minor*. However, 'more robust and leafy' (Stace 1991) seems to better distinguish the former, although the described 'more sharply toothed leaflets' appears aptly applied. The accompanying photocopied silhouettes reveal also the greater leaflet variability of Salad Burnet.

Sanguisorba minor subsp. *minor*
Swerford Lane, Hook Norton, Oxon, 22/8/2000

Sanguisorba minor subsp. *muricata*
Cultivated, 31/10/2000

Reference

Stace, C., 1991. *New Flora of the British Isles*. Cambridge University Press, Cambridge.

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FATE OF RECORDS – continued further

I very nearly wrote to the Editor after reading Jean Wynne-Jones's piece in *BSBI News* **84**, but now, on reading John Edmondson's follow-up in **85**, I am doing just that.

During my forty years in the Zoology Department of the BM(NH) (1949-89), and during the same period (and still) as an officer of the London Natural History Society, I have been involved many times in receiving and assessing personal natural history diaries, notebooks and libraries of deceased colleagues/members and friends. The diaries and notebooks contain details of a truly vast number of observations and records. Two of my long-standing friends have documented the history of, and changes in, the flora and fauna of particular areas of south-east London in which they have incorporated many of their previously unpublished observations, and I have had the privilege of seeing these (one has still to appear) through the press for *The London Naturalist*. In each case I have been able to add records from my own field diaries (going back to 1946), but these are not as detailed as are those of my friends. Even so, in the cases referred to, theycontain, of necessity, only a fraction of their observations. Many of the personal diaries we have received in the BM(NH) and in the LNHS, especially field notebooks, have been dog-eared and often scarcely legible. In the case of a particular entomologist, he was fortunately a prolific writer of published notes and articles, whilst his diaries were left to one of the national museums, but much other material in the form of detailed records, which we know he held, has never turned up, so we can only presume that it was discarded by disinterested family members or executors – just as Jean Wynne-Jones said. But what is one to do with large numbers of often terribly scruffy notebooks and loose papers which at heart you know contain a wealth of information? John Edmondson's statement following Jean Wynne-Jones's sentiments 'that museums have a duty to safeguard information such as naturalists' notebooks and other associated paper records . . .' is entirely laudable, and how Liverpool Museum has documented the effects of the late Fred Holder is to be commended. So often though, the recipients of valuable bequests containing such a lifetime's material are at a loss as to how to deal with it: they have neither the time nor the facilities and expertise to process it, or the space to store it. Bequests of large numbers of books can often be an embarrassment unless the terms allow surplus and inappropriate items to be sold or passed to members for their own use. We know also that sometimes even reliable depositories are forced to dispose of old holdings, and in this way what was thought safe can eventually disappear. Perhaps the moral is to publish before you depart!

I have often thought that I should work on my own diaries before my will is 'processed', but I have a better idea – when I win the Jackpot on the National Lottery (well, I might. Some do!), I shall employ someone to devise a program and enter in my entire natural history records. It will take a long while, but as least that way I would still have the time to get out.

I strongly endorse Jean Wynne-Jones's and John Edmondson's thoughts and actions which are even more pertinent with the current need to document changes in flora and fauna and requirements for conservation.

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VIGOUR AND VARIABLY COMPOUND INFLORESCENCES AND PROFUSE SEEDING IN *BRACHYPODIUM PINNATUM*

Complex fertile inflorescences in coarse large-leaved, large tussocked woodland *Brachypodium pinnatum* (Tor-grass) plants can occasionally be found in Wiltshire. and Gloucestershire (Oliver 1998). Comparable plants were noted by Riddelsdell (1948) in Gloucestershire, and two pressed specimens kept at **RNG** had some of the features. The Gloucestershire plants had once been named '*Triticum*

pinnatum var. *compositum*', and could match (from the description) types H–O from the diagram series shown here.

The diagrams (p. 33) show the range from normal 'Tor-grass' type spike (or spike-like raceme – the spikelets have 0.3mm pedicels) in A to complex panicles in O. However, usually only parts of the inflorescence are involved, often with a mixture of types. For instance, in the grass head, type A may dominate but with a cristate apex (D), nodes with types E or F in the middle, and / or any one of types H, J, K, L, M or N near or at the base.

No hint of evidence of infestation, infection or injury has been found. On the contrary, the spikelets appear healthy. They can be more numerous, larger (sometimes), contain more florets per spikelet, and usually produce more fertile seed than the normal type (A). They tend to be found on bigger, taller, more tussocky plants, with longer, broader leaves and generally greater measurements than the maxima given in the Floras (Oliver 1998). Sometimes such plants flower twice in summer, in early July and late August to mid-September.

Like Riddelsdell, I have grown on unearthed plants, but have taken the problem further, following progeny for up to 3 generations so far. Some members of the Wiltshire Botanical Society have grown on 2nd generation plants in different soils and variable degrees of shading. As the plants age, and in subsequent generations of progeny, there is the tendency to reversion back to the simple spike-like raceme. Concomitantly with this, vegetative vigour is also reduced, with reduced tussock size and smaller leaves. Reversion of the inflorescences is not complete. Types J–O tend to revert back to D, E, F, H with a smaller proportion of the inflorescence being involved; and types starting as D, E, F, H revert towards A. However scattered and unpredictable abnormalities recur. (The same happens with cristate and very rarely branched forms of *Lolium perenne* (Perennial Rye-grass) and *L.* × *boucheanum* (*L. perenne* × *L. multiflorum*), but here the link between vegetative vigour and complex inflorescences producing greater quantities of fertile seed is not obvious).

There are clearly genetic propensities, which may hint at affinities with the *Glyceria* (Sweet-grass) genus (Meliceae) in evolutionary terms, rather than the Triticeae. Further elongation of the peduncles and pedicels, which in the pictures are generally hidden by the large bunched spikelets, would cause these *Brachypodium* inflorescences to resemble Sweet-grass panicles. Senescent or weak plants have simple spike-like inflorescences, with the usual well spaced-out sub-sessile single spikelet per node, as in chalk downland Tor-grass. Genetic potential plus vigour are necessary factors for the formation of the unusual shapes, twisting or complex arrangements of spikelets, and/or their increased size with increased numbers of florets over the maxima given in the Floras, with greater production of fertile seed. However, the mystery is 'What may be the additional factor(s) which trigger(s) these abnormalities?' Also 'Why are these abnormalities sporadically common in certain years in some N. Wilts. and S. Gloucs. wet woodland edges, but hard to reproduce in cultivation?' Could tree mycorrhizae benefit certain strains of *Brachypodium pinnatum*?

Acknowledgement. My thanks to Prof. Clive Stace for drawing my attention to the Riddelsdell observations.

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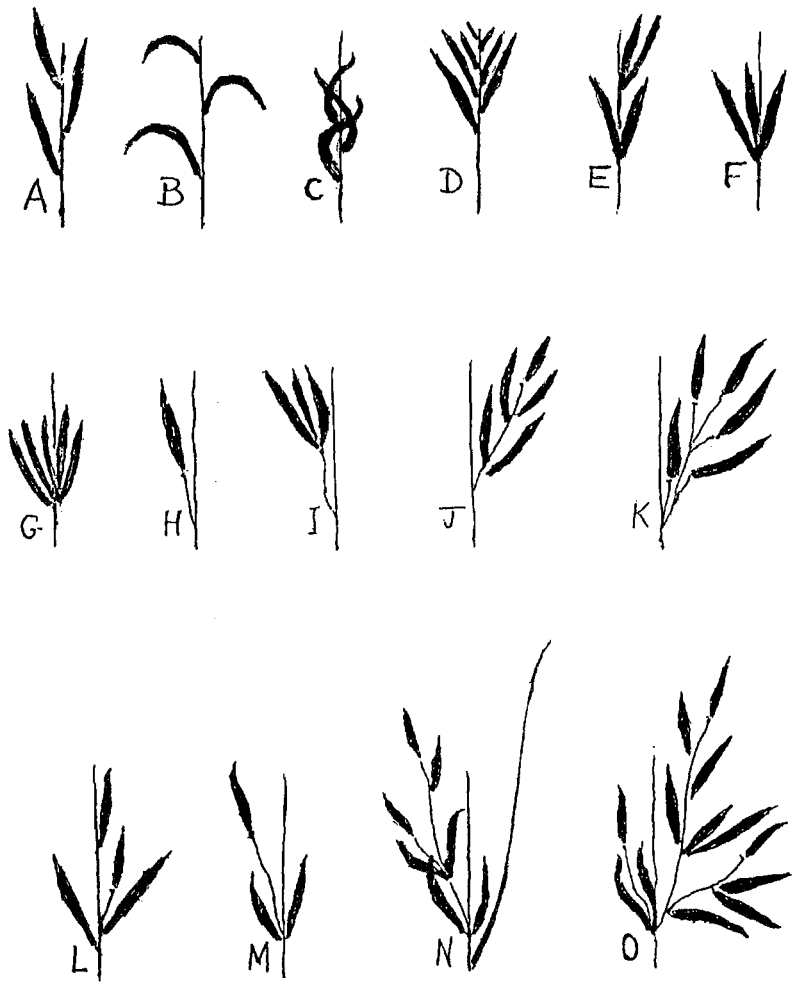


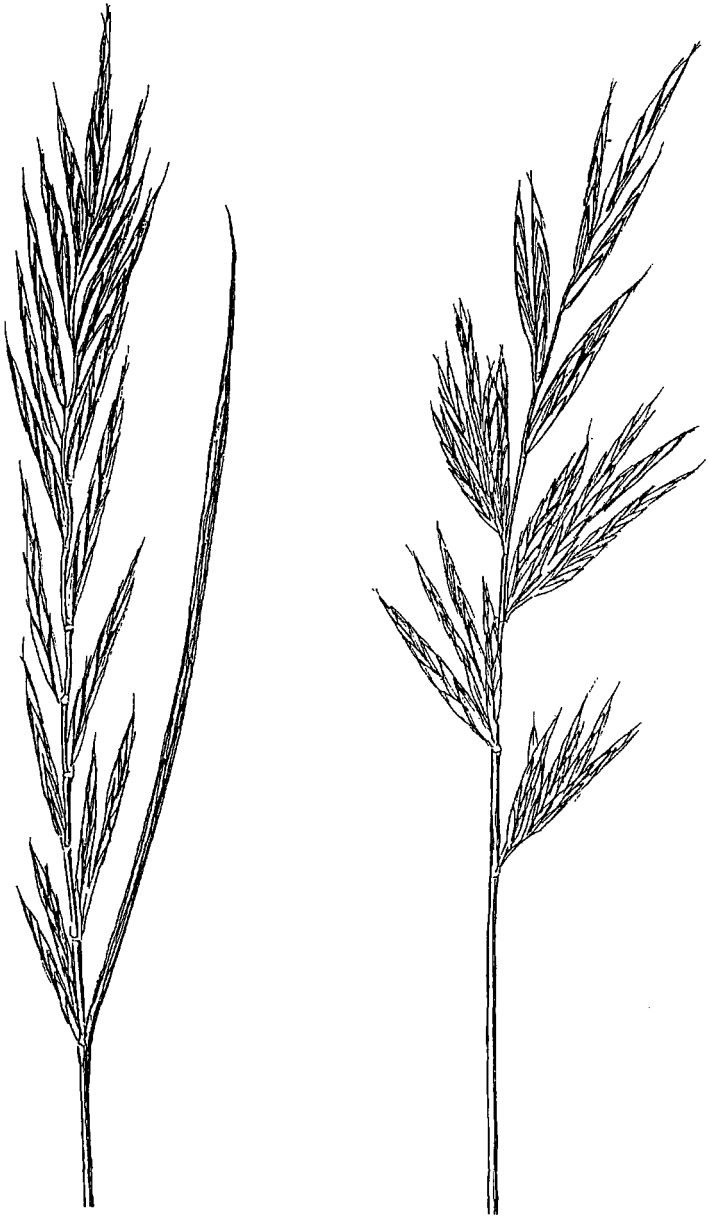
Diagrammatic Series

Parts of *Brachypodium pinnatum* inflorescences from Wiltshire and Gloucestershire woodlands. Some have been splayed to show the architecture, and most would appear clumped shorter and closer to the axis if not in diagrammatic form.

A – normal; **B** – curved spikelets; **C** – swirled or spiral; **D** – cristate; **E** – pairs; **F** – triplets; **G** – bunch of 5; **H** – long-stalked (to 12mm) spikelets; **I** – Long-stalked triplets; **J** – side branching of raceme; **K** – side branch with long-stalked spikelets, semipaniculate; **L** – long-stalked & subsessile mixed; **M** – long-stalked from subsessile pair; **N** – semipaniculate branching, long-stalked & subsessile mixed, with bract; **O** – irregularly paniculate inflorescence.

Approximate order of frequency: A, B, E, D, C, H, F, M, L, J, N, K, O, I, G (but condensed forms of other types, e.g. J. or K, look like G). Many inflorescences show combinations – e.g. A+C+E+L, or A+E, or A+N, etc.

Diagrams del. J.E. Oliver © 2000



Brachypodium pinnatum inflorescences
Left illustrates types **D**, **E**, and a bract (as in **N**); Right shows **E**, & (much condensed) **J** & **L** types

OLD NAMES FOR AGRIMONY

In *BSBI News* **84**: 25, Harry Mottram requests the identification of a plant called 'egremont', which he believes was mentioned in a piece of medieval verse listing a number of hedgerow plants. The form of the name is unusual but is so similar to a common form 'egremony' that, taken together with the hedgerow habitat, the plant may be identified as Agrimony (*Agrimonia eupatoria*). In 13/14th century sources the name appears in various forms, for example, egremoyne, egremoni and agrimoni. There are a number of medieval verses listing plant names and this common plant probably appears in more than one of these verses.

Agrimony being a common and distinctive plant not surprisingly appears in the Old English herbals. Here it is called agrimoni, acrimonian or acremonia and is glossed with the Old English name 'garclif', which would seem to be its original English name. The element 'gar' likens the upright flower spike to a spear (OE 'gar' = spear), and the element 'clif' seems to refer to the ability of the hooked fruits to cling to passing animals or people thus dispersing the seeds, (OE 'clifian' = to cleave or adhere).

A later country name for the plant was 'Cockleburr', again referring to the hooked fruits. The English gypsies knew the plant as 'Lockleburr' and in North America a common name was 'Cockleburr'; both names being slight corruptions of Cockleburr. Other country names for the plant are 'fairy's-wand' and 'Aaron's rod'. The latter name has also been applied to *Verbascum thapsus*.

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VALERIANELLA CARINATA ON THE INCREASE

The experience of John Killick (*BSBI News* **85**: 22) with *Valerianella carinata* (Keeled-fruited Cornsalad) is similar to my own. I began recording the flora of the Lymington area (South Hampshire, v.c. 11, but including the western tip of the Isle of Wight, v.c. 10) in 1990. In the first few years I recorded *Valerianella* several times in central Lymington, once in the neighbouring village of Everton, and several times in the Totland area of the Isle of Wight. Only the Everton specimens were in fruit, and they were *V. locusta* (Common Cornsalad).

Then in 1996 I found *V. carinata* for the first time – in my own road. A quick search of two of the earlier Lymington sites for *Valerianella* showed that they too had *V. carinata*. Since then this species has turned up at a number of other sites in the Lymington area and several in Freshwater and Freshwater Bay on the Island. Meanwhile I was beginning to doubt my identification of *V. locusta* at Everton, but the species was still there for checking in 1999. I have also found *V. locusta* this year (2000) at Freshwater.

Although it looks as though *V. carinata* has increased in this area, one cannot be certain, for two reasons, that it is really found in more localities. Firstly, some of my early records of the genus were not identified to species level, and secondly, I may well have missed it in some places by surveying them too late in the year, when the plants had died down. There is also a considerable element of chance involved in such recording. Plants can be like buses – you see none for a long time and then several come along at once. For example, I found *Calystegia sepium* subsp. *roseata* (the pink-flowered subspecies of Hedge Bindweed) about half a dozen times in the summer of 2000, having seen it only two or three times before, in 1991 and 1992. I see no reason to think it has suddenly expanded its range in the area. What does seem certain is that *V. carinata* has increased in numbers *within* some of its sites. In my own road one of the flower-beds is now overrun with *V. carinata*, whereas if it was present before 1996 it was too scarce for me to notice it. Similarly the churchyard of St Thomas's Church, Lymington, has on occasion had many hundreds of specimens, which certainly looks like a population explosion.

In the 1962 *Atlas* (Perring and Walters: 266) *V. carinata* was shown as much scarcer than *V. locusta*, and much more confined to the south. In the same year the second edition of Clapham, Tutin and Warburg (pages 793-4) recorded *V. locusta* from 149 vice-counties out of 153, and *V. carinata* from 44. To see how the position has changed since then I consulted 26 county and local floras, all published after 1970 and mostly after 1990. Those published in the 1970s generally show *V. carinata* to be much scarcer than *V. locusta*, although the *Flora of the Isle of Wight* (Bevis, Kettell and Shepard 1978: 77) reports *V. locusta* in 21 tetrads (out of 100 on the Island) and *V. carinata* in 16; the latter is said to be 'quite common in the Newport and Ventnor areas as a garden weed'. Local floras in the 1980s continue to show more records for *V. locusta* than *V. carinata*, though the *Sussex Plant Atlas* (Hall 1980: 121), which has 19 records for *V. carinata* (against 86 for *V. locusta*) comments that Wolley-Dod had only two in his *Flora of Sussex* (1937). This impression of an increase in *V. carinata* is confirmed in the *Sussex Plant Atlas: Selected Supplement* (Briggs 1990: 20), which has 25 new records of the species, almost all from churchyards.

In the early 1990s *V. locusta* continues to be described as more common than *V. carinata*, but we begin to get comments that *V. locusta* is declining. For example the *Flora of the Christchurch Area* (Woodhead 1994: 82) has one record for *V. locusta* from 122 1km squares (though Linton, in his *Flora of Bournemouth* (1900) had called it frequent). There are two records for *V. carinata*, which had not been recorded in the area in previous local floras. In 1996 the *Flora of Ashdown Forest* (Rich, *et al.*: 166) had one record of *V. locusta* and said it was declining in Britain; it had three records of *V. carinata*, which it said was 'increasing but still rare in Sussex', and in England was 'increasing or perhaps increasingly recorded'. In the same year *The Flora of Hampshire* (Brewis, Bowman and Rose: 227) gave *V. locusta* as 'locally frequent' and *V. carinata* as 'much rarer, although increasing in v.c. 11 in recent years'.

Three of the most recent county floras confirm the increase in *V. carinata*. *The Atlas Flora of Somerset* (Green, Green and Crouch 1997: 183) has many more records of this than of *V. locusta* (which it says is declining except on coastal dunes). It calls *V. carinata* 'an increasing species which has extended its range in recent years, especially near habitation'. *A Flora of Norfolk* (Beckett, Bull and Stevenson 1999: 194) shows *V. locusta* as locally frequent and *V. carinata* as scarcer but 'possibly increasing'. Lastly the *Flora of Cornwall* (French, Murphy and Atkinson 1999: 275-6) calls *V. carinata* 'now very common in Cornwall', and its maps show the species as much more common than *V. locusta*.

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TRIGLOCHIN PALUSTRE AND *SAGINA NODOSA* AS ROADSIDE 'HALOPHYTES'.

The A7 major road from Carlisle to Edinburgh crosses the watershed from Dumfriesshire (v.c. 72) into Roxburghshire (v.c. 80) at Mosspaul where it reaches 260m above sea level. It is a route I have used very many times but have never stopped there to look for roadside halophytes as parking is difficult and it is a fast section of the road. The opportunity arose in September this year to check the v.c. 80 part of the roadside there. It looked favourable with a bare edge without a kerb. *Spergularia marina* (Lesser Sea-spurrey) was soon found to be locally abundant and just extended into Dumfriesshire but *Puccinellia distans* (Reflexed Saltmarsh-grass) was very scarce and only 3 inflorescences were seen in v.c. 80. However the plant that caught my eye was *Triglochin palustre* (Marsh Arrowgrass) occurring in local abundance as a dense strip some 30 metres long running along the very edge of the tarmac on the bare soil. The fruiting stems were blackened from the passing traffic. Further searching showed it to be scattered or forming vigorous smaller dense longitudinal colonies over about 500m along the same west side of the road in similar close proximity to the edge. No plants extended into the closed vegetation of the verge itself. The road runs along the west side of the hill here with a short vertical drop to a wet field dominated by *Juncus* spp. This drop isolates the road from the field and prevents the possible access of any *Triglochin* directly onto the verge. In fact no *Triglochin* was seen in any of the vegetation near the road in this area.

In October this year while looking for halophytes on the A724 above Moulin, Pitlochry in East Perthshire (v.c. 89) I found *Triglochin palustre* to be locally abundant forming diffuse strips along the very edge of the road surface associated with *Spergularia marina, Puccinellia distans* and *Sagina nodosa* (Knotted Pearlwort) at an altitude of 325m.

Triglochin palustre is usually a plant of mineral flushes and marshes being commoner in the north but is also a coastal species. Watson (1849) stated that 'It affects the shore, along with *T. maritimum*, and thus makes a sort of approach to the character of a littoral plant.' Halliday (1997) stated that 'it is frequent in brackish coastal marshes' in Cumbria and Dalby (1988) gives a means of distinguishing it and *T. maritimum* (Sea Arrowgrass) vegetatively, based on plants from coastal sites in Shetland where they grow together. Other references include Mary McCallum Webster (1978), who noted that it 'occasionally grows on grass tussocks on salt marsh verges.' and Pankhurst & Mullin (1991) and Stace (1997) also mention it as a coastal species of the upper salt marsh zone. I have seen it growing with *T. maritima* and *Juncus gerardii* (Saltmarsh Rush) on the shore at Lamlash on the Isle of Arran. Plants have obviously been established for a considerable time especially on the A7 judging from the size of the total population. How the plants came to be established is difficult to know but it is possible that the fruits were spread to the road from flushes or hill tracks on the neighbouring hills on the tyres of all terrain vehicles which are so commonly used at present by hill farmers. It is not an easy plant to see or identify at speed on a comparatively busy and fast stretch of road but checking other roadsides in hill country may show it to occur as a not infrequent opportunist elsewhere.

In 1994 I observed *Sagina nodosa* very locally on the A6 on the south side of Shap Fell, Westmorland (v.c. 69) at an altitude of 290m. This September I found it was still extant with small plants scattered over a thin coating of soil and gravel over a concrete base in the narrow space between a crash-barrier and the roadside wall where it would be subject to considerable surface spray from passing vehicles. It was the only higher plant present. *Puccinellia distans* occurred on the roadside further to the north.

Sagina nodosa was also found to be locally common in October this year along the bare edge of the A724 above Moulin, Pitlochry (v.c.89) associated with *Triglochin palustre*, *Puccinellia distans* and *Spergularia marina.* Plants were healthy and relatively tall.

The *Sagina* is also a plant of basic hill flushes and like *Triglochin palustre* can also be found in coastal sites. Halliday (1997) states that it grows on the upper margin of salt marshes in Cumbria and Birks (1973) gives it as a component of the plant community of the upper salt marsh zone on the Isle of Skye. It rarely occurs in salt marshes in Shetland (Scott and Palmer 1987). Rodwell (2000) describes

it as a constant species in National Vegetation Classification SD13; the *Sagina nodosa- Bryum pseudo-triquetrum* dune-slack community. He states that 'the ground waters beneath this kind of vegetation do not seem to have much or any lingering saline influence' but it is stated that in a similar community in the Netherlands, there appears to be a degree of saline influence. On these bare roadside habitats it is probably able to spread by seed or vegetatively from the deciduous axillary clusters of the stem leaves. These buds and seeds may be spread by the tyres of vehicles and carried onto the road from the surrounding area.

In conclusion, *Triglochin palustre* and *Sagina nodosa* appear to be both reasonably tolerant of saline conditions and are able to exploit the rather open habitats along the margins of salted main roads where they pass through hill country at altitudes over about 250m. It is of interest that they both occur on roads which have been colonised with the true halophytes *Puccinellia distans* with or without *Spergularia marina.* It would be of interest to have soil salt levels checked at sites where these species are found to see their degree of tolerance. Presumably there will be considerable seasonal variation in the levels of soil salinity. I should be interested to hear of other examples of these two species occurring in this habitat elsewhere.

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SHREWS AND *CAREX DEPAUPERATA*

For about the last fourteen years I have grown *Carex depauperata* (Starved Wood-sedge) in my garden. The only threats to its survival over the years has been from me ripping plants up and chucking them on the compost heap, as it seeds freely around the garden and is always coming up in the wrong places. The only other threat was from plants getting over shaded as this usually kills them off. In 2000 the sedge suddenly found it was under attack from shrews. I first noticed this when one day I was hanging my washing out and I noticed a fruiting spike shrinking in length, gradually being draw into the plant. I looked more closely and found this little four-legged beast biting the stalk into little pieces. Over the following weeks they destroyed almost every fruiting spike. It didn't just stop there; they chewed the leaves into very short pieces as well on one plant. I couldn't work out why they were doing all this, as they seemed to just leave the pieces in heaps by each plant. Then at the end of October I discovered the answer. I was going around the garden seeing how many plants I had left (eight in all) when I couldn't find what was the largest plant until I pulled some leaves back of *Pulmonaria rubra* (Red Lungwort) to find the shrews had made a nest out of this one sedge plant. I have pulled the leaves off of the *Pulmonaria*, exposing the sedge and so frightening off the shrews. Hopefully this plant will make a full recovery. Has anyone else had trouble with shrews in their garden?

They haven't seemed to have touched any other species, not even the other *Carex* I grow, *Carex muricata* subsp. *lamprocarpa* (Small-fruited Prickly-sedge).

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THE OCCURRENCE OF *EPIPACTIS PALUSTRIS* ON A CHALK GRASSLAND SITE IN WILTSHIRE

During the summer, as part of my Masters degree, Morgan's Hill on the Marlborough Downs was studied in an attempt to evaluate the management strategies already undertaken. In addition, an evaluation of the number of orchids growing within a small area of the reserve (known as 'the quarry') was investigated.

One of the major aims of the study was to understand the virtually unique situation of *Epipactis palustris* (Marsh Helleborine) growing within chalk grassland. This species is generally regarded as growing within '*fens, base-rich marshy fields and dune-slacks*' (Stace 1997). However, a growing population of this species has been monitored since 1937 when Grose (1957) first noted this peculiarity at Morgan's Hill. He states '*The plants grow in and about a little grassy hollow high up on the chalk down and are associated with the usual downland species*'. Gillam (1993) notes that it has been known for a long time '*in a vegetated old chalk quarry, where nine orchid species grow. The number of plants has increased from 20 in 1960 to 300 in 1992. A second colony of 100+ plants 50m higher up the hill was discovered in 1988*'. The survey of this population in 2000 showed a substantial increase in numbers with several colonies developing away from the main population. In total, 2184 flowering spikes were counted, with the majority being found on the north facing slopes and on the flat areas.

Although no reason was established for either its occurrence or its distribution within the quarry i.e. sward height, pH, soil depth or moisture content, it would seem advisable not to entirely dismiss these factors. It should be noted for example that the reason might be significant seasonal fluctuations in moisture content rather than summer values, as may occur in dune slacks (Pickering pers. comm.) Therefore, it would be advisable to re-measure these values throughout the year.

Nilsson (1977) notes that it '*occasionally migrates into different habitats especially newly-exposed ground such as abandoned gravel pits and earthworks*'. Therefore, it seems possible that one plant became established shortly after the quarry was left and that it has increased in number vegetatively since that time. The marsh helleborine produces creeping rootstock that enables the plant to spread quite quickly (Davies, Davies and Huxley 1983).

Although main references quote Morgan's Hill as being a one off occurrence, others hint at additional sites in the country where it has been found under similar conditions. For example, Grose (1957) suggests Swanscombe in Kent (also supported by Philp 1982), however whether this site remains it is uncertain, as the Swanscombe area has been developed in recent years (Carter pers. comm.). Elsewhere in Wiltshire, this species has seen a complete eradication, with all sites referred to by Grose (1957) now being lost due to agricultural improvement or draining.

It would be interesting to discover whether any other members have come across similar situations.

I would like to thank Dr W.G. Pickering and Dr R.N. Carter for their comments.

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ELATINE HEXANDRA WAITING TO BE DISCOVERED IN S. SOMERSET (v.c. 5)

I was in Ireland with my brother Paul, helping him record for a Flora of Co. Waterford, for four days in mid-September 2000. We visited nearly all the lakes, reservoirs and loughs and found *Elatine hexandra* (Six-stemmed Waterwort) in or on the muddy margins of nearly every one. This caught my attention, as I had only seen it once before, 14 years ago. When back home, I decided I would have to go and see if I could discover it in Somerset, especially as it is found in the adjoining counties of Devon and Dorset. On the 30th September I decided to start the search, choosing Clatworthy Reservoir (ST03) as my starting point. I walked down to the water's edge, finding plenty of *Alopecurus aequalis* (Orange Foxtail) straight away, and less than five minutes later finding one plant of *Elatine* flowering beautifully on the exposed mud. Two new native species for the reservoir and one for the county was very rewarding. A search around the rest of the reservoir revealed no more plants of the *Elatine*, though plenty of the *Alopecurus*. The rest of that day and the following day I searched nearly every body of water in the county, but discovered no more. On the following Saturday I took Paul, Caroline Giddens and Alastair Stevenson and found another five plants at Clatworthy. It just makes you wonder what else is out there waiting to be discovered.

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THE FIRST RECORD OF THE NEW MILLENNIUM?

Rather sleepy and with a head banging from a combination of champagne, fireworks and lack of sleep, I wandered out into our front garden on 1st January 2000 at 10.50 a.m. for some fresh air. I had a look at my *Coincya wrightii* (Lundy Cabbage) and my *Allium ampeloprasum* var. *babingtonii* (Babington's Leek), and then noticed *Veronica polita* (Grey Field-speedwell) in flower in the border. Inspiration slowly arose in my consciousness, and I collected it as the first record for the new Millennium. The specimen is in **NMW**.

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IN PRAISE OF THE BSBI DATABASE

When I proposed the Bibliographic Database in 1987, I never envisaged quite how it would develop or what a fantastic resource it would become. Not only is it already part of the broader BSBI database which includes the equally-valuable Duggie Kent's nomenclatural checklist (including synonyms and places of publication which are regularly updated, and additional aliens) and the cytological catalogue, but it will also be augmented by the British Vice-comital Census Catalogue.

I have been very excited to use the database which has been on-line over the Internet for several months (www.rbge.org.uk/bsbi) – the brief references to it in *BSBI News* **85** do not do it justice! The

Bibliographic or Literature Database mainly includes references from *c.* 1958-1998, and can be searched for all literature for a genus (but not species individually), a vice-county or groups of vice-counties, an author, a year, etc., in any combination. The data can then be down-loaded in rich-text format (or highlighted and pasted). After running many queries, I never cease to be amazed at how much literature there is and how much I have forgotten existed – or never knew existed in the first place.

I carried out several checks to test the database. First, I selected all my publications (154) and checked them against my own personal list of publications relevant to the database (i.e. excluding my PhD, Brazilian and other work = 138) up to the end of 1997. I had not included 26 of the Bibliographic Database publications in my list as they were mainly reports of field meetings and summaries of posters presented at the BSBI Exhibition meetings, but they are of obvious value in the database, and conversely I had missed five references which should have been in my list! In my list there were nine not included in the database; these omissions were generally published in compendia or conference proceedings but also including the major 1990 BSBI Monitoring Scheme report. Three references in the database list were duplicates. I found seven errors in my list, and seven errors in the database list (e.g. wrong page numbers, titles incorrect). There was more inconsistency in the database list with some *BSBI News* and *Plantlife Magazine* articles included and others omitted; this is due to what Duggie Kent had seen and abstracted for *BSBI Abstracts*. As a general rule, the database was as good as my own list.

Second, I compared the number of publications 1960-1988 listed for Carmarthenshire in the Database with those with at least some botanical information collated by my colleague George Hutchinson for the forth-coming *Flora of Carmarthenshire*. There were 65 references in the database and an astonishing 250 in George's list. Again, the bulk of the differences were references not abstracted for *BSBI Abstracts* such as the early *BSBI Welsh Bulletins* and the *Llanelli Naturalists Newsletter*, field meeting reports and some ecological work.

Third I checked data for one species, *Cardamine bulbifera* (Coralroot), included in the 90 references for *Cardamine*. There was one in the list I was not aware of, but none missing.

The database is thus a phenomenal resource, and undoubtedly the first place to start with any botanical investigation. It is still inevitably incomplete and has a few errors, but any omissions and corrections can be easily added to the database. I suggest everyone checks their own references and especially local publications, and sends them in (cf. *BSBI News* **85**: 4). It would be nice if Kent & Allen's *British and Irish Herbaria* could be added too.

This is something the BSBI can be really proud of, and those at the University of Leicester who have worked so hard to put it together should get a standing ovation. I'm sure Barbara Welch would have approved it as an appropriate use of her bequest fund. Enjoy using it!

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POA INFIRMA – THE TRUE FIRST RECORD FOR IRELAND

Pete Selby (*BSBI News* **85**: 18, Sept. 2000) is, I regret to say, wrong in claiming his recent *Poa infirma* (Early Meadow-grass) record from West Cork as the first in Ireland. The late Doreen Lambert discovered this grass in 1987 growing as a weed in her garden on the coast of Co. Londonderry at Castlerock, where it persisted at least until 1992. The record is published in my third edition of *Stewart & Corry's Flora of the North-East of Ireland*, Inst. of Irish Studies, Belfast 1992. The identification was confirmed by the late John Trist. It is perhaps interesting to note that the only two records for this grass should be from opposite ends of the island.

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SURVIVAL OF THE FITTEST

Alan Showler (*BSBI News* **85**: 45) seeks a feed solution to prolong the life of plants he has picked. It is not always necessary. A sawn-off branch of *Sambucus nigra* (Elder) survived in extraordinary conditions on our property this summer. It was flung on the ground on rough grass and covered with a two metre pile of 'lop and top' from two felled trees. When the pile was burnt in September, after all leaves had long dried off, the eider branch was found to be freshly rooted (roots about 10cm) at the sawn end, with new green shoots and leaves appearing along the stem. That really is survival of the fittest!

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SCANS OF PLANTS

I thought BSBI members might be interested to hear about scanning plants, which may be a well-known technique, but is new to me.

When on holiday in France in the summer I was amazed by the quality of images of flowers produced by a friend on her scanner. She was achieving good instant photos of plants, with convincing life-like colour and depth of field providing real jizz. By selecting a small area and scanning at high resolution she could capture critical features that would otherwise require a hand lens or microscope. (You can't do this for the whole plant because besides creating enormous files, they would take too long to scan.)

You can thus 'preserve' the colour of a specimen which may be critical – for example the colour of *Orobanche* noted in the recent *Watsonia* – still have a voucher specimen, and provided you can master file compression, send electronic images to colleagues (and referees???).

I returned home determined to create my own virtual herbarium, only to be disappointed by the quality of the image off my own scanner (which was about 5 years old and cheap when I bought it). But I was convinced enough by what I had seen to invest in some new equipment. My friend's machine (MAXI SCAN A4 USB 36-bit, colour Flatbed scanner) is not commonly available in the UK, but I have been delighted by the results from my Epson Perfection 1200 which cost £170 from Jessops.

For examples of scanned plant images, consult http://www.potsherd.demon.co.uk/plants.

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BOTANICAL AIDES-MEMOIRES

The response to my plea for botanical aides-memoires (*BSBI News* **83**) has not been as dramatic as I had hoped! Either people are too clever to need them or are unable to think of more! Thanks, then to Dorothy Bramley, Elizabeth Norman, Margot Godfrey, Jane Woodliff, Brenda Lucas, Walter Scott, Hilary Ash and Gwynn Ellis and anyone I may have forgotten for the following tips.

- *Cardamine flexuosa* – remember sex (6) for flex as it has 6 anthers; *C. hirsuta* having 4.
- Peppermint has petiolate leaves; Spearmint has sessile leaves.
- *Carex flacca* has flattened utricles; *C. panicea* has puffed-up ones! And don't forget floppy *flacca* (should it be proud (or piggy) *panicea*?)
- *Viola reichenbachiana* has a darker spur; *Viola riviniana* has a paler spur. Alphabetically, e comes before i, and d is before p, you see.
- A computer hard disk reminds one that Hard Rush has discontinuous pith. Perhaps *Juncus effusus* should be renamed as Floppy Rush!
- *Sonchus asper* (Prickly Sow-thistle) has smooth rounded auricles; *S. oleraceus* (Smooth Sow-thistle) has prickly pointed auricles. A case of reverse psychology!

- Did you know that Sheep's Sorrel leaves when up-side-down look like a sheep's face with ears erect?
- *Medicago lupulina/Trifolium dubium* – Medick sounds sharp and the leaf has a tiny apical point.
- *Holcus mollis* – molly has hairy knees (nodes) is an old *Castanea*, but don't forget it has some hairs elsewhere too.
- *Alopecurus* (Foxtail) is alphabetically before *Phleum* (Timothy) and flowers earlier.
- *Alopecurus* has awns; *Phleum* has prickles or points.
- *Galium saxatile/sterneri* – the prickles on the leaf margin point towards heaven in Heath Bedstraw.
- *Matricaria recutita* (Scented Mayweed) has a hollow receptacle to contain the scent!! But Scentless Mayweed cannot do so.

From last time:

- ALPS – this stands for *arvense* long, *palustre* short, i.e. in *Equisetum arvense* the lowest sheath on the branches is longer than the sheath on the main stem, but shorter in *E. palustre* (usually!)
- Rubra round, ovina open (or overlapping) which refers to the leaf-sheaths of *Festuca rubra* and *F. ovina* being closed and open respectively.
- Wood has one – an alliterative reference to the number of tubercles on the valves of *Rumex sanguineus* (Wood Dock), whereas Clustered Dock (*R. conglomeratus*) has to have 3 tubercles in order to have a cluster.

Finally, I solved my own melilot problem!

- *Melilotus altissimus* (Tall Melilot) is a *tall* dark and hairy stranger as it has dark (black) pubescent fruits (and is alien). It has the bigger keel, too.

Please don't blame me if some of these are a bit corny, but the worse they are the more likely you are to remember them!

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CONSERVATION NEWS AND VIEWS

RARE PLANT FOUND ALONG PEMBROKESHIRE COASTLINE

It may not be the most attractive of wildflowers but the Shore Dock (*Rumex rupestris*) is without question one of Europe's rarest plants. Now botanists from the Countryside Council for Wales and the wild plant conservation charity Plantlife have discovered several colonies of this elusive plant growing in Pembrokeshire.

There are two known populations of shore dock in Wales – in Anglesey and South Glamorgan, but there is also evidence that it once grew at Lydstep Haven in Pembrokeshire. Stephen Evans, a former CCW District Officer in Pembrokeshire, BSBI vice-county recorder for Pembrokeshire and now working on projects for Plantlife was mystified by the absence of the plant in other areas of the Pembrokeshire. His quest to find this rare plant started three years ago, and after thoroughly and methodically searching the sea shore between St Ann's Head and Gateholm Island, this discovery confirmed his suspicions.

Miles King, the project officer responsible for ensuring the shore dock's survival in Britain said:

> 'Plantlife has been co-ordinating conservation action for shore dock since 1994. Last year, our survey of the south coast of Devon and Cornwall revealed eight new populations of shore dock while amassing a great deal of information about the ecological needs of the plant. When we started our partnership with CCW this year, we used information to pinpoint where we should survey in Wales. We started with the assumption that we would not find any new populations, but we have been delighted to be proved wrong.'

Andy Jones, CCW's rare plants expert said:

> 'This is the find of the century – at least so far – and it goes to show how important it is to keep on looking. It is excellent that more of this scruffy russet-coloured plant has been found in Wales because its world distribution is only here and Cornwall, Britanny and Galicia, so you could say that the shore dock is a truly Celtic plant.'
>
> 'Many people just think of dock plants as weeds or something you put on nettle stings but they are real survivors.' he added

Shore dock, a strictly maritime plant which needs a steady supply of fresh water to thrive, can grow up to 1m tall. It has several branched, woody stems and is easily mistaken for more common species such as curled dock. It grows on rocky and sandy shores and the lower slopes of cliffs. Shore dock is one of Britain's 'sea faring' plants: its seeds float out to sea, and then swept onto beaches further along the coast.

Shore dock is protected under Schedule 8 of the Wildlife and Countryside Act. It is also one of only 14 native plants listed in the EC Habitats Directive.

For further information, please contact;

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GONE – ONE WILD FLOWER A YEAR

The wild flowers of Britain can no longer be taken for granted. According to a startling report from the wild plant conservation charity, Plantlife, an average of seven wild plant species are lost from each county across Britain, every ten years. In the worst counties of Northamptonshire, Lincolnshire, and Gloucestershire, one native species becomes extinct every single year. Until now, nation-wide statistics, with their emphasis on national losses, have unwittingly hidden the shocking facts.

Even Cambridgeshire, mostly farmland, and old Middlesex, mostly suburban, have something in common. Both have lost seven or eight species every decade, suggesting that modern agriculture is as damaging as bricks and mortar. This similarity between the losses of suburban and rural landscapes is reflected throughout Britain.

Sadly, the losses are mainly native flowers of natural habitats. Any gains in the flora of the counties tend to be vigorous, aggressive common plants, such as cow parsley, stinging nettles or non-native species that thrive on artificially enriched soils or in our waterways, now awash with nitrogen, phosphorus and potassium. The result is an increasingly homogeneous countryside where local variations are becoming the exception.

Even our most glamorous of plants have not escaped this crisis. Orchids, sensitive to change and recognised as being useful environmental indicators, have been hit hard and most counties are losing one orchid species every ten years. Sundews and other carnivorous plants are also disappearing, especially from the lowlands. Less than a century ago, virtually every county in Britain contained sundews. Most also had butterworts and bladderworts. Now, in the agricultural counties of the Midlands and eastern England, it has become hard to find any. Entire living communities, including some of our most interesting plants, are being swept away.

The chief culprits for such a scale of loss have not been difficult to identify. Yet, for plants it appears that the issues of greatest concern are the draining of the countryside and the falling quality of water through pollution from agricultural fertilisers, sewage and vehicle emissions. A farming industry that has been dependent on subsidies for food production has led to significant changes in agricultural practices threatening our farmland flora, while neglect, mismanagement or wholesale destruction of habitats have brought down the axe on other native flowers.

Martin Harper, Conservation Director at Plantlife, commenting on the findings of the report, said:

> 'We are all alarmed at the scale of loss to local plants. If it is allowed to continue unchecked, our rich and varied countryside will become bland and uniform. Already, all we often see from the seat of our inter-city train is the emerald green of fields containing

nothing but rye-grass, or bright yellow swathes of oilseed rape. Plantlife is urging government administrations to be both creative and courageous when devising strategies to reverse the decline in our native flora.'

He concluded by saying, 'If the decline in local native species is allowed to continue at its current rate, the consequences will be far-reaching, for plants and the chain of life that depends on them.'

The Plantlife report *Where have all the flowers gone?* was researched and written by naturalist Peter Marren, author of *Britain's Rare Flowers*, and based its findings on sources such as Government surveys and County Floras. The 16-page summary report was written by Gail Vines.

A study of local extinctions as recorded in the county floras

Position	County	No. species lost	Extinction rate: Species per year	Recording period
1.	Northamptonshire	93	1.4	1930-1995
2.	Lincolnshire	77	0.9	1900-1985
3.	Gloucestershire	78	0.9	1900-1986
4.	Middlesex	76	0.8	1900-1990
5.	Durham	68	0.8	1900-1988
6.	Cambridgeshire	66	0.7	1900-1990
7.	Leicestershire	59	0.7	1900-1988
8.	Surrey	51	0.7	1900-1976
9.	Essex	68	0.6	1862-1974
10.	Suffolk	50	0.6	1900-1982
11.	Cheshire	49	0.6	1900-1990
12.	Cumbria	53	0.5	1900-1997
13.	South Lancashire	50	0.5	1860-1963
14.	Norfolk	33	0.3	1900-1999

(reproduced from ***Where have all the flowers gone?*** *– loss and decline of species at a local level* written by Gail Vines, based upon original research by Peter Marren.)

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MISTLETOE: GROW YOUR OWN TO GUARANTEE A CHRISTMAS KISS

The wild-plant conservation charity Plantlife urges mistletoe lovers to grow their own next year and help a return to sustainable local mistletoe harvesting.

In recent years there have been fears that large-scale harvesting could lead to fewer mistletoe plants left on trees. This could have led to a shortage for sale in the future since substantial amounts of healthy mistletoe have to remain growing to maintain supplies from year to year. Traditional harvesting, from the orchards and gardens of Worcestershire and Herefordshire, has been more sustainable, with local pickers and gypsies taking the crop to the main mistletoe market at Tenbury Wells. This year there seems to have been a return to this traditional method of harvesting mistletoe which will ensure that healthy, good quality sprigs are available both for this Christmas and years to come. It will also help limit any damage the parasitic plant does to the host tree.

To encourage this return to sustainable harvesting, Plantlife is asking people to grow more, particularly on mistletoe's favourite host tree, the apple, in orchards and gardens.

Jonathan Briggs, co-ordinator of the Plantlife/BSBI Mistletoe Survey said:

'Growing your own will save you money and will help protect mistletoe supplies. Patience is needed, however, because it could take a several attempts before planting is

successful. And it will be several years before plants are large enough to harvest. But please use berries from native mistletoe - using berries from imported mistletoe could alter the unique genetic make-up of local populations. If you are not sure of the origin of your mistletoe, or it has not been grown locally, don't try to grow it.'

To propagate mistletoe, it is recommended that fresh berries from growing plants be gathered in February and planted on the same tree species that their parent plant chose. Bought mistletoe used for a Christmas kiss can also be used but berries will need to be stored in a cool place until February.

Full instructions on how to grow mistletoe can be found in *Green Gardening* in the 'News and Features' section of Plantlife's website – www.Plantlife.org.uk

The main mistletoe market at Tenbury Wells, in the heart of orchard country, is the supplier of much of Britain's Christmas mistletoe. The UK has probably never been self-sufficient in supplies of Christmas mistletoe and much is imported from France each year. Some local authorities and biodiversity partnerships, including the London Biodiversity Partnership, which includes the GLA, are drawing up action plans to conserve and increase mistletoe populations in their areas.

For further information, please contact:

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FUTURE OF IRISH & BRITISH BOGS THREATENED BY CLASSIFICATION OF PEAT AS A RENEWABLE FUEL

On the 16th of November 2000 the European Parliament proposed an amendment to Article 2(1) of the Council Directive on the promotion of electricity from renewable energy resources in the internal electricity market. Their proposal was that peat be added to the list of renewable energy sources.

This motion was debated as part of a green paper on energy efficiency and renewables in Council on the 5th December, 2000.

The Irish Wildlife Trust (IWT) and the Irish Peatland Conservation Council (IPCC) jointly call for the removal of peat from the list of renewables.

The extraction of peat would lead to severe erosion of a valuable natural resource and the destruction of the biodiversity that depends on bogs, while at the same time contributing to our greenhouse gas emissions. Peat is not a clean and renewable energy source. IPCC, IEA, UNESCO and the EU all classify peat as a fossil fuel source of energy.

The move to have peat included on the list of renewable energy resources is based on the flawed assumption that peat is accumulating faster than it is being used. 'Within the European Union – where peat extraction is at its most intense – the rate of use of peat exceeds the rate at which peat is being deposited by a factor of 10' states Dr Peter Foss, Chairman of IPCC.

In Ireland, bogs accumulate peat at a rate of just 1mm per year. However, the peat harvesting cycle for energy production removes peat at a rate of 10mm per cycle, and there are on average 12 cycles per year.

'A similar debate raged for some time about the renewable nature of moss peat in the garden a few years ago.' stated Dr Foss 'At that time the Eco-labeling committee of the EU Commission found that the use of moss peat in the garden was not sustainable and refused to give peat an eco-label. The same argument applies in relation to the listing of peat as a renewable fuel'.

Unless you have a few thousand years to wait around for a bog to accumulate peat it cannot be regarded as a renewable energy source on anything but a geological time scale.

IPCC and IWT are therefore calling on the European Parliament to remove peat from this amendment at once – there is simply no justification for the inclusion of peat on the list of renewable energy sources.

For further details contact:

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ALIENS

ALIEN RECORDS

No authority is given if the taxon is mentioned in Stace's *New Flora of the British Isles*, Clement & Foster's *Alien Plants of the British Isles* or Ryves, Clement & Foster's *Alien Grasses of the British Isles*. Arrangement is alphabetical; an * before the Latin name indicates a taxon new to Clement & Foster or Ryves, Clement & Foster. I would be delighted to receive any alien records for inclusion in future issues. In general all taxa not included in Kent's *List of Vascular Plants of the British Isles* (1992) or its Supplement are eligible for inclusion but other more widespread aliens listed in that work may be included at the discretion of the v.c. recorder and the editor. Please ensure that all records include the details as set out below, especially a map reference, even if only to a hectad (10km square).

My thanks to Geoffrey Wilmore for sending in the Yorkshire (v.cc. 61-64) records and Paul Green for the remainder. Members are reminded that 1st records of all taxa included in Kent's *List* are eligible for publication in Plant Records in *Watsonia*.

22/1/1. *Araucaria araucana* (Monkey-puzzle). **64**, Mid-W. Yorks.: One tree well established in mixed woodland, Sugden Wood, near Wetherby, SE4250, G.T.D. Wilmore, 2000.

36/3/1. *Soleirolia soleirolii* (Mind-your-own-business). **63**, S.W. Yorks.: Apperley Bridge area, SE196385, M. Wilcox, 2000.

43/1/14. *Chenopodium opulifolium* (Grey Goosefoot). **61**, S.E. Yorks.: Arable field, Skidby, TA03, J. Dews, 1999, det. GTDW, conf. J.R. Akeroyd.

45/1/1. *Portulaca oleracea* (Common Purslane). **63**, S.W. Yorks.: Potting compost, hen run, Cowcliffe, Huddersfield, SE138189, M.J. Lucas, 1999, det. E.J. Clement.

46/18/1. *Lychnis coronaria* (Rose Campion). **64**, Mid-W. Yorks.: Disturbed ground, Quarry Moor, Ripon, SE3169, B.A. Tregale, 2000.

47/1/cap. *Persicaria capitata* (Pink-headed Knotweed). **2**, E. Cornwall: 2 plants growing out of side of high wall on east side of A387, East Looe, SX2553, P.R. Green, 2000. 2nd v.c. record. **61**, S.E. Yorks.: Locally frequent in streets of Driffield, TA0257, E. Chicken, 1999.

60/CUCUM/mel. *Cucumis melo* (Melon). **63**, S.W. Yorks.: Ainsbury Avenue tip, Thackley, Bradford, SE1739, B.A. Tregale, 1999.

60/CIT/lan *Citrullus lanatus* (Water Melon). **63**, S.W. Yorks.: Ainsbury Avenue tip, Thackley, Bradford, SE1739, B.A. Tregale, 1999.

60/CUCUR/pep. *Cucurbita pepo* (Marrow). **63**, S.W. Yorks.: Ainsbury Avenue tip, Thackley, Bradford, SE1739, B.A. Tregale, 1999.

BEG/BEG/tub. *Begonia* × *tuberhybridra*. ***2**, E. Cornwall: Single plant with large yellow flowers growing on tip, Roodscroft, Hatt, SX3961, P.R. Green, 2000. 1st v.c. record.

73/5/spa. *Sedum spathulifolium* (Colorado Stonecrop). ***64**, Mid-W. Yorks.: Streamside wall, Silsden, SE0446, M. Wilcox, 2000. 1st known v.c. record.

75/6/3. *Filipendula kamtschatica* var. *rosea* (Giant Meadowsweet). ***63**, S.W. Yorks.: Hardcastle Crags, Hebden Bridge, SD987290, M. Wilcox, 2000, conf. E.J. Clement. 1st v.c. record.

75/32/38. *Cotoneaster splendens* (Showy Cotoneaster). ***64**, Mid-W. Yorks.: Waste ground, S of Burley, Leeds, SE278342, M. Wilcox, 2000, det. J. Fryer. 1st known Yorkshire record.

75/33/2. *Pyracantha rogersiana* (Asian Firethorn). ***63**, S.W. Yorks.: Forster Square, Bradford, SE165333, M. Wilcox, 2000, det. Dr P.S. Green. 1st v.c. record.

77/4/nut. *Astragalus nuttallianus*. ***63**, S.W. Yorks.: Ainsbury Avenue tip, Thackley, Bradford, SE1739, M. Wilcox & B.A. Tregale, 1999, det. E.J. Clement. 1st British record post-1930, *teste* EJC.

84/CLA/amo. *Clarkia amoena* (Godetia). ***63**, S.W. Yorks.: - Waste ground, Thorpe Edge, Bradford, SE181373, M. Wilcox, 2000. 1st v.c. record.

91/2/16b. *Euphorbia amygdaloides* subsp. *robbiae* (Leathery Wood-spurge). ***64**, Mid-W. Yorks.: Sun Lane tip, Burley-in-Wharfedale, SE1446, M. Wilcox, 2000. 1st v.c. record.

96/1/1. *Staphylea pinnata* (Bladder-nut). **64**, Mid-W. Yorks.: Established in Mowbray Castle grounds, Kirkby Malzeard, SE2374, G.T.D. Wilmore, 2000.

102/1/las. *Oxalis lasiandra*. ***5**, S. Somerset: Growing along edge of Alexandra Road Car Park in Minehead, SS9746, Miss C.J. Giddens, 2000, **herb. I.P. Green**, det. Dr M.F. Watson. 1st v.c. record.

105/1/sul. *Impatiens sultanii* (Busy-lizzie). **2**, E. Cornwall: Single self-sown specimen on edge of car park, East Looe, SX2553, P.R. Green, 2000. Also self-sown else where in East Looe.

107/CUM/cym. *Cuminum cyminum* (Cumin). ***63**, S.W. Yorks.: Waste ground, Leeds Road, Bradford, SE168329, M. Wilcox, 2000. Probable 1st Yorkshire record.

110/8/ros. *Solanum rostratum* (Buffalo-bur). **63**, S.W. Yorks.: Bird feeding area, Potteric Carr Visitor Centre, SE5900, D.M. Bramley, 1999.

115/1/1. *Phacelia tanacetifolia* (Phacelia). **63**, S.W. Yorks.: Sandy arable restoration land, Blaxton Common, Doncaster, SE6802, CA. Howes & J.A. Newbould, 2000.

124/6/int. *Calceolaria integrifolia* (Bush Slipperwort). ***5**, S. Somerset: 4 specimens self-sown on wall in Minehead (parent plant nowhere to be seen), SS9745, I. Green, 2000, **K**, conf. P. Green. 1st v.c. record.

124/SUT/cor. *Sutera cordata* (Thunb.) Kuntze. ***2**, E. Cornwall: 2-3 plants growing on wall top on east side of A387, most likely self-sown, East Looe, SX2553, P.R. Green, 16/10/2000. 1st v.c. record. ***5**, S. Somerset: Self-sown in pavement below hanging baskets, Ilminster, ST3614, P.R. & I.P. Green 1999 & 2000. 1st v.c. record.

135/81/fer. *Bidens ferulifolia* (Fern-leaved Beggarticks). ***H11**, Co. Kilkenny: Single plant self-sown on small heap of gravel next to wall near hanging baskets, next to Waterford Station, S6013, I.P. Green, 2000. 1st v.c. record.

135/CAT/cae. *Catananche caerulea* (Blue Cupidone). ***64**, Mid-W. Yorks.: Waste ground, near Information Centre, Fairburn Ings, SE4627, E. Ellis, 2000, det. J. Martin. Specimen sent to E.J. Clement for confirmation. Seen also by GTDW. 1st Yorkshire record.

153/24/gra. *Glyceria grandis* (a Sweet-grass). ***63**, S.W. Yorks.: Marshy ground, adjacent to Morrison's Supermarket, Waterloo, Huddersfield, SE1716, M. Wilcox, & G.T.D. Wilmore, 2000, det. T.B. Ryves. TBR states that this is probably the first confirmed UK record.

153/72/bic. *Sorghum bicolor* (Great Millet). **63**, S.W. Yorks.: Ainsbury Avenue tip, Thackley, Bradford, SE1739, M. Wilcox, 1999.

158/24/cya. *Allium cyathophorum* var *farreri*. ***64**, Mid-W. Yorks.: Sun Lane tip, Burley-in-Wharfedale, SE1546, M. Wilcox, 2000, conf. Dr P.S. Green. PSG states possibly a first record for Great Britain.

EDITOR

BIDENS FERULIFOLIA IS IN TOWN

Clement & Foster's *Alien plants* (1994) tells us (p. 358) that *Bidens ferulifolia* (Jacq.) DC. (Fern-leaved Beggarticks) is only known as a pre-1930 casual. This is no longer true, since this gaudy ornamental plant has once again come into vogue: it gaily adorns many a hanging basket in town centres, and its prodigy is often to be found beneath or nearby. It is an annual that self-seeds with the propensity of a weed, appearing in any pavement crack or scrap of earth.

Our fine cover illustration by Graham Easy will be recognised by many gardeners, but by few botanists; it was drawn from hanging-basket material kindly supplied by his local garden centre, *Ansells* of Horningsea (Cambs). The 5(-8) bright yellow ray-florets indicate its very close affinity to *Coreopsis*. It branches freely and grows up to 40cm in the taller forms, the flowers being produced throughout the mid to late summer.

The name, spelt as *Bidens ferulaefolia* in older books, is used here in an aggregate sense and probably consists of several taxa, with its centre of variation in Mexico. It appears to be currently sold as *B.* 'Golden Goddess'. Some forms are claimed to be biennial or even perennial; the specimens listed below are far from uniform, differing noticeably in height, quantity of pubescence on stems and leaves, and in flower size (especially length of the ligules).

I have heard indirectly of several recent records, but for only eight of them (as detailed below), do I possess full details (all conf./det. EJC or R.M. Burton)

v.c. 5 (S. Somerset). Pavement crack in St James Street, South Petherton, I.P. Green, 2000, **Herb. EJC.**

v.c. 11 (S. Hants). About 15 plants along length of High Street, Gosport, D.R. Allan *et al.*, 1999; several plants in pavement cracks by railway station, Fareham, E.J. Clement, 1999.

v.c. 16 (W. Kent). Heathy area, on overgrown soil dump, New Barn, Swanley, J.R. Palmer, 1999, collected as *?Coreopsis.*

v.c. 17 (Surrey). Self-sown on garden patio, Carshalton, P. Coxhead, 1997.

v.c. 21 (Middlesex). Self-sown on side of the road in St Ann's Street, Westminster, R.M. Burton, 1997. (See *Lond. Nat.* 77: 233 (1998)); Hampstead, R.S.R. Fitter, 1999, comm. J.R.Palmer.

v.c. 57 (Derbys). Seeding around pavement near planted boxes, New Mills, A. Underhill, 1997, collected as *B. aurea.* **Herb. EJC**.

To date there is no evidence that this species can persist in any locality in Britain. Finally, whilst in press, the *London Naturalist for the year 1999* **79** (2000) has appeared, wherein R.M. Burton quotes (pp. 201-208) 5 records for this species and he also includes a good ?computer-generated illustration, and on page 48 of this issue of *News*, Ian Green gives an Irish record!

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AMBROSIA ARTEMISIIFOLIA (RAGWEED) IN FRANCE

In the French national newspaper *Le Monde* for the 3rd August 2000, a quite detailed article appeared relating to the alien species *Ambrosia artemisiifolia.* I detail below, the key issues raised in the article.

The article identifies that the species has been known in France since about 1865 referring to rare occurrences from the départements of the Manche and l'Ile-de-France. However, since the 1970s the species has particularly spread within the valley of the Rhone between Lyon and Montélimar. In this area it is thought to have been introduced with Red Clover seed from Argentina and with potato plants from north America. The species has become a problem in some other countries including Canada.

The problem of the spread of the species is thought to have started further to the abandonment of agricultural land in connection with the construction of the airport of Lyon-Satolas (now renamed aéroport de Saint-Exupéry) near Lyon. In addition, the problem was exacerbated in 1992 with the introduction of the European Commission set-aside policy which effectively 'froze' the cultivation of certain lands in the area. The species was able to rapidly take hold and spread like an 'epidemic' into the neighbouring départements of the Isère, the Drôme and the Ardéche.

The article relates primarily to the medical implications of the spread of this species. It has been found to be acutely allergy inducing. At Lyon it is the second highest cause of pollen allergy, particularly affecting young urban-dwelling people, with overall some 8.5% of the population studied found to be allergic to the species. This figure increases to a 12.1% incidence of allergy in the south-east of the Lyon region where the species is particularly dense.

Research has found that the particularities of the plant favour its spread, namely that its pollen is very small and light and can be transported by the wind some 100km, with a single plant able to emit up to 2.5 million pollen grains in a day. A gram of pollen amounts to some 90,000 grains, each of some 20 micron diameter. An average plant may disperse more than 2.5 billion pollen grains during the

flowering season (August to October). Sensitivity to the pollen in humans has been found as low as 1-3 grains per m^3 of air. In the Lyon area levels of 100 grains per m^3 have been recorded. In Canada around Montreal where it is also a problem levels of 1000 grains per m^3 have been recorded.

Local initiatives have been put in motion to eliminate or control the spread of the plant but the task is very diffuse and essentially left to local public bodies to organise. A bylaw has been passed in the area of the Rhone Authority (County Council equivalent) making it a duty on landowners to prevent the spread of the species. The local authority is able to carry out the work and charge the cost of the work where owners or occupiers fail in their responsibilities.

The article is critical of the Government's inertia in the face of the scale of the problem. No overall study of the distribution of the species has been conducted nor the extent of the human problem nor the means of overall control including allocation of funds. The *Association française d'étude des ambroisies* (Afada) are calling on the government to include the species on the list of notifiable species ('*catégorie des polluants biologiques*'), particularly given the high public health cost involved (25 million FF in the Lyon conurbation alone). The spread of the species into sunflower fields can also result in the loss of up to two-thirds of the crop. Various mechanical and chemical treatments have been found to be locally beneficial but without an overall strategy have not been found to prevent the spread of the species. Some countries are experimenting with new control methods but there would appear to be no immediate miracle solution to the problem.

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THOROW-WAX AS A PAVEMENT CASUAL IN KENSINGTON

I read with interest Humphry Bowen's note about Thorow-wax as a florists' alien (*BSBI News* **85**: 46). As an amateur flower arranger I have used the plant for 'foliage' quite often – and very useful it is – but had not seen it growing until June, 2000. I found a single plant of it at the base of a street-planted London Plane tree (*Platanus* × *hispanica*) in Melbury Road, Kensington, London W14, not far from the junction with Kensington High Street.

The London Plane tree is, you may have guessed, only four or five metres away from a florist's shop.

Dr Bowen has confirmed from a voucher specimen that I identified the plant correctly. 'A brilliant find, as predicted!' was his comment.

JOHN SWINDELLS, 10 Vivian Road, Bow, London E3 5RF

BUPLEURUM ROTUNDIFOLIUM (THOROW-WAX) IN THE NETHERLANDS

To the best of my knowledge, *Bupleurum rotundifolium* has only been found in The Netherlands as an adventive in the past, and never was an indigenous species in this country. It is not included in the Dutch *Atlas van de Nederlandse Flora* of 1980/85. I listed it in the seed-list of my small scale firm in the late seventies because of personal interest, and on request offered almost our complete stock, consisting of some 100 grams, to Kees Sahin of Sahin Seeds, Alphen aan den Rijn, in the late eighties. At the time, Sahin had a little seed from other sources, too, and immediately started to breed from this. Soon, *Bupleurum* was introduced as a commercial florist flower and did extremely well. Since the early nineties, it could be found in almost every yellow, green, or mixed flower bouquet even in street markets and has developed from a rare, unknown plant into a highly fashionable, indeed conventional item! An amazing career. By now, not only Sahin Seeds, but also many other commercial seed

merchants, such as Kieft, and also British mail-order firms like that of Chiltern's and Thompson & Morgan's, have listed it.

[This letter from Rob Leopold, a Dutch horticulturist, is a reply to a letter from Humphry Bowen who thought it would be of interest to members, especially in view of his (HB's) prediction in the last *BSBI News*, that thorow-wax would reappear near a florists shop. See also the note above. Ed.]

ROB LEOPOLD, Cruydt-Hoeck, P.O.B. 1414, 9701 BK Groningen, The Netherlands

WHEN SHOULD ALIENS BE RECORDED?

Eric Clement's note on *Euphorbia myrsinites* (Broad-leaved Glaucous-spurge) in *BSBI News* **85**, raises, incidentally, an interesting general point about the recording of alien species. He lays down the principle that self-sown plants in a garden 'certainly do not qualify as an "in the wild" record'. Few of us would disagree with this statement, but where is the line to be drawn?

In the front garden of my house in semi-rural Norfolk is a single very large bush of *Cotoneaster bullatus* (Hollyberry Cotoneaster), planted there by the previous owners of the property. Last year a small plant of this species was noticed in my back garden – surely dispersed over the roof by birds. So it arrived in this site by natural means.

If the bird had flown in the opposite direction, or a little farther, the seedling might have taken root on the verge of a country lane. and would then (presumably) have been eligible for recording.

In my recent *Flora of King's Lynn* (Payne, 1995), I adopted the line taken by the authors of the *Flora of Inner Dublin* (Wyse Jackson & Skeffington, 1984), i.e., to include every plant found in the survey area that had not been planted deliberately in the place where it occurred.

I repeat, where is the line to be drawn?

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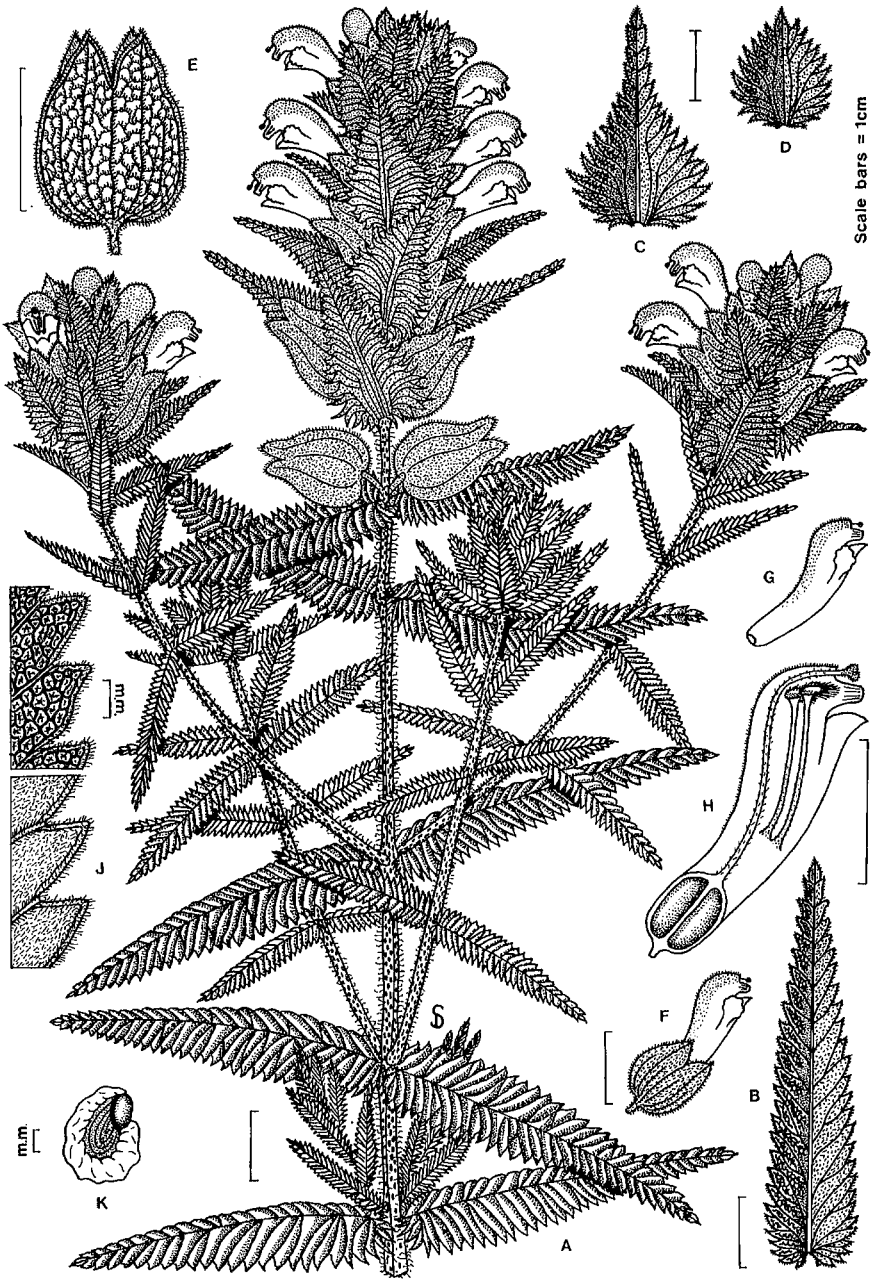
R.M. PAYNE, Applegate, Thieves Bridge Road, Watlington, Norfolk PE33 0HL

RHINANTHUS RUMELICUS VELEN. NEW TO BRITAIN (v.c. 11)

Back in May 1997, Delf Smith was exploring his home ground in the SE corner of Portsmouth (S. Hants., v.c. 11), an area of uninspiring rough grassland at Eastney (SZ6799), when he realised that amongst the *Rhinanthus minor* (Yellow-rattle), there was a much bigger representative of the genus that keyed out in Stace's *New Flora* (1991) to *R. angustifolius* (Greater Yellow-rattle). This identity was duly confirmed by Paul Bowman and then published by Clive Chatters in *Hampshire Wildlife Trust Flora News*, Autumn 1997, p. 3.

Paul Stanley and EJC visited the site on May 31st 1998 and found a strong colony (which was estimated by P. Bowman and D. Smith in 1997 as 4-500 plants scattered over 200 m) in full flower, but we immediately began to doubt the identification. Dr Alison Lean, our BSBI referee for the genus, confirmed (July 6th 1998) that it did not fit published descriptions but was currently unable to name it. Eventually, a specimen was sent to Dr David Hambler who identified it (August 13th 2000) as *Rhinanthus alectorolophus* (Scop.) Pollich. This was clearly a better match, but not exactly like the Chertsey Mead (Surrey) plant mentioned in *BSBI News* **84**: 48 (2000). Finally, the specimen was sent, as a gift, to Prof. J. Lambinon (Univ. Liège, Belgium) and he replied (October 3rd 2000) with the surprising news:



Rhinanthus rumelicus del. D.P.J. Smith © 1999

'Il est évidemment proche de *R. alectorolophus* (Scop.) Poll., mais en diffère principalement, comme vous l'avez observé, par la présence de stries pourpre foncé sur la tige et surout par l'abondance des poils glanduleux sur la tige, les feuilles et le calice (de tels poils existent parfois chez *R. alectorolophus*, mais ils restent toujours très épars). Dès lors, je n'hésite guère à en faire *R. rumelicus* Velen.; la comparaison avec diverses récoltes de notre herbarium me satisfait pleinement. Comme beaucoup de *Rhinanthus*, on a décrit diverses sous-espèces, de l'Europe centrale à l'Asie, mais je n'ose pas aller loin dans ma détermination.'

The plant does key out in *Flora Europaea* **3**: 277 (1972), albeit reluctantly, to this species from EC and SE Europe, and one appropriately notes (p. 278) that 'there is a great lack of agreement on the limits of species.' This vernal ecotype formed bushy plants to 60cm tall and was characterised by:

- stems either light green or blackish, with black streaks
- calyx and bracts light green, noticeably clothed with long glandular hairs over entire surface
- corolla 16-22mm, closed, with a purple style terminated by a green stigma protruding by 1.5mm at full anthesis, and retracting totally out-of-sight after pollination
- purple tooth at apex of corolla 1-1.6 × *c.*1.2mm

Delf Smith (DPJS) has kindly provided us with a dramatic drawing of his surprising discovery (apparently new to W. Europe); it shows:

A Habit of plant	F Flower
B Middle stem leaf	G Corolla
C Lower bract	H Cross-section through flower
D Upper bract	J Detail of leaf edge (both surfaces)
E Calyx	K Seed

A voucher specimen is deposited in **Herb. EJC**.

The established colony is on open ground much used by dog-walkers, and presumably was made by infilling after extraction of sand/gravel, and then sown with a grass and wildflower mix. The *R. minor* here is likely to be also of foreign origin. DPJS tells me that it differs subtly from native plants on nearby Hayling Island; he also remarks that an autumnal ecotypic variant is present at Eastney. Furthermore, a few individuals (not studied carefully) seemed to show somewhat intermediate characters between *Rhinanthus minor* and *R. rumelicus*. The huge plants of *Anthyllis vulneraria* (Kidney Vetch) were apparently of the alien subsp. *polyphylla*, but no other notable aliens were found, bar *Hirschfeldia incana* (Hoary Mustard) close-by, but this species is nowadays not rare in S. Hants.

The site, unfortunately, looks eminently vulnerable to future disturbance or 'improvement' in an area where man-made artefacts predominate. A long-term future for the *Rhinanthus* looks somewhat unlikely here.

ERIC J. CLEMENT, 54 Anglesey Road, Gosport Hants. PO12 2EQ

GETTING THE ABBEY HABIT

Walking past Westminster Abbey in London, as I have done regularly over the past decade, to suddenly spot an unusual plant was pleasurable. Less pleasing was the fact that it had clearly been there for some years and I had missed it!

The plant in question was the Pale Corydalis, *Pseudofumaria alba*. This is probably still better known as *Corydalis ochroleuca* – with this specific name being a far more accurate description of the flower colour. Growing on a buttress on the north side, the thickness of the rootstock indicated that it had been there for some years, though the number of plants was quite small. This is best explained by the fact that it has never naturalised in the way that the Yellow Corydalis, *P. lutea*, has, and certainly it lacks the same liking for walls. It probably has a higher moisture requirement, but a further factor is, in this locality at least, an annual haircut of crew-cut standard, carried out at the end of each October.

This is in preparation for Remembrance Day when the grass in this area is used for a 'cemetery' of small wooden crosses. Everything has to be tidy to military standards!

But where did it come from? This plant is not frequently cultivated and then only as subsp. *alba* as described in *Flora Europaea*. It is listed in Stace; Clement mentions it on walls, especially Godstone (Surrey) and Ashmore (Dorset); whilst Burton records it only from a gravel pit near Enfield Lock. There is a lack of obvious gardens in the vicinity, apart from that at the side of St Margaret's Church where it has not, to my certain knowledge, been grown in recent times.

During the Summer of 1999 I chanced to see a gardener cutting the grass and approached him to try and ensure the future safety of the small population. To my surprise he knew the plant by name: less surprising when I heard that he had been trained at the Royal Botanical Gardens in Edinburgh. He told me that it grew in the College Garden, which is accessed from Deans Yard. This Garden, reputed to be the oldest in Britain, occupies a site that has been continuously in cultivation for over 900 years. Whilst well worth a visit if only to experience such a haven of peace in a busy city, the plants are far from exciting. The *Pseudofumaria alba* grows in the borders where it is considered a weed, but tolerated in places, particularly in the moister shade, but has not spread to the walls. But it is highly likely that it is the source of the plants on the other side of the Abbey.

However there is one plant of note in the Garden and this is a magnificent fig tree, *Ficus carica*, which is a true tree with a substantial clean trunk, rather than the usual multi-stemmed affair. At one metre the bole has a circumference of 133cm, over 4 feet. As it is growing close to a building it has leaned away and, being now a substantial tree, it has a metal support. Despite this it is still a fine free-standing tree, and in this respect it is most unusual – Bean states that in Britain it is mostly a shrub.

References

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DAVID J NICOLLE, 15 Parkhurst Road, Bexley DA5 1AX

AVENA BARBATA IN DORSET

Sandbanks (SZ0387–0487) is a peninsula which forms the north part of the entrance to Poole Harbour. It was extensively built on in the 1930s, and most of it and its coastline is now private or hard to access. A car-ferry across the mouth of the harbour takes much summer traffic, and each year half a million people visit the beaches of Studland Bay to the south. Recently Poole Borough Council have fenced off tiny remnants of dunes at Sandbanks to protect them; they have also destroyed some habitat to erect a colourful but little-visited rockery.

It might be thought that the native vegetation would have been largely eliminated by 'development' and human pressure, and this is indeed so. Nevertheless, the beaches still have *Atriplex laciniata* (Frosted Orache), *Cakile maritima* (Sea Rocket), *Carex arenaria* (Sand Sedge), *Cyperus longus* (Galingale), *Elytrigia juncea* (Sand Couch), *Euphorbia paralias* (Sea Spurge) (rare), *Festuca arenaria* (Rush-leaved Fescue), *Leymus arenarius* (Lyme-grass), *Parapholis incurva* (Curved Hard-grass), *Suaeda vera* (Shrubby Sea-blite) and *Vulpia fasciculata* (Dune Fescue), while the hinterland has *Crassula tillaea* (Mossy Stonecrop), *Cynodon dactylon* (Bermuda-grass), *Hypochaeris glabra* (Smooth Cat's-ear), *Jasione montana* (Sheep's-bit), *Lotus subbiflorus* (Hairy Bird's-foot-trefoil), *Poa bulbosa* (Bulbous Meadow-grass), *Puccinellia fasciculata* (Borrer's Saltmarsh-grass), *Stellaria pallida* (Lesser Chickweed), *Trifolium suffocatum* (Suffocated Clover) and *Ulex gallii* (Western Gorse). Alien

plants which colonise pavements or scruffy edges of lanes, where they are regularly exterminated by the tidy-minded, include *Anisantha madritensis* (Compact Brome), *A. rigida* (Ripgut Brome), *Claytonia perfoliata* (Springbeauty), *Hirschfeldia incana* (Hoary Mustard), *Oenothera stricta* (Fragrant Evening-primrose), *Oxalis incarnata* (Pale Pink-sorrel), *Polycarpon tetraphyllum* (Four-leaved Allseed), *Silene armeria* (Sweet-William Catchfly) and *Sisymbrium orientale* (Eastern Rocket), while garden escapes such as *Acacia baileyana*, *Pittosporum tenuifolium* (Kohuhu) and *Yucca gloriosa* (Spanish-dagger) survive precariously.

A large colony of oats growing in a neglected garden plot and pavements near a yacht club attracted my attention. They were *Avena barbata* (Slender Oat), a Mediterranean grass which is established in the Channel Isles but not known except as a casual in mainland Britain. Presumably the plants were brought in by a sailor returning from either the Channel Isles or further south. It remains to be seen if the plant can establish itself here.

HUMPHRY BOWEN, West Down, West Street, Winterborne Kingston, Blandford, Dorset DT11 9AT

SEA-BEANS IN THE CAMBRIDGESHIRE FENS, 2000

I was intrigued by Dr Charles Nelson's note in the September 2000 issue of *BSBI News* about the mystery of the two drift-seeds found recently by two different people about 25km away from the nearest seashore. The first was *Lodoicea maldivica*, an endangered palm endemic to the Seychelles, Indian Ocean; the most puzzling aspect of this find (under a hedge near Outwell) was that the seed showed no signs of long immersion in the ocean. I would suggest that it had either fallen, or been dropped overboard, from a cruise liner which had previously called in at the Seychelles on its homeward voyage, then, owing to the vagaries of the North Atlantic Drift, had been carried round to the North Sea and deposited on one of the Norfolk beaches. After this it was picked up by a beach-comber and put in his pocket ready to drive home and examine it at leisure [he must have had very big pockets! Ed.]. However, he stopped his car for lunch by the roadside or in a lay-by near Outwell; here he got out of his car and sat by the hedge to eat a sandwich and drink a cup of coffee – or possibly something stronger! Gathering up his belongings and shaking the crumbs from his lap, he inadvertently left the seed under the hedge to be found, at a later date, by Mrs Joan Fowler. An alternative suggestion is that a mischievous joker planted the seed there in order to puzzle the experts – a ploy which apparently met with great success!

The deposition of the *Entada gigas* seed outside 'The Globe' in Upwell, only about 1.5km from the site of the first finding, might be explained in a rather similar fashion: a second beachcomber picked it up from the beach meaning to take it home for further examination, but decided to stop off at 'The Globe' for a night-cap. He spent the evening in the bar, showing off his 'mystery object' to all his friends and other drinkers in the bar until closing time, at which point he dropped the seed somewhere on the way to the car park whilst fumbling in his pocket for the car keys.

I admit that these theories are pure speculation, but, short of claiming the intervention of aliens from outer space, what other sensible explanations could there be?

P.S. For 'he' please read 'he/she' throughout.

CAROL HORA, 51 Eastern Avenue, Reading, Berks., RG1 5SQ.

NOTICES (NON BSBI)

FLORA OF NORTHERN IRELAND WEB SITE

Over the last six months I have been working on developing a web site of the Flora of Northern Ireland. The site has now gone online with just over 300 species represented with a species account, a 10km distribution map and in most cases images of the plant. (We hope to gain more funding to complete the site to include *c.* 1000 species and to make it searchable by keywords.)

Please have a look and if you have any suggestions or comments please let me know.
The address is: http://www.ulstermuseum.org.uk/flora

FIONA MAITLAND Flora of Northern Ireland web site co-ordinator, Botany Dept, Ulster Museum, Botanic Gardens, Belfast BT9 5AB. Tel.: 028 9038 3118

VALLEY FENS OF OXFORDSHIRE AND A DRUCE DINNER

Three one-day courses on the 2nd, 16th and 30th June 2001, on the Valley Fens of Oxfordshire have been arranged to commemorate the purchase of the Ruskin Reserve NNR at Cothill, in 1901 by the Ashmolean Natural History Society of Oxfordshire at the instigation of George Claridge Druce. These courses are being run by the Oxford University Department for Continuing Education and will be held at the Northmoor Trust, Little Wittenham. There will be lectures, practical sessions on peat cores and pollen identification, and field visits.

The Druce Dinner will be held in Oxford on Saturday June 2nd.
For more information please contact:

CAMILLA LAMBRICK, Picketts Heath, Ridgeway, Boars Hill, Oxford, OX1 5EZ. Tel.: 01865 735161; email: camilla@lambrick.fsnet.co.uk

A UK BOTANY E-GROUP

A new e-group has been launched to cover UK botany. For those of you not familiar with e-groups they are a quick and easy way for people with a common interest to keep in touch with each other online – you can send a message to a central e-mail address, and this message is then forwarded on to all other members of the e-group without you having to do anything else.

There are already successful UK e-groups covering dragonflies, moths, beetles, fungi, birds and wildlife in general and several successful regional wildlife e-groups but until recently there has been no e-group specifically covering botany; but one of our members, Steve Preddy, has now set one up.

If you would like to subscribe, all you have to do is send a blank email to:

UKBotany-subscribe@egroups.com

Although 'E-groups.com', the company that runs the service, is a commercial venture, the groups they host are not – they are simply set up and joined by people with a common interest. It doesn't cost anything to use the service; E-groups.com make their money by appending discreet adverts onto some messages.

If you would like to know any more, please contact Steve at Steve.Preddy@blueyonder.co.uk

EDITOR

GLASGOW NATURAL HISTORY SOCIETY

are celebrating their 150th Anniversary with a Conference on
Alien Species - Friends or Foes?
15-16th JUNE 2001
in the
Boyd Orr Building, University of Glasgow

16 speakers will cover a wide range of controversial subjects in a programme from 2.00 pm Friday June 15th till 5.00 Saturday June 16th
There will be the opportunity for questions and debate.
A reception for delegates will be hosted by the University of Glasgow
Abstracts and a downloadable booking form on our web site:-

WWW.GNHS.FREEUK.COM

or contact the conference secretary for a booking form or further details

Mrs MORAG C MACKINNON, 71 Hillview Drive, Clarkston, Glasgow G76 7JJ; Tel.: 0141 638 2123; Fax 0141 557 6281; e-mail: moragmac@clara.net

USEFUL PLANTS SURVEY AND UK FLORA

The following notes which appeared in *Kew Scientist* **18** (Oct. 2000) seem of sufficient interest to members to reproduce here. My thanks to David Pearman for passing them to me.

USEFUL PLANTS SURVEY

Attempts to put a monetary value on plant resources have become a common theme in tropical forest botany. Now The Countryside Agency, a statutory body advising the Government on issues relating to the well-being of the English countryside, has contracted Kew to carry out a survey on wild and traditionally managed plants in Britain. The survey, also funded by English Nature and Scottish Natural Heritage, will focus on economic species in areas of high landscape and biodiversity value.

Contact: Dr Hew Prendergast, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE

UK FLORA

The National Environmental Research Council has awarded a grant to Dr Andy Purvis and Prof. Mick Crawley (Imperial College, Silwood Park) in collaboration with Dr Mike Fay and Prof. Mark Chase (Kew) for the project '*The phylogeny of British native and naturalised vascular plants, and a model of the rate of nucleotide substitution*'. The grant will fund a postdoctoral fellow based at Silwood and a research assistant predominantly based at Kew. The project represents a major increase in the genetic studies of the UK flora being carried out at Kew and, among other benefits, it will give a better understanding of the relationships of UK plants and make substantial additions to the DNA Bank for the UK Flora. Material from more than 500 genera has already been collected in preparation for the start of the project.

Contact: Dr Mike Fay, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE

EDITOR

RHS PARTNERSHIP – GARDENING EVENTS AT BICTON COLLEGE OF AGRICULTURE

Bicton College has joined in partnership with The Royal Horticultural Society to offer a programme of gardening events. We started in May 2000 with a lecture from Mr Bailes (Curator at Rosemoor) on Tender Perennials; we also covered organic gardening, floral plants and garden history.

The programme for future terms is now in preparation and we are looking for new contributors. Each 'event' is held on a Wednesday afternoon from 2-4 p.m. Events can be lectures, workshops, demonstrations or special events, perhaps linked to an event you are involved with. Topics such as seasonal colour, planting, design, care and maintenance of plants, or a specialist subject would be very welcome.

The RHS advertise the programme in the Members Handbook each year and also through special leaflets and under 'Perspectives', in *The Garden* (RHS Magazine) at the appropriate times. Bicton College provides the venue and catering, sets up the programme and sends out leaflets to past and present students. The College will pay Lecture fees and expenses for each event. As the programme is on-going each term, you are welcome to suggest more than one topic for the above programme or for future years.

If you would like more information please contact Hilary Hurst or Patrick Welch at the address below:

HILARY HURST, Bicton College of Agriculture, East Budleigh, Budleigh Salterton, Devon EX9 7YB
Tel.: 01395 562300; Fax: 01395 567502; Email: bc7623@mail.eclipse.co.uk

OFFERS

INDEXER NEEDED?

If any member is writing a local flora and needs an index compiled to cover all scientific and colloquial names in the catalogue part of the book, I would be very happy to produce one free of charge (except for a copy of the book when published). All I would need is a copy of the text on disc, and, eventually, a set of page proofs.

If anyone is interested, please give me a ring to discuss it further.

GWYNN ELLIS, Editor *BSBI News*.

ILLUSTRATIONS FOR *BSBI NEWS* OR *WATSONIA*

Members who attended the recent Exhibition Meeting in Derby, will have had the opportunity of seeing a collection of botanical illustrations exhibited by our member Phil Rye. Phil has very kindly offered to provide illustrations of any plant for publication in *BSBI News* or *Watsonia* completely free of charge. So if any member is thinking of writing a note and would like an illustration to accompany it they are invited to contact Phil at 1 Ileden Farm Cottages, Kingston, Canterbury, Kent CT4 6HP; Tel. 01227 831185; Mobile 0794 1430236; Email: phyl_rye@hotmail.com

EDITOR

WEST DOWN SEED LIST, 2000

This year has been a good one for collecting seed. Small amounts of the following are available free, on receipt of small LABELLED packets and an s.a.e. To all those who kindly sent me their seeds last year, many thanks. I also have some old seed from earlier lists.

Aconitum napellus
Agrostemma githago
Alcea rosea
Alisma lanceolatum
Allium cernuum
Anagallis arvensis (blue)
Anchusa arvensis
Avena sativa 'Murkle'
Blackstonia perfoliata
Bolboschoenus maritimus
Briza maxima
Briza minor
Bupleurum rotundifolium
Camassia leichtlinii
Campanula alliariifolia
Campanula persicifolia
Campanula trachelium
Carthamus lanatus
Centaurea cyanus
Cephalaria alpina
Cerinthe major
Chenopodium giganteum
Chenopodium hybridum
Chenopodium quinoa
Chenopodium vulvaria
Chrysanthemum segetum
Cichorium intybus
Clinopodium acinos
Clinopodium ascendens
Codonopsis cardiophylla
Collinsia grandiflora
Consolida ajacis
Coriandrum sativum
Cosmos bipinnatus
Crocosmia 'lucifer'
Cucubalus baccifer
Cynoglossum germanicum
Cynoglossum officinale
Cyperus eragrostis
Dianthus armeria
Dianthus deltoides
Dierama pulcherrima
Digitalis lutea
Dorycnium hirsutum
Eccremocarpus scaber
Echium vulgare
Eryngium giganteum
Euphorbia exigua
Euphorbia oblongata
Euphorbia platyphyllos
Fibigia clypeata
Geranium sanguineum
Gilia capitata
Gladiolus communis
Glaucium flavum
Iberis umbellata
Impatiens balfourii
Impatiens cristata
Iris pseudacorus
Juncus tenuis
Kickxia elatine
Kickxia spuria
Knautia macedonica
Lagurus ovatus
Lathyrus japonicus
Lathyrus sylvestris
Lavatera trimestris
Ligularia przewalskii
Linaria amethystea
Linaria dalmatica
Linaria repens
Lithospermum arvense
Lupinus arboreus
Lychnis chalcedonica
Lychnis viscaria
Malva alcea
Malva neglecta
Marrubium vulgare
Melanoselimum decipiens
Misopates calycinum
Misopates orontium
Morina latifolia
Myosurus minimus
Nepeta cataria
Nepeta subsessilis
Nicandra physalodes
Nicotiana sylvestris
Nigella arvensis
Onopordum acanthium
Paeonia lutea
Papaver dubium
Papaver hybridum
Parentucellia viscosa
Petroselinum crispum
Phacelia tanacetifolia
Polemonium sp.
Polypogon monspeliensis
Potamogeton natans
Potentilla fruticosa
Potentilla recta
Romulea columnae
Rorippa palustris
Salvia argentea
Salvia glutinosa
Salvia pratensis
Salvia sclarea
Schoenoplectus tabernaemontani
Scilla peruviana
Scrophularia scorodonia
Scrophularia vernalis
Scutellaria altissima
Scutellaria bicalensis
Setaria verticillata
Silene armeria
Silene coeli-rosa
Silene gallica
Silene noctiflora
Silene pendula
Silybum marianum
Stachys germanica
Stylophorum diphyllum
Tragopogon porrifolius
Trifolium arvense
Valerianella dentata
Verbascum nigrum
Verbena officinalis
Vicia dumetorum
Viola tricolor

Dr HUMPHRY BOWEN, West Down, West Street, Winterborne Kingston, Blandford, Dorset DT11 9AT

BOOK NOTES

REVIEWS & NOTES

Those that will not be reviewed in *Watsonia* are marked with an asterisk (*). Unattributed comments in square brackets are mine.

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[About 30,000 vernacular and literary English names of plants, both wild and cultivated, with their botanical name and a brief account of the name's meaning if known. It was conceived as part of the author's wider interest in plant and tree lore, and enthobotanical studies – extract from publisher's flyer.]

The Origin, Expansion, and Demise of Plant Species. D.A. Levin. Pp. vi + 230. Oxford University Press, Oxford. 2000. Price (pbk) £24.95 (ISBN 0-19-512729-3).

Wild Flowers of the Peak District. P. Harding and V. Oxley. Pp. 144. The Hallamshire Press, Sheffield. 2000. £25.00 (ISBN 1 874718 53 9).

Zander. Handwörterbuch der Pfanzennamen. Dictionary of plant names. Dictionnaire des noms de plantes. W. Erhardt, E. Götz, N. Bödeker & S. Seybold. 16th ed. Pp. 990. Eugen Ulmer GmbH & Co., Stuttgart. 2000. Price £28.50 (ISBN 1-903257-01-8). Marketed in UK by The Plant Press, Lewes, E. Sussex.

**Bracken Fern : Toxicity, Biology and Control.* (Proceedings of the International Bracken Group Conference, Manchester 1999). J.A. Taylor and R.T. Smith (eds). Pp. xiii + 218. International Bracken Group, Aberystwyth. 2000. Price (pbk) £40 (incl. p. & p.) from IBG coordinator, Glyn Ceiro, Dole, Bow Street, Aberystwyth, Cards. SY24 5AE. (ISBN 0-9525505-2-0).

[The contents from this 4th conference include 28 papers and 11 abstracts. 8 of the papers cover Bracken taxonomy, 14 cover Bracken and Human and Animal Health, and 4 cover Bracken Ecology, Control and Management.]

**Catalogue of the Hawkweeds of Britain and Ireland in the Herbarium of Liverpool Museum.* K. Corrie (compiler) and J. Edmonsdson (editor). Pp. ix + 66. National Museums and Galleries on Merseyside. 2000. Price £12.00 (ISBN 1-902700-08-02).

[The second catalogue from Liverpool (following *Rubus* in 1994) covering all the specimens held for an important critical group. 208 species are represented by 3600 separate accessions with details of localities, habitats, grid references, collectors and dates. The introduction claims that only expertly determined material is included, apart from a few distinctive species.

I cannot claim any knowledge of *Hieracium* species whatsoever and can thus pass no judgement on the accuracy of the contents, but the museum has very important collections, including those of W.R. Linton, and it seems a major positive step to publish this information. They are to be commended, and we look forward to any others following this lead.]

**The Flora of Roofs.* R.M. Payne. Pp. 21. Price £3.00 (incl. p. & p.). Published by and available from: Mr R.M. Payne, Applegate, Thieves Bridge Road, Watlington, Kings Lynn, Norfolk PE33 0HL.

[This, the author modestly claims, may be the first publication on roof plants in Britain. It covers 168 species and is the result of an eight-year survey covering roofs, gutter, thatches and, surprisingly, pill-boxes.

There are comparisons made with the author's work on walls (Payne, R.M., *The Flora of Walls in West Norfolk*), and with other man-made sites. An excellent publication – it even tempted me away from trying to finish the Atlas 2000 to see if West Country roofs were different!]

**Flowering plants of the Falkland Islands*. Robin W. Woods. Pp. 108. Flaklands Conservation, Stanley, Falkland Islands. Price £12.00 (ISBN 0-9538371-0-6). Available in UK from 1 Princes Avenue, Finchley, London N3 2DA.

[For 26 plants there are descriptive texts; each is illustrated by a good photo (many in habitat), with also clear line-drawings, world distribution and a guide as to where it can be found in the Falklands. Also included are a glossary, a 10km map, an index and a list of source materials for illustrations.

If a visit to far distant territories is an unlikely possibility for you, surely the next best is an illustrated account of the flora there? If however you might be planning a visit, then this book would be essential. It is a fascinating account for a botanical armchair traveller to remote places, and an introduction to the 3 orchids that grow there, a hummock plantain *Plantago moorei*, and Gillies Dandelion, *Taraxacum gilliesii*, etc. Mary Briggs]

DAVID PEARMAN, The Old Rectory, Frome St Quintin, Dorchester, Dorset DT2 0HF

OBITUARY NOTES

With regret we report the death of Alan Crundwell who died in August 2000. Alan had been a member of BSBI since 1947, so was one of our longest standing members. Although he gave his support to this society for so many years, his main interests and work were in bryology.

Since his retirement he lived in Hampshire, but for his working life was in the Botany Dept. of the University of Glasgow, from where he published many taxonomic studies and some pioneering work on *Bryum* species. He was a leading light in British bryology, and a good friend to many botanists. He will be sadly missed.

Also with deep regret we report the death in December 2000 of Brian Brookes. Brian joined the BSBI in 1960 and will be remembered by many members for his excellent and very patient teaching, and for the many botanical courses that he ran, mainly in Scotland, but also in centres around Britain.

He too will be sadly missed; an obituary will be published in *Watsonia* and there will be a memorial meeting in Scotland on Saturday February 24th 2001. Further details can be obtained from the Acting Hon General Secretary.

MARY BRIGGS, 9 Arun Prospect, Pulborough, West Sussex RH20 1AL

REPORTS OF FIELD MEETINGS – 2000

Reports of Field Meetings (with the exception of Atlas 2000 reports written by Trevor Dines and Reports of Irish meetings written by Alan Hill) are edited by, and should be sent to: Dr Alan Showler, 12 Wedgwood Drive, Hughenden Valley, High Wycombe, Bucks, HP14 4PA, Tel.: 01494 562082.

2000

FENNS MOSS NNR, BETTISFIELD, DENBIGHSHIRE (v.c. 50) 7th May

22 people met near Bettisfield on a beautiful spring morning. We were led by Dr Joan Daniels, site manager of the reserve, which is jointly funded by English Nature and the Countryside Council for Wales.

This large raised bog was threatened by peat cutting in the late 1980s but was saved by public appeal. Since the creation of the NNR, water levels have been raised by damming drainage ditches and birds and invertebrates have benefited. We saw the rare Raft Spider and several species of dragon- and damsel-fly. The site has been visited by many botanists but in spite of this a large patch of *Rubus chamaemorus* (Cloudberry) was found by William Allmark in 1998, when clearing birch scrub. We found much of it was flowering, the large white flowers conspicuous amongst *Calluna vulgaris* (Heather), *Andromeda polifolia* (Bog-rosemary) (also flowering) and abundant *Vaccinium oxycoccos* (Cranberry). Cloudberry is on one other site in Wales, on the Berwyn mountains at an altitude of 800 m and it is surprising to find it on a lowland moss at 90 m. Perhaps there are other patches to be found on this large site?

Across the wetter areas were white sheets of *Eriophorum vaginatum* (Hare's-tail Cottongrass), with *E. angustifolium* (Common Cottongrass) just starting to flower. We found *Drosera rotundifolia* (Round-leaved Sundew), saw an Adder and watched three Hobbies flying above us; they feed on dragonflies and bumblebees. Curlew were calling.

A circular walk took us to the Shropshire Union Canal, with woodland sedges *Carex paniculata* (Greater Tussock-sedge), *C. remota* (Remote Sedge), *C. pendula* (Pendulous Sedge) and C. *acutiformis* (Lesser Pond-sedge). Then through birch woodland with *Ceratocapnos claviculata* (Climbing Corydalis) to a sandy, rabbit- grazed field. Here was a complete contrast with abundant *Teesdalia nudicaulis* (Shepherd's Cress), *Geranium molle* (Dove's-foot Crane's-bill), *Myosotis discolor* (Changing Forget-me-not), *Erodium cicutarium* (Common Stork's-bill), *Aphanes arvensis* (Parsley-piert), *Ornithopus perpusillus* (Bird's-foot), *Vicia lathyroides* (Spring Vetch), *Spergula arvensis* (Corn Spurrey), *Aira praecox* ((Early Hair-grass) and *Carex pilulifera* (Pill Sedge). Many of these plants would have died off in a month's time. It made an interesting end to our visit to this unique and beautiful site.

JEAN A. GREEN

NEW FOREST, HAMPSHIRE (v.c. 11) 20th –21st May

This was a meeting to introduce members to the extent and variety of plants in the New Forest. Thanks are due to The Forestry Commission for their permit to explore the area. On the evening before the field meeting a short talk about the history and habitats of the New Forest at the New Forest Study Centre introduced 11 members to this unique area of Hampshire.

21 members assembled at Lyndhurst and first visited a site near Millyford bridge to view ferns in alder woodland including *Oreopteris limbosperma* (Lemon-scented Fern) and *Phegopteris connectilis*

(Beech Fern), the latter being restricted to small area in the North of the New Forest. The party drove around the northern edge of the New Forest to Godshill ridge and then walked across to Leaden Hall. There the population of *Gentianella anglica* (Early Gentian) had started to flower and the population was counted and estimated to be just over 800 plants, which compares to the 1997 count of 400 and the 1998 count of 1500. The party then moved on to an area from which military concrete had been lifted some six years ago. About two thirds of the area had formed a good grass sward which was being grazed by seven ponies. A count of species was made and over 100 were found in the sward, with very few shrub seedlings.

On Sunday morning 23 members moved from Lyndhurst to Crockford Bridge to meet Alison Bolton who showed something of the variety of *Ranunculus* in flower in the area, including *Ranunculus peltatus* (Pond Water-crowfoot), *Ranunculus aquatilis* (Common Water-crowfoot) and *Ranunculus* × *novae-forestae* (*R. omiophyllus* × *R. tripartitus*) (New Forest Crowfoot), the typical form, and also an extremely small flowered form which is presently placed within this very variable hybrid complex.

Next the party moved to Setley Plain and saw *Mentha pulegium* (Pennyroyal), but not yet flowering, *Crassula tillaea* (Mossy Stonecrop), turned a bright red and the alien *Plagiobothrys scouleri* (White Forget-me-not) which is established in two areas of the forest. The party then moved to an abandoned marl pit to view *Hottonia palustris* (Water-violet), *Ranunculus hederaceus* (Ivy-leaved Crowfoot) and *R.* × *novae-forestae* growing in its type locality.

At the next site, Longslade Bottom, the considerable confusion with the *Ranunculus* species was demonstrated, as earlier in the month the population was consistently large flowered and appeared to be consistently *Ranunculus omiophyllus* (Round-leaved Crowfoot). However two weeks later the flower size had become very variable and the population now appeared to be close to *R.* ×*novae-forestae*.

The final area explored was at Wilverley. The party spread out 5 m apart and walked across Wilverley Plain, which is an area of about half a square kilometre of flat pony cropped lawn, to try and find *Botrychium lunaria* (Moonwort). Three single plants were found and also an unexpected colony of *Ophioglossum vulgatum* (Adder's-tongue). It is certain that these plants were only found because so many pairs of eyes were searching in an organised fashion. Until now *Botrychium* has only been found on the edge of the plain.

The party moved on to examine a hillside full of *Carex montana* (Soft-leaved Sedge). No specimens were found in flower, as is normal in the New Forest, because the plant appears to be very palatable to the ponies. There were too many plants to count over an area of at least 100 × 30 m. Moving on to the Duckhole stream the party saw *Dactylorhiza incarnata* subsp. *pulchella* (Early Marsh-orchid), with *Cirsium dissectum* (Meadow Thistle) in flower and *Eriophorum angustifolium* (Common Cottongrass). *Viola palustris* (Marsh Violet) was on the banks of the stream but not flowering.

The party then returned to the plain by following the stream through Duckhole Bottom and unexpectedly found several plants of *Lycopodiella inundata* (Marsh Clubmoss); a new site for the plant. Finally the party returned to Lyndhurst to disperse.

I must thank Alison Bolton, Elizabeth Young and Vera Scott for their great help in planning the route, finding many of the plants in advance and for being so patient with people during the excursion.

PETE J. SELBY

HAREHEUGH CRAIGS, BERWICKSHIRE (v.c. 81), 3rd June

Eleven members and friends visited Hareheugh Craigs to enjoy the flora of this basaltic outcrop and to practice threatened plant site recording. At the request of Messrs. John Logan and SNH, observations were also made of changes in the flora following the introduction of the CPS grazing regime in 1999 which specifies no grazing from mid April to mid July.

Sarah Whild and Alex Lockton had provided a provisional threatened plant recording form which was field tested in conjunction with a 1:2,000 map of the site. In general, the species selected for monitoring were found without too much difficulty and it proved practical to outline the boundaries of plant populations on the map, accurate to about 50 m, and to record associated species, ranked for frequency using the DAFOR scale. One team used a GPS successfully. Some of the recording groups attempted detailed sketching of the colonies, counts of the plants or an estimate of the area covered by a colony and photographic records. A variety of difficulties were experienced with this more detailed study due to inexperience and time constraints. A full report has been prepared for the BSBI Co-ordinators.

Dianthus deltoides (Maiden Pink), is a species of particular interest on the craigs. It proved impracticable to count the colonies as they were not in flower and it was difficult to locate the plants. Only just over 20 plants were found where several hundred are believed present.

The annuals *Cerastium semidecandrum* (Little Mouse-ear), *Montia fontana* subsp. *chondrosperma*, (Blinks), and *Stellaria pallida* (Lesser Chickweed), were considered to have declined dramatically due to the changed grazing regime. On the other hand, *Hieracium* spp. (Hawkweeds) and *Geranium sylvaticum* (Wood Crane's-bill), were considered to be increasing.

Plants new to the site were *Myosotis ramosissima* (Early Forget-me-not) and *Viola canina* (Heath Dog-violet). The hybrid *Viola* × *intersita* (*V. riviniana* × *V. canina*) was found in two places, new to v.c. 81.

MICHAEL BRAITHWAITE, Clarilaw, Hawick, Roxburghshire, TD9 8PT

GORING, OXFORDSHIRE (v.c. 23) 4th June

I had always expected a good turnout and 17 BSBI members plus nearly as many local naturalists turned up on a fine day. The critical factor was space in the car park at the chosen nature reserve so I arranged the tour of the reserve in two shifts. Before we got going, luxuriant *Anisantha diandra* (Great Brome) on an arable margin encouraged a debate about its identity; it is spreading hereabouts. The warden, Rod d'Ayala, has intimate knowledge of the reserve, so was able to give us a detailed account of the chalk down flora and recent management. We saw numerous orchids, *Polygala vulgaris* and *P. calcarea* (Common and Chalk Milkworts), *Blackstonia perfoliata* (Yellow-wort), *Asperula cynanchica* (Squinancywort) and *Campanula rotundifolia* (Harebell) not quite flowering, a few clumps of *Geranium columbinum* (Long-stalked Crane's-bill), young *Carlina vulgaris* (Carline Thistle) and a few hard-to-spot *Galium pumilum* (Slender Bedstraw). *Thesium humifusum* (Bastard-toadflax) was found to be widespread once one got one's eye in. The *Carex* species included good numbers of *C. filiformis* (Downy-fruited Sedge), and the grasses, *Briza media* (Quaking-grass), *Helictotrichon pubescens* (Downy Oat-grass) and amazingly luxuriant *Koeleria macrantha* (Crested Hair-grass). *Rosa rubiginosa* (Sweet-briar) is widespread and a few *Juniperus communis* (Common Juniper) are hanging on. The most noteworthy fern was a colony of *Ophioglossum vulgatum* (Adder's-tongue). Numbers of *Pulsatilla vulgaris* (Pasqueflower), which used to grow on some Chiltern sites and just survives on the Berkshire Downs, were planted in an enclosure two years ago and are being monitored. An area of adjacent woodland with much beech supports *Cephalanthera damasonium* (White Helleborine), *Mycelis muralis* (Wall Lettuce), *Iris foetidissima* (Stinking Iris) with *Lithospermum officinale* (Common Gromwell) on the margin. We enjoyed a sunny lunch picnic close to reddish strands of young *Cuscuta epithymum* (Dodder) and fortunately not too much *Cirsium acaule* (Dwarf Thistle), and likewise tea among *Gentianella amarella* (Autumn Gentian) one already in flower.

Those botanists who did a shift outside the reserve did 2-3 hours' valuable recording. Four went to Watlington Hill and compiled a list including *Iberis amara* (Wild Candytuft), *Cerastium arvense* (Field Mouse-ear), *Filipendula vulgaris* (Dropwort) and *Hippocrepis comosa* (Horseshoe Vetch), that has been welcomed by the National Trust. Two found *Iberis amara* and *Genista tinctoria* (Dyer's

Greenweed) and turned up a new site for *Gentianella anglica* (Early Gentian) on chalk grassland near Woodcote. Two made a rewarding study in Goring itself, duly turning up both *Valerianella* spp, *V. locusta* (Common Cornsalad) and *V. carinata* (Keeled-fruited Cornsalad), a casual *Lobelia erinus* (Garden Lobelia) and *Hedera helix* 'Hibernica' (Irish Ivy), a new county record. Visitors to the tetrad to the north saw a good colony of *Leucojum aestivum* (Summer Snowflake). Mick Crawley had suggested some squares near Streatley in v.c. 22; in one, *Secale cereale* (Rye) turned up.

JOHN KILLICK

GLENGAVEL, LANARKSHIRE (v.c. 77) 10th June

Dedicated recording for Atlas 2000 having been completed, it seemed appropriate for some of this year's Field Meetings to be directed towards attempting to rediscover plants at sites for which there are old records.

In *Sketches of Strathaven* . . . (1880), R. Turner wrote that in the peat bogs about Glengivel were to be found *Rhynchospora alba* (White Beak-sedge) and *Valeriana dioica* (Marsh Valerian). The latter was also to be found in the adjacent meadows, while in the moorland areas there were *Sedum villosum* (Hairy Stonecrop), *Meum athamanticum* (Spignel) and abundant *Botrychium lunaria* (Moonwort).

As none of these plants had been in the area in recent years, it was hoped that concentrating recording by the individuals attending a field meeting would lead to rediscoveries. The meeting was held jointly with the Glasgow Natural History Society.

The area has, however, changed appreciably since 1880. A reservoir has been created in the south part of the glen and afforestation has taken place in parts of the more upland areas.

Initial recording by the party of nine was carried out in that part of the glen north of the reservoir (NS63 north-east quadrant), that being the area least affected by man-made changes. In the afternoon the party botanised on the east side of the reservoir, some members making diversions up each little feeding burn (south-east quadrant).

None of the above mentioned plants was re-discovered. In the north-east quadrant 142 taxa were recorded. Grasses (12), sedges (10), wood-rushes and rushes (seven), ferns (six) and horsetails (four) made up 39 of the total. In relation to Lanarkshire, the rarest were *Eleocharis quinqueflora* (Few-flowered Spike-rush) and *Cardamine amara* (Large Bitter-cress). The total for the south-east quadrant was 87, 23 of which were accounted for by grasses, etc., as above. The most noteworthy plants were *Ranunculus omiophyllus* (Round-leaved Crowfoot) and *Littorella uniflora* (Shoreweed) while the leader is always pleased to see *Vaccinium oxycoccos* (Cranberry). Thirty five were new quadrant records.

Michael Braithwaite subsequently sent back specimens of Deergrass which he had collected and identified as follows: *Trichophorum cespitosum* subsp. *germanicum* (north-east quadrant) and notho-subsp. *foersteri* (south-east quadrant). This is the first time (to my knowledge) that anyone has attempted to identify Deergrass subspecies in Lanarkshire.

P. MACPHERSON

GREAT ORME, CAERNARFONSHIRE (v.c. 49). 11th June

This was one of the field trips associated with the Wales AGM and about 65 members and 5 leaders assembled at the Summit car park to be welcomed by Sally Pidcock, Warden of the Great Orme Country Park. She explained that the especially good display of flowers was due to the cessation of

sheep grazing about a year ago. Her staff and the Countryside Council for Wales would carefully monitor future changes in the vegetation.

The first stop on the green at Tyn y Coed allowed comparison between *Erodium cicutarium* (Common Stork's-bill) and the much rarer *Erodium moschatum* (Musk Stork's-bill), also four *Geranium* species, including *Geranium rotundifolium* (Round-leaved Crane's-bill) and *G. pusillum* (Small-flowered Crane's-bill). *Torilis nodosa* (Knotted Hedge-parsley) grew along the edge of the green and Jean Green spotted *Trifolium scabrum* (Rough Clover) on the adjacent bank. On a nearby wall-top *Scrophularia vernalis* (Yellow Figwort) had just finished flowering and, after much discussion, a fumitory at the wall-base was named as *Fumaria capreolata* subsp. *babingtonii* (White Ramping-fumitory).

Beneath the cliffs at Ty Gwyn, *Silybum marianum* (Milk Thistle) was just coming into flower and around it grew a hybrid mouse-ear, *Cerastium arvense* × *C. tomentosum*, similar to Snow-in-summer, but with less woolly foliage. The ledges above were full of *Geranium sanguineum* (Bloody Crane's-bill), *Silene nutans* (Nottingham Catchfly), *Hieracium pseudoleyi* (an uncommon hawkweed) and, unfortunately, *Centranthus ruber* (Red Valerian), which may displace some of the native species.

Before entering the woodland at Rofft we admired *Salvia verbenaca* (Wild Clary) where it has been recorded for over a hundred years. Pines formerly planted in the wood include a single *Pinus pinea* (Stone Pine) and *Pinus radiata* (Monterey Pine), with its asymmetrical cones retained on the branches for several years.

On the limestone grassland above the first *Veronica spicata* subsp. *hybrida* (Spiked Speedwell) was just flowering together with *Hypochaeris maculata* (Spotted Cat's-ear), *Hippocrepis comosa* (Horseshoe Vetch) and *Clinopodium acinos* (Basil Thyme). *Polypodium cambricum* (Southern Polypody) was confirmed by Nigel Brown.

Descending the steps into Haulfre Gardens we passed *Neottia nidus-avis* (Bird's-nest Orchid) last seen on the Great Orme in 1983; *Lapsana communis* subsp. *intermedia* (Large Nipplewort) a large perennial nipplewort, which is not native in Britain and *Hieracium grandidens*, an alien hawkweed, abundant on the banks.

After lunch we examined the fruits of *Valerianella carinata* (Keel-fruited Cornsalad), the diagnostic deep groove along one side of the fruit was clearly visible. In the Garden flowerbeds were many *Orobanche hederae* (Ivy Broomrape) on its host, *Hedera helix* subsp. *hibernica* (Atlantic Ivy). Until recently there was an aviary in the Gardens, however evidence remains in the form of crucifers, such as *Sinapis alba* (White Mustard), *Rapistrum rugosum* (Bastard Cabbage) and *Hirschfeldia incana* (Hoary Mustard), giving members a chance to compare the different fruits.

Back onto the limestone slopes to be greeted by the scent of *Rosa rubiginosa* (Sweet-briar), the dark pink flowers just beginning to open. The ledges were bright with *Helianthemum oelandicum* (Hoary Rock-rose) and a range of grasses including both *Helictotrichon pratense* (Meadow Oat-grass) and *H. pubescens* (Downy Oat-grass), also *Bromus* × *pseudothominei* (*B. hordeaceus* × *B. lepidus*) (Lesser Soft-brome) and *Koeleria macrantha* (Crested Hair-grass). We appreciated the efforts made to clear invading aliens, especially *Cotoneaster integrifolius* (Small-leaved Cotoneaster) and *Arbutus unedo* (Strawberry-tree) from taking over and excluding the native flora from these slopes.

On the rocks along the top grew *Marrubium vulgare* (White Horehound), *Genista tinctoria* (Dyer's Greenweed) and another *Valerianella* – *V. eriocarpa* (Hairy-fruited Cornsalad), only recently discovered on the Great Orme.

Finally, on returning to the cars, members drove round the Marine Drive to admire sheets of *Brassica oleracea* (Wild Cabbage) on the cliff ledges and see *Hieracium cambricum* (an endemic Hawkweed) and, of course, *Cotoneaster cambricus* (Wild Cotoneaster).

WENDY McCARTHY & MARTYN STEAD

MALTBY COMMON, SOUTH YORKSHIRE (v.c. 63), 11th June

On a cool, windy day, eight members, joined by three members of Doncaster Natural History Society, attended this most rewarding meeting. Maltby Common is a large area of magnesian limestone displaying a range of habitats from dry slopes and grassland to wet and leached areas. It is a SSSI currently managed in part by the Yorkshire Wildlife Trust. However, as a result of a partnership between the Earl of Scarborough, Rotherham Borough Council, English Nature and the YWT, the whole area will shortly become a local nature reserve, which should be good news.

We first examined a slope dominated by *Bromopsis erecta* (Upright Brome) a delightful grass which accompanied us throughout the day! *Aquilegia vulgaris* (Columbine) made a splash of blue. Here too were leaves of *Parnassia palustris* (Grass-of-Parnassus) in its dry-habitat ecotype, and *Carex caryophyllea* (Spring-sedge). A flat meadow below this slope graduated from base rich to acidic. An abundance of *Silaum silaus* (Pepper-saxifrage) was joined by *Valeriana dioica* (Marsh Valerian), whose basal leaves caused confusion, *Pulicaria dysenterica* (Common Fleabane), a mixture of rushes and even *Nardus stricta* (Mat-grass) and *Calluna vulgaris* (Heather). A good crop of sedges included *Carex viridula* subsp. *oedocarpa* (Common Yellow-sedge), *C. hostiana* (Tawny Sedge), *C. pilulifera* (Pill Sedge), *C. hirta* (Hairy Sedge) and even *C. sylvatica* (Wood-sedge) trapped in the open. A few *Ophioglossum vulgatum* (Adder's-tongue) were spotted before lunch was taken.

A track though woodland yielded *Lithospermum officinale* (Common Gromwell) and a wetland form of Hairy Sedge (*Carex hirta* var. *sublaevis*) which is virtually hairless! Thence to an as yet unmanaged area in danger of scrubbing over with the inevitable birch. It did, however, still have a few *Ophrys insectifera* (Fly Orchid), plenty of *O. apifera* (Bee Orchid) with the near albino var. *chlorantha* and many very large *Platanthera chlorantha* (Greater Butterfly-orchid). Also present were *Gentianella amarella* (Autumn Gentian or Felwort) and *Blackstonia perfoliata* (Yellow-wort). Another part of the common held a good colony of *Astragalus glycyphyllos* (Wild Liquorice) whose leaves proved quite tasty! *Helictotrichon pubescens* (Downy Oat-grass) was flourishing and *Plantago media* (Hoary Plantain) was in the pink of condition and nearby were the leaves of *Hypericum montanum* (Pale St John's-wort). Finally, one huge and one smaller specimen of *Sorbus torminalis* (Wild Service-tree) were relocated, having first been found in a search for shelter one rainy day, a problem we somewhat unexpectedly did not have!

We were very grateful to Mr & Mrs Griffith for their patient and informed tour of this splendid site.

GRAEME M. KAY

EAST NORFOLK (v.c. 27), EAST SUFFOLK (v.c. 25), 17th–18th June

27 members and 5 guests attended either or both days of the meeting whose primary purpose was to study grasses. A wet May ensured the vegetation was in superb condition and the sunny weekend provided ideal conditions for its study.

We met first at Brewers Green, Roydon, Diss (v.c. 27), an old grazing common of neutral to basic loam where many common grasses flourish. The leader began by outlining the essential features of a typical grass inflorescence using previously gathered *Anisantha diandra* (Great Brome), widespread and common in much of East Anglia. Brewers Green and a nearby roadside were then explored and yielded 16 species examined in detail, including the comparative pairs *Glyceria fluitans* (Floating Sweet-grass) / *G. notata* (Plicate Sweet-grass) and *Alopecurus pratensis* (Meadow Foxtail) / *A. geniculatus* (Marsh Foxtail). An interesting diversion was the rediscovery of *Ophioglossum vulgatum* (Adder's-tongue) from a site where it was thought to have vanished.

The next venue was Wortham Ling (v.c. 25), an acid heathland with small areas of exposed chalk, now an SSSI. Generic pairs here were *Helictotrichon pubescens* (Downy Oat-grass) / *H. pratense* (Meadow Oat-grass), *Festuca ovina* (Sheep's-fescue) / *F. filiformis* (Fine-leaved Sheep's-fescue), *Aira*

praecox (Early Hair-grass) / *A. caryophyllea* (Silver Hair-grass) and *Agrostis vinealis* (Brown Bent) / *A. capillaris* (Common Bent). *Briza media* (Quaking-grass) and *Koeleria macrantha* (Crested Hair-grass) were attractive species in basic spots where *Ophrys apifera* (Bee Orchid) and *Trifolium glomeratum* (Clustered Clover) were also found.

After lunch we moved to Wortham Long Green (v.c. 25) where, in strongly acid damp grassland, *Agrostis canina* (Velvet Bent), *Nardus stricta* (Mat-grass) and *Danthonia decumbens* (Heath-grass) were added to the list. However, of greatest interest here, close to the road, was an enormous plant of *Festuca rubra* subsp. *megastachys* (Red Fescue), 134cm tall, which, on account of its height and size, was initially mistaken for *F. arundinacea* (Tall Fescue). Much photographed, in a less acid place, were handsome plants of what was thought to be *Dactylorhiza* × *grandis* (*D. fuchsii* × *D. praetermissa*) (hybrid between Common Spotted-orchid and Southern Marsh-orchid).

We then travelled to West Harling Heath in West Norfolk (v.c. 28) to see Breckland grasses, and were rewarded by *Apera interrupta* (Dense Silky-bent) and *Phleum phleoides* (Purple-stem Cat's-tail), together with other Breckland plants including *Silene conica* (Sand Catchfly), *S. otites* (Spanish Catchfly), *Legousia hybrida* (Venus's-looking-glass) and *Minuartia hybrida* (Fine-leaved Sandwort).

The day ended at Redgrave and Lopham Fen Visitors' Centre (v.c. 27) where facilities were available for examining the day's haul, plus welcome tea/coffee. A short walk in the fen produced *Calamagrostis canescens* (Purple Small-reed) plus splendid views over this National Nature Reserve.

Sunday was spent at Felixstowe (v.c. 25), beginning on young dunes among beach huts where we saw, among others, *Catapodium marinum* (Sea Fern-grass), *Festuca arenaria* (Rush-leaved Fescue), *Elytrigia juncea* subsp. *boreoatlantica* (Sand Couch) and *E.* × *obtusiuscula*, its hybrid with *E. atherica* (Sea Couch). We then moved to Landguard Local Nature Reserve, an area of stabilised dune and shingle, partly colonised by tall grasses such as *Arrhenatherum elatius* (False Oat-grass) with the rest consisting of rabbit-grazed short turf. Many uncommon species grow there and our grass list included *Cynosurus echinatus* (Rough Dog's-tail), *Parapholis incurva* (Curved Hard-grass), *P. strigosa* (Hard-grass), *Vulpia fasciculata* (Dune Fescue), *V. ciliata* subsp. *ambigua* (Bearded Fescue), *Puccinellia fasciculata* (Borrer's Saltmarsh-grass), *Bromus commutatus* (Meadow Brome) and *Anisantha madritensis* (Compact Brome). Particularly useful was the opportunity to compare *Elytrigia repens* subsp. *repens* (Common Couch), *E. atherica*, *E. juncea* subsp. *boreoatlantica* and two of their hybrids, *E.* × *oliveri* and E. × *obtusiuscula*, four *Vulpia* spp. and three *Puccinellia* spp..

In the afternoon, Paul Holmes, the Landguard Ranger, welcomed us to the Bird Observatory where we saw *Poa compressa* (Flattened Meadow-grass) and were provided with much appreciated refreshment. Study facilities were available, but all preferred to continue botanising on such a glorious afternoon. Paul showed us infant *Chenopodium vulvaria* (Stinking Goosefoot) in its specially prepared compound, and among our more interesting non-grass discoveries were *Trifolium scabrum* (Rough Clover), *T. suffocatum* (Suffocated Clover), *Lathyrus japonicus* subsp. *maritimus* (Sea Pea), *Ranunculus parviflorus* (Small-flowered Buttercup), *Carex divisa* (Divided Sedge), *Lathyrus nissolia* (Grass Vetchling), *Hypochaeris glabra* (Smooth Cat's-ear), *Crambe maritima* (Sea-kale) and *Hyoscyamus niger* (Henbane). Several members expressed pleasure at seeing *Lepidium latifolium* (Dittander), but it is such an aggressive invader on the reserve that annual control is necessary to ensure the survival of smaller species.

Thanks are due to Nick Collinson of the Suffolk Wildlife Trust who arranged consent from English Nature for collecting on the SSSIs, Carrie Kerry, the Development Officer at Regrave and Lopham Fen, and Paul Holmes at Landguard for providing study facilities and refreshment.

In all, 74 grass taxa were recorded over the weekend and an annotated list has been circulated to participants. Copies are available free from the leader to other interested members on receipt of a stamped, self-addressed A5 size envelope.

ARTHUR COPPING

HATFIELD FOREST, HERTFORDSHIRE (v.c. 20) 24th June

There was a breathless hush in Hatfield Forest car park at 10.30 am on Saturday, 24th June, occasioned by the arrival of an eccentrically dressed, bespectacled, bearded and moustached gentleman of indeterminate age (beards conceal) wearing brown trousers tucked into green wellies, a brown jacket over a red shirt and a red pullover all topped by an almost maroon felted trilby. His copy of his book *The Last Forest*, his waterproofs and picnic lunch concealed in a brown striped bag, with drawstring, slung across one shoulder. Thus Dr Oliver Rackham announced himself before ushering us into an unimpressive *Cynosurus cristatus* (Crested Dog's-tail) dominated pasture, dotted with pollarded *Carpinus betulus* (Hornbeam). Any nascent doubts we had, soon gave way to admiration as he expounded on all aspects of the Forest for half an hour or more, his restless, keenly intelligent eyes commanding attention. He began with a definition of a forest as a place for deer (at first the King's) not necessarily a place for trees. Indeed, Hatfield Forest has consisted of coppices and plains for at least 800+ years. At this point, may I say that what the people at the back of the circle would have heard was something like this:

> Hatfield Forest was . . .*[deafening ROAR]* . . . divided into . . . *[deafening ROAR]* surrounded by . . . *[ROAR]* . . . of which eleven survive.

Dr Rackham hardly needed to tell us that the wartime-constructed airfield had been converted into Stansted Airport in 1955. What the inner circle heard was that formerly the Forest had 17 coppices, real woodland, surrounded by an earthwork and each year one of these would be coppiced. It would then be fenced for nine years to prevent the cattle eating the re-growth. There are only eleven coppices today and cover over half the area of the forest. The plains are grazed by cattle and fallow deer, though in the past sheep, goats, horses and geese shared the pasture. The plains are dotted with scrubs, small thickets of hawthorns and young trees with ancient trees in their midst. The hawthorns preserved the trees from the attention of grazing animals. The plains also held a rabbit warren and two lodges, we were to see later.

The substrate of the Forest was a chalky, boulder-clay, except for the sand and gravel along the Shermore Brook. A marsh (fen) bordered the brook, in one place, and below this is a considerable lake. The trees of the plains are pollarded at 8-12 feet every 18 years, though this has varied. Both coppiced and pollarded trees live longer than uncut ones and the process provides timber for housing, fences, gates, hurdles, firewood. etc. Trees need to be over 300 years old to provide the full benefits to wildlife and some of the insects using different aspects of the trees are Red Data species.

Dr Rackham rattled through past owners of the Forest including Robert the Bruce, the Duke of Buckingham, Henry VIII, the infamous Lord Rich, the wickedest Englishman, the Houblons, admired by Rackham for the admirable way they had discharged their duties to the property, and finally in 1924 The National Trust, when Edward North Buxton bought most of the Forest and presented it to the Trust and Major Archer Houblon contributed the rest.

We were told of pannage, where pigs, for a fee, were allowed to gorge on acorns from October to mid November before being slaughtered, salted and hung up on many a cottage wall to supplement the villagers Winter diet. The Fallow deer, the *raison d'être* for Hatfield Forest were introduced from the Near East over 800 years ago to provide venison for various kings and later diverse owners. The Warren consists of 17 pillow-mounds, 49 to 155 feet long and over 30 feet wide and two and a half to four and a half feet high and surrounded by ditches to make it easier for the delicate mediaeval rabbits, imported from the Mediterranean lands, to burrow and thus escape the worst effects of the British Winter, and possibly to facilitate their capture.

We set off across the pasture, which gradually improved to provide us with more interesting plants, the first was *Cynoglossum officinale* (Hound's-tongue) at the foot of a tree, a small number of *Ophrys apifera* (Bee Orchid), *Anacamptis pyramidalis* (Pyramidal Orchid) but better still a patch of *Trifolium ochroleucon* (Sulphur Clover) a mainly Eastern England plant and on the bank around the coppice two roses *Rosa micrantha* (Small-flowered Sweet-briar) and *R. rubiginosa* (Sweet-briar) needing some sun to give us the full value of their delightful fragrance. At this point a substantial iron post was drawn to

our attention as it is the only one left as the rest had been removed, no-one realising the importance of fencing, at the time of removal.

We entered Dowsett's Coppice, and peered under the trees to see how the deer had cropped the lowest foliage to create a horizontal lower foliage level at deer head height. We stopped at eight wantz (a junction of eight paths) to view some exotic plantings, *viz.* five *Pinus nigra* (Austrian Pine). *Juglans nigra* (Black Walnut) was pointed out nearby and *Castanea sativa* (Sweet Chestnut) was mentioned as other examples of the nineteen century craze. We then diverted into the wood to see what was left of the earlier flowering *Primula elatior* (Oxlip) another species confined largely to Essex's woodlands. A number of rosettes of leaves were found and one inflorescence remains, bearing a single fruit.

After examining the Warren, Dr Rackham found the site of the Doodle oak, a huge pot-bellied beast, one of two or three of the stoutest trees ever measured in England, doodle could mean 'shaped like a bagpipe'. We actually peered up into another towering oak near the shell house. It tapered like a lighthouse to 25 feet where it divided into eight branches, each the size of a normal oak tree. It also contained a solid wood gall six feet across. It still didn't compare to the largest oak ever known in Britain – the Golynos Oak – that grew in Monmouthshire on the site of the clubhouse of Newport Golf Club. I wouldn't dream of letting national pride tell you that this five century-old tree was sacrificed in 1810 to supply timber for the British Navy for 100 guineas, taking five men twenty-one days to prepare and bring it down and 12 sawyers a remarkable 138 days continuous labour to convert it to timber with a saw made up of two of the longest saws brazed together to deal with the nine and a half feet trunk diameter or that it yielded three tons of bark, much of it three inches thick, and 2,426 cubic feet of timber valued at £600 or that its roots were purchased for a further 100 guineas by a Bath cabinet maker. So I won't.

At lunch time, Dr Rackham read extracts from his book to illustrate the fact that though tales of people being hanged for stealing a sheep were rife he could find no really punitive punishments being imposed in the history of Hatfield Forest. In the cases that came to court only minor fines were imposed. In the proceedings read out accused perpetrators and witnesses were often absent because they were dead. It did take 15 to 20 years for cases to arrive at court.

The fen yielded the sedges *Carex acutiformis* (Lesser Pond-sedge), *C. nigra* (Common Sedge), *C. ovalis* (Oval Sedge), *C. disticha* (Brown Sedge) and *C. hirta* (Hairy Sedge), *Isolepis setacea* (Bristle Club-rush), *Oenanthe fistulosa* (Tubular Water-dropwort), *Dactylorhiza incarnata* (Early Marsh-Orchid) but better still *Blysmus compressus* (Flat-sedge). The pool held *Ceratophyllum demersum* (Rigid Hornwort) and the duckweeds *Lemna trisulca* and *L. minuta*.

On the gravelly banks of another pasture we sought *Ranunculus parviflorus* (Small-flowered Buttercup), unsuccessfully, as it was way past its season, and *Moenchia erecta* (Upright Chickweed), the remains of which some enthusiasts with noses to turf discovered, I was still disinclined to dance in joy.

The lake's bank was graced by *Carex pseudocyperus* (Cyperus Sedge), *C. otrubae* (False Fox-sedge) and *Sparganium erectum* (Branched Bur-reed). We were shown a hybrid sedge, by one of the party, purporting to be a hybrid between *Carex otrubae* and *C. remota* but I must say I remain extremely sceptical because there seemed to be a complete absence of *otrubae* characteristics.

From listening to Dr Rackham and having now read his book it is obvious that Britain's oldest Forest has suffered from the fashions in conservation – 'the do nothing phase', the 'pollards are unnatural' phase, the 'thinning phase', the 'plant trees anywhere' phase, the 'open up the woods phase', that produced the bulldozed broad swathes of 'motorways' through the Forest; the 'improve with exotics by mistaken beautifiers period' and pressure to change the natural pasture to be like the neighbouring farmland where the STYLE OF IMPROVEMENT HAS REACHED ITS NADIR. This crib from the book deserves to be capitalised.

The National Trust has a management plan now that is paying due attention to the details of the historic fabric of the Forest thanks to the present warden and his advisers. Pollarding and coppicing have been resumed, coppiced areas are adequately fenced against cattle and the grazing regime is about right for the grassland, which is slowly returning to its natural state. From the botanic point of view – it has potential.

One plea: Parties of 30+ are too big for a guided tour. Though the combination of the LNHS and the BSBI produced a friendly atmosphere, either body could have provided adequate attendance with such a well-known leader.

Thank you Dr Rackham for an informative, interesting and humorous introduction to Hatfield Forest, and for providing such a jolly good read!

TREVOR EVANS

SWYNNERTON ARMY TRAINING AREA, STAFFORDSHIRE (v.c. 39). 24th June

Nineteen attended this meeting: they were warned on arrival to drive on the right to the allocated car park, for the site is also used by military units from other countries where this is the norm. The Conservation Officer, Capt. (Retd.) John Sibson, gave a safety briefing and a potted history of the site. It covers about 4km^2 and started life as a giant munitions factory, where thousands of workers filled bullets and shells with explosive powder during the Second World War. To avoid casualties from any accidental detonation, many small isolated buildings were used and the foundations of some of these are still visible.

Four groups started at different parts of the site and each moved through about half of the total area. An unexpected feature, noted by three of them, was the occurrence of frequent patches of *Lepidium heterophyllum* (Smith's Pepperwort), with some *L. campestre* (Field Pepperwort), whilst one came across a little *L. latifolium* (Dittander). All are very uncommon in Staffordshire. More familiar in various ex-industrial areas in the vice-county is *Dactylorhiza* × *grandis* (*D. fuchsii* × *D. praetermissa* (a hybrid marsh-orchid) which was found occasionally, with its parents (Common Spotted- and Southern Marsh-orchids) more frequent. *Ophrys apifera* (Bee Orchid) and *Ophioglossum vulgatum* (Adder's-tongue) were welcome discoveries and a white form of *Prunella vulgaris* (Selfheal) was much in evidence. Perhaps the most exciting find of the day, in a damp grassy area, was *Juncus compressus* (Round-fruited Rush): only the third v.c. record since 1975.

Capt. Sibson's help was much appreciated. He moved between the various groups during the day to check that they had encountered no difficulties with the terrain or the units using the Training Area. The latter were, in fact, particularly friendly. We are also very grateful to the Commandant, Col. (Retd.) J. Egan who kindly gave permission for the visit and through whom all the preliminary arrangements were made.

313 taxa were recorded for tetrad SJ8433, in which most of the Training Area is located. A small portion spills into SJ8232. This was visited, fairly briefly, by one group which resulted in a count of 106.

JOHN HAWKSFORD

COLE MERE, SALOP (v.c. 40). 1st July

Cole Mere is a glacial groundwater-fed lake, owned and managed by Shropshire County Council. There is little fringing vegetation, but there is a considerable amount of woodland and wet grassland, which made for a good day's botanizing. Twenty people turned up in spite of the dreadful forecast and we had an excellent time recording. The south-east shore yielded *Callitriche hermaphroditica* (Autumnal Water-starwort) in abundance together with *Zannichellia palustris* (Horned Pondweed). The wet meadow was particularly rich, with *Cirsium dissectum* (Meadow Thistle) in its only Shropshire site, plus an extremely large *Carex nigra* (Common Sedge) which caused a lengthy debate. After lunch we braved the alder carr to find *Carex elongata* (Elongated Sedge), after a battle with extremely persistent mosquitoes and very deep mud, and then we searched the margins for a glimpse of the

elusive *Nuphar pumila* (Least Water-lily), in its only English site. What was alarming was the discovery of the hybrid *N.* × *spenneriana* between this and *Nuphar lutea* (Yellow Water-lily) also present at the site. The hybrid was confirmed by John Day who has had extensive experience of both species and the hybrid in Scotland, and we collected several leaves and stigmatic disks which had been washed ashore. Although the hybrid is a first county record for Shropshire, it can be very invasive and there is more likelihood of losing *N. pumila* from the site due to hybridisation, than due to habitat degradation.

We started the day with a list of existing records for the site from the Shropshire Flora database and we added an amazing thirty seven new species to the site list, ranging from the rather mundane *Capsella bursa-pastoris* (Shepherd's-purse) to the rather more interesting *Campanula latifolia* (Giant Bellflower) and *Viola palustris* (Marsh Violet). And of course what day's botanizing would be complete without an ecological red herring, *Polemonium caeruleum* (Jacob's-ladder), not extending the known range at all, but probably having hopped over a nearby fence.

SARAH J. WHILD

ELAN VALLEY MEADOWS, RADNORSHIRE (v.c. 43) 8th July

The Elan Estate near Rhayader was purchased by Birmingham Corporation in 1892 to create the Elan Valley Reservoirs. The catchment of the reservoirs continued to be farmed by tenant farmers and commoners with certain stocking restrictions. The altitude and high rainfall (c. 2000 mm) limited the agricultural usage to mostly sheep farming with a few cattle. The hardy Welsh mountain sheep in the past saw little in the way of supplementary feed stuffs. Indeed even in prolonged snow it was often difficult to get them to accept hay and then they showed a distinct preference for hay rich in herbs and indigenous grasses. Only of late have they been converted to the dubious delights of silage. This meant that many of the traditional species-rich hay meadows survived into an era when conservation designations such as SSSI and ESA were able, at the very last moment, to provide the financial inducement to rescue them from the brink of oblivion.

A small but very select band of BSBI members met to examine the recovery of two major sets of meadows. Thanks to the full co-operation of the tenant at Troedrhiwdraen his one time move to increased grass production by the use of artificial fertilisers has been halted and hopefully reversed. Now only light applications of farmyard manure are used. Even on a dull morning with most composite flowers still closed they were a botanical spectacular. Attention was paid to the differences in species composition between the once fertilised and hay cut areas from the peripheral banks, left uncut and unfertilised. The latter provided the major refuge for *Vicia orobus* (Wood Bitter-vetch), *Platanthera chlorantha* (Greater Butterfly-orchid), *Gymnadenia conopsea* subsp. *borealis* (Fragrant Orchid), *Dactylorhiza maculata* (Heath Spotted-orchid), *Carex pallescens* (Pale Sedge) and *Centaurea nigra* (Common Knapweed), whilst the cut areas favoured *Rhinanthus minor* (Yellow-rattle), *Trifolium dubium* (Lesser Trefoil) and *Euphrasia rostkoviana* (Eyebright). *Euphrasia arctica* subsp. *borealis* occurred along the track edges and also in wet flushes where it was found with *Narthecium ossifragum* (Bog Asphodel) and a range of sedges. Pete Jennings, the Head Ranger of the Elan Estate, was able to review their recent management of the fields. *Trollius europaeus* (Globeflower) had apparently increased in quantity and vigour in the *Molinia caerulea* (Purple Moor-grass) dominated flushes following a reduction in sheep and increase in cattle grazing. We were fortunate to see the last few flowers of the year. Diligent search of the flushes by Julian Woodman and Arthur Chater produced records of *Trichophorum cespitosum* subsp. *cespitosum* × subsp. *germanicum* (Hybrid Deergrass) and the hybrid between *Carex hostiana* (Tawny Sedge) and *C. viridula* subsp. *oedocarpa* (Yellow Sedge).

Returning to the cars a pasture was briefly examined which had throughout its few hectares thousands of *Viola lutea* (Mountain Pansy) flowers amongst a purple carpet of *Prunella vulgaris* (Selfheal). The failure of the SSSI system to include this pasture was debated.

The latest SSSI in the Elan Valley at Hirnant Farm was visited in the afternoon. Rising to 390 m, these are some of the highest hay meadows in Mid Wales. Their chequered history was reviewed. Whilst a candidate SSSI in 1988 they had mostly been ploughed up but possibly not reseeded. Subsequently entered into the Environmentally Sensitive Areas scheme, by 1999 such species diversity had returned, that in early 2000 they were notified as SSSI's. What they lacked in scarce species (though 3 spikes of *Dactylorhiza praetermissa* (Southern Marsh-orchid) were found by Julian Woodman new to this part of Radnor) they made up for in spectacle. Never had any of us seen such a flowering of *Leontodon hispidus* (Rough Hawkbit) whose sun-yellow flowers stretched as a carpet in every direction. *Trisetum flavescens* (Yellow Oat-grass) was also a surprisingly frequent component of the sward.

With the current farm tenancy drawing to an end, grazing pressure appeared to have been relaxed on other nearby fields and the opportunity was taken to examine these. They were also wonderfully species rich and of no lesser quality than the SSSI fields. As the weather closed in we reluctantly returned to our cars and collected our thoughts on the day and compared notes of our experiences across Wales. Both Pete Jennings and I were left in no doubt as to how important these meadows now were in a Welsh landscape largely dominated by rye-grass fields, and the responsibility on us to continue to work with the Elan Trustees, the estate tenants, CCW and the ESA to ensure their survival.

RAY G. WOODS

UPPER TEESDALE (v.c. 66) 8th–9th July

This weekend course was attended by some thirty people and for the most part was successful, although it got off to a bad start: unfortunately Dr Margaret Bradshaw was laid low with influenza. As a major part of the weekend was to look at *Alchemilla* spp. (Lady's-mantles), the loss of our acknowledged expert was quite a blow!

Luckily, the remaining leader, Alec Coles, had been primed by Dr Bradshaw so a Saturday walk began at Bowlees where unsurprisingly *Alchemilla mollis* (!) was spotted in the garden of the Durham Wildlife Trust's visitor centre, but more interestingly, next to it was what appeared to be a cultivated *A. subcrenata*.

Luxurious growth of *Chenopodium bonus-henricus* (Good-King-Henry) beside the walls along with *Myrrhis odorata* (Sweet Cicely) and *Cirsium heterophyllum* (Melancholy Thistle) provided an appropriate example of a typical Upper Teesdale roadside verge. However, the leader was forced to point out the continuing loss of verges in the Dale through overzealous road verge trimming and non-native planting of verges in the villages.

Into the hay meadows *en route* to Winch Bridge *Alchemilla acutiloba* was found to the north of the path, while to the south, a single plant of *A. monticola* was identified. Crossing Winch Bridge itself (into v.c. 65) is still a thrilling experience and the precarious crossing is rewarded by the first views of *Potentilla fruticosa* (Shrubby Cinquefoil) albeit at a distance.

The riverside at Winch Bridge and north to Low Force rewards the visitor with a wonderful flora which includes *Antennaria dioica* (Mountain Everlasting), *Gymnadenia conopsea* (Fragrant Orchid), *Platanthera chlorantha* (Greater Butterfly-orchid) and *Gentianella campestris* (Field Gentian) and some real Teesdale specialities such as *Equisetum variegatum* (Variegated Horsetail) and *E. pratense* (Shady Horsetail), *Persicaria vivipara* (Alpine Bistort), and *Galium boreale* (Northern Bedstraw). The *Euphrasia arctica* subsp. *borealis* (Eyebright) took a little longer to run down. Those souls who braved the uneven terrain of the dried river bed were rewarded with profuse *Potentilla fruticosa*, a small stand of *Melica nutans* (Mountain Melick), and probably the last *Trollius europaeus* (Globeflower) of the season in flower.

Needless to say it was the more mundane taxa that caused the problems – was the *Salix phylliciifolia* (Tea-leaved Willow) a good species, or hybrid (the species)? Was the *Betula pubescens* (Downy Birch) subspecies *tortuosa* (probably . . .)? And most embarrassingly was that immature sedge really just *Carex viridula* subsp. *oedocarpa* (Common Yellow-sedge)? (I am afraid so!).

The prize for monstrosity of the day went to dactylorchids that appeared to be the hybrid *Dactylorhiza* × *venusta* (*D. fuchsii* × *D. purpurella*), some of which were nearly a metre tall, and in full flower.

Afternoon tea was taken amongst the Juniper wood on the way to the impressive Holwick Scars where *Cryptogramma crispa* (Parsley Fern) is present in profusion and *Rumex longifolius* (Northern Dock) was spotted by the roadside.

Returning to the river, *Alchemilla subcrenata* was located in the hay meadows. The woodland walk back finished with *Alchemilla wichurae* – the smallest and most beautifully formed specimen of the day with its many fine, connivent teeth. Also present was *Euphrasia confusa* – the leader was getting carried away with critical groups at this stage – and *Rumex* × *hybridus* (the hybrid between *R. longifolius* (Northern Dock) and *R. obtusifolius* (Broad-leaved Dock).

If the Saturday had been species rich with good weather, Sunday at Cow Green, however, conformed to type with foul weather and much foot-slogging. Those who could keep the rain out of their eyes managed to convince themselves that the *Viola* leaves in the well grazed sward were indeed *V. rupestris* (Teesdale Violet), and there was much agonising over non-flowering *Sagina / Minuartia*. Alas, *Minuartia stricta* (Teesdale Sandwort) was not found despite an intensive search at its station at Red Syke, on Widdybank Fell. A number of species were seen, however, including *Carex capillaris* (Hair Sedge) in profusion, *Kobresia simpliciuscula* (False Sedge) and, of course, *Gentiana verna*, (Spring Gentian) albeit fruiting.

A very wet lunch at Cauldron Snout was enlivened by the leader hanging off the cliff hoping to establish the occurrence of *Arctostaphylos* (Bearberry), only to find the plant was a poorly formed flower of *Vaccinium vitis-idaea* (Cowberry)! The walk below Falcon Clints was extremely hard going in places, and the ring ouzels seemed to be laughing at us, but the copious *Saxifraga aizoides* (Yellow Saxifrage) was some compensation.

As we passed Widdybank Farm, the rain stopped, the sun came out and a final stop at Cetry Bank, beside the Tees, provided another excellent sward, this time with our first view of *Bartsia alpina* (Alpine Bartsia).

The improved weather made the walk back to Langdon Beck that much easier, and some cunning car-sharing meant that at least there was no walk necessary up to Cow Green.

Teesdale had retained a few of its secrets, but we had seen a good number of species, and managed to record a good range of Alchemillas – and it had only rained on one of the two days!

ALEC COLES

RUBUS MEETING, ABERGAVENNY, MONMOUTHSHIRE (v.c.35) 14th–16th July

On the Friday evening ten members assembled for Mike Porter's *Rubus* weekend. After enjoying refreshments at St Mary's Community Centre in Abergavenny we visited Caer Wood (SO3216) to the north of the town. *Rubus* species seen included *R. dentatifolius*, *R. echinatoides*, *R. rufescens*, *R. troiensis*, *R. ariconiensis*, *R. pictorum* and *R. vagensis*. The surprise find of the evening was *R. boraeanus*, a species with strong populations about Plymouth and in Norfolk but with only scattered populations occurring elsewhere within the southern half of Britain.

On the Saturday we toured the Brecon Beacons (v.c. 42) beginning with a visit to Penrhos plantation (SN9724). Species along the forest ride included *R. altiarcuatus*, *R. prolongatus*, *R. bartonii*, *R. moylei* (the South Wales form with cuneate leaflets), *R. hibernicus*, *R. hylocharis*, *Filago minima* (Small Cudweed) and *Carex laevigata* (Smooth-stalked Sedge) whilst by the main road we saw *Rubus morganwgensis*. After a brief stop south of Defynnog (SN9326) to see *R. acclivitatum* and *R. babingtonii* we moved on to the valley north of Cwmgiedd (SN7812) to see *R. incurvatus*, *R. leyanus*, *R. flexuosus* and the local endemic *R. gallofuscus*. Lunch was taken at Ystradgynlais (SN7909) where we viewed *R. tavensis* close by to the type locality for this species. Onward then to a moorland lane at Cefngwaunhynog to see *R. silurum*, *R. septentrionalis*, and two undescribed plants

referred to as 'A. Ley's robustus' and 'false prolongatus'. At our final stop at Bronwydd (SN8909) after admiring a carpet of *Anagallis tenella* (Bog Pimpernel) we were shown what is probably a unique association of bramble species *R. arrheniiformis*, *R. robiae* (a very rare bramble in Wales), *R. hibernicus*, *R. adenoleucus* (some distance from northern France) and a regional undescribed species referred to as 'the South Wales false pyramidalis'. On leaving the forestry area we passed through unimproved meadows with an abundance of *Carum verticillatum* (Whorled Caraway) in bloom. On the Sunday (accompanied by Trevor Evans) we toured some of the classic *Rubus* locations of Monmouthshire. Meeting at the north end of Trelleck Hill (SO5007) to see *R. pallidisetus* and the 'Beacon Hill serpens' we then visited Vicars Hall Allotment to the south (SO5006) for local specialities including *R. trelleckensis*, *R. dasycoccus*, *R. angusticuspis*, *R. fuscicaulis*, 'false macrophylloides' and *Cyperus longus* (Galingale) naturalised by a heathland pond. Brief stops were made at Beacon Hill (SO5105) to see *R. purchasianus* and at Cotland (SO5104) for type material of *R. halsteadensis* W.C.R. Watson. Our final stop was at Chepstow Park Wood (ST5098). This area has clearly been wooded for a considerable length of time with several north-west European ancient woodland indicator species present including *R. flexuosus*, *R. insectifolius* and *R. scaber*. There were more plants of 'Beacon Hill serpens' together with some other very intriguing unnamed plants. For the grand finale we admired the magnificent leaves and panicles of *R. cavatifolius*, a splendid finish to Mike Porter's most memorable weekend of Welsh batology.

DAVE EARL

LLYN FANOD AND LLYN EIDDWEN, CARDIGANSHIRE (v.c. 46) 15th July

Twenty members met at Llyn Fanod on the Mynydd Bach to explore these two mesotrophic natural lakes at about 300 m. a.s.l. Both are in SSSIs and are reserves of the Wildlife Trust West Wales, and we had with us the Reserves Officer Lin Gander and the Honorary Warden, Andrew Agnew. Llyn Eiddwen is in addition a National Nature Reserve. In the northern part of Llyn Fanod where the substrate is stony, there was a remarkable abundance of *Subularia aquatica* (Awlwort) in fruit, patches of *Elatine hexandra* (Six-stamened Waterwort) glowing emerald-green on the bottom, *Lobelia dortmanna* (Water Lobelia) in flower, non-flowering *Littorella uniflora* (Shoreweed) and *Isoetes echinospora* (Spring Quillwort). We grappled *Nitella translucens* (Translucent Stonewort) from deeper water. The southern part of the lake has a muddy and peaty substrate and merges into swamp, and here *Nymphaea alba* (White Water-lily) was abundant in its only extant native site in the county, growing with *Nuphar lutea* (Yellow Water-lily). The few plants of *Luronium natans* (Floating Water-plantain) seen were mostly past flowering, but we saw one open flower.

After lunch we moved to Llyn Eiddwen, a slightly less mesotrophic lake. In shallow water at the north end we saw *Equisetum* × *dycei*, the hybrid between *E. fluviatile* (Water Horsetail) and *E. palustre* (Marsh Horsetail). Although *Subularia* is in most years more abundant here than in Llyn Fanod, we saw none at all, and there was less *Luronium* than usual. The *Isoetes* present seemed to be all *I. lacustris* (Quillwort). The water level was lower than in Llyn Fanod, and we found *Littorella* flowering on the shore and were able to see the very inconspicuous female flowers at the base of the scape as well as the prominent stamens. The offshore fringe of flowering *Lobelia* was a striking feature. We explored rather precariously the encroaching swamp at the south-west end of the lake, and found *Dactylorhiza incarnata* subsp. *pulchella* (Early Marsh-orchid), *D. maculata* (Heath Spotted-orchid) and *Platanthera bifolia* (Lesser Butterfly-orchid), none of which had been seen here in previous years. Walking back to the cars across the blanket mire above the lake we saw *Juncus effusus* (Soft-rush) and *J. conglomeratus* (Compact Rush) accompanied by their hybrid, *J.* × *kern-reichgeltii*, *J. foliosus* (Leafy Rush) on the muddy path, and flushes with *Triglochin palustre* (Marsh Arrowgrass) and *Pedicularis palustris* (Marsh Lousewort).

ARTHUR CHATER

HEXHAM, NORTHUMBERLAND (v.c. 67). 28th–30th July

Hexham lies on the River Tyne downstream from most of the shingles beside the River South Tyne which were polluted by heavy metals resulting from Pennine mining in the 19th and early 20th centuries. Upstream sites tend to be more open, acidic, lead-rich and toxic, while downstream sites are less acidic and more zinc-rich. Many downstream sites have become overgrown by scrub and forest over the last 30 years, so that metallophytes become hard to find, although even plants such as *Thlaspi caerulescens* (Alpine Penny-cress) and *Armeria maritima* (Thrift) can persist in quite dense shade. Sites in the earlier stages of colonisation by birch provide excellent habitats for *Epipactis dunensis* (Dune Helleborine) and the study of the Tyne Valley *Epipactis* formed one of the foci for the weekend.

This proved a very popular meeting and 33 members met in Hexham Community Centre on Friday evening, where they survived a talk on the finer points of *Epipactis* identification in stifling conditions. Participants brought in several interesting specimens gathered the previous afternoon including *Galium* × *pomeranicum* (*G. verum* × *G. mollugo*) (Hybrid Bedstraw) gathered close to the Roman Wall and *Bromus secalimus* (Rye Brome), a probable first 20th century record for v.c. 67, in Haydon Bridge.

On Saturday morning, after car-sharing arrangements had been engineered at the Tyne Green Country Park in Hexham, the party transferred to the Stonecroft Mine, Settlingstones. Originally a lead mine, and worked for Witherite as recently as 1960, this large wooded site is privately owned and of restricted access. It is currently the premier English site for *Epipactis youngiana* (Young's Helleborine) and about 80 individuals were seen in three distinct areas, although few were yet in full flower in a late season. This is also the northernmost reliable site for *E. phyllanthes* var. *pendula* (Pendulous Helleborine) and in a good year upwards of 150 can occur, although our total did not exceed 50. *E. phyllanthes* often grows close to *E. youngiana* and *E. helleborine* (Broad-leaved Helleborine), but typically under hazel, not birch, on less polluted, brown-earth soils. Good colonies of *Pyrola minor* (Common Wintergreen) in full flower were also admired, while *Dactylorhiza purpurella* (Northern Marsh-orchid) in fruit provided interest for some southerners! One small colony of *Thlaspi caerulescens* occurs on lead spoil and the Witherite mine sorting floor carries a good population of *Minuartia verna* (Spring Sandwort).

We then proceeded some 35km south-west to the upper reaches of the South Tyne valley, close to the border with v.c. 70. For many the later stage of the journey was enlivened by the great stands of *Rumex longifolius* (Northern Dock) and *Cirsium heterophyllum* (Melancholy Thistle) by the roadsides. Williamston Northumberland Wildlife Trust (NWT) Reserve includes perhaps the best example of the upstream gravels and good populations of *Armeria maritima*, *Thlaspi caerulescens*, *Minuartia verna*, *Viola lutea* (Mountain Pansy) and *Cochlearia pyrenaica* (Pyrenean Scurvygrass) were examined, together with *Salix myrsinifolia* (Dark-leaved Willow) on unpolluted ground beside the river. However, the attention of most participants concentrated on *Epipactis dunensis*. In an exceptional year, more than 500 individuals were seen in a wide variety of habitat types, in some of which the influence of toxic metals seemed minimal at best.

For our final venue we visited open gravels close to the county border at Underbank. Here, gravels more than 100 years old lie close to the river channel which has cut less deeply in intervening years than is the case further downstream. In rich, but open plant communities, all the metallophytes listed above occur, together with more than 50 other species which include *Euphrasia scottica* (Scottish Eyebright), *Parnassia palustris* (Grass-of-Parnassus), *Sanguisorba minor* (Salad Burnet), *Polygala vulgaris* (Common Milkwort) and a mysterious 'blue' fescue with setaceous leaves and a shortly creeping habit, perhaps *Festuca rubra* subsp. *juncea*. *Helictotrichon pratense* (Meadow Oat-grass), usually a metallophyte in Northumberland, is often the dominant here. *Festuca altissima* (Wood Fescue) was found under a bridge beside the river and recent gravels carried not only *Mimulus guttatus* (Monkeyflower), but the hybrids *M.* × *robertsii* (*M. guttatus* × *M. luteus*) and *M.* × *burnetii* (*M. guttatus* × *M. cupreus*) as well. That evening we met again in Hexham, for the long-suffering participants to endure a second lecture which concentrated on the history and ecology of the metalliferous Tyne gravels. In cooler conditions, a livelier discussion ensued.

On the following day we met at the Beltingham Reserve, south-east of Bardon Mill. Here an ancient toxic gravel fragment survives by the road, with good populations of the local glaucous, semi-prostrate and pink-calyced metal-tolerant ecotype of *Silene vulgaris* (Bladder Campion) which closely resembles those from similar communities in Belgium. This site is largely wooded, but it is still possible to trace a large gravel dating from 1900 on which the local metallophytes *Thlaspi caerulescens*, *Silene vulgaris*, *Epipactis dunensis* and *Solidago virgaurea* (Goldenrod) still persist. Other plants include *Stachys* × *ambigua* (*S. sylvatica* × *S. palustris*) (Hybrid Woundwort), *Lilium pyrenaicum* (Pyrenean Lily), *Campanula latifolia* (Giant Bellflower) and *Stellaria nemorum* (Wood Stitchwort).

A few hundred metres to the west, a gravel runs west from a footbridge which crosses the river to Bardon Mill station. This is perhaps the richest of all the metal sites, with *Ononis repens* (Common Restharrow), *Anthyllis vulneraria* (Kidney Vetch) (both invariably metallophytes inland in the county), native *Aquilegia vulgaris* (Columbine) and *Botrychium lunaria* (Moonwort) joining the throng. *Epipactis dunensis* was seen again in a new station amongst plentiful *Salix purpurea* (Purple Willow). *Rosa sherardii* (Sherard's Downy-rose), *Lilium pyrenaicum* (again) and *Galium* × *pomeranicum* (again) were also recorded.

Most of the party reassembled for lunch south of Hexham in the Dipton Forest, where *Goodyera repens* (Creeping Lady's-tresses) was in full flower. Sadly, at a subsequent stop, *Linnaea borealis* (Twinflower) had finished flowering in what had clearly been a good flowering year (i.e. there had been some!). Three persistent participants added 13 *Hammarbya paludosa* (Bog Orchid) to the list from a well-known site in which plants have been hard to find in recent years, while another added *Epilobium roseum* (Pale Willowherb), with no recent v.c. 67 records, from the leader's garden!

JOHN RICHARDS

WIGPOOL COMMON, GLOUCESTERSHIRE (v.c. 34). 5th August

Nine members attended this meeting. Much of the interest in the Forest of Dean was lost with the drainage and afforestation of the mid-twentieth century. Wigpool Common was the last area in this upland plateau where sundews were recorded in the past. However, the trees there have recently been removed and the water-level restored to something like its pre-coniferisation level. The purpose of the meeting was to record this site and a cluster of nearby small remnants of the once extensive heathlands.

Pit House Pond and Bog were visited first. The Pond, dug about 1840 was a reservoir for Wigpool Iron Mine No. 1, which closed in 1893. *Eleogiton fluitans* (Floating Club-rush) was found in the pond, with *Hydrocotyle vulgaris* (Marsh Pennywort) around the margins together with a little *Viola palustris* (Marsh Violet). Nearby was a good stand of the Forest rarity *Narthecium ossifragum* (Bog Asphodel), together with *Calluna vulgaris* (Heather), *Erica cinerea* (Bell Heather) and *E. tetralix* (Cross-leaved Heath). Walking on to the Wigpool proper, at the risk of setting a precedent, the party was pleased to report the absence of a plant which had first been found there the previous year. The prompt removal of the invasive alien, *Crassula helmsii* (New Zealand Pigmyweed) seems to have been successful. *Lythrum portula* (Water-purslane) was abundant in the pool and *Ranunculus peltatus* (Pond Water-crowfoot) was flowering freely. A small patch of *Menyanthes trifoliata* (Bogbean) was believed to have been introduced to the site whilst the dozen or so moribund plants of *Stratiotes aloides* (Water-soldier) were most definitely introductions.

Moving on to Fairplay Iron Mines Reservoir small patches of *Carex echinata* (Star Sedge) and *Scutellaria minor* (Lesser Skullcap) were found along the margins with a fine stand of *Oreopteris limbosperma* (Lemon-scented Fern) close by. The Forest of Dean Coalfield has a rim of Carboniferous Limestone on to which we walked from behind the reservoir, noting *Sagina nodosa* (Knotted Pearlwort) and a well established population of *Alchemilla mollis* (a lady's-mantle) *en route* plus *Gentianella amarella* (Autumn Gentian) in some quantity on the return journey. The nearby Westbury Brook Mine Reservoir was the only one of the water bodies visited during the day found to contain

Lagarosiphon major (Curly Waterweed). This reservoir is rather unusual in the area, tending to be neutral rather than acidic due to the somewhat mixed surrounding geology.

Meering Meend, just across the road, is also unusual but this time because it is natural rather than man-made and is at 245m one of the highest points in the Forest. *Menyanthes*, native here, was found to be abundant. *Sagittaria latifolia* (Duck-potato) is however a most recent arrival and as it had not been previously seen by the majority of the party provided a fitting highlight to end the meeting.

MARK & CLARE KITCHEN

RANNOCH MOOR (v.c. 98) 5th August

Eight people met at the Kings House hotel for this day excursion on Rannoch Moor. The weather was rather threatening as we set out and it wasn't long before the rain started. However for Rannoch Moor it wasn't bad! The intention was to visit the population of *Lycopodiella inundata* (Marsh Clubmoss) around one of the dubh lochans south-east of the hotel to familiarise ourselves with the habitat and associated species, then to search the shore of other lochans in the vicinity. Having previously surveyed the group of five dubh lochans and mapped the distribution of *L. inundata* around the only one where it occurs, I was confident that everyone was going to see a fine display of the plant. However, for some inexplicable reason I took the group to the lochan next to the one containing *Lycopodiella inundata*. This naturally resulted in a certain amount of disappointment but everyone was incredibly kind to me, especially as the weather had deteriorated further. Whilst we searched in vain for the *Lycopodiella*, *Nuphar pumila* (Least Water-lily) was noted and also several viviparous plants of *Trichophorum cespitosum* (Deergrass).

As I couldn't believe that I could have possibly taken people to the wrong lochan I suggested we try Loch na h-Achlaise where I also knew *L. inundata* to grow. Before we traipsed to the vehicles to go to Loch na h-Achlaise our meetings secretary, Keith Watson, perhaps knowing something of my absent mindedness, decided to go and check the lochan next to the one that I had brought everyone to. To my simultaneous relief and embarrassment he beckoned us over and indicated that there was a very good population of *L. inundata* around the shoreline. Indeed, the plant was as abundant as I had remembered and everyone enjoyed seeing perhaps the finest population of *L inundata* in Scotland. The difficulties of monitoring the plant were discussed, especially the determination of individual plants, which seems impossible. I suggested that to monitor the abundance of *Lycopodiella*, 50 random mini quadrats could be recorded within the population noting the percentage cover in each. This would have to be carried out within a permanently marked area at the same phenological time of the season. This method is only of use if the population as a whole does not shift.

Having seen the fine colony of *L. inundata* at the Dubh lochans we had time to search a section of Loch Ba that I hadn't previously surveyed. Keith Watson also found time to dodge off and pay respects to *Scheuchzeria palustris* (Rannoch-rush) before catching us up. He obviously realised that he wasn't going to miss anything with me leading the way! Unfortunately, we didn't find any further populations of *L. inundata* but I hope that everybody enjoyed themselves.

PHILIP LUSBY

SPEAN BRIDGE, WESTERNESS, (v.c. 97), 12th & 13th August.

Aonach Mor, 12th August

Aonach Mor is a fairly dour mountain compared to its illustrious neighbour, Aonach Beag, and so I was surprised that a meeting to try to re-find some of its more interesting plants attracted a 'crowd' of 26. The weather forecast was poor but bright skies and a high cloud-base persuaded us to press on to the

target crags in the upper coires at about 1100m. We cheated somewhat by taking the gondola up to the skiing area, conscience being swayed by the thought of a 650m height gain, at some expense to the pocket but not to legs and lungs. The walk-in confirmed the paucity of the flora although *Cornus suecica* (Dwarf Cornel) is locally frequent and southern visitors had an early introduction to *Vaccinium uliginosum* (Bog Blaeberry (Bilberry)), *Diphasiastrum alpinum* (Alpine-clubmoss) and *Loiseleuria procumbens* (Trailing Azalea). Of most interest was a small patch of *Lycopodium annotinum* (Interrupted Clubmoss), an uncommon plant in these western hills compared with the Cairngorm area.

The upper part of Coire Choille-rais is a wonderful, wild place, spoilt somewhat by an intrusive spur from the main skiing area (built with public money and hardly used because of lack of snow); indeed, debris from the skiing development was scattered all over the upper screes. In Coire an Lochain we ascended steeply, pausing to admire *Carex saxatilis* (Russet Sedge) and a few other plants typical of areas of late-lying snow including *Athyrium distentifolium* (Alpine Lady-fern) with much discussion of *Athyrium flexile* (Newman's Lady-fern), *Cryptogramma crispa* (Parsley Fern), *Gnaphalium supinum* (Dwarf Cudweed) and some very large plants of *Sibbaldia procumbens* (Sibbaldia). The whole slope provides excellent examples of two typical snow-bed communities, the *Cryptogramma crispa* – *Athyrium distentifolium* snow-bed (NVC U18) and the *Deschampsia cespitosa* – *Galium saxatile* snow-bed (NVC U13). Near the top of the slope, the latter community was shot through with the straggling stems and delicate flowers of *Cerastium cerastoides* (Starwort Mouse-ear).

Inevitably the combination of a very steep ascent and plants to look at had stretched out the party. As a result some of the group (including me!) did not see the best find of the day in *Saxifraga rivularis* (Highland Saxifrage) growing in a moss flush at the base of the northernmost crags, with *Cerastium arcticum* (Arctic Mouse-ear) and *Poa alpina* (Alpine Meadow-grass) growing nearby. There was far more snow remaining below the crags than I had expected and this meant that much of the crag base was inaccessible. The steep grass and scree below the snow was wet and loose rocks were frequent making upright progress awkward. The rain arrived and visibility went at lunchtime but we pressed on southward across the slope aiming for the upper coire and a site where *Carex lachenalii* (Hare's-foot Sedge) was recorded a few years ago. Some areas on this slope were rather richer than others, usually marked by an increase in the frequency of *Silene acaulis* (Moss Campion) and had *Cerastium arcticum* and *Thalictrum alpinum* (Alpine Meadow-rue). Progress was slow across the difficult terrain and the time of the last gondola became a pressing issue so the summit coire and any hope of finding *Carex lachenalii* had to be abandoned. We straggled damply down the Allt Choille-rais, enjoying dramatic views as the cloud lifted, and over the ridge to the gondola station.

Coire na Reinich, 13th August

This coire is up at the top end of Glen Roy, east of Spean Bridge, and the drive up the long glen in bright sunshine gave us excellent views of the famed 'parallel roads', strand-lines left by ice-dammed lochs. The walk into the coire is very straightforward across the slopes above a small ravine which had a good stand of *Melica nutans* (Mountain Melick). The party paused at the head of the valley at an area of stony flushes with *Tofieldia pusilla* (Scottish Asphodel) and a strategy for recording the coire was decided. The party split into two groups, one going to the east side of the coire and the other to the south, planning to meet in the middle.

In the event, the team exploring the broken, north-facing crags in the southern part of the coire had the better part of the deal. Here there are damp, unstable crags of calcareous schist with bands of Dalradian limestone giving a good flora, in particular an abundance of *Dryas octopetala* (Mountain Avens), often with *Carex capillaris* (Hair Sedge) and *Silene acaulis*. The ledges have a good tall-herb community with *Geranium sylvaticum* (Wood Crane's-bill), *Trollius europaeus* (Globeflower), *Carex flacca* (Glaucous Sedge), *Alchemilla glabra* (Smooth Lady's-mantle) and frequent *Salix myrsinifolia* (Dark-leaved Willow). *Salix myrsinites* (Whortle-leaved Willow) is much less common with only a few small bushes seen, mostly at the western end of the crags. *Salix lapponum* (Downy Willow) is scattered across the face and is particularly frequent on the shattered rocks in the large gully that splits the crags.

Also in and near this gully there is a good population of *Orthilia secunda* (Serrated Wintergreen) and scattered rosettes of *Pyrola* (Wintergreen); the only flower seen was that of *Pyrola minor* (Common Wintergreen) but *P. media* (Intermediate Wintergreen) has been recorded here in the past. Both *Coeloglossum viride* (Frog Orchid) and *Botrychium lunaria* (Moonwort) are scattered across the crags and the latter is very locally frequent but very small in the grazed grassland below. Surprisingly only two clumps of *Polystichum lonchitis* (Holly-fern) were seen and just two stands of *Carex vaginata* (Sheathed Sedge). Given the calcareous nature of the rocks, the flora is curiously lacking some relatively common montane calcicoles; perhaps at just 600m the crags are not quite high enough.

GORDON ROTHERO

DYFI SALT MARSHES, CARDIGANSHIRE (v.c. 46) 16th September

In spite of the fuel shortage, nineteen members (eight more had to cancel) met at the CCW information centre at Ynys-las to look at plants on the salt marsh parts of the National Nature Reserve, by permission of the Warden. Walking along the top of the marsh towards the Afon Leri we looked at *Carex extensa* (Long-bracted Sedge) and *C. distans* (Distant Sedge) in the *Juncus maritimus* (Sea Rush) zone, found an abundance of *J. ambiguus* (Frog Rush) on the rutted track, and identified seedlings of *Sagina maritima* (Sea Pearlwort) by their blunt-tipped leaves. *Spergularia media* (Greater Sea-spurrey) was still in flower amongst the *Glaux maritima* (Sea-milkwort), *Triglochin maritima* (Sea Arrowgrass) and *Juncus gerardii* (Saltmarsh Rush); *Spergularia marina* (Lesser Sea-spurrey) was seen later in the day. By kind permission of the owner, we then spent an hour in the boatbuilder's yard on the bank of the Leri. *Atriplex* × *gustafssoniana* (*A. prostrata* × *A. longipes*) (Kattegat Orache) was compared with *A. prostrata* (Spear-leaved Orache) and *A. glabriuscula* (Babington's Orache, brought by the leader from the sea beach, as it does not occur up the estuary), and there was much discussion and varied opinion on the identity of the *Cochlearia*, whether *C. anglica* (English Scurvygrass) or *C. officinalis* (Common Scurvygrass), and the *Tripleurospermum*, whether it was all *T. maritimum* (Sea Mayweed) or a mixture of this and the hybrid with *T. inodorum* (Scentless Mayweed). Among a number of interesting aliens were *Nicotiana* × *sanderae* (*N. alata* × *N. forgetiana*) (a Tobacco) and a very small plant of *Solanum physalifolium* (Green Nightshade) spotted by Wendy McCarthy, the first record for the county. *Ranunculus sardous* (Hairy buttercup), known only from two other sites, was found in flower.

After lunch on the sea wall across the Leri we went eastwards up the estuary, largely dominated by the *Spartina anglica* (Common Cord-grass) which had been introduced in 1920. Peter Benoit found plants at the top of the marsh which he thought likely to be the hybrid, *S.* × *townsendii* (*S. maritima* × *S. alterniflora*) (Townsend's Cord-grass), from which this had arisen, and later examination of the pollen proved this to be correct. It had been recorded here by E.H. Chater some decades ago, but not confirmed since. We looked in vain for *Atriplex longipes* (Long-stalked Orache), recorded from a sward of *Juncus maritimus* several times in recent years and then had a long walk further up the estuary to see *Ruppia maritima* (Beaked Tasselweed), confined to a very few small pools here. On the way back we went down to a lower level of the marsh where Trevor Evans demonstrated *Salicornia ramosissima* (Purple Glasswort), *S. europaea* (Common Glasswort) and *S. dolichostachya* (Long-spiked Glasswort).

ARTHUR CHATER

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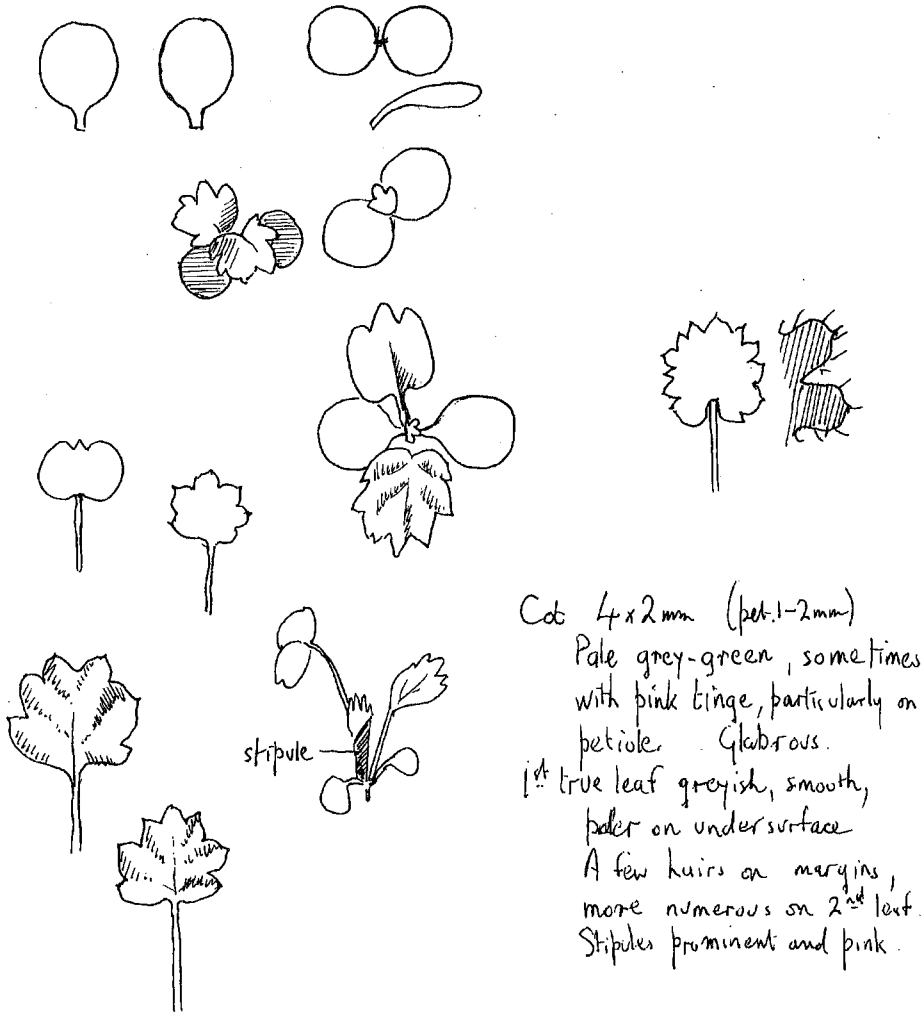

Alchemilla mollis seedlings, del. S. Evans © 2000 (*see BSBI News* **83**: 68)

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