BSBI NEWS

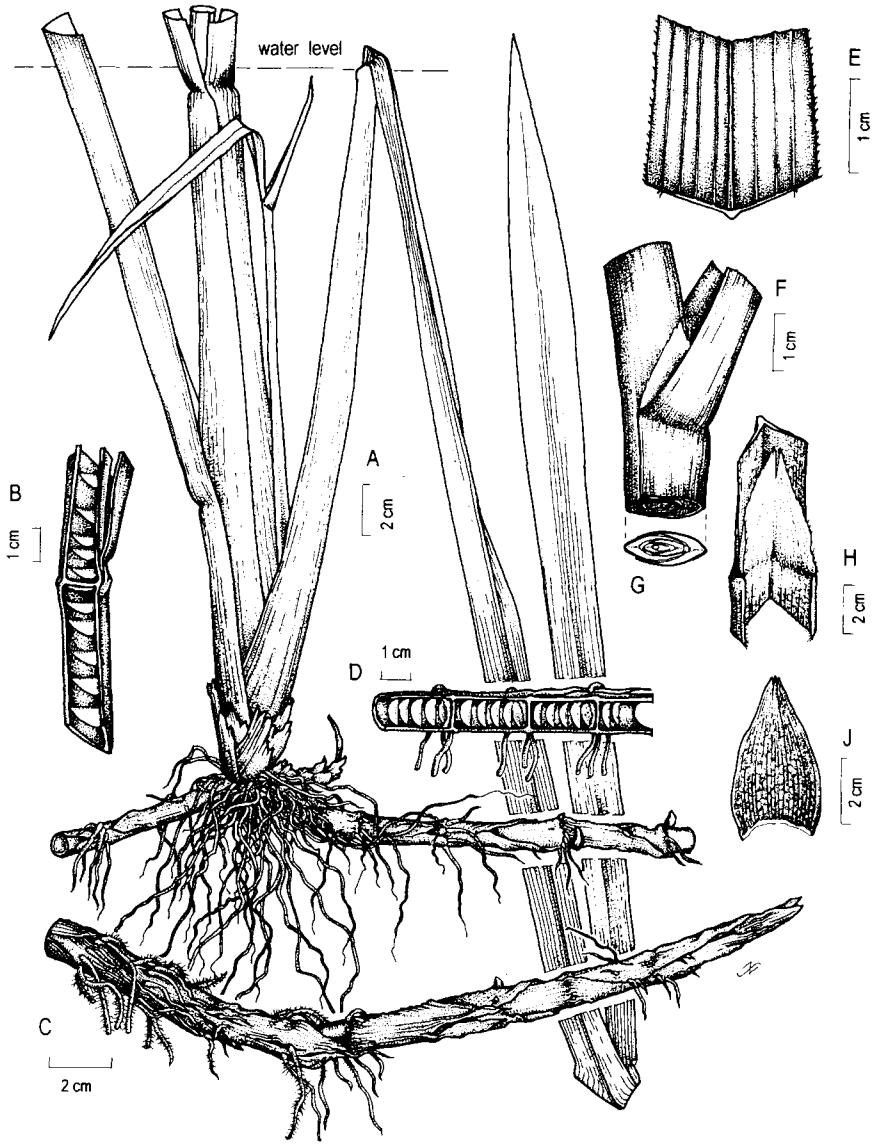
April 2000

Edited by R. Gwynn Ellis

No. 84

41 Marlborough Road, Roath

Cardiff CF23 5BU



Zizania latifolia from a pond at Bookham, Surrey (v.c. 17), del. Niki Simpson © 2000 (see p. 38)

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CONTRIBUTIONS INTENDED FOR

BSBI NEWS 85

should reach the Editor before

AUGUST 1st 2000

IMPORTANT NOTICES

A BIRTHDAY PARADE

100th birthday of our Patron Her Majesty Queen Elizabeth, The Queen Mother

On July 19th there will be a celebration and national tribute to mark this occasion, in which all the Societies of which Her Majesty is Patron have been invited to take part. It will be held on Horse Guards Parade, on **Wednesday 19th July 2000.** The seating for the Royal Military Tattoo (10th – 15th July) will be left in place and each Society will be allotted a number of seats – to which we must RSVP.

Following the Massed Bands, Pipes and Drums, the Kings Troop Royal Horse Artillery, etc., we are invited to walk in the procession of Societies, if possible with some theme linking then and now in the past 100 years (vasculum – plastic bag and/or notebook – laptop computer, perhaps, ideas welcome). The occasion is planned to be 'informal and FUN' (although 'serious and stately') – to start at 18.00 or 18.30 and last about 50 minutes. Those taking part are expected to be there for a rehearsal earlier in the day, and it is to be televised.

I will send more details to any member who volunteers to take part, when we have these – but as we will not have another opportunity of a general mailing before July 19th could you please send me, as soon as possible or **BEFORE MAY 15th**, a line to let me know if you are interested, and if so for which you volunteer:-

a) Seats (how many?) from our allocation
or b) To walk representing BSBI in the parade
or c) To sing in a 500 voice choir (they are looking for soloists too)
or d) To play in their proposed orchestra.

So far we have a few volunteers for b) the 'parade of tableaux' covering 100 years, and we will welcome more participants and ideas.

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

THE PRESIDENTS' AWARD 1999

This prestigious award is for adding to the knowledge of our flora during the year. This time it is to go to Peter Marren, for his illuminating book *Britain's Rare Flowers*. It is full of informative and interesting facts on our threatened plants, spreading the appreciation, importance and value of our wild flowers to members and to a wider public.

The presentation takes place in alternate years at the AGM of each of the two sponsoring Societies. This year it is the turn of the Wild Flower Society, during their meeting at the Commonwealth Institute, London, on November 4th.

MARY BRIGGS
President BSBI

DAVID McCLINTOCK
President WFS

RECORDERS' CONFERENCE

August 25th - 27th August 2000
At St. Martin's College, Lancaster

The Conference this year will be similar in organisation to previous years, with a range of speakers on interesting topics, including the latest developments in taxonomy, the NBN, the first results from the Atlas 2000 project, and workshops on identification. There will be a field trip option on Saturday.

The cost of the conference is £90 for an individual, which includes full board and lodging from Friday evening to Sunday afternoon. Alternatives are available for non-residents couple, etc. The arrangement is that v.c. recorders are given the first option, but others are more than welcome if space is available. Please contact me for a booking form if you are interested.

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DIARY

N.B. These dates are supplementary to those in the 2000 Calendar in *BSBI Year Book* 2000.

2000

June 9th-11th	BSBI Welsh AGM (see reminder page 52)
July 19th	The Queen Mothers Birthday Parade (see page 3)
10th - 11th	*Fields of Vision* a future for Britain's Arable Plants; a 2 day conference at Girton College Cambridge (see page 80)
20th - 21st	Identifying ***Carex vulpina***, a 2 day course organised by the Rare Plants Group of the Ashmolean Natural History Society of Oxfordshire (see page 53)
August 25th - 27th	Recorders' Conference, St Martin's College, Lancaster
September 3rd - 6th	*Biodiversity 2000*, Royal Botanic Garden, Edinburgh, a Conference organised by the Institute of Horticulture (see *BSBI News* **83**: 56)
4th - 7th	*SER2000*, Liverpool, an International Conference organised by the Society for Ecological Restoration (see *BSBI News* **83**: 56)

2001

May	BSBI Trip to Sicily (see page 52)
May 28th - June 3rd	*Building bridges with traditional knowledge*, Honolulu, an International Conference organised by the University of Hawaii (see *BSBI News* **83**: 57)

See also page 54 for dates of *Local seeds for local needs* training days, organised by Flora locale

EDITOR

EDITORIAL & NOTES

Congratulations to Peter Cook on the award of MBE in the New Year's Honours List, for services to conservation (see also p. 37).

Apologies – Correction to ***Year Book 2000***

On page 31, the name of the leader of the Maltby Commons field meeting on Sunday June 11th is misspelt. It should read '**Leader**: Mr G.E. Griffith' and '. . . bookings to George Griffith,'.

We apologise to Mr Griffith for this error.

New Book Agents – BSBI has now appointed Jon Atkins of Summerfield Books as our Book Agent following the retirement of Margaret Perring. Jon will be producing one (or more) catalogues every year which will be distributed to every member in a *BSBI News* mailing. See also the leaflet enclosed with this mailing. We welcome Jon to his new role within the Society and please remember that all book orders should now be sent to him at the following address: BSBI PUBLICATIONS, c/o Summerfield Books, Main Street, Brough, Kirkby Stephen, Cumbria CA7 4AX. **Tel.:** 01768 341577; **Fax:** 01768 341687; **E-mail:** atkins@summerfield-books.com

Inserts – Among the inserts with this mailing are: *BSBI News*, *BSBI Annual Report*, AGM 2000 programme and booking form, TPDB recording card, BSBI Books leaflet and one book offer.

Sincere condolences to Brian Wurzell on the recent death of his mother (see also **Stop Press** p. 81)

And finally: I have received the following 'conversations with plants' from a member who composed them while slaving away with a hot iron but who wishes to remain anonymous.

Talking to Ladies Mantle: 'How do you like it at Highgrove'
Reply: Super! We're Alchemillas'
Talking to Small-leaved Lime: 'You really do need coppicing'
Reply: 'I'm waiting *Tilia* ready'
Talking to Meadow Grass: 'You look overgrazed'
Reply: '*Poa* farming – That's what!'
Talking to Quaking Grass: You're very lethargic'
Rely: 'The *Briza minor* today'
Talking to daisies near the village pub: 'When does everything open up?'
Reply: When the *Bellis* ringing'.
[Thank you Rene].

GWYNN ELLIS, Editor & MARY BRIGGS, President

OBITUARY NOTES

With regret we report the death of Mrs Dorothy Lousley last autumn. Although not greatly involved with BSBI herself, Dorothy was present on many occasions with her husband Ted, such as the dinner held to launch the publication of the first *Atlas of the British Flora* in 1962, which was a memorable event in the Society's history.

Many members met Dorothy on the early travels which Ted led for Academy Tours, and on which Dorothy was able assistant as plant spotter, and shepherding the group from the tail end. Although Dorothy did not consider herself in any way a botanist, after Ted's death when his botanical books were sold, she decided to take back some of these to learn some field identification. For some years she continued to come on botanical holidays, joined the Wild Flower Society and kept a WFS diary. She moved to Lancaster to be near her daughter, and in spite of deteriorating health she continued to enjoy her family and growing grandchildren, and the occasional expedition for wild flowers there for more than 20 years.

The 'end of an era' is a phrase often used on the death of an elderly person, but through her association with Ted who was such a notable BSBI figure during his lifetime, the Society has now lost another link with a past era. We send our condolences to their daughter Margaret and family.

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

ATLAS 2000

PROGRESS REPORT

When the Atlas 2000 Project was formally launched in 1996, I doubt if anyone expected that it would generate the quality or quantity of records that we have received. All the data submitted by British Vice-county Recorders has now been entered onto the database at Monks Wood, and this stands at an extremely impressive 4.16 million records. We have now begun to produce maps from this data, and the results are really exciting. More of this later; first I'll report on progress with data submission.

Data Received – Britain

Data has been received from all but 11 10 km squares in Britain (99.6% of the total). The remaining squares are small offshore islands, or squares incorporating tiny fragments of land. Unfortunately, 9 of these squares are in one Vice-county, Orkney (v.c. 111).

Data Received – Northern Ireland

Summary mapping data has been received on disk for all 183 hectads in Northern Ireland (see map below), with the more detailed records following soon. Many thanks are due to the Northern Irish Vice-county Recorders for their hard work during the project, which included both collecting field records and, for some, computerising this data. We must also thank the staff at CEDaR for their considerable successes with the Northern Ireland Vascular Plant Database, particularly Fiona Maitland for countless hours of data inputting (see *BSBI News* **80**:10-12) and Paul Hackney for co-ordinating the superb Northern Ireland effort.

Data Received – Republic of Ireland

Stunning progress has now been made in the Republic, with data having been received for 804 hectads or 96% of the total (see map opposite). A huge vote of thanks must go to all the Irish Vice-county Recorders that have worked so hard towards this achievement, especially in view of the paucity of field recorders in the Republic (the Recorders themselves are often the sole recorder in the Vice-county). Special thanks are, however, due to Declan Doogue, who has co-ordinated the whole effort. Not only did he rally the troops where necessary, but he undertook a great deal of additional recording in squares that would otherwise have been unvisited, and, in the last few months, computerised a huge amount of his own, and other, data. Other data from the Republic has been computerised by Margaret Cole, Graeme Kay and Rebecca Burton and our thanks go to them too.

Data Entry at Monks Wood

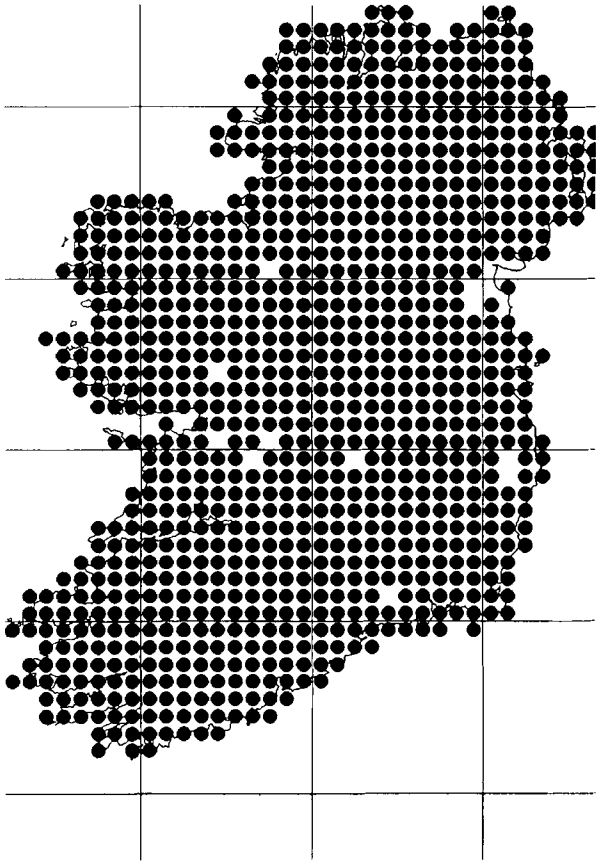
All the data submitted for all 2821 British 10 km squares has now been entered into the database at Monks Wood. As I mentioned above, 4.16 million records is an astonishing total. All the Northern Ireland data from CEDaR has also been loaded, as have records for 641 squares in the Republic of Ireland. This Irish data forms an additional 323,000 records. No wonder Henry Arnold (database manager at Monks Wood) looks exhausted!

The End of Atlas Recording

We have decided to limit recording for the Atlas project to the end of 1999. Any records made during 2000, no matter how interesting they are, will not be accepted for the Atlas. There is therefore a strict cut-off date for Atlas recording of 31st December 1999.

Verification and Discrepancy Lists

Verification and discrepancy lists have now been produced for all British hectads, and sent to Vice-county Recorders for the unenviable task of checking and correcting records. Production of the lists for Ireland is also well underway. These lists are being returned to Jane Croft at Monks Wood, who has the even more unenviable task of making any corrections to the database.



Selection of Taxa for Mapping

In the light of the data received, we have reviewed and slightly revised the criteria we will use to decide which taxa actually get mapped in the Atlas. Data for all taxa will be included, but there is not enough room to physically map all the 4079 taxa covered by the project (data on those not mapped will appear in an appendix). The criteria are:

1. All native species in Stace (1997) and those subsequently added to the British or Irish flora (e.g., *Callitriche palustris*). A few species aggregates will also need to be mapped where knowledge of the distribution of the segregates does not give the complete picture.
2. Additional species which have been treated as native by recent authorities even if we consider they are alien.
3. Native subspecies treated in full by Stace (although these will need case-by-case consideration, as where almost all populations belong to one subspecies there is no point mapping the species and the common subspecies).
4. All alien species and subspecies treated in full by Stace which have been recorded in 50 or more 10 km squares, regardless of date (although alien subspecies will again need case-by-case consideration).
5. All hybrids in Stace which have been recorded in 50 or more 10 km squares, regardless of date.

We have estimated the number of taxa covered by these criteria. Although these remain provisional (some data still has to be added to the database and there is much editing to do), these figures should be more or less accurate:

	Number Being Mapped	Number Not Being Mapped	Total
Native species and subspecies	1,744	108	1,852
Aliens	547	897	1,444
Hybrids	151	632	783
TOTAL	2,442	1,637	4,079

Captions

One of the main reasons why we had to decide which taxa were being mapped is because captions have to be written for the additional taxa that now qualify. Captions were originally commissioned for 2261 taxa we were fairly confident would be mapped, and of these, 1970 (87%) have been received.

As a result of the review of taxa to be mapped, 95 of the written captions will not be needed, but a further 277 are needed and David Pearman is currently seeking authors for these. A huge amount of time and effort is going into writing, collating and editing these captions, but this is certainly justified by the contribution they will make to the final Atlas.

The Richest Hectad?

Now almost all the British data has been entered at Monks Wood, we can see more clearly who is in the lead with the richest 10 km square. Astonishingly, there are 81 10 km squares in Britain from which 1000 or more taxa have been recorded. Most of these are in the South and East of England, but several are in Wales and one in Scotland. The overall leader at the moment is the Middlesex (v.c. 21) square TQ/2.7 with 1324 taxa. This square includes Wimbledon, Chelsea and Westminster, and a good proportion of the species will be alien (escapes from the Chelsea flower show perhaps?). This square, however, may loose its position to TQ/0.8, which is shared between Middlesex and Bucks (v.c. 24) and includes Uxbridge, Iver Heath and Ruislip Common. At 1323 taxa, which of these squares will be pronounced the leader after final checking and editing of the data remains to be seen. Congratulations will be due to Rodney Burton in either case, but will he be joined by Roy Maycock in the honours?

Outside the London area, and overall third, comes SX/0.5. This West Cornwall (v.c. 2) square includes St. Austell, Lanlivery and quite a stretch of St. Austell Bay. With 1319 taxa, it is real credit to Rose Murphy and her recorders.

In Wales, a close battle was fought between a square in the north shared between Geoff Battershall (v.c. 49, Caerns.) and Jean Green (v.c. 50, Denbs.) and Richard Pryce (v.c. 41, Carms.) in the south. Richard emerges as the winner, with 1102 taxa recorded for square SN/4.0. This includes Burry Port, Pembrey and Kidwelly and I suspect the Welsh AGM field trip to the square last year was a deliberate attempt to gain victory. Commiserations to Geoff and Jean, but they came a superb second with 1078 taxa for SH/7.7 (Conwy, Penmaenmawr and Tal-y-cafn).

In Scotland, a single square has reached over 1000. Congratulations must go to Douglas McKean for the Edinburgh square, NT/2.7 (1006 taxa). Just short of 1000, but a great second for Scotland, was the nearby Dunfermline and Inverkeithing square, NT/1.8 (v.c. 85, Fife), with 992 taxa. Well done to George Ballantyne for this one.

These totals include all taxa, not just those covered by the Atlas project. Once we have time to look at the data more closely, we'll be able to give separate totals for native and alien taxa. This will be equally interesting, and may also hold a few surprises.

Alien Maps

Henry Arnold has produced maps of all the alien taxa covered in the project. 1444 maps is a frighteningly large pile, but we have had great fun going though them and seeing these initial results. Most

alien taxa have never been mapped before, so it was an exciting exercise and one that was not without a few surprises.

The main thing that struck us all was how many aliens actually show genuine patterns in their distribution. There are, of course, a large number that are randomly scattered, particularly in the south of England, but these are mostly casuals and rare aliens and will not qualify for mapping. Imposed on top of these patterns are changes in distribution over time, and the loss of some aliens is remarkable and, for some, was completely unexpected.

To give you a flavour of these maps, four distinct distribution patterns are given:

1. Random throughout its range. These include bird seed aliens and garden throw-outs that tend to behave as casuals. An example of one (that does, in fact, usually become established) is *Astrantia major* (Masterwort – see map).
2. Mostly random, but with one or more core distribution centers. These are mostly garden escapes that are usually casual or established, but have become particularly frequent in some areas for various reasons. A good example is *Anaphalis margaritacea* (Pearly Everlasting – see map). Such 'core distribution centers' can, however, be a result of increased recording in particular Vice-counties. This particularly applies to some conifers, which are probably more widespread than suggested by the maps but have been conscientiously recorded in only a few Vice-counties (e.g. *Abies alba*, European Silver-fir).
3. One or more core distribution centers. These tend to be rare aliens that are, for one reason or another, abundant in a very limited area. The localization of *Amaranthus bouchonii* (Indehiscent Amaranth – see map) in W. Suffolk and W. Norfolk and is an example.
4. A distribution that clearly has an ecological basis. These include taxa that have become established in suitable habitats in certain ecological niches. Many were mapped in the 1962 *Atlas*, and show a considerable increase in records. The preference of *Allium triquetrum* (Three-cornered Garlic – see map) for coastal areas in the SW of Britain and Ireland is a good example. In the 1962 *Atlas*, this species was recorded from just 66 10 km squares in Britain and 12 in Ireland. The current totals are now 299 and 114 receptively.

There are, of course, other patterns, but these maps should give a flavour of what is to come. Notice that all the examples are from 'A' in the alphabet (they were taken from the top of the 1444 map pile), indicating how diverse the aliens are proving to be. Maps of the native taxa will follow next, which should be equally interesting and perhaps also bring a few surprises.

Publication

I'm glad to report we are now in negotiation with a publisher! More on this will follow in the next *BSBI News* once contract details have been finalised, suffice to say that real progress has and is being made.

Apology

In the last issue of *BSBI News* (**83**: 6-11), I reported that data was outstanding for 23 squares and showed on the map (page 8) that 5 of those squares were in South Lancs. (v.c. 59). In fact, data for all these squares had been submitted before the deadline, and I would like to apologise to Peter Gateley (Vice-county Recorder) and the local recorders for this mistake.

Acknowledgements

The *Atlas 2000* project is funded by the Department of the Environment, Transport and the Regions (in Great Britain) with additional support from the Environment and Heritage Service (Northern Ireland) and the National Parks and Wildlife Service (Republic of Ireland). Additional support has come from the numerous other sources, including Scottish National Heritage, English Heritage, the Countryside Council for Wales, RSPB and the Wild Flower Society. We are grateful to all these bodies for their support.

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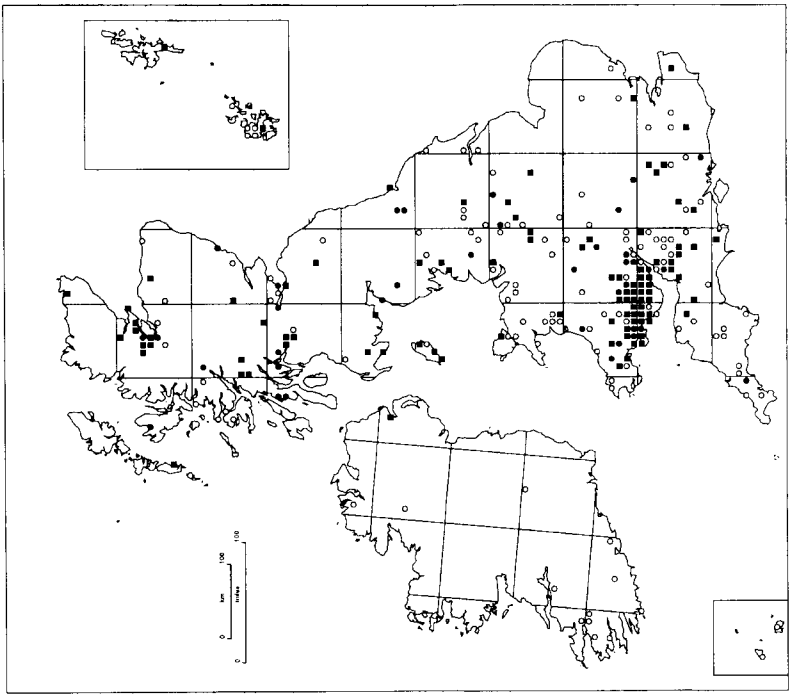
Anaphalis margaritacea
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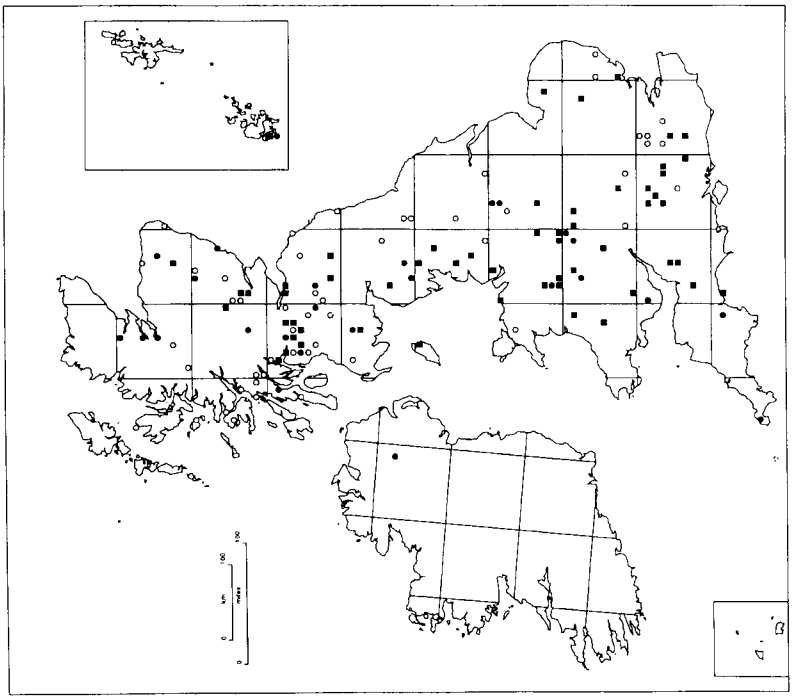
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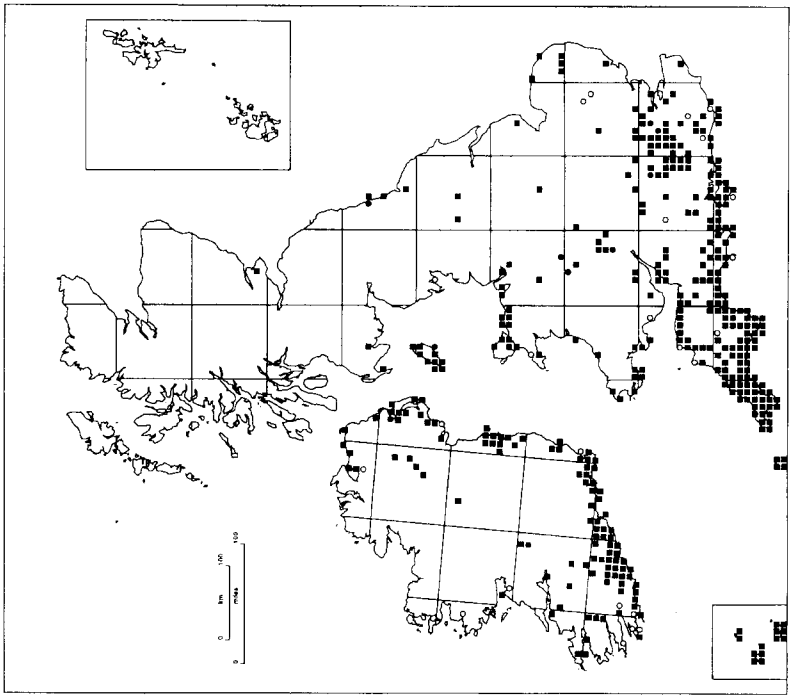
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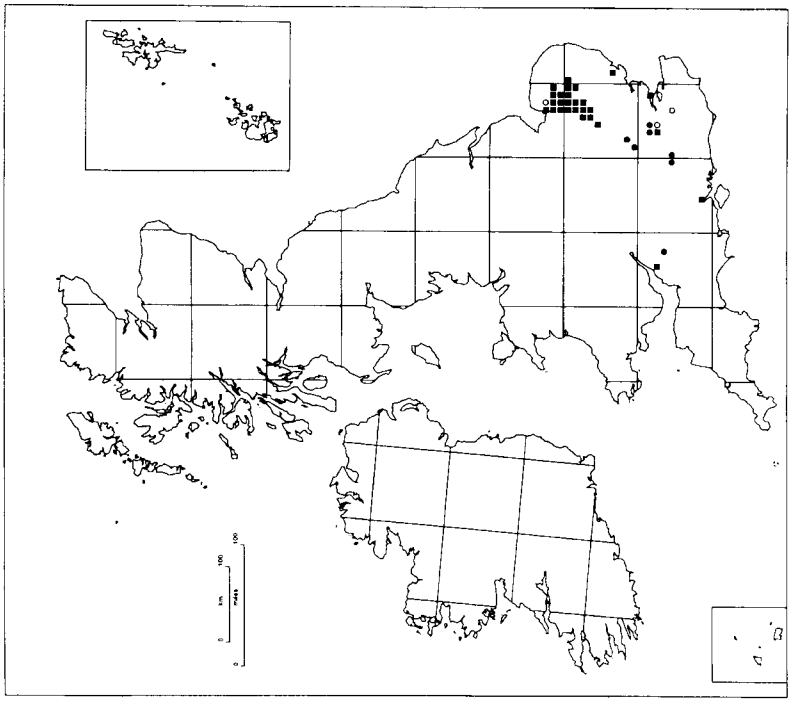
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CO-ORDINATORS' CORNER

Enthalpy in the 21st century

Enthalpy is a concept in chemistry which describes the energy content of a system, as measured by its heat and motion. It is quite a nice concept to apply to a voluntary Society like the BSBI. The heat of discovery and debate combined with the motion of these ideas, through conferences, journals and other forms of communication is what measures the value of the Society. You can't imagine wanting to join a cold, musty society with no new thoughts or concepts to learn about and share, so the success of the BSBI is directly related to its enthalpy.

In the last issue of *News* Tim Rich proposed a number of hot new projects for the BSBI to get involved in during the 21st century. He wants us to undertake ecological studies, statistically valid assessments of change in botanical systems, site audits, and more taxonomic research. I agree with him, and so do the BSBI's Committees. After the Atlas 2000 project we may well repeat the Monitoring Scheme – but not until at least 20 years has elapsed: we always knew it would not be sensitive enough to detect change at shorter intervals. In the meantime there are many other things we can do as well.

During the last year we set ourselves the task of trialling a new recording system, as a pilot project for the NBN. We decided to establish a network of 50 biological recording 'nodes' which could all exchange records efficiently with each other and, crucially, would store records in a much more detailed and sophisticated manner than anyone has attempted before. We want to be able to combine quadrat data with population censuses and tetrad distribution records. We want the database to reach back in time to Turner, Ray and Johnson and to be as up to date as can possibly be accomplished. The aim was to set up a versatile recording system that could accomplish any of Tim's proposed recording projects efficiently and easily.

I am delighted to say that we have achieved our first objective. At first, I must admit, I feared that people would not agree to join such a network. There is a long history of non-co-operation in some parts of the biological recording world. Even as long ago as the 18th century, there are notorious examples of people hoarding data and sabotaging each other's work – Peter Marren describes some of these nefarious goings-on in his entertaining new book *Britain's Rare Flowers*. However, if our experience is anything to go by, modern 'man' has learned more sophisticated behaviour. Almost everyone we approached to join our network has agreed to do so. No fewer than fifty organisations and individuals have signed up to the concept of sharing data freely and openly. We have accumulated five million records so far, with the support of people like Martin Sanford in Suffolk, Walter Scott and Roger Riddington in Shetland, and Rosemary Parslow, Colin French and Rose Murphy at the other end of the country. Museums like the Natural History Museum and the National Museum of Wales have joined in enthusiastically, and we are drawing on the expertise at Liverpool, Edinburgh and Kew.

This is heat & motion *par excellence*. We now have biological information in quantity and detail that is an order of magnitude greater than we have ever had before. With this information we can do so much more than just produce dot maps. But, as always, there is an infinite amount more to do – especially out in the field. And that's where you, the membership, come in. Now that we have demonstrated a recording system that can cope with almost anything, we need more fieldwork and more detailed ecological studies. To that end we are enclosing with this issue of *News* a recording card that sets out the basic minimal amount of information that should be collected with all biological records. Please read it carefully. Times have changed a lot since the early 1980s, when computers had to be efficient with space. Now we want to know exactly who you are – every person should be identified uniquely – and we want to know much more about the plants you record – exactly where they were, what they were growing with, and so on *ad infinitum* (almost!). A more complex ecological recording card is available from us if anyone would like one. Here are some plants that we'd like to know more about. There will be a mystery prize and great glory for person who sends in the best data . . .

***Campanula patula*, Spreading Bellflower**

In *Scarce Plants*, John Day describes this as a plant of woodland margins, possibly even being associated with ancient woodland. Fascinating if true, because it is a woodland edge plant that also seems to need disturbed ground in which to germinate and establish itself. The two seem almost exclusive. The few current sites we know about at present are mostly species-rich roadside verges where it is completely dependent on the local authority's management regime. Here are some examples of the sort of interesting comments that we are looking for:-

- 'Frequent for about two miles along a very narrow lane bordered by ancient hedgerows and unimproved pasture. The local council are aware of this, and have a suitable cutting policy. Altitude 203 m. Species lists for the verge and the hedges attached.'
- 'Several plants on the bank above the excavation of the Roman ruins, growing in thin, sandy soil with *Aphanes inexspectata* (Slender Parsley-piert) and occasional plants of *Hyoscyamus niger* (Henbane). Several years ago all these were plentiful; now they are rare.'

***Carex elongata*, Elongated Sedge**

This could be a difficult one to collect information about. Ideally, we would like to know the NVC of the vegetation in which it occurs. In *Scarce Plants* it is described as occurring in a range of habitats, but when an MSc student at the University of Birmingham looked at it a few years ago, he couldn't find a single site that was not woodland. What's more, he made a curious observation: all the seedlings he came across were growing on decaying wood. Is this a requirement for germination?

- 'Scattered tussocks over 1 hectare of wet woodland. The tussocks are discrete, and I counted 72 in total – some very small, but others with hundreds of leaves. The woodland is dominated by alder and willow (*Salix cinerea* subsp. *oleifolia*) – W5, I would say (three standard NVC quadrats attached).'
- 'Although the old record described it as being in a meadow, I could only find it in the adjacent woodland. Just half a dozen small tussocks, but the woodland seems to be drying out and there are no seedlings evident. A bore hole has been sunk near here in recent years for farm irrigation.'

***Galeopsis angustifolia*, Red Hemp-nettle**

Arable weeds present some of the same problems as aquatic plants do. Access to sites can be difficult, and it's often impractical – and inconsiderate – to wander all over the field looking for every plant. But as with *Lycopodiella*, what is important, perhaps, is not just the current population size but also the extent of available habitat. A large field managed appropriately might have a huge seed bank that you can't even see, while a small roadside verge with dozens of plants could be exceedingly vulnerable. Remember, please, that *G. angustifolia* is not just an arable weed. In some ways the more natural habitats are more interesting, ecologically. It is recorded from limestone scree and natural rock exposures, as well as on shingle beaches on the seaside. Examples of records:-

- 'Hundreds of plants on an extensive area of shingle, usually found along the edges of stabilised areas where grass is becoming established. Clearly a native site, as it has been recorded here for hundreds of years.'
- 'Just three plants this year, on arable headland (the crop is linseed). The field is now very intensively managed, but just a few years ago there were hundreds of plants here. Now only a narrow headland and the roadside verge offer suitable habitat.'

***Lycopodiella inundata*, Marsh Clubmoss**

This is a very tricky plant to record, because it is so difficult to know what defines a single plant. What we need to know, however, is how healthy a population is within a site, which is a combination of two factors: the size of the population and the extent of available habitat. It requires a bare peaty substrate, so look at the places where it grows, and see how much more available habitat of similar quality there is in the vicinity. The following are examples of conservation assessments:-

- 'Hundreds of plants, with cones, over an area of about 200 m^2. There is lots of available habitat for it at this site, and I think it has become more abundant here over the last few years.'
- 'A tiny number of fragments in a grassy sward. There is no management of this site and I suspect it is very endangered here.'

***Pilularia globulifera*, Pillwort**

As with *Lycopodiella*, counting plants of Pillwort is definitely out. The best way to survey it in larger water bodies is by snorkelling, and it is worth thinking about whether your survey methods are likely to discover the true extent of the population. Dangling a stick into a deep lake when the water level is high might not be the best way to detect every single plant . . . A good assessment of populations in shallow water is by the square metre. How about the following as useful assessments of abundance:-

- 'Surveyed the lake by boating, and found extensive populations in relatively deep water (up to 2 m) at three points, each at the mouth of a burn, where the substrate is muddy. There must be hundreds, if not thousands, of plants, at each of these grid refs.: NK123456, NK234567 and NK345678. Stands of *Carex lasiocarpa* surround the Pillwort on the landward side in each locality.'
- 'I counted thirteen small pools, each with a few square metres of pillwort in a band around the edge. Cattle grazing keeps the area open, and occasional clumps also occur in temporary pools along the tracks. As long as this management continues, there is no threat to it at this site.'

More CDs

In the last News I mentioned that the Cornwall Flora on CD was a first in botanical recording. Not quite true! Brian Bonnard in Alderney has had a CD and a Web site available for some time now. It's not as formally a Flora as the Cornwall one, being more chatty and full of interesting information about the island – including such items as folk lore and biographies of botanists as far back as Linnaeus. In fact, I must admit that I haven't yet read the section on Alderney's geology or explored the photographs and maps. But before I go there, I shall. The CD is available from Brian (address in the Yearbook, or **e-mail:** bjbonnard@aol.com) for about £20.

Historical records

Tim Rich ran a course for us in February on using historical records. Some 16 people attended and it was a great success, by all accounts. Historical records are an increasingly valued part of botanical recording for the insights they can give us into changes in land use, climate and other aspects of the ecosystem. We are hoping to run a repeat next year.

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RECORDERS AND RECORDING

AMENDMENT NO. 1 TO *BSBI YEAR BOOK 2000*

Panel of Referees and Specialists

We are glad to welcome a new referee for *Polypodium*, Mr R.J. Cooke, who would like specimens sent to him at 15 Conduit Road, Stamford, Lincs PE9 1QQ; **e-mail:** rob.cooke@english-nature.org.uk.

Please note two changes to the Referees' address list:
Alan Newton's entry should read: Mr A. Newton, 6 Stanley Walk, Exmouth, Devon EX8 5TD, and Dr M.E. Bradshaw has moved to: Hill Top, Eggleston, Barnard Castle, Co. Durham DL12 0AU.

MARY CLARE SHEAHAN, 61 Westmoreland Road, Barnes, London SW13 9RZ;
Tel: 0181 748 4365; **e-mail:** m.sheahan@rbgkew.org.uk

Changes in vice-county Recorders

Change of address.

v.c. 59 S. Lancs. Mr P.S. Gately, Maycote, 6 Prescot Road, Ormskirk, Lancs. L39 4TQ

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

PLANT STATUS NOMENCLATURE – ATLAS 2000 CATEGORIES REVIEWED IN RETROSPECT

A BSBI working party on plant status nomenclature introduced the term 'surviving' for plants present in the wild for at least five years but neither spreading vegetatively nor reproducing effectively from seed. This concept was adopted for 'Atlas 2000'. I have diligently applied this nomenclature both for the five years of 'Atlas 2000' field work and for the concurrent analysis of historical records and it is now time to stand back and review the results.

At v.c. level for Berwickshire the 'Atlas 2000' taxa for all date classes divide as 'Native' – 65%, 'Established' – 21%, 'Surviving' – 2%, 'Casual' – 6%, 'Planted' – 6%. 'Surviving' is the smallest category, though, interestingly, if the analysis is made only for taxa recorded 1987-1999 'Surviving' remains at 2% whilst 'Casual' falls to 2%.

If individual records were analysed the proportion recorded as 'surviving' would be higher as many taxa recorded as 'surviving' in some localities have been recorded as 'established' elsewhere.

My preconception was that taxa recorded as 'casuals' would be annuals, that taxa recorded as 'surviving' would be trees and single stemmed shrubs self-seeded from planted specimens, and that all herbaceous perennials would be recorded as 'established'. This has proved to be an oversimplification. At v.c. level only half the taxa recorded as 'surviving' are self-seeded trees and shrubs, the other half are herbaceous perennials and climbers. The herbaceous perennials and climbers all have the potential to become 'established' but where found this did not in fact seem likely either because they spread by seed (e.g. *Helleborus*), but may do so rarely, or because their existence seemed threatened by competing vegetation. Indeed similar plants were sometimes recorded as 'casuals' where their existence seemed more immediately threatened, perhaps on a bank of river shingle.

The taxa recorded for Berwickshire as 'surviving' are a motley lot. On the whole they have more in common with the 'casual' and 'planted' taxa than the 'established' ones, so Clive Stace's simplification for the Vice-commital Census Catalogue, where 'casual' will include 'planted' and 'surviving', is accepted as valid in its context. Nevertheless 'surviving' is a logically sound concept, though of limited usefulness. Its main value to me has been to help avoid forcing into the 'established' categories those plants that have not yet proved themselves in 'the wild' despite persisting for some years. I feel that the concept has contributed substantially to the validity of the data I have gathered about 'established' aliens.

My limited exchanges with other recorders suggests that there is still much variation in our application of this concept and I would be interested to hear of the personal experience of other recorders.

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

BILATERAL DISTINCTIONS*

It was heartening to learn from Graham Kay (*BSBI News* **83**: 25) that he too has problems of memory concerning distinctive features and the (one of two) species to which they apply. In my case, whereas it is indelibly inscribed in my memory that redshanks have wing-bars and spotted redshanks do not, I find that I regularly need aids for similar differences in the plant world. It is a matter, I suspect, of learning bird identification in my teens, but coming to serious botanical interest somewhat later in life

Graham mentions the problems of remembering the separation between wood and clustered dock. For me, it is a simple mnemonic of 'sang and sing', *Rumex sanguineus* has only a single tubercle. Other aids I have found helpful include:

- weld, simple name/simple leaves versus mignonette, many syllables/complex shape;
- of the sea spurries, *Spergularia marina* is 'marooner' (i.e. the pinker-petalled one, *S. media* being generally paler);
- for the two 'weedier' sow-thistles, *Sonchus asper* has rounded auricles, whereas those of *S. oleraceus* are sharp-pointed;
- the stem of *Berula erecta* has a tide-mark-like ring, but *Apium nodiflorum* is without;
- *Arctium minus* is the one lacking (minus) part of its leaf-stalk (i.e. the petiole is hollow); and, of course, *A. minus* is therefore the 'lesser' burdock.

There are others, but it has been pointed out to me that introducing convoluted aides-memoires where none is needed can be counterproductive, as well as implying one's own inadequate grasp of things. If your knowledge is sound and certain, ignore the devious mentality of those of us who need such help!

One final tip I cannot resist, however, since it is so neat as well as totally 'accidental'; fluellens are not everyday plants for me, and I had difficulty attributing their specific names correctly until I noticed that round-leaved, *Kickxia spuria*, has a '**u**' as its third letter, but sharp-leaved is *K. elatine*, both with an '**a**' in the equivalent place. A plea to the taxonomists, therefore: please do not tamper with these particular specifics, or you will wreck my system!

* I am indebted to EN's Chris Gibson, during discussions many years ago, for this succinct and apt label for confusing look-a-likes. Did he invent it on the spur of the moment or was it borrowed from elsewhere? Memory fails me . . .

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FATE OF RECORDS

At the meeting on 26/02/00 at The National Museum and Gallery of Wales on *Compiling Historical Botanical Methods*, with Tim Rich, I referred to something which has been worrying me for some time.

Recently I have known of five people, some very close friends, who have died and subsequently their diaries/records have been partially/completely destroyed or they have left things in a muddle. It is very difficult when you love someone very much and you know they are dying (and you also know they are frightened of dying and may not wish to know) to say to them 'You are close to death and can I help you to sort out your records'.

Would it be possible for something to be put in *BSBI News* with some prominence perhaps with an example of an ordinary sort of person whose records have turned out to be of much more worth than they themselves would have imagined.

Often executors are not competent to assess the value of records and it is probably a good idea to state in your will that such material is to be offered to the committee (not an individual) of a local society, and to make this known to your nearest and dearest. Bits of paper may be disposed of by well meaning family members tidying up before the executors start their sorting out of the valuables.

Boring looking books are often burnt (half Latin and no pictures, dog-eared and stained from years of service in the field, strange notes written in pencil in the margin); of no value to a dealer but immensely valuable to a young botanist and perhaps also to the wider botanical community.

Could something be sent to all new members?

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NOTES AND ARTICLES

GERANIUM AEQUALE – A NEW NATIVE CRANE'S-BILL

Stace's *New Flora*, 2nd ed. (1997) does not describe many varieties, but *Geranium molle* L. var. *aequale* Bab. does get a mention (p.482), drawing attention to the extraordinary dimorphic fruits of this species; the mericarps are strongly ribbed in var. *molle* and completely smooth in var. *aequale*. Intermediates are unknown, and each taxon apparently 'breeds true', although they can grow together. Since the nature of the carpel in *Geranium* is normally a reliable and constant character for each species, it comes as little surprise to me to learn that in 1997 this variety was elevated to a 'good' species and should be known henceforth as *Geranium aequale* (Bab.) Aedo – after a careful study of this group world-wide. A full description and illustration were published a year later by Carlos Aedo *et al.* in *Ann. Missouri Bot. Gard.* **85**: 594-630 (1998).

Printed records of var. *aequale* in Britain seem to be relatively scarce and certainly none appears to exist for S.E. Hants but this did not deter Delf Smith from hunting for it on his local patch. My own 4-county-wide search for it in 1999 failed, but DPJS successfully tracked it down on the short turf of chalk downland overlooking Portsmouth, near Collyers Pit at Widley, in July 1999 (**Herb. EJC**). He also produced from it the splendid artwork reproduced here (see p. 19), showing all facets of the taxon (compare it with Stella Ross-Craig, *Drawings of British Plants*, part VI, plate 34, which illustrates only var. *molle*). He also carefully observed several subtle characteristics separating it from nearby var. *molle*, but was later shocked to find that the local coastal ecotype of var. *molle* was much more obviously different!

A species can be legitimately defined by a **single** (or even no) reliable gross morphological difference, but it is much more satisfying when several divergent characters can be found. In this case, the small mericarps of var. *aequale* do not cover the seed completely, as in var. *molle*. Carlos Aedo *et al.* (*loc.cit.*, p.606) also claim that var. *aequale* has densely ciliate mericarps (not sparsely ciliate at the base) and has a thicker testa. In addition, it has small petals 3.5-4.5 mm long; those of var. *molle* range from (3-)4.5 – 8.5(-10.5) mm, the upper limits referring to *G. brutium* Gasp. that C. Aedo *et al.* claim cannot be upheld even as a variety! (cf. *Flora Europaea* **2**: 198).

In spite of these differences, Dr P.F. Yeo (our BSBI referee on this genus) advises me (*pers. comm.*, Jan. 2000) that he still prefers to regard this deviate simply as a mutant of *G. molle* and not worthy of specific distinction. He particularly draws attention to its natural distribution, limited to S England and NW Europe, which appears to consist of a rather random scattering: it is also a successful alien, appearing in New Zealand (as early as 1821!) and NE USA. Its habitat of 'cultivated fields and dry places near villages' is also uninspiring.

Since C.C. Babington, in *Man. Brit. Bot.*, ed. 2: 65 (1847), first described this plant with a query (and then excluded it from ed. 3), little appears to have been written about it. It was regarded as 'an interesting form which would repay genetical investigation' in *Bot. Exchange Club Rep.* (for 1945), **13(2)**: 155 (1947), and Dr J.G. Dony in *Flora of Bedfordshire* (1953) regarded *G. molle* as a variable species and states that 'forms with smooth carpels are not infrequent'.

I suggest that in order to produce better documentation about this deviant, we should accept it, provisionally, as a species. It is easily recognised when in fruit. It is certainly no less convincing than, e.g., *Amaranthus bouchonii* (Stace, *loc. cit.*: 154) which we accept as a good species, yet this seems to be a somewhat similar mutant, separated from *A. hybridus* **ONLY** by the fact that its fruit is indehiscent.

Who will be the next to write about *G. aequale*? Does it, e.g., prefer calcareous soils, especially on the warmer south-facing slopes? 'It deserves further attention', quoting p. 73 of F. Townsend, *Flora of Hampshire* (1883).

I will now list those few British records that I know of: there must be many more!

v.c. 113 (CI, Sark)	Little Sark, F. Ballard & Gollon, **K**.
v.c. 3/4 (Devon)	Tiverton, Aug. 1922, A.E. Hahood, **OXF** (conf. SM).
v.c. 7 (N Wilts)	Ogbourne St George, pre-1957, J.D. Groose, **Hb. J.D. Groose**
v.c. 10 (Wight)	Bonchurch, May & June 1843, J.A. Hankley, **OXF** (conf. SM)
v.c. 11 (S. Hants)	Waste ground, about Christchurch, pre-1883. F. Townsend (*Flora of Hants.*)
v.c. 12 (N. Hants)	Andover, C.B. Clarke. **K**; Alton, 1885. Canon Vaughan. **OXF** (det. SM).
v.c. 21 (Middlesex)	Hendon, 1912, E.F. & H. Drabble (*Hist. Flora of Middlesex*).
v.c. 22 (Berks)	Boar's Hill, pre-1897, G.C. Druce. (*Flora of Berkshire*).
v.c. 27 (E. Norfolk)	Buxton, 1847. Mann. **K**.
v.c. 28 (W. Norfolk)	Appleton. C.E. Hubbard. **K**.
v.c. 30 (Beds)	Not infrequent. (?No published localities – see above)
v.c. 34 (W. Glos)	In clover field, Tarlton, Coates, nr Cirencester, *c.*ST/9.9, June 1945, H.K. Airy Shaw & E. Nelmes. **K**, **MA**, **NMW**, **OXF**, **RNG** Avonmouth Docks, May 1933. C.I. & N.Y. Sandwith. **MBH**, **K**.
v.c. 35 (Mons)	Pasture, Llandegfedd, ST/5.9, June 1946. A.E. Wade, **NMW**. 'With almost white flowers.'
v.c. 38 (Warks)	Near Leamington, J.J. Murcott. **CGE** (lectotype).
v.c. 41 (Glams)	NMW building site, Cardiff, ST/1.7B, May 1933, A.E. Wade, **NMW**. Cultivated field, between Llantwit Major and St Donats, SS/9.6B, May, 1928, A.E. Wade, **NMW**. Near Cardiff, ST/1.7, 1908, C.T. Vachell, conf. A.E. Wade, **NMW**.
v.c. 47 (Monts)	Grassy hedgeside, Newtown, SO/1.9, August 1939, J.A.Webb, **NMW**.
v.c. 63 (SW Yorks)	Roadside, Armthorpe, nr Doncaster, SK/6.0, June 1905, C. Waterfall, det. A.E. Wade, **NMW**.

I have also heard of an unlocalised record from Cambs (v.c. 29) and an unconfirmed one from The Duver (St Helens Spit), Isle of Wight (v.c. 10).

Pete Selby very kindly searched the world-wide-web for me and came up with one hit, an authoritative, annotated *World Checklist of* Geranium *L. (Geraniaceae)* sited at www.rjb.csic.es/geranium/check_geranium.html, emanating from C. Aedo *et al.* at the Real Jardin Botánico de Madrid. It covers 'hundreds of species', giving the place and date of publication and world distribution of each one, including *G. aequale*. An interesting site!

I am much indebted to Gwynn Ellis, George Hutchinson, Alan Leslie, Serena Marner (as SM, above) and Paul Stanley who kindly supplied some of the above information.

Key to drawing of *Geranium aequale* (Bab.) Aedo

A	Habit of plant
B	Section of stem
C	Flower and fruit
D	Calyx
E	Petal
F	Mericarp with seed
e, f	Petal and mericarp with seed of *Geranium molle* L. *sensu stricto*

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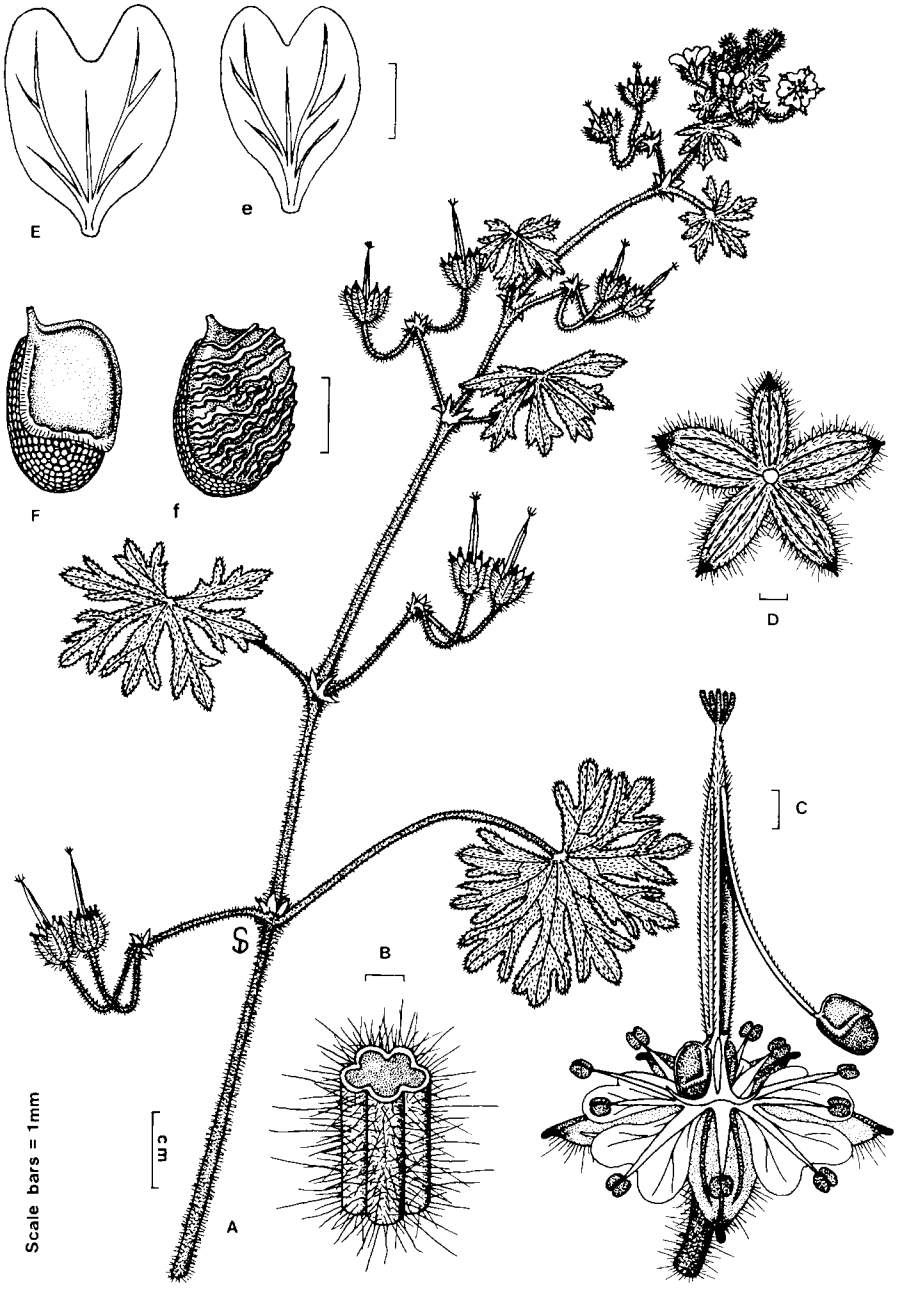
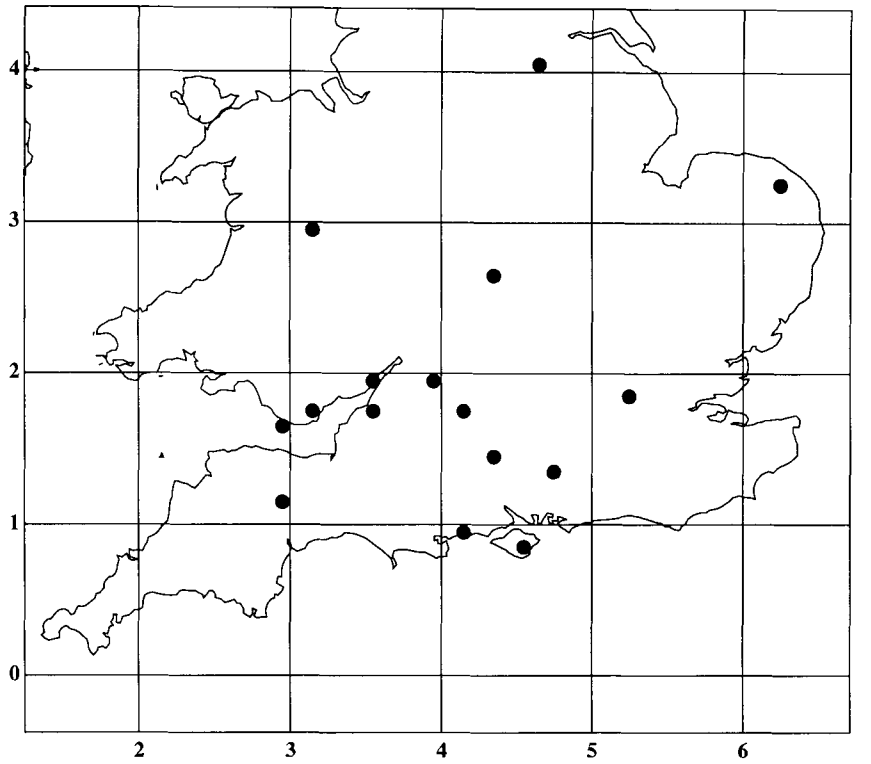


Geranium aequale (Bab.) Aedo del. D.P.J. Smith © 1999



Distribution of *Geranium aequale* based on the records given on page 19. (Map produced by DMap)

ARMERIA MARITIMA ON INLAND ROADSIDES

I wonder if Irene Weston's *Armeria maritima* (Thrift) on the A158 near Wragby in Lincs (v.c. 54) (*BSBI News* **83**: 28) could be the subsp. *elongata*?

According to Stace this grows in 'lowland inland rough pasture, rare in Lincs', and my elderly CTW (1962) gives 'only on sandy soil inland near Ancaster (Lincs). Perhaps native.'

The larger, glabrous stems should distinguish it from subsp. *maritima*.

Reference

Clapham, A.R., Tutin, T.G. & Warburg, E.F. (1962). *Flora of the British Isles.* 2nd edn. Cambridge. Cambridge University Press.

Stace, C.A. (1999). *Field Flora of the British Isles.* Cambridge. Cambridge University Press.

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MORE *ARMERIA MARITIMA* ON INLAND ROADSIDES

Irene Weston (*BSBI News* **83**: 28) reports the occurrence of *Armeria maritima* (Thrift) on inland roadsides in Lincs. Even more remarkable in its distance from the nearest coastline is the appearance of a single plant alongside a minor road in Prestwood, Great Missenden, Bucks (v.c. 24, SP/874.001). Growing immediately next to the kerb, with a wide grass verge on the other side, it was first seen when in flower on 31 May 1999. It flowered on and off through the summer. The road has been known to be salted in the past, and the location of the plant is only fifty metres from a junction with an A road. There is housing development on both sides of the road and the verge is cut a couple of times each year. Its provenance is difficult to imagine. The location does not appear to fit a hypothesis of deliberate planting, but I have not known thrift plants in local rockeries to show any signs of spreading even within the garden, let alone beyond and they do not appear to set seed. It will be interesting to see if the roadside plant survives or even spreads.

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GLANDS ON *JUNCUS*?

The *Flora of Great Britain and Ireland*, by Peter Sell and Gina Murrell (**5** (1996)) is an addition to the family of Floras of the two large islands off the shores of western Europe. The Preface sets out the aims of the new work, '. . . . a full description of each species . . .'. The more detailed accounts of species are welcome.

In volume 5, devoted to the Monocotyledons, I read with interest certain species which I had studied over the years. One of these was *Juncus planifolius* R .Br. (Broad-leaved rush).

Juncus planifolius, an alien rush, was first noted in West Galway (H16) in 1971. Later it was found to be widespread in the Carna-Glinsk peninsula. The description in Sell and Murrell, '. . . stems 10-30 (-60) cm striate covered with minute, sessile glands . . .' is puzzling. I never noticed glands on the material collected for the National herbarium (**DBN**) in the 1970s. On close examination in the herbarium glands were not seen on the stems or other parts of the morphology of this species. In recent times, through the courtesy of Dr Matthew Jebb, Keeper of the Herbarium, I examined the stems of fresh plants. Glands were not seen.

Sell and Murrell provide a Glossary of terms, in an appendix to the *Flora*. In this a gland is described as follows:

> 'a small globose or oblong vesicle containing oil, resin or other liquid, sunk in the surface or protruding from any part of a plant. When furnished with stalks they are called glandular hairs'.

William Stearn in *Botanical Latin* (3rd ed. 1983: 435-436) provides a long entry for 'gland' and advises:

> 'the use of the term *glans* for swellings without secretory functions should now be avoided..' (this is a brief extract).

In the general accounts of Juncales, Juncaceae and *Juncus* in the *Flora of Great Britain and Ireland* there is no mention of glands. In other works, *Flora of the British Isles* 3rd ed. 1987, by Clapham, A.R., Tutin, T.G., and Moore, D.M., (Cambridge University Press), *An Irish Flora*, 6th ed. 1977, by Webb, D.A. ((Dundalgan Press, Dundalk), *Prodromus Florae Novae Hollandiae et insulae*, 1810, by Brown, R. Van-Diemen. London and others, the word gland is not used in the family, Juncaceae.

Balslev, H. who reported the North America location for *J. planifolius*, as – Oregon, Coos Co., Bandon, seepage sand in ditch at top of ocean cliffs, Sept. l. 1969. D.S. and H.B. Correll. – *Brittonia* **32**(1) (1980): 51-54, in a descriptive piece, makes no mention of glands.

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BOTANY IN LITERATURE – 23

The name Rousseau brings to mind, not only the two French painters Henri Julien Félix Rousseau (1844-1910) (*Tropical Storm with Tiger* (1891)) and Pierre Étienne Théodore Rousseau (1812-67) (*Under the Birches, Evening* (1842-44)), but also the French political philosopher, and writer, Jean-Jacques Rousseau (1712-78).

Born in Geneva, Switzerland, the latter is remembered for his educationist novel *Émile* (1762), his *Le Contrat Social* (*The Social Contract* (also 1762)), which gave rise to the French Revolution's cry of 'Liberty, Equality, Fraternity', and, in 1782, one of the earliest autobiographies, his *Confessions*. While living in Paris he also presented a scientific paper to the scientific establishment there. It was rejected but accepted when he re-presented it eight years later.

Seldom recorded, however, is his *Reveries du Promeneur Solitaire* (*Reveries of the Solitary walker*) written in about 1752 (published posthumously in 1782). The following passage is taken from the Fifth Walk of the *Meditations of a Solitary Walker* published as an extract from *Reveries* by Penguin Classics in 1995. The page numbers refer to the extract. The setting is the Island of Saint-Pierre (called 'Île de la Motte' by the people of Neuchâtel) in the middle of the Lake of Bienne. Rousseau arrives at the one and only house on the island and records (pp. 31-33):

> One of my greatest joys was above all to leave my books safely shut up and to have no escritoire.[1] When I was forced to take up my pen to answer the wretched letters I received, I reluctantly borrowed the Steward's escritoire and made haste to return it in the vain hope that I might never need to borrow it again. Instead of all these gloomy old papers and books, I filled my room with flowers and grasses, for I was then in the first flush of enthusiasm for botany, a taste soon to become a passion, which I owed to Doctor d'Ivernois. Not wanting to spend the time on serious work, I needed some agreeable pastime which would give me no more trouble than an idler likes to give himself. I set out to compose a *Flora Petrinsularis*[2] and to describe every single plant on the island in enough detail to keep me busy for the rest of my days. They say a German once wrote a book about a lemon-skin; I could have written one about every grass in the meadows, every moss in the woods, every lichen covering the rocks – and I did not want to leave even one blade of grass or atom of vegetation without a full and detailed description. In accordance with this noble plan, every morning after breakfast, which we all took together, I would set out with a magnifying glass in my hand and my *Systema Naturae*[3] under my arm to study one particular section of the island, which I had divided for this purpose into small squares, intending to visit them all one after another in every season. Nothing could be more extraordinary than the raptures and ecstasies I felt at every discovery I made about the structure and organization of plants and the operation of the sexual parts in the process of reproduction, which was at that time completely new to me. Before progressing to rarer plants, I was delighted, to observe in the common species the distinctions between families of which I had previously been unaware. The forking of the self-heal's two long stamens,[4] the springiness of those of the nettle and wall pellitory, the way the seed bursts out from the fruit of the box and balsam,[5] all these innumerable little tricks of fertilization which I was observing for the first time filled me with joy, and I went about asking people if they had seen the horns of the self-heal just as La Fontaine[6] asked if they had read Habakkuk.[7] After two or three hours I would come back with a rich harvest, enough to occupy me at home all the afternoon if it should rain.
>
> *
>
> But one of my most frequent expeditions was to go from the larger island to the smaller one, disembarking and spending the afternoon there, either walking in its narrow confines among the sallows, alders, persicarias and shrubs of all kinds, or else establishing myself on the summit of a shady hillock covered with turf, wild thyme and flowers, including

even red and white clover which had probably been sown there at some time in the past, a perfect home for rabbits, which could multiply there in peace, without harming anything or having anything to fear.

Notes

1. *escritoire*: a writing desk with drawers.
2. *Flora Petrinsularis*: Petrina or Petra is a town of Sicily, between Piciniana and Pirina. Rousseau's intention is to produce a local flora in the manner of one composed on the flora of this town.
3. *Systema Naturae*: Either the sixth or seventh editions of Linnaeus's 1735 work (abbreviated *Syst. Nat.**), both published in 1748, or the eighth edition published in 1753. Linnaeus had a great influence on Rousseau, as he did on Goethe, his works supplying his French literary disciple in the study of plants with what was 'a crying need at that stage – an objective and methodical approach to botany'.

   * It is of interest to note that *Syst. Nat.* also stands for A.P. de Candolle's *Regni vegetabilis Systema Naturale* published in 1817 (vol. 1) and 1821 (vol. 2).
4. *the forking of the self-heal's two long stamens*: i.e. *Prunella vulgaris* has stamens which are bifid. The description Rousseau gives implies that the arrangement of the stamens is didynamous, i.e. it is in two unequal pairs, two short and two long. The arrangement is actually didymous, i.e. in two equal pairs (the four stamens being either all or nearly all the same length).
5. *the way the seed bursts out from the fruit of the box and the balsam*: refers to *Buxus sempervirens* (Box) and *Impatiens noli-tangere* (Touch-me-not Balsam). The latter is described by Weberling (1992) as having fleshy ballistic fruits consisting of 5 carpels which are 5-locular with highly turgescent walls when ripe. These walls are, at least on the innermost layer, fully stretched, so that they prevent the parenchymatous-celled tissue from expanding. When 'the bonds between the 5 carpels are slackened, then the slightest touch is enough to make the 5 fruit valves roll up explosively, so that the seeds are thrown a long way off.' Linnaeus (*Species Plantarum*, 1753) uses the word *tumentibus* to describe the turgescence or swelling.

   The specific epithet comes from John **20**: 17 (as *Noli-me-tangere*). Anton Mengs (1728-79) and Titian (*c.*1485-1576) used *Noli Me Tangere* as the title for their respective paintings (both in the National Gallery, London).
6. *La Fontaine*: The poet Jean de la Fontaine (1621-95), born in Château-Thierry, France, and best known for his *Fables Choisies Mises en Vers* (12 vols., 1668-94), usually translated as 'La Fontaine's Fables'.
7. Habakkuk: The Hebrew minor prophet (probably 7th century BC) and the name of a book in the Bible (OT) bearing his name.

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THE HYBRID BLUEBELL, *HYACINTHOIDES* × *MASSARTIANA*

The very apt name of *Hyacinthoides* × *variabilis* P.D. Sell *ined.* has recently graced various British publications, including the front cover of *BSBI News* **80** (1999) and T.C.G. Rich & A.C. Jermy's *Plant Crib 1998* (1998), but it does not appear in Stace's *Field Flora of the British Isles* (1999). Curious, I investigated and discovered that this epithet has still never been validly published (i.e. no Latin description with specification of a holotype specimen has appeared in any publication). It should therefore not be used.

But worse news has emerged: Mike Grant & Dr Alan Leslie (both at RHS Gardens, Wisley) very kindly sent me a copy of *Belg. Journ. Bot.* **129**(1): 83-85 (1996, but published 31/1/1997) wherein D. Geerinck has faithfully followed the Botanical Code (ICBN) and already provided another name, *H.* × *massartiana* Geerinck for the hybrid *H. hispanica* × *H. non-scripta*. This is the correct name that we must all now use. The name commemorates the botanist Jean Massart (1865-1925), late Professor at l'Université libre de Bruxelles in Belgium.

I am indebted to Dr S.J. Jury & Prof. C.A. Stace for drawing this unfortunate change of name to my attention, apparently after being alerted to it by Prof. J. Lambinon (Liège, Belgium).

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GM CROPS – BALANCED DEBATE NEEDED

I joined BSBI in 1957, was a sometime member of Council, and have enjoyed *Watsonia* as well as, latterly, the excellent *News*, over the years. It was, therefore, with some dismay that I read the note by Adrian Bebb in the recently received *News* **83**. Is our Society now set to promulgate the views of non-scientific pressure-groups? Goodness only knows, but there are sufficient outlets for them in the 'meja', without the Society apparently supporting such propaganda.

Like so many of my generation, my first job was as a plant-breeder (i.e. altering the genetic constitution of plants to produce offspring suitable for Man's needs). I do not feel that my concomitant and later academic studies of the taxonomy, evolution and geography of plants across the world were in any way defiled. Why should the Society provide yet another unchallenged outlet for politically charged views?

Rather, if it wishes to become embroiled in such matters, the *News* might initiate a reasoned discourse in keeping with the broadly based membership of BSBI, but no more unscientific, emotive propaganda, please. It debases the currency of our much cherished Society.

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As Editor, I must accept full responsibility for the inclusion of the note by Adrian Bebb in the last issue of *BSBI News*. I am sorry if this has upset some members of the Society and would welcome any contributions on the subject of genetically modified foods, both for and against, as mentioned by Prof. Moore in the last paragraph of the above note. Ed.

MORE ON GM CROPS

I would like to add a footnote to Adrian Bell's invitation to join Friends of the Earth's plan to object to any proposals to add GM species to the National Seed List, which I shall certainly take up (*Your Last Chance to Object to GM Crops*, *BSBI News*, **83**: 48). Last year I sent the following letter to *New Scientist*. Of course, being routinely pro-latest technology, they did not publish it:

> 'I am an ordinary member of the public trying to follow the issues over GM crops. Now that the argument has come up again, following Michael Meacher's announcement this week, I have tried to understand whether there is anything radically new in the arrangements proposed for field trials. It seems not, and it is difficult to see how there could be. But, perhaps like others, I am utterly bemused by the confidence that seems to be felt over these arrangements. I ask this simple question: "how far can pollen be expected to travel?" Since this is presumably quite unanswerable without specifying very precise (and inevitably transient) circumstances, what is the point of talking about "buffer zones" of any predetermined size whatever?'

If this should be a silly question, perhaps one of our members readers could explain why. So far as I can see at the moment, it lies at the heart of the matter. I do not take the putative health risk to the consumer of foods derived from GM sources at all seriously; but I take the prospect of the possible permanent genetic modification of any of our native species very seriously indeed. I do not see how the hazard can he completely discounted; talk of 'statistically minimal risk' is simply not acceptable in a situation like this; and the only possible answer, it seems to me, is a complete ban on such crops except for those (e.g., salads, greens) that are harvested before flowering, but even in those crops, the risk of some plants being missed and left to flower and seed remains.

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MORE ON BRACKEN

I offer the following observations on Ms Rippin's contribution to *BSBI News* **83**: 30-31.

Pteridium aquilinum (Bracken) need not be regarded as any more out of place as a subject for horticulture than any other plant. In some conditions it might present a challenge for the grower; in others it might be happy, but need control. Control is simple within garden terms. Unwanted fronds can be removed easily. Take my word for it. When we moved here in 1995, an isolated area of some 30 square yards of the garden was dominated by Bracken. Two years later the plant was gone, – a clearance achieved by the (almost) daily removal of fronds (initially, some 200+, on each visit).

During this same period, a close neighbour used gallons of Jeyes Fluid in an endeavour to remove three large clumps of *Dryopteris* that a previous tenant had carefully established in the shrubbery. He was unable to differentiate them from *Pteridium* and identified them as 'weeds'.

What's in a name? – Which leads to Adder's Spit.

Ms Rippin need have looked no further than Webster's Dictionary, where it is given as one word, 'Adderspit'. Defining it as the 'Brake Fern, Pteridium aquilinum', Webster adds that it is so called on account of the saliva-like appearance of the sori but offers no derivation.

All these old names – what interesting trails they lead us down.

I love my Grigson, but he's far from exhaustive (though he *does* give Ms Rich (*BSBI News* **83**: 26) a number of alternatives for 'Lady's Slipper', and the references to 'lazy scent' and the flowering-period are good clues).

Thus, in my turn, I need help, not only in tracking down a plant name, but (now), its source! For I have lost track of the document (a piece of mediaeval verse?) in which I encountered a reference to 'Egremont' in a list of hedgerow plants (I think).

Two geographical entities bearing this name are known to me, but I can't find a plant reference. Does anyone know what it might be, – or where I might have met up with it ?

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GARDEN MANAGEMENT AND *URTICA DIOICA* AS A GARDEN PLANT

I agree with Shirley Rippin (*BSBI News* **83**) that *Pteridium aquilinum*, under any alias, is unsuitable for garden introduction. But why *not* nettles? They are no more venomous, and a lot less rampant, than many prized introductions. Both my husband and I were brought up to regard vigorous, young nettle shoots as very acceptable and health-giving spring 'greens', and we have always been prepared to tolerate a few nettles somewhere in the outer regions of our garden, even when this was only a small patch in suburban Dublin. Upon graduating to more spacious surroundings in the Meath countryside, we became hosts to genuine, unfettered nettle-beds, the source not merely of pickings for the kitchen, but attracting butterflies and other wildlife as well.

However, it was not until 1997, while 'square bashing' in Kerry for the Atlas 2000 project, that I became aware of the possibilities of *Urtica dioica* as a plant for the larger herbaceous border. On roadsides and marginal farmland in a secluded valley, I encountered clumps of the female stinging nettle with leaves and flowers in vibrant shades of deep rose and burgundy, fringed with ice-white stinging hairs and stigmas, like rime on a frosty morning. The associated males were quieter in tone, with russet leaves and orange-brown tassels of staminate flowers, and with less prominent stinging hairs. These were no miserable, depauperate, weedy individuals, made hectic by nutrient deficiency or virus, but vigorous, healthy, metre-high clumps, fit to grace the most elegant of gardens. I plan to return (with the landowners permission) and gather some material for propagation as soon as I have finished with the fallout of verification and discrepancy lists from the Atlas 2000 fieldwork.

Anyone for *Urtica dioica* 'Iced Burgundy'?

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BRACKEN FOR SALE

With reference to Shirley Rippin's note in *BSBI News* **83**; bracken is also offered for sale on the fern stand at a popular garden centre near Hayle, Cornwall.

I wonder if it would be an idea for BSBI to send a cautionary note to key sections of the Horticultural Trade such as editors of gardening magazines? It might carry more weight coming from an 'official body' rather than a private individual.

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A NEW HORSETAIL FOR IRELAND

A family outing on the 29-5-99 with my sister-in-law Bridget Keehan into the mountains north of Sligo proved very botanically interesting when we stopped for my wife to take a photograph of the mountain Benwisken. There on a roadside bank (Irish National Grid Ref G/739.508, E side of road) I found an unusual Horsetail which turned out to be *Equisetum* × *font-queri* (*E. palustre* × *E. telmateia*) a Horsetail new to Ireland.

The plants stretched for about 20 Metres on a small field boundary bank below a wire fence. They were growing on both sides of the bank, but were not growing in or past the wet ditch on the far side of the bank, the *E.* × *font-queri* seeming to prefer the drier bank. One of the hybrids parents, *E. palustre* was growing in the ditch and was also intermingled with the *E.* × *font-queri* on the bank. The hybrid plants were very distinctive , the larger spikes looking like a slender *E. telmateia* with the typical white internodes, but with fruiting bodies on the vegetative shoots and 11-12 ridges with a centre hollow of

about one third. Even the small vegetative hybrid shoots without fruiting bodies were distinctive, having a yellow-green colour easily distinguishable from the blue-green colour of the intermingled *E .palustre*. We later counted 480 shoots of the hybrid, and although they stretched for 20 metres it is probable that they were all from one plant.

Bridget listed the species growing with *E. ×font-queri* :

Achillea millefolium, *Anthoxanthum odoratum*, *Bellis perennis*, *Cardamine pratensis*, *Carex caryophyllea*, *C. flacca*, *C. pilulifera*, *Cerastium fontanum*, *Cirsium palustre*, *Crataegus monogyna* (small bush), *Cynosurus cristatus*, *Dactylis glomerata*, *Dactylorhiza* sp., *Dryopteris dilatata*, *Equisetum palustre*, *Festuca rubra*, *Fraxinus excelsior* (seedlings), *Galium saxatile*, *Hedera helix*, *Holcus lanatus*, *Ilex aquifolium* (small plant), *Juncus effusus*, *Luzula campestris*, *Lotus corniculatus*, *Pilosella officinarum*, *Plantago lanceolata*, *Poa pratensis*, *Potentilla anserina*, *P. erecta*, *Primula vulgaris*, *Prunella vulgaris*, *Ranunculus repens*, *Rubus* sp., *Rumex acetosa*, *Trifolium repens*, *Veronica chamaedrys*, *Viola riviniana* and two mosses *Hypnum* sp. and *Rhytidiadelphus* sp.

We did not do a search for the other parent, *E. telmateia*, but did pass a roadside patch about a mile away and another half a dozen roadside patches as we drove down Glencar Loch.

The colony looks fairly secure, the road by which it grows is only a minor road and it is unlikely that there will be any substantial road-works to affect the colony. Some Brambles are encroaching on the colony and the Ash seedlings and the young Holly and Hawthorn tree may eventually grow and shade out some of the plants, but the bank appears well grazed with only a few intermittent shrubs and trees along its length, so hopefully the bank will not become overgrown.

I would like to thank Dr C.N. Page for his speedy confirmation of the specimens I sent him and for informing me that *Equisetum ×font-queri* was new to Ireland.

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PURPLE-LEAVED *POA ANNUA*

Poa annua (Annual Meadow-grass) is normally thought of as a green-leaved plant and most accounts, quite naturally, describe it as such. The only dissenter I have come across is *Plant Crib 1998* (Rich & Jermy 1998) which states: '*P. annua* is usually flushed with purple and is darker [in comparison with *P. infirma*]'.

In recent years, a distinctive purple-leaved form has become widespread at RHS Garden, Wisley, particularly on the Portsmouth Field (trials area) and Rock Garden, both areas where annual weeds need constant elimination. The leaves of this form are a brownish-purple and serve to camouflage it very well against bare soil. It only becomes obvious when it flowers; the panicle is quite green as it emerges from the culm and the plant's presence is betrayed. *P. annua* is relatively resistant to most herbicides and this camouflage provides further defence from hand-pulling and hoeing. There is obviously a further evolutionary step required to a purple panicle before it becomes 'invisible'.

I have made some informal enquiries amongst colleagues and this plant seems known to only a select few, in particular those who deliberately seek out such curiosities. David McClintock (v.c. 16) has had it in his garden since he moved there in 1945 and Alan Leslie (v.c. 17) also has it and has known it as a nursery weed at several sites for many years. The RHS Members' Advisory Service has so far only received one enquiry (Page 1999) about this form in which it was described as a serious garden weed with 'almost black' leaves from a garden in West Malling (v.c. 16).

David McClintock remembers T.G. Tutin being aware of this or a similar form (Tutin 1957, 1973) but the latter was apparently reluctant to name such variants. *P. annua* is predominantly self-pollinating or inbreeding (Hutchinson & Seymour 1982) and purple-leaved populations seem to remain true to type with only a few intermediates. I am aware of epithets covering panicle colour variants and short-lived perennial forms, but not this. Perhaps we still need a name if this form is to be recorded. I would be interested to hear of any occurrences.

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MORE ON LADY'S SLIPPER IN HAMPSHIRE

Several members have responded to my note in *BSBI News* **83**. The consensus of opinion suggests the plant referred to as lady's slipper by Sir Edward Grey was *Lotus corniculatus*.

The following plants have been notified to me, all to which the name 'lady's slipper' has been applied:

> *Anthyllis vulneraria*, *Aquilegia vulgaris*, *Arum maculatum*, *Cypripedium calceolus*, *Hippocrepis comosa*, *Iris pseudacorus*, *Lathyrus pratensis*, *Lotus corniculatus*, *Ranunculus acris*, and 'Genista'. (All sources supplied).

Another member thought 'the description of "a very choice place" was a diplomatic way of writing a very well chosen place' and went on to suggest the possibility of a 'Victorian introduction from the wild'. One other suggestion was '*Mimulus*', but Sir Edward has referred to that plant, as musk.

W.H. Hudson stayed at the cottage at the turn of the 19th century but made no mention of *Cypripedium* in his book, *Hampshire Days*.

So it appears possible, that the lady's slipper which so inspired Sir Edward was none other than the very common *Lotus corniculatus*. Perhaps the Illustrator of the diary was either ill advised or carried away by enthusiasm when he depicted *Cypripedium calceolus*.

One more puzzle, if the plant was *Lotus corniculatus*, why did an ornithologist such as Sir Edward Grey, not choose to refer to it by it's more familiar name of Bird's-foot-trefoil?

Thanks to Alida Butcher, Gwynne Johnson, Anne Horsfall, Jill Lucas, Rachel Nicholson, Mary Smith and Roy Vickery.

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LADY'S SLIPPERS

In *BSBI News* **83**, Elizabeth Rich quotes from Sir Edward Grey's diary for June 1902: 'We trailed to the lady's slipper place on Sunday evening and found it in full flower its lazy scent rose around us as we walked.'

What was the plant to which Sir Edward referred? There are at least nine species for which this name has been used:

- *Anthyllis vulneraria*, kidney vetch; Warwickshire [Grigson 1955: 138]
- *Aquilegia vulgaris*, columbine; Cornwall [Davey 1909: 14], also recorded from Wiltshire.
- *Arum maculatum*, lords-and-ladies; Wiltshire [Grigson 1955: 429]
- *Cypripedium calceolus*, standard.
- *Hippocrepis comosa*, horseshoe vetch [Highclere Street, Berkshire, February 1982].
- *Iris pseudacorus*, yellow iris; Ipswich, Suffolk [Britten & Holland MSS].

- *Lathyrus pratensis*, meadow vetchling; Wiltshire [Britten & Holland MSS], also recorded from Somerset.
- *Lotus corniculatus*, bird's-foot-trefoil [name used] when we used to go out for walks with my grandfather, an old Yorkshire man' [Chessington, Surrey, February 1993], Kent, 1930s [Orpington. February 1998]; also recorded from Essex [Gepp, 1923: 69], Hertfordshire [Britten & Holland: 1886: 296], Somerset, Wiltshire and Antrim.
- *Ranunculus acris*, meadow buttercup [Macmillan, 1922: 171]

My sense of smell is rather poor, but I don't think any of the above is noted for its scent, 'lazy' or otherwise. My guess would be that Grey's plant was either *Anthyllis* or *Hippocrepis*, or is there a tenth species which has been given the name?

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Britten & Holland MSS – slips accumulated by James Britten (1846-1924) and, especially Robert Holland (1829-93) intended for a supplement to their *Dictionary of English Plant-names*, now in the Botany Library, The Natural History Museum, London.

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CYPRIPEDIUM IN HAMPSHIRE???

I too was astonished when, on reading the recently published nature diary of Sir Edward Grey and his wife Dorothy they claimed to have seen Lady's Slipper in Hampshire (the book shows a water-colour of Lady's Slipper Orchid). Before I had realised that the pictures were recently commissioned, I spoke to Pete Selby, the recorder for South Hants, and we agreed that it must be some plant other than Lady's Slipper Orchid.

I started looking at the text more carefully:

> 'The long piece of grass beyond Itchen Wood was covered with lady's slipper: I never saw such a mass of it: . . it was full of bees and quantities of wild strawberries were dotted about . . .' (June 27,1897).
>
> 'Could anyone do a more summery thing than to lie in the middle of a mass of yellow lady's slipper and to listen to the bees in it?. . . In a garden where flowers are grown by the square foot it would have been a crime, but 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.' (June 25 1899).
>
> '. . . on the downs one cannot miss the strong pink colour of patches of thyme and with it the yellow of the lady's slipper, and other bright yellow down flowers.' (June 16,1901).

It is obvious that lady's slipper is a common downland plant, rather than a lover of shady limestone slopes.

Geoffrey Grigson's *The Englishman's Flora* yielded 7 plants called Lady's Slipper in various areas of the country, and 3 called Lady's Slippers. Allowing for habitat, flowering time and the details given in the quotes, the most likely candidates seem to be Bird's Foot Trefoil, which was known as Lady's Slipper in Yorkshire (the Greys lived in Northumberland) or Kidney Vetch.

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YORKSHIRE HOSPITALITY

Geoffrey Willmore's book *Aliens plants of Yorkshire* recalls a story.

Many years ago, after the war, I was looking for aliens in Yorkshire with Ted Lousley. Up came two boys doing the same, who joined us. Came lunch time and we were invited to join the family. Despite being total strangers, we were warmly greeted. What we had for that Sunday lunch is another story.

I regret that I have long forgotten their names, but never their kindness. If they read this, I hope they will realise how very appreciative we were.

Lunch started with just Yorkshire Pudding, too important to be mixed with other foods we were told. Finally there was Apple Tart with a slice of cheese. 'Apple Tart without the cheese is like a kiss without the squeeze' said our hostess. I have quoted that many times.

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VANILLA OR ALMOND

Being inquisitive I thought that I would sample the fragrance of *Petasites fragrans* (Winter Heliotrope) which in most popular floras, including the *New Flora of the British Isles*, Stace 1997, it is said to possess a Vanilla-like smell. This I could not accept as to my nose it was decidedly Almond scented. This posed a question, is it my nose or have the books got it wrong?

To test my deduction I gathered a couple of small posies and took them to the Horsham Natural History Society members evening and passed them around the members and asked them to submit their verdict on what they thought the scent was reminiscent of. I had also taken in two bottles, one of Almond essence and the other of Vanilla essence in case their senses needed a reminder.

I was not at all surprised by the result with the overwhelming majority voting for the Almond scent and only a handful of people choosing Vanilla. Although this was not a very scientific experiment it does indicate that for most noses the fragrance of *P. fragrans* is more like Almond than Vanilla.

What we can conclude from the experiment is that fragrance is not a reliable character in plant identification.

Out of all the many botanical books I have, the only one that specifies Almond-like fragrance for *P. fragrans* is *The Scented Wild Flowers of Britain*, Roy Genders 1971.

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Genders, R. (1971) *The Scented Wild Flowers of Britain*, Collins

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OENANTHE PIMPINELLOIDES AND *O. LACHENALII* – BOTH SOLID AND HOLLOW!

Until recently, most Floras described the stems of both *Oenanthe pimpinelloides* (Corky-fruited Water-dropwort) and *O. lachenalii* (Parsley Water-dropwort) as solid, and perhaps they seem so when pressed between finger and thumb. But those like me who have cut stems (there are often plenty of plants in a population) have often found hollows, and been confused. Sometimes they have concluded that the plant is *O. silaifolia* (Narrow-leaved Water-dropwort). I expect that the records of this last species for Hampshire and Dorset, which are now known to be errors, stem(!) at least in part from this confusion.

Stace (1997) describes the stems of both *O. pimpinelloides* and *O. lachenalii* as 'solid (with pith) to ± hollow, with thick walls'. Indeed they are; and they differ according to the part of the stem examined.

Apart from short sections of stem below ground, or close to ground level, a fully-grown plant of either species will have at least six stem sections. (Usually a second stem starts at the 3rd or 4th nod, sometimes earlier, sometimes later. Other stems usually begin at higher nodes).

Early in its season (late May, early June) *O. pimpinelloides* may be found with all sections of stem hollow. On average, hollows then and later will measure 40% of the stem diameter. In June however, the lowest section of the stem fills with pith. Later, as an umbel progresses from flower to seed, the section of stem immediately under the umbel may also fill with pith; but the rest of the stem remains hollow. So it all depends when and where the stem is tested.

O. lachenalii behaves differently. I have not checked a young stem, but from early July, the lowest **three** sections of stem are usually pith-filled, occasionally the whole stem is solid, but usually, the upper half is hollow even under fruiting umbels.

So both species are solid and hollow! (Usually!)

Reference:

Stace, C.A. (1997). *New Flora of the British Isles*, 2nd ed. Cambridge University Press.

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QUERCUS × *ROSACEA* IN SAVERNAKE FOREST

Both native oak species (*Quercus petraea* and *Q. robur*) are frequent in Savernake Forest (over 900 ha), but neither are as common as their hybrid. Brian Rushton, writing in *Plant Crib 1998* (Rich & Jermy 1998) states the following:

> 'Not only are *Q. petraea* and *Q. robur* variable in themselves, but they have also widely introgressed producing variable, fertile hybrids. This results in inconsistent identification of both the parents and their hybrid *Q.* × *rosacea* by different botanists as the limits of the species are a matter of opinion.
>
> Identification must be made on a COMBINATION of characters.'

Following the injunction made in the last sentence (also emphasised by the BSBI *Quercus* referee A. Coombes), it would seem that a third of the Savernake oaks, young and old, are unequivocally *Q.* × *rosacea*. However **at least** half of the remaining two thirds are introgressed. These trees incline towards *Q. robur* or towards *Q. petraea*, but have 2, 3, or more of the 9 *Q.* × *rosacea* characters. They can either be given the designations '. . . close to *Q. robur*' or '. . . close to *Q. petraea*', or *Q.* × *rosacea* (*robur* features dominant) or *Q.* × *rosacea* (*petraea* features dominant). At all levels the majority of the native oaks in Savernake Forest have leaves which match the central illustrations of the leaves of *Q.* × *rosacea* given in Rich & Jermy (1998), and the 8 illustrations of *Q.* × *rosacea* leaves

from the Romanian Bejan Forest (Stanescu & Sofletea 1992). The majority of Savernake oaks also fit the middle (*Q.* × *rosacea*) column of the table of the 9 distinguishing features for the 3 native oak taxa in Rich & Jermy (1998).

There are 3 types of intermediacy in the Savernake oaks:

1. Intermediate, indeterminate features: petiole lengths fitting neither parent species, leaf bases semi-auriculate, subcordate, or almost cuneate, leaf outlines between the 2 parent spp; peduncles2 cms long with a few hairs.
2. Discrepant features: e.g. leaf lobing and pubescence like *Q. petraea*, but leaf base typical of *Q. robur*. There were 2 trees with short petioles and short peduncles, and 2 with long petioles and long peduncles, which combinations are quite wrong for the ancestral species.
3. Variable features: many trees had leaves which varied so much in lobing and in their leaf bases or range of petiole length that some leaves could be found on a single tree which could fit *Q. robur*, others fitting *Q. petraea*, whilst still others matched neither satisfactorily. In particular, a large proportion of the trees on which acorns were found had peduncles which **on any one tree** could be as short as 1 mm or as long as 6 cm. Many of these infructescences in 1999 had some or most acorns aborted or semi-aborted; such trees contained bunched, intermediate and semi-elongated infructescence stalks, with only a few bearing healthy mature acorns (at best usually only one per infructescence) by September.

Savernake native oaks also vary immensely in ways not known to discriminate between the 3 taxa, for instance, the Savernake Cluster Oak (Henry 1917); oaks with sub-spheroid acorns or the opposite, narrowly cylindrical acorns; large-leaved oaks, small-leaved oaks; fluted oaks, and other forms (see Oliver & Davies *c.*2001). Savernake Forest would appear to be one of the large mixed oak forests of Britain (see Wigston 1974), with as far as I can understand from the English summaries, many more *Q.* × *rosacea* trees and intermediates than are to be found in the great Czech, German, Polish, Romanian and Ukranian oak forests (Aas 1991, Belous 1972, Boratynski 1997, Mihaileseu & Ciobanu 1990, Stanescu & Sofletea 1992).

There are some differences between the pubescence of the Savernake oaks and the descriptions in Rich & Jermy (1998), all relating to leaf undersurfaces.

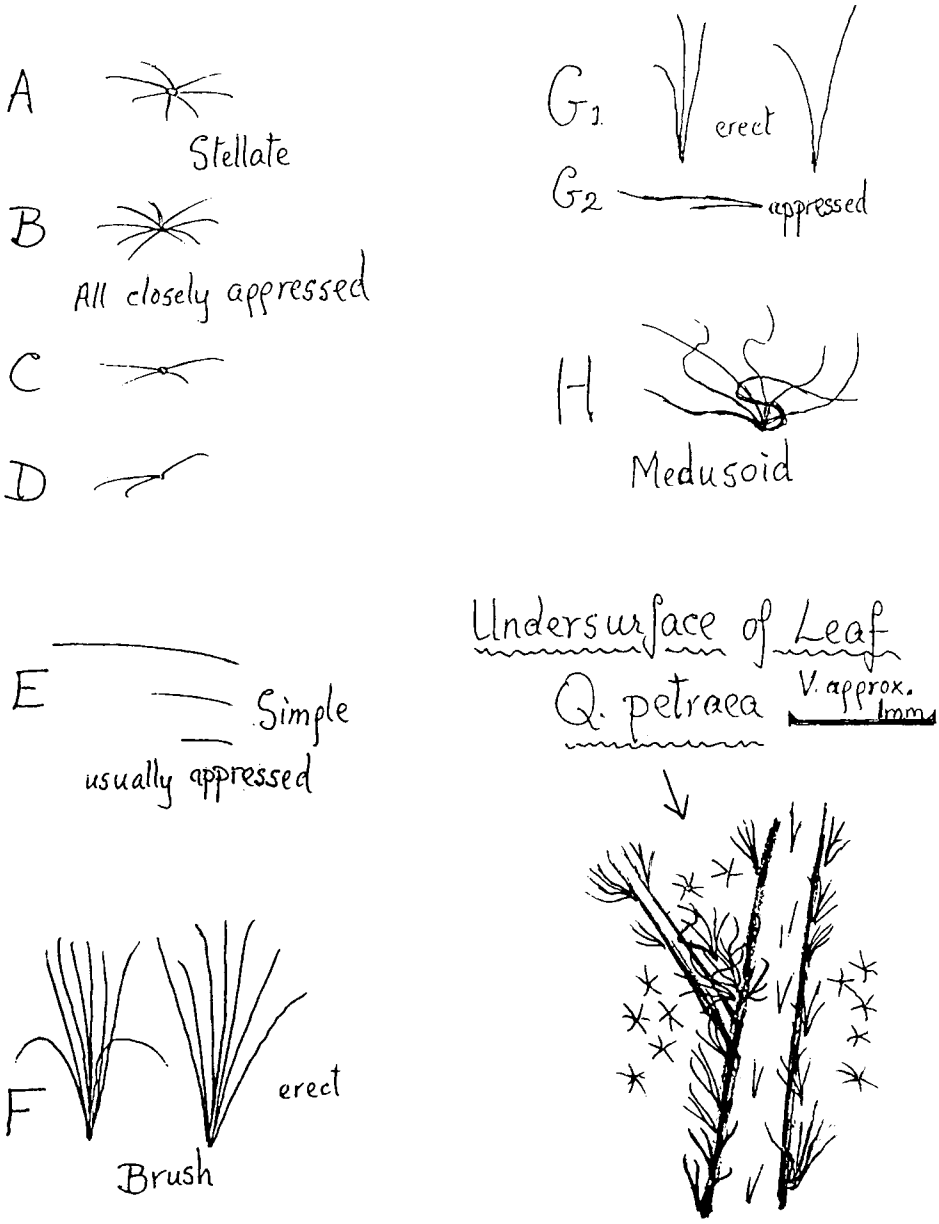
Q. robur: Some trees were found which had glabrous leaves, without even any simple hairs.

Q. petraea: See figure opposite. 5 main types of hair were found on all trees. The laminar stellate hairs (A & B, 0.2 mm across) were evenly spread, not overlapping, and widespread. Simple hairs (E) were usually uncommon, usually appressed on veins. Most conspicuous were dense tufts of vertical brush hairs (F), or more attenuated tufts (G1), seen at the sides of veins and in the vein angles. The appressed bifurcate hairs (G2) were quite sparsely scattered on the veins. Large medusoid hairs (H) formed matted tangles within leaf vein angles, and sometimes alongside veins.

Q. × *rosacea*: The pubescence on the leaves of these trees could be much the same as *Q.petraea* (but with other intermediate features – short petioles, longish peduncles, semi-cordate and semi-auriculate leaf bases, etc.). More usually hair types C, D and G1 were rather commoner than types A, B, F & H. However *Q.* × *rosacea* leaves always had 5 of the hair types and usually all, although not often in such dense masses as found in *Q. petraea*, and with a more irregular scatter.

The relevance of this is that the stellate hairs are very hard to distinguish with a botanical lens of ×8 or even ×15 magnification. I used ×30 binocular microscope magnification. The C & D type hairs most typical of *Q.* × *rosacea* have only 3 or 4 very slender rays, and only a spread of 0.1-0.2 mm. The structures of hair types F, G & H are hard to disentangle with a botanical lens – they can just resemble a fuzz, or a tangle of simple hairs.

I gratefully acknowledge the help given by the BSBI *Quercus* referee, Allen Coombes, and Brian Rushton.



Oak pubescence on leaf undersides. A & B, laminar, 0.2 mm across; C, D, laminar, 0.1-0.2 mm across; E, veins & vein sides, 0.3-0.7 mm; F & G_1, vein sides and vein angles, 0.4-0.8 mm long; G_2 on veins, 0.3-0.7 mm; H, vein angles (& vein sides sometimes) in tangles, 0.4-0.7 mm.
All del. J.E. Oliver © 2000

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THE HIGHEST SUNFLOWER IN 1999?

Shirley Rippin sent me this photograph of a sunflower growing out of mortar on a buttress supporting the tower of the church at Llanfihangel Crucorney in v.c. 35 (Mons). I paid a quick visit to the site and estimated that the flowers were borne at a height of over 6 m above the churchyard below. The mortar supports a small colony of an *Asplenium* and the *Helianthus annuus* seed must have been dropped onto that by a passing bird last winter. Sunflower seed is a favourite among those put out as winter feed for wild birds. Was this the tallest sunflower of 1999?

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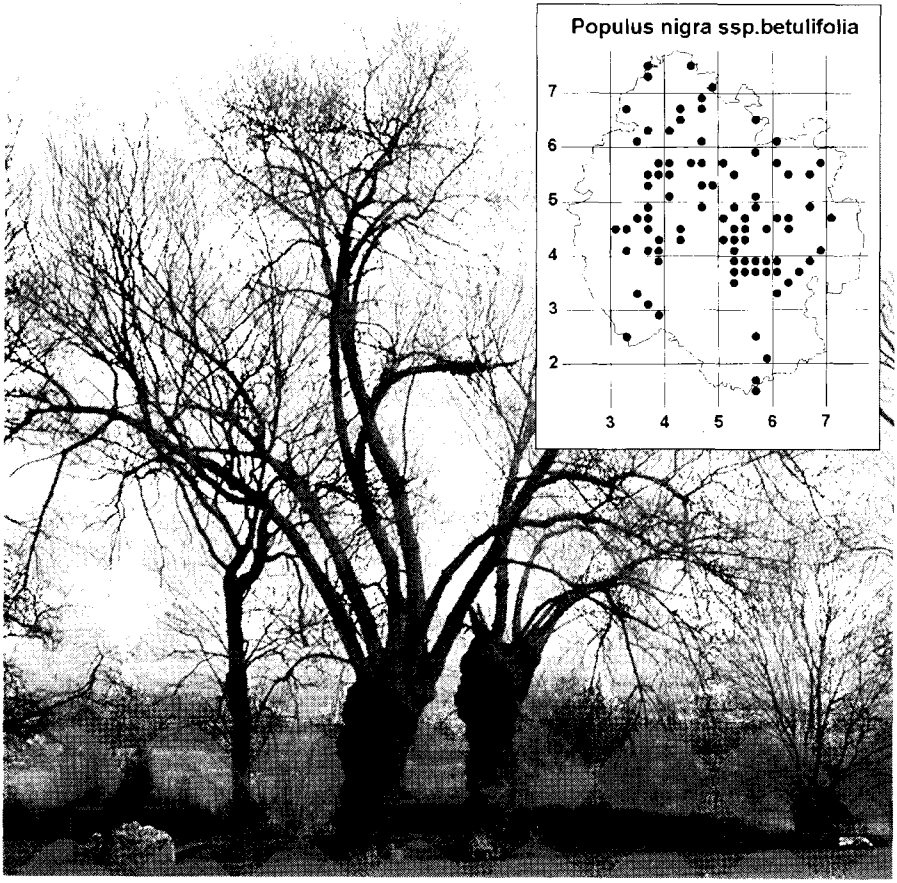
POPULUS NIGRA SUBSP. *BETULIFOLIA* – BALSAM SCENTED IN HEREFORDSHIRE?

I reckon to be able to smell a newly-leaved *Populus nigra* subsp. *betulifolia* from a distance of 50 m yet both C.A. Stace in *New Flora of the British Isles* and Clapham, Tutin and Warburg in *Flora of the British Isles* use the lack of any balsam smell in their keys.

Am I the only person able to detect the smell? Perhaps BSBI members could carry out their own research and let me know the result of their sniffing.

Could the Herefordshire specimens have balsam blood in their veins?



Populus nigra subsp. *betulifolia* in Herefordshire photo J. Wynne-Jones © 1999
Insert – Tetrad distribution

JEAN WYNNE-JONES, Gatchapen Cottage, Rushall, Ledbury, Hfds HR8 2PE; **Tel:** 01531 660 670
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A MISSING LINK!

Members wishing to consult the files of *BSBI News* should know that what purported to be the index to Nos. 17-31 (before George Hutchinson's time!) covered only 17-30. If they need something they can't find indexed they must search in No. 31 separately.

It would be good if this were remedied in the next *Index* by entitling it 'No. 31 and Nos. 71-80' with an explanatory note – not a huge extra task as No. 31 was only 32 pages compared with the current 72!

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CONSERVATION NEWS AND VIEWS

THE WILDFLOWER ARK

The Wildflower Ark Project aims to investigate, conserve and strengthen local plant biodiversity in Teesside and the Tees Valley area and to broaden public awareness of the importance of local habitats and their diversity

The project arose from the concerns of Ian Lawrence (Author of *Wild Flowers of Cleveland*, 1994) who, having studied the local flora for the last fifty years, had become increasingly alarmed at the loss of some species and decline of others. Many species now being reduced to one or two populations of a few individuals as a result of changes in agricultural land-use or increasing urbanisation and industrialisation.

Our objectives for the project are

- to establish a collection of native plant species (and a seed bank) of local genetic origin
- to research optimum methods of plant propagation and cultivation for each species to produce hardy, organically grown stock for reintroduction to appropriate habitats
- update information on local plant habitats to advise on maintenance to increase individual species numbers and maximise survival of propagated stock into a compatible habitat
- to form a resource base of all information gathered for use by local environmental/education groups and the general public

We have made many contacts with both professional and amateur botanists, local authorities and local and national organisations working on similar or associated projects, including work with the Tees Valley Wildlife Trust as a consequence of their newly published Biodiversity Action Plan. We provided work experience placements for three undergraduates from local universities at the universities request.

Our first year (Nov. 1998 – Nov. 1999) has been mainly concerned with the details of locating, recording and collecting plant material from local habitats and establishing healthy stock plants in the nursery. The second year will be a continuation of the above with the addition of presenting that information to the public in an accessible and interesting way including growing species from the Wildflower Ark along the 400 m long model of the River Tees at Nature's World (The Botanic Centre) in Middlesbrough, and workshops with school children. We have also received a grant of £10,000 from **Corus** (formerly British Steel) to set up a pilot education programme for schools based around wildflower germination packs and to give detailed practical help and advice on improving school grounds

The project has been created by the present team – Helen Herring, John Jenkins, Ian Lawrence and Martin Allen with initial assistance from Ken Smith from Industry and Nature Conservation Association (I.N.C.A.)

The first two years of the project have been financed by the Cleveland Waste Management Landfill Tax Fund (£26,000) and were kick-started by I.C.I. (£2,000). The project is monitored by INCA

The Botanic Collection

The first phase of the project (two years) is focusing on collecting wildflower species that are known to be locally endangered. From a priority list of 55 species we have collected 35 in year one, of which 20 are found at only one or two sites in the Tees Valley. Appropriate collecting permissions were always granted. All plant material collected was well documented (both written and photographic) and grid references taken. Extensive historical literature searches were undertaken on the priority list species. A further 34 species of more general interest were also collected.

The following taxa are all in the collection: *Allium oleraceum*, *Anthyllis vulneraria*, *Lotus corniculatus*, *Salvia verbenaca*, *Apium graveolens*, *Filago vulgaris*, *Gagea lutea*, *Herniaria glabra*, *Hottonia palustris*, *Hypericum montanum*, *Juncus compressus*, *J. tenuis*, *Torilis nodosa*, *Trifolium fragiferum* and *Vicia lathyroides*.

If you would like further details or a full list of plants do please contact us.

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TENACITY REWARDED

I have struggled for five years to protect about 250 m^2 of decent, though not remarkable, wetland on the outskirts of Withernsea, East Yorkshire. The wetland is merely interesting for its diversity of common sedges (*Carex acutiformis*, *C. riparia*, *C. vesicaria*, *C. disticha*, *C. hirta*, *C. flacca*) and for locally-scarce entities including *Equisetum palustre*, *Epilobium palustre* and its hybrid with *E. parviflorum*, *E.* × *rivulare*. These are not remarkable on a national or regional scale, but in an area of East Yorkshire noted for intensive over-drainage and high agricultural land value, this association of species – all in one small place – is worth every effort to protect.

The first step, in 1995, was to successfully challenge the District Plan and get the area recognised as a site of local nature conservation interest rather than designated for building purposes. I then heard of ideas to turn this land and adjacent disused railway land – also botanically interesting – into a 'People's Park'. I imagined all manner of Millennium Madness and Lottery Lunacy environmental 'improvement' schemes so I steam-rollered myself into position leading the project to secure some personal control over development.

I was aware that Countryside Commission (now Countryside Agency) funding, if won, would contain a requirement to conserve and protect wildlife habitat so I applied for a Millennium Green grant which involves the Millennium Commission. To qualify under this scheme I had to include some derelict 'brown land' to link the project into the heart of the town and my initial dream of rescuing 250 m^2 of interesting marsh suddenly escalated into one of negotiating and working with BG plc (Property Division) to remediate the site of a disused gasworks; conducting and reporting public consultation exercises; developing a site preparation plan with costings; building up a Charitable Trust; working with landscaping and health and safety consultants; helping to develop a 'sister' Charitable Trust to raise funds to develop a children's playpark; negotiating with the Local Authority for planning and for leasing disused railway land; working with the town's Regeneration Partnership as a Director of a Company Limited by Guarantee, and seemingly endless form-filling, etc. Any reader familiar with applying for and administering lottery-based and SRB funding will see me as either a glutton for punishment or insane! However, also bear in mind that I was simultaneously heavily involved in Atlas 2000 – by hand!

These are the lengths now required to secure locally significant habitat of botanical note. Had this site been smitten with any feathery macrofauna other than what can be legally shot I would have had no problems whatsoever. In necessarily expanding the total area for the park and conservation area to 6 hectares I've also secured an agreement that 1.5 hectares of the green space allocation on adjacent land (at each side) designated for building, will be added to the Millennium Green in the future. This will increase the nature conservation area of the Millennium Green to about 7 in the total 9 hectares, and will include some land supporting the v.c.'s largest extant marsh-orchid (Common Spotted, Northern and hybrid) colonies.

The eventual total cost is likely to be in excess of £600,000. Remediated brown land has been generously sold to the Trust by BG plc (Property Division) for a nominal sum, £32,000 has been granted by the Countryside Agency, £4,000 by Bass plc and much of the remainder may come from a £1.5M Single Regeneration Budget, for which values in this project were used as part of the leverage.

For this work and a further three hurdle-ridden years the Countryside Agency and the DETR has seen fit to recommend me for the MBE in the year 2000 Honours List, 'for services to Withernsea Millennium Green'. However, I would like to think of this as a reward for almost 30 years of fighting for the rights of our native flora in a natural setting. For the full story, wait for the book!

The Withernsea Millennium Green Trust (Reg. Charity No. 1075287) still urgently requires new money during 2000 and any BSBI member wishing to contribute are very welcome to send their donations to the Trust through me.

PETER J COOK, 15 Park Avenue, Withernsea, East Yorkshire, HU19 2JX

ALIENS

ZIZANIA LATIFOLIA (POACEAE) NATURALISED IN SURREY (V.C. 17)

Zizania latifolia (Griseb.) Turcz. ex Stapf (Manchurian Wild Rice) is extensively naturalised in a pond at Spring Grove, Great Bookham (v.c. 17), map ref TQ/137.556. A voucher specimen is preserved in **Herb. KWP** and a duplicate will be deposited in **RNG**.

For many years the identity of this grass, which is a native of E. Asia and naturalised as far west as the Volga Delta, S.E. Russia, eluded me. A major problem with identification was the absence of flowers. (I now know of its reluctance to flower in some regions of the world). Despite this, Eric Clement with his determination and his vast knowledge of alien plants, was able to name it in its vegetative state. Moreover he also confirmed it as apparently the first recorded naturalisation in the British Isles and Western Europe.

Here, on the London Clay, Manchurian Wild Rice (or Manchurian Rice Grass) is extremely vigorous. It extends around the perimeter of one pond for about 100 metres, and at one point has extended 5 metres inwards from the edge. It has now also invaded the adjoining pond, but only as one small patch.

The plant is rhizomatous, and the rhizomes are a centimetre or more thick, far-reaching to 1 m or more, short-jointed, hollow and yet very tough. The tallest plants are 2 m in height with remarkably compressed and spongy stems, 2 cm or more wide. Its sword-like leaves are up to 5 cm wide with sharp serrations (prickles) on their margins and main veins making the leaf blade feel very rough: at a distance they look more like those of a *Sparganium/Typha* intermediate than a grass. But it is no use as a permanent screen – the culms totally die down each winter.

The rhizome scales are tough and membranous but split readily into two or three by adventitious roots, typically of orange-yellow colour, growing out through them in rings at the nodes. The rhizome beneath is green and very shiny. The ligule also quickly becomes bifid and has a tendency to split further. New growth is attained by three methods (see fig. A): axillary buds, side shoots and buds on the rhizomes. The old plants show a peculiar zigzag growth.

Fortunately for us, Niki Simpson, a professional and accomplished botanical artist living in Guildford, became intrigued by this jumbo grass and took up the challenge to convey it onto paper: hence our splendid cover illustration. Her coloured artwork has previously appeared in such prestigious journals as *Curtis's Botanical Magazine* (Kew) and *The New Plantsman* (RHS); Nikki also teaches Botanical Art on courses run at Wisley (Surrey) and Rosemoor (Devon).

Key to cover drawing of *Z. latifolia*

A. Habit of young plant
B. Longitudinal section of chambered culm
C. Rhizome, from base to tip
D. Longitudinal section of chambered rhizome
E. Section of leaf blade at distal position
F. Junction of leaf sheath and leaf blade with side view of ligule
G. Cross-section of culm
H. Adaxial view of culm showing ligule (slightly opened out)
J. Scale leaf of rhizome

The nearest fit amongst our native grasses is clearly *Glyceria maxima* (Reed Sweet-grass) and the two share such characters as a prominent membranous ligule, the presence of indistinct cross-veins in

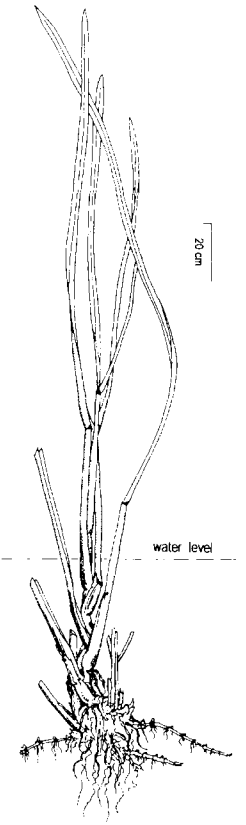
the leaf-sheath (fig. H) and the curious, triangle-shaped, purplish-brown patch on the leaf collar (fig. F). But EJC explains that this is convergent evolution: *Glyceria* spp. have (?always) an entire leaf-sheath (not open-sided) and an equal-sided folded leaf-blade (not rolled, with the midrib not in a mid-leaf position – see figs. E & G) and they belong to the Meliceae tribe. *Zizania* is more primitive and is closely related to the true rice (*Oryza sativa*) in the Oryzeae tribe; its leaf anatomy also suggests affinities with the bamboos. The six stamens (per floret) of *Zizania* are likewise shared by many bamboos (as well as *Oryza*).

Watson and Dallwitz, in *The grass genera of the world* (1992) are surprisingly imprecise (p. 980) when they state that the leaf blade only extends to 3 cm in width and they are 'without cross-view (?)' – surely some veinlets are usually present near the base of the blade?

Enquiries were made to discover the origin of the grass at this site, but without success. The area is managed by the local authority who were unaware of the plant's existence. It is to be hoped that some effort will be made to preserve it.

I am much indebted to Eric Clement, Mike Grant and Niki Simpson for their comments and observations duly incorporated herein, and especially to Niki for her beautiful drawing.

KEN W. PAGE, 10 Cannonside, Fetcham, Leatherhead, Surrey, KT22 9LE



Zizania latifolia mature plant habit, del. Niki Simpson © 1999

MORE ABOUT *ZIZANIA LATIFOLIA*

Ken Page's extraordinary article (above) about his discovery of a gigantic grass apparently new to Britain, romping rampageously around a pond for decades without 'discovery' by botanists might have no parallel. It demonstrates powerfully the reluctance of the average field botanist to name plants when in leaf only, however distinctive they may be on closer study. 'Look at the leaves' would be a good motto for the new millennium. My 'novel' ideas were soon to be shattered: Bruno Ryves suggested that I should consult the **K** herbarium – there I found that similar leaves (only) had been found and named from Britain many years ago, but the records had apparently never been published. These two earlier records are:

v.c. 13 (W. Sussex)	Lake margin by main road, Patching, nr Worthing, 1947. H.K. Airy Shaw, collected as *Zizania* sp. Growing at an altitude of 75 ft, in large quantity.
v.c. 23 (Oxon)	Nuneham Park, 23 Sept. 1916. Rt Hon. L. Harcourt, collected as *Z. latifolia*.

Obviously a return visit to these two sites would be of great interest: does the plant still survive there?

I then learnt from Mike L. Grant and Dr Alan C. Leslie that leaves of *Z. latifolia* had suddenly been 'discovered' at the RHS Garden, Wisley (Surrey) – in several spots, including one by the Seven Acres Pond. The species had no entry on their official list of plant introductions, but had presumably been planted there at some date and so could scarcely be called 'wild' there. Obviously this will not be the last discovery of this plant in Britain: can **you** find it in your local lake?

In *Kew Bull.*, 1909: 381-385, W.J. Bean tells of the merits of the very closely allied *Z. aquatica*: although an annual, at Kew (Surrey) it reaches '9-12 feet above the water when grown in good soil' and flowers prolifically (see the photo, facing p. 381 of it growing at the edge of the Lily Pond in Kew Gardens). This is followed by an article (pp. 385-390) by Otto Stapf on *The Manchurian Water-rice* (yet another English name!). I will quote briefly from p.390.

> 'Z. *latifolia* at Kew. – This grass has for many years been grown in the margins of the lake [Is it still there?] . . . None of the plants has ever been known to flower at Kew. It appears quite capable of holding its own in association with such neighbours as *Iris Pseudacorus* [sic], *Typha angustifolia*, *Acorus Calamus*, etc., but owing to an evil habit of turning yellow and dying at the leaf tips, it has a rather shabby appearance except when the leaves are quite young . . . it has little to recommend it as an ornamental grass in this country, and although it can be cultivated with less trouble than *L. aquatica* should never be preferred to it on this ground.'

Curious about the history of *Zizania latifolia* as a water-garden ornamental plant in Britain, MLG very kindly made a literature search for me. The *Journal of the Royal Horticultural Society* (1838-1999) fills yards of bookshelves, yet only 2 references to this plant appear to exist, viz. **40**: xliii (1914-1915) when Sir John Llewelyn said that 'the plant grown under the name *Z. latifolia* was a perennial. It did not flower, and there had therefore been no opportunity of verifying the name.' In **43**: 286 (1918-1919) R.W. Wallace mentioned its '*Iris*-like foliage, the rustle of which is always distinctive.' Not enough to encourage anyone to cultivate it!

Brief descriptions – not always very accurate! – appear in several water gardening books written by Amos Perry (*c.*1930 & later edns), Reginald Kaye (1973), Philip Swindells & David Mason (1989), Perry Slocum & Peter Robinson (1996). The last item, entitled *Water Gardening: water lilies and lotuses* (Timber Press), p.103, says (as do other works!) that this species grows only 4 ft (1.2 m) tall. This is presumably an error, unless a dwarf form really does exist!

The species was apparently sold by Perry's Hardy Plant Farm (Enfield, Middlesex) between about 1930-1977 and then by Stapely Water Gardens, who took over their aquatics business, but it no longer appears in their current catalogues. Apart from Stapely, the *RHS Plant Finder* lists only R.D. Plants (Devon) who offered it for a single year (1996).

Dr Steven L. Jury tells me that this species is currently unrepresented in **RNG**, but he did very generously supply me with a host of botanical references. The most informative article covering all aspects of the plant (including eight English names!) appears in *Economic Botany*, **36**: 274-285 (1982), written by E.E. Terrell and L.R. Batra, whereas faithful *Flora Europaea*, **5**: 260-261 (1980) gives only a succinct description.

Illustrations can be found mostly in literature on USSR or S.E. Asia – e.g. refs. 617, 630, 638, 649, as specified in Clement & Foster, *Alien Plants of the British Isles* (1994). None equals the beauty and precision of our cover drawing! Ref. 51b gives a useful description of the genus and species, but then claims that '*Z. latifolia* needs warm greenhouse protection' – but would that really induce flowering? A better treatment, by Dr C.E. Hubbard, is given in the earlier ref. 51a, including the correct author citation!

Z. latifolia is a native of eastern Asia, but its autochthonic range has been obscured by deliberate introductions. A form infected by the smut fungus, *Ustilago esculenta*, causing abnormal enlargement of the culm, has been used as a vegetable (*gau sun*) in China since the 10th century. The rhizome is equally edible – it is sliced and fried as a snack in much of S.E. Asia. Yet, surprisingly, H.H. Allan (1936) in *An introduction to the grasses of New Zealand* tells us that 'it is refused by stock'. In New Zealand it is naturalised along the Northern Wairoa River where it causes considerable trouble, owing to its spreading habit; scarcely surprising, since as a native plant it forms an important part of the floating grass islands in the Logtak Lake in Manipur. Australia lies between these two areas but no occurrence there is currently documented.

Finally, a warning about the scientific name. Much early literature used *Z. aquatica* L. (in a loose sense) to include *Z. latifolia* (Griseb.) Turcz. ex Stapf, whereas true *Z. aquatica* is an annual species from N. America. Also, some literature still uses the superfluous name of *Z. caduciflora* (Turcz. ex Trin.) Hand.-Mazz. for the Asian species.

I have finished! Now enjoy your *gau sun* or (*kau sun*, if your local Chinese takeaway prefers the American pronunciation). E.H. Wilson, in *A Naturalist in western China*, vol. 2 (1913), p. 63, relished it: 'from a European standpoint it is really very good eating.' But is it sold in the UK? – bamboo shoots are a closely related alternative.

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HYDROCOTYLE RANUNCULOIDES – RED ALERT IN PROGRESS

With reference to the note by Brian Wurzell *(BSBI News* **83**) concerning the Floating Pennywort *Hydrocotyle ranunculoides*, members may be interested to know that 'Red Alert' status has already been given to this unwelcome plant – which is increasing in frequency across the country (approximately 34 sites to date).

At the Centre for Aquatic Plant Management we are monitoring the spread of *H. ranunculoides* and conducting research into control of this plant and its impact on the aquatic environment.

One of the best lines of defence at present is support from the local community – both in acting responsibly and not purchasing/releasing this plant into the environment, and by reporting any new sightings quickly, either to the CAPM or local Environment Agency office.

Monitoring the spread of *H. ranunculoides*, together with accurate information about new introductions is extremely important, since it is considerably easier to eradicate at an early stage (with less impact to the environment). Consequently, we have set up a Task Force with the Environment Agency to co-ordinate information, control measures, research and monitoring.

We also produce an information sheet (free on request) summarising information about this plant, what it looks like, and current best practice for control.

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PONTEDERIA CORDATA IN CORK

In a recent issue of *BSBI News* (**83**:44, Jan. 2000) Paul Green reported two species new to Ireland, *Pontederia cordata* L. (Pickerelweed) and *Sagittaria rigida* Pursh. (Canadian Arrowhead). Both plants were seen in a small lough in Dunkelly townland (H3) during work on the flora of West Cork. The grid reference is given as V/816.310. The lough at Dunkelly is located towards the southern part of the Mizen Head peninsula (also known as the Three Castle Head peninsula) – the land mass lying between Dunmanus Bay and Roaringwater Bay.

With regard to *Pontederia cordata*, the species is listed for H3 in the *Census Catalogue of the flora of Ireland*, (Scannell, M..J.P and Synnott, D.M. 1987, Dublin) and is based on specimens in the National Herbarium (**DBN**).

The first specimen was collected from a small 'roadside lake, township of Dunkelly, West Cork (H3) 20/10/1958, Mr J. Conyngham Greene'. In the following years further specimens were collected at the same location, as, 5/8/1959, Mr J. Emmet O'Donovan; 7/7/1963, M.J.P.Scannell; 7/1964, E.M. Booth; and 1/11/1979, M.J.P. Scannell. A photograph of *Pontederia cordata* and other emergent vegetation taken in 8/9/1969 by Mrs Daphne Conyngham Greene, accompanies the specimens. The Durrus plants which Paul Green noted at Glan L., V/980.415 (18 km to the NE), derive, probably, from material transferred from Dunkelly. Glan L. is at Barnaghgeehy on the OS ½ inch sheet 24.

The two early botanists, mentioned above, did not publish the record.

On one of my visits to the Mizen Head peninsula I observed Pickerelweed and colonies of pink and red waterlilies in the lough at Dunkelly. Specimens of the latter were not collected. I did not notice *Sagittaria*. An enquiry at the time elicited the information that some years earlier a Canadian geologist / mineralogist had a house in the area and he introduced some hydrophytes from his native land to add colour to an isolated Atlantic lake.

Pickerelweed is abundant in eastern North America. Klimas, A.K. & Cunningham, J.A. (1974) (*The wild flowers of eastern North America*, New York) note, 'because the seed pods grow downwards into the water when ripe, the seeds serve as food for wild ducks, who strain them from the muddy bottom. Indians roasted the seeds and added them to cereals and breads or ground them into flour.'

Pickerelweed is shown in a photograph by Tom Kelly in P. Somerville Large (1992) (*Ireland–the living landscape*), at the lake in Dunkelly. The caption does not name the plant but *P. cordata* can be recognised.

I have no knowledge of *Sagitaria rigida* in Cork or in any other Irish county. In *Flora Europaea* (**5**:2 (1980)) it is described as 'naturalised in S.W. England'. *The European Garden flora* (**1**: 111-112 (1986) – 'the definitive manual for the accurate identification of cultivated ornamental plants', – does not list *S. rigida*.

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ALIEN SEEDLINGS IN BRITAIN

Recent work on *Symphoricarpos albus* (Snowberry) (Gilbert 1995) has shown that this commonly planted shrub very rarely produces seedlings which grow to maturity in Britain. Moreover, all attempts to germinate seed collected in the UK have failed (*op. cit.*).

It was with some surprise therefore that when walking along Ammanford high street (v.c. 44) early this year I found a single small specimen of *S. albus*, complete with several fruits, growing out of an old stone wall. The wall was a good two feet thick and quite solid, and there were no other plants in the immediate area.

Interestingly, *S. albus* is increasing by seed in some German towns where the berries are an important winter food for greenfinches (Eber 1956).

Lately I have also found spontaneous seedlings of *Olearia macrodonta* (New Zealand Holly) on walls (v.c. 44) and *O.* × *haastii* (?*O. avicenniifolia* × *O. moschata*) (Daisy-bush) on limestone rock cuttings (v.c. 41), both originating via airborne seed from nearby plantings.

Whether the apparent increase in the number of such alien records in Britain is due to climate change or to a greater awareness (or both) only time will tell, but I would be interested to know if other members have made similar observations.

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ROSTRARIA CRISTATA IN GOSPORT (S. HANTS, v.c. 11)

On the 9th July 1998, I was checking the path edges along Mumby Road (SU/617.002), when I spotted a small clump of an unfamiliar grass, with about twelve flowering stems, growing in the parched soil at the base of a planted tree by the entrance to the lorry park, with another group of eight or so stems close by. It was later identified as *Rostraria cristata* (Mediterranean Hair-grass) by Eric Clement (EJC). Also growing around the same tree were *Diplotaxis muralis* (Annual Wall-rocket) and *Vulpia myuros* (Rat's-tail Fescue), at the base of a nearby tree was more of the *Vulpia*, and less than 30 m further on the *Digitaria ciliaris* (Tropical Finger-grass), *BSBI News* **83**: 37-39 (Jan. 2000), remained undiscovered.

Last year (1999) there were thirty or more stems at the same place, and I found another site, (SZ/622.999) about 500 m along the road with *c.*20 flowering stems. This was again at the base of a planted tree but this time with fierce competition from large *Sisymbrium orientale* (Eastern Rocket); *Conyza* sp. (Fleabane) and a clump of *Echinochloa crus-galli* (Cockspur), which was what drew my attention to that particular tree.

Looking at a list of the other 'introduced' plants that I have seen in this area, leads one to wonder how they all arrived. The list includes *Heracleum mantegazzianum* (Giant Hogweed) 60 m away; *Sisymbrium orientale* is frequent at this end of the town; *Gastridium ventricosum* (Nit-grass) base of tree (SU/613.002); *Conyza bilbaoana*, on the other side of the lorry park; with *C. sumatrensis* (Guernsey Fleabane), and *C. canadensis* (Canadian Fleabane) along Mumby Road.

Did they arrive with root-balls or planting medium of the trees? Or perhaps they arrived via passing traffic? It seems that they take advantage of the fact that weed killer is sprayed earlier in the year, leaving these aliens to germinate and flower later in the year to 'fill the gap'.

I was thrilled when told that Delf P.J. Smith had generously offered to depict the Gosport plant for this article.

EJC commented that this species has successfully colonised many warmer parts of the world, and thinks it seems very likely that the S. coast of England is about to be added to this list.

I am much indebted to Eric Clement for identifying my mystery grass and for providing me with constant encouragement and information.

Key to drawing of *Rostraria cristata* (L.) Tzvelev (opposite)

A Habit of plant
B Detail of ligule
C Spikelet showing hairy lower and glabrous upper florets
D Lower glume
E Upper glume
F Lemma of lower fertile floret
G Palea of lower fertile floret
H Lodicules
J Flower
K Seed (grain), side view

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ROSTRARIA CRISTATA (POACEAE) IN THE BRITISH ISLES

Debbie Allan's remarkable records (detailed above) of *Rostraria cristata* (L.) Tzvelev (Mediterranean Hair-Grass) established in S. England prompted me to investigate other records for this species in the British Isles.

The first obstacle encountered is the existence of many synonyms (7 scientific names have been used for this plant) but this is solved by looking at a listing of them all in Ryves, Clement & Foster, *Alien Grasses of the British Isles* (1996), p. 33, where also the 'jizz' of the plant is illustrated in Fig. 6. Stace's *New Flora*, 2nd ed. (1997) also gives a good description (p. 867) and two illustrations (general habit and spikelet detail, pp. 870 & 881).

The first published record in Britain quoting an exact locality for this plant is apparently in 1908 (ref. 3) when it appeared as a wool alien at Galashiels (Selkirks, v.c. 79), but S.T. Dunn (ref. 1) knew of 'more than one' pre-1905 records that he did not specify exactly. Since then it has been a regular, but never common, wool casual, recorded from v.cc. 12, 15, 30, 37, 63, 64, 65 & 80 (ref. 14). Its appearance as a casual at docks or tips has also been documented, adding v.cc. ?6, 34, 41, 61, 77, 83 & 92. Esparto grass importation adds v.c. 59. The remaining records have typically been in or near gardens or flower-beds, probably mostly originating from spilt birdseed, in v.cc. 17, 18 & 21. Records for other v.cc. must also exist, but they do not appear in my files.

S.W. England, all of Ireland and most of Scotland are noticeably absent, although there was one record from Penzance (v.c. 1) back in 1888 (vector unknown). And more significantly, it occurred as a bulbfield weed at Northward, Tresco (Isles of Scilly, v.c. 1b) on 26 May 1957, collected by J.E. Lousley (**K**), with the comment 'a Mediterranean grass which might well become established' – but there has been no record since then! Apparently no records from the Channel Isles (ref. 220) is even more surprising. Hubbard's *Grasses*, 3rd ed. (1984) sums this up by allowing only one sentence in his book, saying that it 'is occasionally introduced'.

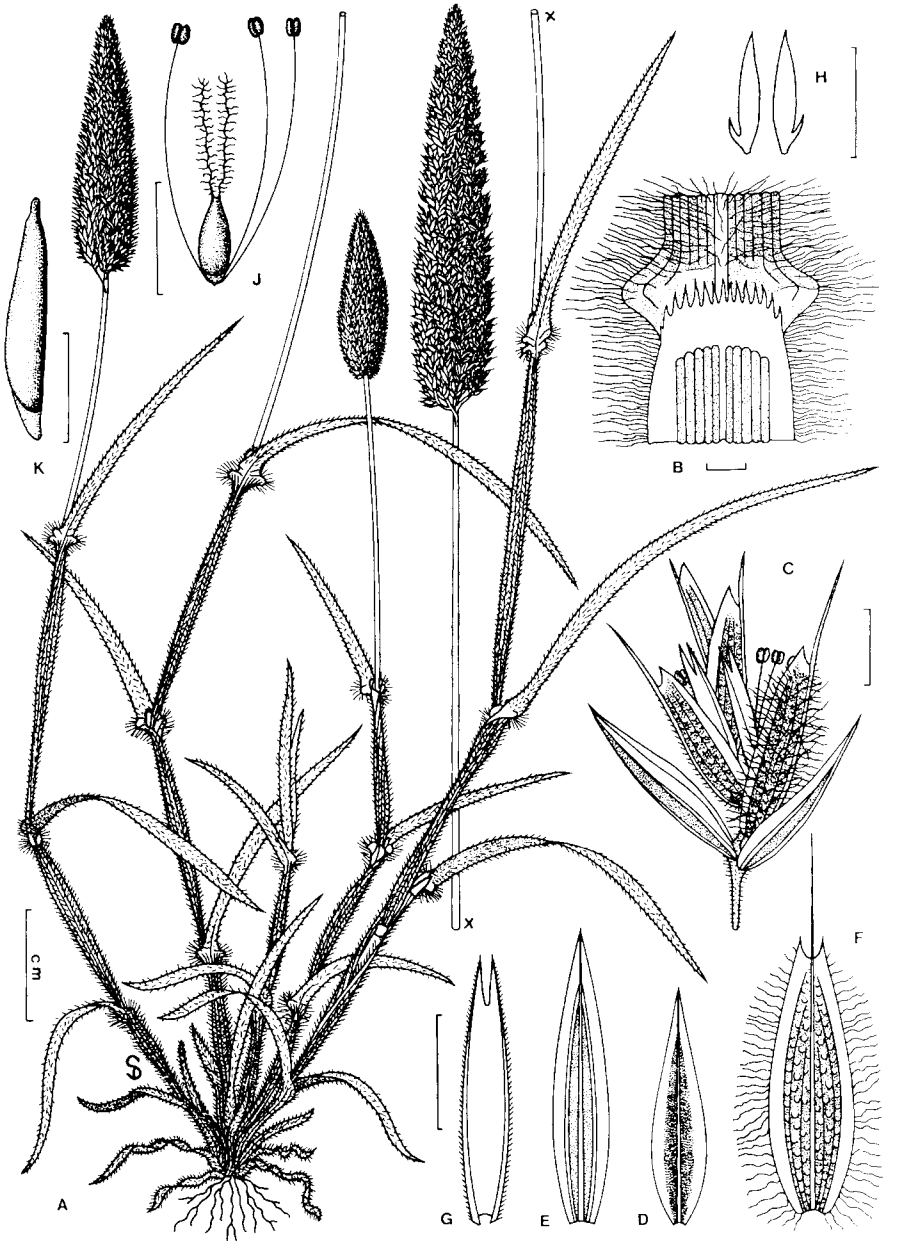
I was therefore astonished (not for the first time!) by the news from Delf Smith that he knew of it established in Portsmouth (S. Hants, v.c. 11), on the side of the harbour facing Gosport. He had found it in two localities, as follows:

Loc. 1. Small beach on N side of eastern end of bridge between Stamshaw and Whale Island. SU/641.022, 8/6/1997. Growing in compacted shingle above drift line of tidal harbour. Probably introduced from the dockyard or ferryport, both close by. A few plants only. None could be relocated late in 1999.

Loc. 2. Road verge on inside of ferryport, Rudmore, on W side of A3 trunk road. SU/644.016, 25/7/1999. Growing in dry chippings on road verge. Very abundant, 100's of plants.

The above evidence suggests that more, nearby, colonies of this species must be awaiting discovery. We no longer have a casual, but an established species that is likely to spread.

Have another look at Delf's magnificent portrayal! Can you find it in 2000? I should, perhaps, mention that it is a variable species, ranging in height, from 2 cm to 22 cm tall depending on nutrient levels. The panicle can be lobed or not, spikelet indumentum can vary from densely hairy to ± glabrous, i.e. var. *glabriflora* (Trautv.) M. Dogan, when the curious mosaic pattern between the nerves of the



Rostraria cristata (L.) Tzvelev del. D.P.J. Smith © 1999

lemma can be more clearly seen. The minute anthers (0.2-0.5 mm long) are characteristic, and they form a ready means of separating this species from the somewhat similar *Trisetaria panicea*, another annual Mediterranean grass. A specimen in **LANC** from the towing path below Hampton Court (Middlesex, v.c. 21), collected in June 1925 by J.E. Woodhead, has abnormally large spikelets and stout awns, but otherwise seems correctly named, conf EJC, 12/93. Middlesex records total up to only about four.

Dr T.A. Cope (at RBG, Kew) points out that *Flora Europaea* **5**: 220 (1980) incorrectly called this species *Lophochloa cristata*. The genus *Rostraria* Trin. (1822) clearly predates *Lophochloa* Reichenb. (1830) and this earlier name must be used. Hohenester & Welss, *Exkursionsflora für die Kanarischen Inseln* (1993) and other recent books have wrongly reverted to *Lophochloa*.

Finally, the ref. numbers quoted above are those listed in Clement & Foster, *Alien Plants of the British Isles* (1994), pp. 401-444, but I did not search all 1373 references for records of this plant!

I am indebted to Dr A.C. Leslie and Mrs M.C. Foster who kindly helped me to track down some of the records.

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COMMENT ON '*EXODECONUS GLUTINOSA*'

In Clement & Foster, *Alien Plants of the British Isles* (1994) page 230 there occurs a reference to an unvalidated combination '*Exodeconus glutinosa* (Schl[t]dl.) ined.'. The record upon which this entry is based relates to a somewhat questionable identification of a *Physalis* sp. and the authors comment that it is possibly an error for *Physalis peruviana* L. (Cape-gooseberry). Apparently there is no herbarium voucher to support the record. Even assuming that the identification is correct, the Mexican plant in question would be better retained under *Physalis*, as *P. glutinosa* Schltdl., a detailed description of which appears in the revision by U.T. Waterfall (1967: 100-102).

The genus *Exodeconus* Raf. (1838) – which name has priority over *Cacabus* Bernh. (1839), with which it shares the same type species (*Physalis prostratus* L'Herit.) – was recently revised by Axelius (1994). It consists of six species of small, often prostrate annuals, distributed along the coast and coastal ranges of western South America from Ecuador, Peru, northern Chile and the Galapagos Isles. The species resemble *Ipomoea* or *Convolvulus* in habit and corolla shape, with a tubular to broadly funnel-shaped corolla, 2-7.5 cm long, in yellow, blue, white, purple or white and purple with 15 veins. The fruit is at first a juicy berry but becomes dry and may or may not be completely enclosed by the calyx, which can be expanded and papery but not to the extent of *Physalis* spp. It is very unlikely that such remote and little known plants would be found as aliens in the British isles. Only *Exodeconus miersii* (Hook. f.) D'Arcy from the Galapagos has been in cultivation in Britain, but it is not thought to be grown any longer. (Illustrations may be found in: Axelius, 1994; Wiggins & Porter, 1971.) The group have potential as trailing annuals, and may be particularly suitable for hanging baskets, but have yet to be introduced and developed commercially.

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A BLEAK FUTURE FOR *GAULTHERIA SHALLON* IN THE NEW FOREST

The future for this unwanted shrub in the New Forest does indeed look bleak, as Mr Clement suggests (*BSBI News* **83**, Jan. 2000). We have now been able to assess the impact of penning and pigging areas of dense *Gaultheria* and the use of pigs as a control tool for this pernicious North American weed looks set to join the menu of options open to vegetation managers vexed by this plant. We shall be publishing the results of our trials sometime later this year, probably in the English Nature land management journal ENACT. The gist of this article will be that:

a. the pigs do not eat *Gaultheria* and are not poisoned by it,
b. the pigs uproot the majority of this shallow rooting plant, exposing the roots to the damp and rot leaving only a small number of surviving stems, attached to short pieces of stolon. These are readily pulled out or sprayed with herbicide
c. the pigs reach virtually every nook and cranny where the *Gaultheria* stolons and bracken rhizomes can be found, but
d. they are labour intensive and in need of both feeding and expert care. They are also expensive to fence in.

Our monitoring results show that though virtually every non-woody plant was rooted up by the pigs, the subsequent response of the vegetation was both prolific and more diverse in species than the pre-existing vegetation. This is not that surprising as the original vegetation consisted almost exclusively of Scots pine, Rhododendron, *Gaultheria*, Bracken, small amounts of *Molinia* and precious little else! The pigs have not only pulled up the *Gaultheria* stolons but broken down the matted 10 cm deep layer of bracken litter, freeing the brown earth soil below. We are anticipating a flush of grasses, herbs and tree seedlings in the disturbed, well manured, well lit enclosure. Sometimes radical action is needed and it seemed simpler to start afresh with the vegetation than to fossick about trying to remove some plants and retain others. Our next step will be to undertake trials of other mechanical and chemical means of removal. These will no doubt have a place in our eradication programme (which is possible largely thanks to the generosity of the European Union LIFE funding presently underpinning a lot of conservation action within the New Forest) but my inclination leans heavily towards using the pigs, being both effective and herbicide free and, well, appealing. They were certainly more popular with visitors and staff than much of the machinery we use.

The distribution of *Gaultheria* in the New Forest is very telling. We have one very extensive area that has clearly spread by vegetative stoloniferous growth. This growth is readily checked by wet soils and by soils with thin litter layers; the stolons only really run around in well developed litter and not actually in the soil. This seems to be why they are both readily pulled up by pigs and why they either desiccate or rot once pulled out. Within the enclosed Statutory Inclosures of the Forest it grows to 1.5 m and does not seem to be eaten by deer (though much of the research interest in this plant in America is because it is an important food source for deer, as well as a major forestry weed). On the Open Forest its growth is clearly checked by ponies, which presumably nibble away at the new apical growth. Here it grows to less than 0.5 m over most of the area it covers and is more intimately intermingled with the plants of wet heathland and lawn where it occupies drier tussocks and higher ground. In this semi-prostrate intermingled form it is going to be much more difficult to control without resorting to extensive damage of the existing native heath or sward.

The large patch of problem *Gaultheria* is clearly derived from shrubs planted in the grounds of Rhinefield House. Its distribution elsewhere (a tiny number of small patches – already despatched by repeated herbicide application) suggests its spread by seed is very slow away from its core area. Given that the fruits are almost black and hidden away in the vegetation (and not very abundant) this is probably not that surprising. A key vector for the plant in British Columbia are the bears that fatten up on the berries in autumn. Their absence from the Forest will clearly help in our plans to eradicate the plant.

As to its local name of American Strawberry, I have to admit to being a little puzzled as to why Mr Clement thinks we invented it (and as to why he thinks we are desk botanists in Queen's House – what is a desk botanist?). The name was used in our press releases and literature precisely *because* it had arisen spontaneously amongst the inhabitants of the New Forest and presumably because it was needed. Few local people were aware of its Latin binomial or aboriginal name. However, we office bound desk botanists do still persist in using the name *Gaultheria*. If we're fortunate enough to remove the plant from the Forest, perhaps both names will drop from local use entirely.

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RARE ALIENS ON CHERTSEY MEADS (SURREY, v.c. 17)

Chertsey Meads, an area of water meadow by the River Thames, is not the place where one would expect to find rare aliens, but the laying of a gas pipeline along the verges and the subsequent reseeding by the contractors in the autumn of 1991 gave rise to several interesting species. A wildflower/grass mixture was sown that presumably had its origin in Central Europe.

Amongst the common species that appeared in May/June 1992 were such plants as *Leucanthemum vulgare* (Oxeye Daisy), *Lotus corniculatus* (Common Bird's-foot-trefoil) and *Cynosurus cristatus* (Crested Dog's-tail), which are also common British natives. I also provisionally determined others as *Anthemis arvensis* (Corn Chamomile) and *Rhinanthus minor* (Yellow Rattle), but only recently showed the vouchers in **Herb. BP** to Eric Clement, and he has renamed them for me as *A. austriaca* (Austrian Chamomile) and *R. alectorolophus* respectively. Both are widespread species in Europe.

The *Anthemis* has been recorded with increasing frequency in Britain, but the *Rhinanthus* has the distinction of being only the 2nd British record, the first record is mentioned in Clement & Foster *Alien Plants of the British Isles*, when at least 200 plants were reported by Dr J.W. Partridge in June 1992 on both sides of a recently constructed bypass, A429, at Wellesbourne (Warks, v.c. 38). In July 1993 only c.20 plants (?self-sown) could be found, and none thereafter. A 'wildflower mix' of foreign origin had clearly been sown.

But the most exciting alien (1st British record) was a dandelion *Taraxacum pseudolacistophyllum* that was expertly spotted by and determined by Czech Taraxacologist Dr Jan Kirschner on a visit to the Meads in April 1995. Its native range is a south-easterly sweep through Europe from Denmark, Belgium, Central France, West Germany, Austria, Switzerland and Northern Italy, and this suggests that the so called 'native wildflower' seed mixture used (and presumably in other British locations) was from somewhere in this area. Indeed, assuming that the seed of the *Anthemis*, *Rhinanthus* and *Taraxacum* all originated from the same country, *Flora Europaea*, vols **3&4**, restricts the likely origin dramatically to contiguous Austria and Northern Italy, with Czechoslovakia being an outside possibility.

Taraxacum enthusiasts will be interested to know that JK currently (Jan. 2000) considers that the correct name of this species is *T. lacistophylloides* Dahlst. (syns: *T. affine* Hagl., non Jord.; *T. pseudolacistophyllum* Soest; *T. varense* Soest) – *cf.* BSBI Handbook No. 9: 73. Jan also very kindly provided an illustration from the front cover of a Czech regional periodical, *Muzeum a Soucasnost, Roztokách u Prahy*, **1** (1986), but it proved to be unsuitable for reproduction in *BSBI News*. A further illustration (the holotype of *T. varense*) appears in *Acta Bot. Neerl.*, **26**(2): 158 (1977).

None of the above aliens have persisted, but this belated article suggests that similar aliens are being overlooked in other localities and it emphasises the importance of pressing vouchers. It is especially likely that other alien *Rhinanthus* species are being overlooked as *R. minor* or *R. angustifolius*.

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GREENLAND IN DORSET

Greenland Farm, Studland (SZ/017.846) was vacated in the autumn of 1998. Most of the grassland is being allowed by the National Trust to revert to heath, but a small amount around the farmhouse will be let with the house when it has been updated.

The botanical finds at a farm empty in the summer are always likely to be interesting, and a number of native species new to the tetrad appeared, e.g.: *Anchusa arvensis* (Bugloss), *Fumaria muralis* (Common Ramping-fumitory), *Thlaspi arvense* (Field Penny-cress), *Misopates orontium* (Weasel's-snout), *Torilis nodosa* (Knotted Hedge-parsley), *Rumex pulcher* (Fiddle Dock), *Aethusa cynapium* (Fool's Parsley), and *Chenopodium polyspermum* (Many-seeded Goosefoot).

However it was noticed in the spring that a new water main had been laid in the winter. The first fruits of this soil disturbance were *Chelidonium majus* (Greater Celandine) and an unusual yellow composite. A mid-summer visit showed the latter to be *Rapistrum rugosum* (Bastard Cabbage), and revealed a number of cornflowers, *Centaurea cyanus* c.v., one plant of *Polypogon monspeliensis* (Annual Beard-grass) and over 50 *Datura stramonium* (Thorn-apple).

David Leadbetter spotted the first of four plants of a species neither of us could identify, so I sent a specimen to Eric Clement. He replied 'You have a real rarity: *Chenopodium botrys,* Sticky Goosefoot' (not to be confused with the species once named *C. botryodes*). He thinks that previous British records for it are in single figures: this is a first vice-county record. David also discovered *Ambrosia artemisiifolia* (Ragweed) elsewhere on site.

As summer progressed several alien grasses appeared on the line of the water-pipe: *Setaria viridis* and *S. pumila* (Green and Yellow Bristle-grasses), *Echinochloa crus-galli* (Cockspur), and *Panicum capillare* (Witch-grass); together with other aliens like *Amaranthus retroflexus* (Common Amaranth) and the fearsomely-prickly *Solanum rostratum* (Buffalo-bur). Garden escapes elsewhere included *Viola* × *wittrockiana* (*V. altaica* × *V. lutea* × *V. tricolor*) (Garden Pansy), *Tropaeolum majus* (Nasturtium), *Linaria maroccana* (Annual Toadflax), *Petunia* × *hybrida* (*P. axillaris* × *P. integrifolia*) (Petunia), *Hibiscus trionum* (Bladder Ketmia), *Rudbeckia hirta* s.l. (Black-eyed-Susan), *Callistephus chinensis* (China Aster), *Aster* × *versicolor* (*A. laevis* × *A. novi-belgii*) (Late Michaelmas-daisy), *Melissa officinalis* (Balm) and *Mentha* × *villosa* (*M. spicata* × *M. suaveolens*) (Apple Mint). Eric Clement kindly determined the species which defeated me.

In early September, Humphry Bowen and Richard Fitter visited Greenland and made additional records including: *Borago officinalis* (Borage), *Brassica juncea* (Chinese Mustard), *Physalis peruviana* (Cape-gooseberry), *Conyza sumatrensis* (Guernsey Fleabane) which is spreading rapidly in Dorset, *Rumex* × *abortivus* (*R. conglomeratus* × *R. obtusifolius*), *Amaranthus albus* (White Amaranth) (that on the line of the pipe), *Lobelia erinus* (Garden Lobelia), *Cichorium intybus* (Chicory), and, nearby, *Juncus ambiguus* (Frog Rush).

The National Trust expect to have a new tenant by next summer who will perhaps 'keep the weeds down'. Meanwhile the suggestion that they should dig another trench (for cable TV?) has fallen on deaf ears!

EDWARD PRATT, 7 Bay Close, Swanage, Dorset, BH19 1RE

A NEW SITE FOR *SENECIO INAEQUIDENS* IN NORTHERN IRELAND AND FIRST RECORD FOR Co. DOWN

On 23 October 1999, while making a rare visit to the Newtownards borough council refuse site, J/494.754, I noticed an unusual *Senecio* sp. by the roadside, just outside the dump. A sample of material was taken and I identified it as *Senecio inaequidens* (Narrow-leaved Ragwort) using Stace (1997). This was confirmed by Paul Hackney of the Ulster Museum. It is the second record for *S. inaequidens* in Northern Ireland. The first was only made in July 1999 by Stan Beesley and John Wilde at Larne, Co. Antrim. This record is therefore the first for Co. Down.

Subsequent examination showed that 2 plants were present at Newtownards; the larger, about 1 m in width and height, had several stems branching from the base of about 1 cm diameter, and appeared to be setting fertile seed. The second plant was almost underneath the first, and was a single stem of about 30 cm.

References

Beesley, S. and Wilde, J. (1999) *Senecio inaequidens* in Northern Ireland. *BSBI News* **82**: 74
Stace, CA. (1997). *New Flora of the British Isles.* 2nd ed. Cambridge University Press.

GRAHAM DAY, Cherry Cottage, 11 Ballyhaft Road, Newtownards, Co. Down BT22 2AW

SENECIO INAEQUIDENS IN DORSET

I was very interested to read the note by Stan Beesley and John Wilde in *BSBI News* **82**: 74, about the finding of *Senecio inaequidens* (Narrow-leaved Ragwort) in Northern Ireland.

On 11th September 1999, while on a short botanical foray in some fields to the West of Swanage, I, too, discovered an unusual looking *Senecio* with narrow leaves growing near a sludge treatment construction side (SZ/020.796). After consulting Stace and Marjorie Blamey, I tentatively identified it as *Senecio inaequidens*. I then sent a small piece of the plant to the Revd Edward Pratt who corroborated my identification. He, in turn, sent the specimen to Eric Clement for final confirmation.

I revisited the site several times in the late autumn / early winter and found that the plant had become vigorous and compact, in contrast to its straggly appearance in late summer. It was still flowering on 1st January 2000, which enabled me to record it on a New Year's Day list (consisting of 80 species either in flower or with prominent flower buds or spore cases).

The plant was still present in late February, but its long-term survival is in doubt due to the work taking place at the site. It is to be hoped that it has set sufficient seed for this alien to become established in the Swanage area.

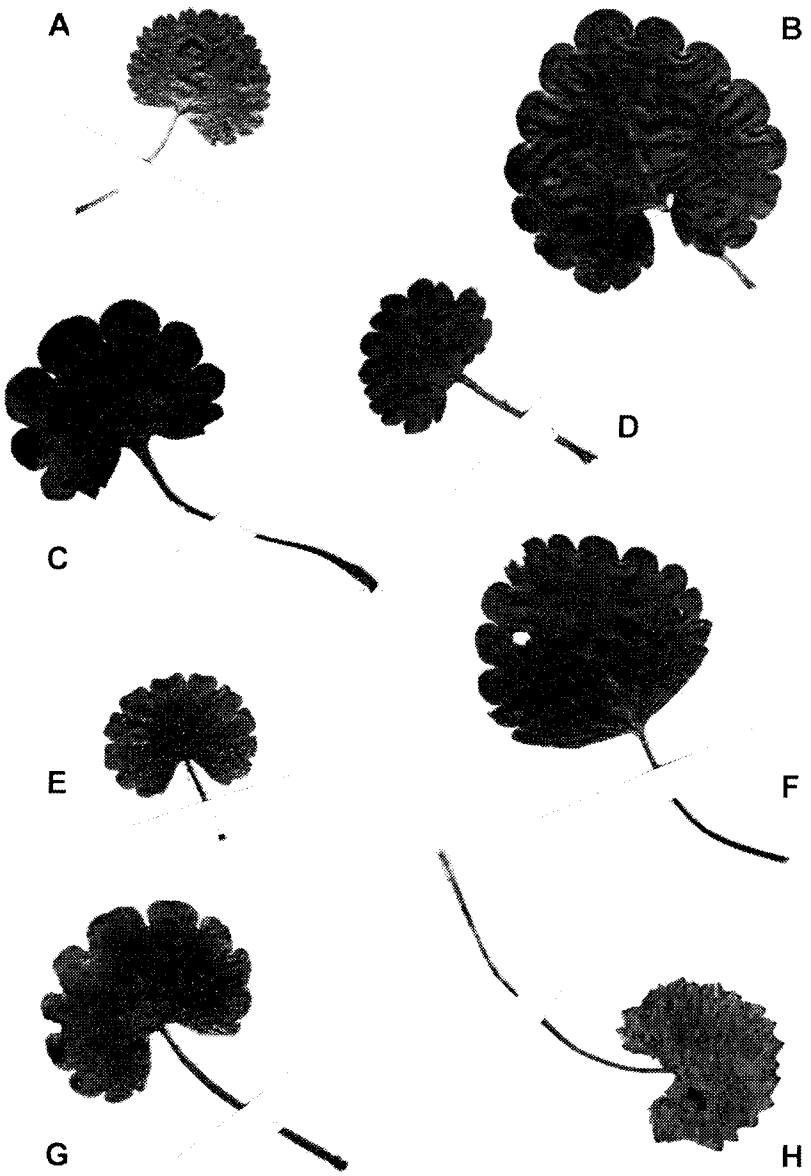
DAVID LEADBETTER, 9 Battle Mead, Swanage, Dorset, BH19 1PH

OVERLOOKING *SIBTHORPIA*

During the Llandovery BSBI Meeting in June 1999 we spent a day monitoring the populations of *Saxifraga granulata* (Meadow Saxifrage) in the Cennen valley below Trapp. We were surprised to find that *Sibthorpia europaea* (Cornish Moneywort) was frequent along the shaded river banks, often growing close to the *Saxifraga*, as it had not been recorded in the valley before. *Saxifraga granulata* had been recorded on a number of occasions by several very competent recorders, and we could only assume that they had completely overlooked the more abundant *Sibthorpia*.

David Pearman In *Plant Crib 1996* shows that *Sibthorpia* can be difficult to distinguish from *Glechoma hederacea* (Ground-ivy) and the two species of *Chrysosplenium* (Golden-saxifrage), but we found that there were several other plants in the Cennen valley sites for which *Sibthorpia* could easily be mistaken at a casual glance, including even *Saxifraga granulata*. To alert members to look perhaps more carefully at leaves of this general pattern than they might already be doing, we show here a selection of similar leaves in the form of a quiz. The answers are given in 'Stop Press' on page 82. All the species, except for *Chrysosplenium alternifolium* (Alternate-leaved Golden-saxifrage) which is from David Pearman's garden, were from the Cennen sites.

Seedlings of *Filipendula ulmaria* (Meadowsweet) is one of the most deceptive, and *Sibthorpia* growing amongst it in a marsh by the River Teifi had been overlooked by one of us (AOC) on several visits until Jim Bevan visited the site and spotted it at once. Once suspected, *Sibthorpia* is usually easy to confirm by its habit, flowers or the characters given in the *Crib*, but it is the initial spotting that can be difficult.



See page 82 for answers to the quiz

RICHARD PRYCE, Trevethin, School Road, Pwll, Llanelli, Dyfed SA15 4AL
ARTHUR CHATER, Windover, Penyrangor, Aberystwyth, Dyfed SY23 1BJ

NOTICES (BSBI)

BSBI TRIP TO SICILY – MAY 2001

I am planning to organise a field excursion to Sicily in the latter half of May 2001 for members of the BSBI. The trip would be led in Sicily by Roberto Caudullo who lives in Catania and is a geological and natural history guide on Mount Etna with experience of showing foreign tourists the local highlights. We had the pleasure of being escorted by him in 1999 and were very impressed by his knowledge and organisational abilities.

The flora of Sicily is very varied. There are eight endemics on Etna, all easily accessible. 51 orchid species have been recorded in the Madonie Park. Sandy and rocky coasts, wetlands and lakes, volcanic and limestone floras. The chance to see Stromboli erupting!

The details that have so far been worked out are as follows:

- Leave London, arrive at Catania
- Approx. 3 nights based in Saracusa area (base for Anapo Valley, Noto, Vendicari Nature Reserve and Capo Passero Island)
- 1 day transfer via Valley of Temples to north of island
- Approx. 5 nights at the Nebrodi and Madonic National Parks in the north of the island
- Transfer to Milazzo, hydrofoil to Stromboli (Aeolian Islands)
- Approx. 1 night on Stromboli (flora by day and watch eruption by night)
- Hydrofoil back to Milazzo stopping en route for ½ day excursion around Lipari
- Approx 4 nights based in Taormina, or Acireale/Trecastagni area (north of Catania) (base for exploring Etna)
- Leave Catania, arrive London

This itinerary is very tentative at present and is likely to change.

The number of participants would be limited to about 12 to 15 and the duration of trip about 14 days. Local travel would be by mini-bus. Some easy hill walking, sometimes over loose volcanic cinders, is likely to be the most difficult and strenuous conditions encountered. The intention is to keep the cost below £1000.

If you are interested in taking part in this excursion, please contact me at the address below as soon as possible.

RICHARD D. PRYCE, Trevethin, School Road, Pwll, Llanelli, Carmarthenshire, SA15 4AL;
Tel./Fax: 01554 775847; **E-mail:** PryceEco@aol.com

REMINDER – BSBI WELSH AGM – 9th-11th June 2000

Members are reminded that bookings for this event, which includes visits to Cors Bodeilio and the Great Orme, have to be made by **30th April 2000.** You are advised to book as soon as possible, as places on the trip to Cors Bodeilio NNR are limited (an alternative similar site, Cors Goch NNR, has been arranged for those in excess of the Cors Bodeilio party). We are keen to encourage exhibits at the meeting, please provide one if at all possible. Finally, please note that Summerfield Books, the new BSBI Book Agents, will be bringing their books to the AGM.

Booking forms for the AGM were circulated with the last issue of *BSBI News*. Spare copies are available from Gwynn Ellis (please enclose an SAE with your request).

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

NOTICES (NON BSBI)

OXFORDSHIRE EVENT

Identifying *Carex vulpina* – A two day course instructed by Ron Porley, organised by the Rare Plants Group of the Ashmolean Natural History Society of Oxfordshire will be held on 20-21 July 2000. July 20th meet at Otmoor 10.00 a.m. for field visit followed by afternoon in laboratory. July 21st visiting further sites in Oxon. Places limited to 12. For further details contact:

SUSAN ERSKINE, Clove Cottage, Little Coxwell, Nr Faringdon, Oxon SN7 7LW; **Tel.:** 01367 241499

FLORA CELTICA

The *Flora Celtica* initiative is co-ordinated by the Royal Botanic Garden Edinburgh, and is seeking to document and promote the uses of plants of the 'Celtic' regions of Europe. Although the project is looking eventually to conduct collaborative research in France, Iberia, Eire and in other regions of the UK, at present the focus of the research is in Scotland.

Many readers will be aware of the very popular study on the uses of English plants – and particularly folklore, conducted by Richard Mabey for the *Flora Britannica* project. Although similar in approach, *Flora Celtica* is concentrating very much on contemporary plant uses, including those of commercial interest, and this information is being recorded through the participation of the Scottish public and the commercial sector. The focus of the initiative is very much on illustrating the importance of our relationship with plants today. Although it is focusing on the contemporary, *Flora Celtica* is not ignoring the historical uses of plants, and archival research provides the backbone of such information. Despite books like *Flora Britannica* and Tess Darwin's excellent *Scots Herbal*, there is still much information out there waiting to be discovered. There is a certain degree of urgency underpinning the historical component of the project, as knowledge on past plant uses held in the oral tradition is rapidly disappearing.

A vital aspect of the project is education as there is the need to present the information to the public in an accessible way. To this end, innovative means are being developed to inform the public of the importance of plants in our lives; these include the use of the World Wide Web, theatre-based roadshows, interactive exhibitions, film, radio and animation. Our database of plant uses is already available on the Internet for all to access. The scope of the initiative is broad and it seeks to provide an accessible information resource on plant uses for research academics, education bodies, the business sector and the general public.

Submissions from interested members of the public and academics have so far proved invaluable in building this comprehensive and enduring picture of native plant use. If you have any knowledge of uses from Scotland, the project would be very glad to hear from you.

Please contact:

Flora Celtica, Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh, EH3 5LR
Tel: (0131) 552 7171; **Fax:** (0131) 248 2901; **E-mail:** Celtica@rbge.org.uk
Website: www.rbge.org.uk/research/celtica/scot2000

IMPORTANT BRITISH HERBARIA NOW FULLY ACCESSIBLE

Three historically important British Herbaria, those of Hewett Cottrell Watson, William Borrer and John Lightfoot, which are held in the Herbarium of the Royal Botanic Gardens, Kew have, until now, been inaccessible. Recent building works, however, have freed up enough space for these collections to be given the prominence that they deserve. All three are now fully accessible and requests for consultation should be directed to the curator, Dr Tom Cope. Also available are George Don's small 'Herbarium Britannicum', Charles Fourcade's 'Plantes des Pyrenees centrales' and Lapeyrouse's 'Reliquiae Lapeirousianae: Plantes Pyreneennes'.

TOM A. COPE, Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE
E-mail: T.Cope@rbgkew.org.uk

LOCAL SEEDS FOR LOCAL NEEDS TRAINING DAYS

Flora locale is a registered charity, established to promote good practice in the sourcing, supply and use of native plants for ecological restoration and is pleased to announce its summer training programme dedicated to the growing and use of native plants for wildlife, agri-environment, landscape and amenity schemes.

The programme is likely to be of interest to:

- Local authority parks and countryside staff
- Ecologists
- Landscape architects
- Farmers
- Landscape and planting contractors
- Anyone interested in growing native plants, whether in parks and gardens, the countryside or town.

The summer training programme includes days on seed collecting, growing, propagating and establishing native plants at the field scale.

Each training day costs £55. To obtain a booking form please e-mail Flora locale at the address below stating 'Training form request' in the subject box. Alternatively send an s.a.e. to Ann Tubb, also at the address below. Further details may also be viewed on the Flora locale web site. There will be a £5 discount for BSBI Members who quote the following reference when booking 'BSBI/FL1'.

List of events in the summer 2000 programme

- Creating wildflower landscapes in urban areas, *Wednesday June 14, Liverpool*
- Enhancing the botanical diversity of grasslands, *Tuesday 27 June, Lincolnshire*
- Harvesting and using wildflower and grass seed from native grasslands, *Thursday 6 July, Nr. Bath*
- Growing and managing wildflowers, *Wednesday 12 July, Norfolk*
- Harvesting wildflower and grass seed from native grasslands, *Thursday 13 July, Norfolk*
- Growing and harvesting wildflower crops, *Tuesday 1 August, Berks/Wilts*
- Collecting and using seed for restoring moorland and heath, *Late October (date TBA), Peak District*

Flora locale, 36 Kingfisher Court, Hambridge Road, Newbury RG14 5SJ.
E-mail: floraloacale@naturebureau.co.uk

LAUNCH OF THE WEST OF ENGLAND GARDENS SOCIETY

March 2000 sees the launch of the West of England Gardens Society. Serving the interests of gardeners and garden lovers in the West Country the society aims to generate news, information and ideas from public and private gardens and specialist nurseries in the six counties of Gloucestershire, Wiltshire, Somerset, Dorset, Devon and Cornwall.

The West of England is home to some of the finest gardens in the UK and Europe. Stourhead, the Lost Gardens of Heligan, RHS Rosemoor and Hestercombe, to name a few, have international reputations. At the other end of the scale are the many private, sometimes tiny gardens, like White Pit Cottage Herb Garden, a quarter acre garden which is a feast to the senses. The West of England is also home to 99 National Collections in public gardens, specialist nurseries and under private ownership.

The area includes historic gardens, colour designed gardens, cottage gardens, plantsman's gardens, designer gardens – gardens representing every interest in the gardening world, offering information and inspiration for every gardener.

The Society offers a quarterly newsletter, discounts at gardens and specialist nurseries, Gardens and Specialist Nursery annual publication, weekend and day courses at renowned gardens, specialist lectures, garden visits conducted by owners and head gardeners, visits to and lectures at specialist nurseries.

The launch (March 2000) issue of the Society newsletter features the Peto Garden at Iford Manor, RHS Rosemoor, and Milton Lodge. Articles include 'Knot Gardens' by author Robin Whalley and 'Spring Planting at Broadleas' by Lady Anne Cowdray.

For further information contact:

LAURA KEYTE, West of England Gardens Society, 5 Brunswick Street, Bath BA1 6PQ;
Tel: 01225 313690

REQUESTS

GENTIANELLA SPECIES IN THE VEGETATIVE STATE IN THE SUMMER MONTHS

I am currently looking at the attributes of all the British species of *Gentianella*. I am especially anxious to trace:

- a) observations,
- b) photographs or
- c) references in the literature

to real (rather than inferred) examples of rosettes or small plants that pass through the summer and autumn without flowering. This could either be in the field, or in botanic gardens. Similarly if anyone can mark likely plants and make continued observations this would be especially useful. I currently use plastic tent pegs with a flat 18 mm disc as their topmost surface, driven in flush to the ground, for this purpose. I am familiar with the work of Dr N. Pritchard on the genus.

RICHARD GULLIVER, (Recorder for v.c. 102, Islay, Jura and Colonsay), Carraig Mhor, Imeravale, Port Ellen, Isle of Islay, Argyll, PA42 7AL. **E-mail:** rlg2@tutor.open.ac.uk

SPORING BRACKEN (*PTERIDIUM*)

I am interested in spore dispersal and the breeding system in bracken (*Pteridium*) and am on the look out for bracken in spore in the Nottingham area. I would most grateful to hear from anyone able to suggest where I might find some.

CARL ASHCROFT, School of Biological Sciences, University of Nottingham, University Park, Nottingham, Nottingham NG7 2RD. E-mail: carl.ashcroft@nottingham.ac.uk

BOOK NOTES

REVIEWS & NOTES

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

**Plants of the Peloponnese*. W. Strasser. Pp 350. ARG Gantner Verlag KG. [n.d.] UK price *c.*£15.50 (ISBN 3-904144-11-1). Distributed by Koeltz Scientific Books.
[1900 of the 2300+ species of the area are illustrated with line drawings, and 200 more are briefly described. The line drawings are arranged by flower colour, and, although some are, inevitably, rather sketchy (sorry), it is a very useful corpus of drawings for a popular area. Even grasses (128), sedges and ferns are covered.]

Alien Plants of Yorkshire. G.T.D. Wilmore. Pp 316. Yorkshire Naturalists' Union. 2000. Price £15.00 (ISBN 0-9504093-3-2).

**North American Terrestrial Vegetation*. M.G. Barbour & W.D. Billings. Pp 708. Cambridge University Press. 2000. Price Hbk £80 (ISBN 0-521-55027-0). Pbk £29.95 (ISBN 0-521-55986-3).

**Wild Flowers of the East Devon Coast*. D.J. Allen. Pp *c.*vii + 86 and 98 colour plates. Quantock Nature (Higher Quantock, Stockland, Honiton, Devon EX14 9DX). 2000. Price £5.99 (ISBN 0-9537688-0-5).
[A pocket-sized guide aimed at 'the average visitor or walker of the coast path' with the species arranged by habitat.]

**Red Data Book of Iran : A Preliminary Survey of Endemic, Rare & Endangered Plant Species in Iran*. A. Jalili & Z. Jamzad. Pp 748 + 68 coloured illustrations. Research Institute of Forests and Rangelands, Tehran. 1999. Price $100 (ISBN 964-473-061-5). Available from Koeltz Scientific Books, Box 1360, D-61453, Koenigstein, Germany.
[A collation of information from *Flora Iranica* and *Flora of Iran* backed up by work on herbarium specimens and some field survey work. This new publication covers 2,400 species.]

Trees : Their Natural History. P.A. Thomas. Pp ix + 286. Cambridge University Press. 2000. Price Hbk £42.50 (ISBN 0-521-45351-8), Pbk £15.95 (ISBN 0-521-45963-x).

Libellus de re Herbarium Novus. 1538. Wm Turner. (Edited, with a translation into English by M. Rydén, H. Helander & K. Olsson). Swedish Science Press, Uppsala. 1999. Price SEK 150 ISBN 91-630-8620-4; ISSN 0280-0918.

**Distinguishing Wild Flower Families*. G. Copley. Pp 45. [n.d]. Price £4.00 (incl. p.& p.), available from the author at 11 Greendale Avenue, Holymooreside, Chesterfield, Derbyshire S42 7DT.
[This arrived too late to write a note, but I will include one in the September *News*. The booklet covers 22 of the largest families with all the salient features and clear line drawings for each.]

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

WILTSHIRE BOTANY

Issue No. 3 of *Wiltshire Botany*, Wiltshire Botanical Society's journal, is now published. It contains a flora of the village of Berwick St James by Barbara Last, a systematic account of the grassland communities of the MoD Training Area of Salisbury Plain by Kevin Walker and Richard Pywell, an extension of Rob Randall's history of recording Wiltshire brambles more or less up to the present day, and a selection from the Society's plant records for 1997 and 1998.

Copies are available from Mrs Jean Wall, Wiltshire Wildlife Trust, Elm Tree Court, Long St, Devizes, Wilts. SN10 1NJ (Tel.: 01380 725670). The cost is £2.50 by post and £2 if collected at the office. Cheques should be made out to Wiltshire Botanical Society, not to the Trust.

JOHN PRESLAND, By-the-Way, 175c Ashley Lane, Winsley, Bradford-on-Avon, BA15 2HR

AN ANNOTATED TOPOGRAPHICAL CHECKLIST OF THE BURREN REGION

The Burren Tourism & Environment Initiative (a pilot programme administered by Shannon Development, and supported by the European Regional Development Fund) has two primary aims, the provision of information relating to special features of The Burren incorporating an environmental message, and the dissemination of that information via appropriate media through the region's tourism providers. The Initiative commissioned Dr Charles Nelson to produce an up-to-date checklist of the flora of the region, and copies of this will be sent to participating accommodation providers in the region.

Meanwhile, in collaboration with the Initiative, an augmented version of the checklist will be printed and published privately by Dr Nelson and will be available direct from him; details can be obtained by e-mail to tippitiwitchet@zetnet.co.uk or send sae. The cost will be approximately £7.50 (post extra). Copies should be available in May.

The checklist, listing approximately 900 taxa, contains distribution data and brief descriptions, with cross-references to sources including *An Irish flora* (7th edition), BSBI handbooks and *Plant crib 1998*, as well as the out-of-print *Flora of Connemara & the Burren* (D.A. Webb & M.J.P. Scannell).

E. CHARLES NELSON, Tippitiwitchet Cottage, Hall Road, Outwell, Wisbech, Cambs PE14 8PE

BOTANICAL CORNWALL No. 9

Botanical Cornwall no. 9, the latest issue of this publication from the Cornwall Wildlife Trust is now available at £6 including p.& p. from the address below.

ANN HARRIS, Administrator, Cornwall Wildlife Trust, Five Acres, Allet, Truro, Cornwall TR4 9DJ.
Tel.: 01872 273939; **Fax:** 01872 225476; **E-mail:** cornwt@cix.compulink.co.uk

ANNUAL EXHIBITION MEETING 1999 – ABSTRACTS

The reports that follow have been edited for publication by Ailsa Burns.

A CORNUBIAN *RUBUS* ENCLAVE IN BRITTANY

Devon and Cornwall, ('Cornubia'), have long been known to possess a distinctive bramble florula with a rich array of species which either have their centre of distribution in one or both counties or are not known to occur anywhere else. Until recently, most of these were believed to be endemic to Great Britain, but in the last 20 years an increasing number have been discovered in Ireland or the Channel Islands or north-west France – though very few in all three. Repeated sweeps of the nearest parts of Normandy and Brittany, however, have turned up not nearly as many as expected.

Until 1999, the north end of Normandy's Cotentin peninsula, in and around Cherbourg, had yielded just the one significant concentration of these species but an exploratory visit this year to the stretch of the north Brittany coast between Lanion and Perros-Guirec, popularly known as the Côte de Granit Rose, brought to light a second. Here, *Rubus hastiformis*, locally common around Plymouth and Falmouth, yet hitherto unknown on the other side of the English Channel, was found to be second only to the ubiquitous *R. ulmifolius* in prevalence and quantity. *R. aequalidens*, widespread in south-west Britain and another surprising seeming absentee, also, at last, put in some French appearances. Voucher specimens of these two were exhibited with Cornubian examples for comparison. A colony of *R. peninsulae*, hitherto known outside Cornubia only in Jersey, was in one of the two main surviving pieces of natural woodland, while *R. longithyrsiger* provided a further reminder of south-west Britain by totally carpeting the other. An apparently undescribed member of series *Rhamnifolii*, long known on Southampton Water, was also widely in evidence.

That the Côte de Granit Rose has a special climate of its own is suggested by the almost complete absence of two otherwise generally-distributed Breton brambles, *R. boraeanus* and *R. venetorum* D.E. Allen. It could well repay investigation by students of the British flora as a whole.

Dr D.E. ALLEN

EPILOBIUM × *KITCHENERI* McKEAN NO LONGER A SCOTTISH ENDEMIC

Extensively naturalised *Epilobium pedunculare* in woodland near Doublebois, East Cornwall, v.c. 2, has created the second and third records of the newly described hybrid of this New Zealand species with *E. montanum*. These were discovered independently by David Holyoak and the other exhibitors this year.

The exhibit displayed live and photocopied material and commented on the habitat preferences of both *E. pedunculare* and the hybrid.

Mr A. & Mrs M. ATKINSON, Mr I.J. BENNALLICK, Dr D.T. HOLYOAK, Mr G.D. KITCHENER

IT'S KNOTWEED BUT NOT AS WE KNOW IT!

In Britain we are used to seeing *Fallopia japonica* (Japanese Knotweed) as pristine undamaged monocultures with little or no genetic variation. The exhibit compared and contrasted Japanese Knotweed and Giant Knotweed, (*F. sachalinensis*) with the populations in Britain. In Japan, the dwarf var. *compacta* like plants were restricted to volcanic ash flows on volcanoes, where, at the summits, they were often the only angiosperm present.

In Japan, *Fallopia japonica* and *F. sachalinensis* were found to suffer very high levels of invertebrate predation. Beetles and caterpillars ate the leaves, grubs burrowed into the above ground green stems whilst Japanese Swift Moth larvae bored large cylindrical holes through the woody rhizomes. Various fungal infections were also noted. But all this was only part of their troubles – they were also subject to tremendous competition for light and resources by the associated flora which included many giant herbs such as *Miscanthus* and *Pueraria* species. The expedition to Japan, which was part-funded by the BSBI, brought back more than 90 live rhizomes of Japanese and Giant Knotweeds for further study. Voucher herbarium specimens for all live plants were also collected and have been deposited in **LTR.**

Dr J. BAILEY & Miss C. PASHLEY

THLASPI PERFOLIATUM (PERFOLIATE PENNY-CRESS), NEW TO v.c. 37, WORCESTERSHIRE

5000 plants of *Thlaspi perfoliatum* (Perfoliate Penny-cress), were found on the edge of an arable field in Worcestershire, v.c. 37 in 1999. This is the first confirmed record for v.c. 37 and the third or fourth largest population of this rare, protected species in Britain. Full details will be published in *Watsonia* **23**.

Mr K. BARNETT & Dr T.C.G. RICH

THE FUTURE FOR HEDGEROW PROTECTION IN ENGLAND AND WALES

Despite the introduction of the Hedgerow Regulations in 1997, loss of hedgerows in England continues to be a concern for conservationists, local authorities and the public. The Regulations were drawn up in response to the continued loss of hedgerows in the 1980s and early 1990s. Between 1984 and 1993 there was a loss of around 185,000 km of hedgerow in England and Wales (Cummins, ITE 1992). The regulations sharply divide hedgerows into those which are worthy of protection and those that are not. This study compares the 1997 Regulations with two other methods of hedge survey – the National Vegetation Classification and the Field Studies Council Method. The fieldwork was carried out on 138 hedges in the Langley Valley, Hertfordshire, a geologically and ecologically diverse area. The study showed that the Field Studies Council method had a number of advantages over the other methods: all hedges have some value in this system, it is much easier to use in the field than the Regulations and it gives a graded system, rather than a cut off point.

Miss A.R. CONGREVE

JAPANESE KNOTWEED AND 'LANDED GENTRY ESTATES'

Stands of *Fallopia sachalinensis* and *F.* × *bohemica* close to the estates of landed gentry are known throughout the British Isles, suggesting original plantings as garden ornamentals or, occasionally, as game coverts. Estates with this Giant Knotweed association range from Moray to Cornwall and Kent; nursery gardens known to have supplied the taxa also range widely, from Edinburgh to southern England. In west Surrey there is a cluster of stands amidst this Gertrude Jekyll-country's numerous wealthy garden estates; in Glamorgan / Gwent another cluster includes stands derived from several local estates.

F. sachalinensis was first recorded as a garden escape in 1896, near Lurgan, Northern Ireland; a local nursery garden had advertised it for sale in 1891. *F.* × *bohemica* was grown in Manchester Botanic Garden in 1872/76, some 100 years prior to the recognition of this hybrid and it was grown near Cheltenham in 1911 from a 'root' supplied by a Worcester nursery garden.

Miss A.P. CONOLLY

CAREX MURICATA subsp. *MURICATA* IN BRITAIN

This subspecies, which apparently only occurs over calcareous substrates, was first recognised in Britain following the work of E. Nelmes during the 1940s; with a mainly central and eastern European distribution, it is very rare in this country, having been recorded from only seven separate localities, at five of which it is still extant.

All past and present localities have been studied and details were summarised in the exhibit which also outlined the morphological characters which distinguish subsp. *muricata* from its close ally, subsp. *lamprocarpa* and gave an indication of the habitat type and population size at each site. Where appropriate, possible causes of decline were suggested, a major one being the development of excessive tree or ground cover; one site has been lost for these reasons and another is in serious danger of extinction.

It is thought that the plant may well occur elsewhere in Britain in suitable habitats and it should be looked for especially on warm south-facing, lightly vegetated calcareous scree slopes and open, grazed grassland.

Dr M.J.Y. FOLEY & Mr M.S. PORTER

FLORA OF CORNWALL ON CD-ROM

The Flora of Cornwall on CD-ROM was demonstrated on a PC computer. Although it contains all the text from the book it is much more than an electronic book with an immense amount of extra information. Indeed, only 0.02% of the vascular plant records found on the CD-ROM are mentioned in the book. The flexibility of quizzing the raw data means that, for any of the 2600 taxa, records can be viewed and maps created, at a number of scales and date classes, with such backdrops as geology, road or river systems. For many, a photograph of the plant in question can be seen. Furthermore, species lists can be generated for most 1 km squares in Cornwall (assisted by a gazetteer of 15,000 place names). The CD-ROM is also more up to date and includes 20,000 records from the 1999 recording season and an additional appendix listing newly discovered taxa.

Dr C.N. FRENCH

POPULATION STRUCTURE AND MONITORING OF *DIAPENSIA LAPPONICA*

It has been suggested that the lack of small individuals of *Diapensia lapponica* plants in Swedish Lapland is due to climate change (Molau, 1996). A survey of the size, and therefore the age structure, of the only significant *Diapensia* population in Britain was carried out. The exact location and size of each plant was surveyed and levelled in to reference points. The detailed map of the exact location of each cushion to the nearest centimetre will enable future botanists and ecologists to monitor this population with ease. This will make it possible to detect death and removal of individual plants as well as the impact of extreme events on survivorship and recruitment of individuals. The poor weather and lack of time meant that only part of the population could be surveyed in 1999 but any volunteers who would like to help in this coming summer's survey would be most welcome.

Dr A.D. HEADLEY

COTONEASTER AT THE NATIONAL MUSEUM OF WALES

Cotoneaster has, in recent times, become the largest woody genus in the British Isles with over 85 taxa recorded. Within the last 5 years at **NMW**, the number of *Cotoneaster* being incorporated into the collections has increased considerably. The three main sources have been recorders in Wales finding naturalised plants, specimens from the cultivated collection of Mr C.G. Hanson, many determined by Jeanette Fryer or Bert Hylmö, and J. Fryer's own cultivated plants from various sources.

A provisional list of the 117 *Cotoneaster* at **NMW** was exhibited, together with representative specimens from the collectors, including the recently described species *C. tengyuehensis* (Tengyueh Cotoneaster), *C. hummelii* (Hummel's Cotoneaster), *C. induratus* and *C. hylmoei* (Hylmö's Cotoneaster).

Dr G. HUTCHINSON

SOME CHOICE, EARLY RECORDS OF PTERIDOPHYTES IN CARMARTHENSHIRE

Early records of 23 pteridophytes for v.c. 44 Carms, were exhibited, together with a set of references. The work was in connection with text for a Flora of Carmarthenshire. An 1858 record of *Gymnocarpium dryopteris* (Oak Fern) near Llandeilo was of particular interest as a population was rediscovered at the same locality this summer after 141 years; the old name 'Cevncethin' was traced using an early OS map. A frond was exhibited.

Dr G. HUTCHINSON

THE WORK OF THE ASHMOLEAN NATURAL HISTORY SOCIETY OF OXFORDSHIRE RARE PLANTS GROUP

The group works in partnership with English Nature and Plantlife to help save rare plants in Oxon and Berks (v.cc. 22 & 23) from extinction. Searching historic sites has proved successful for *Cynoglossum germanicum* (Green Hound's-tongue) and *Gentianella anglica* (Early Gentian).

Apium repens (Creeping Marshwort), reappeared at a site when the grazing regime was altered. The exhibit showed work on 8 species which has been carried out in the field over the last 4-5 years; this includes counting plants for year by year comparisons, taking samples, under licence, for DNA analysis, managing sites to maintain suitable habitats and taking seed both for preservation at Kew and, courtesy of the Oxford Botanic Gardens, for growing on additional plants,.

A successful Dandelion weekend was led by Dr A.J. Richards in May when 60 species were identified, several of which were new v.c. records.

Dr C.R. LAMBRICK & Mrs S ERSKINE

ESTHWAITE WATERWEED (*HYDRILLA VERTICILLATA*) REDISCOVERED IN BRITAIN AFTER AN ABSENCE OF NEARLY 60 YEARS; FIRST RECORD FOR SCOTLAND

In late September 1999, RVL found abundant fragments of *Hydrilla verticillata* on the shoreline of a loch near Castle Douglas, Kirkudbrights, v.c. 73. The site is a fairly small mesotrophic loch, surrounded by acid bog with some coniferous plantation. *H. verticillata* was only seen growing in one bay, but, from floating fragments, it appears likely to occur as dense stands in deeper water. On the British mainland, the plant has only previously been known from Esthwaite Water; it is known from Lough Rushdeen in Ireland; the nearest other populations are in Germany.

In general appearance, *H. verticillata* resembles a delicate form of *Elodea nuttallii* (Nuttall's Waterweed), however, it can be identified by its whorls of 3-12 leaves (3-4 in *E .nuttallii*) and by the scales in the leaf axils which are fringed with reddish finger-like cells.

Mr R.V. LANSDOWN & Mrs A. DARWELL

THE SOMERSET RARE PLANTS GROUP

The Group was formed at the end of 1996 with the aim of surveying and monitoring the rarer plants of Somerset and the production of a Somerset Red Data Book. The BSBI Recorders are key members of the group whose area is the 'old' county of Somerset (v.cc. 5 & 6).

The SRPG aims to form a concentration of botanical expertise and to take an active role in vascular plant conservation. A priority list is being drawn up of species of international and national concern occurring in Somerset, including those listed in the UK Biodiversity Action Plan and on the Threatened Plants Database. Other species of local rarity will be included.

Priority species are surveyed, monitored, photographed and recorded on a series of specially designed recording forms. Any threats to the species or sites are reported to the conservation organisations.

The display showed the list of priority species, the 1999 programme of field meetings, photographs of some of the plants of interest in Somerset and of the activities of the group, the series of recording cards, and examples of completed field surveys.

Ms E.J. McDONNELL

ANALYSIS OF THE PESTICIDE RESIDUES PRESENT ON HERBARIUM SHEETS HOUSED WITHIN THE NATIONAL MUSEUM AND GALLERY OF WALES

Herbarium material has often been treated with pesticides and fungicides to prevent loss or damage through insect or mould attack. A range of chemicals has been used including inorganic pesticides, for example, arsenic trichloride and mercuric chloride and organic pesticides, for example, lindane, DDT and naphthlalene.

Analysis of specimens in the **NMW** herbarium showed that the majority of the collection had been treated with varying concentrations of pesticides; the concentration, in some cases, was high enough to pose a serious threat to the health and safety of staff through handling and working with the collections. Staff underwent health surveillance and two were found to have elevated levels of arsenic and mercury, though still within Health and Safety Executive guidelines. Monitoring of the air quality within the herbarium showed that the concentration of mercuric chloride vapour was well within the H&S guidelines due to adequate ventilation.

In order to minimise risk, herbaria should be well ventilated and specimens should be handled with nitrile gloves; it would be beneficial to wear dust masks to prevent inhalation of particulate matter.

Ms V. PUREWAL

IN HONOUR OF A CERTAIN V.C. RECORDER

It's the end of an era, and not the millennium
Joyce Smith retires, she's one in a million.
From Claygate to Croydon and Woking and Worplesdon
She's recorded everything, even Great Mullein!

Anon

POPULATION STRUCTURE IN *ORCHIS SIMIA* (MONKEY ORCHID) IN ENGLAND

The genetic structure of the disjunct populations of *Orchis simia* was investigated using a new DNA fingerprinting technique called amplified fragment length polymorphism, AFLP. The amount of genetic variation within and between the English populations of *O. simia* was studied and compared with that of individuals drawn from the main centre of distribution of the species in continental Europe. The main result was the finding that the Hartlock, Oxon, and the Kent populations have separate gene pools. This information can now be used to construct a conservation strategy for this rare and endangered species.

Miss F. QAMARUZ-ZAMAN, Prof. J.S. PARKER, Dr M.F. FAY, Prof. M.W. CHASE

WORLD DISTRIBUTION OF *CAREX DEPAUPERATA*

Carex depauperata (Starved wood-sedge) is a rare plant in the British Isles and is reputed to be rare and scattered across much of its European range. It is extinct in Germany and Luxembourg and is described as rare in Belgium, Switzerland, Italy, Corsica, etc. Information on its distribution in Europe was needed to help refine conservation priorities in Britain.

Data were abstracted from the literature and from herbarium specimens in **BM, COI, FI, K, LEI, LTR, LIV, MA, NMW, OXF,** and **RNG** and a distribution map plotted. It is widely scattered across Europe and near Asia. France and Spain, where it seems currently to be under little threat, appear to be its main strongholds. The eastern limits are poorly known.

Dr T.C.G. RICH

WORLD DISTRIBUTION OF EUROPEAN *DAMASONUM* SPECIES

Damasonum alisma sensu lato (Starfruit), is a very rare species in England and is reputed to be rare across Europe. However, there is little reliable information on its broader distribution due to its having been included with *D. polyspermmun* Cosson and *D. bourgaei* Cosson in *Flora Europaea.* A taxonomic review confirmed *D. polyspermum* and *D. bourgaei* as distinct taxa.

D. alisma s.s. has been confirmed for England, France, Italy, Portugal, Sicily and the former USSR. The records indicate that it is the most northerly of the three species, occurring predominantly in England and France (but a Red Data Book species in both countries), with scattered coastal records from the western Mediterranean and a few inland from the former USSR. *D. bourgaei* is the most widespread and probably the commonest species, predominately occurring around the Mediterranean but also further east at least to India; its distribution is a southern counterpart to that of *D. alisma. D. polyspermum* is predominantly a western Mediterranean plant.

Thus, *D. alisma s.s.* is not as common or widespread globally as one might imagine from the literature and our few remaining populations are clearly important in a world context.

Dr T.C.G. RICH

ONLY ONE SITE REFOUND FOR *HIERACIUM LINGUANS*

Hieracium linguans (Tongue Hawkweed), is a very rare endemic species recently included in the 3rd edition of the Vascular Plant Red Data Book. As there were no recent records, surveys were carried out as a joint project between the **NMW**, Cardiff, and the Countryside Council for Wales to establish its current status and determine its need for conservation.

Only one population, of 80 plants, was found on a waterfall in Cwm Haffes, Breconshire, v.c. 42. No plants were found in previously reported localities in the Upper Nedd Glen, above Llyn-y-Fan Fach and the Upper Tywi – these may be in error. The remaining site is within an SSSI which is itself within the Brecon Beacons National Park, and, although rare, the plant does not seem to be significantly at risk.

Dr T.C.G. RICH

CARDIFF'S PONDS ARE EXCELLENT!

Ponds in the County of Cardiff, v.c. 41, Glamorgan, were surveyed in 1997 and 1998 using the national Lowland Pond Survey 1996 methods to obtain comparative statistics. The survey was a joint project between **NMW**, Cardiff County Council and the Environment Agency, with support from the Countryside Council for Wales.

The 145 ponds in Cardiff were overall found to be excellent. On average, there were 16.1 wetland plants per pond, compared with the national average of 9.6 species. Collectively 143 wetland vascular plants were recorded (*c.*44% of the wetland species in Britain), though 25% of the species only occurred in one or two ponds. One pond had 54 wetland species, well above the richest pond recorded during the national sample survey (35 species) and was described by the surveyors as 'the perfect pond'. The Cardiff ponds also had an overall higher conservation value than the national average, and the largely urban context gave them a high amenity value.

Dr T.C.G. RICH, Mr J. ALDER, Ms J. CAREY, Ms L. MOORE, Mr M.D.B. RICH & Ms R. WHITE

FAILED HEATHLAND RESTORATION IN ASHDOWN FOREST FOR *GENISTA PILOSA*

The only Red Data Book species found in Ashdown Forest, v.c. 14, East Sussex, is *Genista pilosa* (Hairy Greenweed), but it was last recorded in 1977 and is now extinct. As very precise details of the 2 last sites are available (see *Flora of Ashdown Forest*), in 1996 we initiated some heathland restoration to see if the plant could be brought back from a dormant seed bank.

The vegetation and upper organic layer of soil (largely bracken litter) were cleared with a JCB in autumn 1996 from one large area at Black Hill and a small one at Gills Lap, both sites where the plants had been known. The plots have been monitored on many occasions between 1997 and 1999 but, unfortunately, no plants have reappeared.

Dr T.C.G. RICH & Ashdown Forest Conservators

RE-ESTABLISHMENT OF THE EXTINCT NATIVE PLANT, *FILAGO GALLICA*, IN BRITAIN

This poster described the conservation work carried out in Britain on the rare annual *Filago gallica* (Narrow-leaved Cudweed), under Plantlife's 'Back from the Brink' project. It has been recorded in about 30 confirmed sites, mainly from sands and gravels in south-east England. It became extinct in England in 1955, but survived in one site on Sark, Channel Islands. Native mainland material of *F. gallica* had been maintained in cultivation since 1948 by D McClintock and thus provided an opportunity to re-establish the plant. Historical records were used to help plan the reintroduction; these indicated that it used to be found on light sandy/gravelly soils, in areas with a high summer temperature, in open Thero-Airetalia vegetation, usually with other *Filago* species. Pot-grown plants and seed were reintroduced to the wild in 1994 at the last known site in Essex, v.c. 19, and, by 1999, the species was successfully re-established. Full details are published in *Biological Conservation* **91**: 1-8 (1999).

Dr T.C.G. RICH, Mr J. ALDER, Ms J. CAREY, Ms L. MOORE, Mr M.B.D. RICH & Ms R. WHITE

SUAEDA VERA, A NEW NATIVE IN WALES

Four hermaphrodite plants of *Suaeda vera* (Shrubby Sea-blite) were found on Anglesey, v.c. 52, in 1999 during a BSBI meeting in a remote, sheltered, previously univestigated saltmarsh and appear to be native. Full details are given in *BSBI Welsh Bulletin* **66**, December 1999.

Dr T.C.G. RICH & Mr N. BROWN

WHAT? MORE? ONE OR TWO NEW SITES FOR *CAREX DEPAUPERATA* IN SURREY FROM GLASNEVIN HERBARIUM SPECIMENS

Copies of 2 sheets of *Carex depauperata* (Starved Wood-sedge), from previously unreported locations in Surrey, v.c. 17, were shown from the collections in Glasnevin (**DBN**). One specimen, from near Farnham, probably represents a new site; the other, from Leith Hill, is probably a confusion with Frith Hill, Godalming, a well known site. These add to the 2 Scottish specimens discovered in this herbarium in 1998 (*BSBI News* **81**: 75-76). Full details will be published in *Watsonia*.

Dr T.C.G. RICH & Dr M. JEBB

WHAT IS *ANTHYLLIS VULNERARIA* subsp. *CORBIEREI*?

The Red Data Book Plant *Anthyllis vulneraria* subsp. *corbierei* (a kidney vetch) is distinguished from other British *Anthyllis* in having spreading rather than appressed hairs. Field investigations at the type locality on Anglesey in 1999 and examination of herbarium material from other sites indicate it is a heterogeneous taxon. Further work is in progress; we would welcome details of any British *Anthyllis* material with spreading hairs.

Dr T.C.G. RICH & Mr R.A. JONES

EPILOBIUM × *OBSCURESCENS* NEW TO WALES

The hybrid between the Willowherbs *Epilobium brunnescens* and *E. obscurum* = *E.* × *obscurescens* Kitchener & McKean was found new to Wales in Glamorgan, v.c. 41, on a BSBI meeting in 1999. Full details are given in *BSBI Welsh Bulletin* **66** (December 1999).

Dr T.C.G. RICH, Mr M. LAWLEY, Dr R.R. MARTIN & Mr J.P. WOODMAN

CONSERVING THE FEN BUCKLER-FERN (*DRYOPTERIS CRISTATA*) IN THE BRITISH ISLES

Dryopteris cristata (Fen or Crested buckler-fern) is widely distributed in base-poor fens throughout the boreal regions of the northern hemisphere. Within the British Isles *D. cristata* has, in historical times, declined in range more markedly than any other of our native ferns. Much of this decline can be traced back to land use changes in the nineteenth century but sites have continued to be lost and the range had essentially contracted to the Broads of Norfolk by the time of the last intensive survey of this species' distribution and numbers, performed in 1977. Field surveys in 1997-98 of all known sites was combined with an investigation of the species genetic variability. Maps of the current distribution and population sizes were presented – two small populations on the North Norfolk coast, one of a single plant, have been detected within the last decade; these, with a single small population on the Surrey/Berks border are the species sole extant extra-broadland sites. Within the Broads few populations have been lost, population numbers in sites have generally increased and new populations have been found.

Genetically the species supports very low levels of variation within the British Isles but we can conclude that it has an inbreeding mating system and therefore has the potential to colonise new sites by a single spore.

Suitable management is essential for the continuing survival of this fern. The encouraging situation reported here would indicate that habitat management by the Broads Authority and other concerned land owners is proving effective.

Dr F.J. RUMSEY, Dr J.C. VOGEL, Mr A.C. JERMY, Miss A.M. PAUL, Mr S.J. RUSSELL, Ms K.A. SIMPSON, Mr J.A. BARRETT, Mr A. LOCKTON & Ms M. GIBBY

THE DISTRIBUTION OF SOME INVASIVE BANKSIDE SPECIES THROUGHOUT THE UK AND THEIR RELATIONSHIPS WITH VEGETATION STRUCTURE AND LAND USE

Heracleum mantegazzianum (Giant Hogweed), *Fallopia japonica* (Giant Knotweed) and *Impatiens glandulifera* (Indian Balsam), are all invasive alien species of banksides which are found within the British Isles. Their reproductive strategies allow them successfully to create monospecific stands which shade out other species. Each of the three species has become widespread over the UK since their introduction in the nineteenth century. The distribution of these (and four other invasive species *Mimulus guttatus* (Monkeyflower), *Rhododendron ponticum*, *Pteridium aquilinum* (Bracken) and *Symphoricarpos albus* (Snowberry)) is presented using data obtained from over 14,000 River Habitat Surveys (RHS) undertaken throughout the UK between 1994 and 1999. *Heracleum mantegazzianum* shows a scattered distribution whereas *Fallopia japonica* and *Impatiens glandulifera* are more associated with urban areas.

The degree of modification of the river channel is higher at the sites at which the species occur; this is linked to the urban environments which they commonly inhabit; it also highlights the role played by human activity in their introduction and dispersal.

Increased uniformity of bankside vegetation structure did not appear to be linked with extensive occurrence of the species (extensive is defined as occurring at more than 33% of bank length); this is unexpected, because the species tend to form dense single-species stands; it could relate to the small

sample size or to the presence of trees at the sites investigated which would increase the complexity of the bank vegetation structure as recorded by the surveyor even though a dense stand of one particular species may be present.

Mr P. SCARLETT & Dr F.H. DAWSON

ORCHID CONSERVATION: FACTORS AFFECTING THE DISTRIBUTION AND ABUNDANCE OF *ANACAMPTIS PYRAMIDALIS* & *GYMNADENIA CONOPSEA* ON CHALK GRASSLAND

Habitat management, particularly grazing intensity, directly affected the performance of both orchid species. Nutrient availability also affected their distribution and the indigenous mycorrhizal fungi with which they coexist. Soil moisture was essential to the early stages of seed germination but other factors within the microenvironment of an orchid seed were necessary for continued development. Modular analysis of fungal DNA, using PCR-SSCP on the ITS target region, revealed a degree of specificity between the fungi found in association with both orchid species and this specificity increased from seed to adult plant.

Miss H.S. SCOTT, Dr P.D. CAREY & R.A. GRIFFITHS

SENECIO INAEQUIDENS (NARROW-LEAVED RAGWORT) NATURALISED IN ESSEX

This South African species is very well established in northern France, Belgium and Italy. It is a subglabrous perennial, instantly recognisable by its linear leaves, 2 to 6 mm wide, which are slightly fleshy. Young plants have the habit of *S. squalidus* (Oxford Ragwort) but older ones become quite bushy and develop thick woody stems which spread along the ground. The supplementary bracts have a distinctive scarious fimbriate margin; the achenes are short and densely hairy.

In 1999, two large colonies, both, apparently, over a year old, were found in Essex. Specimens and photographs of the plant and the sites were displayed. The first site is Canvey Island, at 51/76.83 and 51/77.83; this population, found by RGP, consists of about 500 plants growing in abundance along a new road in an undeveloped industrial estate, around a small saline lagoon and on rough ground nearby. The second site is at Rainham, (51/51.80, 51/51.81, 51/51.82, 51/52.82 and 51/52.81), discovered independently by several botanists. This population consists of several thousand plants, growing on roadsides, beside a brackish ditch, on a railway line, in a shrubbery and in a trailer park. At both sites the accompanying vegetation consists of common plants of urban rough ground.

Information received at the AEM suggests that *S. inaequidens* is also well naturalised in a small number of sites in Kent and west Sussex.

Mr J.F. SKINNER, Mr R.G. PAYNE & Mr T. PYNER

OENANTHE HERE AND THERE

The exhibit dealt with all 7 British species of *Oenanthe*. Several unfamiliar species from SE Europe and Turkey were shown as well as 2 obscure taxa from as near as Brittany; these have not been reported from the Channel Islands, let alone the British mainland.

As with some other umbellifers, *Oenanthe* plants from across the continent, though native to Britain, can look quite different from British examples. Photocopies of three Spanish specimens illustrated this, *O. crocata* being the most striking.

Mr M. SOUTHAM

A PREVIOUSLY UNRECOGNISED *BROMUS*

Many specimens of *Bromus hordeaceus* '*longipedicellatus*' were shown. This is a previously unrecognised variety or subspecies of *Bromus hordeaceus* (Soft-brome) which resembles *B. commutatus* (Meadow Brome). Like *B. commutatus* it has a loose, not a dense, panicle but differs with its papery, not leathery lemmas and much larger 2-3.5 mm anthers.

Bromus hordeaceus longipedicillatus is a robust grass which begins to flower very early, towards the end of April, on road verges, field margins and other disturbed ground; such habitats are often cut early which perhaps explains why the plant has not been recognised before. It is now realised that this grass is widespread and common in England and Wales and, so far, it has not been identified outside Britain.

The exhibitor is keen to receive and examine *Bromus* specimens which will be returned with comments.

Mr L.M. SPALTON

RECENT SARK RECORDS

Specimens and photographs of the 20 new species for Sark found in 1999 were shown, including *Centranthus macrosiphon* (Spanish Valerian), which was the first British record since 1926. Up to 6 of the others were new to the Channel Islands, v.c. 113; 3 specimens or photographs were of species which had not been recorded for over 40 years.

Anisodontea capensis, which was found in 1989, was shown; this seems to be the only British record but it was published only locally at that time.

A confirmed specimen of *Ophioglossum azoricum* (Small Adder's-tongue) was shown because it seems to be the only voucher for the presence of this species on Sark.

Dr R.M. VEALL

THE STATUS OF *DIANTHUS ARMERIA*, DEPTFORD PINK, IN BRITAIN

Before 1950, *Dianthus armeria* had been recorded from 261 10 km squares, largely in the southern half of Britain, with scattered sites as far north as Central Scotland. In 1998 and 1999 survey work located populations at only 30 sites in 24 10 km squares.

It is a biennial species of open grassland, hedge bottoms, tracksides and scrub edges. Management would formerly have been by occasional grazing and cutting, with vegetation development hindered by drought-stress. The traditional management of such sites has largely ceased during the 20th century; many such sites have been lost to building.

Dianthus armeria is now protected under Schedule 8 of the Wildlife and Countryside Act and it is included on the Priority List of the UK Biodiversity Action Plan. 13 sites are within protected areas but even where these are specifically managed, numbers have often declined and there is an urgent need for conservation action at many remaining sites.

Dr P. WATSON

HERNIARIA GLABRA, SMOOTH RUPTUREWORT, FIRST RECORD FOR WALES SINCE THE 1920s

Although not the world's most arresting plant, this is a Flintshire record worthy of note during 1999.

It was spotted by one of us, GMK, growing on the floor of a long-disused quarry at Caer Estyn, near Caergwrle, Flintshire, North Wales in May this year during an 'Atlas 2000' recording meeting. The quarry has been used for tipping in the past, but not recently.

Although *Herniaria glabra* is a native plant in East Anglia, it must be regarded as a rare casual in this locality. The only other records for the plant in Wales were at Barry Docks in Glamorgan in 1923 and at Cardiff Docks *c.*1870. These localities are about 150 miles from the present site.

Dr G WYNNE & Mr G.M. KAY

The following also exhibited:

Mr M. Cragg-Barber – 'That leaf is odd – Aberrant Plantain Project'
Dr T.D. Dines – 'Atlas 2000, Progress and Publication'
Dr T.D. Dines & Dr C.D. Preston – '*Eleocharis parvula* discovered in Scotland'
Mr R.J. Driscoll – 'Land Management and its effect on ditch vegetation'
Mr S.L.M. & Mrs K.M. Karley – 'Help!'
– British Plant Gall Society
Mr R.V.H. Lansdown – '*Callitriche palustris* from Co. Galway, New to Britain and Ireland'
Mrs M. Perring – 'BSBI Publications, 1976-1999'
Ms C. Smith and Dr J.R. Edmondson – 'The Sir James Edward Smith Herbarium Project'

REPORTS OF FIELD MEETINGS – 1998 & 1999

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.

1998

GREENLAW, BERWICKSHIRE (v.c. 81) 13th July 1998

A party of 17 divided into 4 groups to record selected habitats in hectad 36/74 for Atlas 2000. The main sites visited were the Blackadder Water at Charterhall, Greenlaw Moor, Hume Craigs and Marchmont. 431 taxa were recorded bringing the post-1986 records to 514 compared with the 402 records post-1950 for the first Atlas. 137 new post-1986 records were made including 86 out of a 'hit-list' of 145 possible taxa.

Alchemilla mollis (Garden Lady's-mantle), *Crassula helmsii* (New Zealand Pigmyweed), *Oxalis latifolia* (Garden Pink-sorrel), *Polygonum boreale* (Northern Knotgrass) and *Tellima grandiflora* (Fringe-cups) were new to v.c. 81, though the *Crassula* is as yet confined to an ornamental garden pond and cannot be considered to have reached 'the wild'. Other notable records were new localities for *Blysmus compressus* (Flat-sedge), *Catabrosa aquatica* (Whorl-grass), × *Festulolium loliaceum* (Hybrid Fescue) and Lythrum portula (Water-purslane). The Eastern Borders form of *Dactylorhiza purpurella* (Northern Marsh-orchid) that is close to subspecies *cambrensis* of *Dactylorhiza majalis* (Western Marsh-orchid) attracted interest.

The excellent support ensured that the objectives of the meeting were amply met.

MICHAEL BRAITHWAITE

1999

CAERGWRLE, FLINTSHIRE (v.c. 51) 29th May

Eight members attended this meeting to record for Atlas 2000, just inside the Flintshire border. The weather was kind and a wide range of habitats were visited including country lanes, built up areas, woodland, wetland and river and an exciting disused quarry. We divided into two groups and looked at two adjacent tetrads through both of which flows the River Alun, which joins the Dee a few miles downstream in neighbouring v.c. 50, the old Denbighshire.

The first group had a good start, soon recording three specimens of *Juglans regia* (Walnut) a very uncommon tree in this part of NE Wales. Most of the day was spent exploring a large old quarry which had been used as a landfill site for some years but which is now well vegetated. It produced a good crop of aliens and casuals including *Lychnis coronaria* (Rose Campion), *Ribes sanguineum* (Flowering Currant) and *Lysimachia punctata* (Dotted Loosestrife) all of which were 1st or 2nd records for the vice-county. Another plant of garden origin which was growing strongly in the surrounding wood was *Paeonia officinalis* (Peony), also recorded from Flintshire for the first time. At one end of the quarry was a huge stand of *Heracleum mantegazzianum* (Giant Hogweed), impressively aggressive, with no apparent effort being made to control it. Two Cotoneasters, both new to v.c. 51, were *C. nitens* (Few-flowered Cotoneaster) and *C. conspicuus* (Tibetan Cotoneaster). Turning to the 'good' plants, we found *Bromus racemosus* (Smooth Brome) in a wet field right on the county boundary and the sharp eyes of Graeme Kay spotted *Herniaria glabra* (Smooth Rupturewort) growing on the floor of the quarry. This plant has been found only once previously in Wales, in the Cardiff area in the 1920s.

The second group concentrated on a wetland area alongside the River Cegidog, a tributary of the Alun, where 10 species of *Carex* (Sedge) were recorded. Some garden escapes, unusual for this area were also found, including *Leucanthemum* × *superbum* (*L. lacustre* × *L. maximum*) (Shasta Daisy) and *Saxifraga* × *urbium* (*S. umbrosa* × *S. spathularis*) (Londonpride).

In all, 318 records were made, a very commendable total, which made a significant difference to the Atlas score for the square. Many thanks to all who took part.

GORONWY WYNNE

RUBUS MEETNG, PLYMOUTH, DEVON (v. cc. 2 & 3) 16th – 18th June

At 7 p.m. on Friday 16th a group of keen batologists met in the car park at Plym Bridge, where the leader, Ray Gould, explained that the party were assembled at T.R.A. Briggs' favourite collecting spot, a place subsequently visited by a long list of others including: W.M. Rogers, W.O. Focke, F. Rilstone, E.S. Edees, and now ourselves. There followed a gentle stroll around the lanes and field edges and an introduction to perhaps the very bushes from which these earlier botanists had gathered specimens. Local specialities like *Rubus coombensis* and R. *orbus* were seen, as well as the more widespread *R. adscitus*, *R. botryeros*, *R. hastiformis*, *R. leyanus*, *R. lindleianus* and *R. nessensis*.

On Saturday 17th the group met on Goonzion Downs to sample the rich diversity of species to be found on the lower lying moors and heaths of East Cornwall. My note book lists 19 named and 3 unidentified species seen within about 200 m of our cars, including such Cornish specialities as *R. cinerosiformis*, *R. cornubiensis*, *R. newbouldianus*, *R. peninsulae*, *R. riddelsdellii*, *R. rilstonei*, *R. vigursii*, *R. villicauliformis* and *R. viridescens*, but also *R. aequalidens*, found mainly in Wales and Ireland, and *R. dumnoniensis*, which grows as far afield as the Outer Hebrides. A short distance north, at Letter Moor, Alan Newton and Mike Porter were able to confirm another Welsh species, *R. rossensis*, along with two additional Cornish ones, *R. stanneus* and *R. thurstonii*. After lunch by Colliford Reservoir an unscheduled stop was made near Cardinham where more of the local brambles could be seen growing amongst another Cornish speciality. *Physospermum cornubiense* (Bladderseed). We then travelled south to Polperro, where recent hedge-trimming spoilt our chances of seeing some of the species that Rilstone had studied and described there. We did, however, find a small amount of his *R. fuscoviridis* and *R. vigursii*, and the more recently described *R. couchii* and *R. transmarinus* were confirmed by David Alien. A clump of *R. micans* on the road verge was only the second record for Cornwall.

On Sunday 18th our party was joined by Len Margetts, with many years expertise in Cornish and Devonish batology. We assembled beside Burrator Dam on the edge of Dartmoor and shared cars for a trip to the other side of the reservoir where sheep were not allowed access, and bramble-growth consequently quite strong. We were rewarded after a long search by one small bush of *R. briggsianus*, among many others of *R. plicatus* and *R. errabundus*, also by *R. plymensis* and Briggs's *R. dentatifolius*. Among the unnamed was a bramble seen the previous day, which the leader had nicknamed the 'Burrator bramble' due to its great abundance in this area. Our next visit was to waste ground on Roborough Down at Yelverton, where there was a good colony of *R. boraeanus*, familiar to Alec Bull from its other main British colony in Norfolk. A number of unidentified forms included a good candidate for *R. briggsii*, a species which has had little study since Briggs's time. Specimens were taken for comparison against herbarium material in **BM** and **MANCH**.

Among the unidentified plants was one known to the leader as the 'Cornwood plant', one which resembled in some degree *R. vigorosus*, *R. dumnoniensis* and *R. imbricatus*. After lunch we were off to Cornwood to see more of our new acquaintance. Among many of the now-familiar species we were shown *R. bertramii*, *R. longus*, *R. ramosus*, *R. devoniensis* and *R. subopacus*, the last two decidedly rare. By now we had endured a long hot day and the biting insects had begun to make an appearance. Our thanks were given to the leader for organising such a rewarding weekend and the meeting was

drawn to a formal end. A few die-hards made one or two stops on their way home, but the rest of us were looking forward to a shower, cold drink and hearty meal.

ROB D. RANDALL

KINTYRE (v.c. 101) 17th – 19th June

The meet started with both good and bad news. The bad news was that only one person turned up, the good news was that it was Lynne Farrell. Hence a very productive two days of excellent botanising were spent square bashing on the beautiful island of Gigha. Over 150 species were found in the north of the island including the relocating of *Pimpinella saxifraga* (Burnet-saxifrage).

Thanks to the local RSPB representative and a chance meeting on the ferry we were able to get transport to Cara Island for a brief exploration and to update scanty records. There was a lovely show of *Dactylorhiza incarnata* subsp. *coccinea* (Early Marsh-orchid) and *Carex disticha* (Brown Sedge) was seen. A total of 211 species were found but there are still areas of the island to explore. We finished the day on south Gigha, adding greatly to the records and it didn't rain!

PAT BATTY

DUFFTOWN BANFFSHIRE (v.c. 94) 3rd – 4th July

Five members and friends attended this meeting which aimed at improving records in hectads NJ23 and 33 for the Atlas 2000 project. We met at Dufftown square and then drove up to Glack Harnes between Ben Rinnes and Meikle Conval. The established colony of *Pyrola media* (Intermediate Wintergreen) was soon found; there were also a few plants of *Listera cordata* (Lesser Twayblade) under the heather. By the roadside was a hybrid willow provisionally determined as *Salix purpurea* × *S. viminalis*.

The party then split. Two members went up Ben Rinnes where they recorded *Salix herbacea* (Dwarf Willow), *Carex bigelowii* (Stiff Sedge) and *Botrychium lunaria* (Moonwort).

The other three went back to Glen Rinnes where both *Geranium pratense* (Meadow Crane's-bill.) and *G. sylvatica* (Wood Crane's-bill) were in flower. *Mimulus* × *caledonicus* (a hybrid monkeyflower) was located upstream from its previous site at Milltown of Laggan. Further up the Bellandy Burn were more willows including *Salix pentandra* (Bay Willow) and *S. myrsinifolia* (Dark-leaved Willow).

On the way back to Dufftown we stopped briefly at the marshy ground near Convalleys where *Parnassia palustris* (Grass-of-Parnassus) was just coming into flower. Other typical plants were *Triglochin palustre* (Marsh Arrowgrass) and *Pedicularis palustris* (Marsh Lousewort).

The next day numbers were down to three. First we went to the Giant's Chair, a geological feature worn out of the limestone rock on the bank of the Dullan Water. A colony of *Pyrola minor* (Common Wintergreen) had plants which seemed bigger than the *P. media* we had seen the previous day. Other large plants were *Festuca arundinacea* (Tall Fescue) and *Scrophularia nodosa* (Common Figwort). On the river shingle by the bridge at the far end of the walk was an established colony of *Mimulus* × *robertsii* (*M. guttatus* × *M. luteus* (Hybrid Monkeyflower).

In the afternoon we went to Bridgend in the Cabrach where the Blackwater joins the River Deveron. On the river bank there were a few plants of *Peucedanum ostruthium* (Masterwort), a scarce introduction in Banffshire.

JOHN EDELSTEN

SHARPENHOE CLAPPERS AND KNOCKING HOE, BEDFORDSHIRE (v.c. 30) 17th July

Sharpenhoe Clappers is the most prominent part of the chalk escarpment in Bedfordshire and is owned and managed by the National Trust. The headland is capped by a beech hangar and protrudes northwards into the Bedfordshire lowlands. In addition to the woodland the site has several areas of unimproved chalk grassland on both east and west facing slopes. For recording, the site is in two hectads, TL02 and TL03, and at this meeting record cards were completed for both hectads for Atlas 2000. The portion in TL03 is very important as it is one of only two areas of chalk downland adding to the geological diversity of the hectad.

The party met on a glorious July day to explore the area. The first grassland studied was at the top of the west facing slope in hectad TL03 where approximately 150 species were noted. The list included *Anacamptis pyramidalis* (Pyramidal Orchid), *Asperula cynanchica* (Squinancywort), *Campanula glomerata* (Clustered Bellflower), *Carlina vulgaris* (Carline Thistle), *Cirsium acaule* (Dwarf Thistle), *Gentianella amarella* (Autumn Gentian), *Gymnadenia conopsea* (Fragrant Orchid), *Helianthemum nummularium* (Common Rock-rose), *Onobrychis viciifolia* (Sainfoin), *Polygala vulgaris* (Common Milkwort), *Sanguisorba minor* subsp. *minor* (Salad Burnet), *Scabiosa columbaria* (Small Scabious), *Succisa pratensis* (Devil's-bit Scabious) and *Thymus polytrichus* (Wild Thyme). The most obvious grass present was *Bromopsis erecta* (Upright Brome). Along the path on the western edge of the beech wood were noted *Campanula rotundifolia* (Harebell), *Inula conyzae* (Ploughman's-spikenard), *Picris hieracioides* (Hawkweed Oxtongue) and *Hieracium acuminatum* (a hawkweed). The latter species, recorded here for the first time in Bedfordshire, was determined on site by Mr W.A. Thompson. In the western part of the beech wood were found about 20 fruiting *Cephalanthera damasonium* (White Helleborine) and, in surprisingly dark shade, a colony of about 20 *Ophrys apifera* (Bee Orchid).

The east grassland in TL02 was visited next and is a fine example of Bedfordshire chalk grassland with superb views eastwards along the chalk scarp. In addition to the species noted for the west grassland were *Blackstonia perfoliata* (Yellow-wort), *Euphrasia nemorosa* (an eyebright) and, to the delight of the group, one of Bedfordshire's specialities *Bunium bulbocastanum* (Great Pignut).

The final visit of the day was to the smallest grassland National Nature Reserve in the country; known as Knocking Hoe. This site is home to a very unusual assemblage of species, but, unfortunately, to see all of them one has to make at least three visits at different seasons. The speciality seen on this visit growing amongst *Filipendula vulgaris* (Dropwort) were many specimens of *Seseli libanotis* (Moon Carrot) which seems to stand out in the whiteness of its flowers. Another local rarity, although only showing as dead spikes, was *Orchis ustulata* (Burnt Orchid). These were under "hats" of wire netting to protect them from the depredations of rabbits. In contrast, two other species seen required the disturbed soil provided by rabbits. These were *Ajuga chamaepitys* (Ground-pine) and *Fumaria vaillantii* (Few-flowered Fumitory).

The visit to Knocking Hoe was a fitting end to a day of marvellous weather which helped to show off the excellent chalk downland flora of Bedfordshire.

CHRIS BOON

BARNARD CASTLE, N.W. YORKS (v.c. 65). 10th – 11th July

Assistance with recording 10 km squares shared between v.c. 65 and v.c. 66 (Co. Durham) was the aim of this meeting, and a sterling team of 16 participants turned out, eager for squares to bash. Once groups had been organised and provided with species lists, we headed off to square NZ/1.1 for a great day's recording. The bridge and cliffs of the River Tees at Whorlton provided a spectacular setting, while the rocky river banks provided rich habitat. *Eleocharis quinqueflora* (Few-flowered Spike-rush) and *Blysmus compressus* (Flat-sedge) were found in wet cracks of the flat limestone's outcropping

beneath the bridge (in v.c. 65), while across the river (in v.c. 66), a fragment of deciduous woodland turned up *Crepis paludosa* (Marsh Hawk's-beard), *Daphne laureola* (Spurge-laurel), *Deschampsia cespitosa* subsp. *parviflora* (Tufted Hair-grass) and *Hordelymus europaeus* (Wood Barley). Other groups on this day recorded squares NZ/0.1 and NZ/1.1 and noted the abundance of *Geranium sylvaticum* (Wood Crane's-bill). A magnificent display of *Lilium martagon* (Martagon Lily) was seen in a woodland on the banks of the River Tees in NZ/1.1, looking for all the world like a native species.

The next day saw new squares to be tackled and we found ourselves in NZ/1.2, this time on the banks of the River Wear near Bishops Auckland. This was a rich area, with a disused railway, calcareous wet grassland and woodland, and the alien rich banks of the river. *Lapsana communis* subsp. *intermedia* (Large Nipplewort), *Mimulus* × *robertsii* (*M. guttatus* × *M. luteus*) (Hybrid Monkey-flower) and *Fumaria capreolata* (White Ramping-fumitory) were notable, while *Cystopteris fragilis* (Brittle Bladder-fern) was seen on an old wall and a huge clump of *Cirsium heterophyllum* (Melancholy Thistle) occurred on a roadside verge elsewhere in the square. A satisfying total of 297 taxa were recorded for the square. Other groups had similar successes in NZ/0.2. *Crepis paludosa* (Marsh Hawk's-beard) was recorded from a forest car park, *Helleborus viridis* (Green Hellebore) from a roadside and *Trollius europaeus* (Globeflower) and *Galium boreale* (Northern Bedstraw) from a shingle river bank.

A great deal of useful Atlas 2000 recording was done on this enjoyable meeting and many thanks are due to all those that participated.

TREVOR DINES

STRATHPEFFER, WESTER-ROSS (v.c. 106). 30th July – 1st August

The attractive area of Strathpeffer formed the base for this Atlas 2000 recording meeting. A large number of participants (19 over the course of the meeting) allowed a great deal of work to be done and some interesting finds to be made. On the 30th July three squares were recorded (NH/2.4, NH/3.4, NH/3.5), with at least 2 groups in each one. The highest of these, NH/2.4, involved a long walk in through the attractive Strathconnon Forest to the cliffs of Corie na Sguile. Although the hybrid horsetail *Equisetum* × *dycei* (*E. fluviatile* × *E. palustre*) was recorded from the edge of the path in a typical habitat of disturbed peat cuttings, the real fun began higher up with a range of alpines being found on wet, cool cliffs and from the ridges above. These included *Festuca rubra* subsp. *arctica* (Red Fescue), almost looking like a hairy *Bromus*, *Pyrola media* (Intermediate Wintergreen), *Euphrasia frigida* (Eyebright), *Sibbaldia procumbens* (Sibbaldia), *Carex vaginata* (Sheathed Sedge) and *Salix lapponum* (Downy Willow), the latter wonderfully positioned in a small waterfall. Meanwhile, the more lowland (but that's not to say flat!) squares were richer. From NH/3.4 came a wide range of taxa, including *Betula nana* (Dwarf Birch) moorland in Corriehallie Forest, *Anagallis minima* (Chaffweed) and *Radiola linoides* (Allseed) on a track near Inchmore, and *Arctostaphylos alpinus* (Alpine Bearberry) on the summit of Beinn a Bha'ach Ard. Two of these, *Betula nana* and *Arctostaphylos alpinus* were also recorded next to a track in NH/3.5 near Bridgend.

The next day saw a similar level of activity in three more squares. The largest group tackled a very remote square, NH/1.4, requiring a very long (and boring) walk in. The rewards were rich however once we reached Fuar-tholl Mor. A stunning gorge leading up to the corrie produced *Rhinanthus minor* subsp. *lintonii* (Yellow-rattle), *Festuca rubra* subsp. *arctica* again, and then a small colony of *Melampyrum sylvaticum* (Small Cow-wheat), about 21 plants in all. Once in the corrie, slightly base-rich flushes were searched and a few plants of *Carex saxatilis* (Russet Sedge) and *Juncus castaneus* (Chestnut Rush) found. In drier rock scree, *Dryopteris oreades* (Mountain Male-fern) and *D. expansa* (Northern Buckler-fern) were recorded while up on the ridge, *Sibbaldia procumbens*, *Arctostaphylos alpinus* and *Alchemilla glomerulans* (Lady's-mantle) were added to the list. Elsewhere, *Sagina subulata* (Heath Pearlwort), *Trollius europaeus* (Globeflower), *Utricularia minor*

(Lesser Bladderwort) and *Arctostaphylos alpinus* were notable taxa from NH/1.6, and some good Atlas recording was also done in NH/5.7.

After the exertions of the first two days, the final day was spent on lowland squares, with several groups being allowed a trip to the seaside! Square NH/9.8 lacked up-to-date records, so one group searched the coastal grassland, cliffs and dunes around Portmahomack and Rockfield. In contrast to the upland squares, a huge number of aliens were recorded, including *Anisantha diandra* (Great Brome), *Descurainia sophia* (Flixweed) and *Aster* × *versicolor* (*A. laevis* × *A. novi-belgii*) (Late Michaelmas-daisy). The wonderful flowers of *Fumaria capreolata* (White Ramping-fumitory), *Chrysanthemum segetum* (Corn Marigold) and *Anchusa arvensis* (Bugloss) enlivened field boundaries, and a few plants of *Astragalus danicus* (Purple Milk-vetch) were found on grassy ledges of the steep sandstone cliffs. Other groups recorded *Goodyera repens* (Creeping Lady's-tresses) growing on a wall (a very odd habitat!) near Ardvannie (NH/6.8), while near Kincardine Church and Eastern Fearn Burn (both in NH/6.8), *Filago minima* (Small Cudweed) was recorded in gravely, disturbed sites.

Many thanks are due to Peter Wortham for his help in organising the meeting, and to all the participants (the majority of whom were a long way from home) for tackling the squares with such enthusiasm and good humour.

TREVOR DINES

A LITTLE ATLAS RECORDING IN IRELAND

In order to assist a few Vice-county Recorders with coverage for the Atlas 2000, three members joined the Atlas Organiser for a week's fieldwork from 21st to 28th June 1999. The aim was to cover as many squares as possible, in reasonable depth, in three counties: Co. Kilkenny (H11), Co. Carlow (H13) and S.E. Galway (H15). We arrived at the wonderful Lavistown Study Centre in Kilkenny, where we were kindly being accommodated by Roger and Olivier Goodwillie, and headed straight out into the field.

With the morning given over to travelling, we targeted a single Hectad, S/4.5, the Kilcreen square. This proved to be a rich area, with a good combination of arable, grassland, urban and freshwater habitats. The underlying geology was limestone, and this occasionally outcropped to give diverse grassland and hedgerows. Disturbed wet meadows near Kilcreen Hospital were rich in *Carex* species, including *C. divulsa* subsp. *divulsa* (Grey Sedge) and *C. spicata* (Spiked Sedge). Old walls proved to be excellent habitats (a welcome break from the sterile walls so common in Britain), with a small colony of *Poa compressa* (Flattened Meadow-grass) being the highlight. The end of a long day saw 257 taxa recorded for the square, with a welcome glass of Guinness at the end.

Bright and early the next morning, we headed south to square S/4.4 (the Callan square), which includes Kells Priory situated on the banks of the King's River. The priory walls again proved fruitful, with *Draba muralis* (Wall Whitlowgrass) and *Valerianella carinata* (Keeled-fruited Cornsalad) in abundance. The river itself supported many aquatics, including *Veronica* × *lackschewitzii* (*V. anagallis-aquatica* × *V. catenata*) with its completely sterile fruits. We recorded 249 taxa in the morning for this square.

We then headed NW to the next square, S/3.5 (the Kilmanagh square). *En route*, however, we passed through the previous days square (S45) and called in at Ballykeefe Hill NNR, a limestone wood that proved very rich in species and increased the total for the square to 295. On a path climbing steeply through the wood, we encountered an upright plant with deeply pinnate leaves that stumped us for a while, but the emerging flower spikes showed it to be a *Prunella* and we decided it must be *P. laciniata* (Cut-leaved Selfheal). *P. vulgaris* (Selfheal) was also present nearby, and the hybrid between the two (*P.* × *intermedia*) was also found. These excitements gave little time to record S/3.5 in detail, but 172 taxa were recorded for this square in the afternoon.

The next morning saw an early start as we headed to S.E. Galway (H15). Basing ourselves in Birr (which is actually in Tipperary and has a wonderful Castle), we managed to record both the Lurgan Moor square (M/7.1) and the Kilmoor (M/8.1). These areas proved richer than Co. Kilkenny, with more fragments of habitats in good condition. Such squares could have a good mix of limestone grassland and acid bog, and every combination in between. Disturbed limestone grassland at Hearnesbrooke (M/7.1) supported *Ophrys apifera* (Bee Orchid) and *Blackstonia perfoliata* (Yellow-wort), while a bog near Derren (M/7.1) provided *Andromeda polifolia* (Bog-rosemary) and *Sparganium natans* (Least Bur-reed). In square M/8.1, Robin Walls found a superb fragment of limestone grassland which supported *Bromopsis erecta* (Upright Brome), *Antennaria dioica* (Mountain Everlasting) and *Parnassia palustris* (Grass-of-Parnassus). Unfortunately, this area was being encroached by recently planted pines – action will have to be taken if the site is to survive. The total counts the squares were 261 for M/7.1 and 258 for M/8.1. On our return, some pondweed specimens from the Kilcrow River (at Hearnesbrooke Church in M/7.1 and Hearnesbrooke Bridge in M/8.1) were determined by Chris Preston as *Potamogeton* × *lanceolatus* (*P. berchtoldii* × *P. coloratus*), a new river for this distinctly Irish specialty.

More good habitats followed the next day, with squares M/7.2 and M/8.2 being "bashed". The Laurencetown square (M/8.2) was similar to M/8.1 the previous day, with a good mix of acid bog and limestone grassland fragments. The area around Pollboy Bridge (M/86.29) was particularly rich, with *Dactylorhiza incarnata* subsp. *coccinea* (Early Marsh-orchid), *Veronica* × *lackschewitzii* and *Selaginella selaginoides* (Lesser Clubmoss). Nearby, construction of a fishery on the River Suck produced many weeds (including *Lamium hybridum*, Cut-leaved Dead-nettle) and some aliens, while a fragment of acid bog at Kilbeg (M/89.29) revealed *Carex diandra* (Lesser Tussock-sedge), *Drosera anglica* (Great Sundew) and *Andromeda polifolia* (Bog-rosemary). The total for this square was 289 taxa. The Aughrim square (M/7.2) was less rich, with a final count of only 196 taxa, but these included the under-recorded *Dryopteris* × *deweveri* (*D. dilatata* x *D. carthusiana*) in wet woodland.

Our final day in S. E. Galway found us in squares M/6.2 and M/6.1. Again, both these proved rich in acid bog and limestone grassland, with aquatic habitats being particularly well represented. The calcareous Raford River at Tormaun (M/64.26) produced a now familiar suit of species, including *Oenanthe fluviatilis* (River Water-dropwort), *Callitriche obtusangula* (Blunt-fruited Water-starwort) and *Veronica* × *lackschewitzii*. Contrasting nicely with this was a large and extensive bog at Gortnaboha (M/65.27), with *Utricularia minor* (Lesser Bladderwort), superb in flower, *Carex dioica* (Dioecious Sedge) and *Dryopteris* × *deweveri* again. Just as we were leaving the site, Robin Walls found a few plants of *Rhynchospora fusca* (Brown Beak-sedge) in a wheel rut, the undoubted highlight of the Galway trip. The final count for M/6.2 was 246 taxa. In M/6.1, Lough Rea presented some of the best habitat of the whole trip – a large calcareous lough surrounded by extensive lightly grazed marsh and grassland. These produced *Carex dioica* (Dioecious Sedge), *Potamogeton coloratus* (Fen Pondweed), *Callitriche obtusangula* (Blunt-fruited Water-starwort) and *Eleocharis quinqueflora* (Few-flowered Spike-rush). A limestone outcrop at Knochroe (M/63.11) supported good grassland with *Coeloglossum viride* (Frog Orchid), *Platanthera chlorantha* (Greater Butterfly-orchid) and *Gentianella campestris* (Field Gentian), bringing the total for M/6.1 to 257.

We then returned to the Lavistown Study Centre to look at two more Kilkenny squares and two Carlow squares before the end of the trip. In square S/3.7, 202 taxa were recorded, the square being dominated by Grantstown Lough from which *Carex elata* (Tufted-sedge) was recorded. *Oenanthe fluviatilis* (River Water-dropwort) and *Thalictrum flavum* (Common Meadow-rue) were found in the River Gowt at Ballyboodin (S/35.77). These last two species were recorded again in the neighbouring square from the River Nore at Durrow (S/40.77), further reinforcing our growing view that *Oenanthe fluviatilis* is under-recorded in this area. A final treat from square S/4.7 was *Orobanche hederae* (Ivy Broomrape) growing on the top of a bridge at Ballyragget (S/44.70), below which *Erinus alpinus* (Fairy Foxglove) was well established on the brickwork. The total for S/4.7 was 261 taxa.

Our trip to Ireland concluded with, it must be said, two rather bland squares on the Carlow (H13) and Wicklow (H20) border, S/9.7 and S/9.8. These relatively agricultural squares produced only one

highlight – *Carex muricata* subsp. *lamprocarpa* (Small-fruited Prickly-sedge) in roadside verges in both squares.

Despite the paucity of good habitat, we did quite well and consoled ourselves that we were doing valuable Atlas recording, with 259 taxa and 211 being recorded for S/9.7 and S/9.8 respectively.

This rather whistle-stop tour of Ireland did provided us with a flavour of Irish botany, proving that it is rich, diverse and interesting, especially in comparison with British habitats. By targeting potentially unrecorded hectads, we also directly contributed to improving the coverage of the new *Atlas*. I would like to thank Graeme Kay, Robin Walls and John Crewe for their help and hard work in the field (which was above and beyond the call of duty!), and Roger and Olivier Goodwillie for their kind hospitality at the Lavistown Study Centre in Kilkenny.

TREVOR DINES

A LITTLE MORE ATLAS RECORDING IN IRELAND

Shortly after the Atlas recording trip to Kilkenny, Galway and Carlow, it became apparent that Co. Sligo (H28) would also need additional work for the Atlas. With the aim, again, of covering as much ground as possible, David Pearman and Graeme Kay joined me for week of intensive recording from 23th August 1999. Two squares were tackled each day, and it was clear from the start that we were in botanically richer areas than before.

First to be attacked was G/5.3, the Dunmoran square, on the afternoon we arrived. Coastal grassland and pools at Port Avand produced *Ruppia maritima* (Beaked Tasselweed), *Leontodon autumnalis* var. *salina* (Autumn Hawkbit) and *Salicornia ramosissima* (Purple Glasswort). Churchyards and hedgerows were productive, especially in aliens, and *Cyclamen hederifolium* (Sowbread), *Persicaria wallichii* (Himalayan Knotweed) and *Lycium barbarum* (Duke of Argyll's Teaplant) were recorded. *Carex riparia* (Greater Pond-sedge) was recorded from the bank of the River Ardnaglaff at Dunmoran. Just before leaving the square, a few plants of *Parnassia palustris* (Grass-of-Parnassus) were seen in damp pasture, which invited a closer look. As we moved though the site, it became clear that we were in a particularly rich habitat, producing a species list that was to become familiar to us during the week Here, limestone was overlain by a thin layer of peat, producing wet acid grassland interspersed with highly calcareous flushes. The species list included *Carex viridula* subsp. *brachyrrhyncha* (Long-stalked Yellow-sedge), *Carex hostiana* (Tawny Sedge) and the hybrid between them (*Carex* × *fulva*), *Carex dioica* (Dioecious Sedge), *Juncus subnodulosus* (Blunt-flowered Rush), *Schoenus nigricans* (Black Bog-rush), *Utricularia minor* (Lesser Bladderwort), *Equisetum variegatum* (Variegated Horsetail) and *Saxifraga aizoides* (Yellow Saxifrage), the latter a Red Data book species in Ireland. The final count for the square was 323 taxa.

The scene now set, we headed to the coast the next day, where *Polygonum oxyspermum* (Ray's Knotgrass) was found on shingle beaches at Cooanmore Bay (G/3.3). A wonderful fragment of deciduous woodland south of Easky (also in G/3.3) turned up *Deschampsia cespitosa* subsp. *parviflora* (Tufted Hair-grass), *Equisetum* × *trachyodon* (*E. hyemale* × *E. variegatum*) (Mackay's Horsetail) on a shady riverbank and *Sorbus aria* var. *longifolia* (Common Whitebeam). For a change of habitat, we headed into the Ox Mountains for the afternoon, where *Hammarbya paludosa* (Bog Orchid) was found by chance in an acid, peaty flush near Lough Easky (G/4.2). The species totals for the day were 266 for G/3.3 and 230 for G/4.2.

Two less diverse squares were next, although a flooded area next to an abandoned railway in Cashel North (G/5.1) turned up a range of taxa typical of wet, calcareous grassland, including *Sagina nodosa* (Knotted Pearlwort) and *Parnassia palustris* (Grass-of-Parnassus), the latter in ridiculous abundance. 272 taxa were recorded for G/5.1 and 253 for G/6.9.

Another maritime site, this time at Yellow Strand, Raghley, in G/5.4, saw more *Polygonum oxyspermum* (Ray's Knotgrass) on the beach, and also rooted fragments of *Zostera marina* (Eelgrass) and *Zostera angustifolia* (Narrow-leaved Eelgrass). *Allium sativum* (Garlic), established on a roadside, provided a distinctly different air-freshener in the car, and *Euphrasia tetraquetra* (Eyebright) and *Gentianella campestris* (Field Gentian) were recorded from well grazed cliff-tops. In square G/6.4, we couldn't resist a quick trip up the lower slopes of Ben Bulben, where *Saxifraga aizoides* (Yellow Saxifrage) was seen in small roadside flushes. *Polystichum* × *bicknellii* (*P. aculeatum* × *P. setiferum*) was found on the edge of a disused quarry. Just above the village of Rosses Point we found some superb grassland, with stands of dwarf *Juniperus communis* subsp. *communis* (Common Juniper) in the turf, along with *Parnassia palustris* (Grass-of-Parnassus), *Coeloglossum viride* (Frog Orchid) and *Antennaria dioica* (Mountain Everlasting). The day ended on the beach again, at Rosses Point itself, where a single plant of *Spiranthes spiralis* (Autumn Lady's-tresses) occurred on dune grassland and dense mats of *Equisetum variegatum* (Variegated Horsetail) filled damp dune slacks. The days totals were 234 for G/5.4 and a very satisfying 345 for G/6.4.

Diversity of habitat was again the flavour of the next day while we recorded G/4.1 and G/6.1. *Utricularia australis* (Bladderwort) was a highlight of the former in an acid, peaty pool at Tullycasheen Beg, while *Persicaria minor* (Small Water-pepper) occurred on the lightly grazed banks of the Owenmore River in G/6.1 and several small lochs in the same square supported *Cicuta virosa* (Cowbane) in their margins. For G/4.1, 288 taxa were recorded, and 264 for G/6.1.

The next morning saw us in square G/4.3 where the steep slopes of hillside south of Ballinphull attracted our attention and rewarded us with the rich calcareous flush flora mentioned for the first day. *Saxifraga aizoides* (Yellow Saxifrage) was found again, but this time *Eriophorum latifolium* (Broad-leaved Cottongrass) was added to the list. Unfortunately, the lower slopes of the hill had recently been planted with conifers, which may adversely affect the site in the future. The removal of trees, however, was the concern at a site near Dromore West, where the rocky cliffs of a small river gorge were clothed in luxuriant fronds of *Adiantum capillus-veneris* (Maidenhair Fern). Much of the overhanging cover of trees had recently been felled, exposing the fronds to drier, more exposed conditions. In the afternoon, we examined the steep cliffs above Lough Aghree (G/5.2). These could have done with more time, but *Saxifraga aizoides* (Yellow Saxifrage) was here in abundance. The similar abundance of *Acaena novae-zelandiae* (Pirri-pirri-bur) on the damp cliffs, however, was yet another cause for concern. Another site for *Equisetum* × *trachyodon* (Mackay's Horsetail) was found on the shore of Loch Carrownaskeagh. The end of the day saw totals of 283 taxa for G/4.3 and 300 for G/5.2.

The final day of our trip gave us enough time for one more square, G/7.1, where lochs and rivers proved particularly rich. *Potamogeton* × *nitens* (*P. gramineus* × *P. perfoliatus*) (Bright-leaved Pondweed) was found in Loch Arrow, and at Bellarush Bridge, *Oenanthe fluviatilis* (River Water-dropwort), *Baldellia ranunculoides* (Lesser Water-plantain), *Apium inundatum* (Lesser Marshwort) and magnificently flowered *Ranunculus lingua* (Greater Spearwort) provided a final burst of excitement.

My two companions, David Pearman and Graeme Kay, worked exceptionally hard and I am very grateful to them both for their help. Thanks must go to David as well for his excellent navigational skills (Sligo must have thought some bizarre rally had arrived), and to the shop in the local village for supplying the excellent filled rolls that kept us going.

An interesting footnote to this account is that, on our return, we discovered how a similar last minute square-bashing party visited Co. Sligo to undertake fieldwork for the 1962 Atlas. An interesting case of history repeating itself!

TREVOR DINES

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JINGLE

Like a fool, I forgot to include the words to the 'Jingle' in the last issue (*BSBI News* **83**: 11) – so here they are in all their glory!

ATLAS HELLS

(to the tune of a nauseous Christmas jingle)

1 Dashing through the woods
Ticking off all day
Through the fields we go
Laughing all the way.
Stace is in my bag
Making spirits bright.
What fun it is to guess the names
Not caring if they're right!

2 A day or two ago
I thought I'd bash a square
I hardly knew a single plant
I didn't really care.
With sedges all around
Misfortune seemed my lot
I met a man who knew them all
who showed me what I'd got.

(chorus, twice after each verse)

Atlas Hells, Atlas Hells
Atlas all the way.
Oh what fun it is to scribe
In a B. S. B. I. way!

3 So get a master-card
and tick it while you can
Just fill it in and send it off
to Trevor – he's your man.
Though Trevor's got a job,
it's not for very long
But with the bloody Atlas done,
He's bound to get a gong!

(chorus, twice)

Atlas Hells, Atlas Hells
Atlas all the day
Oh what fun it was to scribe
In a Beee. essS. Beeeee. Iiiiiiiiiiiii. waay!

NICK MOYES, Derbyshire Biological Records Centre, Derby Museum & Art Gallery, The Strand, Derby, DE1 1BS

SHE LOVED OUR FLOWERS

My mother, Mrs Alice Wurzell, died on March 7th, 2000. Two days later, beneath a radiant sunset, she was laid to rest. It was my birthday. Thus on the same date that she honoured my entry into this world so I honoured her departure from it. She had lived for 92 years.

Although not a BSBI member, she derived immense pleasure from plants and this, without question, paved the way towards my own dedication to the subject. Much of her childhood was spent in Harrington Road, Preston Park, near Brighton where, with deep affection, she described a spacious house previously owned by a botanist who had left a sunlit conservatory full of magical exotics, a broad garden fence smothered in snow-white Clematis and a green central avenue bordered by spring-blossoming cherries. After his departure, their friendly postman still delivered horticultural catalogues so colourfully illustrated that she pinned them all over her bedroom walls.

She cherished the nearby Sussex downs as well and wandered off for gentle rambles either on her own or with either of two younger sisters (it was relatively safe, at that time, to do so). From there she

conveyed fond memories of Field Scabious (*Knautia arvensis*), Ox-eye Daisy (*Leucanthemum vulgare*) and Adonis Blue butterflies co-existing abundantly along the fragrant calcareous hillsides. Innocently, too, she would taste wild plants that were beautiful to behold, reasoning, for example, that since something like Red Clover (*Trifolium pratense*) was so alluring to bumble bees, its sweetness could surely do no harm to anyone. Amazingly, in the nineteen teens, flamboyant Cornflowers (*Centaurea cyanus*) were such a taken-for-granted part of her local arable fields that I don't think she ever quite grasped the reality of their subsequent gradual disappearance from similar habitats throughout southern England,

In the nineteen sixties and seventies, she occasionally came out with me on field meetings organised by the BSBI and other natural history societies. In 1980, we visited Jersey and Guernsey alone and enjoyed some of the special flora these islands are famous for. Still fit in 1984, she dared accompany me as far as California where we experienced both the touristic excitements of Los Angeles and the ecological thrills of the surrounding chaparral countryside (not much doubt which of the two came closer to our hearts!). Sadly, though, in the later eighties and through the nineties, she suffered a series of physical traumas which more and more limited her mobility, until, by the turn of the Millennium, she was effectively confined to bed.

Even so, her enthusiasm for plants continued unabated, she would listen eagerly to news of my surveys and discoveries, and she was comforted and inspired by the sight of fresh wild flowers regularly placed on our dining-room table. I find it hard to contemplate how it is when a mind remaining so alert, so cogent, so dynamically creative, must come to terms with a weakening body no longer able to pursue activities cherished since infancy. Yet I am grateful that her mind did function to maximum capacity up to her last day.

Overall I have much to be grateful for. For a person who gave me not only life itself but also an example of how richly it can be fulfilled. For a planet whose biological heritage is immeasurably vast. And for an opportunity to share these words with all flower lovers who shall read them.

BRIAN WURZELL, 47 Rostrevor Avenue, Tottenham, London N15 6LA

Overlooking *Sibthorpia* – answers to quiz on page 50

A. *Filipendula ulmaria*
B. *Glechoma hederacea*
C. *Saxifraga granulata*
D. *Geum urbanum*
E. *Chrysosplenium alternifolium*
F. *Lamiastrum galeobdolon* subsp. *montanum*
G. *Sibthorpia europaea*
H. *Alliaria petiolata*

My apologies to the authors for placing the *Sibthorpia* note in the 'Aliens' Section by mistake. When I realised what had happened, it was too late to change. Ed.

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