**BSBI Recorder**

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# The Threatened Plants Database

This edition of *BSBI Recorder* is devoted entirely to the Threatened Plants Database (TPDB) and its implications to the BSBI. It is an important initiative for the Society, because it formally establishes our role in electronic publishing and data handling, something we are likely to be increasingly involved in over the next few years. On the following pages we explore some of the issues surrounding the TPDB and explain:-

(i) what it is
(ii) what it means for the Society
(iii) what it means for v.c. recorders and others.

## What is the Threatened Plants Database?

At its heart, the TPDB is a database about the 400-or-so rarest species in Britain, and was set up to enable the Joint Nature Conservation Committee to fulfil its statutory duties in protecting these plants and advising the UK government on conservation issues. It was originally compiled for the production of the third edition of the Red Data Book, which went on sale this month, and it is now being run by the BSBI under a three-year contract to the JNCC and the country agencies.

As such, it is a very restricted set of biological records. On the other hand, in order to compile it, one needs to have an enormous amount of information available. For example, how would anyone know which plants were rare and which were common if they didn't keep information on the common ones? So, in the long term, it is not sufficient to simply keep rare plant records. Instead we need to have access to a full set of information on all the British flora in order to be able to extract the particular data that we want. And, of course, that is precisely what the BSBI has been building up for over 150 years.

We have a strategy, therefore, to use the TPDB project to reach into every corner of the BSBI's work and create an integrated network of information sources which can all send and receive biological records accurately and to uniform high standards. This sounds ambitious, but again it is just an extension of what we've all been doing for years. When someone gives a record to a vice county recorder, and the recorder goes out to check it, and then sends a pink card to the BRC, that is a typical example of data management. The only difference is that this process is now being done using computers and the internet.

While all this is happening, there are considerable benefits and spin-offs. It is becoming increasingly possible for ordinary people, with no special training or access to expensive equipment, to produce complex reports and analyses of botanical data. For example, a county checklist can take just minutes to produce. Distribution maps are available at the touch of a button. And there are many other things one can do with the data once you know how to use the software. We have an opportunity to develop this initiative over the next few years, and the plan is to do just that.

Of course not everyone in the BSBI will notice a great change to their everyday activities. This is not an imposed change on the way people work – it is an opportunity for those who wish to take advantage of it. In this newsletter some of those opportunities are explored, and examples are given of people who are involved in this work already.

## The BSBI / NBN Network

The TPDB is a pilot project for the National Biodiversity Network. Nobody yet knows how the NBN will operate – what the pitfalls are, what the full potential is. A lot of people suspect that the NBN will revolutionise biological recording and transform the science of ecology, but the details of how this will occur are yet to be discovered. Through the TPDB project, the BSBI is performing the first large-scale trial of the NBN model, and our experiences will influence how the NBN develops.

What we envisage is that in each county there will be a data custodian or "node" that will store and manage the information relating to that county. This node must be in close contact with the v.c. recorder, who will have full responsibility for ensuring that the records are correct. Sometimes the "node" will actually be the v.c. recorder, but sometimes there will be a collaborative effort. What we do not want, however, are competing factions in any one county, or groups that hoard data to themselves. The network is based on co-operation and exchange of data, and success should come from hard work and competence, not the creation of a monopoly. This goes as much for voluntary recorders as for professionals or records centres.

## How does it work in practice?

There is no shortage of examples of successful work already. We are not going to be able to have all of Britain fully computerised and on-line in three years, but progress is perhaps faster than one might imagine. We have decided to aim for a trial of ten "nodes" this year, followed by 20 each year in 2000 and 2001. Each node is probably a county, but could equally be a major herbarium or research institute. The trial nodes will share information and experiences and will receive support and assistance from the TPDB project.

Here are the county nodes accepted already:-

**v.c. 1b Scilly**
This is perhaps one of the smallest "vice counties" but, being inaccessible and extremely important for its rare plants, is one of the most crucial for the TPDB project. Rosemary Parslow has made a lifetime's study of the islands and compiled a database with the most meticulous records. In return for her support of the network, the TPDB project can provide a few additional records, some help with costs, and technological support. For example, we did the Atlas returns for Scilly – something most v.c. recorders would definitely appreciate! – but, in all honesty, it wasn't hard work because her database was already so complete.

**v.c. 25 & 26 Suffolk**
Martin Sanford at Ipswich Museum holds the records for both vice-counties, for one of which he is Recorder, the other being shared with F.W. Simpson. The entire museum database runs to 500,000 biological records, half of which are botanical. Martin has the support of an active recording group and the museum produces a range of publications and reports. The system is exceptionally well organised and is a model for others hoping to run records centres: he has already contributed 15,000 records to the TPDB project. A lot of historical information is yet to be covered in this well-recorded county, and we hope the project will be able to contribute something in return by adding obscure records from around the country.

**v.c. 30 Bedfordshire**
Chris Boon has been v.c. recorder since 1982 and has good links with the Wildlife Trust and Bedford Museum, who between them have attempted to create a biological records centre for the county. The data is still at a primordial stage, and Chris's involvement by checking and improving the database is going to be essential to its success. However, by combining the expertise of the v.c. recorder with the resources of these other organisations, a good database will be built up, and it already has access to GIS and other systems which are simply not affordable to the private individual. Chris came on a recent training workshop and commented "after a year using Recorder I'm just getting the hang of this…" That's an under-statement: Chris is already very skilled, but in all honesty it normally takes rather longer than that! It is very important to have these co-operative arrangements within a county and, while money and resources are useful, it is the skills base that really matters.

**v.c. 36 Herefordshire**
The vice-county recorder is Steph Thomson, ably assisted for the last 23 years by her husband Peter. During that time they have accumulated well over 100,000 botanical records for a forthcoming Flora. The computer man is Jon Mallabar, a former MSc student from the University of Birmingham and now a freelance ecological consultant. He holds a database containing all of the Herefordshire Botanical Society's records and has grant support from the BSBI and English Nature to computerise all historical records for the county over the next two years. He has access to Augustin Ley's notes and herbarium through the university, and a wealth of other literature sources to research. All this information is scrutinised by Steph Thomson, and will feed into the publications and other work of the Bot. Soc.

**v.c. 40 Shropshire**
I (Alex) have been working on the Shropshire database for six years now, and I'd like to think it's nearly complete. Sarah is the v.c. recorder and, with the support of the Botanical Society, it is her job – not mine – to collect new records in the field. I just make sure everything is up to date on the computer. This is a crucial stage to get to with any database: until it has just about everything in it, it doesn't really count for much. What's the use of a computer that contains half as much as the published Flora? So here you go: perhaps the first vice county to reach this stage of computerisation, proving that it can be done. I dare say it would be a much bigger task in some of the home counties; and I know that some people, such as Arthur Chater in Cardiganshire, have far better card files than we have electronic ones, but you can't do everything in a few years. Perhaps the most unfortunate fact is that Shropshire, with approximately 20 trees of *Sorbus anglica*, has almost nothing to offer the Threatened Plants Database except extinctions…

**v.c. 57 Derbyshire**
The Derbyshire Flora Project is one of the most active in Britain, collecting approximately 60,000 records a year. Field work and botany are masterminded by the v.c. recorder, Alan Willmot, and the computerisation is taken care of by Nick Moyes at Derby Museum. Nick is by nature a technology junkie – especially on ARev, the system that runs Recorder - and he provides much of the technological expertise that underwrites the Threatened Plants Database. Whenever we have a problem the first call is to Nick, and even the JNCC have been known to make use of his services. If they're not too busy running a museum and preparing for the new Flora, we are hoping to make use of the Derbyshire team to pilot new ways of computerising botanical collections to extract the maximum amount of ecological data, something which is often difficult using the standard museums software.

**v.c. 66 Co. Durham**
The team at Hancock Museum in Newcastle upon Tyne has been computerising Gordon Graham's Flora data for quite a few years now. Alec Coles, the senior curator, is the main operator but has support from John Durkin as well. In total they now have 280,000 records on Recorder, most of which are from the Flora recording period, as well as stacks of herbarium sheets and cards still to finish working through. When you consider that they are also covering v.c.s 67 & 68 (S. Northumberland and Cheviot) they have their work cut out for a good few years yet. This is a typical example of the job being far bigger than the small time allocation than the post allows, so mostly it is a labour of love. Nevertheless, as the database nears completion, it will be a valuable resource for the Tyne & Wear Museums.

**v.c. 110 Outer Hebrides**
When computers are mentioned in the BSBI, the name Richard Pankhurst usually crops up. In the item above I claimed that Shropshire was the first fully-computerised county, but the Outer Hebrides probably got there years ago. My only defence is that, at 30,000 records, we are talking about a different order of magnitude! We are delighted that Richard is involved in the TPDB project, and it will be very useful to the NBN to have experienced computer users like Richard on board.

**v.c. 112 Shetland**
Finally, at the very end of the British list of vice counties, Shetland is a fine example of co-operation at work. The islands have a wonderful body of existing information from the vice-county recorder, Walter Scott, who has been working at this since 1961. The new records centre, managed by Roger Riddington, is now starting to computerise all this existing data to Roger's high standards of data management and under Walter's detailed scrutiny. Other members of the team include Morag Adams and Paul Fisher, and between them they are producing a county Rare Plants Register. Paul & Morag will also be supporting the TPDB project by helping with computerisation for other parts of Scotland where progress is needed.

All of the above nine county nodes have to meet exacting standards set out in the BSBI / NBN data agreement. These include not just accuracy of records, but also common procedures for managing the data and even a requirement to co-operate with others inside and beyond their county. Of course that does not mean simply giving out data to whoever asks for it – security for sensitive information and procedures to discourage copying and plagiarism are required.

We have therefore identified 8 (or 9 if you count vice-counties) out of 10 "nodes" that is our target for this year. If anyone else is interested in becoming involved, please feel free to get in touch. Having adopted Recorder for the TPDB, we can only exchange data efficiently with other Recorder users at this stage, until other programs become more compatible. However, we can still work closely with anyone else in the traditional way – by exchanging records on paper. If anyone has not been approached and feels they should have, please do not be offended! Time does not necessarily allow us to make all the moves, but the TPDB project is largely about supporting v.c. recorders, so feel free to contact us and make use of this initiative while it is here.

## BSBI / NBN Network "Rules"

The following is a synopsis of the main points of the draft network agreement. The full document is available from Alex Lockton or any of the nodes listed above.

(i) Local nodes should use Recorder software (exceptions will be made where a considerable investment has already been made into alternative products that can be shown to work successfully and to suitable standards). In future, NBN data transfer standards will be acceptable from any software product.

(ii) All care should be taken to ensure that data is complete and accurate. In general terms, that means that the node will normally have a close relationship with the BSBI v.c. recorder, who will vet records. Often the node will be the v.c. recorder. Data input should normally be performed by people who are skilled both in botany and in the use of the software; but if volunteers or less skilled inputters are used, the node must be able to demonstrate a high level of supervision and error checking.

(iii) Each node should aim to have comprehensive coverage of their "territory" throughout a range of factors. For example, historical records should not be ignored; they should aim to work with the conservation organisations to identify and record in designated sites; and they should not ignore common species in preference to rarer ones. They should attempt to accumulate information such as vegetation communities, but only where there is the competence to manage it properly.

(iv) Every node must have a responsible attitude towards co-operation. At the extremes, it is not tolerable for nodes to attempt to establish a monopoly by discouraging other botanists from practising within their area; nor is it acceptable if data is handed out too freely and without regard to the consequences.

(v) We will require local nodes to lodge a copy of their data with the national custodian – in this case the BSBI. This allows us to monitor the quality and quantity of the work directly; to provide a backup in case of accident or loss; and, under extreme circumstances, to access the data against the wishes of the local node: for example, if a decision is taken to replace a node that is not performing to acceptable standards. Under normal circumstances we will not make any use at all of these backups, unless specifically agreed by the local node, and will simply treat them as archives. We will not infringe your rights or abuse your trust, but nor will we allow individuals or organisations to exploit the voluntary network that they receive most of their data from.

**What do we offer local nodes?**

(i) We – the BSBI – will offer training, workshops and advice on procedures to input and output data. Feel free to make use of this service; it will be subsidised as fully as possible, and normally free to all accredited nodes.

(ii) We will send records back to the local nodes, trusting them to maintain comprehensive data sets on their local area. During the six months that the project has been in operation, we have sent more records to local recorders than we have received from them. We cannot guarantee that any one node will receive anything at all – it depends on the data available – but in general we aim to give back as much as we receive.

(iii) By accepting this role, the operators of each node should gain experience and information, thus improving whatever objectives they have for themselves, commercial or intellectual. The network offers standards and guarantees that should be valuable to potential clients.

(iv) The TPDB project has a number of means to support local nodes. Unfortunately we cannot offer salaries or anything approaching a salary to anyone operating a local node. We can, however, support suitable projects with small cash grants or by backing applications to other organisations. We have purchased software and equipment for local nodes, and have directly helped to computerise county data sets. We believe that the strength of the TPDB, and of the BSBI in general, is proportional to the strength of our network, and we genuinely want to help recorders and local groups to flourish: as it happens, during the first six months of the project, 50% of the TPDB budget has gone to local groups.

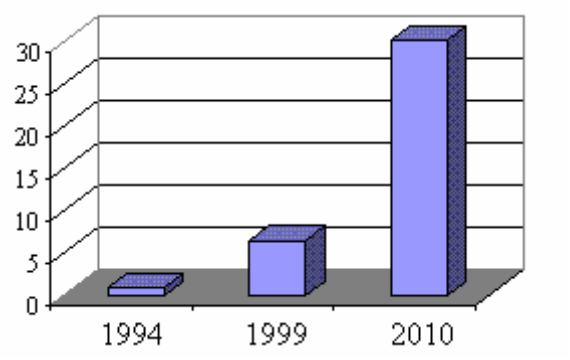



**Table: recent and forecast growth of the BSBI's computerised data holding.**

## What does it mean for the individual?

David Pearman took a phone call from one of the BSBI's county recorders the other day. She – whose identity I shall not reveal – wanted to know what the implications of all this "TPDB stuff" would be for the average v.c. recorder on the Clapham Omnibus [I have paraphrased here…]. David explained, with some trepidation, all about rare plant and site recording, and the complexities of our plans for a fully ecological database. And the response came back, somewhat unexpectedly: "does that mean we can do *proper plant recording* at last?"

This seems to summarise the mood of the majority in the BSBI. There are approximately two thousand skilled botanists scattered around the country, and many of them are fed up with distribution mapping as an end product in itself. Yes, distribution maps are very fine, but they can be drawn using data that was collected from a whole variety of other purposes.

For the Information Strategy we have identified seven types of county flora and four types of field botanist. A prize to anyone who thinks of one we've missed. Just one of each is about square bashing. The rest may have been somewhat overlooked in recent years, and the secret to success for the TPDB project and for the Society in general will be to combine all of these interests. The method, of course, is to have a comprehensive computer system that can serve any of these activities equally well.

**The Seven Floras**

(i) Incidental field work: most 19th century Floras follow this pattern – just record wherever you happen to go… not randomly, but seeking out interesting plants and places.

(ii) Systematic field work: most grid square Floras since 1950. Deliberately recording in every square to create even coverage.

(iii) Sampling surveys: e.g. *The Computer-mapped Flora*, in which one square in four was recorded; or the BSBI *Monitoring Scheme.*

(iv) Ecological floras – e.g. Good's Flora of Dorset; sections in the Durham and Shropshire Floras. Vegetation samples recorded to give a good selection; not randomly, but with a deliberate breadth of selection.

(v) Passive accumulation of data – there's a lot more that can be done along these lines than one might think; other people undertake surveys for a variety of reasons, the v.c. recorder just accepts the data – applying their judgement, of course, to maintain high quality information.

(vi) Permanent sampling plots, used for measuring change. This has been attempted quite often – but has anyone ever followed it through on a larger scale than just a single site? Good's *Flora* could be used this way – but it hasn't been, yet.

(vii) Rare plants surveys – deliberately looking for suitable sites or old recorded localities, and spending as long as necessary looking for the plants in question.

**The four botanical traditions…**

(i) Distribution mappers: people who enjoy checking off species on lists, often to no other purpose than simply to produce maps. There is nothing wrong with this, but it's only one of the four types of botanists you are likely to encounter.

(ii) Taxonomists: people who want to identify difficult plants. Have you ever noticed how few records spring from these sources? By and large, these people lurk in their herbaria and laboratories, more interested in deeper truths than sites and dates. With the right software, we can lead them to the best places for finding interesting new taxa, and they can let us know what they found there. Often, these, days they are called geneticists.

(iii) Phytosociologists: this is a fascinating branch of botany, and one that often requires knowledge of bryos and lichens. Sometimes this information is incorporated into county Floras, but often it is overlooked. This particular group has been quietly building up their own databases entirely separately to the botanical ones, and it's time – for the benefit of all – to start combining them again. The best way to find the vegetation community you're looking for is to search a database for the key indicator species, and *vice versa*.

(iv) Conservationists: their recording style is analogous to that of the apothecaries in the olden days. A group of people who seek out magical (sorry, *biodiversity*) plants for good purposes. They too have been building up their own databases, and they also could benefit from more botanical expertise. All four of these groups are well represented in the BSBI, and the role of the Society is to serve their interests.

So, what <u>does</u> all this mean to the individual? It means, hopefully, the opportunity to pursue a whole variety of interesting tasks and to concentrate on doing whatever it is you do best. In the past the v.c. recorder has had to be a fanatical field worker, a meticulous taxonomist, a skilled politician and, increasingly, a computer programmer. In future they should be free to do whatever they are best at, and the only absolute requirement of a v.c. recorder would be that they respect other people enough to want to work with them. In short, the average v.c. recorder should graduate from being a large birch in a small copse to being a small oak in a large wood. Is this not acceptable to most?

A lot of counties are making superb progress with computerisation and field work. Not all are fully compatible with the Recorder-based network needed by the TPDB. However, progress with technology means that this need not necessarily be a problem. As the number of people with computing skills rises, it will become increasingly easy to find people to assist v.c. recorders with their work. Look at the spread of people in our pilot projects: they represent 4 museums, 1 wildlife trust, 1 local records centre, 3 ecological consultancies, 2 universities, one government agency; and most of them are volunteers. Ages range from 30 to 74. The total number of records held by those 8 "nodes" is 1.35 million. There is a rôle here for everyone.

**What do we want you to do?**
We will want all v.c. recorders to spend some time over the next three years checking out, and re-recording, the rare plants in their county, but certainly they should finish the Atlas returns first.

We also want at least 30 v.c. recorders to become computerised to our standards. If all 150 decided to start tomorrow, we would be overloaded with training requirements and queries. Ideally we would like to see 50 counties well on the way to being computerised properly – by which we mean full site data, detailed grid references, everything that a proper biological recording system needs.

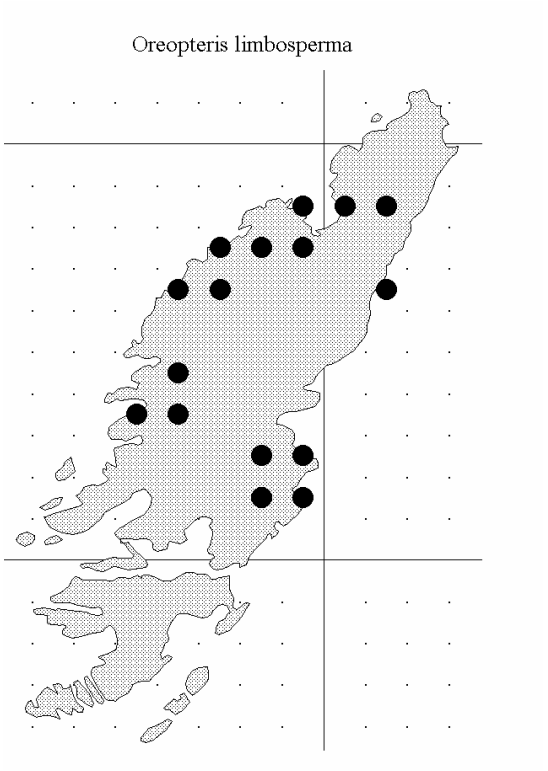
Even if you are not computerised at all, you can help the project by sending paper records and by being willing to co-operate with other local projects. In some counties there are records centres which have little to do with the botanical community. These records centres will surely fail, or their work will have to be re-done at some point in the future, because accuracy of records is undoubtedly the most important attribute of a biological database.

You could be doing everyone a big favour if you were willing to help them, but do bear in mind that they need you more than you need them – unless, of course, they're good at botany, in which case it's the other way 'round!

Finally, keep in touch with the TPDB project. Send us records. Ask for copies of ours. Feel free to discuss anything you're doing – quite often a helpful suggestion at the start of a project makes it all go much more smoothly.

The Irish recorders might be justified here in wondering if they have fallen off the edge of the map. Hopefully not. The TPDB project is starting off as simply a British project, not even extending to Northern Ireland, but that doesn't mean that exactly the same systems cannot be used there.

Ulster Museum is possibly the most advanced records centre anyway, and is working to much the same standards as the TPDB project. We are more than happy to work with any potential nodes in Ireland in exactly the same way. Eventually the system will extend across the whole of Europe, and there are parallel developments in most European countries, co-ordinated by an EU-funded organisation called BioCISE, which is based in Berlin.




**Lemon-scented Fern in Colonsay, shown on a 1km grid. Data collected by Dr & Mrs Gulliver and computerised by the TPDB project, with support from SNH.**

## Pillwort *Pilularia globulifera*

The TPDB holds as much information as we can feed it. This includes precise grid references for rarities, wherever possible. The map below shows pillwort as you've never seen it before: 1km squares throughout the whole of Britain. It's not a very suitable scale for national distribution maps, because the dots are so small, and it may be that we're slightly off with some of the grid references for the older records, but at least you are free to debate these decisions and improve on them if you can… The data can be supplied as ascii text or Recorder transfer files to any v.c. recorder – and there are twice as many records represented on this map than you'll find anywhere else.

## The TPDB Species

The following categories of plants are included in the Threatened Plants Database

| | |
|---|---|
| EX | Extinct |
| EW | Extinct in the wild |
| CR | Critically endangered |
| EN | Endangered |
| VU | Vulnerable |
| LR(NT) | Lower Risk (Near Threatened) |
| LR(NS) | Lower Risk (Nationally Scarce) (not all of these) |

BAP list 1 & 2

Adonis annua
Ajuga chamaepitys
Alchemilla minima
Alchemilla acutiloba
Alchemilla glaucescens
Alchemilla monticola
Alchemilla subcrenata
Allium sphaerocephalon
Althaea hirsuta
Anisantha madritensis
Anthyllis vulneraria ssp. corbierei
Apium repens
Arabis glabra
Arabis scabra
Arenaria norvegica ssp. norvegica
Armeria maritima ssp. elongata
Arnoseris minima
Artemisia campestris
Artemisia norvegica
Asparagus officinalis ssp. prostratus
Asplenium trichomanes ssp. pachyrachis
Aster linosyris
Astragalus alpinus
Athyrium flexile
Atriplex pedunculata
Bartsia alpina
Blysmus compressus
Bromus interruptus
Bunium bulbocastanum
Bupleurum baldense
Bupleurum falcatum
Bupleurum rotundifolium
Buxus sempervirens
Calamagrostis purpurea ssp. phragmitoides
Calamagrostis scotica
Calamagrostis stricta
Campanula patula
Campanula persicifolia
Carex appropinquata
Carex atrofusca
Carex buxbaumii
Carex chordorrhiza
Carex davalliana
Carex depauperata
Carex elongata
Carex filiformis
Carex flava
Carex humilis
Carex lachenalii
Carex microglochin
Carex muricata ssp. muricata
Carex norvegica
Carex ornithopoda
Carex rariflora
Carex recta
Carex vulpina
Centaurea calcitrapa
Centaurea cyanus
Centaurium scilloides
Centaurium tenuiflorum
Cephalanthera longifolia
Cephalanthera rubra
Cerastium brachypetalum
Cerastium fontanum ssp. scoticum
Cerastium nigrescens
Chamaemelum nobile
Chenopodium chenopodioides
Chenopodium vulvaria
Cicerbita alpina
Cirsium tuberosum
Clinopodium menthifolium
Cochlearia atlantica
Cochlearia micacea
Cochlearia officinalis ssp. scotica
Coincya wrightii
Corrigiola litoralis
Corynephorus canescens
Cotoneaster cambricus
Crassula aquatica
Crepis foetida
Crepis praemorsa
Cynodon dactylon
Cynoglossum germanicum
Cyperus fuscus
Cypripedium calceolus
Cystopteris dickieana
Cystopteris montana
Cytisus scoparius ssp. maritimus
Dactylorhiza incarnata ssp. cruenta
Dactylorhiza incarnata ssp. ochroleuca
Dactylorhiza lapponica
Damasonium alisma
Deschampsia setacea
Dianthus armeria
Dianthus deltoides
Dianthus gratianopolitanus
Diapensia lapponica
Diphasiastrum complanatum ssp. issleri
Draba aizoides
Dryopteris cristata
Echium plantagineum
Elatine hydropiper
Eleocharis austriaca
Eleocharis parvula
Epipactis leptochila var. dunensis
Epipactis youngiana
Epipogium aphyllum
Erica ciliaris
Erica vagans
Erigeron borealis
Eriocaulon aquaticum
Eriophorum gracile
Eryngium campestre
Euphorbia hyberna
Euphorbia peplis
Euphorbia platyphyllos
Euphorbia serrulata
Euphorbia villosa
Euphrasia cambrica
Euphrasia campbelliae
Euphrasia heslop-harrisonii
Euphrasia marshallii
Euphrasia pseudokerneri
Euphrasia rivularis
Euphrasia rotundifolia
Euphrasia vigursii
Festuca longifolia
Filago gallica
Filago lutescens
Filago pyramidata
Frankenia laevis
Fumaria occidentalis
Fumaria purpurea
Fumaria reuteri
Gagea bohemica
Galeopsis angustifolia
Galeopsis segetum
Galium constrictum
Galium parisiense
Galium pumilum
Galium tricornutum
Genista pilosa
Gentiana nivalis
Gentiana verna
Gentianella anglica ssp. anglica
Gentianella ciliata
Gentianella uliginosa
Gladiolus illyricus
Gnaphalium luteoalbum
Gnaphalium norvegicum
Hammarbya paludosa
Helianthemum apenninum
Helianthemum canum ssp. levigatum
Herniaria ciliolata ssp. ciliolata
Herniaria glabra
Hieracium spp. (numerous)
Hierochloe odorata
Himantoglossum hircinum
Holosteum umbellatum
Homogyne alpina
Hydrilla verticillata
Hypericum linariifolium
Hypochaeris glabra
Hypochaeris maculata
Isoetes histrix
Juncus capitatus
Juncus compressus
Juncus filiformis
Juncus pygmaeus
Juniperus communis
Kobresia simpliciuscula
Koeleria vallesiana
Koenigia islandica
Lactuca saligna
Lathyrus palustris
Lavatera cretica
Leersia oryzoides
Leucojum aestivum ssp. aestivum
Limonium binervosum ssp. anglicum

Limonium binervosum ssp. binervosum
Limonium binervosum ssp. cantianum
Limonium binervosum ssp. mutatum
Limonium binervosum ssp. saxonicum
Limonium britannicum
Limonium britannicum ssp. britannicum
Limonium britannicum ssp. celticum
Limonium britannicum ssp. coombense
Limonium britannicum ssp. transcanalis
Limonium dodartiforme
Limonium loganicum
Limonium paradoxum
Limonium parvum
Limonium procerum ssp. cambrense
Limonium procerum ssp. devoniense
Limonium procerum ssp. procerum
Limonium procerum
Limonium recurvum ssp. portlandicum
Limonium recurvum ssp. recurvum
Limonium recurvum
Limonium transwallianum
Limosella aquatica
Linnaea borealis
Liparis loeselii
Lithospermum purpureocaeruleum
Lloydia serotina
Lobelia urens
Lonicera xylosteum
Lotus angustissimus
Ludwigia palustris
Luronium natans
Luzula arcuata
Luzula pallidula
Lychnis alpina
Lychnis viscaria
Lycopodiella inundata
Lythrum hyssopifolium
Maianthemum bifolium
Matthiola sinuata
Medicago polymorpha
Melampyrum arvense
Melampyrum cristatum
Melampyrum sylvaticum
Mentha pulegium
Meum athamanticum
Mibora minima
Minuartia rubella
Minuartia stricta
Moneses uniflora
Muscari neglectum
Myosotis alpestris
Najas flexilis
Najas marina
Neotinea maculata
Nuphar pumila
Ononis reclinata
Ophioglossum lusitanicum
Ophrys fuciflora
Ophrys sphegodes
Orchis militaris (inc. var. tenuifrons)
Orchis simia
Orchis ustulata
Ornithopus pinnatus
Orobanche artemisiae-campestris
Orobanche caryophyllacea
Orobanche purpurea
Orobanche rapum-genistae
Orobanche reticulata
Otanthus maritimus
Oxytropis campestris
Oxytropis halleri
Persicaria laxiflora
Petrorhagia nanteuilii
Petrorhagia prolifera
Petroselinum segetum
Peucedanum officinale
Phleum phleoides
Phyllodoce caerulea
Physospermum cornubiense
Phyteuma spicatum
Pilosella flagellaris ssp. bicapitata
Pilosella peleteriana ssp. peleteriana
Pilosella peleteriana ssp. subpeleteriana
Pilosella peleteriana ssp. tenuiscapa
Pilularia globulifera
Pinguicula alpina
Poa flexuosa
Polemonium caeruleum
Polycarpon tetraphyllum
Polygala amarella
Polygonatum verticillatum
Polygonum maritimum
Potamogeton acutifolius
Potamogeton compressus
Potamogeton epihydrus
Potamogeton nodosus
Potamogeton rutilus
Potentilla fruticosa
Potentilla rupestris
Primula scotica
Pulicaria vulgaris
Pulmonaria obscura
Pulsatilla vulgaris
Pyrola media
Pyrus cordata
Ranunculus arvensis
Ranunculus ophioglossifolius
Ranunculus reptans
Ranunculus tripartitus
Rhinanthus angustifolius
Ribes alpinum
Romulea columnae
Rubus arcticus
Rubus fruticosus agg. (numerous)
Rumex aquaticus
Rumex rupestris
Sagina boydii
Sagina nivalis
Sagina saginoides
Salix lanata
Salvia pratensis
Saxifraga cernua
Saxifraga cespitosa
Saxifraga hirculus
Saxifraga rivularis
Saxifraga rosacea ssp. rosacea
Scandix pecten-veneris
Scheuchzeria palustris
Schoenoplectus triqueter
Schoenus ferrugineus
Scirpoides holoschoenus
Scleranthus perennis ssp. perennis
Scleranthus perennis ssp. prostratus
Scorzonera humilis
Selinum carvifolia
Senecio cambrensis
Senecio paludosus
Seseli libanotis
Silene conica
Silene gallica
Silene otites
Sium latifolium
Sorbus anglica
Sorbus arranensis
Sorbus bristoliensis
Sorbus domestica
Sorbus eminens
Sorbus lancastriensis
Sorbus leptophylla
Sorbus leyana
Sorbus minima
Sorbus pseudofennica
Sorbus subcuneata
Sorbus vexans
Sorbus wilmottiana
Spergularia bocconei
Spiranthes aestivalis
Spiranthes romanzoffiana
Stachys alpina
Stachys germanica
Taraxacum spp. (numerous)
Tephroseris integrifolia ssp. maritima
Tephroseris palustris
Teucrium botrys
Teucrium chamaedrys
Teucrium scordium
Thlaspi perfoliatum
Thymus serpyllum
Tordylium maximum
Torilis arvensis
Trichomanes speciosum
Trichophorum alpinum
Trifolium bocconei
Trifolium glomeratum
Trifolium incarnatum ssp. molinerii
Trifolium strictum
Trinia glauca
Tuberaria guttata
Ulmus plotii
Valerianella eriocarpa
Valerianella rimosa
Veronica fruticans
Veronica spicata ssp. spicata
Veronica triphyllos
Veronica verna
Vicia bithynica
Vicia parviflora
Viola canina ssp. montana
Viola kitaibeliana
Viola lactea
Viola persicifolia
Viola rupestris
Woodsia alpina
Woodsia ilvensis
Zostera marina

## Macro 8 - Adding species to your AutoCorrect dictionary

David Lovelace and Jon Mallabar, Herefordshire Flora Project

[The following article is not related at all to the TPDB project, but it looked so useful that I thought it would be worth including. AJL]

We have figured out an easy way to import abbreviated species into the auto correct dictionary in Microsoft Word. This enables you to type the abbreviated name of a species (e.g first 2 letters of the generic name and the first 3 letters of the specific name) in Word and you automatically get the full scientific name. The main drawback is that if you want the AutoCorrect dictionary to insert the name in italics then you lose the ability to change the font or size of the text, but if you always use the same format then this doesn't create any problems.

To do this you have to find Macro 8 on your Microsoft Office CD (it is in the office folder). In Word go to the Tools menu and click on Templates and Add-ins. Click on add and you will get the usual Windows 95 file location window - select your CD drive and find the Macro 8 file on the CD. Once this is added click on OK and you should then return to the Word document, but now there should be a Sample Macros Tool Bar floating on the screen.

Click on it and select AutoCorrect utility.

You will have 3 options, back up, restore or cancel. First you have to backup your existing dictionary so that you can restore it latter if you don't like the added species. Once this has been done you need to click on “restore” and select your custom auto correct dictionary (more on that later). This will then automatically be incorporated into Word’s AutoCorrect dictionary. Once it is finished just click on OK and then cancel at the next window, and you’re finished.

The difficult part is creating your own custom dictionary. The easiest way to do this is to contact me and I'll happily email you mine (jon@dax.demon.co.uk) or send it on a disk (if you send me a blank). To create your own you need to create a table in Excel with three columns:

Abbreviated name
Full name and what ever else you want to put in
True or False

If you put in “True” the text will keep the format which you give it in the dictionary, “False” and it will assume the format of the paragraph it is entered in.

The way I created mine was to export all the common plant species recorded in Herefordshire from Recorder. I then went through the list and deleted all the subspecies and varieties, as these caused problems with the abbreviated names. I also repeated my list 4 times.

The first list I created just had the 5 letter abbreviation (the first letter in capitals) and the full scientific name in italics. The second repeat had an “a” on the end of the abbreviation to give you the full name and authority. The third had a “c” which gives the common name only, and the fourth had a “p” to give the scientific name with the common name in brackets.

It is quite simple to do but takes quite a long time to manipulate all the text into the correct form and you have to be quite experienced in using Excel. It doesn't seem to slow down my computer but I do have 64 Mb of RAM (90MHz Pentium I) and if your computer is quite old or slow it may cause problems, but it does make remembering the correct spelling easier, and if you use the full authority when you write it speeds that up no end.

## Information available from the TPDB Project

Having spoken to numerous recorders, records centre managers and other users of biological information, we have identified some examples of "good practice" that we shall aim for on the TPDB project:-

1. **A quick response**: this seems to be a priority for just about everyone. We are fortunate in having the power and speed of very good software for the database, so we can guarantee a quick response to any enquiry. So far it has been possible to answer all queries immediately – mostly during the phone call. Reports will normally be emailed straight away or posted the same day. Although the TPDB project is far too small to operate a records centre service to the public, we would be happy to extend this service to anyone who contributes to it, including v.c. recorders.
2. **Good quality information**: the aim of the TPDB project is to have only publication-quality data on the computer. Of course there will always be corrections and additions to make, but – generally speaking – if it is on the database it should be checked and correct.
3. **No loss of information**: some, particularly older, databases store abbreviated information about records. We have no shortage of computer storage capacity, so the operating principle is that, if it exists, it goes in. This means typing out precisely what is on the herbarium sheet, for example, and listing every collection in which material from the same collection is stored. If records are changed in some way, we record those changes and explain why and how the decision was made.
4. **Checks and balances**: the TPDB database has a whole range of automatic checks and balances which we try to make full use of. For example, the dates of birth and death of recorders is stored in it, so it is not possible to give records a date outside their lifetimes. Every record is cross-checked against permissible grid references for their sites, parishes and vice-counties. Dates are stored as proper "date fields" so you can't, for example, make a record for next year.
5. **Information when you want it**: as many of the people we deal with are volunteers, and do not operate between 9 and 5 workdays, we are happy to respond to enquiries and requests for help, if needed, on evenings and weekends; normally between 8am and 9pm.
6. **Straight answers**: we went to see a vice county recorder recently, who told us that he knew where a very rare plant grew, but that it was at no risk at all, and that he wasn't going to tell anyone in any great detail where it was (obviously we knew the v.c.). We respect that answer so, if there is confidential or otherwise inaccessible information on the computer, we shall follow that example and give you straight answers; not excuses or evasions.
7. Finally, **no double funding**: the expensive part of running a database is compiling it in the first place. As this is being paid for by the project partners, there are no charges for reports and analyses. At the end of the project, the database will be the property of the funding partners (including the BSBI). This seems like a reasonable promise to make to those who generously give their time and information. Rest assured that you're not contributing to somebody else's 'pension policy'…

Records can be divided up very easily into various groups. The most likely requests are:

(i) all records for a particular vice county
(ii) all records for a particular site
(iii) all records for a particular taxon
(iv) all records by a particular recorder
(v) all specimens in a particular herbarium.

Confidential records will normally be excluded. These include just a few species of orchids and ferns, but feel free to make a case explaining why you should receive that information if you need it. Far more plants are lost through ignorance than through deliberate destruction, so generally we do not try to keep information secret.

More complex analyses are possible, if we happen to have the data. Mostly we don't, yet, but also bear these factors in mind when submitting data to the project, because it is what you send that we will be analysing in future. They include:-

(i) lists of associated species
(ii) altitudinal ranges of plants
(iii) quadrat data for vegetation classification
(iv) reports showing statuses of species
(v) distribution and coincidence maps
(vi) itineraries of historical botanists
(vii) ecological descriptions of sites
(viii) first and last records of species at sites
(ix) locations of type specimens
(x) genetic variation between populations.

## Information available from the co-ordinators

The following can be acquired by BSBI recorders and recognised county nodes at no cost whatsoever, from the co-ordinators' office, 66 North Street, Shrewsbury, Shropshire, SY1 2JL, 01743 343789, alex@whild.icom-web.com. Enquiries from the general public will normally be referred to the relevant county recorder or node.

**Guidelines for Herbarium Collections**
Proposals for new methods of computerising the ecological information stored in herbaria, in order to extract and make better use of it. At present these are just proposals, but we hope to run a demonstration project and eventually be able to supply museums with dictionaries of botanists and botanical localities.

**Guidelines for Rare Plant Registers**
Instructions and suggestions for producing lists and publications of county rarities.

**Code of Conduct**
New leaflet explaining the legal protection of plants in Britain and Ireland.

**BSBI membership forms**
Small folded leaflet ideal for circulating to local botanical groups.

**BSBI Stationery**
Letterheads, compliments slips, etc, with the BSBI logo and corporate style as adopted by Council in 1997. We'll supply laser-printed samples that you can take to any print shop to have as many copies made as you like.

## Acknowledgements

This newsletter describes briefly several of the initiatives and some of the planning that has gone into the TPDB project over the last six months. Where we have summarised too concisely or made any mistakes, the faults are entirely our own. However, many people have been involved in formulating these ideas and commenting on draft strategies and papers, and their assistance is gratefully acknowledged:-

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