

## BOOK REVIEWS

**British Plant Communities Volume 1, Woodlands and Scrub**, edited by J.S. Rodwell. Cambridge University Press, 1991. 395 pp. £70. ISBN 0 521 23558 8.

The publication of Volume 1 of British Plant Communities, covering woodland and scrub, represents the beginning of the final stage of the National Vegetation Classification project. This began in 1975 when the Nature Conservancy Council commissioned Lancaster University, under the direction of Dr John Rodwell, to provide a systematic and comprehensive classification of British plant communities. Not since 1939, when Tansley's two volumes on *The British Isles and their Vegetation* were published, has there been a co-ordinated attempt to recognise and describe the different vegetation types, from maritime to montane, that occur in Britain.

Several previous systems of classifying woodlands have been developed, including Bunce's *Field Key for Classifying British Woodland Vegetation*, parts 1 and 2 (1982 and 1989), and Peterken's Stand Types, published in *Woodland Conservation and Management* (1981), but none has been part of a system of classification of all vegetation types. This volume is the first of five to be published over the next few years. The other four will be: Aquatic Vegetation, Swamps and Tall-herb Fens; Grasslands and Montane Vegetation; Heaths and Mires; Salt-marsh, Sand-dunes and Sea-cliff Communities and Weed Vegetation.

The general introduction covers the background to the project and an account of the sampling procedures and data analysis of the 35,000 samples of the same basic type which originated from 80% of the 10 x 10 km grid squares on the British mainland. There is an explanation of the grouping of species which form the communities, sub-communities and variants, which are listed in the floristic tables for each vegetation type. The main groups of British woodland types are described and accompanied by maps of the distribution of the original samples.

The main bulk of the book is taken up with a diagnostic key and detailed descriptions of the 25 woodland and scrub communities which were identified during the project. The community descriptions bring together a substantial wealth of information from a wide literature source as well as that gained from the project itself, and aim to communicate a 'feel' for the vegetation. The floristic tables for each community are lists of species (including Bryophyta) together with their frequency of occurrence and abundance. They are grouped in their structural elements: canopy, understorey, field and ground layers. The final section of each community description is a map or series of maps showing the location of the samples. They do not necessarily represent the actual distribution of community types.

*Volume 1, Woodlands and Scrub* is an essential reference book on this habitat. The National Vegetation Classification (NVC) will be the standard method of analysing and comparing British vegetation for years to come and familiarity with the system will be essential for all field ecologists and conservationists. However, putting the methodology

into practice may not be so straightforward. Nowhere in the book is there a 'Guide for the use of . . .', the practical advice that is so necessary for the application of such a complex classification. The diagnostic key is excellent for the initial recognition of the communities, with abundant notes to guide the user through difficult decisions. We are advised that it is to be 'seen as simply a crude guide to identifying the types of woodland and scrub in the scheme and must always be used in conjunction with the data tables and community descriptions'. The data or floristic tables list all those species which occur in each woodland type. These are accompanied by columns of figures which represent the frequency and abundance of each species in each sub-community. Some of the tables are very complex and it is unfortunate that the worked example in the introduction is not for a woodland at all, but for a more straightforward neutral grassland type. Here it is easy to differentiate the *constant*, *preferential* and *companion* groupings of species, but recognising this pattern in some of the woodland community tables and differentiating one sub-community from another is much more difficult. Newcomers to the NVC, trying out the system in Cheddar Wood, where four of the seven sub-communities of W8, *Fraxinus excelsior-Acer campestris-Mercurialis perennis* woodland type have been recorded, would probably never want to survey woodlands again!

The magazine *British Wildlife* has recently published a much-needed article on *Vegetation Classification – a guide to the use of the woodland section*, (Volume 3, no. 2). This type of help with the practical problems of recording and mapping would have been a valuable additional section to the book. It is to be welcomed that the Joint Nature Conservation Committee is preparing User Manuals for all the NVC communities, to be published over the next few years, but it would have been very useful as part of the woodland volume itself, to have had a small separate edition of a user's guide and identification keys for field use to slip into a pocket in the back cover. I have sympathy with the poor NVC woodland recorders who already have to be equipped with 50 m tapes, ranging poles, clip-boards, record cards, plant and moss identification books as well as the essential, rather heavy, *Volume 1, Woodlands and Scrub*. They will not wish to take yet more books and manuals into the field.

It must be remembered that the community distribution maps in each section only tell you where the samples came from. They give an indication of the likely range of each type, but are not definitive. A survey of SSSIs in Somerset indicates that at least 12 of the 25 main woodland types are present in the county, although only seven are shown on the maps (M. Edgington, pers. comm.). For instance, woodland type W16b, *Quercus* spp.-*Betula* spp.-*Deschampsia flexuosa-Vaccinium myrtillus-Dryopteris dilatata*, is very frequent on the Quantocks and Exmoor, but the distribution maps indicate that it does not occur in the south of England at all.

Some community types have been missed out completely. An example is the Lichen-rich Pinewood, *Cladonia ciliata-Pinus sylvestris* community in north-eastern Scotland, a local but very distinct variant of the native Scots Pine woodland and plantations (A. Watson and E.L. Birse, *Bot. J. Scotl.*, **46** (1) (1991), 73–88). The authors acknowledge that this present volume is not exhaustive, but it is hoped that, when new communities are recognised and published in the scientific literature, they are written in a compatible form, making possible the publication of a regularly updated key incorporating these additional woodland types.

*Woodlands and Scrub* is a very 'sound' book of a very high quality. Unfortunately, its price will inhibit many individuals from purchasing it and hard-up conservation organisations may be reluctant to allow such an expensive book into the field. I look forward to a cheaper field edition, for only when it is really tried and tested will this NVC system evolve to become a complete and effective classification of British Vegetation.

LIZ McDONNELL

**The Illustrated Field Guide to Ferns and Allied Plants of the British Isles**, by Clive Jermy and Josephine Camus. Natural History Museum Publications, London, 1991. 194 pp.; black and white illustrations. £8.50. ISBN 0 565 01172 3.

This is an excellent book covering all British ferns and fern allies, including aliens, attributed morphotypes and hybrids, illustrated with black-and-white frond outlines supplemented with detailed line drawings of diagnostic features.

The introduction gives information on the use of the book, fern morphology and life cycle. A dichotomous General Key takes an identification down at least to genera and, in some cases, to species but it also directs the reader to separate sections covering clubmosses, quillworts, horsetails and ferns, the latter being further divided into families. At the beginning of each of these sections a brief introduction is followed by a general account of the characteristics of the group, a Field Key identifies species and there are useful notes on hybrids.

Each species occupies two pages. The descriptions are limited to brief sentences under headings, diagnostic identification features being emphasised in bold type. This, and the information on habit, habitat, distribution, conservation status and 'compare with' notes makes the book especially compact and useful. The diagrams include an outline of the frond and the whole or a part of the plant as appropriate, together with useful enlargements of frond segments, scales, sorus, sporangium and spore where these aid identification.

The species coverage is fully comprehensive and includes up-to-date taxonomy of the Aspleniaceae and Dryopteridaceae in particular, of which there has been considerable discussion and uncertainty in the past. Three subspecies of *Asplenium trichomanes* are described. The extreme variability of *Dryopteris affinis* is dealt with in detail; what were previously described by various workers as subspecies are now listed as morphotypes, which seems far more realistic. Inevitably, some nomenclature has changed: *Asplenium viride* is now *A. trichomanes-ramosum* and the Marsh Fern has, thankfully, gone back to being *Thelypteris palustris*. Inevitably, with ferns as with flowering plants, there are garden escapes, and the inclusion of aliens, although rare in the wild, is a helpful addition to the book.

I would have preferred a more comprehensive glossary. Not all terms are described; some appear solely as labels on a diagram. Unfortunately, many of these do not have labelling lines and the terms can be difficult to find (in comparison with an alphabetical list) and, although perfectly comprehensible to the expert, may well be confusing to a beginner.

There are indices of Latin names with their synonyms, and English names, but there is no general index. This is a pity as, with greater expertise, an index would make it easier to refer quickly to a required genus or species.

As a fully comprehensive and practical guide, compact and light enough to be slipped into the pocket, and cheap, this book is a must for student field courses and the individual enthusiast as well as the professional naturalist and ecologist, although, as a teacher, I am disappointed that the nomenclature does not follow the recommendations of the Institute of Biology with regard to the major taxa included.

PAT HILL-COTTINGHAM

**The Illustrated Flora of Britain and Northern Europe**, by Marjorie Blamey and Christopher Grey-Wilson. Hodder and Stoughton, London, 1989. 544 pp.; coloured illustrations. £25.00. ISBN 0 340 40170 2.

This book is a celebration of the artistic and botanical skills of Marjorie Blamey in the tradition of Keble Martin and B.E. Nicholson. That tells you immediately that you are going to be shown botanical characteristics while seeing the whole or part of the plant for

recognition in the wild. You know, too, that miracles of arrangement will be achieved so that the full pages of illustrations will not appear crowded. This flora has over 2,400 plants, native and introduced, described and illustrated in colour. Of this number there must be around 2,000 or more which are shown fully on the right hand pages but the book has the left hand pages devoted to at least one botanical detail of every species and a concise description in every case.

For those of you who go on botanical trips with unworldly experts who do not see ordinary plants as the rest of us do, here is your chance. Wherever the species has been split into subspecies, this book explains the differences as separate entries. So, when the expert mumbles 'obtusiusculum', you will be able to point out that 'the inflorescence branches make an angle of 50° (not 30°) with the main axis, and the toothed sepals, and the petals with black streaks (not black dots)' are characteristic of our plant whereas the species itself is 'local in west Scotland' (see p. 248). The title of the book for typographical reasons uses slightly taller letters for 'Britain' than for 'Northern Europe' but the coverage of species from most of France, the Low Countries, Germany, Scandinavia, the Faroes, Iceland and Spitzbergen appears as comprehensive as for Britain itself. The book's 544 pages cover the whole area, which contains about one fifth of the total European species list.

The attention to botanical detail is better in at least one case than in the Botanical Society of the British Isles (BSBI) Handbook No. 2 *Umbellifers of the British Isles*. On p. 274 of Blamey's flora the fruits of Parsley Water-dropwort are shown to be, and described as, egg-shaped. The illustration of the fruit in the BSBI Handbook is wrong even though the text is correct.

There are two principal ways in which a flora can be useful in determining the identities of plants; these are the descriptions and the keys. Most people would, I suspect, prefer good descriptions because of previous experience with user-unfriendly keys with difficult words and difficult concepts. This book has a not very inspiring key of twenty-nine pages at the back of the book and a glossary of seven pages at the front. Confusingly, *pedicel*, *peduncle*, *petiole* and *stalk* are all used. *Root*, *stalk*, *leaf* and *flower* are all used without explanation. The description of the thorn is not illustrated appropriately and the drawing refers to a prickle. There are two contradictory references to *Rosa arvensis* on p. 178 and errors stating that roses have 8 sepals and that the rose hip is the fruit, (whereas the fruits are contained within the hip). Simpler words and exact definitions help everybody. I found it confusing to have leaf shape (in couplet 8a, Key p. 178) described as 'linear or strap-shaped to elliptical with parallel veins . . .'. It could have been expressed in non-scientific terms equally well. Further, the sub-key from that question, Group D, brings in that bane of all key-users: '1b. Flowers not as above'. When one gets to the destination from couplet 3a, Juncaginaceae, one has to search hard before finding it fifteen lines from the bottom of the page and near the end of the line. What makes the key more difficult is that there are none of the thumb-nail sketches which so characterise the rest of the book and the subsidiary keys. On balance, then, people would be left with the descriptions as their main pathway to identification but there is no inspiration underlying the description. One looks in vain for the pithy phrase which clearly separates, for instance, the Water Forget-me-nots from each other. In all cases the drawings show the botanical features but the text should tell you where to look and what to notice. Keble Martin did this and it is certainly very well done in Perring and Walter's *The Macmillan Guide to British Wildflowers*.

Although it seems that Marjorie Blamey is not very well served by the text, a lot of care has gone into the production of the book from the colour and printing point of view. Each plate had to be exactly right as to every tone to the satisfaction of the artist. The results are virtually perfect. The book is a very good example of the art of book binding



with the pages opening out flat with no fear of damage to spine or stitching. In this case, because the jacket is so colourful, you can indeed 'judge the book by its cover'.

At £25.00, this book is not cheap. It is not a book of keys and descriptions as is *The Flora of the British Isles* by Clapham, Tutin and Moore (Cambridge University Press, 1989) at £70.00, or the new flora by Stace, also CUP (1991), but it covers flowers and trees of a larger catchment area and does it in a really attractive manner. It admits that it does not include some very important groups such as grasses, sedges and rushes, but what it covers it does with life-sized or scaled drawings in full and accurate colour.

In order to write this review, I had to call upon many botanical books from my library, from specialist BSBI publications and AIDGAP keys to the not-so-specialised but no less valuable books. It is arguable that this new flora, which is as accessible to the general user as to the expert, is the best botanical bargain for a long time.

TONY SMITH

**Beetles of Somerset**, by Andrew Duff. Somerset Archaeological and Natural History Society, 1993. 269 pp; 2 maps, 17 black and white illustrations. £10. ISBN 0 902152 18 1.

In this work the author lists all beetle records for the historic county of Somerset from the nineteenth century to December 1992, including sub-fossil ones. It was a big undertaking to compile all this data and it reassuring to know that all the information has been computerised. This will mean that the work required in producing future revisions will be greatly eased.

An interesting history of beetle recording in Somerset is given, referring to several nineteenth century entomologists and collectors, as well as those in more recent times. Apart from the very large number of his own records, the author has relied heavily on Coleoptera records as provided by individual amateur naturalists as well as reports from institutions, such as English Nature or the National Trust. Further, records kept by the Bristol Naturalists' Society, the Exmoor Natural History Society and the archives of the Somerset Archaeological and Natural History Society have all been utilised comprehensively. The Somerset Archaeological and Natural History Society published this work, with support from the Somerset County Council Museum Service and a financial grant from the Royal Society. For the future, Dr Duff is hopeful that co-operation between naturalists working with the newly-formed Somerset Invertebrates Group working with the Somerset Trust for Nature Conservation, will form the basis for the continuing entomological data collection.

Most of the book's pages comprise the Coleoptera systematic list for the county; this includes helpful scaled line drawings. There is also a useful map of Somerset showing the Watsonian vice-county boundary line, a gazetteer, a full bibliography, an index using scientific beetle nomenclature and one referring to vernacular names. It appears that 2298 beetle species have been listed and ecological considerations are discussed. Indications of rarity or abundance are given in the species list; perhaps surprisingly, some species seem to be increasing. No colour plates or photographs are included but the coloured cover bears an attractive picture of a Rose Chafer.

Beetle physiology is not within the remit of this book, neither are the sometimes incredible anecdotes of beetle behaviour, but the association of certain beetle species with bracket fungi, decaying fungi, dung, birds' nests, ants' nests and specific plants, I found quite fascinating.

The publication is an important one for Somerset's entomologists; all local naturalists should buy a copy of this scholarly work which represents so much industry and research by a dedicated biologist. The text is accurate and mistakes are (almost!) nil.

PHILIP RADFORD

**Dragonflies of the Bristol Region**, by Simon Randolph. City of Bristol Museums and Art Gallery and Bristol/Avon Regional Environmental Records Centre, 1992. 86 pp, black and white illustrations; paperback. £4.95. ISBN 0 900199 39 3. (Available, post free, from Simon Randolph, 2 Burghley Road, St Andrews, Bristol BS6 5BN.)

The book covers the whole of Avon, North Somerset and part of West Gloucestershire. It describes the many important habitats which support twenty-five species of breeding dragonflies, making it one of the richest areas in England. Each species is illustrated by a map which shows the breeding sites plotted on a 1 km square basis and the pattern of distribution is discussed. There are informative sections on conservation and mapping dragonflies and how one can help with local records. The section on specific problems and questions is particularly interesting and suggests many areas of Odonata biology which need investigating. The book is well illustrated by Brian Edwards with full colour cover and thirty-two evocative black and white drawings. I thoroughly recommend this well produced book which compares very favourably with other regional accounts.

JOHN KEYLOCK

**DMAP: A Distribution/Coincidence Mapping Program for IBM-Compatible Computers**, by Dr Alan Morton. Disk from Dr Alan Morton, Department of Biology, Imperial College, Silwood Park, Ascot, Berks SL5 7YP.

The program is compatible with CGA, EGA, VGA and Hercules display monitors and the output may be sent to 9 or 24 dot-matrix printers, or to some ink-jet and laser printers.

DMAP will enable the production of distribution or coincidence maps for the country or any part of the country. The user can specify what data files will be used and these files, in the form of simple text files, tell DMAP which data, text and outlines to display. Examples of these are provided and also a basic text editor to produce your own. This will be necessary if you want to draw your own outlines; however, some outlines can be obtained from the same source as the program. A digitiser can also be used. DMAP is able to plot points at any resolution with symbols of any size.

From the DMAP main menu you will need to set up the screen and printer settings before trying your own data. These are a set of parameters to adjust the size and scale of the map. Whenever the co-ordinates of the map area are changed these variables should also be changed. It is possible to make fine adjustments, but for most situations the auto setting will be fine. These parameters, or the defaults, are saved to disk for future use. However, if you re-call DMAP from the command line, or batch file, you can change these settings temporarily, for example when zooming in on a particular area.

From the command line you can specify the names of the default files that DMAP looks for when it starts. A full explanation of the format of these files is given in the documentation. For example, this allows labels to be placed at any location, simply by providing the grid reference, and the text to be displayed. Another application is to display different boundaries on the same map, for example, the whole county of Somerset, together with geographical or environmental areas, such as an AONB, ESA, or National Park, within it.

If you have experience of using batch files to perform tasks on your system, you will find it very useful to persevere in making some slightly complicated batch files to automate the control of DMAP. Of course this will only be of use if you are using DMAP in a similar way on a regular basis. For example, I have digitised the ESA for the Somerset Levels, and so have set up a batch file called *dmaps* which I can call to use default settings, giving either the map of Somerset or loading a map including the ESA boundary and zoom in on that area. When it comes to output, DMAP has been made as

comprehensive as the screen displays supported. The most important to me is the ability to output the screen image to a file. This can then be loaded into other programs such as WordPerfect, PC-Paintbrush and Desktop Publishers. The output to dot-matrix printers is better than that from a similar product, Plot5. However, if you have access to a laser printer (including Postscript Lasers) or an ink-jet printer, you should be impressed by the quality.

If you have a manual system of records, either graphical or written records, you can still be helped. DMAP comes supplied with some utilities. DRECS, a database, which can store grid references and species names or point types, and GRUTIL which works with digitising tablets, so points can be taken from a map for boundaries or existing distribution maps. The author, Alan Morton, is very approachable and always willing to give help to users.

Price? Well, each user is asked to contribute towards production costs, user support and registration. The suggestion is £10 for private individuals or £50 for all other users.

DMAP is a very flexible program, providing the automation of a potentially tedious task, especially if your data is already on a database. The quality of the output alone has made me switch to using DMAP.

TONY PRICE

Note. A version of DMAP operating from Windows is now available, price £25.