

Book Reviews

The Flora of Monmouthshire. Watsonian Vice County 35. Trevor G. Evans. With accounts of geology by N. Firth and habitats by S. Tyler and G. Peterken. Pp. 582. Chepstow Society, Chepstow. 2007. Price £25. ISBN 0-900278-49-8.

Here is Trevor Evans' long-awaited *Flora of Monmouthshire*, published by the Chepstow Society, with almost 600 pages of small print, maps, line drawings and colour photographs chronicling the flora of VC35. The beautiful county of Monmouthshire, straddling the border between lowland and upland Britain, contains part of the Wye Valley Area of Outstanding Natural Beauty, part of the Black Mountains, the wide Vale of Usk and the lesser water catchments of the Trothy and the Monnow, making up a varied and attractive mosaic of woodland, arable and pasture lands, some upland heaths and limited wetlands, including salt-marshes on the Severn Estuary. The flora is varied and includes some national rarities such as *Euphorbia serrulata* and endemic *Sorbus* species.

In 1970 the National Museum of Wales published A. E. Wade's *Flora of Monmouthshire*. Shortly afterwards in 1972 Trevor Evans became vice-county recorder for Monmouthshire and after his retirement in 1984 has worked on developing a fully documented flora, complete with distribution maps and detailed grid-references, and so over 35 years after the publication of Wade's flora, we have a completely different-looking modern flora, in a larger format, with over twice as many pages and in smaller print, and crammed with detail.

After a Foreword by Tim Rich, acknowledgments and a profile of Trevor Evans by Elsa Wood, the methodology of the recording of plants in the county is introduced by Trevor Evans, followed by chapters on geology by Naylor Firth and habitats by Stephanie Tyler and George Peterken. There is then a list of botanical sites grouped under their habitat types and arranged in order of importance or desirability according to Trevor Evans, with commentaries and brief lists of the more interesting plants. To end the introductory material Trevor Evans provides a short commentary on changes to the flora and a long list of Recorders of the flora.

Over 500 pages are devoted to species accounts, arranged in two columns under their

Latin (following Stace 1997) and English names. For each species a short diagnosis is provided, up to about 10 lines long, often with particularly important features emboldened or italicised, a very useful memory-jogger for identification purposes. In a few instances analytical sketches are also provided, and these nicely illustrate diagnostic features. After the diagnosis, the distribution and ecology is discussed followed by the past and present distribution; this often very detailed. If a taxon is not native, this is indicated by either a symbol for ancient introductions or a symbol for more recent introductions. Most native and many introduced species are provided with dot maps using a 10 km grid. The Flora ends with a list of extinctions, useful literature and indices. Sandwiched in the middle of the species accounts is a generous 48 page block of 145 colour plates, including topography and geological maps, and pictures of vegetation and plant portraits.

The author has chosen to use grammatically correct sentences for the diagnoses, perhaps to make them more accessible to the general reader, but I caught myself wondering how many pages could have been saved by using a more succinct and orthodox verb- and article-free diagnosis.

The changes in the flora are substantial and with his long interest in the area, Trevor Evans is well qualified to comment on significant changes. He bemoans the loss of 90% of the flower-rich meadows. A few magnificent examples remain (as at New Grove Meadows and Pentwyn Farm on the Trellech Plateau). Woodlands have also changed with the planting of conifers (now being reversed) and the decline of coppicing. Land drainage has also decreased plant diversity and only a few sites of interest remain. The use of herbicide sprays on arable fields has drastically reduced the weed flora. Of course, none of these changes is peculiar to Monmouthshire. The work of Gwent Wildlife Trust and the Monmouthshire Meadows Group in maintaining and improving biodiversity is now of paramount importance

and is highlighted by the author. As I write this review in the middle of the daffodil season, Trevor Evans' rude remarks on the misguided planting of gross hybrid daffodils along village roadside verges in the middle of the headquarters of the range of the dainty wild daffodil, seem particularly appropriate.

In a work of this magnitude, it's inevitable that there should be some errors. The author has provided a Corrigenda/Errata sheet that is available from him on request with a stamped addressed envelope. It lists additional recorders, two additional taxa (*Mentha suaveolens* and *Mentha requienii*) and 47 mostly minor errors. The most important one is the misplacement of the map of *Petasites fragrans* which is embedded in the description of *Ambrosia artemisifolia*, rather than in the previous column. With these errors pointed out for me, I was hard-pressed to find any others! I did note also a missing symbol for the introduced status of *Lysichiton americanus*.

I do have some very minor criticisms. The colour printing of the plates is varied, sometimes good but at times disappointingly poor, and the print size is verging on being uncomfortably small. The general maps in the introduction are low on detail and provide little help to the reader in distinguishing where exactly the vice-county boundaries lie – the map of botanical districts in Wade's *Flora* is much more useful in this respect. With its immensely useful short diagnoses, the *Flora* could be a great tool in the field, but is scarcely of pocket size and I doubt the paper and cover will put up with much field mistreatment. Nevertheless, I am sure I will wrap it up well in a poly-bag and lug it out at the bottom of my rucksack. The *Flora of Monmouthshire* is a magnificent achievement and should be on the shelves of any naturalist resident in the county. At £25 it is a bargain.

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Sedges of the British Isles. Jermy, A. C., Simpson, D. A., Foley, M. J. Y. & Porter, M. S. Pp. ix, 554, (4). B.S.B.I. Handbook no. 1, 3rd edition. Botanical Society of the British Isles, London. 2007. Paper covers. ISBN 978-0-901158-35-2.

The publication of the third edition of "Sedges of the British Isles" in the B.S.B.I. handbook series has been eagerly awaited. Sinker, in his review of the first edition of 1968, hoped that the remaining Cyperaceae might be included in future editions, so it is good to report that 25 years after the second edition was published, this goal has now been achieved. The daunting task of including the first detailed description of British and Irish *Carex* hybrids has also been accomplished and is a further noteworthy addition. These and a detailed ecology section have enlarged the handbook to become the largest in the series at three times the weight and with twice as many pages. The familiar orange soft back cover of the previous editions is retained. The authors state that as far as possible they have kept to the original concept of the handbook series to be an identification manual and predominantly a field guide and not a biological monograph on a group or family.

The scene is set by an introduction, followed by sections on general structure, classification, ecology, hybridisation and keys to identification before the descriptions accompanied by illustrations and maps are reached. Notes on the classification and arrangement of the genera and species are a model of clarity, making it very easy to locate them in the text by their allotted numbers. The section on ecology has tripled in size with the inclusion of Rodwell's National Vegetation Classification (NVC) data relevant to communities supporting members of the Cyperaceae, and unpublished data by Robin Walls used to produce a Principal Components Analysis of soil preferences. Diagrams show how the ecological parameters are arranged in the PCA graph, where sedge species are clustered according to various ecological parameters. Finally a table of the Cyperaceae, giving Ellenberg values modified for the British Flora (Hill *et al.* 1999) is provided.

The section on hybridisation is entirely new and with more than 40 interspecific *Carex* hybrids known from the British Isles, a quarter of the text is taken up with hybrid accounts. A short historical account is followed by a detailed description of sterility which can be complete or partial. Critical characters which may indicate sterility are described with the proviso that they may not apply to the fertile *C. nigra* hybrid group. A list of twelve characters useful for identifying *Carex* hybrids is given, followed by notes on unsubstantiated putative hybrid taxa which the authors feel unable to accept for inclusion. Finally the eye-catching warning of “Caveat Lector Hybridarum” emphasises the point why it can be difficult if not impossible to be certain that one has a hybrid, although the presence of both putative parents in the field can be a useful guide. The authors hope that the hybrid descriptions will provide a basis for further study and clarification.

The keys to fertile sedge material in flower and fruit excluding hybrids, has been redesigned and is now divided into two groups: Key 1 to all species except *Carex* and *Kobresia* and Key 2 to *Carex* species which is subdivided into 6 groups. This makes a much more manageable key than the previous one, and when combined with the ecological data, identification should have a reasonably high success rate. The key to non-flowering members of the Cyperaceae which appeared in previous editions has been abandoned.

Species and hybrid accounts are at the heart of the book and I'm sure will be scanned with anticipation when the handbook is first opened. Readers will not be disappointed. It is a great improvement to have the maps, illustrations and descriptions of every species and hybrid on adjacent pages. Nomenclature follows Kent and Stace but changes have been made to familiar names. *Carex ovalis* becomes *C. leporina*, *C. curta* becomes *C. canescens*, *Carex muricata* ssp. *lamprocarpa* becomes ssp. *pairae*, *Eleogiton fluitans* becomes *Isolepis fluitans*, and *Eleocharis austriaca* is now given as *E. mamillata* ssp. *austriaca*. *Trichophorum cespitosum* and *T. germanicum* are treated as full species. No doubt these changes will be eventually incorporated into new Floras and checklists. Changes have also been made to the nomenclature of the *C. flava* group with new splits into varieties based on morphological and isoenzyme studies. It will be interesting to see how long it will be until further modifications

are made to this group in taxonomic flux. Information on stomatal distribution on leaf surfaces is a useful addition. The value of the accounts is increased considerably by including Rodwell's NVC data as well as information from the *Vascular Plant Red Data List for Great Britain* (Cheffings & Farrell (2005). Where species are considered threatened, the level of threat is indicated. Although believed extinct, *Trichophorum alpinum* and *Carex trinervis* are rather optimistically included, as habitats for them still exist. On the other hand the recently discovered *Carex salina* makes an exciting addition and must surely be added to the Red Data List. More work is still needed on the difficult *Eleocharis palustris* and *E. mamillata* groups.

Hybrids are covered in great detail and are contrasted with their parents in tabulated form. In addition there is a very useful table giving the dominant parental traits within the *Carex nigra* group to show which species may be involved in a putative hybrid. The larger full page maps are easier on the eye and simplified with two date classes: pre-1970 and 1970-2006; updated records since the *New Atlas* have been included. Maps of all but the very rarest hybrids are given for the first time and short captions give useful data on distribution patterns, ecology and history. All illustrations now have scale bars and the artists should be congratulated on portraying the characters of their subjects in such an accurate and pleasing way.

The final section is concerned with dubious records, extinct species and aliens. Published work referred to since the last edition has finally drawn a line under the unsubstantiated Heslop-Harrison records of arctic-alpine sedges from the Hebrides (Preston 2004; Pearman & Walker, 2004). Eighteen alien members of the Cyperaceae have been rarely or occasionally recorded and of these the six most likely to be seen are given brief descriptions. The section on potential British species in the second edition has been omitted, although in the text *Carex subspathacea* as a parent of the stabilised hybrid *Carex salina* is quoted as being a species “not yet!” recorded from the British Isles and *Carex parallela* might possibly occur. The glossary has more than doubled in length, and the impressive quadrupling of the entries in References and Selected Bibliography provides a comprehensive source of information. There are separate indexes for English and Latin names.

I noted only two errors; *Carex atrata* is in v.c. 72, Dumfriesshire and not v.c. 78, Peeblesshire, and Professor Fernald's reputed discovery of *Trichophorum alpinum* in 1931 was at Kinlochewe and not Kinlochleven. Fernald's similarly dubious record of *Eriophorum brachyantherum* Trautv. & Mey. (*E. opacum* Fernald) made nearby on the same Highland excursion "on the slopes of Ben Eigh (sic) (Eighe)" and referred to in Druce's *Comital Flora* (Druce 1932) and in the first edition of Clapham, Tutin & Warburg (1952) was later discounted as an error. *Carex capillaris* in the Southern Uplands is stated to be "local" but as there is only a single small population it should more accurately be described as "very rare." The map of *Trichophorum* × *foersteri* shows recorder bias in the North East of England as a result of George Swan's elegant work on this previously greatly misunderstood genus (Swan 1999). The map shows a similar picture in the North West of Ireland and as suggested, this taxon will be found to be more widely distributed as recorders become familiar with it. It is interesting that *Blymus compressus* was not mentioned by Rodwell, and amusing to read

that checking the scabrous hairs on the peduncles of *E. latifolium* is "best detected when peduncle is drawn between the lips." I hadn't thought of that!

Clive Jermy and his co-authors and artists are to be congratulated on a very fine authoritative work. It has been a huge B.S.B.I. team effort and reading through the acknowledgments makes one realise how many individuals and institutions were involved. As a field guide and identification manual it should find a place in all our libraries and those of field centres and institutions. It will be especially welcomed by ecologists and conservationists who need to have a good working knowledge of this group. However a small knapsack rather than the jacket pocket may be the best way of carrying it in the field. Part of the enjoyment of studying sedges and their allies lies in exploring the varied and often unspoilt natural habitats in which they grow and which alas appear to decrease year by year. These can often be very remote wild places, where getting wet feet may be inevitable. This handbook will enthuse many of us to visit such places and keep our eyes open for the elusive hybrid.

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Charophytes of the Baltic Sea. Edited by H. Schubert & I. Blindow. Baltic Marine Biologists Publication No. 19. Gantner Verlag, 2003. £35. ISBN 3-906166-06-6.

Charophytes (commonly known as stoneworts) are a group of macrophytic algae, usually regarded as a distinct order (Charales) within the Chlorophyta, or green algae. Charophytes are both valuable indicators of water quality and severely threatened by eutrophication (Bryant & Stewart 2002). Over half of the 34 British and Irish species (*sensu* Bryant, Stewart & Stace 2002) are endangered; 57% of British and 45% of Irish species are Red Data Book species (Stewart

& Church 1992). Despite their ecological importance and conservation status, charophytes remain a neglected group. This book encourages botanists to take up the study of charophytes and "aims to improve knowledge about this group". It is therefore potentially a valuable addition to the (sparse) literature on the British and Irish Charales. However it is a pity that this book is not more accessible for beginners, although there is much of interest for everyone.

The book is divided into three main sections including introductory details and an identification key, illustrated species accounts and a section presenting nomenclatural research. The introductory sections provide a very readable overview of charophyte morphology, cytology, reproductive biology, ecology, physiology and phylogenetics. The literature review is comprehensive. There are 25 species in the keys and 28 species accounts. Of these, 23 species (*sensu* Bryant, Stewart & Stace 2002) occur in Britain and Ireland. Species accounts are in a similar format to the B.S.B.I. Handbook series. Each species has a relatively full description, details of its ecology, biology, distribution map and a useful 'compare and contrast' section entitled, rather endearingly, 'risk of confusion'. The illustrations are excellent, showing both diagnostic details and full plant portraits that effectively capture the 'jizz' of each species. It is particularly useful to have attention drawn to, with an illustration, widespread (and often misidentified) variants like *Chara aspera* var. *subinermis*. One new species is described, *Lamprothamnium sonderi* A. Garniel.

The key and associated description of charophyte plant parts are adequate, but it is a shame that the key recycles existing characters and relies heavily on cortex features (particularly the distinction between diplostichous and triplostichous). These can be difficult to observe when plants are encrusted and without at least $\times 30$ magnification. The keys in Stewart & Church (1992) attempt to address this by using reasonably reliable field characters, although unless you are very experienced, microscopic confirmation of species is still essential. Perhaps a multi-access key would enable focus on more user-friendly characters? There are also a few inconsistencies here: for example, spine-cell fascicles are not used in the keys (for good reason) yet are stated as diagnostic characters in some species accounts.

There is apparently still no published diagram of a *whole* charophyte plant, with *all* parts clearly labelled. The information is usually there, but buried in the text, as in this

book. More surprisingly, this book lacks a glossary. Beginners will have to re-read five pages of text every time they need to find definitions for the many specialist terms like 'tylacanthous'. If the reason for this was lack of space, it may have been better to publish the nomenclatural section as a separate academic paper. This research is of tremendous value, particularly as nomenclatural confusion is another barrier to those seeking to get to know charophytes. However, the findings would have been more accessible to amateur taxonomists if synonyms were briefly presented within the relevant species accounts.

The content of the individual species accounts is variable. Understandably, well-known Baltic species receive much more detail, contrasting with the rather thin accounts for species like *Chara vulgaris* (our most widespread species, but rare in the Baltic Sea). The 'risk of confusion' section is also rather variable in its content. The account of *Chara intermedia* states that distinguishing this species from *C. baltica* "remains difficult and vague" but neglects to mention that, when present, bulbils are diagnostic for *C. baltica*. In places, this section is unhelpful, stating that two species can be difficult to distinguish (such as *Chara vulgaris* and *C. contraria*), but not explaining why, or how to approach an identification with difficult material.

This book was an international collaborative project between twenty leading botanists of eight countries; therefore any inconsistencies in treatment in the species accounts should not detract from the considerable achievement that it represents. The extensive review of ecological and physiological charophyte research is perhaps the most valuable part of the book. Overall, this is a useful and broadly accessible book, and which deserves to be more widely known.

ACKNOWLEDGMENTS

Thanks to Nick Stewart for a useful brief discussion about this book.

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County Antrim, Scarce, Rare and Extinct Vascular Plant Register. S. Beesley. Pp. 248. Ulster Museum, Belfast. 2006. A4, spiral-bound paperback.

Wiltshire Rare Plant Register. The rare and threatened vascular plants of North and South Wiltshire. S. Pilkington. Pp. 130. Privately published. 2007. A4 paperback.

Monmouthshire County Rare Plant Register. T. G. Evans. Pp. 89. 2007. A4, spiral-bound paperback.

Anglesey (VC52) County Rare Plant Register. Flowering plants and ferns. I. R. Bonner. Pp. 86. Countryside Council for Wales, in conjunction with the BSBI. 2006. A4, spiral-bound paperback.

I can trace only three previous reviews of publications in this rapidly growing genre – those for Carmarthen, Dorset and Sussex. Others have been relatively modest or interim versions, or, more seriously, have slipped under the radar, usually as they have been privately published. Here I would mention those for Shropshire, Co. Down and in particular Berwickshire, which I recommend to all readers for the insights it gives and for the questions it raises.

With these publications we now have four for Wales, with more in the pipeline, thanks to the support of C.C.W., about ten in various formats for England, a small handful for Scotland and two for Northern Ireland – slow but steady progress.

No central formula can be prescriptive for a series of publications produced by volunteers, but all of these are near enough the same in their adoption of criteria for the species covered – nationally rare and scarce, county rare (1–3 sites), and county scarce (4–10 or 15 sites). For a national onlooker this is excellent, and is most important in that one can compare like with like. The variables are less important. The first Rare Plant Register, that from Cardigan, gave grid reference, date, site status and localities. Later publications (Carmarthen, Sussex, Dorset) added notes on habitat together with comments on decline where relevant, thus greatly adding to the interest and greatly increasing the work! For these under review Wiltshire and Antrim do contain those extra notes, whereas the other two are more bare lists, though both have a word or two about the habitat of most of the records.

The most important variable though is over the period covered by each, and here I find myself in a quandary. The intention of a Rare Plant Register must be to put the qualifying

species into a time-frame, since it seems that decline in extant records is a general picture across the country, with relatively rare exceptions. I appreciate that is simplistic, but that statement will have to suffice for a short review. If too long a time frame is used then the picture is distorted – does the fact that all the records of *Blysmus compressus* from Wiltshire date from the 1980s mean that it has gone or that no-one has looked? The introduction of a cut-off date of, say, 1990 (though already 18 years ago) or, even better, 2000, would be far more relevant in knowing whether this species was under real threat. Yet, to use Wiltshire as an example again, it was an astonishing feat for a new county recorder to produce a statement for her county, from scratch, in only three years, and the value of having a such a statement outweighs the significant number of records from the 1980s – at the very least it should encourage botanists to go and look. The same comment applies in varying degrees to the other three under review, and, I think, should serve as a model and a spur to all the other counties that have Rare Plant Registers in progress. It is better to set out a statement, even if not as up-to-date as one would wish, than not to publish at all. For each of these registers has the same message about its special plants. I am not talking about nationally rare and nationally scarce plants, where the picture is relatively well-known, but about the plants that might be common elsewhere but are now down to a few sites in these counties, the ‘county rare and scarce’. The picture is invariably one that is becoming familiar – the 10 km dots are still there, but the sites inside those hectads are down to one or two or a very few and still decreasing. Fascinating reading!

D. A. PEARMAN

Plant Atlas of mid-west Yorkshire. Abbott, P. P., Yorkshire Naturalists' Union, York. 2005. £30 h/b. ISBN: 0 950409 36 7.

This was a long awaited Flora which almost completes the Floras for the County. It now joins a family of more or less up to date Floras for this large and varied county and the final instalment, the *South Yorkshire Flora*, is in preparation. This Flora has been put together in a fairly traditional style in an accurate and organised format and is written with professional brevity given space and financial constraints. From the introduction it is clear why a Flora for this part of Yorkshire was required, as the last one was written in 1888 by F. A. Lees with minor updates along the way. The book has an attractive cover depicting a *Geranium sylvaticum* – Northern Hay Meadow, a rare and fast disappearing habitat which can still be found in vice-county 64.

In the subsequent section, all the recorders, referees and other contributors are fully acknowledged. The following chapters, the geology and soils, are written skilfully by guest contributors who clearly know their subject and though brief, guide the reader through a vice-county which has a plethora of interest in these subjects. There is a reference section for each which guides us to more detailed accounts. Though technical for the beginner, the geology section gives very useful explanations of some of the terms. Maps are provided for soil types, the geology of the area and physical features. There is also a map which delimits the boundary of this large vice-county.

The next section 'A botanical tour of Mid-West Yorkshire' (pp. 20–25) is written by the principal author and is a wonderful description of the vice-county by habitats and the plants found in this part of Yorkshire. It is also useful to view the photographs in plates IV–XVI when reading this section. The 76 photographs show some of the special habitats, (such as calcareous grasslands), landscapes (stunning views of Ingleborough, Whernside and Pen-y-ghent) and the plants (e.g. Lady's-slipper Orchid) of v.c. 64. This is a blessed county not only for a multitude of habitats, landscapes and

common plants, but the special and rare plants too. The Lady's-slipper Orchid (*Cypripedium calceolus*) is very special, being at its last known native site in Britain (though there are now introductions elsewhere). *Carex muricata* spp. *muricata* is also a very rare plant and recently *Carex flava* was shown to exist at Malham Tarn Moss, only the second known site in Britain (and previously thought to have been a hybrid). *Senecio eboracensis* new to science is endemic to York and therefore to this vice-county, found nowhere else in the world!

The book is comprehensive and has accounts for nearly 1,800 taxa with nearly 1,000 of these having maps. They are arranged in the usual fashion from Lycopodiaceae to Orchidaceae, and species not considered native to the area are marked with an asterisk, though a few were missed (e.g. *Selaginella kraussiana* is not native in the UK). This flora has not shied away from the apomictic species with 52 *Hieracium*, 62 *Rubus* and 27 *Taraxacum* micro-species noted (some with maps). Recording continues, and new plants have been found for the vice-county since publication. There are probably close to 2,000 taxa recorded now. There are almost no typing errors, the few there are being too insignificant to mention.

It must be said that this is a mammoth effort on behalf of the recorders, contributors and the principal author, and it is something that as a Society we should be proud of. More importantly, the author is to be congratulated on an excellent addition to the British and Irish Floras. These achievements should not go unnoticed, having been carried out with dedication, organisation and an overall enthusiasm for botany. I share this enthusiasm for botany and this vice-county and use this book regularly. It is an important reference source for the geology, soils, and above all the wonderful and special plants of this part of Yorkshire – 'God's own County' obviously!

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Flowering Plant Families of the World. V. H. Heywood, R. K. Brummitt, A. Culham & O. Seberg. Pp. 424. Royal Botanic Gardens, Kew, 2007. Price £27.95. ISBN 1-84246-165-6.

Flowering Plants of the World (1978), the starting point for the present volume, quickly established itself as the standard reference on the subject for specialists and non-specialists, amateurs and professionals, alike. With the rapid advances in our knowledge of the world's flora made over the past 30 years, especially but not entirely derived from new insights into evolutionary relationships at the family level by the analysis of DNA sequences, an updated replacement work is timely. All the attractive features of the earlier publication are retained; these were summarised in the review by J.F.M. Cannon in *Watsonia* 12: 365–367 (1979), and most need not be repeated here. In brief, the book is largely an account of the world's flora family by family, including all 506 of those recognised (only 306 were accepted in the earlier work). In each case it includes its distribution, description, classification (both inter- and intra-familial), economic uses, and (new in the 2007 book) a highly selective (often strange or puzzling) list of key references. A world distribution map is provided for every family, and all those of any size are illustrated by attractive drawings, about half of which are in colour.

Although the general appearance and content of the two books are similar at a glance, there are many changes in detail. The original entries, written by 44 contributors, have been redrafted and considerably though variably updated, mainly by the four authors. More corrections and updates could have been made if some of the original authors had been consulted. Many of the additional data, including most of the references cited, relate to phylogenetic analyses that have had a bearing on the classification. American spellings are still used throughout, as is the annoying and misguided habit of referring to families in the singular ("the Ranunculaceae is..."). They are, however, sensibly referred to primarily by their more modern name ending in -aceae (Asteraceae rather than Compositae, etc.).

The excellent illustrations appear to be the same as those in the 1978 book (at least, I spotted no additions), with the result that most of the additional small families recognised as a result of DNA study are not illustrated, even the now famous Amborellaceae. Some of these, e.g. the Madagascan Didymelaceae and Diegodendraceae, were not referred to by

family or genus in the 1978 book. The difficulties of producing accurate world distribution maps was commented upon in Cannon's review, and is mentioned in the Preface to the 2007 book, but even so the reasons for some of the changes are not easily understood. For example, the map of the Combretaceae in the earlier book is accurate, but it has been considerably altered and now is grossly inaccurate in several respects.

Perhaps the most intriguing aspect of the new work is the extent to which the families have been realigned to follow the latest DNA-based classification (known as APGII). The answer is not straightforward, as the changes dictated by DNA sequences and the imposition of mono-phyly have been very subjectively and therefore patchily adopted. The reason for this seems to be that the four authors represent a wide spectrum of opinion regarding the APG classification, and each appears to have been given a free hand. Hence, whereas *Hydrocotyle* is now placed in the Araliaceae, *Aesculus* and *Acer* are in the Sapindaceae, and many small families (e.g. Parnassiaceae, Aucubaceae and Acoraceae) are newly or re-accepted, the Scrophulariaceae are retained in almost their traditional sense, but also including the Orobanchaceae, yet still excluding Callitrichaceae, Buddlejaceae and Plantaginaceae, *inter alia*. This unevenness is somewhat obscured by the fact that the families are treated in two alphabetical sequences, dicots and monocots, itself contrary to the APGII system, as opposed to the systematic sequence preferred in 1978. The families are, however, listed in their APGII sequence at the front of the book, but with the family circumscriptions altered to agree with those adopted in the main text.

Since all the taxa are adequately indexed, the alphabetical versus systematic sequence and the subjective circumscription of the families are of little practical significance. Here is a book that will remain a standard reference work of great value to many biologists and naturalists. Providing that the user does not believe all the data to be complete or wholly accurate, or to represent a consensus (impossible aims in a compilation such as this), *Flowering Plant Families of the World* will justifiably continue to represent the preferred first port of call for many in seeking

information about the world's plants. It cannot be recommended, however, as an ideal guide to the APGII classification. Moreover, there is still a need for a modified version of the APGII

system that is less slavish to cladistic tenets and accepts paraphyletic taxa in certain justifiable circumstances, because there will always be a sizeable proportion of botanists who prefer it.

C.A. STACE

The Flora of Rum. An Atlantic island Reserve. D. A. Pearman, C. D. Preston, G. P. Rothero & K. J. Walker. Pp. 480. Published by the authors, Truro. 2008. £25 h/b. ISBN 978-0-9538111-3-7.

This is a justifiably big Flora of a small island that has long held a special place in the minds of botanists. It uses all the traditional methods of Flora-writers and introduces several new ones. It gives equal prominence to bryophytes and vascular plants, and is based both on all the available historical information and on very intensive bursts of recording by the authors and others in 2003 and 2004.

Introductory chapters occupy a third of the book, and there are 28 fine colour plates and a series of exemplary maps that will enable readers to orientate themselves easily in the text. A long chapter vividly recounts the history of the island and the struggles of the successive owners to manage this remote and intractable property for a variety of ends, by low key farming, as a sporting estate, as a sheep ranch, as a National Nature Reserve and as a research station. Especially fascinating is the authors' elucidation of the deliberations within the Nature Conservancy about how the new NNR should be managed. Given a completely free hand when they acquired it in 1957, did they make the right decisions, and have their successors done justice to the island? It is a pity though that the account ends in 1992 when Scottish Natural Heritage inherited Rum. An equally interesting chapter on the history of botanical exploration inevitably recounts in detail the activities of J. W. Heslop Harrison, whose deliberate planting of rarities to provide fraudulent records, probably chiefly to bolster his theories of perglacial survival, has overshadowed his enormous valid contributions to the botany of Rum and the other Hebrides which are given due credit here. One can perhaps add that his plantings confused only the botanists, and not to any significant extent the vegetation of the island which has been both depleted and added to on a grand scale by the various owners, including conservationists, over the centuries.

The plant communities are described in National Vegetation Classification (NVC)

terms, with the bryophytes mostly relegated to separate paragraphs. Standing waters are analysed in particular detail. Both here and in the chapter on the phytogeography of the Rum flora comparisons are made with other islands. The latter chapter gives us much information of a kind not previously presented in detail in a local Flora, which would ideally have merited more extensive discussion by the authors. The floristic elements are analysed in relation to Scotland as well as to Britain as a whole, and the mean number of tetrads of their constituent species is given. The life-forms of plants on the island are similarly analysed, as are their habitat preferences, and detailed comparisons are made with Skye. Diversity at a tetrad scale of the various taxonomic and status groups is shown on a series of maps (but the accompanying keys to dot sizes are themselves at a different scale, and so are difficult to use). Changes in the flora are discussed as far as the available evidence allows, and one of the greatest values of the present Flora will be as a baseline for a future survey by some other equally fortunate and competent group of botanists.

The species accounts comprise a readable paragraph summarising the habitats, distribution and, where relevant, the history of the species, and a second paragraph usually containing either a list of records or a list of NVC communities. First records and altitudinal ranges are given. The records include grid references, recorders and dates. Numbers of tetrads are given, and also, for the vascular plants, a novel category of information, the abundance of the species within tetrads based on a DAFOR scale. This shows a general positive relationship between frequency and abundance, but with many exceptions such as *Sedum acre* in only one tetrad but frequent there, or *Ranunculus flammula* in all but one tetrad but on average rare in each. Habitat preferences explain much of this, but it is an approach that deserves further application and

analysis in other local Floras, and at other scales of mapping, in the hope that it may provide new insights. Tetrad maps are given for all but the rarer species, with 2000 onwards and pre-2000 date classes. The two-column format and the small number of tetrads involved (41) has resulted in the dots being distractingly big, detracting from the appearance of an otherwise very well-produced book.

Coverage, even of the remotest corners, appears to have been very reasonable (one of the maps usefully shows the routes taken by the recent recording parties). Coverage of critical

groups since Heslop Harrison's time has been patchy. *Hieracium* has been reasonably well covered, *Euphrasia* has received a lot of attention but merits still more, and *Rubus* has had no recent expert attention in the field. Intraspecific taxa in general require more attention. Rum can now be visited more easily than in the past and anyone reading this Flora will long to go, and will find it an ideal companion. Armchair readers are in for a treat, and those embarking on a local Flora project will find new and stimulating ideas in it.

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