Book Reviews

Between seasons and science. P. Faasse. Pp. viii + 124. S.P.B. Academic Publishing, Amsterdam. 1995. Price Dfl. 53 00. ISBN 90-5103-100-9.

This slender paperback celebrating the sesquicentenary of the Royal Botanical Society of the Netherlands might be thought of interest to Dutch botanists only – or even just to the membership of that society itself. That, however, would be a mistake. Of all their Continental neighbours, The Netherlands is surely the one with which Britain and Ireland have most in common, with a similar flora, shared experiences in the past, a minimal language barrier and, not least, a kindred sense of humour. More to the point, though, it has a botanical society with almost as long a history as the B.S.B.I., which at once suggests that the two bodies may present some parallels or contrasts in their development from which some enlightening lessons might be learnt. Although the B.S.B.I.'s own sesquicentennial history features in the bibliography, disappointingly there are no comparisons with counterparts in other countries to be found in the text. This review must accordingly attempt to make up for that deficiency to some extent.

The Dutch society was founded in 1845 (though not formally constituted till one year later), at a time when botany in that country was just awakening from a fifty years' slumber. By no coincidence the Dutch Entomological Society had its birth almost simultaneously – much as the Entomological Society of London only shortly anticipated its botanical sister – and the two events can be seen as part of a general resurgence in the nation's intellectual life. The founding group of 20 were almost all amateurs and collectors and interested in the flora of The Netherlands exclusively, the producing of a comprehensive, high-quality account of which was one of their agreed aims at the outset. Others were the holding of field meetings, the formation of a herbarium and library, and the exchange of correspondence and specimens with botanists in other countries. The forming of a herbarium was rendered the more necessary by the policy of the director of the national herbarium in Leyden of keeping its doors permanently locked, a practice which ended only with his death in 1862. Though nothing as ambitious as the large-scale exchange schemes operated by the two contemporary British botanical societies was attempted, every member was required under the rules to donate to the Society's herbarium a specimen of every noteworthy new discovery, in return for which they were entitled to take duplicates from it for their own personal collections. Reports of the Society's activities were regularly published in two independent periodicals.

Unexpectedly, the leading figures in the early years were all cryptogamists. Dominant among these was R. B. van den Bosch, a small-town physician who held the Presidency for 17 years. The Vice-President was a former class-mate of his with the unfortunate name (to English eyes) of Dozy – though seemingly an appropriate one, for according to the author he "suffered from ... inertia and needed some stimulation once in a while".

For many years the Society was evidently content to remain a tiny coterie, with still only 44 subscribing members six years into its life. At the same stage the Botanical Society of London, by contrast, had an estimated 125. Following the death of van den Bosch in 1862 and of most of the rest of the founding group in quick succession not long afterwards, a period of discord and decay set in, work on the proposed national Flora came to a halt and the subscribers dwindled to a low of just 19.

At that point a series of important changes were fortunately put in hand. In contrast to H. C. Watson's unsuccessful attempt in 1866 to interest J. D. Hooker in accommodating the Botanical Exchange Club at Kew, the Dutch national herbarium agreed to both house and curate the Society's collection. The *Nederlandsch Kruidkundig Archief* was taken over to serve as the Society's official journal, in place of the previously informal relationship analogous to that between the Botanical Society of London and Newman's *Phytologist*. And the scientific remit was broadened and winter lectures introduced, with a view to gaining recruits among the now increasingly numerous biologists in the universities. But the potential friction between the latter and the field botany amateurs, which in Britain was accidentally side-stepped thanks to the privilege of its larger population which made it possible for separate societies for the two to flourish in parallel, had been underrated, and a growing hostility culminated in 1904 in a splitting of the Society into two

self-contained parts, each with its own journal. That failed to still the unrest, though, and in 1909 a further reorganisation was tried, this time into five autonomous sections. That proved a workable solution at last and the sectional structure has continued ever since. Of the six which exist today, three cover floristics-cum-conservation, vegetation science, and plant systematics and geography. The Society has not ended up, however, as the single national unitary body that this might suggest, for it does not embrace all aspects of botany and other societies exist today in The Netherlands which also cover ecology and phytopathology, for example.

Like the B.S.B.I., the Dutch society has had a continuing struggle since the Second World War to sustain the cost of publishing two journals. In 1952 it was forced to retreat to having just one, *Acta Botanica Neerlandica*, together with a yearbook to take less formal matter, just as the B.S.B.I. had to retrench in 1969 by sacrificing its *Proceedings*. With a membership with much more heterogeneous interests, however, the Dutch society could not hope to have a journal with the relative uniformity of contents enjoyed by *Watsonia* and there was scant room in the new combined journal for papers on taxonomy and distribution. Worse, at the same time page charges were introduced and in order to ensure an international readership it was stipulated that papers must be in English. These changes so infuriated the systematists that they successfully put up a rival candidate as President. As a result the journal was remodelled and a supplement, *Wentia*, introduced into which all lengthier papers were siphoned off. But that compromise eventually proved financially unsustainable too and *Wentia* had to be abandoned in its turn. Finally, in 1981, the Society decided that to hand over this side of its activities to a commercial publisher was the best solution.

Meanwhile plans to produce a national Flora had been revived in the 1930s. Only the first part of that had been completed, however, before the War intervened and though work on the project was subsequently resumed and further parts appeared, by the mid-1980s not only was commitment flagging but publication was questionably still affordable. The funds set aside for that purpose were therefore used instead to support the Society's journal.

A second major project on that front had a happier ending. This was the Instituut voor het Vegetatie-Onderzoek in Nederland (or I.V.O.N., for short), the Dutch predecessor, and in part inspirer, of the B.S.B.I.'s own Distribution Maps Scheme of the 1950s. Older members who attended the historic conference which gave rise to the latter will recall the long-bearded figure of Dr A. W. Kloos and the highly instructive (and encouraging) account he gave on that occasion of the methods developed and by then long in use for mapping the flora of The Netherlands. Formally an independent initiative, which began in 1930, I.V.O.N. had a similar effect in mobilising the energies of the country's field botanists and in so doing substantially supplanted for a period the work of the Dutch society's floristics section. Like the B.S.B.I. scheme, that one also culminated in being taken over and carried on by the State – in the Dutch case by that now-traditional saviour, the national herbarium in Leyden, of which in 1954 I.V.O.N. became a new and permanent department. In 1988 that story became even happier, when the role of that department was broadened to incorporate the Society's library, archive and herbarium as well. Under the title of FLORON this now assumed responsibility for co-ordinating all floristic work in The Netherlands flora (except for field meetings, which the Society continues to organise). It is as if 'Monks Wood' had been absorbed by a merged British Museum and Kew and then provided the B.S.B.I. with a full-time secretariat. Though the book curiously plays down this very remarkable dénouement, any readers on this side of the North Sea will surely find it hard to suppress some forceful pangs of envy. Sometimes it pays to be a smaller country.

D. E. Allen

Wicken Fen. The making of a wetland nature reserve. Edited by L. Friday. Pp. xvi + 306. Harley Books, Colchester. Hardback £37.50, ISBN 0-946589-33-X. Paperback £24.50, ISBN 0-946589-58-5.

There are two Wicken Fens: one is the story of the struggle to maintain a scrap of wild fenland in the midst of an arable prairie; the other is that of an outdoor laboratory, one of the most closely documented ecosystems in the world. Wicken Fen has been a nature reserve for nearly 100 years, since a few acres of it were purchased in 1899 and later handed over to the National Trust. When the Trust first acquired it, the Fen was regularly cut for peat, or cropped for sedge-thatch. When

these activities ceased, much of the open fen turned into a thicket. During the Second World War part of it was requisitioned by the Ministry, cleared and drained with great difficulty and turned into a farm. Today it is one of the most popular nature reserves in the country, with some 30,000 paying visitors each year. Wicken's is a story of changing human aspirations and expectations. Its managers have to juggle with the competing claims of tourism, education, research and preservation together with those of species and habitats, and all on a tight budget. It is not a story of unrelieved success - species like Fen Orchid (*Liparis loeselii*) and Swallowtail butterfly have died out for want of the right management - but it is an *interesting* story, and experience of Wicken has a relevance far beyond the boundaries of this small fen in Cambridgeshire. For many years it has been used as a classic example of nature conservation in practice, of habitat management, species monitoring and recording and, above all, of vegetation dynamics. It is important for itself but it is also important because it is famous.

This admirable book, produced to his usual impeccable standards by Basil Harley, charts the history and wildlife of Wicken Fen in considerable detail. It opens with a short introduction to Wicken and its Fenland neighbours by Norman Moore, followed by well-balanced sections on habitats and communities, flora and fauna, and the human dimension or the uses which the Fen has served during the twentieth century. Each chapter is written by a different author or group of authors, which leads to some unevenness of writing, but they have been edited into a book very competently by Laurie Friday, chair of the management committee, who herself contributes to no fewer than six chapters. Max Walters' chapter on botanical studies includes fascinating accounts of Wicken's well-studied plants, including *Viola persicifolia*, *Lathyrus palustris*, *Taraxacum palustre* and the reintroduced *Senecio paludosus*. The sections on history, by Terry Rowell, and the management of the fen, by Laurie Friday, Mike Lock and Tim Bennett, could be read with profit by the managers of any nature reserve in the land, and not just fenland ones. I am a firm believer in learning from detail (generalisations are always misleading). If you understand a place like Wicken, you are well on the way to understanding nature. If I had a criticism it is that the broader picture is often lost in the detail, and it is also not as easy to look something up as it should be. I also think that the authors have been a little too kind and understanding to their scientific predecessors, who sat back while the Fen dried out, or to farmer Bloom, who burned, dredged and ploughed Adventurers' Fen in the 1940s. The human dimension is described here more in terms of policies than personalities. But the book is a model of good natural history writing, and is well-illustrated throughout with diagrams and photographs, with a panel of 16 colour plates in the middle. The only book about a nature reserve that comes near it in my view is that by O. Rackham on Hayley Wood, also in Cambridgeshire, published over 20 years ago. The authors and publishers have done Wicken Fen proud and, as they say, established "a benchmark against which future generations may measure progress....and a blueprint for all those who are striving to maintain a viable Fenland environment." For such a book, it is fairly priced, and deserves to be widely read. A checklist of the flora and fauna is in preparation and will be published separately.

P. MARREN

Red data book for Cornwall and the Isles of Scilly. Edited by A. Spalding. Pp. viii + 479. Croceago Press, Camborne. 1997. Price £15.00. ISBN 1-901685-00-4.

Cambridgeshire's Red data book including Huntingdonshire, Old Cambridgeshire & The Soke of Peterborough. A. Colston, C. Gerrard & R. Parslow. Pp. 69. The Wildlife Trust for Cambridgeshire, Cambridge. 1997. Price £5.00. ISBN 0-952078-81-4.

The closure of the Cornish Biological Records Unit in 1996 was one of the disastrous consequences of the previous government's cost-cutting policies and this volume only goes to demonstrate what Cornwall and the UK as a whole might have lost as a result. What should have been one of the proudest products of that Unit 24 years after its foundation in 1972 had to be published privately by a federation of biological recorders in Cornwall and the Isles of Scilly after the records had been rescued from the Exeter University Centre in Redruth.

This remote, but very special, area of the British Isles has been wonderfully successful in producing or attracting an incredible biodiversity of biological recorders so that this Red data book

not only covers the marine environment as well as the terrestrial but deals with almost every taxonomic group omitting only, somewhat apologetically, Ephemeroptera, Plecoptera, Neuroptera, Megaloptera, Mecoptera and part of the Diptera. So, if your interest is booklice, bristletails, bumblebees, bats or Bryozoa, you will find them all here as well as the major plant and animal groups.

The result is that no less than 346 Red Data Species and 657 Nationally Scarce Species are listed and, though the book is in part a warning to the general public that wildlife is in danger in Cornwall, it is also a celebration of the enormous biological richness of the area – long appreciated by field botanists.

For the threatened Red Data Species there are sections on international, national and regional (v.c. l) distribution; habitat and ecology; degree and type of threat; and suggestions for conservation with species listed in *Biodiversity: The UK Steering Group Report. Volume 2: Action Plans* given special prominence. There are brief accounts of Nationally Scarce Species and a list of additional species of particular interest in Cornwall.

The vascular plants are given very up-to-date treatment by Rose Murphy, ably assisted by Colin French and Rosemary Parslow (Isles of Scilly), with details of the number of 1-km squares, post-1980, from which each of the Red Data Species has been recorded.

It is good to know that the work of the dedicated team will continue to flourish in collaboration with the Cornwall Wildlife Trust and now forms a major part of the Environmental Records Centre for Cornwall. There can be few if any other areas of the British Isles which have been so thoroughly recorded and this publication is a credit to all concerned: it seems remarkably free of errors though the inclusion of *Centaurium scilloides* within the umbellifers is a curious lapse.

Cambridgeshire's Red data book covers the same ground as the Cornish model but, perhaps because the county lacks a Records Centre, it lacks the same thoroughness and, to judge by the vascular plant account alone, is prone to error – authors of three of the four Floras of Cambridgeshire cited have their names spelt wrongly!

The entries for each species are minimal and often give less information than is available in *A Checklist of the Flora of Cambridgeshire* (1983) e.g. "*Hernaria* (sic) *glabra* Dry sandy ground in vc29". In contrast the entries for the vertebrates are extensive and informative, including Cambridgeshire and UK status and proposed conservation action where needed. Though English names from *English names of wild flowers* have been used their punctuation is chaotic with a random use of capital letters and hyphens.

The selection of plants does not distinguish clearly between native, established and casual species and one questions the value of including "*Cynodon dactylon* Still occurs as a rare casual in vc29?" in the "Near Threatened species" category between those special native Cambridgeshire plants *Cirsium tuberosum* and *Phleum phleoides*. The former has the curious distinction of appearing twice as it also occurs (as *tuberososum*) amongst the Nationally Scarce Species (an error) – with different dates of last record/extinction! One wishes that the strong editorial hand of Adrian Spalding in Cornwall, which ensured the high standard of accuracy and uniformity of coverage between groups, had also been available in Cambridgeshire.

F. H. PERRING

The phytogeography of northern Europe (British Isles, Fennoscandia and adjacent areas). E. Dahl. Pp. xii + 297. Cambridge University Press, Cambridge. 1998. Price £60.00. ISBN 0-521-38358-7.

It is a pleasure to review a book that recalls the personality and individuality of a friend and colleague. I first met Eilif Dahl 50 years ago and shortly after this we visited Teesdale together, where, as always, his energy and enthusiasm were immediately evident. We walked to High Cup Nick and back on a day when the temperature rose to 25°C and, even though the arctic-alpine flora may have kept cool by evaporation or heat transfer from narrow leaves, we did not, perhaps because we scarcely stopped talking all the way. Whether one agreed or disagreed with particular explanations which Dahl advanced for what we saw, his ideas were challenging and inspiring, and he could never be faulted on bad science. His knowledge of the Norwegian flora was profound and extended to bryophytes and lichens (then neglected groups in Britain). The war had brought Dahl to

Britain and the knowledge of the British flora which he rapidly acquired is displayed throughout the book. We must thank Gro Gulden and John Birks for completing the unfinished manuscript.

I share with Dahl a basic philosophy of biogeography which is set out on p.10 in the first chapter. Correlations between distributions of species and environmental conditions are important indicators but cause has to be sought in terms of physiological and ecological mechanisms, and, I would add, confirmed by experiment. Chapters two and three discuss climatic and edaphic controls of plant distribution. One of my few criticisms is that the account of the influence of soil is too brief. For example, the response of plants to calcium is treated but surprisingly not the influence of limestone (calcium carbonate). Chapter four considers the historical events since the Tertiary which affect the distribution of species. It includes a summary of Dahl's fascination with the geological evidence for the existence of ice-free (unglaciated) areas, close to the Atlantic but far to the north of the southern limits of glaciation, where some species may have 'over-wintered'.

The following chapters are then devoted to each of the main geographical elements of the European flora and the analysis includes examples of Dahl's conversion of climatic data, either into measurements which are directly related to particular geographical elements (for example, maximum temperatures at the highest altitude in each 50×50 km square of the *Atlas Florae Europaeae* grid for comparison with the distributions of arctic-alpine species), or into parameters which represent physiological responses of plants. Chapter nine examines the intriguing problems of endemics and of highly disjunct species.

There are several appendices, of which the second (72 pages) lists all the species of vascular plants in northern Europe, their status and, where possible, the relevant climatic parameters which may influence their distribution.

This is a book of special interest to members of the B.S.B.I. who have contributed so much to the raw material on which such studies are based. The subject is directly relevant to predicting the consequences of global warming but maps which show striking correlations are all too often interpreted simplistically. Dahl shows that the physiological controls are not simple, neither are ecological responses: for example, the geographical limits of many species were determined at a time when conditions other than climate were very different from the present. Human influence has been very potent causing fragmentation of habitats, erosion of soils, changes in plant communities and animal populations etc. We must expect such factors to interact with climatic change and the outcome may be very different from what has happened in the past, or from predictions based simply on adjusting isotherms.

C. D. PIGOTT