BOOK REVIEWS

Atlas of the British Flora. Edited by F. H. Perring and S. M. Walters. Pp. xxiv + 432. Botanical Society of the British Isles and Thomas Nelson and Sons Ltd., London and Edinburgh, 1962. Price £5 5s. 0d.

The proposal for mapping the distribution of British plants made by Professor A. R. Clapham at the B.S.B.I. Conference in 1950 has been most faithfully and ably implemented under the editorship of Drs. Perring and Walters. Between 1954 and 1960 over 1,500,000 field records, contributed by some 1,500 amateur and professional botanists, as well as a vast accumulation of data from literature and herbaria, were sorted and, by ultra-modern mechanical methods, tabulated on to maps.

The superlative volume which was the end product of this activity was made possible only by the support of the Nuffield Foundation and the Nature Conservancy, who generously financed the scheme from its inauguration.

The *Atlas* contains over 1,600 maps, preceded by a 15-page introduction covering the history of the mapping of plant distribution, an account of the origin and history of the B.S.B.I. Maps Scheme and details of the production of the *Atlas*. The maps are arranged, in most cases, four to a page, and on them are depicted the distributions of about 1,700 species of flowering plants and vascular cryptograms which are found in Great Britain and Ireland. The basic recording unit is the 10 × 10-km. square of the Ordnance Survey National Grid, and each map contains approximately 3,500 of these. It is indeed an achievement that all but 7 of the 3,500 squares were visited by botanists during the course of the survey and floristic lists compiled from each of them.

A brief study of some of the maps quickly reveals a number of interesting facts – the truly southern distribution of such species as *Euonymus europaeus*, *Tamus communis*, *Rosa arvensis*, *Viburnum lantana* and *Euphorbia amygdaloides*. The typical northern distribution as shown by *Polygonum viviparum*, *Betula nana* and *Juncus trifidus*. The western distribution of *Lotus hispidus* and *Rubia peregrina*, and the eastern distribution of *Chenopodium botryodes*, *Trifolium ochroleucon*, *Verbascum pulverulentum* and *Sonchus palustris*. The scarcity in Scotland, and in Ireland, of such common lowland English weeds as *Aethusa cynapium*, *Euphorbia peplus*, *Convolvulus arvensis*, *Tragopogon pratensis* subsp. *minor* and *Hordeum murinum*. The paucity in western England of common southern plants like *Silaum silaus*, *Bryonia dioica*, *Lysimachia nummularia*, *Primula veris*, *Galium verum* and *Carex hirta*, and the very restricted distribution of *Oenanthe crocata* in East Anglia. A more detailed study of the maps shows that the rarer species have been very well documented, but that, in southern England at least, many common species have been under-recorded.

The 10 × 10-km. square is undoubtedly a much more adequate recording unit than the vice-county, though, unfortunately, the placing of a single dot within a square still does not indicate the frequency of a species within that square. Thus, for *Clematis vitalba*, the dot in 51/28 represents isolated occurrences about Willesden, Kingsbury, Highgate and Hampstead, where the plant is an introduction, while the dot in 51/09 represents the species as abundant and native. Many other instances come readily to mind. It is, however, very difficult to see how this problem may be overcome without introducing a mass of symbols indicating different degrees of frequency or rarity.

The selection of species to be mapped must have been a complex one for the eminent committee appointed for the task, and so far as native species are concerned there appears to be little to criticise. The choice of alien species is less satisfactory, and too many well-established species have been excluded – to name but a few – *Sisymbrium loeselii*, *Rosa rugosa*, *Astrantia major* (perhaps native in Salop?), *Falcaria vulgaris*, *Erica lusitanica*, *Trachystemon orientalis*, *Campanula medium*, *Cicerbita macrophylla*, *Lagarosiphon majus* and *Lilium pyrenaicum*. Was it lack of data, or space, that compelled their exclusion? If not, I feel that they have as great a claim to inclusion as *Fagopyrum esculentum*, *Rorippa austriaca*, *Coronilla varia*, *Laburnum anagyroides*, *Cerastium tomentosum*, *Sedum spurium*, *Tilia* × *europaea* and *Phalaris canariensis* – the latter, in particular, does little more than plot the distribution of pet-birds and rubbish-tips.

Hybrids are mostly excluded, though a map is given of the distribution of *Apium nodiflorum* × *repens*. I should like to have seen maps of *Equisetum* × *litorale*, *Geum* × *intermedium* and *Senecio* × *ostenfeldii* but it is likely that these will appear with others in the critical supplement to the *Atlas* now in the course of preparation.

Subspecies are also omitted with the exception of those of *Arenaria norvegica*, *Armeria maritima* and *Asparagus officinalis*. It would have been useful if others had been given, particularly *Fumaria muralis*

subsp. *boraei*, which has a very different distribution from *F. muralis* subsp. *muralis*. We are, however, promised a further selection of subspecies in the critical supplement.

Looking through the maps a number of random points come to mind – is not *Clematis vitalba* native on the Magnesian Limestone of Yorks. and Durham? How many of the dots on the map of *Ranunculus aquatilis* refer to *R. peltatus* which is best regarded as a distinct species? The 'introductions' shown for *Aconitum anglicum* may well refer to hortal forms of *A. napellus*. Are many of the old records of *Chenopodium urbicum* valid – or were they merely forms of *C. rubrum?* *Herniaria glabra* is shown as a casual in 51/18, yet it has persisted as an introduction in the 'square' for at least 20 years. *Silene nutans* could be found in its Surrey (51/17) station well after 1930. May not *Euphorbia lathyrus* be native in some woods in southern England – particularly in Surrey and Sussex? *Anthriscus caucalis* is often only casual in some of its inland localities.

The method of using different symbols on a single map to show pre- and post-1930 records is a very good one that could have been usefully extended to many other diminishing species, e.g. *Berberis vulgaris*, *Erophila verna*, *Viola palustris*, *Geranium lucidum*, *Saxifraga tridactylites*, various species of *Potamogeton* and *Orchis simia*. It is helpful also in showing the spread of a number of adventive species, e.g. *Impatiens capensis*, *Heracleum mantegazzianum*, *Buddleja davidii* and *Veronica filiformis*, since 1930. Curiously, *Impatiens glandulifera* is not included under this method.

Yet another useful idea is the system of showing inland records on railway ballast of certain coastal species. e.g. *Cochlearia danica*, *Cerastium atrovirens* and *Corrigiola litoralis*.

A major feature of the work is the inclusion of a series of transparent overlay maps which nestle neatly in a pocket at the end of the volume. These show rivers, vice-counties, altitude, location of chalk and limestone, average temperatures, humidity and rainfall. It is by the combined use of the overlays and the maps that the correlations between plant distribution, climate, altitude and soil are revealed and a veritable mine of information made readily available. This is the vital purpose for which the *Atlas* was created, and for which contributors and editors alike may take the greatest credit.

An appendix lists vice-county records excluded from the maps, usually because of the absence of localized records.

Lastly, there is a short bibliography, which in my opinion is quite inadequate for a work of this importance; and it is an important work – one of the most significant books published on the flora of our islands. It will remain for ever a monument to the enthusiasts who created it.

D. H. KENT

Native Wild Plants of Eastern Canada and the adjacent northeastern United States. F. H. Montgomery. Pp. xxxvi + 193, with 24 small coloured plates and 298 line drawings in the text. Toronto: Ryerson Press. (Agents: Bailey Bros. and Swinfen Ltd.), 1963. Price £2 2s.

California Desert Wild Flowers. Phillip A. Munz. Pp. 122, with 96 colour photographs and 172 line drawings in the text, 2 maps. Berkeley and Los Angeles: University of California Press (Agents: Cambridge University Press), 1963. Price £1 4s.

Here are two more little flower-books, both written *con amore* by professors for amateurs in opposite corners of the North American Continent. Professor Montgomery's book, illustrated with his own drawings, will be appreciated by those who swear by our Collins 'Pocket Guide to Wild Flowers' but, as it deals with only about 400 native and mostly herbaceous wild flowers of eastern Canada, and excludes the grasses, sedges and ferns, it is perhaps more for the beginner on the spot than for the visitor from Britain. Prof. Munz's Californian desert book will have a wider appeal because it deals with a single, and most remarkable, vegetation type. I suppose that less than half a dozen of the strange and beautiful plants shown and described here will ever be found in Britain, even in gardens, but very many of us will visit southern California and, with vivid memories of Walt Disney's film or the Sherman Hoyt Cactus House at Kew, will want to brave the heat and the rattlesnakes. Prof. Munz tells us in less than three pages most of what we need to know about plant life in the Mojave and Colorado Deserts. His selected shrubs and herbs – with such fascinating common names – are placed in five sections, the first devoted to ferns and cone-bearers while the remaining four are based on flower-colour.

N. Y. SANDWITH

Skånes Flora. Henning Weimarck. Bokförlaget Corona AB, Lund, 1963. Price 45 Swedish Kronor

Skåne, the southernmost province of Sweden, has a rich and interesting flora. Professor Weimarck's new account of it (in Swedish) will be welcomed by botanists interested in phytogeography and taxonomy as well as by those who live in or visit the region covered.

To the English reader this book contains some features which will be unfamiliar in local floras. Most important of these is that it really is a flora in the fullest sense of the word. It contains clear but concise descriptions of families, genera and species, as well as keys for identification, so that it forms a complete field guide to the vascular plants of Skåne. Chromosome numbers are also given, those determined from native material being distinguished by asterisks; these provide impressive evidence of the activity of Swedish cytologists.

Ecological and distributional data, including the presence or absence of species in the neighbouring provinces and in Denmark, are also given, and there is a good glossary.

The book embodies the results of many years of botanical exploration carried out by Professor and Fru Weimarck, at first by bicycle and later by car, with the assistance of a number of others. It is excellently printed and strongly bound, and provided with a useful map. It can be strongly recommended to anyone interested in Swedish plants and is a necessity for botanists visiting the beautiful and still largely unspoiled province of Skåne.

T. G. TUTIN