

REVIEWS

Drawings of British Plants. STELLA ROSS-CRAIG. Part III: Cruciferae; 77 plates. 1949. London: G. Bell & Sons, Ltd.; 9/- net.

The third volume of Miss Ross-Craig's *Drawings of British Plants* is devoted to the *Cruciferae*—a family which, judged at any rate by its British representatives, must surely be ranked among the less attractive. Such genera as *Barbarea*, *Sisymbrium* or *Brassica* provide, at the best of times, somewhat uninspiring material for the draughtsman's art; and when the artist aims also to compress, into an area of barely eight inches by five, not only a life-size portrait of each species, but also numerous magnified drawings of flowers, fruits and other morphologically or diagnostically important parts, the difficulties to be surmounted become truly formidable. It is, as a matter of fact, open to question whether such rigorous compression is really necessary: these volumes in their present form seem to me to fall needlessly between two stools. They are not, nor with their avowed objectives could they possibly be, small enough to be conveniently carried on excursions into the field; and so, their place being in the library, it would appear that they might with advantage have been considerably larger. None the less, assuming that there is indeed some good reason for the present size, Miss Ross-Craig deserves our warmest congratulations and thanks for the determination and skill with which she has set about her task. She has given us, in this third volume as in the first two, what are, in my opinion, at once the most useful and, for the most part at least, the most aesthetically satisfying drawings of British plants that have yet been published. When the complete work is available, it will be an invaluable addition to the libraries, not only of those teachers and students for whom it is especially intended, but also—and perhaps even more so—of those amateurs who, like myself, have never yet had the good fortune (or maybe the initiative) to attend a botany class.

Anybody who attempts to review a publication such as this is almost bound to do so, I suspect, from a largely subjective standpoint. When he looks critically at a drawing of a plant, he tends to compare that drawing, not with a living specimen—not, at any rate, in the depths of winter—but either with a herbarium sheet, which is certainly a false criterion, or simply with his own mental picture of the plant, which may or may not be tolerably accurate. It is perhaps relevant to say, before I embark on a number of tentative comments, that I am writing at a season when fresh specimens are not to be found and in a place far distant from a herbarium. So fully am I aware that my impressions, with one exception, are subjective, that I shall not be in the least surprised if the next botanist with whom I discuss the work disagrees with them all.

There is, however, one objective criticism—the exception just mentioned—which can, I think, be fairly levelled at the present volume. The British *Cruciferae*, like all too many other families, present certain taxonomic problems which are as yet by no means finally solved. It is of course true that the form and purpose of Miss Ross-Craig's work compel her, first, to reach a conclusion on such problems, and then, however tentative that conclusion may be in her own mind, to present it to others in a dogmatic manner. But even so it comes as something of a surprise, to me at least, to find on Plate 33 the legend "*Cochlearia alpina* (Bab.) Wats. (syn. *C. micacea* E. S. Marshall, ? *C. scotica* Druce)." It may be, I suppose, that recent work on the British *Cochlearias* has led to the conclusion that there is no valid distinction between *C. alpina* and *C. micacea*; but since the opinion is still widespread that these two—to say nothing of the plant of the far northern coasts—are separable species, it does seem to me that a brief note, or possibly, if some pronouncement on the subject is already accessible, merely a reference, either at the bottom of the page or in the Introduction, would be a great assistance. Again, when *Brassicella monensis* (L.) O. E. Schulz and *B. Wrightii* O. E. Schulz are both very properly included, the omission of *B. Erucastrum* (L.) O. E. Schulz seems to call for a word of justification. Are we to assume that Miss Ross-Craig does not regard *B. Erucastrum* as specifically distinct? Have the complexities of nomenclature led to some confusion with *Erucastrum gallicum* (Willd.) O. E. Schulz? Or is it simply excluded on the quite different but surely erroneous ground that it is only a casual? None of these explanations seems very plausible; and yet one of the three, I take it, must contain the answer. I would most strongly urge that in each future volume of the series there should be included, either as well as or, preferably, in place of the general Introduction, a particular introduction dealing very briefly with such taxonomic questions as the volume raises. Otherwise there will surely be many others besides myself who, even if they agree with the conclusions presented, will still feel slightly frustrated at the total absence of explanation of how those conclusions were reached.

A somewhat similar objection—though one, I admit, that probably falls into the subjective class—might be raised against the inclusion of certain dubiously British species to the exclusion of certain others. "No casuals are illustrated," says Miss Ross-Craig in the Introduction, "nor escapes from cultivation which are of extremely limited distribution, such as *Paeonia mascula* Mill. and *Corydalis lutea* (L.) DC.;" and though, a few lines lower down, she adds that "there may, however, be occasional departures from the plan outlined above," yet even so, if no further explanation of such "occasional departures" is forthcoming, then they are likely to strike many who use the book, as in fact they strike me, as somewhat arbitrary. My own very slight acquaintance with, for instance, *Conringia orientalis* (L.) Dum. in Britain would lead me to conclude, though very probably wrongly, that in these days at least it is the merest casual; while, as an inhabitant of Cambridge, I

would certainly have described *Arabis Turrita* L. as both an "escape from cultivation" and "of extremely limited distribution." When, therefore, I find these two plants included, I begin to wonder whether there are not many others whose claim to inclusion, though rejected by Miss Ross-Craig, is at least as strong. But then, since every field-botanist's notion of what should be included in a Flora of Britain inevitably varies according to his personal experience, this criticism has, probably, little or no weight.

So much for the form and content of the book. As for the drawings themselves, which are after all infinitely the most important part of the book, I have little to offer but unqualified approval. Almost all the life-size drawings are not only very faithful but also beautifully designed; and two in particular, those of the two recently separated species of *Nasturtium*, seem to me to call for a special word of gratitude. In one instance only Miss Ross-Craig shows that she is not wholly immune to that commonest of all faults in plant drawings, the tendency to unnatural stiffness: *Arabis alpina* L., as it grows in the Cuillins, has usually a distinctly flexuous stem. In a few other cases—*Arabis Brownii* Jord., for instance, or *Alyssum alyssoides* (L.) L. (and incidentally the representation of the latter strikes me as on other grounds the least convincing in the volume)—an undue emphasis seems, at first sight at least, to be laid on the hairiness of the plant. But this impression of exaggeration is no doubt due to the simple fact that, whereas the hairs are actually silver or white, they can only be reproduced in ink as black; and such a defect, being inherent in the medium, can probably only be avoided at the cost of falsification. In any case there are but few instances where it obtrudes. Far more often was I impressed by the remarkable skill with which, in these life-size portraits, Miss Ross-Craig had succeeded in putting upon paper the very feel of the plants portrayed.

The magnified drawings of the various parts of the plant are equally skilful, and often also they are of the utmost interest. There can hardly be a botanist in the country who would not find something in these magnified drawings that he had never noticed before. Usually, too, they are grouped with great artistry upon the page. There are admittedly a few plates—1, for example, and 72—where the available space seems rather overcrowded; and occasionally, as on plates 21 and 64, the surround of magnified parts distracts attention from the principal drawing in the middle. In such cases I personally believe that, if a few of the less important parts could be omitted, the loss would be more than outweighed by the consequent gain in artistic merit. At all events there is no doubt that it is the lighter and more spacious plates—19, for instance, or 57—that produce the most attractive effect. But here, of course, even more than elsewhere, I speak not as a teacher or student of botany but as an amateur.

Incidentally, I have noticed two very trivial errors—the equivalent of misprints—in connection with these magnified drawings. On plate 1,

if it be true that the part of the leaf (C) is magnified by 12, then surely the hairs from the leaf (D) must be magnified by much more than 16. And on plate 43 we are not told—though we may perhaps succeed in guessing!—what K represents.

Very much the least successful part of Miss Ross-Craig's work is, to my mind, the small-scale drawings of complete plants. I have little doubt—especially since a large proportion of these drawings give the plant too strict and attenuated a habit—that this is due largely to the limitations of space; though I can but wonder also whether in some such cases Miss Ross-Craig has not been content to work from pressed rather than from living material. But, be that as it may, there are several instances—notably, perhaps, plates 1, 2, 36 and 50—where I should have been happier if these small-scale drawings had been omitted. I fully appreciate, of course, the importance to the beginner of a drawing of the whole plant; but unless such a drawing can be executed with the same admirable fidelity as characterizes the rest of Miss Ross-Craig's work, then here again I wonder whether its omission, by enabling the artist to lighten the page, would not eventually be more than offset by the incidental gain.

But even those, if any, who would endorse each one of my criticisms will agree that the sum of these deficiencies, when set against the many great merits of Miss Ross-Craig's work, amounts to very little. *Drawings of British Plants* will justly be in great demand, and they will undoubtedly stimulate yet further the already rapidly increasing interest in, and knowledge of, the British flora. It is a pity that, having so far reached only the end of the *Cruciferae*, the published parts of the work already cost almost £1; the complete work, even without binding cases, will presumably cost little under £12. Swayed by such considerations I originally decided that, as I could not afford the whole, I had better not start buying parts; and there may, I fear, be many others who are likewise discouraged. But for my own part I have now, after a detailed scrutiny of the third volume, been so impressed by the excellence and usefulness of Miss Ross-Craig's drawings that I have speedily relented and ordered the first two parts as well. And I look forward eagerly to the publication of the rest.

J. E. RAVEN.

British Plant Life. W. B. TURRILL, D.Sc. (Lond.), F.L.S. Pp. 315 with 53 colour plates and 27 black and white photographs, 8 distribution maps and 2 diagrams. London: Collins (The New Naturalist: 10), 1948; 21/- net [$8\frac{1}{2}$ " \times $5\frac{3}{8}$ "; cloth].

This book attempts to put before the general public certain aspects of the study of British plants which are not usually considered "popular." It is, perhaps, the first such attempt, since all previous popular books on British plants may be classed under three headings—taxonomic, aesthetic, nature study.

After two prefaces and an introduction, the author starts by giving a possible theory of the origin of life and a brief account of the fossil floras up to the Ice Age. These chapters seem too brief to be of much value and might, perhaps, have been omitted without anything being lost, leaving more space available for other aspects. The next two chapters deal with the Ice Age and Post-Glacial changes, some knowledge of which is essential for an understanding of the British Flora.

Chapter 6 deals with the Present Composition of the British Flora, firstly from the point of view of the number of species in different groups, and, secondly, from that of the Watsonian distribution types (it seems a pity that Watson's types were not adhered to and that the complication of sub-types was introduced).

The next chapter continues this with an account of the relationships of our Flora with other parts of the world (especially Europe). The grouping used is not quite that of Salisbury or Matthews and is, perhaps, preferable to either. It is, however, a pity that the so-called Steppe Plants are maintained as a separate group since it seems doubtful whether we have any true Steppe Plants in Britain. The "Arctic-Alpine" group, also, most of which occur in northern Asia and America as well as in Europe, seems misplaced as a sub-group of "General European Species." It is good to see Group 8—"species whose centre of distribution is the British Isles"—recognised as distinct, but would not *Oenanthe fluviatilis* be an even better example than *Spartina Townsendii*, whose range in the near future is unpredictable?

The next two chapters (55 pages) are on Ecology—the first concerned with habitat factors, the second with plant communities. The latter are grouped according to facies and little explanation of succession is attempted. This course seems the only possible one in the space available, but could not rather more space have been given to the subject? I should like to mention especially the author's plea for a careful investigation of ruderals and aliens. The author singles out *Veronica filiformis* for special mention though its spread is likely to be very different from that of *V. persica* with which he suggests it should be compared. *V. filiformis* is a perennial, does not grow on arable land and apparently never produces seed in this country whereas *V. persica* is an annual weed. *V. filiformis* is certainly well worth study especially as it is a comparative newcomer, so are such plants as *Buddleia Davidii* and *Epilobium pedunculare*, both also fairly recent naturalisations. It is to be hoped that these and any other plants that show signs of spreading will receive early study; we are too ignorant of the spread of such plants as *Rhododendron ponticum* and *Calystegia silvestris*, both now common in many places.

Almost all the remainder (116 pages) of the book is devoted to a study of variation, in a wide sense, and more especially of heredity. It is in these chapters that Dr Turrill's special knowledge shows to best advantage and which are, to my mind, the most interesting part of the book. The first chapter on "Variation" discussed the various

kinds that occur and their causes. The next, "Adaptation and Natural Selection," is given a very wide scope and includes such subjects as Halophytes, Mycorrhiza, Parasites, Pollination Mechanisms, Seed Dispersal, Germination, Ecotypes, etc., all in 45 pages and without leaving a feeling that more need have been said. There follows a chapter on the Study of Heredity consisting of examples of results of various genetical and cytological researches on various British plants. The examples are admirably chosen to cover a wide range from simple genetics such as *Senecio vulgaris* to the reduction division in *Rosa* and the *Salix* hybrids. The accounts given of *Silene*, *Saxifraga*, *Centaurea*, *Taraxacum*, etc., largely based on Dr Turrill's own work, show how well qualified he is to write on this subject.

"Continuing changes in British Plant Life" includes both ecology and evolution, the main text concluding with suggestions for further work and a passage on Nature Reserves.

Maps illustrating the Watsonian distribution types follow, and then six appendices on methods of study, elements of genetics and cytology and a short list of County Floras of which one or two such as Druce's of West Ross and of Zetland and Babington's of Cambridgeshire—still better than Evans'—are strangely omitted. The appendices, especially those on genetics and cytology, are perhaps rather too condensed and we are given new numbers for the Irish vice-counties, an innovation—due apparently to the editors and not to the author—to be deplored.

A list of references, a glossary and an index concludes the book.

As seems inevitable with coloured photographs, the plates are uneven and, as seems usual in this series, the close-ups are much better than the vegetation pictures (Box Hill, Pl. 28, looks like a Mediterranean scene). The plate that pleased me most was that of the two Oaks (Pl. 20); I have never seen an illustration of them which brings out their differences so well. Others which may be especially praised are *Tamus* (3), *Lathraea* (21), *Ajuga Chamaepitys* (39) and *Myosotis alpestris* (8).

There are few errors, but *Nyssa* (p. 34) is not a Palm nor have I ever seen *Linum catharticum* (p. 45) on cultivated or waste ground. *Lobelia Dortmanna* (p. 54) belongs to Watson's Scottish, not Intermediate, type and there is a curious misprint on p. 62 where *Arabis stricta* is called "British" instead of "Bristol" rock-cress.

There is, as is to be expected, scope for difference of opinion, and there are a number of statements which may mislead. *Scrophularia aquatica* (p. 60) is not—except in a very wide view of the species—a "widely distributed species" but is a West European one; *Carex Grahami* and *Primula scotica* are endemic and should not be called "Arctic and Sub-Arctic," even though their near relatives may be such. *Trientalis* and *Pyrola* spp. (p. 103) are, in the main, woodland species, though they sometimes occur on moors. Plate 23 is clearly the hybrid with *Crataegus monogyna* and not *Crataegus oxyacanthoides* itself. Primary *Sorbus* hybrids (p. 107) are undoubtedly rare and the

majority of local *Sorbi* are microspecies, though some are probably of hybrid origin; the author's contrast here is a false one. *Populus tremula* (p. 108) is surely native. *Salix aurita* must be extremely rare in oakwoods, and the typical woodland hawthorn is *Crataegus oxyacanthoides* (p. 110). Neither the Beech nor the Dog's Mercury (p. 151) can fairly be called calcicoles, as Dr Turrill himself shows for the former (p. 106).

These are, however, minor faults and the book as a whole is worthy of high praise. It should be possessed by all who have an interest in the British Flora. To those who hitherto have only been interested in "wild flowers" it will be a revelation and will give them an insight into the scientific aspects of the subject; for all of us it will contain information and ideas that are new.

One final criticism—I am left wondering if too much has not been attempted. The early chapters contain much that will interest those without botanical training but little that is new for the experienced botanist or botanical student. The later chapters will be valuable for the latter, but may they not be too difficult for the former? There is almost too much information. It might have been preferable to have made two books, one for the historical and ecological aspects and one for the evolutionary and genetical ones. This would have allowed for more explanation and longer descriptions which, in the ecological section (in particular, beechwoods), are sometimes so short as to be misleading.

E. F. WARBURG.

A Record Book of the British Flora. A list compiled by GEO. HAZZARD. Pp. 144. Ashford, Kent: L. Reeve & Co. Ltd., 1949; 7/6 net [7¼" × 4¾"; cloth].

A Nature Record Arranged for Five Years. Compiled by BRIAN R. HARRISON. Pp. 96. Ashford, Kent: L. Reeve & Co. Ltd., 1949; 7/6 net [8½" × 5½"; cloth].

These two little books are of a similar character; both are designed to enable the user to record his own observations, for which spaces are provided. They will doubtless prove useful for those who like to keep their observations in this form and who like to be guided as to what to record.

The first, concerned entirely with plants and apparently mainly intended for schoolchildren, purports to give a list of those species figured in Fitch & Smith's *Illustrations of the British Flora* and Butcher & Strudwick's *Further Illustrations of British Plants*. Species are provided under each plant for "Date identified," with separate spaces for "Day" and "Month" in "Leaf," "Flower" and "Fruit" and one column only for "Station where the plant was first found." Nothing for habitat, and the space for the station is only one and a quarter inches (although the dates have two and a half inches) and with no

room for two lines of writing! Furthermore, I have found over 75 scientific names wrongly spelled—not including cases where capital letters have been used instead of small ones and *vice versa*, of which there are over 50; this is inexcusable in a compilation of this kind. Nor has the compilation been intelligently done; for example: we are given 486. *Valeriana officinalis* (from Fitch & Smith) followed by 213. *Valeriana officinalis* (from Butcher & Strudwick) but no explanation of Butcher's reason for figuring the plant again, namely, that he considered the earlier illustration to portray *V. sambucifolia*. I cannot recommend this book, though it has its virtues—good print, good binding and a convenient size for the pocket.

The second book is more attractive and perhaps more valuable though less concerned with Botany. Spaces are provided for weather records for each month and for recording "Flowers, Trees and Shrubs," "Butterflies, Insects, etc.," and "Birds Nests" or "Bird Song" with a space for the date (for plants, presumably, that of first flowering). Thirty-seven blank spaces for species are available for each group, each month. Between each monthly chart are pages of proverbial weather-lore for the month and lists of flowers, birds and insects to be expected.

E. F. WARBURG.