

REVIEWS

Flora of Gloucestershire—Phanerogams, Vascular Cryptogams, Charophyta. Edited by H. J. RIDDELSDELL, G. W. HEDLEY, and W. R. PRICE. Pp. clxxxii, 667, col. frontisp., pls. xliii, 2 maps inset to text, 4 maps in back cover pocket. Published by the Cotteswold Naturalists' Field Club, c/o The Art Gallery and Museum, Cheltenham; printed by T. Buncle & Co. Ltd., Arbroath; 1948. Price 2 Gns.

At last a striking gap in our collection of County Floras has been filled, and we must congratulate the Field Club and its Editor on the production. Gloucestershire is a large county, and its flora is very interesting, as the work shows. The book will take its place among the good Floras, and if there is still a good deal to criticise, there are new features to be commended. It is, as usual with Buncle's work, well printed; the numerous illustrations of vegetation and scenery, and of interesting species, being mostly very good and some really beautiful, though I am fearful of losing my plates xiv/xv which arrived only half sewn. In addition to the map showing the botanical districts, we are given the County Council's coloured maps of soils, grasslands, and surface utilisation, and black and white maps of geology and rainfall among the text. The font used for the names of aliens is too inconspicuous: it is at times difficult not to overlook these records.

The botanical subdivisions, which ignore the division of the county into vice-counties, were made by Riddelsdell "roughly to represent drainage areas," so that we cannot immediately see which of the localities in divisions 2, 6, and 7b fall into which vice-county, which is a pity, as it could easily have been indicated, but the vice-county distribution of each species, including that of neighbouring vice-counties, is given immediately after the species name. The date of the first record for each vice-county is, however, given after the records. The true vice-county boundaries are fully explained, based on maps prepared by the boundary section of the Ordnance Survey, which, it should be added, were made at my request. A drainage system is indeed the most generally suitable basis for a distributional district, but scarcely, as the Editor suggests, "a physiographic unit combined with its vegetational type," for the latter will depend on so many factors that it will never have a precise boundary.

The long Introduction deals successively with geology (by L. Richardson, F.G.S.), the geological history and its influence on physiography, the superficial deposits, climate, prehistoric vegetation (from peat deposits), vegetation and altitude, vegetation, woodlands, changes due to the war in the Ashchurch area (by C. W. Bannister), agriculture, vice-county boundaries, botanical districts, botanical statistics (comparison

with adjacent counties), history of botany in the county (with useful index), lists of records and of specialists and herbaria consulted, plan of the Flora, lists of signs and abbreviations. From which it can be seen that the final editor, W. R. Price, has been at great pains to make the Flora complete, as most of the items seem to have been prepared by him. But one may here add that it is a pity that the page headings throughout the work give no indication of what the pages contain. In the Introduction even the heading "Flora of Gloucestershire" is omitted, and the indication of the section, or of the genus in the body of the work, would have saved unnecessary turning of pages and waste of time.

The Flora was based on a MS. by Riddelsdell, and the "whole Flora undertaking" was "reorganised" by Hedley "at a time when there was a real danger of its lapsing," without whose interest "it is doubtful whether the Flora would have been completed." But both of these died in 1941, and though the appearance of their names on the title-page is understandable (though "the late" should have been added, one feels), the real work of editing must have been done by W. R. Price, to whom a debt of gratitude is due that it has been completed.

A few comments on the Introduction are best made here. The items are well done and pleasant to read, but under Vegetation the view is held that "it is probable that a sparse tundra type of vegetation, which no doubt resembled that existing in Greenland to-day, survived the rigours of the last glaciation." If the writer had put "the maximum glaciation" he would have had supporters, but in any case comparison with Greenland, so much farther to the north and without an ocean to its west, is, as I have frequently remarked, an unjustifiable one. It is difficult not to avoid the conclusion that *Sorbus bristoliensis*, only known from the Avon Gorge, is probably, like other endemic restricted *Sorbi*, a survival of that glaciation, together with the remarkable series of other local Avon Gorge species. Such statements are best avoided when they are unsupported by any evidence. Regarding the woodlands, the green line of beechwood on the narrow outcrop of carboniferous limestone on the Forest of Dean escarpment above Coleford appeared to me in 1912 to indicate that beech was native in Britain, a fact since proven by pollen-analysis, though Tansley would not agree at the time. The historical section is well done and interesting, though it is difficult to understand the order of entries which, though generally in historical order, departs from dates of both births and deaths. G. E. S. Boulger's part in the production is properly recognised. Under Plan of the Flora it is not clear whether the remarks on the term "Native" are due to Riddelsdell or not, but surely that term should be restricted to those species which arrived without the assistance of man, i.e., by "natural" processes. For though man is part of Nature, much of the interest in the study of distributions lies in eliciting therefrom the botanical history of the area and the principles of natural distribution without the interference or assistance of that rather unnatural species, man, whose activities have con-

siderably obscured at times the movements of plants; i.e., distribution without the aid of his ships and his habit of moving about all over the place regardless of topography, climate, and other factors which, until his advent, controlled the distribution of species. Thus, though it is stated, that doric type is used for natives, it is also used for denizens such as *Geranium striatum* and *G. phaeum*. In my opinion, the test of "native status" should be the ability to refer the species to one or other of the natural ecological associations which occur in the area. If a species cannot with certainty be listed as a constituent of any natural association in the area its native status is suspect. Study of our British species from this angle is needed: *Lamium album* is presumably only a denizen, whereas *Galium Aparine* is native as a constituent of maritime shingle in many places, and *Stellaria media* seems to be a constituent of some northern maritime sand associations. Further information may be expected from study of our post-glacial deposits.

There are many criticisms that can be made about this and that in the main body of the work, but before making any one may commend the insertion of a gazetteer of place names, and the serious attempt at a bibliography, which, however, is not complete. The latter should have contained references to where descriptions of many of the varieties listed could be found. There are too many worthless varieties included without comment. Records of them must be included for completeness, but when they are worthless it could have been incidental mention: *Sagina procumbens* var. *spinosa* is an example. The work is, perhaps unavoidably, uneven, inasmuch as all available sources of information have not been tapped. No County Flora can be thoroughly done without investigation of material available at the British Museum. *Salicornia* contains no mention of *S. dolichostachya*, although Marshall's Beachley specimens were so determined by Moss, and the obvious course would have been to collect material and send it for determination. The Severn form of *Cochlearia anglica* is the var. *gemina* Hort, originally described from the Wye. Riddelsdell's herbarium was not revised. It is stated that Nelmes has investigated the herbarium material of *Carex* of the British Museum, but this is incorrect.

The nomenclature is open to a good deal of criticism. Initial capitals are sometimes used where required in specific epithets, and sometimes not. A County Flora is not the place to make innovations in nomenclature, for foreigners will need to investigate them, and it is not proper to require that to do so they must buy such works. Although an attempt to meet this difficulty to some extent has been made in the form of a list of new names and combinations made (p. 624) the necessity of citing these as of "Airy Shaw in Riddelsdell, Hedley and Price" is something that should have been avoided by their prior publication elsewhere. For the same reason new species should not have their original publication in such a work, especially as I understand that inadequate surplus is available for foreign purchase. Some of the names

used have long ago been shown to be wrong. An instance is *Galium hercynicum*, used for *G. saxatile* L., due to Linnaeus's erroneous assumption that Barcelonette was Barcelona in "Hispania," where the plant does not grow. *Carex filiformis* L. should not have been used for *C. tomentosa* until the necessity for the change was fully established. There has been too much of this hurried change of name without full investigation, and County Floras should always be somewhat conservative in this matter. "Göüan" on p. 236 is a curiosity, and I know no justification for "Oe." to indicate *Oenothera*, since Linnaeus does not use a diphthong. There is rather too much tendency to accept foreign work in preference to existing British practise, as under *Viola tricolor* L. Again, a local Flora is not the place to introduce such things, and in this case it seems to be to show ignorance of the group. I could continue, but forbear. When a group has been revised by an expert, as *Ulmus*, *Carex*, and grasses, a local Flora, as here, benefits greatly, but anything of more than local interest should be published elsewhere. In the last two mentioned, the addition of keys for identification may be of much assistance to local botanists, and, indeed, the addition of the characters of some of the varieties mentioned elsewhere would have been of even more value when they are not to be found in the usual British Floras. Sometimes additional information would have been helpful in other cases. For instance, I am not clear what the St Brody record of *Orobanche crenata* (p. 372) rests on. If his specimen were an "imported" one of another species, and of the species he actually records, how does one know that the Stroud plant was in fact *O. crenata*? Failure to indicate this may cause enquirers to waste time.

Owing to the considerable time during which the work was being printed, an appendix of Addenda and Corrigenda was appended, to which were added revisions of the names of the *Rubi* and *Hieracia* according to Wm. Watson and Pugsley respectively. It may be wondered whether it is ever desirable to start printing until the MS. of a work is all ready, but one must not criticise unduly, when the main feeling is one of thanks for the production of such a useful work.

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Drawings of British Plants. STELLA ROSS-CRAIG. Part I: Ranunculaceae; 44 plates; 6/- net. Part II: Berberidaceae, Nymphaeaceae, Papaveraceae, Fumariaceae; 22 plates; 4/6 net. 1948. London: G. Bell & Sons, Ltd.

The two volumes under review represent the first two parts of a series which, when completed, will comprise illustrations of "all the thoroughly established flowering plants found growing wild in Britain," and in which it is proposed to incorporate eventually some 1,500 to 1,800 plates. The illustrations, which consist of excellent black and white line drawings subtended by brief explanatory legends, are prefaced by a foreword by Sir Edward Salisbury, followed by an explanatory introduction by the artist herself.

In accordance with inevitable restrictions of space, time, and the present state of general taxonomic knowledge, Miss Ross-Craig has had to impose a certain arbitrary but clearly defined limit to her range of subjects. Hence certain critical species and micro-species, varieties and forms, casuals, and chance escapes have been purposely excluded (possibly only as an interim measure).

The plates may perhaps most profitably be considered in relation to the three-fold function assigned to them by Sir Edward Salisbury in his prefatory remarks, namely, (a) as aids to identification, (b) as scientific documents, and (c) as objects of aesthetic pleasure. Of these, the second appears to tally most closely with the artist's own conception of their purpose "to provide a *standard* set of illustrations which will be useful, *for reference*, to all who are interested in the study of plants" (italics inserted).

As aids to identification, the actual illustrations may be very highly commended indeed. Not only have the specimens from which they were drawn the authenticity invariably associated with productions by Kew personnel, but the illustrations themselves combine scientific accuracy in minute detail with very clear and characteristic representation of the general habit and gross morphology of the individual species. A more debatable point concerns the *manner* in which the plates can best be used in identification by the students and teachers for whom it is avowed the illustrations are especially intended: in the absence of an accompanying text or key, the temptation will be very great to revert to the unscientific practice of "matching up the specimen"—a deplorable habit (though often very convenient!)

The main criticism which must be levelled at the conception of the plates as scientific documents—"a standard set of illustrations . . . for reference"—is the complete omission of all factual data concerning the origin of the actual individual plants portrayed. Very little extra space would have been required to insert at least the localities from which the specimens were gathered, and the value of the plates would have been greatly enhanced by the inclusion of such information. Moreover, although Miss Ross-Craig stresses that her specimens have been *compared* with specimens at Kew, it would be useful to know also whether a duplicate set of the actual specimens drawn is available in the Kew Herbarium for reference.

From the aesthetic point of view, the great majority of plates are very pleasing, with their subjects well arranged to fill the available space to the best advantage. In a few cases, however (notably in Part I, Plates 3, 5, 6, and 28, and in Part II, Plate 14), the general effect is confusing, due partly to the large size or diffuse habit of the specimens concerned, and inevitably associated with the very commendable effort to produce comparable drawings on the same scale throughout the series.

In looking back over the two volumes as a whole, as representing the fore-runners of an enterprising and ambitious series, it seems a

real matter for regret that the very considerable taxonomic research which has obviously gone into their production should not find expression in a brief related text issued simultaneously in companion volumes. Failing this, a short description of the main diagnostic features of each species, together with a brief mention of any important varietal forms omitted from the illustrations, might well be inserted opposite each plate. The work as it stands at present is somewhat tantalising.

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