A Flora of Turkey.* Readers of this journal, in which have appeared so many tempting *hors d'oeuvres* in the form of *Materials for a Flora of Turkey*, will be especially glad to see the first course appear at last in solid and definitive form. The banquet which is promised is of Edwardian dimensions, for there are to be seven more courses of approximately the same size and scope as that which is here proferred; and the strain on the energies of the *chef* and on the purse of the diners will be considerable. But those who have seen in action the obsessive devotion which Dr. Davis gives to the project will be confident that, granted adequate assistance, he will see it through. As for the expense, although the book is rather dear by British standards, it is only fair to say that if it had been published in Germany it would probably have cost at least 50% more.

Although there is scope for some criticism in detail, as will be shown below, any review must start by saying that this is in most respects a very good Flora indeed. One does not need to turn its pages for long to discover that its editor and authors have brought to the task not only courage and industry, but also good judgment and far-ranging scholarship. Nor must it be forgotten that behind the task of writing and editing lies the perhaps even greater labour of collection, for without the enormous mass of plants accumulated by Dr. Davis over the past two decades and deposited at Edinburgh and Kew the Flora would have been far less accurate and far less complete.

The book proceeds, in the main, on traditional lines. The order of families follows that of Boissier, "with a few alterations to bring it into line with modern opinion', In the present volume this means (apart from the inclusion of Fumariaceae in Papaveraceae, and the separation of Paeoniaceae from Ranunculaceae, with which few would quarrel) the bringing of Pteridophytes and Gymnosperms to the beginning, and the transposition of the order of Nymphaeaceae and Berberidaceae. This last change seems rather pointless, and it runs counter to at least one strand of "modern opinion" (Melchior's revision of Engler's *Syllabus*). We believe that in future volumes it would be best to follow Boissier rigidly for the *order* of families (which is, after all, a matter of no real taxonomic significance if higher categories than family are not employed), while changing their *content* in appropriate cases.

There is an excellent introduction, in which Dr. Davis condenses with great skill into 23 pages a lot of useful information on topography and phytogeography (including select bibliographies), as well as explaining the conventions which are used in the text. This is supplemented by three maps, which illustrate the modern administrative and the traditional subdivisions of Turkey, the grid based on latitude and longitude which is used as the primary basis for the citation of records, and the meaning of the phytogeographical units in Europe and Asia which are used for summarising the extra-Turkish distribution of species. These units are based partly on political and geographical, partly on vegetational concepts, and we rather doubt the wisdom of such a compromise. Afghanistan, a political but scarcely a natural unit, rubs shoulders with a mysterious 'Khorassan', which turns out to be N.E. Iran, stretched to include the Soviet part of the frontier range. And a 'Central Europe' which apparently includes Carcassonne, Stockholm and Bucharest but excludes Hanover and Koblenz is surely open to criticism. Frankly political or frankly vegetational units would have been better. But even if we quarrel over details we must be grateful to Dr. Davis for making so very clear the sense in which all his terms are used.

The area covered by the Flora includes the whole of Turkey (including the European sector) and those Greek islands of the Eastern Aegean which are excluded from the scope of *Flora Europaea*. This is a very reasonable decision, but it has the unfortunate effect that a few species (e.g. *Halimium umbellatum*) appear in a book which will inevitably be cited simply as *Flora of Turkey*, but do not, in fact, occur in Turkey. We suggest that, to save errors in compilation, such species should be listed or distinguished by a special mark.

Apart from an ugly dust-jacket and a rather precious title-page the book is very well laid-out and printed. The keys are, in the main, clear, straightforward and honest, but occasionally an over-complex alternative is presented which could have been avoided by a freer use of the multiple entries of awkward taxa. The delimitation of *Aethionema* from *Thlaspi* is certainly difficult, but the average reader will need a wet towel and a cup of black coffee before he can decide whether his plant does or does not agree with 'Annuals

**Flora of Turkey and the East Aegean Islands.* Volume 1. Edited by P. H. Davis, D.Sc., assisted by J. Cullen, Ph.D. and M. J. E. Coode, B.A. Edinburgh, The University Press. 1965. 567 pp. Price £8 8s.

or biennials, never with heterocarpic fruits, seldom with ± condensed fruiting racemes; or perennials, usually with white or yellow, seldom lilac flowers and with fruits winged or horned at apex only, or if with broad wing, then with a napiform root' (p. 252). This verbosity is, however, exceptional. The illustrations, of which there are 20 pages, each with some 15 figures of individual fruits, leaves or other critical organs, deserve a word of special praise. A delicate but confident line and a sensitive and accurate use of stipple-shading produces a result which is at the same time extremely informative and delightful to look at. We hope that if the same artist (Janet Dyer) is available, or if somebody else can be found to model their technique on hers, the number of illustrations may be increased in subsequent volumes. For this one could spare some of the distribution-maps which, although occasionally interesting, present in general little that could not be expressed in words, and in most cases are based on too small a number of records to produce a convincing or significant pattern. Sometimes this limitation is needless, as with *Rorippa thracica*, for which only 3 points are given, although 8 records, covering a significantly wider area, occur in the literature. Nor does the map always agree with the text; the map for *Cistus laurifolius* shows records in A6 and B4 which are not cited in the text, while the cited record for B6 does not appear on the map.

Dr. Davis tells us in his introduction that in the citation of individual records to illustrate the distribution of species in Turkey 'preference has been given to specimens seen. . . . Records have been accepted from the literature with considerable caution. What we have included depends very largely on the difficulty of identification and on the expertise of the taxonomist who named the plant'. Some interposition of this kind is inevitable, as one does not wish to perpetuate without comment obvious errors. But the exercise of such a God-like judgment on a large scale is rather a grave responsibility, particularly if it is performed silently as is usually the case here; nor is it made clear whether this censorship of literary records is left to individual authors or performed throughout by the editor. In most cases where a number of literary records are passed over in silence the reader has no idea whether this is deliberate or whether they have been overlooked. The latter must be, at least in some cases, the explanation; one surely cannot query on taxonomic grounds the two records for *Nymphaea alba* in the Istanbul area, which are here omitted. For *Berteroa mutabilis*, however, a species which can be (and has been) confused with others in the genus, a record by Formánek, unverified by Vandas, has been cited—perhaps the least reliable evidence that it would be possible to find. *Ranunculus sardous* is relegated to the category of 'species doubtfully or wrongly recorded'; doubtless there have been many misidentifications, but there is a good deal of solid evidence for its occurrence at least in European Turkey. *Equisetum sylvaticum*, on the other hand, appears as a numbered species (admittedly with a note that confirmation is required) on the strength of an unconfirmed record of Sibthorp's, which is, again, almost worthless as evidence. An author who seems to suffer most constantly and most unjustly from suppression is Hermann, who collected in the north-eastern part of European Turkey in 1927. He certainly made some mistakes, but he does not seem to be less reliable than the average. In particular, we can see no reason for casting doubt on his record for *Aurinia uechtritziana*, from a station exactly mid-way between the type-locality and one cited with approval in the *Flora*.

The reviewer can speak with authority only on European Turkey, and one can have some sympathy with Dr. Davis if he regards this as a tiresome step-child of his beloved Anatolia. But if the area is included its records should be adequately sifted, and it would appear that a large number of them have been passed over for no good reason which we can discern. The result is that we find no reference whatsoever in this volume to *Berteroa incana*, *B. obliqua*, *Crambe maritima*, *Viola hymettia*, *Fumaria rostellata* or *Cardamine pratensis*, although records for European Turkey exist for all and are, at least in some cases, probably correct. A larger number of species, though included in the Flora, are ascribed only to Asia, though there would seem to be no reason to doubt the European records; these include *Asplenium septentrionale*, *Nymphaea alba*, *Ranunculis illyricus*, *R. brutius*, *R. paucistamineus*, *Fumaria vaillantii*, *Armoracia lapathifolia*, *Arabis hirsuta*, *Myagrum perfoliatum*, *Alyssum tortuosum*, *Lepidium campestre*, *Helianthemum nummularium* (5 records!) and *Viola reichenbachiana*.

One is forced to the conclusion that the selection of literary records has been done rather capriciously, and this constitutes the one serious defect in the book. We hope that in future volumes some indication will be given as to which records are rejected and why. In any case we would query the general philosophy which exalts as high as this specimens examined by the authors, at the expense of literary records. Dr. Davis would seem to be

sawing off the branch on which he is sitting. With the publication of this *Flora* his own determinations now become "literary records". Does he wish future workers to treat them in as cavalier a way as he treats Hermann, Urumov or Širjaev, and omit them unless they have a chance of examining the specimens themselves? If this philosophy is pursued to its logical conclusion systematic botany becomes pointless.

Another defect in the presentation of records (which can, however, easily be remedied retrospectively in a later volume) is that there is no indication as to the herbarium in which a specimen is to be found, and for some of the literary records there is no reference beyond the author's name. We hope that Dr. Davis will soon provide us with an indication of where the different collections are lodged, and with a fuller bibliography, which will cover all works referred to in the text.

A number of small errors can be found, which indicate for the most part haste in editing and revision. The reduction of place-names to Turkish form has been only partly successful; one sees Rumelikavaghi as well as Rumelikavağı and so on; San Stefano appears sometimes with the correct modern version of Yeşilköy, but sometimes (p. 196) unadorned and sometimes (pp. 235, 247) with an incorrect equivalent. In quite a number of species the declared intention to allocate A1 and A2 records between Europe and Asia has not been implemented, and for *Ranunculus lateriflorus* and *Descurainia sophia* it has been done incorrectly. For *Anemone coronaria* and *Teesdalia coronopifolia* European records are cited, but are not taken into account when the distribution is summarised; the reverse is true for *Pinus nigra* and *P. brutia*. We are given no information about the type or locus classicus of *Fumaria vaillantii*. *Rorippa* '*sylvestre*' drags a neuter epithet, acquired during its residence in *Nasturtium*, throughout text and index.

We are well aware from our own experience how much time and concentration are required to eliminate all slips of this kind, and how a critical and creative mind eventually rebels at the drudgery of checking and re-checking; nor do we overlook practical considerations which decree that it may be better for a book to appear with some errors in 1965 rather than faultless in 1967. We have cited such errors as we have noticed chiefly as a guide to Dr. Davis for future volumes, and to suggest that in the delicate balance between speedy production, taxonomic research and accurate presentation he may have held the scales a little to the detriment of the last. But we had far sooner that the remaining volumes should appear regularly with such small errors than that they should be seriously delayed or that they should not appear at all. Perfectionism is all too often the bane of taxonomy, and the fact that this extremely useful Flora is now appearing should give pause to those who declare that the preparation of an effective Flora of Spain or of Jugoslavia is an impossible task.

A celebrated reviewer, writing in another Edinburgh journal, used often, after giving a book a good drubbing, to salute the author in rather condescending terms in the final paragraph and wish him well. We cannot equal Macaulay's style, but we will go so far in imitation as to express to Dr. Davis our hopes that he will not regard our criticisms as a drubbing and our assurance of every good wish in the completion of his important task. For there are very few living botanists who have all the qualities and experience required for it, and there is none who could do it better.

D. A. Webb.