by able botanical artists, although presumably the cost of good colour printing is often a deciding factor, as is the cost of the artist!

Two keys to the species are provided. One is based mainly on vegetative characters and the other uses mainly floral characters. The keys work well, although the inclusion of only geographical characters in some leads is useless when cultivated plants of unknown origin are being identified. However, it can be argued that the identification of garden plants is not one of the objectives of a monographer.

The cytological studies carried out with C. G. Vosa of Oxford have been incorporated, and mention is made of the considerable ecological data gleaned from extensive fieldwork—Miss Snijman has herself seen and collected 15 of the species.

This admirable revision will please both growers who specialize in the more unusual bulbs, and taxonomists who wish accurately to name plants in the field and in their herbarium collections.

V. A. MATTHEWS

Flora of Turkey vol. 8. This volume* contains the petaloid monocotyledons, leaving for volume 9 the Glumiflorae.

Turkey must be considered as one of the centres of distribution for the bulbous monocotyledons so popular as garden plants, with a strong representation from the Liliaceae, the Amaryllidaceae and the Iridaceae, three horticulturally important families. Indeed, it is probably fair to say that this volume contains more horticulturally important species than all the other volumes of the Flora put together.

As with previous volumes the quality of the accounts is enhanced by the liberal use of external contributors as will be seen in the accounts of: *Tulipa* (by W. Marais), *Fritillaria* (by E. M. Rix), *Muscari* (by D. Stuart), *Chionodoxa* (by R. D. Meikle), *Colchicum* and *Galanthus* (by C. D. Brickell), *Sternbergia, Iris* and *Crocus* (by B. Mathew) and *Allium*, with 141 plus species the largest genus in the volume (by F. Kollman). In addition, there is an admirably detailed account of the Orchidaceae by J. Renz & G. Taubenheim who have used their extensive field experience in Turkey to the full.

The volume is adequately though not lavishly illustrated by line drawings and there are distribution maps for over a third of the species. The general format stays the same as that used in volume 7 with some irksome compromises, especially in the genus headings, demanded presumably by the use of an 'in house' composer. It is also a pity to note the steep increase in the cost per page as compared with volume 7. However, these are minor irritations in view of the continuing high standard of the work.

D. F. CHAMBERLAIN

Flora Iranica Papilionaceae. With the publication of part II of Papilionaceae (part I, the Vicieae, came out in 1979) the family, excluding the gargantuan *Astragalus*, is now complete. This is another massive contribution to floristic knowledge in SW Asia, the two parts dealing with c.638 species and 64 genera. The present volume†, as other recent large family accounts of *Flora Iranica*, is 2-partite, one text, the other of very useful, if unaesthetic, photographs of herbarium specimens covering a good percentage (c.80%) of the species in the text.

Eight specialists have contributed accounts with K. H. Rechinger, as usual, bearing the heaviest brunt in writing accounts and in latinizing and editing accounts from external contributors. Selecting and asking botanists to provide Flora accounts is fraught with worry

**Flora of Turkey and the East Aegean Islands,* volume 8. Edited by P. H. Davis, assisted by R. R. Mill and Kit Tan. xx+633 pp., 19 figs, 110 distribution maps. 1984. Edinburgh University Press. ISBN 0 85224 494. Price £65.

†*Flora Iranica* ed. Karl Heinz Rechinger. Papilionaceae II. No. 157 auct. K. H. Rechinger, S. I. Ali, K. Browicz, A. Chrtková-Žertová, D. Heller, C. C. Heyn, M. Thulin, I. T. Vassilczenko; text 499 pp., tabulae 424. Akademische Druck- u. Verlagsanstalt Graz, Austria. December 1984.

and uncertainty for an editor. Making the right choice is almost as important as a wise selection of wife or husband: is it to be bliss or sorrow? If the editor, having committed himself, finds his contributor wanting, he is in a difficult position; it is rarely that he can seek, in matrimonial terms, to annul the marriage on grounds of incompatibility or non-consummation. He has to make the best of what he gets. Something of this kind of problem seems to have happened in this volume and there are some rather obvious signs of editorial patching up of cracks in a few of the generic accounts.

The interest of the Papilionaceae in SW Asia transcends mere taxonomy. Many major and minor economic plants, food and pasture, have their ancestors or progenitors here. *Trifolium*, the clover genus, has over 50 species in the area, representing almost 25% of the cosmopolitan total. The fine treatment by D. Heller (Jerusalem) is a practical and sensible account, based on his recent world monograph. A small point here which raises the vexed question of whether a modern Flora should have Latin as its main language: the general botanical reader (seldom a classical scholar nowadays) will be thankful to the editor for providing a translation of 'flores steriles ad terebrandum transformati' '—transformed into a drilling mechanism'. Another important fodder genus, *Medicago*, is quite well-represented and again the eminently sound account emanates from Jerusalem, this time by C. C. Heyn, who has a specialist's knowledge of the genus in SW Asia. It is useful under *M. sativa*, alfalfa or lucerne, to have I. T. Vassilczenko's short account of the microspecies-cultigens, even if their characteristic features seem elusive to describe.

The two largest genera in the volume are *Oxytropis* (115 species) by I. T. Vassilczenko (Leningrad) and *Onobrychis* (77 species) by K. H. Rechinger. Both are very difficult genera and a proper understanding of their taxonomy is hampered by frequently inadequate material, especially in fruit. The *Oxytropis* account, even though it has the merit of being done by someone with much knowledge of the Soviet, especially Central Asiatic, species is rather uneven and at times the taxonomy-cum-geography is unconvincing. No fewer than 70 species are regarded as endemic but in common with the approach of many Soviet taxonomists a narrow specific concept seems to have been adopted. It is surprising to see one specimen of *O. carduchorum* cited from near Kabul when the species, originally described from SE Turkey, was reduced to synonomy under *O. savellanica* in *Flora of Turkey*. The two species are here placed in different sections! Another similar example is *O. wendelboi*, described from central Afghanistan, with the only other cited specimen from Mt Demavand in N Iran. Throughout the text there are a number of species with full descriptions but with no specimens cited and merely a note to the effect 'to be expected in NW Iran', or Pakistan or Afghanistan. Even allowing for the difficulties in finding suitable names for new species in as large a genus as *Oxytropis*, there are several epithets far from mellifluous to the sensitive ear: *sata-kandaoensis, neo-rechingeriana, thaumasiomorpha.* A few of the Afghan species published here as new also appear—as new—in *Nov. Syst. Pl. Vasc. (Leningrad)* vol. 21 (1984); the latter having priority. Also in *Nov. Syst.* (1984) are a few Afghan species not in *Flora Iranica.*

K. H. Rechinger's own account of that equally difficult to intractable genus *Onobrychis* is to an extent built on Širjaev's pre-war monographs. It is well complemented by useful discussions about many of the species. Rarely is it easy to name an unknown species of *Onobrychis*, but the combination of the author's wide field experience and clear presentation, practical keys and plentiful illustrations makes the task much less painful. There is also much in the account that provides local botanists with realistic 'follow-up' projects—a very important aspect of any modern Flora, one of whose aims must be to encourage and stimulate further research. Although in both these accounts, and in the others, very large numbers of specimens are cited, it is more than probable that some relevant specimens that should have been examined and cited have not. This is certainly true for some Afghan and Pakistan gatherings held in Edinburgh.

Many of the genera and species are of considerable importance phytogeographically, illustrating links with other regions: there is the strong C Asiatic influence among the 115 *Oxytropis* species (Turkey can only boast 12), the many Mediterranean connections in such genera as *Trifolium, Trigonella, Ononis, Anthyllis,* the southern or tropical links shown by the presence of *Argyrolobium, Indigofera, Rhynchosia* and *Taverniera.* So this volume is a particularly valuable information source for the phytogeographer and analyst of distribution data.

Although it is not difficult throughout the accounts to find small points to quibble about, this has to be set against the fact that this is another very significant step forward in the 'home-run' of the Flora Iranica project—this is the 157th family to be published. It also has

to be borne in mind that there are numerous difficulties in writing and organizing *Flora Iranica*. Unlike the completed *Flora Europaea* project there is no large team of regional advisors to check the various stages prior to publication nor, unlike the almost finished *Flora of Turkey* project, is there a small team of botanists employed solely to work on the Flora. *Flora Iranica* is really run and activated by the tireless, and no longer young, K. H. Rechinger with enormous back-up support from his wife Willy. All SW Asiatic botanists owe them an enormous debt of gratitude.

The printing, format, type-face and indexing could not be clearer: but at 4060 Schillings (c.£150) it is an expensive paper-back.

I. C. HEDGE

The Flora of Bhutan. The second part of this admirable *Flora of Bhutan*, Vol. 1 Part 2*, has appeared on schedule less than 18 months after the first. In this age of inflationary pricing of Floras, it is a pleasure to remark that in spite of containing 50% more pages than Part I it is only 10% more expensive. It covers the families Phytolaccaceae to Moringaceae in the Engler sequence, and so includes many genera of special Himalayan interest such as *Clematis* (13 spp.), *Berberis* (14 spp.), *Corydalis* (39 spp.) and *Meconopsis* (13 spp.). The treatment of *Corydalis* is especially successful, with a very workable key, seven new species described as a result of work for the Flora, and apparently few problems remaining. In this genus all the species are individually keyed whereas in, for example, *Berberis*, the key is chiefly to groups of species which can then be sorted out by means of the usually neatly diagnostic, comparative descriptions within each group. As the reviewer of Part 1 remarked, this method generally works well, and it also serves to give the user a good idea of the relationships within the genus. The system of comparative descriptions does, however, occasionally have disadvantages and anyone wanting, for example, to get a clear picture of how *Clematis puberula* (which is described only by comparison with *C. gouriana,* which is in turn described only by comparison with *C. connata*) differs from *C. zemuensis* (which is described in the same tortuous way) is in for a difficult time and will, unless he is unusually clear-headed, need to construct his own table of characters.

The annoying convention in Part 1 whereby no species names, only species numbers, were led to in the keys, has fortunately been abandoned. Another small change is that the authorship of each family is now indicated and, for two families, outside authors, N. K. B. Robson for Hypericaceae and E. Campbell for Nymphaeaceae, have been brought in. The botanical bibliography has been brought up to date. The decision to arrange the ten or so parts into three volumes means that although Parts 1 and 2 have separate title and contents pages and indexes, they have continuous page numbers and will comprise rather awkward books when finally bound into volumes. As in Part 1, the well-chosen and exceptionally clear drawings serve both to show the user representative species of many of the genera and to illustrate and explain the morphology and descriptive terminology. Distributions outside the area of the Flora are sensibly not given, but when a species is endemic to the area this is mentioned. Inevitably some of the genera of the subtropical foothills, such as *Litsea* or *Piper*, still require further research, but in this subtropical element the authors have done much to tie in the taxonomy with that of other parts of tropical SE Asia. A strong feature of this Flora is that vernacular names as well as medicinal and economic uses are given for many species. The *Flora of Bhutan* is practical and useful in every respect, from the price and speed of production to the compact format and style of keys and descriptions, and can be taken as a model of the kind of Flora most needed in territories such as this where no modern work is yet available.

A. O. CHATER

*Grierson, A. J. C. & Long, D. G., *Flora of Bhutan, Including a record of plants from Sikkim*. Vol. 1 part 2. 276 pp. (pp. 187–462), 17 full-page plant illustrations. Royal Botanic Garden, Edinburgh, 1984. ISBN 0 9504270 0. Price £12.00, distributed by Wheldon & Wesley Ltd., Lytton Lodge, Codicote, Hitchin, Herts, SG4 8TE, England.