

different species or merely undetermined material. Provisional names such as *Commelina ussilensis* and *Ruellia pallida* have been included when they almost certainly do not apply to Oman plants. I spotted several examples of misidentifications: *Bentia fruticulosa* is *Justicia bentii* and not *J. calyculata*; *Grewia damine* is a recently revived name for *G. tiliifolia*, a Sri Lankan and Indian species unknown from Arabia and certainly not the correct name for *G. bicolor*.

The main problem, however, lies with the keys. The provision of keys appears to be random; there are none at all for the monocotyledons, nor for quite large dicotyledonous genera such as *Pulicaria* and *Tribulus*, while they are provided for small, relatively simple genera such as *Hyoscyamus*. The keys themselves are often not strictly dichotomous and the couplets do not balance. Characters selected to distinguish species or species groups are quite often unsound. In the key to *Fagonia*, for instance, no mention is made of the ternate leaves of *F. schweinfurthii* even though they are the sole diagnostic character; instead reliance is placed on stem indumentum, branching and on the annual/perennial habit, even though none of these characters are of use in distinguishing the species. Similar problems may be found in the keys to *Corchorus*, *Sida*, and many other genera.

The *Catalogue* is technically well-produced, with clear print on high-quality paper. Only in the key to *Indigofera* has the author been let down by poor lay-out. It is, therefore, rather unfortunate that the publishers did not have the text refereed more critically for its taxonomic content, as this is a book which undoubtedly fills an important gap in our understanding of the Arabian flora.

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Vergleichende Chorologie der Zentraleuropäischen Flora. Band III. Ed. H. Meusel & E.J. Jäger. Gustav Fischer Verlag, Jena, Stuttgart, New York. 1992. 2 parts: part 1 (text) pp ix + 333; part 2 (maps and references) pp ix + 266, including 556 maps. ISBN 3-334-00411-2. DM 560.

The first part of this massive, perhaps over-ambitious, reference work was published in 1965, the second in 1978, and with the appearance of the third volume the project is now complete. Any detailed scientific project that spans almost 30 years requires, apart from substantial funding, enormous dedication on the part of the author(s) and the fact that this has now come to a successful conclusion is a great tribute to Professor Meusel and his co-workers at Hallé, especially Drs Jäger and Weinert. A review of the second volume (in *Notes RBG Edinb.* 37: 326, 1979) gave a general indication of the scope and aims of *Vergleichende Chorologie* and emphasised its value to anyone, in any part of the world, who was interested in patterns of plant distribution and wider aspects of geobotany. Although the title of the work gives the impression of a primarily central European bias, the distribution maps and complementary data presented are of cosmopolitan interest. Volume 3, covering such families as Rubiaceae, Campanulaceae and Compositae, contains some 550 distribution maps and deals with c. 2000 taxa. There are numerous (even more than in earlier volumes) total-range maps of genera, e.g.

Saussurea, *Jurinea*, *Gnaphalium*, *Inula*, and sections within them. Many of these maps are of particular interest as they indicate areas of maximum, global, species concentration; synanthropic occurrences are also given. Anyone who has endeavoured to draw such maps will appreciate the difficulties, and time, involved in this kind of work; inevitably the accuracy of these maps tends to diminish the further one goes outwith Europe – e.g. into the Himalaya or S America. Nevertheless, they give a very informative overall picture of diversity and distribution, useful for students, researchers and teachers alike. The three volumes include a total of c.2200 maps covering vascular cryptogams and phanerogams. In the previously cited review, the criticism was made that there was no index in the first two volumes and it was extremely difficult to find one's way around the mass of information. This is now rectified by a cumulative index in volume 3, which, although its format takes a little while to understand, forms an essential component of the whole work. The list of references is also of great importance – no fewer than c.4500 being given.

At least for those whose proficiency in German is less than moderate, the maps will be consulted more than the c.300 pages of text; the latter, however, contains a vast amount of relevant factual, and discursive, information. Complementing the maps are details of taxonomy, synonymy, altitudinal range and citations of previously published maps. Synoptic tables give Zonal and Regional Diagnoses, using Meusel's complex terminology. The largest section of this, independently bound, part of the work discusses the 'Arealformen' of the families dealt with – mainly the Compositae; this contains, *inter alia*, much edaphic information.

Whether or not Meusel's individualistic approach to chorology finds general approbation is, at best, a moot point, but there is no doubt that he has made very important and thoughtful contributions towards understanding, and attempting to interpret, patterns of plant distribution. These three volumes – a life-time's work – form an entity which all major botanical libraries should house. As befits a weighty (c.3.5kg), large-format reference work, the two parts of volume 3 are sturdily bound and pleasant to handle; together they cost c.£225 sterling.

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