Central European pteridophytes. This book* is a comprehensive account of the many species and numerous hybrid ferns and fern-allies found within the geographic area of central Europe. The geography of this region stretches roughly from the southern shores of the Baltic to the northern Adriatic coast, and from approximately 6–18°E. This region does not correspond exactly with political boundaries, but includes East and West Germany, Switzerland, Austria and a part each of extreme northern Italy, Yugoslavia, Czechoslovakia and Poland.

The text consists of species by species entries, giving for each a description as well as a synopsis of its ecology and geographic range. There is extensive treatment of taxonomic synonymies and there are briefer accounts for the hybrids. A widely assorted range of illustrations occurs throughout, including a few colour plates, frond silhouettes, reproductions of previously-published line drawings from various stated sources, and some black-and-white field photographs. The latter are particularly good and excellently reproduced. Indeed, considerable effort seems to have been made to ensure a high quality of printing and illustration throughout.

Despite my own shortcomings in translating much of the German text, it is clear that it is considerably detailed, and coming as it does from an authorship which includes several of central Europe's most eminent pteridologists, can be expected to be authoritative. As the geographic region included contains most of central Europe's main mountain masses, its pteridophyte flora embraces a range of species which present many similarities with those of western Europe as well as numerous fascinating differences. It is in relation to these phytogeographic comparisons that I would particularly recommend it.

The publishers as well as the authors are certainly to be congratulated for producing such a quality work.

C. N. PAGE

Index of Liverworts and Hornworts. Taxonomists familiar with the 'Index Kewensis', 'Index Muscorum' and comparable compendia of plant names will appreciate the problems of working in a group for which no such comprehensive list exists; those working on Hepaticae and Anthocerotae are sadly still in this position, the last complete list being Stephani's 'Species Hepaticarum' published between 1898 and 1924.

The late C. E. B. Bonner sought to fill this gap and in 1962 the first volume of the 'Index Hepaticarum' appeared, covering the genus *Plagiochila*. The Index listed all epithets published in the genus, together with author, place and date of publication, reference (if any) to the 'Species Hepaticarum', information on the type specimen(s) and country of origin. By 1978 a total of nine parts had appeared, up to the letter L, the last two edited by H. Bischler and D. Lamy following Dr Bonner's death in 1976.

Subsequently the project was taken under the wing of the International Association of Bryologists who enlisted an international team of contributors to tackle the remaining genera. The present volume† is the first to appear under the new regime and incorporates some new features, the most welcome being the greatly condensed and much neater format—spacing in previous parts was lavish in the extreme! The typography is more attractive and practical, with botanical names italicized and infraspecific names indented. Equally welcome is the return to hard covers. Other improvements include a critical application of the ICBN as to invalid and illegitimate names, full citation of basionyms, removal of references to 'Species Hepaticarum', but with additional references to Stephani's unpublished 'Icones' in Geneva (a particularly useful feature as no other index of these important drawings is readily available), and a more precise citation of type specimens (lectotypes excluded). These refinements greatly enhance the practical value of the 'Index', without deviating greatly from Dr Bonner's concept, and in general reflect the very high standard of research and editing which has been achieved. Perhaps in the future some of the early parts could be revised to this standard.

**Gustav Hegi, Illustrierte Flora von Mitteleuropa.* Band I, Teil 1; *Pteridophyta (Farnpflanzen)*. Edited by K. U. Kramer; and compiled by J. Dostál and T. Reichstein with assistance from C. R. Fraser-Jenkins. pp. 309, with 275 figs and 11 plates (9 incolour). Berlin & Hamburg: Paul Parey. DM 228.

†P. Geissler & H. Bischler (eds), *Index Hepaticarum. Volume 10. Lembidium to Mytilopsis*. 352 pp. J. Cramer, Vaduz. 1985. DM 150.

Undoubtedly some errors will have crept into the text, but these are very few indeed, for example *Lepidozia ceratophylla* is mis-spelled '*certophylla*', the name *Martinellia gracilis* is treated as a new species but in fact is a new combination based on *Scapania gracilis* published the year previously, and the type locality of *Martinellia microdonta,* Plover Bay, is in E Siberia not in Canada as stated.

The only major criticism which could be levelled at the work is the lack of indication of the correct taxonomic placement of a name. Unfortunately this must be left for the future, when generic limits are more precisely defined and the many obscure binomials transferred to their correct genera or reduced to synonymy. However a useful first step in this direction would be to indicate the different genera into which an epithet has been combined, in chronological order. For the example *Jungermannia setacea* G. Web. 1778 the list would be (*Blepharostoma* 1835, *Lepidozia* 1860, *Microlepidozia* 1934, *Telaranea* 1957, *Kurzia* 1963). This would direct the user to *Kurzia* for the most up-to-date placement without giving any definitive taxonomic opinion.

The many contributors, the editors and the International Association of Bryologists are to be congratulated on undertaking this challenging task and producing such a fine work; hepaticologists can only look forward to completion of the series.

D. G. LONG

Alive at Kew. This paperback* lists, in alphabetical order, the species of flowerless plants currently in cultivation at Kew. The greater part of the book is occupied by the ferns and fern-allies (47 pages) and the plants better known to most as the conifers (38 pages). For these groups in particular, the book looks potentially useful.

Entries are given, in alphabetical order of families, genera and species, in four columns: the genus and species name, the country of origin of specimens when from 'natural sources', the donor/collector (with collector's number where available), and a column cryptically headed 'CR', which is mostly blank. This latter refers to a 'conservation rating', although fairly constant reference to the introductory text is necessary to find what the far-from-obvious letters mean, and spelling them out in full would seem to have occupied little additional space and been much clearer.

Whilst first impressions are that it is useful to have such a list of pteridophytes and conifers in particular, a little use shows certain shortcomings, which might perhaps be rectified in future editions. Firstly I found it difficult to start with, to know if the plants listed were those grown strictly at Kew, or if in the case of conifers, the species at Wakehurst and possibly any of the National Trust conifers that have been surveyed, or the Westonburt and Bedgebury ones might be included. Having browsed through it, I am still not sure which are and which are not. Secondly, and largely stemming from this, is what I find to be an infuriating omission of any reference against each entry of where it is being grown, or the date on which that plant was introduced. The former (by garden location) would give some idea of where the plant might be seen, and the latter (by accession year) whether to expect to see a seedling or a mature tree there.

I fear that without such information, the book is bound to remain somewhat academic for most potential users, and that the compilers should now be encouraged to further clarify and develop it.

C. N. PAGE

British Smuts. The Smut Fungi (Ustilaginales) are a well-defined group of parasites of angiosperms, although their precise position within the fungal kingdom is still a matter of conjecture. Several smut fungi are economically important pathogens of crop plants (e.g. *Ustilago segetum* on cereals) and others can be troublesome in horticulture (e.g. *Urocystis gladiolicola* on *Gladiolus*). However, most of them occur on native plants, usually having little, overall deleterious effect on the host's populations. A familiar example is *Ustilago violacea* whose spores develop in the anthers of many species in the Caryophyllaceae, but

*Catalogue of Living Plant Collections. Part I. Charophyta. Bryophyta. Pteridophyta. Pinophyta. 94 pp. Royal Botanic Gardens, Kew.