

The Trees of North America: by Alan Mitchell, Facts-on-File, New York, 1987, 208 pp., \$24.95.

Conifers: by Keith Rushforth, Facts-on-File, New York, 1987, 232 pp., \$24.95.

Considering the ubiquity of trees, their ready availability and their considerable bulk, it is surprising that they are not used more widely for phytochemical investigation. One reason may be that the high concentrations of tannins and other phenolic materials in trees can make it difficult to detect enzyme activities in such tissues. Another reason may be that trees rarely come into the category of medicinal plants so that a study of secondary chemistry is not so likely to yield new plant drugs. Nevertheless the chemotaxonomy and ecological chemistry of trees are well developed and they do deserve continued study by phytochemists. These two books under review provide the interested general reader with excellent illustrated keys to tree identification—an essential preliminary to any phytochemical investigation.

Alan Mitchell's 'Field guide to Trees of Britain and Northern Europe' I have found to be an invaluable addition to my bookshelves ever since its publication by Collins in 1974. This companion volume on the Trees of North America has a much larger format (22 × 30 cm) which allows the reproduction in colour of many of the trees that are mentioned in the text. More than 500 trees are covered, both gymnosperms and angiosperms, arranged

according to family. The first class colour illustrations by David More provide the main means of identification; in addition some key features to look out for are mentioned in the text and distribution maps are also included in the Appendix. Many of the trees of North America are grown in this country, e.g. the giant Sequoia, while many European trees (e.g. Elms) have been introduced to the States by the early colonists. Europeans will therefore recognise most of the trees included here so that this book will be fully appreciated on both sides of the Atlantic.

The second book from the same Publisher on 'Conifers' is laid out on a more taxonomic basis. The main section of the book is a gazeteer of about 600 of the 1000 known gymnosperm species, arranged alphabetically by generic name. For each species, there is a morphological description, with notes on distribution and cultivation; taxonomic authorities are quoted extensively. The illustrations are fewer in number; there are some black and white figures of foliage and about 20 colour photographs illustrating cone pigments and tree profiles. There are also some general comments on biology and cultivation. Both books are relatively inexpensive and one or other represents a good investment if you are interested in getting to know the trees that grow around you.

*School of Plant Sciences,
University of Reading.*

JEFFREY B. HARBORNE

River Plants of Western Europe: by S. M. Haslam. Cambridge University Press, Cambridge, 1987. 512 pp., \$125.

This large volume, subtitled "The macrophytic vegetation of watercourses of the European Economic Community", derives from the author's considerable knowledge and field experience of Europe's rivers. It is based for the most part on extensive travel in Britain (1977–1980) and other E.E.C. countries (1977–1980), together with S. Norway, before the entry of Greece, Spain and Portugal into the Community. The book thus covers Western Europe with the exception of the Iberian Peninsula, a regrettable omission, including as it does some major river systems and representing both vegetatively and floristically a significant part of Western Europe. Most of the vegetation data are samples surveyed from bridges and similar vantage-points, allowing a large area to be covered in a reasonably short time. This technique is facilitated by the small, relatively constant flora of rivers and streams, of some 100 or so principal species.

This book provides a solid body of data, covering all relevant aspects of the ecology of river plants. Chapters 1–12 (over 200 pages) consider the physiography, geology, hydrology, chemistry and land-use history of European rivers, together with distribution of aquatic macrophytes in relation to physical and chemical factors of the riverine environment. Chapters 13–23 cover the vegetation of the different countries, and provide a useful source of reference. The last seven chapters examine some general patterns, especially the effects of pollution. There

is much important information here, but this is not an easy book to read or use. The presentation of the data is too often cumbersome, with enormous tables, and captions are not always repeated, so to assess a table or diagram one needs to chase the caption up in another section.

In view of the high price of this book, the publishers have not produced a very elegant product. The maps are crude-looking, many of the tables are lettered by hand (albeit neatly) and there are no photographs at all. The illustrations are all black and white drawings, which serve to demonstrate rather well features of particular types of rivers, being in the form of block-diagrams to show the section of the watercourse as well as surface features of the landscape. These drawings conceptualize the information, but lend the book a drab appearance, and an old-fashioned one. The most unfortunate consequence of the 'black and white' tone of the book is the fact that the author uses a system of classification of species in relation to nutrient regime that employs colour bands. These colours are referred to purely by their names—'purple', 'yellow', etc.—and the scheme is very difficult to grasp. However, the author is to be commended for the use of star diagrams, analogous to those employed in plant taxonomy and biosystematics to denote variation, to show nutrient regimes.

The extensive rather than intensive sampling of plant communities has resulted in some loss of taxonomic precision. The names of species appear to follow *Flora Europaea*, but there are a few exceptions to this and it is

surely best now to use this standard work, especially in a European context. Some informal aggregates of species, e.g. *Polygonum hydropiper* agg. for *P. hydropiper*/*P. persicaria*, are inappropriate: these two species are very distinct and have quite different ecologies. Aquatic *Ranunculus* species are lumped together, again linking species with different ecological ranges, and so are 'mosses', a diverse group that presumably includes a few liverworts.

Overall, this volume provides a good general picture and fills a gap in the European literature. It will be of use to non-specialists, including the non-field worker and

perhaps the layman, and brings together a wide variety of data. However, it is a severely flawed product, being incomplete as a work of reference for the present E.E.C. territory (and western Europe, lacking the Iberian peninsula), and being so indigestible a volume to read. I should have preferred to wait a little longer for an account of the newer E.E.C. members, especially as the Preface is dated 1983, and a more concise text.

Botany Department
University of Reading.

J. R. AKEROYD

In the review of '**Biotechnology Information '86**' [(1988) *Phytochemistry* **26**, 1570] the editor was mistakenly listed as R. Wakefield. This should read R. Wakeford.