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BOOK REVIEW

The Monocotyledonophile's Vade Mecum. The usual method of presenting taxonomic information is to list the taxonomic units under consideration in some particular sequence, and to present, for each unit, information about it. This is the method routinely used in Floras, revisions and monographs, and it is clearly the most generally useful. In their survey of the Monocotyledons*, Dahlgren & Clifford have, however, chosen to invert the method and to list some of the characters of the plants, giving, for each character discussed, a list of the families in which it occurs. If you want to know which Monocotyledon families have, for example, inverted leaf-blades, then this volume will tell you (they are Alstroemeriaceae, Philesiaceae and Convallariaceae—see p. 69). Taxonomic information arranged in this way is usually very time-consuming to obtain, and the authors are to be congratulated in having amassed and presented such a comprehensive survey. From this point of view alone the book will be useful to taxonomists and teachers who often need to know of good examples of particular characteristics.

The characters included in the book range from the obvious and familiar (tree and shrub habit, occurrence of bulbs, occurrence of pollen in tetrads, placentation types) to the very specialised (sieve-tube plastid types, tapetum types, occurrence of particular chemical constituents, and host specificity to various fungi and insects). Over 100 characters are included; each is briefly discussed, often with extensive literature citation, and for each, a list of the families in which the character occurs is given. For many of the characters a diagram of its occurrence, using Dahlgren's well-known phylogenetic diagram is also provided, and each character is illustrated by a black and white illustration of a plant or plant part. These latter illustrations, of which there are 94, are extremely useful, and portray many species which have not been illustrated before, or are illustrated only in rare or obscure works. Six pages of scanning electron micrographs of pollen types are also included.

The main problem in using the book lies in the system of orders and families into which the Monocotyledons are divided. One of the (unnumbered) chapters (pp. 20–39) is headed 'The Classification Used in the Course of the Present Study'; this consists of a list of the 29 orders and 93 families—many more than are usually recognised in the Monocotyledons—and brief discussions of the contents of each. The user must be aware that, when he finds 'Liliaceae' given in the list of families under a particular character, the name does not necessarily indicate what it usually means to him. Dahlgren & Clifford reduce the Liliaceae (sensu stricto) to 14 genera closely allied to *Lilium*; the hundreds of other genera traditionally included in the family are here distributed through several others, whose names, though unfamiliar at the family level, are recognisable by the generic names embedded in them: Asphodelaceae, Aphyllanthaceae, Dianellaceae, Hemerocallidaceae, Funkiaceae (*Hosta* and one or two others), Hyacinthaceae, Colchicaceae, Calochortaceae and Melanthiaceae. The genera belonging to these segregate families are listed and indexed and these facilities must be used in interpreting the sections on the various characters, or confusion will ensue. This wholesale splitting of the families may be justified on various grounds, but ease of communication is not one of them. Towards the end of the book (p. 323) a 'Revised Classification of the Monocotyledons' is presented, 'based on the conclusions presented above' (i.e. in the rest of the book); this is merely a list containing 26 orders and 96 families.

The book also contains an introduction and brief chapters on the history of Monocotyledon classification, numerical approaches to classification, some character syndromes and taxonomy, a discussion of the superorders recognised, and an interesting account of relations between the Monocotyledons and Dicotyledons. The authors have produced a valuable reference work which will be widely used, in spite of the problem mentioned above. They promise 'a cladistic analysis of this material' and a 'numerical analysis' in the future.

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* R.M.T. Dahlgren & H. T. Clifford. *The Monocotyledons: A Comparative Study.* Academic Press, London, New York, San Diego, San Francisco, São Paulo, Sydney, Tokyo, Toronto, 1982. £48.00.