

BOOK REVIEWS

The Chemotaxonomy of Flowering Plants. R. D. GIBBS. McGill-Queens University Press, Montreal, 4 Volumes, XX + 2372 pp. \$135 per set.

The first question that came to mind when picking up this handsomely produced set of four volumes was: is this the Anglo-Canadian answer to Hegnauer's monumental 7-volume work on 'Chemotaxonomie der Pflanzen' [see *Phytochemistry*, (1975) 14, 317]? But I was soon convinced that nothing could be further from the truth. This is a quite different but equally important work which will be essential not only for chemotaxonomists (a term I now abhor because of the unpardonable twists given to it by some of its practitioners) but also for all botanists interested in the classification of families of flowering plants. In fact, I would say that it should be of more use to the latter group of workers since the information is arranged by Orders and the commentary on the diverse arrangements proposed by various taxonomists makes this a source book of information which has never been collected together so comprehensively before. The work starts out, after a brief introduction, with a short section on *Chaos in Taxonomy* (Vol. 1) which gives in abbreviated form a check list of nearly all the important unresolved problems facing angiosperm taxonomists today, indicating the diversity of solutions put forward and where further information is needed. Discussions included in the alphabetical list of families of angiosperms (Vol. 2) are equally informative and give a well rounded picture of current taxonomic thinking. The major part of the work can be divided into two; the first is an invaluable 800 page conspectus of all the different types of chemical compound which have been found in higher plants (Vols. 1 and 2) which, together with the addendum (Vol. 4, unfortunately not indexed) covers all the major references up to 1972 and a few from 1973. The

second deals with the comparative chemistry of the various Orders (Vol. 2 and 3, again about 800 pages) arranged alphabetically and defined according to the 12th Syllabus der Pflanzenfamilien, but with additional material which outlines various obsolescent treatments. Within this framework, the author has left himself plenty of room for cross-reference and discussion: for example, with regard to the Cactales and the Centrospermae which are treated separately in the 12th syllabus. The final volume (4) contains a 1000-entry bibliography (not exhaustive but adequate), an extremely good 300-page index and, as mentioned above, a valuable addendum. As a compendium the book is, to my mind, invaluable, but undoubtedly some may be critical of its approach. Some will say it is not chemical enough, others too diffuse, and perhaps many that there is an over-emphasis of the importance of the results obtained from the author's own simple, often imprecise, chemical and other tests. But to me, these "imperfections" are the very strength of the book. It has all the liveliness of a single author work rather than the clinical impersonality of a multi-author dictionary. For example, Gibby is not afraid to admit ignorance: the book abounds with "?" marks, especially in the section on chemical constituents, many of which are not answered or answerable with our present knowledge. Sprinkled throughout are provocative suggestions and cautions, and some rare insights regarding the claims of other workers. So my advice is, buy it (it is relatively cheap on a page basis by today's standards) and dip into it often, for although it may provoke you, or even exasperate you, I am sure it will point you in the right direction if you want to close some of the gaps in our knowledge of the comparative chemistry of plants.

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