

## REVIEW

**J. B. HARBORNE, D. BOULTER and B. TURNER (editors), Chemotaxonomy of the Leguminosae.** — Academic Press, London and New York, published May 31, 1971, 612 pp, price £ 10.50; \$ 31.00.

This work is the first of its kind in so far that it gives an account of the chemotaxonomy of a large family of plants and its implications on the taxonomy of that family. The ideas for this book were derived from a symposium, to which all the 19 authors contributed, 'The Comparative Biochemistry of the *Leguminosae*', which was held at the John Innes Institute, Hertfordshire.

The first chapter, by V. H. Heywood, gives a 'Systematic Purview' of the family. Chapter 2—14 provide a description of the known distribution of both low molecular weight and macromolecular constituents. In several chapters the methods used are also extensively discussed. Often the information of the various chapters has been obtained by workers belonging to other disciplines than taxonomy, and little attention has been given to taxonomic methods. Several of the chapters lack a summary and a discussion of the taxonomic implications.

Not all the constituents, of course, have a significant bearing on the taxonomy. But often this is due to the fact that the distribution of certain constituents is not properly known. For instance the flavonoids, 'of which a rich variety are found in the *Leguminosae*, have only a limited use in taxonomy. But they provide characters which are easily detected and sufficient in number for numerical analysis. The results of present studies indicate that flavonoids have considerable potential in the future in all types of systematic investigations' (Harborne, p. 67). Of non-protein amino acids it is stated that 'The evidence of evolutionary relationships provided by those components may be less equivocal than that, provided by more classical methods'.

In the last chapter, 15, titled 'Implications of the Biochemical Data: a summing up', the author, B. L. Turner, gives an evaluation of the previous chapters, especially of the importance of biochemical data for taxonomy.

The information on the micromolecular level, which is most significant at species and population level, is much more extensive than that on the macromolecules. It is here that Chemotaxonomy has reached its greatest success. But 'The general systematic framework of the *Leguminosae* has been erected primarily from morphological data. For the most part this framework is adequate and probably does reflect groupings of a phyletic nature' (Turner p. 557). But also (Turner p. 558): 'Biochemical data, used as a multiple correlative approach in combination with other features of the organism, should do much to solve some of the more intractable problems facing taxonomists working on the family *Leguminosae*'.

The book is of great importance for any taxonomist who wants to widen his vision and learn how phytochemistry can be of help in solving taxonomic problems for any group of plants from population to subfamily within the family *Leguminosae*.

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