

Bohm, B.A., Stuessy, T.F.: **Flavonoids of the Sunflower Family (Asteraceae)**. - Springer, Wien - New York 2001. 831 pp. DEM 398.00. ISBN 3-211-83479-6.

The reviewed book is probably the most detailed text on one group of substances in one group of plant species I have ever seen. Two professors (the senior one from Canada and the second one from Austria) collected almost all literature existing in the field and reviewed it in 27 chapters.

The chapters are grouped into six sections. Two chapters of section I deal with the sunflower family, its biology, distribution, classification, phylogeny, and biogeography. Classification of this plant family goes back to *ca.* 300 B.C. (Theophrastus). This historical overview is very interesting. It is hypothesised that an ancestor of Asteraceae appeared in eocene in the lower part of South America.

Four chapters of section II present introductory information on flavonoids: their use as taxonomic markers, their structural variations, biosynthesis, and biological functions. The large variation of chemical structure of these substances is given in detail, showing differences induced by oxygenation of basic rings, by various substituents, *etc.* (these differences are instructively shown in tables). The chapter on flavonoid biosynthesis explains also the genetic control of individual steps. Functions of the respective enzymes are also shown. The chapter on biological functions includes flavonoid functions in interaction with other plants, their influence on micro-organisms, and their capacities: to absorb radiation of various wavelengths, to function in

developmental and other plant processes, and to inhibit some enzyme reactions.

Section III (11 chapters) gives details on flavonoids that are contained in individual subfamilies of plants. The information is arranged alphabetically by tribe, and alphabetically by genera. Section IV (six chapters) is on the efficacy of flavonoids at different taxonomic levels (subfamily, tribe, subtribe, genus, species, infraspecies). The two chapters of section V evaluate flavonoids as indicators of the evolutionary process (population variation, hybridisation, introgression). In this respect some plant species were studied in detail.

The final section VI deals with flavonoids in relation to phylogeny (relationships with other families, evolution in Asteraceae). The Addendum (5 1/2 pp.) analyses 18 papers that were published after the manuscript had been sent to press (mostly from the years 1999 and 2000). The list of references (pp. 599 - 735) contains about 2 700 items (!). Supplemented are extensive indexes: of common names of flavonoids and their equivalents, a chemical index (40 pp.), a subject index, and a taxon index. All these indexes are very detailed and exact.

An interesting monograph for botanists, especially those interested in taxonomy and phylogeny, for biochemists, plant physiologists (especially those interested in flowering) and pathologists.

Z. ŠESTÁK (*Praha*)