

Literature

Bernays, E. A. (ed.) 1989: *Insect-Plant Interactions*, vol. I. — 172 pp., 17 black-and-white illustrations, 10 tables. Size: 17.5 × 26.0 cm. CRC Press Inc., Boca Raton, Florida. ISBN 0-8493-4121-3. Price GBP 76.50.

The insect-plant interactions is a most important topic. One of the main reasons is that several of the insect species are regarded as pests, occurring on plants that are useful and of economic importance to man, i.e. crops and timber. For some species, we possess the knowledge required to control them, while for others we still do not know enough.

This book is edited by E. A. Bernays who has a background in the biology of grasshoppers and locusts. The book is divided into five chapters, each with its own list of references — a total of some 1300 citations. B. C. Campbell describes the role of microbial symbiotes in insects, and discusses different types, viz. extracellular symbiosis and endosymbiosis. The main examples are from termites, cockroaches, beetles and flies, but other orders are briefly mentioned.

M. J. Crawly describes the relative importance of vertebrate and invertebrate herbivores in plant population dynamics. For example, the differences in individual- and population-size between these two animal groups have resulted in completely different selection pressures on the plant populations. This, in turn, has resulted in different methods of defence in the plants towards these two groups of herbivores. The effect of air pollution and the life of herbivorous insects are treated by J. Reimer and J. B. Whittaker. They describe results from both field observations and laboratory experiments. Both changes in parasitoids and predation, as well as changes in the chemistry of the hostplant, makes life complicated for the herbivore insect. P. G. Waterman and S. Mole summarise the various

extrinsic factors influencing the production of secondary metabolites in plants, e.g. light, chemicals, osmotic stress etc. They also deal with the pathway of secondary metabolites, i.e. from generation of the key intermediates and regulation of the biosynthetic pathway to the proliferation of the secondary metabolites. Finally, the arthropod impact on gas exchange is dealt with by S. C. Welter. This impact is mainly due to the different feeding methods of the insects on different parts of the plant, for example, feeding on and in leaves, in stems, in roots. There is a combined taxonomic and subject index.

In spite of the very interesting contents, some minor criticism can be extended. The list of references lacks a uniform pattern, only the first page of an article is given, sometimes chapters in books lack pagination, and sometimes co-authors are just referred to as "et al". Furthermore, a chapter consisting of some 11 text pages is somewhat too short. Also, some of the computer-designed illustrations suffer from poor resolution. Moreover, it is amazing to read that the largest herbivore invertebrate is the grasshopper, with a mass of 1.5 g, which is smaller than the smallest vertebrate herbivore (i.e. a pocket mouse of 7 g). However, for example, leaf-eating stick insects with a mass of 20–50 g are not unusual. Unfortunately, the book is priced unreasonably high, enabling only libraries with a good economy to afford it. This is indeed unfortunate as the book is of great interest and importance.

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