

BOOK REVIEWS

OF PUBLICATIONS RELATED TO BOTANICAL WORK IN THE NETHERLANDS

PROF. DR. V. J. KONINGSBERGER, *Inleiding tot de Plantenphysiologie*. 2 delen. Scheltema en Holkema, Amsterdam. deel 1: f 7,90; deel 2: f 11,90.

The first university textbook on plant physiology appearing in the Netherlands since 1942, when the same author was editor of a more extensive textbook on general botany.

As it was impossible to prepare a new edition of the old textbook in a sufficiently short time, Professor KONINGSBERGER has written this "Introduction to plant physiology" based upon his university lectures for first and second year students of biology. Now this introduction fulfills the urgent need for an up-to-date textbook at the elementary level. The first part contains different aspects of the structure and function of plant cells including a discussion of some colloid-chemical considerations that are of importance for the understanding of the submicroscopical structure of protoplasm.

The second part contains chapters on the main problems of plant physiology: water and salt uptake, transport, photosynthesis, metabolism, growth and morphogenesis and movements. As in every elementary text the choice of the subjects and the theories discussed must be of a rather subjective kind, but most plant physiologists will agree with the selection made by the author. If possible, speculative hypothesis are omitted, while a critical attitude of the student is stimulated. When we compare this book with the well-known textbooks on plant physiology, we can welcome it as filling a gap between the very elementary introductions and the more extensive texts. It will prove valuable for beginning students as well as for non-physiologists who want to obtain a survey of the recent status of plant physiology.

A. QUISPÉL

P. S. NUTMAN, B. MOSSE, *Symbiotic Associations*. (The thirteenth Symposium of the Society for General Microbiology). University Press Cambridge, 1963. Price 9.50.

This volume contains the complete text of the papers that served as a basis for discussions during a symposium in London, April 1963. Of course it was not possible to cover all aspects of all types of symbiosis in a two-days symposium. However a very attractive selection has been made. After an introduction on integrative and disintegrative factors in symbiotic associations (Dubos and Kessler) and a discussion on the somewhat marginal case of bacteriophage lysogeny (Arba) seven examples of plant associations are discussed: lichen physiology (Smith), legume symbiosis (Nutman), non-leguminous root nodules (Bond), biochemistry of nitrogen fixation (Nicholas), forest tree mycorrhiza (Melin), vesicular-arbuscular

mycorrhiza (Mosse) and defence reactions in orchid bulbs (Nüesch). Six lectures on animal associations contain discussions on symbioses between algae and invertebrates (Droop), arthropods and their endosymbionts (Brooks), the fungi of Ambrosia beetles (Baker) and the intestinal bacteria and protozoa (Hungate, Coleman, Lev). We can welcome this book as a very stimulating review of the types of interactions, the difficulties encountered in their study and the possibilities to overcome these difficulties in many different types of symbiotic associations.

The volume was published before the symposium to stimulate the discussions. Those who attended the symposium will regret that in consequence some short communications and the discussions could not be included in this volume.

A. QUISPEL