Wickens, G.E.: **Ecophysiology of Economic Plants in Arid and Semi-Arid Lands**. - Springer-Verlag, Berlin - Heidelberg - New York 1998. 343 pp. DM 268.00. ISBN 3-540-52171-2.

This book belongs to the volumes published in the series: "Adaptations of Desert Organisms", edited by J.L. Cloudsley-Thompson. The author, G.E. Wickens combined several disciplines to create a broad survey of some factors that interact between environment, ecophysiology and economic plants of the drier regions of the world. Economic plants range from those that are commercially cultivated and marketed (agricultural, horticultural and forestry crops) as well as wild plants utilised in the domestic economy including those that safeguard the survival of hunter-gatherer aboriginal communities. More than 1500 species and subspecies are mentioned and characterised in this book according to the taxonomic indices.

In the first part the arid and semi-arid environment, regions and ecosystems of the world are clearly described. The regions are divided in: Saharo-Sindian, Horn of Africa, Southern Africa, South-Western Malagasy, Middle East, Central Asia, Arid Lands of China, Australia, North and Central America, Brazilian Caatinga and Western and South-Eastern America. The middle parts are concentrated on ecophysiology of plant stresses occurring in arid and semi-arid regions, *e.g.*, water, temperature and salt stress and the diversity of adaptation by which plants are able to survive in these regions. The mechanisms of plant resistance to each stress are classified according to stress avoidance and tolerance. Special attention is paid to C_3 and C_4 photosynthesis pathways, Crassulacean acid metabolism and to phytochemicals important in plant metabolism under environmental stresses. The chapter dealing with anatomical and morphological adaptations is very clearly organised. The final part is devoted to selected arid land plants and their ecophysiology and uses. The plants are classified according to the families and they are selected to include typical plants from all the arid and semi-arid regions rather than all economic species in these regions.

The book provides a multidisciplined survey of ecophysiology of economic plants in the drier regions of the world. It is arranged very clearly, using well-arranged tables and figures, and written mainly for the generalist. Since there are over 20 000 useful plants in the arid and semi-arid regions, of which only a relative few have been even partially investigated, and since the human and livestock population is increasing and many plant species have been lost, the book also shows the necessity to investigate the remaining economic plants more fully.

I. PRÁŠIL (*Praha*)