

Briggs, D., Walters, S.M.: **Plant Variation and Evolution**. 3rd Ed. - Cambridge University Press, Cambridge 1997. ISBN 0-521-45918-4. 512 pp., GBP 22.95, USD 34.95 (paperback).

This book is intended mainly for university students interested in plant taxonomy and evolution. Its aim, in the authors' own words, is to show how "the study of variation and evolution in plants has developed over the last 300 years". It gives good general picture of the subject, which can serve as a basis for further study. The text is accompanied by numerous figures, charts, and tables and is divided into 15 chapters.

The 1st chapter gives an introduction to the whole theme and points out some of its main questions and problems. Chapter 2 deals with the earliest ideas about the origin and evolution of species. Chapter 3 concerns basic principles of biometry and historical survey of the most important biometrical works. The 4th chapter deals with the main terms and concepts of Mendelian genetics; it very interestingly describes the experiments performed by Mendel and other early investigators in this field. Chapter 5 deals with post-Darwinian ideas on evolution. The next chapter presents a rather limited review of novel discoveries in molecular genetics and modern techniques which can be used for study of genetic variation in plants. Chapter 7 lays out the principles of different reproductive modes and breeding systems of plants, from outbreeding and self-incompatibility to self-fertilisation, and brings a detailed description of apomixis. The next chapter continues the theme: from the potential variation in seeds to the variation in different populations of one species. Readers get acquainted with the early experiments of several botanists, the ecotype and cline concepts. There is also a rather detailed description of the way an ideal genecological experiment should be designed and handled. Recent advances in genecology are presented in Chapter 9. Short Chapter 10 comprises several possible definitions of the species and explains the nature of two main speciation modes. These modes are examined in detail in the next two chapters: gradual speciation and hybridisation in Chapter 11, abrupt speciation together with the basic terms and principles of polyploidy in Chapter 12. Chapter 13 turns back to the concept of biological species considering the viewpoints of botanical taxonomists. The introductory notes on evolution, the cladistic approaches, and examples of phylogenetic trees are substance of Chapter 14. The last chapter is aimed at extinction of plant species and at the ways of and arguments for their conservation. The book is completed by the glossary of selected terms, extensive bibliography, and an index.

Disregarding certain minor shortcomings, the book has many positive assets. It offers not only the generally accepted answers to many questions of modern botany, but shows also the problems which remain still unanswered. In such cases, the authors take great care of presenting various opinions so that reader can see the whole complexity of particular problem. Great emphasis is put on the need of field studies dealing with wild populations of plants in their natural habitat. This awareness of the role these populations play in our understanding the principles of biodiversity and evolution is very important in the world where many plant species are rapidly becoming endangered or even extinct. The description of earlier hypotheses, experiments and their validation gives clear and lucid picture of the way the study of plant variation and evolution has developed from the 18th century up to present time. Showing the subject in this historical context is perhaps the greatest contribution of this book. It is certainly a good introductory book for university students and readers with general interest in the theme. At the same time, it can serve as a useful reference book for scientists in the field of plant taxonomy or evolution.

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