

BOOK REVIEW

D. BRIGGS & S. M. WALTERS: *Plant Variation and Evolution*, 256 p., 22 coloured, 61 black and white ill. World University Library, Weidenfeld and Nicolson, London, 1969. 35 sh.

This volume in the international series of books of the World University Library aims to provide a broad introductory, not too specialized survey of the historical background and the latest results of plant variation studies. In the authors' opinion there are signs that in an age of molecular biology the traditional branches of biology are looked upon as outmoded. Of course they disagree with this view, and give a survey of the increasingly scientific development of the study of plant variation and evolution during the last two centuries.

Topics discussed in the 14 chapters include: the historical background (from Ray to Darwin; early work on the description and basis of variation), modern views on the basis of variation, evolution in populations, the variation and breeding behaviour of gamodemes, the nature and origin of species, intraspecific variation, gradual speciation and hybridization, polyploidy, and evolution. In the last chapter, entitled "How to take the subject further", valuable suggestions how to contribute to the knowledge of organic variation are made to both biologists and interested amateur naturalists.

There is no need to introduce here Dr. D. Briggs and Dr. S. M. Walters. Their book is to the point and very informative. I cannot undertake here to review its contents in detail, but I want to draw attention to some of the most striking points.

Chapter 3 gives a very concise survey of early biometrical work, to which the well chosen figures contribute greatly.

Chapter 8 stresses the importance of the study of reproduction biology to the understanding of variation and taxonomy of Angiosperms. Special mention deserves the treatment of apomixis. The authors are of the opinion that the most stubborn critical groups are, i.a., *Rubus*, *Potentilla*, and *Pilosella*. In these groups, according to the authors, an occasional sexual cross can produce an F-1 from which apomictic generations can be readily produced. Sexual crosses, however, seem to occur frequently rather than occasionally in *Pilosella*. Many diploid and tetraploid races and species of *Hieracium* subgenus *Pilosella* reproduce sexually, only the higher polyploids – especially on the odd levels – may reproduce agamosperously. The sexual biotypes may occupy vast areas. This stresses the importance of combined studies of cytology and reproduction biology. The authors state that it is very difficult to demonstrate the actual fusion process of the male nucleus with the polar nuclei in pseudogamous apomicts. Of course I agree with this statement, but the difficulties may be overcome by cytological studies of the cells of the endosperm, as was done, e.g., by Rutishauser in *Ranunculus auricomus*. Without detracting in any way from the value of the treatment of apomixis, the reviewer is of the opinion that it is an omission that the authors failed to refer to the eminent standard work "Fortpflanzungsmodus und Meiose apomiktischer Blütenpflanzen" by A. Rutishauser (Zürich, 1967).

In chapter 10 the authors quote Linnaeus's observation (1737) that *Caltha palustris* flowers in March in the Netherlands. As far as my own observations go, I cannot agree with this statement, since this species flowers at present some weeks later in the Netherlands. These drawbacks of course are minor ones.

Summaries like the present one are extremely welcome in a field in which knowledge and methods are evolving so rapidly. The book is a splendid introduction for students and for non-taxonomists interested in the recent developments of plant taxonomy. The fine drawings and photographs deserve special mention.

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