

Preface

'Why should they care about the histogenesis of the leaf, or adventitious roots? ... The public wants heart transplants, a cure for AIDS, reversals of senility. It doesn't care a hoot for plant structures, and why should it? Sure it can tolerate the people who study them ... They're relatively inexpensive too. It costs more to keep two convicts in Statesville than one botanist in his chair'.

More Die by Heartbreak, Saul Bellow

While Bellow's character Kenneth Trachtenberg may convincingly relegate the study of plant structure to a backwater, it is a commonplace that we are all ultimately dependent on green plants for our survival on earth. Horticultural successes in increasing crop yields and developing new plant varieties emphasize the importance of plant physiology, biochemistry, and molecular biology, for all of which the study of the green plant's internal form and internal structure is a prerequisite. With the steadily increasing content of undergraduate and graduate biology courses, the proportion of a student's time devoted to plant morphology is inevitably reduced. There is no longer time for detailed study of the excellent and exhaustive texts in plant anatomy, and many find that plant structures are most easily understood when mainly described by annotated photographs and drawings. Such is the concept behind the present guide: knowledge of plant structure is fundamental to the study of plant science, and that knowledge has to be imparted clearly, briefly, and precisely. Following an introductory chapter on the morphology of the vascular plant, there are seven chapters each dealing

with a major aspect of plant structure. A comprehensive glossary of botanical terms used in the guide is also included. The text for each chapter sets out the essential characteristics of the plant features described and makes extensive reference to appropriate illustrations in the particular chapter and elsewhere in the book. Each illustration is accompanied by a legend and salient features are numbered (not labelled) for maximum clarity, referencing the structures to a boxed key. It is hoped that these aspects of the guide, together with the photographs and drawings, will prove attractive and useful to many readers.

The guide is intended for use in different ways by different readers. For the university or college student, the guide is intended to be read either as a concise introductory text or as a revision guide in preparation for exams. For the professional instructor or for the researcher in academic life or in industry, it is hoped the guide will provide a source of rapid reference. For the artist or the amateur student of natural history, the intrinsic beauty of many plant specimens, in external form and under the microscope, is clearly shown in the photographs and drawings, arranged in sequence after the text in each chapter.

The overall intention has been to provide a concise and highly illustrated summary of present knowledge of the structure of vascular plants, with particular emphasis on flowering plants.

Bryan G. Bowes
James D. Mauseth