

Preface

The history of this book dates back to the late 1960s, when the publishers Edward Arnold launched a series of student textbooks as the Contemporary Biology series, designed to provide up-to-date texts at elementary university and final-year school level. One of the first authors who was asked to contribute, on the topic of flowering plant physiology, was Professor H. E. Street, then Professor of Botany at the University of Wales, Swansea. He asked one of us (H.Ö.) to collaborate, and the first edition was duly published by Edward Arnold in 1970 under the authorship of H. E. Street and Helgi Öpik, and entitled *The Physiology of Flowering Plants: Their Growth and Development*. The emphasis of the text was on the 'whole plant' aspects of physiology. The second edition followed in 1976 and the third in 1984, although Professor Street sadly deceased in 1977.

While the second and third editions were still very much revisions of the original text, the longer time interval since the last edition, and the rapid pace at which biological knowledge has grown in the last few decades, have now necessitated a very thorough rewriting of large sections of the book, and the task has been quite challenging in the face of an accumulation of facts that on occasion has seemed quite overwhelming. It is not possible now to interpret many aspects of plant physiology without reference to molecular biology, even when one is basically interested in functioning at the organismal level. This applies particularly to the developmental aspects of physiology. Some reorganization of the text and shift of emphasis has accordingly been necessitated, though we have tried to retain the overall spirit of the original book.

One thing has remained unchanged during the preparation of this book from the first edition to the fourth: the unfailing encouragement and help from our editor, Professor A. J. Willis. Without him, the present text would not have been written. We are also grateful for the support of Dr Ward Cooper, Commissioning Editor, and Dr Alan Crowden, Editorial Director, of Cambridge University Press. Thanks are due for reading, and advising on, parts of the manuscript, to Professor Richard C. Leegood, Professor David Read and Dr Julie Gray of the University of Sheffield.

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We are grateful to all the people who have permitted us to reproduce their published data, and have provided material and helpful advice for figures; particular thanks are due to Professor Jane Sprent and Dr Euan James of the University of Dundee for supplying the original micrograph of bacteroids (Fig. 4.7).