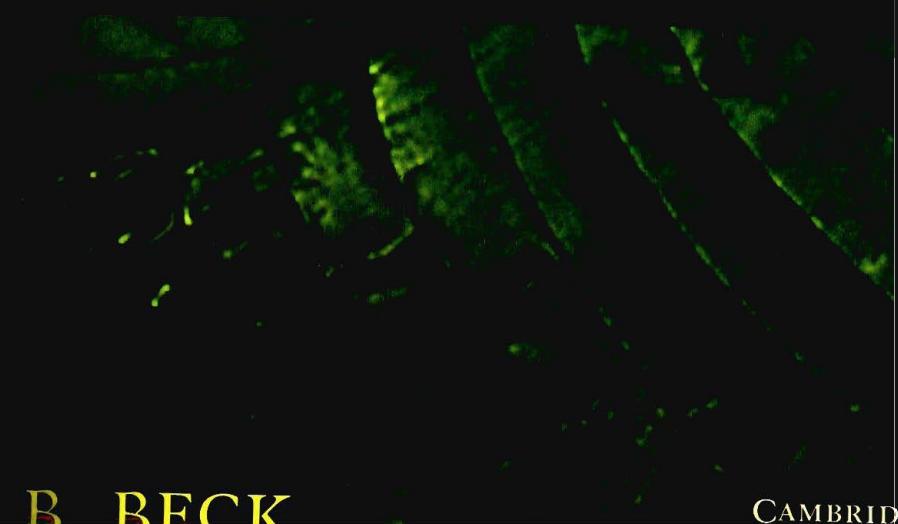


An Introduction to Plant Structure and Development

Plant Anatomy for the Twenty-First Century

SECOND EDITION



LES B. BECK

CAMBRID

An Introduction to Plant Structure and Development

Plant Anatomy for the Twenty-First Century Second Edition

This is a plant anatomy textbook unlike any other on the market today. As suggested by the subtitle, it is plant anatomy for the twenty-first century. Whereas traditional plant anatomy texts include primarily descriptive aspects of structure with some emphasis on patterns of development, this book not only provides a comprehensive coverage of plant structure, but also introduces, in some detail, aspects of the mechanisms of development, especially the genetic and hormonal controls, and the roles of the cytoskeleton. The evolution of plant structure and the relationship between structure and function are also discussed throughout the book. Consequently, it provides students and, perhaps, some teachers as well, with an introduction to many of the exciting, contemporary areas at the forefront of research, especially those areas concerning development of plant structure. Those who wish to delve more deeply into areas of plant development will find the extensive bibliographies at the end of each chapter indispensable. If this book stimulates a few students to become leaders in teaching and research in plant anatomy of the future, the goal of the author will have been accomplished.

CHARLES B. BECK, Professor Emeritus of Botany at the University of Michigan, received his PhD degree from Cornell University where he developed an intense interest in the structure of fossil and living plants under the influence of Professor Harlan Banks and Professor Arthur Eames. Following post-doctoral study with Professor John Walton at Glasgow University in Scotland, he joined the faculty of the University of Michigan. At Michigan he served one term each as Chairman of the Department of Botany and Director of the Museum of Paleontology. His graduate students pursued research in either plant structure and development or paleobotany. He taught courses in plant anatomy, plant morphology and paleobotany over a period of 35 years.

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**Plant Anatomy for the
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Second Edition

Charles B. Beck
University of Michigan



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To
My wife, Janice,
and our daughters, Ann and Sara
for their love, encouragement,
and enduring support,

and

to my students,

David Benzing
Robert Chau
Crispin Devadas
Margaret Knaus
G. Kadambari Kumari
Rudolf Schmid
William Stein
Garland Upchurch
Richard White
David Wight

who are a continuing inspiration and
from whom I have learned much.

It is important that students bring
a certain ragamuffin barefoot
irreverence to their studies; they
are not here to worship what is
known but to question it.

Jacob Bronowski
The Ascent of Man (1975)

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