BOOK REVIEW


The editors of this new book have taken up the challenge of presenting the reader with the major research developments that have taken place over the last 10 years that contribute to the current understanding of the biology of ferns and lycophytes. To achieve this goal they have brought together the work of some 28 contributors all active in research, mainly from USA but also from Canada, Europe and Japan.

The subject areas are diverse. The first section on development and morphogenesis starts with the gametophyte and alternation of generations, before exploring the structure of meristems and subsequent diversification into the various organs – root, stems and leaves. The next section deals with genetics and reproduction, including chapters on the role of antheridogens, breeding systems, and the chloroplast and nuclear genomes. Ecology is a complex discipline in itself, and the focus here is on phenology and habitat specificity in tropical ferns, the ecology of gametophytes and a review of conservation biology. The final section, systematics and evolutionary biology, includes a review of the evolution of ferns and fern-like plants from the fossil record, a chapter on species and speciation, exploration of diversity, biogeography and floristics, and ending with phylogeny and classification.

Each chapter presents a personal review of the subject by it author(s), with summaries of discoveries and developments, explanations of concepts and ending with a section on prospects for the future - all supported by an extensive list of references.

This is a scholarly work, clearly aimed at the undergraduate student market, and I can see it being added to the essential reading list for many courses in plant evolutionary biology. But it is more than being a standard undergraduate textbook and with such a wide variety of topics covered, there will be sections to interest a variety of general readers and particularly for those with a fascination for fern biology. It is good to see that it available as a more modestly priced paperback as well in hardback format.

Mary Gibby