

Flowers are the beautiful and complex reproductive structures of the angiosperms, one of the most diverse and successful groups of living organisms. The underlying thesis of this book is that to fully understand plant development (and why flowers differ in shape, structure, and colour), it is necessary to understand why it is advantageous for them to look like they do. Conversely, in order to fully understand plant ecology, it is necessary to appreciate how floral structures have developed and evolved. Uniquely, this book addresses flowers and flowering from both a molecular genetic perspective (considering flower induction, development, and self-incompatibility) and an ecological perspective (looking at the selective pressures placed on plants by pollinators, and the consequences for animal-plant co-evolution).

Understanding Flowers and Flowering, the first edition of which won the British Ecological Society Book of the Year Award in 2009, begins by considering the evolution of flowers and the history of research into their development. This is followed by a detailed description of the processes which lead to flower production in model plants. The book then examines how flowers differ in shape, structure and colour, and how these differences are generated. Finally, it assesses the role of these various aspects of floral biology in attracting pollinators and ensuring successful reproduction.

This new edition has been completely revised and updated to reflect the latest advances in the field, especially an increased understanding of the evolution of floral traits. New chapters consider the genetic basis of the floral transition in diverse species, as well as the evolutionary lability of floral form. There is a new focus throughout on both phylogenetic position and morphological diversity across the angiosperm phylogeny. *Understanding Flowers and Flowering* continues to provide the first truly integrated study of the topic—one that discusses both the how and why of flowering plant reproductive biology.

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