

PREFACE

In the decade since the last edition of this book much has changed. The world's human population increased by almost 1 billion people, worldwide 13 million hectares of forests were cleared, the CO₂ concentration of our atmosphere increased from 0.036% to 0.039%, oceans have become more acidic and sea levels have risen. These changes threaten tropical ecosystems in many ways and scientific interest in the ecology of this part of the world has increased significantly as a result. Over 45% of the references listed in this edition were published since the first edition appeared and, through these and many other studies, our understanding of tropical ecosystems has significantly improved. However, many gaps and challenges remain.

This edition again aims to provide an introduction to tropical ecosystems: to describe their structure and function, organisms that live within them and concepts that have been developed to synthesise our understanding of their ecology. Each chapter begins with the natural history of a tropical ecosystem and this is followed by a description of ecological concepts that are exemplified by the selected ecosystem. The book is intended for students in tropical countries who have completed a university-level introductory biology course and are planning to major in biology, ecology or conservation biology. The book is also intended for students in other parts of the world who wish to learn more about tropical ecosystems and their global relevance.

While the structure of this edition is largely unchanged much of the material presented has been updated. The section on climate change has been moved to the first chapter and observations on the significant impacts of this process on tropical organisms and habitats are described in subsequent chapters. Sections explaining latitudinal gradients and species diversity have been updated and expanded. The chapter on tropical islands now includes descriptive sections on the Galápagos and Hawaiian archipelagos as settings to present the processes of speciation and extinction respectively. The coral reef chapter has been rewritten to cover zooxanthellae diversity, an update on coral bleaching and a description of linkages between coral reefs and mangroves.

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