y se espera que este libro sea divulgado extensamente. Ecología y Conservación de Bosques Neotropicales provee mucha información esencial para biólogos conservacionistas. A lo mejor un esfuerzo posterior que podría complementar este libro excelente se titularía *Conservación y Manejo de Bosques Neotropicales*.

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Evolutionary Ecology: Integrating Theory, Technology, and Ecology

Evolutionary Ecology: Concepts and Case Studies. Fox, C. W., D. A. Roff, and D. J. Fairbairn, editors. 2001. Oxford University Press, New York. 423 pp. $45.00 (paperback). ISBN 0–19–513155–X.

Evolutionary ecologists seek to answer questions on selection, life-history strategies, trade-offs, dispersal, and mating systems by combining classical ecology, evolutionary theory, and molecular techniques. Recent advances in molecular genetic technology have much to contribute to our understanding of ecological and evolutionary processes. By integrating these disciplines, biologists are developing new approaches to understanding the diversity of life.

The edited volume *Evolutionary Ecology: Concepts and Case Studies* provides an overview of theoretical, empirical, and applied advances in this diverse field. The text includes 28 contributions from leading scientists in the fields of quantitative genetics, population genetics, life history, population ecology, and conservation. Its five sections explore recurring themes in evolutionary ecology, life histories, behavior, coevolution, and adaptation to anthropogenic change. All chapters follow a similar format, whereby an introduction to theoretical predictions is followed by specific examples, case studies, and future directions. The editors intended this text as introductory material for contemporary research programs and as an alternative to readings from primary literature in advanced ecology courses and graduate seminars. Because the contributing authors are leading researchers in their respective fields, readers will benefit from this unique combination of subject breadth and expertise.

One of the strengths of the book is that the chapters are well integrated; authors frequently make reference to other chapters when appropriate, and topics are organized such that each chapter builds on the last. Additionally, most of the case studies are recent and provide current insights into the field. Authors emphasize the need for future work in unexplored areas, providing valuable ideas for students considering a career in research. A good example of these qualities and a high point in the text is Lively's chapter on parasite-host interactions, which thoroughly covers all the key theories on this topic, uses compelling empirical data, and is written in a manner accessible to most biologists.

Shortcomings of the book are merely the limitations of one of its greatest strengths, the multiauthored format. For instance (as the editors warn), the book is somewhat fragmented. The levels at which the different chapters are pitched and the depth of treatment of each topic varies widely from chapter to chapter. Many contributions lack adequate introductory and background information for undergraduate biologists. For example, Pigliucci's chapter on phenotypic plasticity may be out of reach of students without prior exposure to quantitative genetics. Also, Roff's chapter on age and size at maturity is overly dependent on modeling and lacks verbal explanation of some concepts. In addition, authors appear to have been given free reign to review their own research. Although this strategy does allow each author to describe what he or she knows best, a single research program is necessarily limited in scope. In some cases, topic discussions may have benefited from reviews of a wider range of empirical examples.

The final section of the book, "Adaptation to Anthropogenic Change," is devoted to applied contributions of evolutionary theory to management and conservation decisions. The emphasis on practical applications of theoretical predictions aids the reader in comprehending abstract concepts and demonstrates that the study of evolutionary ecology is not purely academic, but provides understanding of issues ranging from horticulture to conservation.

Included in this final section is a chapter by McKenzie on pesticide resistance that depicts the effects that complex interactions of pest genotypes, allelic dominance, and pesticide concentrations may have on the evolution of pesticide resistance. McKenzie describes how partial dominance at a resistance gene and pesticide concentration may have been instrumental in accelerating the onset of resistance to the pesticide dieldrin in the Australian blowfly. This example nicely illustrates how population genetic theory may make valuable contributions to the design of effective management strategies.

The chapter on pesticide resistance is followed by another management-oriented topic, biological control of invasive species. The author, Myers, discusses the importance of host specificity of biocontrol agents and the lack of resistance of the target host species to rare or novel parasites. Although the chapter provides insightful information on strategies for predicting the outcome of biocontrol attempts, the overall tone is not sufficiently cautionary, considering the potential hazards inherent in the release of exotic biocontrol agents.

In the last chapter, "Evolutionary Conservation Biology," Hedrick ties together the various strands of the

book that apply to conservation biology. This chapter shows how the earlier topics of population structure, inbreeding and outbreeding, ecological character displacement, and predator-prey interactions are potentially important to the applied field of conservation biology. Hedrick uses the example of the Gila topminnow to illustrate how population genetic theory and laboratory research have influenced the management of this endangered species.

Overall, the editors have succeeded in their efforts: the text is a fine introduction to a rapidly growing hybrid discipline. The book as a whole yields a comprehensive overview of the current state of evolutionary ecology, making it a suitable entry point into this integrative field and a useful reference book for graduate students and researchers. Additionally, the volume fills an oft-vacant niche in the secondary literature. Whereas many other subdisciplines in evolutionary biology and ecology have benefited from continual updates and reviews (e.g., behavioral ecology), evolutionary ecology has not. Textbooks such as *An Introduction to Evolutionary Ecology* by Cockburn (2001) have been devoted to this field, but advanced, research-oriented volumes are lacking. This edited volume, then, is a welcome, useful, and timely addition.

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