

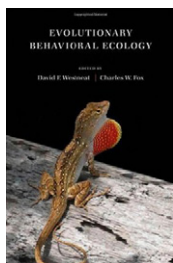
## Book Review

# To the core of behavioral ecology

**Evolutionary Behavioral Ecology** by David Westneat and Charles W. Fox (eds). Oxford University Press, 2010. US\$49.95 pbk (664 pages) ISBN 978-0195331929

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“Fitness is a bugger”. This sentence, quoted from J.B.S. Haldane, begins the chapter on evolutionary fitness in the new textbook *Evolutionary Behavioral Ecology*. This exemplifies two important underlying themes that editors David Westneat and Charles Fox advance throughout the impressive 31 chapters this book contains. First, there is a strong focus on a firm grounding in evolutionary

biology, given by an extensive discussion of fitness, its underlying concepts, and ways to incorporate this fundamental entity into both the theory and practice of behavioral ecology. Second, there is an acknowledgment that even the brightest thinkers find it extremely difficult to use fitness to explain why organisms behave in a certain way and that this process can generate a multitude of answers, depending on the specific questions being asked.

With these themes very much in mind, this new textbook about behavioral ecology in an evolutionary context covers most major areas of research within this wide topic. It deals with both theoretical and practical issues in order to examine and explain evolutionary and ecological patterns of how animals behave. In the first section, fundamental topics that are relevant to all students and workers in the field are discussed. These ‘Foundations’, as the section is called, give a sound overview of the general, essential concepts underlying evolutionary behavioral ecology, without falling into the trap of being uncritical or even doctrinal. I especially enjoyed the chapter about the historical development of the subject. The subsequent five sections cover classic areas in the field such as decision making, the ecology of behavior, and social and reproductive behavior. The final section, ‘Extensions’, discusses newer additions to the field in five chapters, covering, for example, behavioral syndromes and genomic approaches to behavioral questions.

Because all chapters are written by different authors, all leading experts at the forefront of their field, the views and approaches discussed are necessarily diverse. Chapters are structured with a short introduction to explain

conceptual issues, followed by case studies to illuminate the concepts, and finally a discussion of future directions. The editors, especially Charles Fox, have a lot of experience in editing and compiling books on evolutionary topics, e.g. [1], and so the balance they have found here, between a more conventional textbook and a compilation of case studies, works very well. This is surely also due to what the editors have called “aggressive” editing for consistency in structure and style, which results in a coherent book.

The classic textbook on behavioral ecology by Krebs and Davies [2] is no longer being revised, with the last edition published in 1997. The book reviewed here represents a timely alternative. Some readers might also want to look at Alcock’s *Animal Behavior: An Evolutionary Approach* textbook [3] which is more suited to those new to the topic or to an undergraduate audience. Others might also consider complementing some topics with Danchin *et al.*’s *Behavioural Ecology* [4].

The book is advertised as a graduate textbook. However, its completeness, the fact that chapters are written by leading international experts in each field, and the inclusion of those equations necessary to explain topics in depth, all serve to widen the coverage of ideas and therefore the potential readership compared to other books in behavioral ecology (which are generally written by much smaller groups of authors). This will make the book an important, if not a standard source for students and professionals alike. I think this book would be a valuable addition to the personal bookshelf of a reader of TREE or to the shelves of any life sciences library for that matter.

## References

- 1 Fox, C.W. and Wolf, J.B., eds (2006) *Evolutionary Genetics: Concepts and Case Studies*, Oxford University Press
- 2 Krebs, J.R. and Davies, N.B., eds (1997) *Behavioural Ecology: An Evolutionary Approach*, Blackwell Science
- 3 Alcock, J. (2009) *Animal Behavior: An Evolutionary Approach*, Sinauer
- 4 Danchin, E. *et al.*, eds (2008) *Behavioural Ecology*, Oxford University Press

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