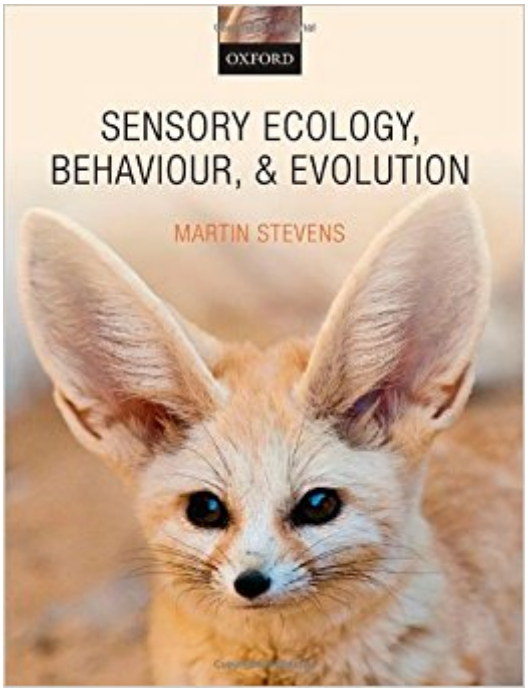
Sensory Ecology, Behaviour, And Evolution



Synopsis

Throughout their lives animals must complete many tasks, including finding food, avoiding predators, attracting mates, and navigating through a complex and dynamic environment. Consequently, they have evolved a staggering array of sensory organs that are fundamental to survival and reproduction and shape much of their evolution and behaviour. Sensory ecology deals with how animals acquire, process, and use information in their lives, and the sensory systems involved. It investigates the type of information that is gathered by animals, how it is used in a range of behaviours, and the evolution of such traits. It deals with both mechanistic questions (e.g. how sensory receptors capture information from the environment, and how the physical attributes of the environment affect information transmission) and functional questions (e.g. the adaptive significance of the information used by the animal to make a decision). Recent research has dealt more explicitly with how sensory systems are involved with and even drive evolutionary change, including the formation of new species.Sensory Ecology, Behaviour, and Evolution provides a broad introduction to sensory ecology across a wide range of taxonomic groups, covering all the various sensory modalities (e.g. sound, visual, chemical, magnetic, and electric) relating to diverse areas spanning anti-predator strategies, foraging, mate choice, navigation and more, with the aim being to illustrate key principles and differences. This accessible textbook is suitable for senior undergraduates, graduate students, and professional academics taking courses or conducting research in sensory ecology/biology, neuroethology, behavioural and evolutionary ecology, communication, and signalling. It will also be of relevance and use to psychologists interested in sensory information and behaviour.

Book Information

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Customer Reviews

"This book is an ambitious and successful attempt to integrate mechanistic and functional aspects of communication and in so doing educate evolutionary biologists, physiologists, animal behaviorists, and psychologists about each other's work in this arena. Stevens is extraordinarily well read and knowledgeable. ... [E]ssential reading." --The Quarterly Review of Biology

Martin Stevens is a BBSRC David Phillips Fellow, based in the Centre for Ecology & Conservation, University of Exeter. His research focuses on sensory ecology and behaviour, especially animal coloration and vision, across a wide range of organisms. His work has covered animal colour and spatial vision, anti-predator markings, brood parasitism and cuckoos, and sexual signals and vision in primates. He did his PhD at the University of Bristol on animal camouflage and bird vision, and has published over 40 scientific manuscripts.

We just used this text for a grad topical seminar--I'm a PhD student in an Environmental Science program studying coral reef ecology and the sensory/behavioral ecology of a fish parasite. This book provides an excellent overview of this emerging field. Strongest point of this text (and it is a VERY strong point) is that the text is extremely well referenced to the literature. I've found the citations a fantastic route into this literature. The week point of this text can be the writing and book design. More of the extended examples should probably be separated as boxed essays to improve the readability of the text. That said, I highly recommend this text.

Excellent book, very enjoyable read. Makes an excellent reader for a graduate-level seminar. Has plenty of good example studies to illustrate concepts, and the blending of neurophysiology with behavioral ecology and anatomy was very well done, even for this graduate student who never did study neurophysiology.

I was very excited to see a new text on the subject of sensory ecology and decided to test drive the book for a college (senior level) seminar class that I teach on sensory ecology.The good: I appreciated both the breadth and brevity of the book, which allowed me to easily cover the material during the semester. The book contains many excellent photos, which help illustrate the points. The

bibliography is a great reference tool for jumping into the literature.The bad: The editors were clearly asleep at the wheel. The book is full of typos and grammatical errors, which in the best cases makes it slightly annoying to read and in the worst cases leads to incorrect interpretations of the data. There are a number of figures that are mislabelled or contain incorrect legends. For instance, in a chapter 6 figure that should be comparing two species of spiders, both sets of data are labelled with the same species name. Additionally, the author seems to be of the opinion that it is best to use 5 words, when one will suffice. This often makes it difficult to understand the point he is trying to make.Overall: For a graduate student or academic that is already familiar with the field, it is probably a worthwhile purchase. However, I would be hesitant to give it an endorsement for a class, particularly at the undergraduate level, where the audience is likely to take the book at face value. This may lead to some confusion and misinformation that will require addressing in the class setting.

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