

The Ecological World View

Charles Krebs, 2008
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IN November 2008 I was fortunate enough to attend the Australasian Wildlife Management Society Conference in Fremantle where Charles Krebs presented as a key-note speaker. It is fair to say that Krebs' presentation left a significant mark on its audience, as evidenced by continued reference to his talk in subsequent presentations. Of course, Krebs is no stranger to this level of citation. His text book, *"Ecology: the Experimental Analysis of Distribution and Abundance"*, has been cited nearly 1800 times since its original publication, and is currently in its 6th edition. When combined with more than 200 peer-reviewed papers, Krebs' achievements and impact on the field of ecology cast an enviable shadow. As such, it was with a high level of expectation and a little trepidation that I decided to review his recent text *"The Ecological World View"*.

This book contains 21 chapters comprised of several subsections. Chapter 1 provides an introduction to ecology, aided by numerous examples. A section on the interaction between people and ecological systems in this chapter is a nice addition, something that has often been ignored in ecological textbooks. Chapters 2 and 3 provide a summary of biogeography, with an emphasis on spatial scale, giving readers insight into an important aspect of ecological research. References to climate change also allow readers to relate this information to a contemporary and well-known environmental issue, reinforcing the applied nature of the discipline.

Chapters 4–17 approximately follow an hierarchy of "integrative levels in biology" presented on page 6 of Chapter 1, moving from behavioural ecology (Chapter 4), through to population ecology (Chapters 5 and 6), community ecology (Chapters 7–9 and 11–14), ecosystem ecology (Chapters 15 and 16) and landscape ecology (Chapter 17). Although a good mix of applied and theoretical ecology is presented throughout, the final four chapters (Chapters 18–21) have a particularly applied flavour, with a focus on sustainability, pest control, and conservation biology.

Chapter 4 introduces the reader to many aspects of behavioural ecology, including its link to evolution through speciation. Chapters 5 and 6 are logically separated into spatial and temporal aspects of population ecology. Three chapters on community ecology (7–9) deal with types of interactions between species (e.g., predation, mutualism), while a further three (11–14) cover community dynamics including succession, disturbance ecology, food webs and biodiversity. The next two chapters on ecosystems (15

and 16) build on this foundation, introducing the reader to the importance of energy flows, and abiotic factors and cycles, in structuring ecological systems.

The chapter on landscape ecology (Chapter 17) is perhaps the weakest. This is, in-part, due to a representation of landscapes as being composed of "multiple eco-systems". This view of landscapes is contentious and subject to debate (see Allen and Hoekstra 1992; Lidicker 2008). Although this may seem a little pedantic, how we conceptualize ecological systems has ramification on how we study and ultimately manage them (see Lindenmayer *et al.* 2007). As such, highlighting that a traditional hierarchy is but one of a set of conceptualizations of how ecological systems are hierarchically (or otherwise) organized (see Allen 1998; Lidicker 2008), may be beneficial to the education of young scientists. Despite this minor limitation, the chapter does do a reasonable job of introducing the reader to many important aspects of landscape ecology.

Overall Krebs strikes a good balance between applied and theoretical ecology. I used this book last year when developing an introductory unit on ecology, and found it an excellent resource. The plethora of examples of ecological theory in practice give readers a real sense that what they are learning about *does* matter. The inclusion of an "in the news" text-box preceding each chapter highlights the relevance of the content to contemporary ecological issues. The book is also replete with simple graphs that illustrate the themes discussed to great effect.

This book achieves its aim of providing "a lively overview of the principles of ecology" for students of ecology at the university-level. I highly recommend this book as a study-aid to undergraduate students of ecology, and to lecturers searching for a text to introduce students to key aspects of the discipline in an uncomplicated, but thorough, manner.

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