and learn from our colleagues in Mexico. The present volume will aid us in doing so.

Robert N. Wiedenmann
Department of Entomology
University of Arkansas
Fayetteville, AR 72701
E-mail: rwieden@uark.edu

M. R. Speight, M. D. Hunter, and A. D. Watt
628 pps., $89.00 (soft)
ISBN: 078-1-4051-3114-8

Insect ecology is a specialized field inside a larger discipline of ecology. Most graduate programs in entomology have requirements for course work in insect ecology. Up-to-date text books are needed. While this sounds fairly straightforward, it is not. There are many specialized areas in insect ecology such as physiological ecology, evolutionary ecology, behavioral ecology, ecosystem ecology, and population ecology. In addition, there are closely related areas like chemical ecology, insect–plant interactions, and insect conservation. Thus, putting together a textbook for an entry level graduate insect ecology course is a tall order, but the authors have done just that in the revised Ecology of Insects: Concepts and Applications, 2nd ed.

Much has happened in insect ecology since the original edition of Speight et al. was released in 1999, and the authors have comprehensively revised Ecology of Insects, adding two additional chapters to accommodate the evolving field of insect ecology. The chapter on physiological ecology is completely new. Chapter 8 in the first edition was titled Biodiversity and Conservation but has been separated into two chapters in the second edition. Other chapters have each been updated appropriately, the best example of this being the topic of insect–plant interactions. This topic is treated in chapter 3 (Insect Herbivores), with additional aspects treated in chapters 6 and 11 (Evolutionary Ecology and Insects and Diseases). Information on induced plant defenses involving the octadecanoid and shikimic acid pathways has been significantly updated. In addition to constitutive plant defenses, induced plant defenses have been advanced substantially over the past 10 yr. Also the figures have been noticeably improved, and a section of color plates can now be found in the middle of the book. Although color plates throughout the text would make any textbook more informative, it would also become more expensive.

If the book has shortcomings, it is in the area of some of the classic indices and models. For example, the Shannon-Wiener, Simpson, and Brillouin indices are given cursory coverage, with the Jaccard, Sorensen and Morrista-Horn indices barely being mentioned. Several modern multivariate methods and software packages are mentioned with references provided. Although the chapter treating insects and diseases is good, it jumps back and forth from plant to animal diseases. These topics may be better treated in completely separate sections within the chapter. Granted there are similarities between them, but there are also substantial differences. Because most plant viruses require a vector for plant to plant spread, it is important to introduce the concepts of virus transmission, and the authors could have gone a little deeper into this topic. This is especially true because 94% of known plant virus vectors are arthropods, with 55% of them being aphids (Ng and Faulk 2006). They do not give examples of nonpersistent or semipersistent viruses, nor do they explain the basics of virus transmission mechanisms. The green peach aphid, Myzus persicae (Sulzer), is thought to vector >100 viruses to >30 plant families, but it is barely mentioned. The authors give the impression that nonpersistent and semipersistent transmission are simple systems when in fact they are complicated, just not as complicated as persistent circulative and persistent propagative systems (Ng and Faulk 2006). More than $100 million has been spent on glassy-winged sharpshooter Homalodisca vitripennis (=H. coagulata) and Xylella fastidiosa research since the first edition of this book came out. They correctly state that xylem feeding vectors can transmit the bacterium soon after feeding, but they do not discuss the acquisition time nor do they mention that X. fastidiosa can replicate in the cibarial cavity (Almeida and Purcell 2003).

Although this is a well-written volume, at least one error occurs in the book on page 383. A papaya phytoplasma is listed as a virus. The authors cite Padovan and Gibb (2001) on this entry, but this should be listed with phytoplasma vectors. In all fairness, this should have been caught by the reviewers. Unfortunately, phytoplasmas are barely treated in the text.

Chapter 12 of the book treats insect pest management and is essentially an overview of the subdiscipline. This chapter is well written and is one of the longest chapters in the book. Oddly, the authors discuss host plant resistance without citing Painter (1951). During the discussion of economic thresholds, there is no mention of Stern et al. (1959). These works are two of the cornerstones of integrated pest management (IPM). Whereas updating texts with current information and references is paramount, the historical integrity of the discipline should be maintained. Many current students are not exposed to the rich history of entomology.

I strongly recommend Ecology of Insects: Concepts and Applications, 2nd ed., to all students, faculty, and other scholars studying insects or insect ecology. I used this text in my graduate level insect ecology course during the spring 2009 semester. The 12 chapters is a manageable number to address within a single semester course, and the new edition covers almost every aspect of insect ecology. The only real alternative to this book is Insect Ecology: An Ecosystem Approach, 2nd ed. (Schowalter 2009) although it remains important. Price 1997 is becoming somewhat dated for the classroom. The up-to-date references in each chapter are invaluable to new students and old who want to find out more information about certain topics. Students like the fact that it is about $110 cheaper than Price’s book.