

1912 to the Noxious Weed Control and Eradication Act of 2004 or ballast water regulation. The chapter concludes with the usual statement that impacts of invasive plants on ecology and economy warrant larger investments but lacks any clear analysis why this support may not have been forthcoming, even in a wealthy country such as the U.S.

On first impression *Invasive plants and forest ecosystems* promises a thoughtful approach focusing on plant invaders in forest ecosystems. In detailed readings the book (with the exception of a few chapters) fails to deliver entirely on its promises, particularly regarding synthesis. Unfortunately, the editors' intent to provide a reference for a diverse audience is

not accomplished and more sophisticated and thoughtful treatments of topics are available elsewhere.

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Ecology for our parents and our children

Kricher, John. 2009. **The balance of nature: ecology's enduring myth**. Princeton University Press, Princeton, New Jersey. xi + 237 p. \$24.95, ISBN: 978-0-691-13898-5 (alk. paper).

Key words: balance of nature; biodiversity and ecosystem function; environmental ethics, history; paradigm.

How many times have any of us tried to describe to our friends, relatives, parents, or dinner guests who are not themselves ecologists what it is that professional ecologists actually do? Once it becomes clear that no, most of us do not spend all our time saving whales or hugging trees, and the conversation has descended into the arcana of intraguild predation, the intermediate disturbance hypothesis, or how the sampling effect may sever the link between biodiversity (whatever that is) and ecosystem services (whatever they are), our companions shift restlessly in their chairs and our parents consider rewriting their wills. How much more convenient it would be to pass off a short, engaging, and clearly written book that explains it all, and then turn the conversation to more piquant topics, such as the outcome of the latest Red Sox–Yankees series or the hippest new app for the iPhone.

With *The balance of nature*, John Kricher has done us the favor of producing the book our non-ecologist parents should read. In a scant 200 pages of accessible prose, Kricher weaves together three themes about which any literate citizen should be aware. First, he charts the history of ecology, dividing life into the familiar B.C. (“Before Charles”) and A.D. (“After Darwin”). Although Kricher’s coverage of the intellectual history of ecology is nowhere near as detailed as Frank Egerton’s ongoing series on the history of the ecological sciences (begun in the January 2001 issue of the *Bulletin of the Ecological Society of America*, the 32nd installment—still covering material from B.C.—appeared in July 2009), he accurately portrays the transition from observation and description to experiments and predictive models: Perhaps most importantly, he uses this historical overview to place ecology firmly and unapologetically within the domain of evolutionary biology. This may cause some discomfort to our more pious parents, but perhaps in the 21st century it’s about time to shed some of those superstitious beliefs that have inexplicably persisted A.D.

Second, Kricher addresses the persistent belief that nature is somehow in balance. This “enduring myth” should have been dispelled by Darwin’s voluminous writings, is woven through much of early ecological science (Frederic Clements comes in for some serious critique here, Eugene Odum less so), and was more-or-less dismissed by non-equilibrium theorists and experiments in the 1970s, but continues to dominate discussions of ecosystem management, conservation biology, and the lay conception of how nature ought to work. This thread of the book is not as satisfying as the first. Much of the discussion recaps Frank Egerton’s 1973 classic (and more clearly written) paper, “Changing concepts of the balance of nature” (*Quarterly Review of Biology* 48:322–350). The argument is broken up by lengthy summaries of classic texts by Elton, Odum, Allee et al., and Smith, among others. Nevertheless, the main point, that nature isn’t in balance, never was, and never will be, comes through, and it’s a welcome message to the wider world.

The third theme reflects on the importance of ecology to the general public. The key message is that we depend on “ecosystem services” provided to us at no dollar cost by non-human species. The final chapter of the book, “Facing Marley’s ghost,” encapsulates this argument, and it should be required reading for every high school freshman, every college graduate, any literate citizen, and all of us as well. As much a recapitulation of Kricher’s 40-year career in teaching and research as it is a reminder of Paul Sears’ description of ecology as a subversive science (1964. *Ecology*—a subversive subject. *BioScience* 14:11–13), this chapter uses the dialogue between Dickens’ famous characters Jacob Marley and Ebenezer Scrooge as a metaphor for humanity’s choices at its current crossroads. Kricher argues crisply and cogently that we need to use environmental ethics grounded in scientific (ecological) knowledge to guide us through the rapidly changing—dare we say it, unbalanced—world we have made for ourselves.

Although *The balance of nature* is written in a conversational style appropriate for its intended audience, and the overall portrayal of ecology, its history, and its importance are accurate, there are many errors and inaccuracies that caused this ecologist to cringe. A few particularly annoying examples follow. The Chestnut-sided Warbler is incorrectly named as *Dendroica cantanea* (clearly a misprint of *D. castanea*, the Bay-breasted Warbler described five lines earlier) instead of *D. pensylvanica*. Although Raymond Lindeman and his 1942

classic paper ("one of the most important papers ever to appear in the journal *Ecology*") receive two pages of discussion, he is inexplicably omitted from the list of G. Evelyn Hutchinson's students who became "some of the most eminent ecologists of the twentieth century." Perhaps Lindeman's early death precluded his inclusion here. The chemical capsaicin is named for the genus of plant from which it is derived (*Capsicum*), not the other way around. Throughout the discussion of climate change in Chapter 11, the chemical formula for carbon dioxide, CO₂, is repeatedly written as CO², an error that even the most novice proofreader should have detected. Kricher asserts that *Lachesis muta*, the scientific name for the Neotropical pit-viper commonly known as the bushmaster, "translates to 'silent fate.'" This loose translation misses much irony. Lachesis was one of the three Fates of Greek mythology (she who measured one's destiny by the length of her thread), and Dea Muta was the Goddess of Silence. A better translation of *Lachesis muta* might be "the silent Fate" (with deliberate capitalization); but the binomial actually refers both to the measurement of one's life by the snake and to the absence of noise made by its shaking tail, which lacks a rattle (Gotch, A. F. 1986. *Reptiles: their Latin names explained*. Blandford Press, Poole, United Kingdom). And in the epilogue, Kricher refers to ecology's new paradigm

(the linking of biodiversity to ecosystem function) as "nothing more than an intellectual Necker [*sic*] cube" (p. 203). The Necker cube is the well-known optical illusion of a cube drawn in oblique perspective so that it is impossible to tell which face is in front and which behind. It is named for the Swiss crystallographer Louis Necker, who published it in 1832.

All of these admittedly minor errors can, and should, be corrected in subsequent printings. And if a second edition were to be produced, some illustrations, indeed any illustrations at all—pictures, graphs, reproductions of paintings, or other eye-candy—would help to engage a broader audience. But pedantic carping aside, *The balance of nature* hits its mark. Buy a copy for your parents, your students, and your children today.

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Spotlight

RECENT PUBLICATIONS OF PARTICULAR INTEREST

Egan, Timothy. 2009. **The big burn: Teddy Roosevelt and the fire that saved America.** Houghton Mifflin Harcourt, Boston, Massachusetts. x + 324 p. \$27.00, ISBN: 978-0-618-96841-1. Written in narrative style, *The big burn* tells of the three-day fire of August 1910 that burned 3 million acres of forest in Washington, Idaho, and Montana. The story of the fire is set in the larger context of Teddy Roosevelt, Gifford Pinchot, and the five-year-old U.S. Forest Service.

Walls, Laura Dassow. 2009. **The passage to Cosmos: Alexander von Humboldt and the shaping of America.** The University of Chicago Press, Chicago, Illinois. xv + 404 p. \$35.00, ISBN: 978-0-226-87182-0 (alk. paper). This book explores the mind of the famous intellectual Alexander von Humboldt and his inspiration in writing his seminal work *Cosmos*. Humboldt's influences were remarkably far-reaching and his work inspired, among others, both Charles Darwin and the American environmental movement. Walls' book attempts to provide some new spark to Humboldt's legacy which seems to have recently lost some luster.