New Titles

Source: BioScience, 60(11) : 953

Published By: American Institute of Biological Sciences

URL: https://doi.org/10.1525/bio.2010.60.11.15

address those limitations (e.g., D. H. Wright's 1983 species-energy work). I thought I might see meta-analyses comparing the conditions where *TTIB* failed empirical tests with conditions where it passed, followed by more general models that address those limitations and failures.

However, this book contains strikingly little systematic examination of general patterns. Rather, there were often lists of processes that can affect species distributions (e.g., niche preemption, founder effects, sympatric speciation, etc.), followed by a supporting example or two (i.e., some accumulated facts). Evidence was very often presented to support, rather than test, ideas. In particular, given the emphasis on evolutionary processes, there was surprisingly little effort to statistically incorporate these into modifications of *TTIB*, or to assess to what extent variation in biotic assemblages among islands can be statistically related to differences in evolutionary processes, versus differences in contemporary environment. Only one chapter of this book seems to start explicitly with *TTIB* and further develop its concepts: Whittaker and colleagues extend *TTIB* to include island age as a factor influencing island richness.

My third reservation is philosophical. Vellend and Orrock, in the concluding chapter of the book, put their finger on it. Comparing the fields of community ecology and population genetics, they remark that community ecology developed in light of obvious patterns in nature (e.g., latitudinal variation in richness), whereas population genetics developed as a theoretical discipline in the absence of much data on allele frequencies. Thus, Vellend and Orrock say, "although population genetics appears to rest on a firmer theoretical foundation than community ecology, we are not actually any better at predicting broad scale patterns of genetic diversity than we are at predicting broad scale patterns in communities. If anything, the opposite is true." But—and here's the rub—"the difference is that in population genetics this is not considered a short-coming given the coherent set of basic models that can be successfully tailored to meet the inherently contingent specifics of any particular case, whereas in ecology we are set up for disappointment when we hope for grand all-encompassing theories to make the contingencies disappear" (p. 453). Vellend and Orrock then propose an organizational structure for community ecology on the basis of population genetics.

This argument gets to the question of what science is supposed to do. On the one hand, if the purpose of science is to develop theories that predict the behavior of nature, then one may ask: What can we predict now, 40 years after *TTIB*, that we could not predict in its immediate wake? Dismayingly little, judging from this book. On the other hand, one may argue (as Vellend and Orrock seem to say, and plenty of other chapters in this book seem to do) that the purpose of science is to elucidate mechanisms that operate under at least some circumstances (e.g., in controlled experiments), and to provide a plausible example or two from nature to illustrate those mechanisms. Thus armed, one can sally forth to explain (a posteriori) the contingent specifics of particular cases. In this view, this revisitation of *TTIB* will be very satisfying. Even for die-hard predictionists (such as myself), *The Theory of Island Biogeography Revisited* has a wealth of ideas whose general predictive ability begs testing.

DAVID J. CURRIE
David J. Currie (dcurrie@uottawa.ca) is a professor in the Biology Department at the University of Ottawa, Canada. He is editor in chief of Global Ecology and Biogeography: A Journal of Macroecology, *published by Wiley-Blackwell.*

NEW TITLES

Atlas of Rare Birds. Dominic Couzens. MIT Press, 2010. 240 pp., illus. $29.95 (ISBN 9780262015172 cloth).

The Biogeography of Host-Parasite Interactions. Serge Morand and Boris R. Krasnov, eds. Oxford University Press, 2010. 288 pp., illus. $65.00 (ISBN 9780199561353 paper).

The Climate Fix: What Scientists and Politicians Won't Tell You About Global Warming. Roger Pielke Jr. Basic Books, 2010. 288 pp., illus. $26.00 (ISBN 9780465020522 cloth).

Conservation by Proxy: Indicator, Umbrella, Keystone, Flagship, and Other Surrogate Species. Tim Caro. Island Press, 2010. 400 pp., illus. $35.00 (ISBN 9781597261937 paper).

How to Catch a Robot Rat: When Biology Inspires Innovation. Agnès Guillot and Jean-Arcady Meyer. Susan Emanuel, trans. MIT Press, 2010. 232 pp., illus. $29.95 (ISBN 9780262014526 cloth).

Mammal Teeth: Origin, Evolution, and Diversity. Peter S. Ungar. Johns Hopkins University Press, 2010. 416 pp., illus. $95.00 (ISBN 9780801896682 cloth).

The Moral Landscape: How Science Can Determine Human Values. Sam Harris. Simon and Schuster (Free Press), 2010. 304 pp., illus. $26.99 (ISBN 9781439171219 cloth).

Parasites: Tales of Humanity's Most Unwelcome Guests. Rosemary Drisdelle. University of California Press, 2010. 280 pp., illus. $27.50 (ISBN 9780520259386 cloth).

Protecting Life on Earth: An Introduction to the Science of Conservation. Michael P. Marchetti and Peter B. Moyle. University of California Press, 2010. 232 pp., illus. $49.95 (ISBN 9780520264328 paper).

Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife. Etienne Benson. Johns Hopkins University Press, 2010. 288 pp., illus. $55.00 (ISBN 9780801897108 cloth.)

doi:10.1525/bio.2010.60.11.15