

puted, although he clearly comes down on the side of hybridization in each case.

ERIC J. BAACK, *Biology, Luther College, Decorah, Iowa*

THERMAL ADAPTATIONS: A THEORETICAL AND EMPIRICAL SYNTHESIS.

By Michael J. Angilletta, Jr. *Oxford and New York: Oxford University Press.* \$135.00 (hardcover); \$65.00 (paper). xii + 289 p. + 3 pl.; ill.; author, species, and subject indexes. ISBN: 978-0-19-857087-5 (hc); 978-0-19-857088-2 (pb). 2009.

Past centuries have given rise to a plethora of detailed studies that describe the proximate mechanisms linking temperature to physiology, life history, and behavior, and yet our understanding of the evolutionary processes underlying thermal adaptation has notably lagged behind other related fields. Angilletta's *Thermal Adaptations: A Theoretical and Empirical Synthesis* is a long-awaited and laudable attempt to distill what has become a hugely diverse subject in its own right.

In nine chapters, this book provides an excellent introduction to thermal heterogeneity, thermal physiology, plasticity and acclimation, and evolution in the context of past and future climate change. Although what really sets this text apart is its emphasis on a theoretical framework that both students and experienced scientists can use as a starting point to direct future research. Case studies are not merely listed, but have been carefully chosen to illustrate the application of empirical, statistical, and theoretical techniques that can be directly related to issues concerning thermal adaptation. In doing so, areas where our current understanding is suffering from incongruence between theoretical predictions and empirical observations are exposed, thereby pinpointing hot topics for further investigation. Angilletta draws upon both classical work and the latest research to successfully provide a one-stop shop for everything from descriptive studies to selection experiments, game theory, optimality modeling, and quantitative genetics. It is the concise, balanced, and seemingly effortless manner in which this is achieved that makes this rather slim volume appealing. By focusing on methodological techniques for investigating ultimate explanations for thermal adaptation, the author provides the toolbox researchers need while, at the same time, offering a stimulating read.

DAVID BERGER, *Zoological Museum, University of Zürich, Zürich, Switzerland* and RICHARD J. WALTERS, *Plant Ecology & Nature Conservation, University of Potsdam, Potsdam, Germany*

THE GENIAL GENE: DECONSTRUCTING DARWINIAN SELFISHNESS.

By Joan Roughgarden. *Berkeley (California): University of California Press.* \$24.95. ix + 255 p.; ill.; index. ISBN: 978-0-520-25826-6. 2009.

This book concerns the relationship between male and female organisms. The central theme is that evolutionary theory has previously emphasized competition between the sexes. Roughgarden argues that across a wide range of phenomena, accounts based on conflict should be replaced by those based on cooperation. Specifically, she argues against many elements of what she regards as the standard dogma of sexual selection, which she portrays as saying that males just seek matings and females are coy. She dismisses Red Queen and Muller's Ratchet explanations of the maintenance of sex as unimportant, preferring ones based on sharing of the genome that she regards as more cooperative. She rejects explanations of the evolution of anisogamy that stress conflict between the sexes. She criticizes accounts that emphasize sexual conflict in simultaneous hermaphrodites and is concerned with whether this mode of reproduction evolved before dioecy. Finally, she argues for a more cooperative interpretation of the behavior of males and females that are caring for their common young.

The volume has strong extra-scientific undercurrents. In particular, Roughgarden seems to have an agenda that is not entirely scientific. Her references to people with opposing view are not always about their science and are not always flattering. Arguments seem based on an ideology and are put in unnecessarily polarized terms. These various elements will exasperate some and could easily distract other readers from the scientific content of this book. I will pass over the details of these elements in silence, except to say that this volume would have been better without them.

Overall, I remained unconvinced by many of the propositions of this book. Nevertheless, the final parts are interesting and contain a worthwhile contribution. Here, Roughgarden is concerned with a framework for the analysis of the bargaining behavior of a male and female parent over care of their common young. I endorse many elements of this framework.

Roughgarden sees the interaction between parents as crucial in allowing cooperation to evolve (the behavioral tier). The idea of a behavioral tier is commonplace in economics and has been previously advocated in biology (A. I. Houston and J. M. McNamara. 1999. *Models of Adaptive Behaviour*. Cambridge (UK): Cambridge University Press). Nevertheless, it could be argued that behavioral ecologists have previously overemphasized payoffs and paid insufficient attention to the process by which decisions