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useful resource for lecture preparation or outside reading assignments. The book contains some fascinating facts: Reindeer have blue eyes in winter and yellow eyes in summer, apparently as an adjustment to changing light conditions. The great tits of Oxford have successfully adjusted their breeding schedules to the earlier emergence of their winter moth caterpillar prey, but those in the Netherlands have not. Matters are more complicated in the elaborate food webs of Cape fur seals, and the authors suggest that the effects of climate change and decisions about hunting or culling can be nonobvious or even counterintuitive. As a zoologist, I found the description of the use of bioluminescent luciferin to study plant growth patterns in *Arabidopsis* both interesting and enlightening.

Historical background lends strength to this book's discussion of seasonal timing in animals and plants. The discovery of photoperiodism by Garner and Allard in plants and by Marcovitch in aphids in the 1920s is nicely covered. Hamner and Bonner in the United States and Bünning in Germany, whose hypotheses and experimental designs drove work on seasonal timing for at least the next 50 years, are then described. Experiments to test hypotheses about photoperiodic timing are complex, but the authors explain them clearly here, and include a useful glossary.

Discussions of molecular and physiological aspects of seasonal rhythms are better presented than those pertaining to ecological or behavioral aspects. For some areas of behavior and ecology, the authors seemed a bit out of their depth and were prone to error or misinterpretation. For example, with respect to migration, albatross foraging excursions are an example of long flights that are *not* migration, but the authors treat them as part of a broad range of migratory movements. It is misleading to say that the evolutionary origins of migration are "hotly debated," as there is consensus that migration is an ancient behavior that evolved independently many times as an extension of traits already present for other purposes. The suggestion that, of the two major species of locust, *Locusta migratoria* and *Schistocerca gregaria,* the former is irruptive whereas the latter is migratory obscures much more complex biology; these species are both irruptive *and* migratory. The authors miss an opportunity by failing to discuss *S. gregaria* especially in more detail. This species is seasonally tied to rainfall, the intertropical convergence zone, and wind directions in ways that can dramatically contradict the statement that they make movements between winter (*sic*) and summer breeding grounds. Neither locust species is limited to North Africa, as implied; both range over virtually the entire African continent with (migratory) excursions to southern Europe and western Asia. A discussion of a particularly interesting and varied aspect of seasonality, not limited to locusts, is absent.

Biologists are likely to be less familiar with the many influences seasons have on human health and demography, and should find much that is interesting food for thought. Whether humans are photoperiodic is the subject of debate, which the authors summarize nicely; however, the seasonal patterns of human births and deaths are more distinct. In the Northern Hemisphere, births peak in spring, with a secondary peak in September and a trough in November and December. In some, but not all, industrial countries, the pattern seems to be disappearing. Lifespan is longer by several hundred days on average for those born in November versus those born in March. In French-Canadian women, the month of birth predicts fitness as measured by the number of grandchildren produced. There are hints that nutritional factors may be involved, but clearly there is still much research to be done.

A consultation with my clinician daughter indicated that much of this book could provide guidelines and insights for physicians and public health professionals. Seasonal patterns take us back to basic biological and evolutionary principles that are fundamental to understanding health and disease, and can provide clues to disease risks and causes. For example, vitamin D deficiency during pregnancy appears to increase the risk of schizophrenia in offspring. Could the similar link between winter pregnancy and schizophrenia reflect lower winter availability of vitamin D? There also appears to be complex interactions among influenza, the season of pregnancy, and mental illness in offspring. Other examples of correlations between season of birth and illness include diabetes, asthma, and Hodgkin's disease. The authors argue persuasively that seasonal effects can be useful to health research and may indicate new ways of looking at interactions between genes, environments (including social environments), and patterns of illness and good health.

The book closes with some examples of how changes in seasonal life history patterns reflect human-induced climate change. Some of the changes are genetic, whereas others reflect nongenetic physiological adjustments. In any case, the evidence that climate change influences life history timing is compelling. Indeed, as the authors say, "we are all phenology freaks now," or at least we should be.

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Adventures among Ants: A Global Safari with a Cast of Trillions. Mark W. Moffett. University of California Press, 2010. 288 pp., illus. $29.95 (ISBN 9780520261990 cloth).

All about Birds: A Short Illustrated History of Ornithology. Valérie Chansigaud. Princeton University

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Press, 2010. 240 pp., illus. $29.95 (ISBN 9780691145198 cloth).

Big Ecology: The Emergence of Ecosystem Science. David C. Coleman. University of California Press, 2010. 248 pp., illus. $39.95 (ISBN 9780520264755 cloth).

The Book of Shells: A Life-size Guide to Identifying and Classifying Six Hundred Seashells. M. G. Harasewych and Fabio Moretzsohn. University of Chicago Press, 2010. 656 pp., illus. $55.00 (ISBN 9780226315775 cloth).

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Cultural Heritage Microbiology: Fundamental Studies in Conservation Science. Ralph Mitchell and Christopher J. McNamara, eds. ASM Press, 2010. 348 pp., illus. $169.95 (ISBN 9781555814762 cloth).

Darwin's Pictures: Views of Evolutionary Theory, 1837–1874. Julia Voss, trans. Lori Lantz. Yale University Press, 2010. 368 pp., illus. $45.00 (ISBN 9780300141740 cloth).

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Marine Ecosystems and Global Change. Manuel Barange, John G. Field, Roger P. Harris, Eileen E. Hofmann, R. Ian Perry, and Francisco E. Werner, eds. Oxford University Press, 2010. 464 pp., illus. $150.00 (ISBN 9780199558025 cloth).

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The Prism and the Rainbow: A Christian Explains Why Evolution Is Not a Threat. Joel W. Martin. Johns Hopkins Press, 2010. 192 pp. $20.00 (ISBN 9780801894787 cloth).

The Red Colobus Monkeys: Variation in Demography, Behavior, and Ecology of Endangered Species. Thomas T. Struhsaker. Oxford University Press, 2010. 376 pp., illus. $99.00 (ISBN 9780198529583 cloth).

Symbiogenesis: A New Principle of Evolution. Boris Mikhaylovich Kozo-Polyansky (1924), trans. Victor Fet. Victor Fet and Lynn Margulis, eds. Harvard University Press, 2010. 240 pp., illus. $35.00 (ISBN 9780674050457 cloth).

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Triassic Life on Land: The Great Transition. Hans-Dieter Sues and Nicholas C. Fraser. Columbia University Press, 2010. 248 pp., illus. $65.00 (ISBN 9780231135221 cloth).

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The Wolf's Tooth: Keystone Predators, Trophic Cascades, and Biodiversity. Cristina Eisenberg. Island Press, 2010. 248 pp., illus. $35.00 (ISBN 9781597263979 cloth).

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