

Complexity: The Evolution of Earth's Biodiversity and the Future of Humanity

By William C. Burger. 2016. Prometheus Books, 59 John Glenn Drive, Amherst, NY, USA, 14228. 367 pages, 26.00 USD, Cloth.

Complexity is a readable popular science book. The subtitle of this book, "The evolution of Earth's biodiversity and the future of humanity", provides some insight into the content. I would liken the general approach of this book to a 21st Century update of Darwin's *Origin of Species*. The narrative walks the reader through the origin of life and evolution of life histories, and hits with the punch line of preservation of biodiversity.

After an introduction to our planet, its formation, plate tectonics, and all of the features that have formed to make Earth habitable by carbon-based life, Burger introduces the evolution of prokaryotic and eukaryotic organisms.

Burger has packed some very interesting facts into this book. For example, viruses are not life. I suspect that many readers will find this hard to understand until they realize that viruses are unable to replicate themselves without the benefit of a host cell. Also, there are approximately 380,000 species of beetles. Such high speciation suggests that evolution has shown some favour to these interesting insects.

In the "Geography of Species Richness" we are introduced to the biomes of the earth. The discussion ranges from the arctic to the tropics but excludes, inter-

estingly, the vast land of Africa south of the Sahara. A presentation and discussion of the Sahel would have been a great addition here, considering the human impacts that have been wrought on that region.

In Chapter 5, the concept of biodiversity hotspots is introduced. Table 5-2 (p. 126) has some interesting information. For example, the highest number of vascular plant species (45,000) and endemic vascular plant species (20,000) is in the tropical Andes. The same area also has the highest number of bird species (1,666). However, the highest number of mammal species (551) occurs in the Guinean forests of Africa.

Overall, *Complexity* is a good popular science book to introduce evolutionary biology and ecology. The book discusses human evolution but, in my opinion, falls short in treatment of what humans have done to biodiversity and can do in the future. Climate change is interwoven throughout the book but deserves a more thorough and complete treatment, preferably a chapter. I would also prefer to see a bibliography rather than notes, but realize this is more an editorial decision than the author's preference. Also, pictures would have added value to the book. It would not need to be relegated to a coffee-table volume dominated by pictures, but some color pictures of some of the earth's fascinating

biota and maps showing our planets biogeography would have helped.

If readers are looking for a book to supplement a non-major course in general biology, ecology, or evolutionary biology, *Complexity* can be recommended.

Also, if you just want to read an up-to-date treatment of evolutionary biology, biogeography, or ecology, I can recommend this highly readable work.

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