

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Faculty Publications in the Biological Sciences

Papers in the Biological Sciences

6-2020

Book Review: Nature's Giants: The Biology and Evolution of the World's Largest Lifeforms.

William Gearty

University of Nebraska - Lincoln, wgearty@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/bioscifacpub>



Part of the [Biology Commons](#)

Gearty, William, "Book Review: Nature's Giants: The Biology and Evolution of the World's Largest Lifeforms." (2020). *Faculty Publications in the Biological Sciences*. 799.
<https://digitalcommons.unl.edu/bioscifacpub/799>

This Article is brought to you for free and open access by the Papers in the Biological Sciences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Faculty Publications in the Biological Sciences by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NATURE'S GIANTS: THE BIOLOGY AND EVOLUTION OF THE WORLD'S LARGEST LIFEFORMS.

By Graeme D. Ruxton; Foreword by Norman Owen-Smith. New Haven (Connecticut): Yale University Press. \$35.00. 224 p.; ill.; index. ISBN: 978-0-300-23988-1. 2019.

We as humans have always been in awe of big things, whether they are in space, the oceans, or the fossil record. Ruxton uses this inspiration as the entry point to explore the biology (and even physics) and evolution of large animals in *Nature's Giants*, covering numerous great lifeforms spanning from giant whales to enormous sauropods. Although readers may initially be drawn in by the size of these creatures, as the author writes in the introduction, "size matters," and the weight of these animals brings with it many other fascinating implications that he goes into with moderate detail.

The volume is broken down into nine main chapters. The first of these explores the biological, ecological, and physical implications of being big, covering topics such as the allometric scaling of surface area and volume, metabolism, muscle power and bone strength, levers, population density, and food chains. I found this chapter to be a brilliant yet approachable primer on many of these topics. The remaining eight chapters each focus on a broad group of organisms that is more or less known for its large members, including dinosaurs, mammals, insects, and even plants. Each of these chapters covers the largest members of the group, with lots of details about their diet, habitat, life history, and fossil record (where applicable). I particularly enjoyed the sections that detailed the often-abundant complications that arose from these animals' great size and the unique adaptations to being large that they had evolved. Every single page has one or more beautiful photographs, figures, or reconstructions that complement the text perfectly. I think one of the strongest aspects of the writing throughout these chapters is the easily memorable, yet factual, anecdotes. In a book largely aimed toward general readers, these small insights into the life history of these animals and the history of their study will be a great takeaway for readers, even if they are an academic (myself included). I also appreciate that, where applicable, sufficient attention is given to both extinct and extant taxa. Finally, Ruxton should be commended for his nods to the impacts that humans have had and continue to have on many of these animals, with a (perhaps overly optimistic) hopeful look to a more harmonious future.

It is hard to find any major faults with the volume. The author covers many different taxa, and I often found myself looking for more information. Unfortunately, there are few citations in the main text, and the Further Reading section is less than half a

page long. Perhaps a further reading section for each chapter would be more appropriate. Also, perhaps a trivial gripe, but I found that Ruxton too often said, "My guess is that" or "I think it is likely that," implying the biological sciences are trifled with guesswork, when in reality there are many peer-reviewed papers that the author could have cited with evidence-based reasonings. Regardless, I would easily suggest this book to anyone.

WILLIAM GEARTY, *Biological Sciences, University of Nebraska, Lincoln, Nebraska*