



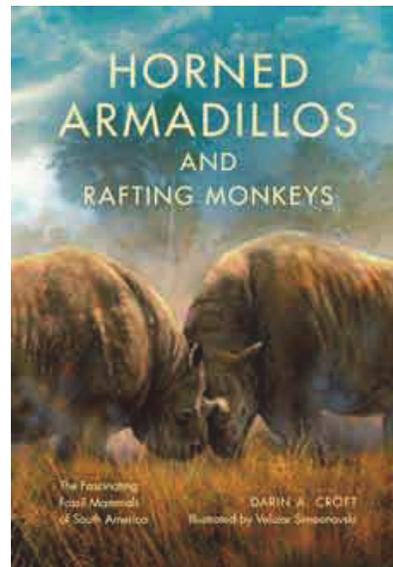
## **Horned Armadillos and Rafting Monkeys: The fascinating fossil mammals of South America**

Review by Esperanza Cerdeño

*Horned Armadillos and Rafting Monkeys: The fascinating fossil mammals of South America*, written by Darin A. Croft, illustrated by Velizar Simeonovski. 2016 Indiana University Press, Bloomington and Indianapolis, 304 pages. \$50.00 ISBN: 978-0-253-02084

Vertebrate fossils (particularly mammals) from South America have received great attention since the earliest discoveries at the end of the 18th century (e.g., the giant sloth *Megatherium* from Luján, Buenos Aires Province, Argentina). The isolation of South America during most of the Cenozoic produced a unique vertebrate fauna, which diversified rapidly and eventually spread throughout the continent. Although rodents and primates arrived in South America by the late Eocene (around 40–35 Ma), there was no large-scale exchange of faunas with other continents until the Panama Isthmus was established at the end of the Miocene, resulting in what is known as the Great American Biotic Interchange.

In the main title of his book, *Horned Armadillos and Rafting Monkeys*, Darin Croft gives an idea of the peculiar sorts of animals that can be found among fossils from the “Age of Mammals” in South America, but the title creatures are but a small fraction of the mammalian history from this continent. Thankfully, the rest of the book provides an excellent summary of their huge diversity. It focuses mainly on mammals, but also presents some information on other groups of coeval vertebrates. The first part of the book includes a temporal and geographic framework for Cenozoic mammals, highlighting the main geographic and faunal events recorded throughout this time span, followed by a summary of the main characteristics of the various



groups of South American fossil mammals. The remainder of the book is divided into three large sections, each one including representative fossil assemblages from the three main phases in the development of South American Cenozoic faunas. The Early South American Phase includes the faunal assemblages from Tiupampa (Bolivia), Itaboraí (Brazil), Gran Barranca (Argentina), and La Gran Hondonada (Argentina), encompassing a temporal span from early Paleocene (64.5–64 Ma) to late Eocene (38–37 Ma). The Late South American

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Phase is represented by the faunas from Tinguiririca (Chile), Salla (Bolivia), Chucal (Chile), Santa Cruz (Argentina), La Venta (Colombia), Quebrada Honda (Bolivia), and Arroyo Chasicó (Argentina), ranging from early Oligocene (33–31 Ma) to late Miocene (9.5–9 Ma). Finally, the Interamerican Phase, during which the Great American Biotic Interchange took place, is shown through the faunal assemblages from the late Miocene of Acre (Brazil) and Catamarca (Argentina), the early Pliocene of Chapadmalal (Argentina), and the Pleistocene of Tarija (Bolivia) ranging from 9–7 Ma to 1.1–0.1 Ma. For each of these assemblages, the author provides a general summary of the locality and describes several emblematic species (mostly mammals), all of which is accompanied by excellent photographs of site landscapes and fossils (sometimes of casts and related living species) and

splendid life reconstructions of these animals made by the artist Velizar Simeonovski.

The book concludes with important bibliographic references for each locality and faunal group, and 17 appendices that include an alphabetical list of species, families and higher taxonomic groups and complete faunal lists for each locality with their corresponding bibliography. Finally, a Glossary and an Index provide useful tools to quickly find the explanations of different terms that might not be familiar to the reader or to locate a certain taxon or locality within the text.

This book provides a necessarily summarized, but comprehensive, view of the unique mammal fauna that once inhabited South America. It is appropriate for any kind of reader, from professionals who are looking for a short summary of a certain Cenozoic period to students and laypersons interested in the life of the past.