



## Os Dinossauros de Portugal

Reviewed by Ricardo Araújo

Silvério Figueiredo, 2008.  
Edições Cosmos (Lisbon, Portugal), 17,5€  
ISBN 972-762-284-4

The publication of a book on natural history in Portugal is an event that is rarer than we would like to be. I even suggest that this is the case for most Portuguese-speaking countries, as Portuguese speakers represent a fifth of the world population. Thus, any publication not only deserves our attention, but should help to make Portuguese natural history more broadly known internationally.

*Os Dinossauros de Portugal* (in English: *The Dinosaurs of Portugal*) is a popular science book with the main objectives of providing a global perspective of what vertebrate paleontology entails and increasing awareness of the rich natural heritage of Portugal. As a popular science book, I focused my review on three main aspects: (i) pertinence, (ii) the scientific message the book entails and (iii) adequacy of language. Or in other words, I attempted to answer the following questions; Was the Portuguese-speaking community lacking such book? What can someone learn about the deep mysteries of life by reading this book? And, is this book engaging and scientifically rigorous?

I start with the structure of the book. It is divided in three parts, each divided into small chapters. “Caracterização geral dos dinossauros” (“General Characterization of Dinosauria”), where dinosaurs are placed taxonomically relative to other vertebrates, temporally relative to the history of the Earth, their anatomy is summarized, and the different dinosaur clades are outlined. The second part refers to “O Mundo dos Dinossauros” (“World of the dinosaurs”) which includes current views of dinosaur origins, different theories of extinction,

and an overview of what the world looked like throughout the Mesozoic. In its essence, the book is concentrated in the third part “Os dinossauros de Portugal” (“Dinosaurs of Portugal”), where the main collecting sites are described in terms of their geography and geology. In addition, this part

includes a summary of the most important aspects of Portuguese history of Paleontology. Finally, the author discusses the representation of the most important groups of dinosaurs found in Portugal, including the main track sites, and these are listed by region.

The pertinence of *Os Dinossauros de Portugal* is undeniable and it is a long-awaited publication. This is a concise book that highlights the efforts of the scientific community during the last and present century, and allows the reader to learn more about the unique dinosaur collections found in Portugal. In fact, to my surprise, all the copies that were acquired by our small museum were quickly sold. This demonstrates that there was a need for a book that focused on Portugal’s dino-



saur. Indeed, not much had been written besides the scientific literature and an occasional book dedicated to dinosaurs specifically (e.g. Carvalho and Galopim 1992). The rich Portuguese legacy of dinosaur paleontology deserves much broader attention and Figueiredo dedicates an entire chapter to bringing awareness to Portugal's discoveries thus far.

Besides the popular pertinence of this book, the scientific message could have been more deeply explored. The diversity of Portuguese dinosaurs is a good vehicle for introducing some of the most interesting hot topics in Paleontology nowadays: the contribution of phylogeny, the new opportunities to study morphology based on CT-scanning, the evolutionary patterns of dinosaur taxa (e.g. acquisition of flight in dinosaur and bird taxa), etc. In other words, the book could have gone beyond answering questions like: What is a dinosaur? What dinosaurs do we have? Instead, these same questions could have led to a broader discussion of concepts, ideas and descriptions of methods that explain to readers how we study Paleontology today and how it contributes to our understanding of the world. But it is not my point to criticize how the book should have been focused, however the scientific significance could have been enhanced.

Another drawback of this book is the accuracy of terms, language and scientific rigor. As examples, in the phylogenetic tree presented on page 26, the Squamata are considered to be Sauropterygia, and the Thecodontia are considered as a sister taxon of crocodiles. In another example found on page 41, Sauropoda are considered to be theropods. Some taxa have been mistakenly reported to be from Portugal, namely: plesiosaurs are reported from the Upper Cretaceous (pg 77) and mesosaurs and dromeosaurids (pg 77) are reported from the Lower Cretaceous. There also are erroneous statements about anatomy. For example, the author states that sauropods have long and tubular teeth (pg. 87) when it is well-known that there is a wide variety of tooth morphology in this taxon. Also, there are abundant typos in the taxonomic names (e.g. pg. 15 and 25 "Scelidossaurídeo", pg. 46 "ornithosuchia" and "ornithodira"). This definitely indicates that the whole book

should have had more thorough editing. Furthermore, the author includes a few cliché, "story-telling" assumptions about various dinosaurs, including; "several *Iguanodon* wandered in the forests..." (pg. 76), "*Hypsilophodon* inhabited forests" (pg. 76), "*Euronycodon* was considered to be a lonely animal" (pg. 77). Regarding this last example, there is no evidence whatsoever for this behavior, since only teeth have been collected. In sum, this book should have been more accurate factually (especially in what concerns taxonomy, anatomy and evolution).

In contrast to some of the above inaccuracies, the historical facts are all precise and succinctly explained throughout the text, namely in the "Introductory Note" and in the "Track Site" section. It should be noted that this book alerts the reader to the current preservation and political status of some track sites (pg. 123 and 128). The author points out that some of these sites, the Carenque track site for example, deserve both public attention and political interference. The author is commended for highlighting the importance of preservation and museum attention to these important sites. Finally, another positive highlight of the book is the abundance of good quality graphics throughout.

So, going back to the beginning and answering those rhetorical questions; 1) Was the Portuguese-speaking community lacking such a book? No doubts, Portuguese-speakers were long awaiting a book like this that provides an easy to read introduction to our dinosaur natural history. 2) Can someone learn about the deep mysteries of life by reading this book? No, but one can learn about the dinosaurs that have lived in Portugal and the historical background of their discovery. The reader will not necessarily learn as much about deep underlying controversies such as their evolutionary history or related matters. 3) Is this book engaging and scientifically rigorous? This book lacks some scientific accuracy. However, it is well-structured and has a glossary at the end for technical jargon.

## REFERENCE

- Carvalho, A. M. G. de & Galopim, N. (1992). *Vida e Morte dos Dinossáurios*. Lisboa: Gradiva, Publicações Lda: 131 pp..

Apresentada uma síntese do conhecimento de dinossauros em Portugal, referindo os géneros Ceratosaurus, Torvosaurus, Lourinhanosaurus, Allosaurus, cf. Compsognathus, Stokesosaurus, cf. 17. Possible phylogenetic relationships of the Portuguese dinosaur genera based on our research and on Sereno [45, 46]. Fig. 17. Rapports phylogénétiques possibles des genres de dinosauriens connus au Portugal basés sur nos recherches et d'après Sereno [45, 46]. 92 M.T. Antunes, O. Mateus / C. R. Palevol 2 (2003) 77-95. Acknowledgements. Dinossauros Robôs: Atire lasers em robôs malignos no céu! - Dinossauros Robôs um dos nossos selecionados Jogos de Tiro. Jogue Grátis! Jogue como um dinossauro cyborg e elimine cada obstáculo do seu caminho. Mude o seu feixe de laser e destrua torres e armas voadoras. Escolha se você vai causar destruição como Tiranossauro X ou Dinomite! Dinossauros Robôs um dos nossos selecionados Jogos de Tiro.