
Preface

In 2010, two of us (Diogo and Abdala) published the book *Muscles of Vertebrates*, which had a wide impact within the scientific community, as well as in courses of zoology and comparative anatomy across the globe. A major reason for that impact was that before the publication of that book, there had been no attempt to combine, in a single book, information about the head, neck, and pectoral appendage muscles of all major extant vertebrate groups. Because of that impact, many scientists as well as teachers and students have demanded from us an even more complete book that (a) also includes muscles of the pelvic appendages as well as of the median appendages; (b) embraces even more taxa, not only the other extant chordates, but also more subgroups within each of the major vertebrate clades; (c) reflects the large amount of data that has been obtained in experimental evolutionary developmental biology (evo-devo) on chordate muscle development, including the strong links between the heart and head muscles; and (d) combines all these items in order to discuss broader issues linking the study of muscles and their implications for macroevolution, the links between phylogeny and ontogeny, homology and serial homology, regeneration, and evolutionary medicine. This book is the answer to those demands, as it

compiles the information available on the evolution, development, and homologies of all skeletal muscles of all major extant groups of chordates. The chordates are a fascinating group of animals that includes about 70,000 living species that have an outstanding anatomical, ecological, and behavioral diversity, including forms living in fresh and seawaters, forests, deserts and the arctic, and flying high in the skies. This book will thus have a crucial impact in fields such as evo-devo, developmental biology, evolutionary biology, comparative anatomy, ecomorphology, functional anatomy, zoology, and biological anthropology, because it also pays special attention to the configuration, evolution and variations of the skeletal muscles of humans. Moreover, it is written and illustrated in a way that makes it useful for not only scientists working in these and other fields but also teachers and students related to any of these fields or simply interested in knowing more about the development, comparative anatomy, and evolution of chordates in general or about the origin and evolutionary history of the structures of our own body in particular.

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