

The Vertebrata is one of the most speciose groups of animals, comprising more than 58000 living species. Based on the dissection of hundreds of specimens and an extensive review of the literature, this book provides, for the first time, a detailed account on the comparative anatomy, development, homologies and evolution of the head, neck, pectoral and forelimb muscles of vertebrates. It includes numerous drawings and photographs of, as well as numerous tables showing the homologies between, the muscles of all the major extant vertebrate taxa, from lampreys to modern humans. It also provides a list of more than a thousand synonyms that have been used to designate these muscles in the literature. Importantly, it also reviews recent data obtained in the fields of evolutionary developmental biology, molecular biology and embryology, and explains how this data helps to understand the evolution and homologies of vertebrate muscles. Chapters 1 & 2 provide an introduction to the main aims and methodology of the book. Chapter 3 deals with the muscles of non-osteichthyan vertebrates. Chapters 4 and 8 are focused on the head, neck, pectoral and pectoral fin/forelimb muscles of actinopterygians and basal sarcopterygians. Chapters 5 and 9 discuss the evolution and homologies of these muscles from sarcopterygian fish to modern humans, while Chapters 6, 7 and 10 deal with the muscles of non-mammalian tetrapods. Chapter 11 provides a general discussion of the data presented in the book, addressing subjects such as the use of myological characters in phylogenetic reconstructions, the relationship between muscular splittings, fusions, paedomorphism, evolutionary reversions, anatomical complexity, and evolutionary developmental biology, and the proposal of a unifying nomenclature for the head, neck, pectoral and forelimb muscles of the vertebrates as a whole. The information provided in this book will therefore be useful to students, teachers, and researchers working in functional morphology, evolutionary developmental biology, zoology, evolution, and phylogeny. As the book includes crucial information about the anatomy, development, homologies, evolution and muscular abnormalities of our own species, *Homo sapiens*, it will also be helpful to physicians and medical students.



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