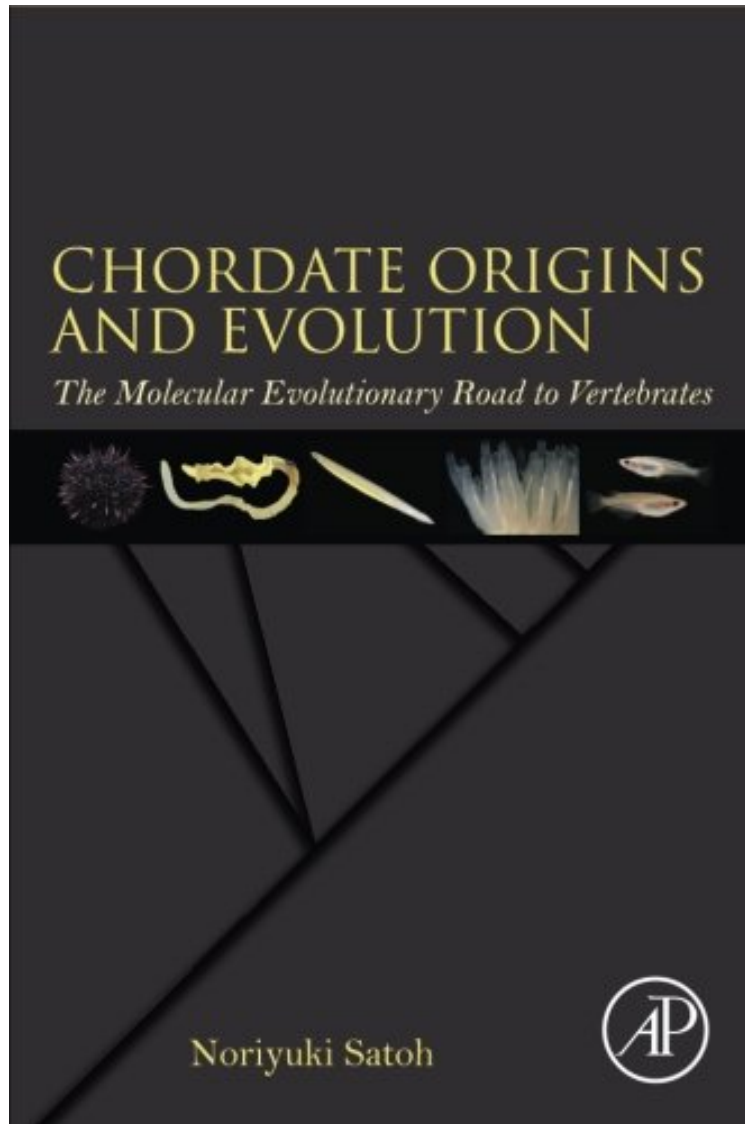


(Download free pdf) Chordate Origins and Evolution: The Molecular Evolutionary Road to Vertebrates

Chordate Origins and Evolution: The Molecular Evolutionary Road to Vertebrates

Noriyuki Satoh

**Download PDF | ePub | DOC | audiobook | ebooks*



[Download](#)

[Read Online](#)

#2660945 in Books 2016-08-08 2016-07-25 Original language: English 9.00 x .52 x 6.001, .84 #File Name: 0128099348220 pages | File size: 56.Mb

Noriyuki Satoh : Chordate Origins and Evolution: The Molecular Evolutionary Road to Vertebrates before purchasing it in order to gauge whether or not it would be worth my time, and all praised Chordate Origins and Evolution: The Molecular Evolutionary Road to Vertebrates:

0 of 3 people found the following review helpful. Probably good (yet to read it) but overpriced By Nom de plume This is a short, paperback book. I paid \$90 for it. It should be less than half that amount.

Chordate Origins and Evolution: The Molecular Evolutionary Road to Vertebrates focuses on echinoderms (starfish, sea urchins, and others), hemichordates (acorn worms, etc.), cephalochordates (lancelets), urochordates or tunicates (ascidians, larvaceans and others), and vertebrates. In general, evolution of these groups is discussed independently, on a larger scale: ambulacrarians (echi+hemi) and chordates (cephlo+uro+vert). Until now, discussion of these topics has been somewhat fragmented, and this work provides a unified presentation of the essential information. In the more than 150 years since Charles Darwin proposed the concept of the origin of species by means of natural selection, which has profoundly affected all fields of biology and medicine, the evolution of animals (metazoans) has been studied, discussed, and debated extensively. Following many decades of classical comparative morphology and embryology, the 1980s marked a turning point in studies of animal evolution, when molecular biological approaches, including molecular phylogeny (MP), molecular evolutionary developmental biology (evo-devo), and comparative genomics (CG), began to be employed. There are at least five key events in metazoan evolution, which include the origins of 1) diploblastic animals, such as cnidarians; 2) triploblastic animals or bilaterians; 3) protostomes and deuterostomes; 4) chordates, among deuterostomes; and 5) vertebrates, among chordates. The last two have received special attention in relation to evolution of human beings. During the past two decades, great advances have been made in this field, especially in regard to molecular and developmental mechanisms involved in the evolution of chordates. For example, the interpretation of phylogenetic relationships among deuterostomes has drastically changed. In addition, we have now obtained a large quantity of MP, evo-devo, and CG information on the origin and evolution of chordates. Covers the most significant advances in this field to give readers an understanding of the interesting biological issues involved. Provides a unified presentation of essential information regarding each phylum and an integrative understanding of molecular mechanisms involved in the origin and evolution of chordates. Discusses the evolutionary scenario of chordates based on two major characteristic features of animals—namely modes of feeding (energy sources) and reproduction—as the two main forces driving animal evolution and benefiting dialogue for future studies of animal evolution.

About the Author: Noriyuki Satoh is a Professor of the Marine Genomics Unit, Okinawa Institute of Science and Technology, Graduate University, Okinawa, Japan. After obtaining a PhD at the University of Tokyo, he carried out research of developmental biology of tunicates at Kyoto University. Satoh and his colleagues have established *Ciona intestinalis* as a model organism of developmental biology, and he has also conducted research of developmental mechanisms involved in the origins and evolution of chordates. Dr. Satoh's group has also disclosed molecular mechanisms of notochord formation, and he is one of the leaders of the genome decoding projects of marine invertebrates, including tunicates, cephalochordates, and hemichordates.