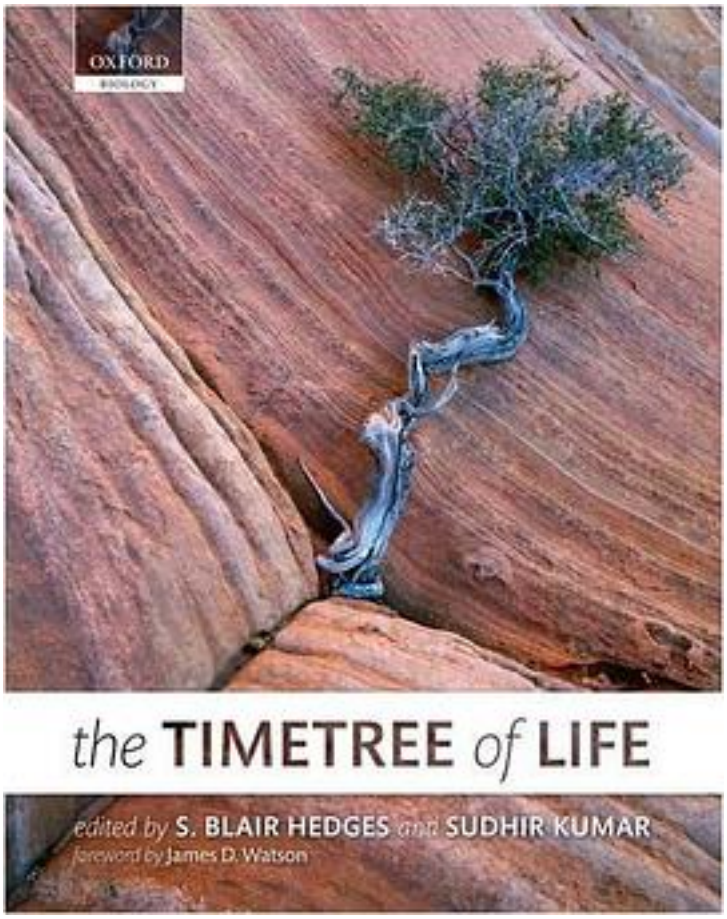
The Timetree of Life



The Timetree of Life_下载链接1_

著者:Hedges, S. Blair (EDT)/ Kumar, Sudhir (EDT)

出版者:Oxford University Press, USA

出版时间:2009-06-20

装帧:Hardcover

isbn:9780199535033

The evolutionary history of life includes two primary components: phylogeny and timescale. Phylogeny refers to the branching order (relationships) of species or other taxa within a group and is crucial for understanding the inheritance of traits and for erecting classifications. However, a timescale is equally important because it provides

a way to compare phylogeny directly with the evolution of other organisms and with planetary history such as geology, climate, extraterrestrial impacts, and other features. The Timetree of Life is the first reference book to synthesize the wealth of information relating to the temporal component of phylogenetic trees. In the past, biologists have relied exclusively upon the fossil record to infer an evolutionary timescale. However, recent revolutionary advances in molecular biology have made it possible to not only estimate the relationships of many groups of organisms, but also to estimate their times of divergence with molecular clocks.The routine estimation and utilization of these so-called 'time-trees' could add exciting new dimensions to biology including enhanced opportunities to integrate large molecular data sets with fossil and biogeographic evidence (and thereby foster greater communication between molecular and traditional systematists). They could help estimate not only ancestral character states but also evolutionary rates in numerous categories of organismal phenotype; establish more reliable associations between causal historical processes and biological outcomes; develop a universally standardized scheme for biological classifications; and generally promote novel avenues of thought in many arenas of comparative evolutionary biology. This authoritative reference work brings together, for the first time, experts on all major groups of organisms to assemble a timetree of life. The result is a comprehensive resource on evolutionary history which will be an indispensable reference for scientists, educators, and students in the life sciences, earth sciences, and molecular biology.For each major group of organism, a representative is illustrated and a timetree of families and higher taxonomic groups is shown. Basic aspects of the evolutionary history of the group, the fossil record, and competing hypotheses of relationships are discussed. Details of the divergence times are presented for each node in the timetree, and primary literature references are included. The book is complemented by an online database (www.timetree. net) which allows researchers to both deposit and retrieve data.

作者介绍:

目录:

标签

评论

The Timetree of Life_下载链接1_

书评

The Timetree of Life_下载链接1_