

PHYLOGENOMIC DATA ACQUISITION

PRINCIPLES AND PRACTICE

"There is definitely a need for this book written in the language of the phylogeneticist. The general organization of the book is good. This book addresses a broad range of topics in a way that makes them comprehensible to people who are not experts in bioinformatics and will be extremely influential. Jennings has been in on the ground floor of the multilocus coalescent revolution in phylogenetics."

—**Jim McGuire**, University of California Berkeley

"Genome sequencing technologies and data collection techniques are changing rapidly, and this book is a great resource for getting up to speed in this exciting field. Jennings outlines the essential data collection strategies that all students entering the field of molecular systematics need to know."

—**Adam Leaché**, University of Washington, Seattle

"This new book by evolutionary biologist Bryan Jennings brings together a wealth of useful information. It details step-by-step protocols and provides masterful summaries of best practices for the modern phylogeneticist. Jennings provides cogent reviews of important topics and guidelines for avoiding common pitfalls. Graduate students, postdoctoral fellows and principal investigators will find this book extremely useful."

—**Scott Edwards**, Harvard University

Phylogenomics is a rapidly growing field of study concerned with using genome-wide data—usually in the form of DNA sequence loci—to infer the evolution of genes, genomes, and the Tree of Life. Accordingly, this discipline connects many areas in biology including molecular and genomic evolution, systems biology, molecular systematics, phylogeography, conservation genetics, DNA barcoding, and others. With the advent of Next Generation Sequencing in addition to advances in computer hardware and software over the past decade, researchers can now generate unparalleled phylogenomic datasets that are helping to illuminate many areas in the life sciences. This book is an introduction to the principles and practices of gathering these data. *Phylogenomic Data Acquisition: Principles and Practice* is intended for a broad cross-section of biologists and anyone else interested in learning how to obtain phylogenomic data using the latest methods.

KEY FEATURES

- Provides needed information for acquiring phylogenomic data.
- Includes detailed descriptions of DNA sequence loci and their properties, DNA extraction, PCR theory and methods, Sanger Sequencing, Next Generation Sequencing, and loci development.
- Illustrates, compares and contrasts different techniques of data acquisition.



CRC Press
Taylor & Francis Group
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K23402

ISBN: 978-1-4822-3534-0



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