

Contents

Phylogenetics and Conservation Biology: Drawing a Path into the Diversity of Life	1
Roseli Pellens and Philippe Grandcolas	
Part I Questions	
The Value of Phylogenetic Diversity	19
Christopher Lean and James Maclaurin	
The PD Phylogenetic Diversity Framework: Linking Evolutionary History to Feature Diversity for Biodiversity Conservation	39
Daniel P. Faith	
Reconsidering the Loss of Evolutionary History: How Does Non-random Extinction Prune the Tree-of-Life?	57
Kowiyou Yessoufou and T. Jonathan Davies	
Phylogenetics and Conservation in New Zealand: The Long and the Short of It	81
Steven A. Trewick and Mary Morgan-Richards	
What Is the Meaning of Extreme Phylogenetic Diversity? The Case of Phylogenetic Relict Species	99
Philippe Grandcolas and Steven A. Trewick	
Part II Methods	
Using Phylogenetic Dissimilarities Among Sites for Biodiversity Assessments and Conservation	119
Daniel P. Faith	

Phylogenetic Diversity Measures and Their Decomposition: A Framework Based on Hill Numbers	141
Anne Chao, Chun-Huo Chiu, and Lou Jost	
Split Diversity: Measuring and Optimizing Biodiversity Using Phylogenetic Split Networks	173
Olga Chernomor, Steffen Klaere, Arndt von Haeseler, and Bui Quang Minh	
The Rarefaction of Phylogenetic Diversity: Formulation, Extension and Application	197
David A. Nipperess	
Support in Area Prioritization Using Phylogenetic Information	219
Daniel Rafael Miranda-Esquivel	
Assessing Hotspots of Evolutionary History with Data from Multiple Phylogenies: An Analysis of Endemic Clades from New Caledonia	237
Roseli Pellens, Antje Ahrends, Peter M. Hollingsworth, and Philippe Grandcolas	
Part III Applications	
Representing Hotspots of Evolutionary History in Systematic Conservation Planning for European Mammals	265
Anni Arponen and Laure Zupan	
Priorities for Conservation of the Evolutionary History of Amphibians in the Cerrado	287
Débora Leite Silvano, Paula Hanna Valdujo, and Guarino Rinaldi Colli	
Global Spatial Analyses of Phylogenetic Conservation Priorities for Aquatic Mammals	305
Laura J. May-Collado, Carlos Zambrana-Torrelío, and Ingi Agnarsson	
Metapopulation Capacity Meets Evolutionary Distinctness: Spatial Fragmentation Complements Phylogenetic Rarity in Prioritization	319
Jessica K. Schnell and Kamran Safi	
Patterns of Species, Phylogenetic and Mimicry Diversity of Clearwing Butterflies in the Neotropics	333
Nicolas Chazot, Keith R. Willmott, André V.L. Freitas, Donna Lisa de Silva, Roseli Pellens, and Marianne Elias	

**Conservation of Phylogenetic Diversity in Madagascar’s
Largest Endemic Plant Family, Sarcolaenaceae** 355
Anaëlle Soulebeau, Roseli Pellens, Porter P. Lowry II, Xavier Aubriot,
Margaret E.K. Evans, and Thomas Haevermans

**The Future of Phylogenetic Systematics in Conservation
Biology: Linking Biodiversity and Society** 375
Roseli Pellens, Daniel P. Faith, and Philippe Grandcolas

Index..... 385