

# Contents

Preface vii

---

- 1 The Importance of Comparison 1
- 2 Basic Phylogenetic Concepts and “Tree Thinking” 20
- 3 Reconstructing Ancestral States for Discrete Traits 52
- 4 Reconstructing Ancestral States for Quantitative Traits 79
- 5 Modeling Evolutionary Change 98
- 6 Correlated Evolution and Testing Adaptive Hypotheses 126
- 7 Comparative Methods to Detect Correlated Evolutionary Change 148
- 8 Using Trees to Study Biological and Cultural Diversification 180
- 9 Size, Allometry, and Phylogeny 202
- 10 Human Cultural Traits and Linguistic Evolution 227
- 11 Behavior, Ecology, and Conservation of Biological and Cultural Diversity 255
- 12 Investigating Evolutionary Singularities 280
- 13 Developing a Comparative Database and Targeting Future Data Collection 299
- 14 Conclusions and Future Directions 317

---

References 323

Index 365