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978-0-521-31578-4 - Classification, Evolution, and the Nature of Biology

Alec L. Panchen

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## Classification, evolution, and the nature of biology

Historically, naturalists who propose theories of evolution, including Darwin and Wallace, have always done so to explain their perception of natural classification. This book begins by exploring the intimate historical relationship between patterns of classification and patterns of phylogeny. But if the pattern of classification is the *explanandum* for phylogeny, classification and homology cannot be “evidence for evolution”.

The author presents the historical development of a rigorous logical argument for evolution from other evidence. He then gives a history of methods of classification and their relationship to the reconstruction of phylogeny. The author makes the important claim that if the hierarchical pattern of classification is a real phenomenon, then biology is unique as a science in making taxonomic statements. This conclusion is reached by way of historical reviews of theories of evolutionary mechanism and the philosophy of science as applied to biology.

The book is addressed to biologists, particularly taxonomists, concerned with the history and philosophy of their subject, and to philosophers of science concerned with biology. It is also an important source on methods of classification and the logic of evolutionary theory for students and for professional biologists and palaeontologists.

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*To those of my former students  
who learned to be sceptical*

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