



Glorified Dinosaurs: The Origin and Early Evolution of Birds, by Luis M. Chiappe, 2007, John Wiley & Sons, Hoboken, NJ, hardcover, 263 p., ISBN-13: 978-0471247234, USD 69.95.

Glorified Dinosaurs is a compelling tale of one man's journey to find the origin of birds and their flight. The origin of birds has received about as much attention as the origin of humans, and both subjects have always been controversial. This book uses a narrative history of discoveries in hopes of explaining away any such controversy for the origin of birds. According to the author, bird origins are shrouded in mystery, and this mystery must be unraveled using an evolutionary philosophy called cladistics. The author is careful to lay out cladistic methodology in layman's terms in hopes of convincing the reader that birds are merely glorified dinosaurs—a phrase Chiappe takes from a nineteenth-century Thomas Huxley essay on this subject. This new book should appeal to anyone with interests in dinosaurs and birds.

The book devotes attention to dinosaur origins as well. The author uses deductive reasoning based on trackway evidence outlined in the beginning of the book to suggest that dinosaurs originated in the Early Triassic. To further support this reasoning, the author believes that the sudden appearance of dinosaurs also supports an earlier origin than their skeletal evidence indicates. Later in the book, Chiappe dismisses avian tracks in the Triassic, but still maintains bird origins must be older than the Jurassic *Archaeopteryx*—the oldest known bird fossil. Placing the origin of both groups earlier in the Mesozoic than their body fossils suggests that the ancestors of dinosaurs and birds will be found further back in time.

The body of the book guides the reader through the morphologies of fossil birds and how the evolutionary lineages are grouped. Birdlike dinosaur features are related to the various bird fossils to illustrate the theropod hypothesis. This concept depicts a close relationship between theropods and birds. The author, however, critiques merging the feathered, dinosaurlike birds with feathered, birdlike dinosaurs. Chiappe also criticizes Xu Xing and his colleagues for their description of the four-winged *Microraptor gui* as an arboreal glider. It would seem

that Chiappe, therefore, supports a terrestrial origin for flight—a paradigm necessary for the theropod origin of birds, which is no longer universally accepted, however.

In the last portion of the book, the author claims that science knows more about the evolutionary relationships of primitive birds than modern birds based on morphology of fossil bones and inferred behavior from fossilized dinosaurs (e.g., sleeping troodontids and brooding oviraptors). In Chiappe's view, we must dismiss avian DNA studies because molecular data is unreliable and weak—a proposal that does little to satisfactorily explain the disparity between molecular and morphological evolutionary histories.

Construction of the book is superb; it is well made and lavish with color photographs and figures on glossy paper. The author provides a glossary, an index, and references for specific readings in support of the dinosaurian origin of birds. The chapters are organized and well written in an authoritative tone by one of the top experts in this field. The entire book is profuse with photographs of actual fossil specimens. The many illustrations and photographs, with minimum text, make the book valuable as a beautiful, coffee-table picture book. Overall, I consider this book as a brief summary of theropod research garnered over a century that supports a link between dinosaurs and birds. Although presented in an authoritative tone, it is a popular science book not to be taken as a definitive or academic work. As the book states, therefore, it is important to know there is room for future work in the study of avian paleontology and evolution.

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