The evolution and extinction of the dinosaurs

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Abstract

This book, written with the non-specialist in mind, provides a comprehensive textbook on the origins, diversity and extinction of the dinosaurs including cladistic methods in systematics, endothermy, dinosaur functional morphology and the relationships of dinosaurs to birds. The text is structured in the following fashion: part one includes an introductory section followed by chapters describing the Mesozoic era: the principles of evolutionary theory, phylogeny and cladistics; interrelationships of the various vertebrates groups; and the origins of Dinosauria. Part 2 deals with the Ornithischia and includes chapters dealing in turn with Stegosauria, Ankylosauria, Pachycephalosauria, Ceratopsia, and Ornithopoda. Part 3 covers Saurischia with chapters covering: Sauropodomorpha and Theropoda. Part 4 contains chapters covering endothermy, palaeoenvironments and the extinction of the dinosaurs. A glossary, taxonomic index of genera and author index are provided. - A.W. Hall

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Dinosaur extinction is still a major enigma of earth history. In this review article, extinctions in the geological record will be briefly mentioned. Many of the imaginative theories for the extinction of the dinosaurs will also be presented. Within the uniformitarian paradigm, the meteorite impact theory, once considered 'outrageous', now is the dominant theory. However, the volcanic theory is still believed by a majority of palaeontologists. Both theories have their strengths and weaknesses. The unscientific behaviour of those involved in the meteorite paradigm change will be briefly explore.

The dinosaurs probably became extinct after a giant asteroid hit the Earth about 65 million years ago. But what if this asteroid miss? Scientists believe that in this case, dinosaurs continue to dominate the Earth, and that modern animals probably do not exist. Instead of elephants and lions and so on, there be different types of dinosaurs, because the animals we have now simply be able to evolve. Some scientists have even suggested that dinosaurs develop along the same lines as human beings, but this is a minority view. The general view is that perhaps dinosaur brains