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DINOSAURS-THE ENCYCLOPEDIA; SUPPLEMENT 2, Donald Glut, 2000. McFarland & Company, Jefferson (North Carolina) and London; 685p., library binding \$75.00.

Having reviewed the previous two volumes of this series (*Dinosaurs-The Encyclopedia* and *Supplement 1*, by Donald Glut) for *Priscum*, I am compelled to weigh-in on this newest addition to this ever-growing encyclopedia. *Supplement 2* (herein S2, following Glut's own abbreviations), picks up where S1 (published in 1999) left off. What is astounding is that the two supplements, taken together, exceed the number of pages of the original "foundation" volume, which covered all dinosaurs known up to its publication in 1997. The mere mass of information represented by the two supplements underscores not only the amount of new dinosaur material discovered during this five-year (or so) interval, but directly reflects the intensity of interest in these most-bizarre prehistoric beasts.

The book is divided into four main sections: I-Introduction; II-Dinosaurian Systematics; III-Dinosaurian Genera; IV-Nomen Nudum and Excluded Genera; followed by a list of abbreviations; Appendices: 1, Displays, Sites and Attractions; and 2, Further Reading; a Glossary, Bibliography and Index.

The Introduction (Section I) discusses the "Mesozoic Era," only briefly; I found "New Discoveries, Ideas and Studies", which arguably is the most interesting part of this section, to be uneven, presenting only selected discoveries while (perhaps unintentionally) overlooking other equally, and (perhaps) even some more important ones; the "Still Unresolved: Ectothermy or Endothermy?" debate, fueled by interpretations of nasal respiratory turbinates, hepatic-piston diaphragms (in theropods), lines of arrested growth (LAGs), significance of costal and gastralia movement (in theropods), open (uncovered) egg nests, perennial histological arguments and a putative "petrified (*Thescelosaurus*) heart" (which has since been reinterpreted as a lump of minerals; Stokstad. 2001, *Sci.* 291:811.); "The Dinosaur-Bird Debate: Nearing a Resolution?" the question raised is never directly answered, however, reading over the various arguments, information, studies and the like, synthesized by Glut, one would be hard-pressed to conclude that no relationship exists between

these two groups; and (finally), "Dinosaur Extinctions", the continuing saga, and great disconnect, between phylogenetic systematists and fundamentalist catastrophists. The last section also reviews the possibility of the existence of Paleocene (non-avian) dinosaurs—which probably have more to do with circular reasoning and/or sample contamination than having any basis in fact. Glut avoids weighing in on any of these contentious issues, staying above the fray in all of the sections discussed herein.

Section II, Dinosaur Systematics, Glut revisits, and reinterprets, the higher taxonomic divisions of the Dinosauria previously outlined, in greater detail in the original volume of *Dinosaurs: The Encyclopedia and Supplement 1 (D:TE and S1, respectively)*. Admittedly, Glut explains the fluidity of the arrangement and definitions of higher taxa, as the direct result of new discoveries and analyses. While many of the higher taxonomic groups are sound (phylogenetically), some of these higher taxonomic categories are not monophyletic and therefore are not considered valid (e.g., "Megalosauridae," "Homalocephalidae"), yet, unfortunately, these taxa continue to be used (cited) as if they were real. Other higher taxonomic categories are just wrong. For example, Glut's diagnoses for the "Coelophysoidea" and "Coelophysoidea" are identical (word-for-word), therefore they are redundant and cannot be distinguished from one another, yet the latter is supposed to be a subset of the former. Within these higher taxonomic groups, Glut presents a diagnosis (for the taxon), age, geographic distribution, and a list of taxa/genera. This latter entry is often incomplete, only listing a few of the genera within a given taxon. Finally, Glut includes notes in various sections where there have been relevant data based on recent studies.

Section III, Dinosaur Genera, is the most important part of the volume. Glut reviews every dinosaur genus that is new, or has been revised, or supplemented by new material, since the publication of his previous two volumes (*D:TE* and *S1*). It is here that Glut demonstrates his mastery of the scientific literature, summarizing many of the salient arguments surrounding various dinosaur genera. Unfortunately, Glut often cites, and uses, unsubstantiated data extracted from abstracts (presented at meetings without accompanying published work) as if these sources have been rigorously scrutinized by the peer-review process. The impression given is that information culled from these abstracts is equally important, like un-weighted characters in a phylogenetic analysis, which I would argue it is not.

Like its predecessors, *S2* suffers somewhat in the arena of figures and photos. Many of them are of poor or of marginal quality, a few photographs are out of focus, and some are just wrong (such as the putative "partial left dentary of an unnamed prosauropod" on page 50 which actually is a photo of an upside-down eucynodont skull!). Stereo pairs of *Triceratops* (same specimen, different venues) from the turn of the (20th) century, while historically interesting, add little to the information regarding this dinosaur. Photos of primitive and poorly executed dinosaur models that appear throughout this volume (i.e., in the "introduction/new discoveries, etc.," "dinosaurian systematics" and "dinosaurian genera" sections), should not have been included. They would have been more appropriate in Appendix 1 ("Displays, Sites and Attractions"). On the positive side, most of the photos are very in-

structive, especially those that figure real specimens. Reproductions of line drawings, most taken from the primary literature, are also informative, yet some of these appear to be very rough and certainly less than aesthetic. Overall, the primary strength of these three encyclopedias is the figures and photos of original material.

Shortcomings aside, *S2* is filled with much information and is a must have for dinosaur enthusiasts and any professional who works on these marvelous creatures. Glut is to be commended for undertaking such an ambitious project, and despite the inevitable faux pas and sundry other problems inherent in an undertaking of this magnitude, I do not hesitate at all in recommending this volume and its predecessors.

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