BOOK REVIEWS

Uncovering *Coelophysis*

The Little Dinosaurs of Ghost Ranch. EDWIN H. COLBERT. Columbia University Press, New York, 1995. xiv, 250 pp., illus. $29.95 or £21.50.

In the present era of "dinomania" this work provides a very different sort of dinosaur book, written by one of the world's authorities on fossil amphibians and reptiles. Edwin H. Colbert, emeritus curator of vertebrate paleontology at the American Museum of Natural History and currently associated with the Museum of Northern Arizona, tells the story of a bipedal, two-meter-long, carnivorous "dinosaur" from Late Triassic age rocks of New Mexico. Starting with his fortuitous discovery of a mass of bones at Ghost Ranch in 1947, Colbert develops in considerable detail how we have come to know the beast, *Coelophysis bauri*, that these bones represent.

Stages in the collection of fossil bones. "As the fossil bone came to light it was treated with a preservative (in those days we used white shellac thinned with alcohol). Then . . . Japanese rice paper was applied to the bone surface and treated with soft brushes dipped in shellac. When the preservative was dry . . . a heavy bandage of burlap dipped in plaster of paris was . . . pressed onto the paper-covered bone . . . . After the plaster was dry we cut under the fossil to free it from the rock, turned it over, cleaned the bottom of the specimen, and applied rice paper and plaster. Finally a straight juniper branch . . . was plastered against the specimen to give it added strength." *Left*, capping the bones with plaster; *right*, a block ready for transport. [From *The Little Dinosaurs of Ghost Ranch*]

Popular presentations of dinosaurs usually jump quickly from fossil discovery to a full-blown reconstruction of the animals' world in living color, with little or no discussion of how we come to know what we think we know about such long-extinct organisms. With engaging and straightforward prose Colbert develops, step by step, how these particular dinosaur bones were excavated (hot and dirty work), prepared for examination and display (painstaking and often tedious), anatomically studied (with meticulous detail), and placed in the broader context of dinosaurian evolution (taxonomic and systematic analysis). Colbert's discussion also branches into interpretations of how the original animals met their deaths and were buried, their ecology, including "contemporaries and competitors," and the overall evolutionary role of the larger group to which *Coelophysis* belongs, from whence it sprang and to what it gave rise.

In short, this small, elegant book is really a layperson's primer on the epistemology of paleontology, explaining exactly what it is that paleontologists do, not as mere collectors but as students of fossil remains. At times the discussion necessarily becomes quite technical, but Colbert does his best in avoiding technical jargon as much as possible; he does not lose the reader's interest or understanding. Any effort required by the reader to follow all the details is well rewarded by coming to a much deeper understanding about the practice of the historical science of paleontology, and to have it presented by one of this century's most distinguished vertebrate paleontologists (and *Coelophysis* expert) makes it all the more cogent and credible.

A final comment should be made about the high quality of the book's production itself. The attractive design is enhanced by a variety of photographs, line drawings, color plates, maps, and figures. The illustrations are all well done and relevant to the story being told. For any one who would like to dig deeper into the science of paleontology, this book is the place to start.

"The streams and lakes of the late Triassic were ruled by phytosaurs such as *Rutiodon*, some of which reached gigantic proportions. *Rutiodon* and *Postosuchus* may have competed for food. *Rutiodon*, a thecodont reptile, was a predecessor (but not an ancestor) of the crocodilians, which survive today. The close resemblance between *Rutiodon* and crocodiles is an example of evolutionary parallelism." [From *The Little Dinosaurs of Ghost Ranch*; detail from a mural painted by Margaret Colbert for the New Mexico Museum of Natural History]

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Other Books of Interest

Atlas of Compact Groups of Galaxies. PAUL HICKSON. Gordon and Breach, Langhorne, PA, 1994 (distributor, International Publishers Distributor, Brooklyn, NY). viii, 221 pp., illus. $68 or ECU57; paper, $32 or ECU27.

The interpretation of tightly clustered galaxies and the interactions within the clusters has been a challenge to astronomers since the discovery of the group known as Stephan's Quintet in 1877. To meet the need for a larger sample of such groups, defined precisely enough to permit statistical analysis, Paul Hickson has produced the present compendium (an earlier version of which appeared in *Astrophysical Communications and Letters*). In a 20-page introductory section Hickson lays the groundwork for the group-by-group treatment by giving a brief account of the history of the subject and major unresolved issues and setting forth the procedures used for the present project. The selection criteria have to do with population, isolation, and compactness: for inclusion a group must have at least four members, with apparent brightnesses within a three-magni-