

Book Reviews

Dragons from the Dunes. The Search for Dinosaurs in the Gobi Desert

By John R. Lavas
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The great interest aroused by the Sino-Canadian dinosaur expeditions to Zinjiang (formerly Sinkiang) and Inner Mongolia between 1986 and 1990 has been further stimulated by the exhibitions in Edmonton and Toronto in 1993. The official accompanying work (*The Dinosaur Project* by Wayne Grady) was a sadly disappointing volume, equally so in its treatments of recent events and their historical background. The book here reviewed does not attempt to describe those most recent expeditions, but the account it provides of the earlier dinosaur hunts is very much better.

It is an attractively presented work, broader than high (21 cm × 27.5 cm) and richly illustrated with historical photographs, clear drawings and very decorative colour restorations of the probable appearance of the extinct creatures treated (mostly Cretaceous dinosaurs, but including also a few of the Tertiary mammals of the region). The text is well written and almost free from the historical errors that plagued Grady's book.

This book commences with a chapter giving a picture of the life of the Mesozoic in general and another summarizing, quite well, the history of paleontology in general and dinosaur discoveries in particular. Next, the expeditions sponsored by the American Museum of

Natural History in the late 1920s, and led by the redoubtable Roy Chapman Andrews, are reported at some length. Finally, the Russian and Polish campaigns are recorded in two chapters. In each case, the history of the expedition is briefly recounted and its major discoveries emphasized; then the genera of importance — dinosaurian or mammalian — are discussed in detail and illustrated.

At only two points did I find it misleading. While it is true (p. 33) that Edward Hitchcock originally attributed all his Connecticut Valley tracks to ancient birds, his later classifications recognized that they included dinosaur footprints. The Bernissart *Iguanodon* were, as page 36 notes, traditionally thought to have been a herd that cascaded to death in a ravine; however, David Norman's recent restudies have shown beyond doubt that they were single reptiles, fossilized at different levels in sediments of a lake into which they were swept by rivers in spate.

The principal problem is in an aspect of chapter layout. One is reading, say, a description of the discovery of a Polish-Mongolian expedition and one turns the page, only to find an account of a dinosaur genus, plus illustration, interpolated; the passage continuing the story is to be found two pages later. Consequently, there are unheralded textual leaps from page 74 to page 76, page 81 to page 84, page 94 to page 96, page 101 to 104, page 109 to 112, and page 117 to page 120. A page-end warning ("continued on page ...") would have considerably aided the unsuspecting reader. The illustration on page 95 lacks a caption; it is presumably *Therizinosaurus*. There is also a recurrent misspelling of "ceratopsian" (p. 85, 120) and in derivatives "Ceratopia" (p. 116) and "protoceratopian" (p. 124, 129, 130). Minor slips are the omission of the crucial accent from the surname of the paleo-

botanist Richard Kräusel and a few misspellings. (To those noted on the erratum slip, "feding" on page 118 should be added.)

Inevitably, I find myself differing from certain of Mr. Lavas's opinions. I am a student of dinosaur tracks — hadrosaur tracks among them — and have seen no evidence whatsoever to support the possibility that the hadrosaurs (p. 86), or for that matter any other dinosaurs, were habitually aquatic. I question the significance of the feather-like dorsal crest on depictions of the thecodont *Longisquama*; the late Beverly Halstead, who had seen the specimen, dismissed it as a skeleton superimposed by chance upon a fossil plant frond! I cannot accept Beverly's own (and Mr. Lavas's, p. 24) belief that the gliding lizard *Podopteryx* was ancestral to the pterodactyls; such a transition in placement of wing membranes (from between the limbs and between hind-limbs and tail to a position between an elongated forefoot finger and the flank), is to me, quite inconceivable. Nor do I believe (p. 10) that rhynchosaurs were mollusc-eaters; their jaw apparatus surely suggests that they were omnivores or herbivores.

However, the excellences in this book amply outweigh the few faults. In addition to the lucid epitomizing of historical data and the information on dinosaur morphology and habits, there is an excellent, and reasonably up-to-date, account of bird origins (p. 20-26) and of the reasons for the survival as fossils of dinosaur eggs (p. 46-50). I applaud also Mr. Lavas's clear thinking on the question of dinosaur extinction and his recognition of the extreme improbability that celestial impact was its cause (p. 19). In summation, this book combines good writing with equally good illustration and can be strongly recommended to all adult persons retaining their childhood love of dinosaurs.