

ON VERTEBRATA OF THE MID-CRETACEOUS OF THE NORTH-WEST TERRITORY.—(1) DISTINCTIVE CHARACTERS OF THE MID-CRETACEOUS FAUNA, by Henry Fairfield Osborn.—(2) NEW GENERA AND SPECIES FROM THE BELLY RIVER SERIES (MID-CRETACEOUS), by Lawrence M. Lambe.

This important memoir is the second part of the series issued by the Geological Survey of Canada, in quarto form, containing descriptions of Canadian fossil vertebrata. The first part, prepared by the late Professor Cope, contained descriptions of the Oligocene fauna from the Cypress Hills; the issue of a contemplated second part on the Vertebrata of the Laramie formation of the North-west Territory, by the same author, was prevented by his death in 1897. The present memoir contains Mr. Lambe's descriptions of the extensive collections of fossil vertebrata made by him in the Belly River formation in 1897, 1898 and 1901, and an introductory part by Professor Osborn, in which the relations of this fauna to that of the typical Laramie Cretaceous and of the so-called Laramie of Montana is discussed.

The Belly River series is of Mid-Cretaceous age, as is shown by the stratigraphy. It is overlain by marine strata of the Fort Pierre and Fox Hills groups, and these in turn by the Edmonton fresh-water series of true Laramie age.

The geological record gives rather scanty information about the inhabitants of the land areas of the Mesozoic. Considerable is known of the land animals of the Trias, and the Upper Jurassic land fauna is large and varied. Then we have a gap, lasting until the end of the Cretaceous, when the equally extensive and varied Laramie fauna appears. The Belly River fauna, of Middle Cretaceous age, reduces this gap very considerably, and assists greatly in tracing the relationships and lines of descent in the two widely separated faunas of the Upper Jurassic and the Upper Cretaceous. It is much nearer to the Laramie, but some Jurassic groups still survive in highly specialized types, while the groups which belong to the Upper Cretaceous show many archaic characters in this older horizon. It "is distinguished from that of the Upper Jurassic (Como Beds, Purbeckian) by the entire absence of Sauropoda and by the presence of Ceratopsia in great variety. It is affiliated with that of the Jurassic, and so far as we know