

## EGGSHELL DIVERSITY OF THE UPPER CRETACEOUS OF DINOSAUR PROVINCIAL PARK, ALBERTA, CANADA

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The richly fossiliferous rocks of Dinosaur Provincial Park have produced only about 220 fossil eggshells, all of which occur as isolated fragments. Eggshell fragments were recovered from the Dinosaur Park and Oldman formations mainly by screen-washing of sediments from bonebed and microvertebrate sites. Of the 30 fragments examined using scanning electron microscopy, seven distinct types of eggshell were recognized based on characteristics such as pore morphology, shell thickness, ornamentation, and microstructure. Twenty-six fragments are characterized by the presence of an inner mammillary zone and outer squamatic/prismatic zone and can be attributed to theropods. Among these 26 fragments are five eggshell types, including three with thick shells that resemble previously described dromaeosaurid, troodontid, and oviraptorosaur eggshell. The other types of theropod eggshell are thin and may belong to either avian or non-avian theropods. Of the remaining fragments, two are characterized by a single structural zone of radiating, acicular calcite and thus can be identified as hadrosaurid eggshell. Finally, two shell fragments have a single structural zone of coarse, tabulate wedges, which is indicative of crocodylian eggshell. Although the sample size of eggshell from Dinosaur Provincial Park is small, the diversity of eggshell types is unexpectedly high with seven oospecies. In strong contrast with the diversity of skeletal taxa at Dinosaur Provincial Park, which is dominated by ornithischians, theropods comprise more than 85% of the oologic fauna.

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