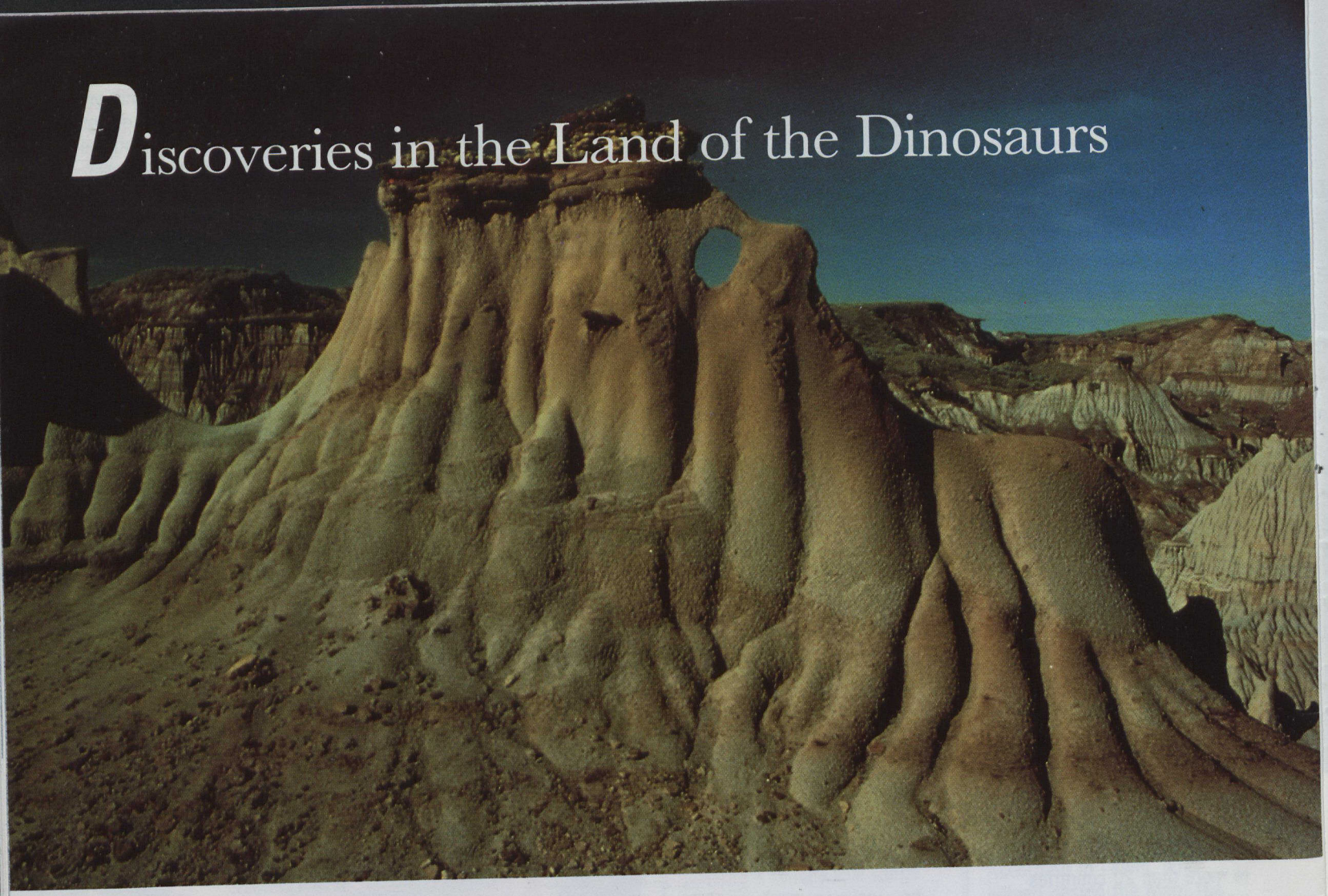
Discoveries in the Land of the Dinosaurs



In recent times, the western Canadian province of Alberta has become a paleontological hot spot. Each summer, researchers joined by dozens of volunteers from around the world eagerly uncover dinosaur remains in an attempt to piece together the story of the existence and eventual extinction of the mighty prehistoric animals.

Last summer, researchers and volunteers concentrated their efforts on four digs, two of which were in Dinosaur Provincial Park. This dusty, barren 75-km^2 area is located roughly 200 km southeast of Calgary, and is characterized by numerous peaks and ridges created by millions of years of erosion — a direct contrast to the lush, tropical habitat that existed there some 75 million years ago when the dinosaurs lived.

Linda Strong-Watson, head technician for the Tyrell Museum of Paleontology in Drumheller (approximately 100 km northwest of the park), explains: ''At the time these animals were alive, this area was an extremely rich ecological niche of which many, many different animals were able to take advantage.'' Over the years, fossils of 35 species representing almost every group of dinosaur have been uncovered. Because of this variety, Dinosaur Provincial Park was declared in 1979 to be a world heritage site by UNESCO (United Nations Educational, Scientific and Cultural Organization).

A third site is located in northern Alberta near Grande Prairie, where a bone bed of pachyrhinosaurus was discovered. The fact that so many specimens of the horned dinosaur were found in one place led researchers to conclude that the remains were deposited there by running water — likely a mass drowning of a herd crossing a river in flood. The fossilized bones of the pachyrhinosaurus being found are from juveniles, yearlings, two-year-olds and adults. This lends support to the idea of a herd, including young animals, dying in one short episode.

A fourth dig took place at Devil's Coulee, in the southern part of Alberta, where researchers excavated a nest of dinosaur eggs, intact, two years ago. This was a rare find and demanded the most up-to-date techniques to enable a thorough study of the specimens without destroying them.

Alberta's Dinosaur Provincial Park: a dusty, barren area of peaks and ridges created by millions of years of erosion.

Computerized axial tomography X-rays or CAT-scans provided such means of analysis. Says Strong-Watson, ''CAT-scan analysis gave us an opportunity to look at the insides of brain cases which we had not been able to look at before.''

This year, Alberta scientists reconstructed the complete skeleton of a dinosaur embryo from one of the fossilized eggs found at the site. The embryo is now on display at the Devil's Coulee Dinosaur Egg Site, the only dinosaur nesting ground found in Canada and only the second in the world to contain embryos.