

**TUMBLER
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Unusual new trackways identified southwest of Tumbler Ridge

Tumbler Ridge, British Columbia, Canada - A recently published article in *Cretaceous Research* describes an unusual assemblage of fossil tracks and trackways southwest of Tumbler Ridge. The tracks are approximately 112 million years old. They were found in 2014 on a steeply sloping surface in the valley of 'Ninesting Creek', a tributary of the Wolverine River.

Twenty tracks were identified, in six trackways. Three distinct track types were present: large three-toed bird tracks, larger, four-toed dinosaur tracks thought to have been made by oviraptors, and pterosaur tracks. The bird tracks are the largest from the Mesozoic Era (the 'Age of Dinosaurs') in North America, and among the largest in the world from this time period. The oviraptors were bipedal theropod dinosaurs, perhaps the size of an emu or ostrich. The pterosaur tracks are arguably the first to be identified in BC, although such tracks have been found in Alberta, Alaska, and the western USA. They appear to be the oldest thus far identified in Canada. A similar combination of pterosaur tracks and large bird tracks has been reported from Korea.

At the time the tracks were made, the area was likely at the margin of an open lake basin or a floodplain pond. Traces made by freshwater mussels were also present on the surface, suggesting that the birds, oviraptors and pterosaurs might have been interested in a meal of molluscs. At the time the area would have been located close to the Arctic Circle, with long periods of winter darkness.

The discovery confirms the importance of northeastern BC as an area rich in fossil tracksites. The site lies within the boundaries of the Tumbler Ridge UNESCO Global Geopark. Already, more than 70 vertebrate tracksites have been identified in the Geopark.

Martin Lockley of University of Colorado was the lead author, supported by Charles Helm, Andrew Lawfield and Kevin Sharman of the Tumbler Ridge Museum. The site lies within the lease area of the Quintette Mine, operated by Teck Resources – the company was extremely helpful in supporting the research and enabling site access.

The Tumbler Ridge Museum, located in the Tumbler Ridge UNESCO Global Geopark in Treaty 8 Territory, researches, displays, and archives over 400 million years of Northeast BC history. It features displays on dinosaur and other fossils, tracks and traces, offers trackway tours, and programs for children and families. The Tumbler Ridge Museum Human History Gallery is housed in the Community Centre with free access during regular Centre hours.

UNESCO Global Geoparks are grassroots initiatives, characterized by sites and landscapes of internationally significant geology where all aspects of our interactions with the earth are celebrated. The Tumbler Ridge UNESCO Global Geopark received its official designation in 2014. With glaciated Rocky Mountain peaks and 75-million-year-old tyrannosaurid trackways, the Geopark is an outdoor adventure lovers' paradise surrounding the community of Tumbler Ridge, BC.

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Reference:

Lockley, M.G., Helm, C.W., Lawfield, A.M.W., Sharman, K.J. 2022. New evidence for avian and small non-avian theropod ichnotaxa from the Lower Cretaceous of Canada: Implications for theropod ichnodiversity. *Cretaceous Research* 138, 105292. <https://doi.org/10.1016/j.cretres.2022.105292>

Media:

Photo of one of the large bird tracks; scale bar in cm.

Photo of one of the oviraptorosaur tracks; scale bar = 10 cm.

Photo of one of the pterosaur tracks; scale bar in cm.

3D image of some of the trackways; scales are in metres.

Artist Jan Vriesen's painting of the environment 112 million years ago.