Title

First Impressions are important! From dragonflies to beetles, new insect impression fossils from the Dinosaur Park Formation provide invaluable insight into Cretaceous life.

Abstract

Impression fossils can preserve large insect fossils not commonly found in amber inclusions, and as such are incredibly valuable when reconstructing paleoecosystems. Unfortunately, aside from the occasional discovery from the Cretaceous Wapiti formation, few Mesozoic insect impression fossils have been researched in Alberta. This all changed during the 2022-2024 field expeditions to Dinosaur Provincial Park led by a crew from McGill University. While a newfound plant locality was being quarried for its well-preserved leaf impressions, several unexpected discoveries were made, including an exquisitely preserved partial hindwing of a dragonfly. While small, this hindwing, attributable to the subclade Cavilabiata (which includes many of the dragonfly species that inhabit Alberta today), possessed unique anatomy that merited its description as a brand new species, *Cordualadensa acorni*. This dragonfly marks the first known dinosaur-aged dragonfly from all of Canada and helps fill in a notable 30 million year gap in the global fossil record of the Cavilabiata. Following the discovery that insect fossils can be preserved in Dinosaur Park, several more insect impression fossils have been discovered, opening an exciting untapped frontier of paleontological discoveries in Alberta.

Biography

Born in Calgary and raised in Medicine Hat, Alberta, Andre Mueller has always been passionate about prehistoric life, especially the underappreciated areas of paleontology. Currently a Master's student studying at McGill University in Montreal, he regularly conducts fieldwork in Dinosaur Provincial Park and the surrounding area. Much of his research focuses on Cretaceous plant and insect fossils from across Canada, such as the Redmond Formation of Labrador and the Dinosaur Park Formation of Alberta. Andre has made several paleoentomological discoveries, including the description of Canada's first dinosaur-aged dragonfly, *Cordualadensa acorni,* and the description of three new mayfly species from Labrador.