

Footprints suggest tyrannosaurs were gregarious

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Scientists in western Canada have discovered the fossilized footprints of three tyrannosaurs that suggest these fearsome predators may have hunted in packs.

The sets of tyrannosaur footprints are the first ever to be found in proximity to one another and are the only clear evidence so far that these dinosaurs may have been social rather solitary animals.

"The evidence is as strong as you can get with any [fossil evidence](#) that [tyrannosaurs](#) were pack animals," Richard McCrea of the Peace Region Palaeontology Research Centre, who led the excavation, told AFP on Thursday.

"It shows that these were three animals travelling together, all going in the same direction," he said.

Previously, only individual tyrannosaur footprints have been uncovered in the United States, Canada and Mongolia.

The parallel tracks leading into a rock cliff near Tumbler Ridge, British Columbia indicate the three were walking in a group, "bearing southeast within an 8.5 meter-wide corridor," according to a study published by McCrea's team in the journal *PLOS ONE*.

The researchers cited "similarities in depth and preservation" of the tracks as proof that they were made by animals "walking concurrently in

the same direction."

The three-toed footprints of these very large bipedal carnivores with powerful jaws and small clawlike front legs were discovered by a local guide and outfitter in 2011 in what would have been soft mud 70 million years ago.

Excavation, which is continuing, has uncovered seven footprints in all.

They are believed to have been covered up and preserved by volcanic ash, only to be exposed eons later by the erosion of the cliff.

The footprints—each half a meter long—belong to adult animals of different sizes. They predate the Tyrannosaurus Rex, but Albertosaurus and Daspletosaurus—ancestors of Rex—once roamed foothills east of the Rocky Mountains.

The discovery also provides valuable new information on how tyrannosaurs moved.

"Their gait was very narrow, with very little rotation of the foot," McCrea noted. "It's quite an efficient locomotion: very long strides, almost four meters.

"We had no idea they walked like that," he said.

"There's been speculation about their biomechanics but prior to the discovery of these trackways, all we had were bones, and theories about how their joints rotated and so on.

"Now we have trackways that we can use to put those hypotheses to the test.

"That's the next step."

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