

# How giant dinosaurs may have spread seeds in prehistoric world

January 6 2021, by Paul Panckhurst

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A new study from the University of Auckland looks at the animals' roles in moving seeds from one place to another.

Evidence from fossils indicates that seeds consumed by dinosaurs could remain intact in their stomachs, suggesting a possible role in helping

plants to spread in the prehistoric world.

That led Professor George Perry, of the School of Environment, to look at how far dinosaurs may have spread the seeds, by modeling the animals' likely travel speeds along with their likely frequency of defecation—both factors that can be estimated from body weight.

His work suggests that an optimum [seed](#) spreader might have been a dinosaur such as Triceratops, which may have weighed eight to 10 tons and moved at a maximum speed of around 25 kilometers per hour. Another dinosaur of similar body mass and potential seed dispersal capacity was Stegosaurus, which may have weighed six to eight tons.

These dinosaurs may have spread seeds on average as far as 4 to 5 kilometers, and in rare cases, more than 30 kilometers.

To Professor Perry, the work points to the [complex relationships](#) of living things within ecosystems—a topic that's especially relevant as the world experiences what some scientists describe as the "sixth mass extinction."

"When we think about [extinct animals](#), it's easy to just think of a long list—but in fact they all played inter-linked roles in our ecosystems."

His article on dinosaurs and seeds, just published in the journal *Biology Letters*, draws on his ongoing and unpublished research with colleagues at Manaaki Whenua—Landcare Research into the roles that extinct New Zealand birds such as moa, huia and giant geese may have played in dispersing seeds.

It also adds to previous speculation on the role that dinosaurs may have played in spreading plants.

Fossilized plants with features that suggest they may have been dispersed by animals date as far back as 280 million years—and seeds from fossilized gut contents are just as old. Dinosaurs went extinct about 65 million years ago.

Still, understanding exactly what role dinosaurs played in helping plants to spread may be difficult or impossible to establish from the fossil record. While [dinosaurs](#) certainly moved seeds, scientists don't know anything about the germination of those seeds.

Professor Perry took on the project during the COVID-19 lockdowns, intrigued at tackling the habits of the largest land animals that ever existed—and happy to have an alternative to another Zoom call.

**More information:** George L. W. Perry. How far might plant-eating dinosaurs have moved seeds?, *Biology Letters* (2021). [DOI: 10.1098/rsbl.2020.0689](https://doi.org/10.1098/rsbl.2020.0689)

Provided by University of Auckland

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