

A titanosaurian sauropod dinosaur from the Upper Cretaceous of Antarctica

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Acta Palaeontologica Polonica 71 (2), 2026: 349-362 doi:10.4202/app.01315.2025

Antarctica preserves a meagre Mesozoic dinosaur record, with fossils known only from the Lower Jurassic Hanson Formation of the Transantarctic Mountains and Upper Cretaceous units of the James Ross Sub-Basin of the Antarctic Peninsula. Upper Cretaceous assemblages include ankylosaurs, ornithopods, and non-avian and avian theropods, but sauropods are exceptionally rare. Here, we describe a titanosaurian caudal vertebra from a lower Campanian (Upper Cretaceous) horizon of the Santa Marta Formation of James Ross Island and discuss its implications for the evolutionary and palaeobiogeographic history of Antarctic sauropods. The specimen is a small, procoelous anterior caudal vertebra, identified as that of a non-saltasaurid eutitanosaurian. Its morphology closely corresponds to that of rinconsaurians and aeolosaurines, particularly a specimen previously assigned to the Late Cretaceous Argentinean species *Muyelensaurus pecheni*, and it differs from earlier-diverging titanosaurs, although its fragmentary preservation warrants a conservative taxonomic assignment of Eutitanosauria indet. Size comparisons indicate that the individual in question was small for a titanosaur, possibly reflecting immaturity or a genuinely small-bodied form. This discovery represents only the second sauropod body fossil known from Antarctica, although it was the first dinosaur bone to be collected from the continent. Coupled with the occurrence of diamantinasaurians in Patagonia and Australia during the mid-Cretaceous, its eutitanosaurian affinities imply the presence of multiple somphospondylan lineages in Antarctica, informing dispersal patterns and highlighting biogeographic links with other Gondwanan landmasses.

Key words: Sauropoda, Titanosauria, Eutitanosauria, caudal vertebra, Cretaceous, Campanian, Santa Marta Formation, Antarctica, James Ross Island.

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