# PALEODIET AND EXTINCTION OF A SOUTH AMERICAN CERVIDAE (CETARTIODACTYLA: MAMMALIA)

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The Cervidae reached its highest diversity in South America during the late Pleistocene (13 taxa), decreasing in the early Holocene, when only 6 survived. This extinction comprehension is elucidated by the paleodiet. Therefore, the paleodiet reconstruction of extinct *Morenelaphus\_*through dental microwear followed two fronts: one local, including *Morenelaphus*and other three extant representants: *Blastocerusdichotomus*, *Ozotoceros bezoarticus* and *Mazamaamericana* from the fossiliferous assemblage of Gruta do Urso cave (FAGU); and, another, analyzing its diet from distinct geographical records. A latitudinal gradient of *Morenelaphus* diet was recognized; mixed-feeding with high intake of grasses and grazing, respectively, at high *versus* low latitudes. C3 grasses were more abundant in lower than higher latitudes of South American Pleistocene paleoenvironments. Therefore, *Morenelaphus* exclusively consumed C3 grasses where they were more abundant, occasionally incorporating other food items.The C3 grazer *Morenelaphus*did not compete with other FAGU deer because *Ozotocerusbezoarticus* and *Mazamaamericana* were traditional browsers and *Blastocerosdichotomus* a mixed-feeder (they remain with this same diet today). Additionally, paleofauna and palynology suggest a grassland decrease at Gruta do Urso surroundings from late Pleistocene on. Consequently, this might have led *Morenelaphus* to extinction, because not a single deer is exclusively grazer in South America today. *Morenelaphus* had larger antlers than living cervids. A high nutrition is required to develop such antlers, therefore, the bigger the antler, the higher nutrition is needed. Thus, reduction of grasslands during late Pleistocene in South America may have led to a nutritional crisis and, consequently, to *Morenelaphus* extinction.

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