Constraining the time of extinction of the South American fox Dusicyon avus (Carnivora, Canidae) during the late Holocene.

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The mass extinction at the end of the Pleistocene affected South America during the Late Pleistocene and the Early Holocene, when megamammals and large mammals disappeared. Several carnivores became extinct, like the sabretooth Smilodon, the short face bear (Arctotherium) and some large canids (i.e. Protocyon, Canis dirus). After this mass event virtually no carnivores became extinct in South America. The only exception is the fox Dusicyon avus, a middle sized canid (estimated body mass between 10-15 kg) with a more carnivore diet than the living South American foxes (i.e. Lycalopex culpaeus). The last record of the species comes from middle-late Holocene archaeological sites in the Pampean Region (Argentina) and Patagonia (Argentina and Chile). During the Late Pleistocene D. avus had a wide distribution, that covered part of Uruguay, Argentina (Buenos Aires province) and the southernmost Chile. Albeit some remains from late Holocene sites have been published, these remains lack of isotopic dates that could (allow?) constraint (to determine) the date of extinction of this fox. In this contribution we present several new records from the Pampean Region and Patagonia, and several taxon dates. The new records indicate that D. avus disappeared in the late Holocene at least $\approx$ 3000 years BP in the island of Tierra del Fuego (Patagonia) and $\approx$ 1600 BP in the continent. Since at this time humans were occupying most of the Pampas and Patagonia a revision of the causes behind the extinction of this fox is required.