The origin of the Anthropocene? *Homo*-induced collapse of East African carnivore guild, 2 mya.

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Studies of African mammalian carnivore fossils from the past seven million years show that the large members of this group have declined dramatically both in terms of the number of species and in ecological breadth, especially in the types of food and feeding behavior (functional richness). Prior to 2 million years ago, the community of large carnivores in eastern Africa ranged from those adapted to eating mostly plant foods (hypocarnivores) to those built for subsisting mainly on meat (hypercarnivores); today only few hypercarnivores remain (Werdelin and Lewis, 2013). The timing of the decline coincides with the rise of the *Homo erectus*-group of hominins, which were the first human ancestors to show biological adaptations trending towards those seen in modern humans, including the incorporation of significant amounts of meat in the diet. This suggests that competition with humans for access to prey drove many big carnivores to extinction (Werdelin, 2013). In addition, changes to the carnivore guild may have led to changes among the herbivores, through a trophic cascade. This is the earliest documented permanent (through extinctions) modification of the natural environment by the human lineage, pushing back the origin of the 'Palaeoanthropocene' (Foley et al., 2013) to ca 2 mya.

References:

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