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## **ABSTRACT BOOK**

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## A matter of taste: the probable role of elephant meat in Paleolithic diet preferences

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Taste is essential in human life and has a major impact on food preferences (Drewnowski, 1997). The development of individual flavor perception is linked to human life history and influenced by internal and external preferences (Birch, 1999). Based on the recent discovery of taste-related genes in a Neanderthal (Lalueza-Fox, et al. 2009) and the assumption that taste preferences are likely to have existed in earlier Paleolithic times also, we believe that this is a potentially useful line of inquiry. Since taste preferences are embedded within social and cultural imprinting, we decided to explore the very long nutritional, cultural and perceptual connection between humans and elephants in the Paleolithic in order to examine the probable role of taste in decision-making regarding elephant procurement and consumption.

Though we are fully aware that modern hunter-gatherers, and modern sport-hunters, cannot serve as a direct analogy to the past; as a starting point we compiled ethnohistorical accounts of elephant consumption from Africa. The aim of this study was to explore the extent to which taste preference could be detected in relation to elephant consumption. We then investigated Paleolithic faunal assemblages that contained elephant remains in an attempt to detect preferences that might have influenced food selection in the deep past.

Palaeolithic nutrition was based on animal meat and fat in addition to plant-based foods. Many Paleolithic sites have extensive evidence for large mammal consumption and big game hunting was a principal procurement strategy. As elephants are present at Paleolithic sites over several hundred thousand years, we have focused on the question of whether elephants were targeted only for the extraordinary amount of meat and fat they supplied (e.g. Ben-Dor, et al. 2011) or whether taste might have also played a role.

Within this context we highlight two examples that hint of a probable role of taste in the selection of elephants for hunting in the Paleolithic: 1. In the case of Ma'anshan site in China, the authors argue that: "*Juveniles were preferred, possibly because adults were too dangerous to hunt. One ethnoarchaeological study reports that the Liangula hunters of east Kenya who hunted elephants for meat, preferred to prey upon juveniles because their meat tasted better. However, adult elephant meat is consumed by a variety of African groups today, so "taste" is not sufficient to explain the difference in prey age selection*" (Zhang, et al. 2010, p. 2076). 2. A research at Middle Paleolithic Spy cave in Belgium suggested that the presence of newborn mammoths indicate selective hunting of young individuals by hominins (Germonpré, et al. 2012). Examples such as these serve as a starting point for our discussion of the probable role of taste in elephant procurement.

Some ethnographic groups such as the aborigines (Australia) do have a taste preference and hunt accordingly, while other groups do not have the liberty of choosing and hunt any available game (O'Dea, et al. 1991; Koster, et al. 2010).

Although elephant hunting today is prohibited, historical texts describe the taste of elephant meat. Christy (1922)

explains that elephant meat tastes quite good and yet when cooked over a fire on a stick, it can be very tough; and while elephant is palatable for Africans, outsiders would find the flesh coarse. Other evidence of elephant taste is reported by Selous (1881, p. 50) "... *I tasted elephant's heart, roasted on a forked stick over the ashes, which I thought then, and still consider, to be one of the greatest delicacies that an African hunter is likely to enjoy...*".

As the presence of elephant remains on Paleolithic sites, including elephant bones bearing cut marks and elephant bones broken for marrow extraction, reveals that there is little doubt that Paleolithic diet was at least partially based on calories extracted from megafauna. We used the taste preferences identified in texts related to recent elephant consumption to reconstruct taste-preferred categories (preferred body parts, internal organs, age dependant preferences etc.). We then examined the evidence from Paleolithic sites that contained elephant remains, to explore whether we could identify evidence for any potentially similar pattern. We hope that our attempt will shed light on the significant relationship between humans and elephants in the Paleolithic.

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