

In chimpanzees, hunting and meat-eating is a man's business

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Gifted adult male hunter Brutus holds out meat for the less successful, and uninterested, hunter Kendo while a female looks on. Credit: MPI for Evolutionary Anthropology/Christophe Boesch

(Phys.org) —Observations of hunting and meat eating in our closest living relatives, chimpanzees, suggest that regular inclusion of meat in the diet is not a characteristic unique to Homo. Wild chimpanzees are

known to consume vertebrate meat, but its actual dietary contribution is often unknown. Constraints on continual direct observation throughout the entire hunting season mean that behavioural observations are limited in their ability to accurately quantify meat consumption. An interdisciplinary team of researchers from the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, has now compared stable isotope data of wild chimpanzee hair keratin and bone collagen with behavioural observations and found that, in chimpanzees, hunting and meat-eating is male-dominated. These new results support previous behavioural observations of chimpanzees in Taï National Park, Côte d'Ivoire.

Researchers analysed a wide range of environmental samples from Taï National Park, Côte d'Ivoire, to construct an isotopic baseline of the chimpanzee habitat. These environmental samples also included components of the chimpanzees' diet, such as fruits and seasonal supplements of nuts, ants and termites, and colobus monkey.

Subsequently, the researchers determined the nitrogen isotope values for male and female chimpanzee bone collagen and hair keratin. The result: Meat eating among some of the male chimpanzees is significant enough to result in a marked isotope signal detectable on a short-term basis in their hair keratin and long-term in their bone collagen. "Although both adult males and females, as well as juveniles, derive their [dietary protein](#) largely from daily fruit and seasonal nut consumption, our data indicate that some [adult males](#) also derive a large amount of dietary protein from hunted meat", says Geraldine Fahy of the Max Planck Institute for Evolutionary Anthropology.

This result supports behavioural observations on hunting prowess and [meat consumption](#) gathered by Christophe Boesch and his team in the Taï National Park over a 30-year period. "Our results reinforce behavioural observations of male-dominated hunting and meat eating in

adult Tai chimpanzees, suggesting that sex differences in food acquisition and consumption may have persisted throughout hominin evolution, rather than being a recent development in the human lineage", says Christophe Boesch, who directs the Department of Primatology at the [Max Planck](#) Institute for Evolutionary Anthropology.

"The pattern observed in chimpanzees is quite different from that of recent hunter-gatherers where the game is distributed among the whole group. Comparisons between humans and our closest relatives are crucial to understanding the origins of hunting and meat sharing in the first hominins", adds Jean-Jacques Hublin, head of the Department of Human Evolution, where the isotopic measurements were conducted.

More information: Fahy, G. et al. Stable isotope evidence of meat eating and hunting specialization in adult male chimpanzees, *PNAS*, Early Online Edition, 25 March 2013.

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