

**LIVE UPDATE** FROM THE LIVEBLOG OF SUNDAY, APRIL 4, 2021

# Israeli study: Humans were hyper-carnivorous apex predators for 2 million years

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Israeli researchers studying the nutrition of Stone Age humans say the species spent some 2 million years as hyper-carnivorous “apex predators” that ate mostly the meat of large animals.

The study at Tel Aviv University, in collaboration with Portugal’s University of Minho, “may provide a broad basis for fundamental insights on the biological and cultural evolution of humans, according to a statement by TAU.

Contrary to most studies on the diet of ancient humans, which were mostly based on hunter-gatherer societies in recent centuries, the latest paper is largely derived from “the memory preserved in our own bodies, our metabolism, genetics and physical build,” according to Miki Ben-Dor of TAU’s Department of Archaeology.

“Human behavior changes rapidly, but evolution is slow. The body remembers.”

For instance, the team examined the acidity of our stomachs, which is high even for predators.



Tel Aviv University's Miki Ben-Dor (Courtesy)

“Producing and maintaining strong acidity require large amounts of energy, and its existence is evidence for consuming animal products,” Ben-Dor says. “Strong acidity provides protection from harmful bacteria found in meat, and prehistoric humans, hunting large animals whose meat sufficed for days or even weeks, often consumed old meat containing large quantities of bacteria, and thus needed to maintain a high level of acidity.”

They also looked at fat’s structure in human cells: Similarly to predators, human fat is stored in large numbers of small fat cells, whereas in omnivores it tends to be the other way around.

They also cite the human genome as evidence.

“For example, geneticists have concluded that ‘areas of the human genome were closed off to enable a fat-rich diet, while in chimpanzees, areas of the genome were opened to enable a sugar-rich diet,’” Ben-Dor says.

Further archaeological evidence supports their hypothesis, they argue, including the study of stable isotopes in the bones of prehistoric humans that point to consumption of meat with a high fat content, likely from large animals.

“Most probably, like in current-day predators, hunting itself was a focal human activity throughout most of human evolution,” Ben-Dor says. “Other archaeological evidence — like the fact that specialized tools for obtaining and processing vegetable foods only appeared in the later stages of human evolution — also supports the centrality of large animals in the human diet, throughout most of human history.”

The researchers believe humans only began moving toward a diet that is much more plant-based some 85,000 years ago, possibly as a result of a decline in larger animals as a food source.