

Wolves of Alaska became extinct 12,000 years ago, scientists report

July 4 2007

The ancient gray wolves of Alaska became extinct some 12,000 years ago, and the wolves in Alaska today are not their descendents but a different subspecies, an international team of scientists reports in the July 3 print edition of the journal *Current Biology*.

The scientists analyzed DNA samples, conducted radio carbon dating and studied the chemical composition of ancient wolves at the Smithsonian Institution's National Museum of Natural History. They then compared the results with modern wolves and found that the two were genetically distinct.

"The ancient Alaskan gray wolves are all more similar to one another than any of them is to any modern North American or modern Eurasian wolf," said study co-author Blaire Van Valkenburgh, UCLA professor of ecology and evolutionary biology.

The ancient gray wolves lived in Alaska continuously from at least 45,000 years ago —probably earlier, but radio carbon dating does not allow for the establishment of an earlier date — until approximately 12,000 years ago, Van Valkenburgh said.

The ancient gray wolves were not much different in size from modern Alaskan wolves, although their massive teeth and strong jaw muscles were larger. They were capable of killing large bison, Van Valkenburgh said.

The ancient wolves suffered many broken teeth and tooth fractures, she said.

Van Valkenburgh has also studied tooth fractures in ancient animals at Los Angeles' Rancho La Brea Tar Pits and in modern lions, tigers, leopards, puma and wolves. The ancient large mammals broke their teeth frequently when they ate, crunching the bones of their prey much more often than their modern counterparts. Why"

"Because they were hungry, which may have been because it was difficult to catch and hold onto prey when there was much competition and theft among carnivores, forcing them to eat quickly," said Van Valkenburgh, who won a UCLA distinguished teaching award in June. "They were probably living at such high densities that we have difficulty even imagining, with frequent encounters between carnivores."

The ancient wolves' competitors for food included lions, saber-toothed cats and enormous short-faced bears, she said.

The saber-toothed cat and other large mammals became extinct about 10,000 to 11,000 years ago when their prey disappeared due to factors that included human hunting and dramatic global warming at the end of the Pleistocene, Van Valkenburgh said.

Prior to the new research, it was not known whether today's gray wolves in Alaska and elsewhere descended from ancient gray wolves that roamed those areas in the Pleistocene or whether there was an extinction or near extinction of the gray wolves from northern North America.

Does the research have implications for global warming today"

"When environmental change happens very rapidly, animals cannot adapt, especially when the few places for them to move as habitats

shrink; they are more likely to go extinct,” Van Valkenburgh said. “It was a rapid climate change in the late Pleistocene.”

The research was federally funded by the National Science Foundation.

Source: University of California - Los Angeles

Citation: Wolves of Alaska became extinct 12,000 years ago, scientists report (2007, July 4)
retrieved 9 April 2024 from

<https://phys.org/news/2007-07-wolves-alaska-extinct-years-scientists.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--