New fossils, genetic tools help pinpoint bison migration to North America

Researchers have figured out when bison came to North America using new DNA extraction techniques and a newly found set of fossils.

University of Alberta department of Earth and Atmospheric Sciences researchers Duane Froese and Alberto Reyes worked with paleogeneticists out of the University of California Santa Cruz to sequence more than 40 bison genomes, according to a press release.

Of those 40, they sequenced the two oldest bison fossils ever found. One was found in Ch’ijee’s Bluff in the Vuntut Gwitchin Territory in Yukon, while another was found in Snowmass, Colorado.

They then compared those genomes to that of Siberian and North American bison.

They found a common maternal ancestor that arrived some time between 130,000 and 195,000 years ago.

The bison fossils and other remains showed a warm climate in Yukon about 125,000 years ago.

“Because that was a time of high global sea level, they must have come over from Asia sometime prior to that when the Bering Land Bridge was exposed,” Froese said in a press release.

The first time the University of Alberta scientists tried to work with paleogeneticist Beth Shapiro at the University of California Santa Cruz, the DNA was too degraded to use, but Shapiro developed new techniques using the mix of bacteria and other DNA in the bison’s bones.

The oldest bison found in the Yukon was similar to a giant long-horned bison called Bison latifrons found in Colorado.

“Bison latifrons is an interesting beast,” Froese said in a press release. “Its horns measured more than two metres across at the tips and it was perhaps 25 per cent larger than modern bison.”

Researchers believe Bison came to North America using the Bering land bridge about 130,000 years ago when sea levels were lower.


Source: Edmonton Sun