

Bison Antiquus from Snake River Farm

On Saturday, February 3, 2018, Gail, Ella, I, and a trunk full of ancient bison bones traveled to Hot Springs, South Dakota. We went there at the invitation of Dr. Jim Mead. Dr. Mead is the Chief Scientist and Director of the Mammoth Site of Hot Springs.

The Mammoth Site is a well-known geological formation that trapped and then preserved dozens of mammoths during the Ice Age period. The time frame was roughly from 30,000 to 80,000 years ago. I have posted a photo of the now enclosed dig site. It is the second photo in the series.

The "Mammoth Site" is a non-profit organization for research and education.

Dr. Mead plans to expand the focus of the Mammoth Site to include a broad range of Ice Age creatures.

We were there because Dr. Mead plans to build a multi-faceted display of Ice Age bison. He intends to anchor that display on bison from our farm. The current plan is to reconstruct a "dig" site from our own Snake River.

The entire display will include replicas of each of the prominent bison species that existed at various times in North America. Including, the majestic, enormous horned "Latifrons." The bison exhibit will take up one side of a large exhibit hall.

Perhaps at this point, a brief explanation will be helpful to readers.

We first discovered these ancient bison bones about 20 years ago.

Our farm is in a geological formation named the Anoka Sand Plain. The plain is triangular. It extends from St Cloud, easterly to Wisconsin, and from St. Cloud, southeasterly to lower St. Paul.

It is a glacial outwash plain. Essentially beach sand. On our farm the sand is one hundred feet deep.

The oldest bones are complete animals that apparently died in quicksand. The glacier melted 10,000 to 12,000 years ago. The animals died 6,000 to 9,000 years ago. They are in sand, beneath a thick layer of peat and sediment.

The peat and sediment built up over their bones during the intervening millennia.

The soft tissue dissolved away but the bones are preserved in near perfect condition.

The Snake River gradually uncovers buried bones when it changes course. It does that during times of heavy flooding. The river winds for almost a mile through our farm.

We have never actually "dug" for bones but rather we have searched for bones in or beneath the riverbed.

In 1998 we built a complete skeleton of a mature female bison. That skeleton was named Samantha after our granddaughter Samantha who helped find it. Samantha and two cousins found the skull which led us to the complete skeleton. Gail can tell you stories about that.

Samantha, the bison, spent a time in the Sherburne County Courthouse foyer, then for many years she was displayed in the Becker Library.

Two years ago, we donated Samantha to the National Buffalo Museum in Jamestown, North Dakota. She is a major attraction there. "Sam" is the first thing tourists see when they enter the exhibit area. I have posted a photo of "Sam" at the National with this article. That is the first photo in this set. I HAD to put a bison photo first.

In 2005, Sherburne County built a new History Center. We were asked to build a second full bison skeleton for the new exhibit hall. That skeleton is the first thing visitors see when they enter the exhibit area.

I have posted a photo of that bison, named Tatanka, with this article.

At the time we built Tatanka, we brought Sam home to refurbish her. By then we had learned some better techniques for fastening and finishing.

Overall, I did a better job with Tatanka than Sam. Experience helps.

Gail, and our good neighbors Kory, Paula and Katie Wells helped us a lot on that winter project.

I have posted several photos from 2006 when we worked on both Sam and Tatanka in the barn.

In the photo of both creatures, Sam is on the left and Tatanka is on the right.

Both bison are now in permanent homes. Sam is in the National Buffalo Museum. Tatanka is in the Sherburne History Center.

So, back to our recent trip to Hot Springs.

Dr Mead and Preston Gabel, the Mammoth Site Business Manager spent all of Saturday afternoon giving us a grand tour of the Site's exhibits, laboratories, and bone inventory.

Ella, who is ten, missed school on Friday but she came home with enough material for a month of class reports.

I have attached several photos that were taken Saturday.

In one, Dr. Mead is teaching Ella and I about teeth in a mammoth bottom jaw.

In another, Ella is posing in front of a reconstructed mammoth. Dr. Mead is in the background. This is the hall that will contain the bison exhibit.

In another, Ella, Preston, Tom and Dr. Mead are discussing the *Antiquus* bison cow skull that we brought to the museum. A further photo shows some of the other bones, including neck vertebrae that we brought. Our bones are all shades of dark brown. That color pattern is typical of bones stored under water and peat.

I have added four photos of text with sketches.

Those photos explain the relationship, timing and development of bison species in North America.

Best regards. Tom Barthel



bison antiquus

















How Did They Get Here? The Scientific Evolution of the American Bison

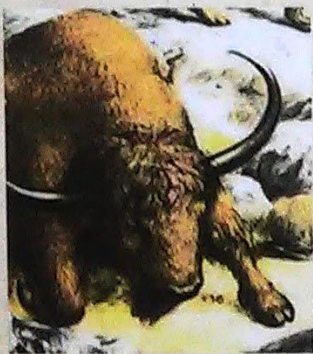
Bison priscus, also known as the *Steppe bison*, lived 5 Million Years Ago (early Pliocene Epoch) in tropical Southern Europe. *Bison priscus* eventually roamed into all of Europe and across Asia and Russia





During the Pleistocene epoch (2 million years ago) *Bison priscus* made three migrations over what is now commonly called Beringia (or the Bering land bridge) that existed until about 12,000 years ago.

With the first migration to North America during the early Pleistocene epoch the *Bison priscus* evolved into the *Bison latifrons* (also known as the broad-headed paleo-bison or giant Ice Age bison) *Bison latifrons* had a horn span of over seven feet long and existed from 800,000 until 11,000 years ago.



With the second migration during the mid Pleistocene epoch *Bison priscus* evolved into the *Bison crassicornis* which lived 600,000 to 30,000 years ago but never came lower than Alaska and Canada

The third and final migration in the late Pleistocene - early Holocene periods saw the *Bison priscus* evolve into the *Bison antiquus*. *Bison antiquus* lived from 80,000 to 8,000 years ago and is believed to be the direct ancestor to the modern day *Bison bison*. They lived from Alaska all the way to Mexico.

