

LAS July 2013 Headlines:

Mammoth blood? Siberian discovery sparks some wild and woolly claims

By Alan Boyle, Science Editor, NBC News, May 30, 2013

Russian researchers say they've recovered blood samples from a 10,000-year-old mammoth carcass found in Siberia, but outside experts are skeptical about the claims — and particularly about suggestions that the mammoth can be cloned.

"What makes the news here is that they have the liquid," Stephan Schuster, a biologist at Penn State who helped decode the woolly mammoth genome several years ago, told NBC News. "But this could also be water that is now thawing and is running out with organic compounds that are in the carcass."

The research team from North-Eastern Federal University in the Siberian city of Yakutsk says it's blood.

"The blood is very dark," Semyon Grigoriev, who headed the expedition to the Lyakhovsky Islands in the Siberian Arctic, said Wednesday in a university news release.

"It was found in ice cavities below the belly, and when we broke these cavities with a poll pick, the blood came running out. Interestingly, the temperature at the time of excavation was -7 to -10 degrees C [14 to 19 degrees Fahrenheit]. It may be assumed that the blood of mammoths had some cryoprotective properties," he said.

It's difficult for Schuster or other outside experts to render judgment on the claims, since the only information available on the find is what's in the press. "I have no doubt that they have found something interesting, but what exactly it is ... is hard to say at this moment," Daniel Fisher, an expert on mammoths at the University of Michigan, told Scientific American's Kate Wong.

Schuster said it's conceivable that the fluid contains natural antifreeze. Experts have found that to be the case for lots of modern-day organisms in chilly environments. "It could come from the breakdown of biopolymers," he said. "You have a lot of small organic components that would have the properties of being cryoprotective."

Russian scientists discovered a well-preserved woolly mammoth carcass that they say still contained tissue and blood due to Siberia's ice. NBCNews.com's Dara Brown reports.

The Russian reports suggest that the partial female carcass is unusually well-preserved. Fragments of the mammoth's muscle tissues "have a natural red color of fresh meat," Grigoriev reported. That's not unprecedented, however. There have been numerous reports about the recovery of mammoth meat that's good enough to eat.

The big question focuses on what you can do with that preserved tissue and blood (or bloodlike goop).

"What they are saying without saying it is, 'Oh, if we have blood, then the rest of the carcass might yield clonable DNA,'" Schuster said. After all, Grigoriev is one of the leaders of the Russian-Korean "Mammoth Miracle" cloning project. He's quoted as saying that the carcass had to be recovered in cold weather, "because the unique discovery would melt in summer or autumn, and the priceless material for the joint project 'Mammoth Rebirth' ... could disappear from thawing and wild animals."

The scientists who are working on the project have said a woolly mammoth could be cloned sometime in the next five years, but Schuster and other researchers involved in studying mammoth genetics are skeptical that there'd be enough intact DNA in any thawed-out sample to do the deed. So far, the best



A May 13 photo provided by the Yakutsk-based North-Eastern Federal University shows a researcher working near a partial carcass of a female mammoth found on a remote island in the Arctic Ocean. Russian scientists claim that blood has been extracted from the carcass. Semyon Grigoriev via AFP - Getty



Loveland Archaeological Society, Inc.

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places to find mammoth DNA have been from the teeth, bones and hair rather than from the muscles or tendons — and even then, the pickings have been slim.

"None of us has ever seen a sample from a mammoth where the genome has not been completely shattered," Schuster said. "The maximum we find is 100 base pairs, maybe 400 base pairs. You would need on the order of millions of base pairs, and there's no such thing."

Even if the DNA isn't intact, it may still be possible to extract proteins from the tissues, just as proteins were extracted from the fossilized bone of a Tyrannosaurus rex several years ago. Schuster said working toward that goal would be exciting as well as realistic.

"The case is rare enough, that everything inside the carcass needs to be investigated in the fullest," he said. "Only after this has been done can we assess whether this find will really advance our understanding of the biochemical makeup of a mammoth. But I am less optimistic about learning more about the genetic makeup."

Stone Age Fair Volunteers Needed

We could really use your help to make this year's Loveland Stone Age Fair a success!

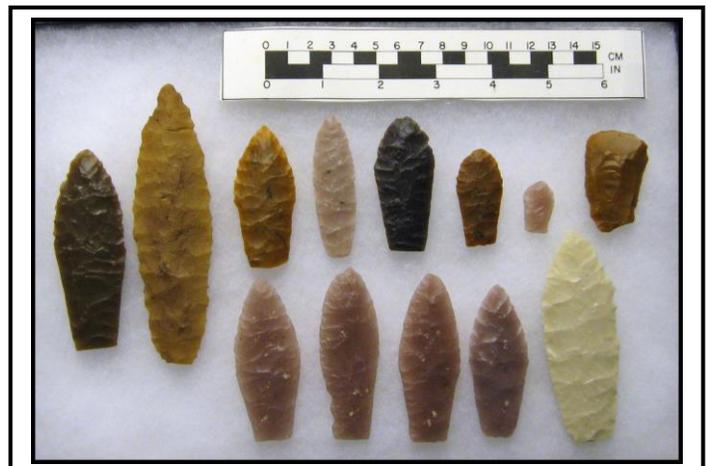
We are seeking members to volunteer to help with the 2013 Loveland Stone Age Fair to be held Friday, Saturday and Sunday, September 27, 28 and 29, 2013. We need help in the following areas:

1. Door prizes. Contact donors, come up with prizes. Organize door prize table schedule (manning table, running ticket cage and ticket sales).
2. Emcee for program Saturday, September 28, 2013. Introduce scholarship recipients and speakers, run program. Set up stage, audio/video, screen, speaker and scholarship recipient photos, etc.
3. Loveland Library exhibit, September, 2013. Need a volunteer to coordinate and build exhibit.
4. Security coordinator. We will need to provide additional security during the day on Saturday and Sunday, and the security coordinator will organize members to walk through, observe, and monitor activity.
5. Hang signs on Friday, September 27, 2013.
6. Displays for Sunday, September 29, 2013 to fill in empty tables as exhibitors leave.
7. Dedicated photographer – all three days, all events. (We have already had much interest in this area.)

If you would like to volunteer for one of these positions please contact Kevin Zeeck at 303-682-0471 after 6:30 PM, MDT (kevin.zeeck@gmail.com), or Janet Wagner at 970-278-4049.

Eye Candy:

Hell Gap points from the Jones-Miller site, Yuma County, Colorado.



- Sponsor of the Annual Loveland Stone Age Fair -

www.stoneagefair.com



LAS Find of the Month, July 2013:

Members can bring an artifact to be entered into the competition at the monthly meeting, which will be judged based on the following rules:

1. Must be a member of LAS in good standing.
2. The artifact must be a personal find.
3. It must have been found within the specified time frame, i.e., within the month prior to the meeting.
4. The artifact doesn't have to be a Colorado find—all that matters is that it was found in the last month.

The Find of the Month for July 2013 was made by Andy Coca.

Type: Paleo Limace Uniface Tool

Material: Purple Spanish Diggings Quartzite

Location: South Platte River near
Kersey, CO

This tool has a euralier on the bulb of percussion. It is made on a prismatic flake and is fluted on one end for hafting.

Dimensions:

3 3/8" L x 1 2/5" W x 1/2" thick
(Uniform thickness throughout)



LAS News and Upcoming Events:

- August 6, 2013 August meeting. Program: Annual picnic/potluck. A map and additional information is included. (See Minutes from July 2nd, 2013 Meeting)
- September 3, 2013 September meeting. Program: To be announced.
- September 28 & 29
2013 2013 Loveland Stone Age Fair. If you have any questions you may phone Kevin Zeeck at 303-682-0471 after 6:30 PM, MDT (kevin.zeeck@gmail.com), or Janet Wagner at 970-278-4049. As a reminder, there is no buying, selling, or trading of authentic artifacts, and no soliciting to buy, sell, or trade. For more information go to <http://stoneagefair.com>. Plan now to attend!