ASM Ink

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Newsletter of the Archeological Society of Maryland, Inc.

www.marylandarcheology.org

ASM field school now under way

The 2017 edition of ASM's Tyler Bastian field session has begun in Calvert County. It will continue until Monday, June 5. If you haven't registered, you can just show up at the site, take a short orientation and get to work either in the field on in the lab.

Calverton (18CV22) is a multi-component site first occupied by indigenous people in the Woodland Period and later served as the first seat of government for Calvert County.

The town was abandoned some time after the courthouse and county seat were relocated to Prince Frederick in 1724. The town site has been in agriculture since. Battle Creek has plundered the creek bank at Calverton with an estimated average loss of more than 50 meters of shoreline.

Various owners of the property have had collections of artifacts; two collections are accessible and the whereabouts of others are unknown.

The 2017 ASM Field Session is the first time a systematic investigation of the site has been possible. Don and Jean McDougall, owners of a parcel of land that covers the eastern extent of the town lands, have permitted the project to take place on their property.

Principal investigator Kirsti Uunila has high hopes for the session. The workday is 8:30 to 4, with the mandatory orientation/safety talks at 8:30 and 12:30. Parking is available on site.

The Spencer O. Geasey Memorial Lecture will be given Thursday, June 8, in the Calvert Library in nearby Prince Frederick. Speaker Dennis Pogue, long active in area archeology, directed archeology research at George Washington's Mount Vernon home and oversaw all preservation-related activities there for 25 years.

Several events are on top for Saturday, June 3. During the lunch break, Roy Brown will give a talk and demonstration on bone technology. After digging has ended for the day, the traditional cookout will be held on site. The eats are tasty, and free.

For further information, contact Charlie Hall at charles.hall@maryland.gov

Directions to the site:

-- Longitude Latitude for GPS: 38.463233, -76.607202 Address for GPS: Street address on Adelina Road varies by mapping program, for Google Maps use 5195, for Mapquest use 5155, Prince Frederick, MD. Long/Lat is best!

-- Driving from Prince Frederick (MD 4/MD 231 interchange): Take MD 231 (Hallowing Point Rd) west for 2.8 miles. Go slightly left onto MD 508 (Adelina Rd – *not marked with name*) south. Continue 3.7 miles. At gate, carefully follow signs to site – 1 mile. As you approach, be on the lookout for signs directing you to the site and to the parking areas. It is at the end of a country road so it can be easy to make a wrong turn.

Upcoming events

May 26 – June 5: ASM field session in Calvert County.

Volunteer opportunities

The following volunteer opportunities are open to CAT participants and other ASM members:

ASM Tuesday Volunteer Lab: The lab in Crownsville is open Tuesdays from 9:30 until 3 and is now cataloging Mason Island II (18MO13) material. Anyone interested (especially CAT candidates) is welcome. Contact Louis Akerson at lakerson1@verizon.net or Charlie Hall at charles.hall@maryland.gov

A volunteer opportunity is available at a 17 Century site in Edgewater in Anne Arundel County, on Mondays, Tuesdays and Fridays, with Jim Gibb jamesggibb@verizon.net and Laura Cripps lcripps@howardcc.edu under the auspices of the Smithsonian. Contact either one to participate. There will be magnetometer training.

The Smithsonian Environmental Research Center seeks participants in its Citizen-Scientist Program in archeology and other environmental research programs in Edgewater. Field and lab work are conducted Wednesdays and on occasional Saturdays. Contact Jim Gibb at jamesggibb@verizon.net

Montgomery County is accepting applications from for lab and field work volunteers. Contact Heather Bouslag at 301 563 7530 or Heather.Bouslog@montgomeryparks.org

The Anne Arundel County Archaeology Program and the Lost Towns Project welcome volunteers in both field and lab at numerous sites throughout Anne Arundel County. Weekdays only. Email Jasmine Gollup at volunteers@losttownsproject.org or call the lab at 410 222 1318.

Mount Calvert. Lab work and field work. 301 627 1286.

Jefferson Patterson Park invites volunteers to take part in its activities, including archeology, historical research and conservation. Contact Ed Chaney at ed.chaney@maryland.gov or 410 586 8554.

The Archaeological Institute of America provides an online listing of fieldwork opportunities worldwide. Call up www.archaeological.org/fieldwork to get started.

CAT corner:

For the latest information on CAT activities see the ASM website or contact Belinda Urquiza at burquiza@comcast.net

Human bones found at Alexandria building site

By Patricia Sullivan

Condensed from the Washington Post, May 19, 2017

Human remains thought to be from the 1700s or 1800s have been found on the site of a residential development under construction on Alexandria's waterfront. City officials said the remains were discovered by archeologists working under contract with developer EYA, which is building a residential-retail project on the site of an old newsprint warehouse, Robinson Terminal South.

City government spokesman Craig Fifer said there's no reason to believe other human remains are at the site; during the 18th and 19th centuries, it was not uncommon to bury people outside formal graveyards.

An EYA spokesman said the discovery is not expected to seriously delay the Robinson Landing project, which is still in the early phases of excavation and backfill.

The property has already given up artifacts including historic stone foundations for buildings, brick shafts and evidence of wooden box privies. The site is adjacent to another lot where a warehouse foundation and remnants of a 300-year-old ship were found in late 2015.

DNA isolated without having fossil bones

By Gina Kolata

Condensed from the New York Times, April 28, 2017

Sifting through teaspoons of clay and sand scraped from the floors of caves, German researchers have managed to isolate ancient human DNA — without turning up a single bone.

Their new technique, described in a study published on Thursday in the journal Science, promises to open new avenues of research into human prehistory and was met with excitement by geneticists and archeologists.

"It's a bit like discovering that you can extract gold dust from the air," said Adam Siepel, a population geneticist at Cold Spring Harbor Laboratory. "An absolutely amazing and exciting paper," added David Reich, a genetics professor at Harvard who focuses on ancient DNA.

Until recently, the only way to study the genes of ancient humans like the Neanderthals and their cousins, the Denisovans, was to recover DNA from fossil bones.

But they are scarce and hard to find, which has greatly limited research into where early humans lived and how widely they ranged. The only Denisovan bones and teeth that scientists have, for example, come from a single cave in Siberia.

Looking for these genetic signposts in sediment has become possible only in the last few years, with recent developments in technology, including rapid sequencing of DNA. Although DNA sticks to minerals and decayed plants in soil, scientists did not know whether it would ever be possible to fish out gene fragments that were tens of thousands of years old and buried deep among other genetic debris.

Bits of genes from ancient humans make up just a minute fraction of the DNA floating around in the natural world. But the German scientists, led by Matthias Meyer at the Max Planck Institute for Developmental Biology in Tübingen, have spent years developing methods to find DNA even where it seemed impossibly scarce and degraded.

"There's been a real revolution in technology invented by this lab," Reich said. "Matthias is kind of a wizard in pushing the envelope."

Scientists began by retrieving DNA from ancient bones: first Neanderthals, then Denisovans. To identify the Denisovans, Svante Paabo, a geneticist at the Planck Institute and a co-author of the new paper, had only a child's pinkie bone to work with.

His group surprised the world in 2010 by reporting that it had extracted DNA from the bone, finding that it belonged to a group of humans distinct from both Neanderthals and modern humans.

But that sort of analysis is limited by the availability of fossil bones.

Finding and analyzing ancient DNA in dirt is far more difficult than getting it out of bone. The idea was not new, noted Viviane Slon, a member of Meyer's group and the first author of the new paper.

Other groups of researchers have found DNA in sediment, including Hendrik Poinar, an evolutionary geneticist at McMaster University, and Michael Hofreiter, his former student. Using a tablespoon of dirt from a cave in Colorado, his team discovered traces from 16 animal species that had lived there. It took two weeks to do it.

Researchers who had scoured that cave for bones had spent 20 years there and had sifted through two metric tons of dirt to find bones, teeth or skin of 20 animal species — including the 16 that Poinar's group later identified.

Meyer and his colleagues figured out which DNA in the cave sediment was prehistoric by looking for telltale signs of degradation at the ends of the molecules. They then plucked out DNA from Neanderthals and Denisovans by using molecular hooks to snare genes in mitochondria — the cells' energy factories — that are unique to these humans.

The scientists also built a robotic system to analyze the samples quickly; the old way, pipetting by hand, required several days to analyze only a fraction as many samples.

The group needed that efficiency. From different dirt samples, they recovered between 5,000 and 2.8 million DNA fragments. The number of DNA fragments per sample that were from ancient humans was minuscule and ranged from 0 to 8,822, depending on the site in the cave.

Jamestown mystery upon mystery upon mystery

By Mark St. John Erickson

Condensed from the Washington Post, May 18, 2017

NEWPORT NEWS, Va. (AP) — Six months after launching a probe aimed at English America's second oldest church, Jamestown archeologists have unearthed a jumbled historical puzzle that reaches back 400 years.

First, there are the fractured layers of brick-pavers and floor tiles laid down during the construction of three different sanctuaries in 1617, the 1640s and the 1680s — and then covered over again by Jamestown Memorial Church in 1906.

Then there's the mystery of the mammoth 1,200-pound burial stone that may date to the 1620s — making it the oldest of its kind in the country — and which conservators have only recently rescued from the potentially destructive Portland cement that bound it to the 1906 floor.

Complicating this already cryptic complex of archeological evidence is a late-18th-Century cemetery wall that cuts diagonally across the footprints of all three 1600s churches — yet which is made of bricks robbed from their ruinous floors and walls.

Generations of brown-stained grave shafts dapple the ground, too, including some so ancient they have been visibly compressed or cut through by all the building and burials that followed.

"All these jumbled-up layers — all these cut-throughs — are really challenging, and it's making us do some real archeology," says Jamestown Rediscovery director William M. Kelso, describing the deliberate and labor-intensive approach required to puzzle through all the riddles uncovered here since fall.

"But there's virtually no documentation about this church — where the first legislative assembly met in 1619 — and we want to be as ready as we can to interpret it when the 400th anniversary comes in 2019."

First excavated by the founders of the Association for the Preservation of Virginia Antiquities — now known as Preservation Virginia — in the early 1900s, the site of the 1617, 1640s and 1680s churches has been the target of a comprehensive reinvestigation for nearly two years.

Beginning outside the walls of the 1906 church, the archeologists sifted through evidence of all three building campaigns as well as the APVA's pioneering efforts to dig for signs of the historic 1617 church.

Since last fall, they've carried out the same tedious kind of excavation inside the 1906 structure.

At the project's nearby curatorial and conservation lab, another facet of the investigation has uncovered new documentary evidence that may finally solve the puzzle surrounding the identity of the remains once marked by the ledger stone.

Cemented into the floor of the 1906 church, the black ledger stone has puzzled historians and archeologists for generations, senior conservator Michael Lavin says. Originally emblazoned with an inscribed metal plaque as well as the shield and knight's figure, it was stripped of these vital clues centuries ago, leaving the identity of the remains it marked a puzzle.

One of the mostly likely candidates is first Virginia Gov. Lord De la Warr — who died at sea in 1618 and is believed to have been buried at Jamestown shortly afterward.

In addition to the remaining expanse under the 1906 floor, the targets include the elusive grave that some past remodeling campaign separated from the ledger stone long ago.

"We've found the outlines for at least a dozen burials," says Mary Anna Hartley, who is leading the excavation team. "But there are probably more."

FRANK & ERNEST **by THAVES**

Heavens to Becca: more *naledi* surprises

By Sarah Kaplan

Condensed from the Washington Post, March 16, 2017

Homo naledi, a strange new species of human cousin found in South Africa two years ago, was unlike anything scientists had ever seen. Discovered deep in the heart of a treacherous cave system — as if they'd been placed there deliberately — were 15 ancient skeletons that showed a confusing patchwork of features. Some aspects seemed modern, almost human. But their brains were as small as a gorilla's, suggesting *Homo naledi* was incredibly primitive. The species was an enigma.

Now, the scientists who uncovered *Homo naledi* have announced two new findings: They have determined a shockingly young age for the original remains, and they found a second cavern full of skeletons. The bones are as recent as 236,000 years, meaning *Homo naledi* roamed Africa at about the time our own species was evolving. And the discovery of a second cave adds to the evidence that primitive Naledi may have performed a surprisingly modern behavior: burying the dead.

"This is a humbling discovery for science," said Lee Berger, a paleoanthropologist at the University of the Witwatersrand in Johannesburg. "It's reminding us that the fossil record can hide things … we can never assume that what we have tells the whole story."

Berger and his colleagues report Naledi's age and the new chamber in two papers published Tuesday in the open-access journal eLife. In a third paper, they argue that Naledi must be a long-lasting lineage that arose 2 million years ago during the early days of the genus Homo and somehow survived long enough to coexist with modern humans, who emerged about 200,000 years ago.

The species' complicated anatomy and unexpected resilience raise a number of intriguing questions, they say: Was Naledi a result of, and perhaps a contributor to, hybridization within the Homo family tree? Could Naledi be responsible for some of the stone tools found in South Africa during the period it was alive? Should paleoanthropologists shift their focus from East Africa to the continent's less-studied southern regions?

Several scientists not involved the Naledi research urged caution about some of Berger's bolder claims, including the suggestion that Naledi was burying its dead and crafting the sophisticated stone tools that characterize southern Africa's "Middle Stone Age." But they agreed with Berger on this point: Naledi reminds us that human history is even richer than we realized.

"The past was a lot more complicated than we gave it credit for and our ancestors were a lot more resilient and lot more varied than we give them credit for," said Susan Anton, a paleoanthropologist at New York University who was not involved in the research. "We're not the pinnacle of everything that happened in the past. We just happen to be the thing that survived."

Rick Potts, director of the Human Origins Program at the Smithsonian Institution's National Museum of Natural History, said finds like this should prompt people to discard the familiar image of a stooped chimp evolving into a modern human walking upright and carrying a briefcase.

"We've had for so long this view that human evolution was a matter of inevitability represented by that march, that progress," he said. "But now that narrative of human evolution has become one of adaptability. There was a lot of evolution and extinction of populations and lineages that made it through some pretty tough times, and we're the beneficiary of that."

The original Homo naledi skeletons were discovered in 2013 in the Rising Star cave system, one of the twisted and branching limestone caverns that make up a World Heritage Site known as "the Cradle of Humankind." This same 180-square-mile region in South Africa has yielded a number of 2-million-year-old Australopithecus fossils, but *Homo naledi* was the first species to fit in the genus Homo.

The Dinaledi ("star" in the Sesotho language) chamber, which contained the Naledi skeletons, was so narrow and difficult to access that Berger had to seek out an all-women team of petite, extremely agile spelunkers [including ASM's Becca Peixotto] to excavate it. What they found astonished the paleoanthropology community — not only had a new species been discovered but, with 15 skeletons, it was suddenly the best-documented species in the history of hominins.

Continued on next page

And the Rising Star system wasn't done giving up its secrets. Spelunkers Rick Hunter and Steven Tucker, who discovered the bones in the Dinaledi chamber, had also noticed a large leg bone in a different part of the cave. They didn't think much of it at the time, but after the importance of the Dinaledi fossils became clear, they realized the bone they had passed before was probably from a hominin. As soon as the Dinaledi excavation was complete, the team went back to this second chamber, dubbed Lesedi ("light").

Alison Brooks, a paleoanthropologist at George Washington University and the Smithsonian Institution who was not involved in the research, suggested that the immediate ancestors of *Homo sapiens* might be the ones who put the bodies there. She said it is possible they dropped the bodies into the caverns through an opening that has long since closed. She noted that no artifacts were found with the caverns that might indicate how to interpret the remains. She also questioned whether the cave was really as difficult to access in the past.

In the end, the research team employed six different dating techniques at 10 labs around the world. Based on analysis of the Naledi teeth and several measures of radioactivity in the cave, the team concluded that the fossils date back to between 236,000 and 335,000 years ago — just before the arrival of modern humans.

"Our ancestors did not live in a single species world the way we do," Brooks said. "The real take-home message of this paper is that we were not alone until very recently."

In all likelihood," said John Hawks, a paleoanthropologist at the University of Wisconsin at Madison who helped lead the Rising Star expedition, the full story of human evolution has not been uncovered yet. If a species such as *Homo naledi* survived for millions of years without us realizing it, what else might the fossil record be hiding?

"We keep finding stuff that we didn't think existed," Hawks said.

Chapter notes

In addition to the listed chapters, ASM has a chapter at the Community College of Baltimore County, led by Nina Brown, and a club at Huntingtown High School in Calvert County, run by Jeff Cunningham.

Anne Arundel

For information, contact Jim Gibb at JamesGGibb@verizon.net

Central Chapter

For information contact centralchapterasm @yahoo.com or stephenisrael2701@comcast.net or 410-945-5514. Or on Facebook, www.facebook.com/asmcentralchapter or http://asmcentralchapter.weebly.com/

Friday, June 16: Stephen and Barbara Israel will give a power point presentation on their May 2017 **trip to** the Mesa Verde and Chaco Canyon Pueblo archeological sites and their June 2017 Society of Pennsylvania Archaeology, Empire State Museum Tour, at NHSM at 7:30 p.m. A business meeting will begin at 7.

Sunday, July: Central Chapter is co-partnering with NHSM Nature Connection Archaeology Program. TBA.

Charles County

Meetings are held at 7 p.m. on the second Thursday (September–May) in the community room of the LaPlata Police Department. Contact President Carol Cowherd at ccasm2010@gmail.com. Chapter website is charlescoasm.org and its blog is ccarchsoc.blogspot.com

September 14: Jim Gibb will speak on "Bones for Beginners II."

October 12: Silas Hurry will discuss "A History of Archeology in Maryland's First Capital."

November 9: Jacob Moschler. TBD

Mid-Potomac

The chapter meets the third Thursday of the month at 7:30 p.m. at Needwood Mansion in Derwood. Dinner at a local restaurant at 5:30 p.m. Contact heather.bouslog@mncppc-mc.org or 301-563-7530 or Don Housley at donhou704@earthlink.net or 301-424-8526. Chapter website: http://www.asmmidpotomac.org Email: asmmidpotomac@gmail.com Facebook: www.facebook.com/pages/Mid-Potomac- Archaeology/182856471768

June 8: Annual Chapter picnic from 6 p.m. to 9 p.m. at Needwood Mansion.

Monocacy

The chapter meets in the C. Burr Artz Library in Frederick the second Wednesday of the month at 7 p.m. For more information, visit the chapter's web page at digfrederick.com or call 301-378-0212. The chapter does not meet in July or August.

June 14: Cheryl Fogle-Hatch will present "Exploring Similarities in Prehistoric Indian Spear Tips Through Social Contact Among Hunter-Gatherer Bands"

Northern Chesapeake

Meetings are usually the second Wednesday of the month. Members and guests assemble at 6:30 for light refreshments. A business meeting at 7 is followed by the presentation at 7:30. Contact Dan Coates at 410-273-9619 or dancoates@comcast.net Website: http://sites.google.com/site/northernchesapeake

St. Mary's County

Meetings are the third Monday of the month at St. Francis Xavier Church in Newtown or at St. Mary's College. For information contact Chris Coogan at Clcoogan@smcm.edu

Upper Patuxent

Meets the second Monday at 7 p.m. at 9944 Route 108 in Ellicott City. Labs are the second and fourth Saturdays. On Facebook, www.facebook.com/pages/Upper-Patuxent-Archaeology-Group/464236446964358 or try UParchaeologygroup@gmail.com or http://uparchaeologygroup.weebly.com/

June 12: Annual end-of-season potluck. 6:30.

Western Maryland

Programs are the fourth Friday of the month, at 7:30 p.m. in the LaVale Library, unless noted. Contact Roy Brown, 301-724-7769. Email: wmdasm@yahoo.com Website: http://sites.google.com/site/wmdasm

The Archeological Society of Maryland Inc. is a statewide nonprofit organization devoted to the study and conservation of Maryland archeology.

ASM members receive the monthly newsletter, ASM Ink; the biannual journal, MARYLAND ARCHEOLOGY, reduced admission to ASM events and a 10 percent discount on items sold by the Society. Contact Membership Secretary Rachael Holmes at 875 Boyd Street, Floor 3, Baltimore, MD 21201 for membership rates. For publication sales, not including newsletter or Journal, contact Dan Coates at ASM Publications, 716 Country Club Rd., Havre de Grace, MD 21078-2104 or 410-273-9619 or dancoates@comcast.net

Submissions. Please send to Myron Beckenstein, 6817 Pineway, University Park, MD. 20782, 301-864-5289 or myronbeck@verizon.net