

Arti Facts

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Idaho Archaeology and Historic Preservation Month Celebrates 20 Years

May 2008 Events Announced

Several events have helped to define what Idaho is today. Perhaps one of the most defining events was the 1860 discovery of gold which led to large influx of fortune seekers from across the country into Idaho. Some stayed and some moved on to the next big strike. Today, Idaho is home to molybdenum, silver, lead, copper and gold mines. The Idaho Geological survey also lists several other important minerals currently mined in Idaho including phosphate rock, sand and gravel, perlite, limestone, pumice, dimension stone, zeolites, feldspar, industrial garnet, and gemstones. In 2008 we celebrate the 20th Idaho Archaeology and Historic Preservation Month. Because of the significance that mining played in the development of Idaho, the theme for this year is Idaho's mining history and archaeology. Please join us for interesting presentations and thought provoking tours to historic sites as a celebration of Idaho's history. For more information contact your local IAS Chapter or the Idaho State Historical Society, 210 Main Street, Boise, Idaho 83702, 208-334-3847 or visit the web site: www.idahohistory.net/archmonth.html.

Idaho Army National Guard Cultural Resources Update

By Jake Fruhlinger

IANG Cultural Resource Manager, Intermountain Chapter Member

The Orchard Training area is approximately 140,000 acres of BLM land located south of Boise and just north of the Snake River on the Western Snake River Plain. It has been used since the 1940's as a training and maneuver area originally for the Army Air Core, and currently for the Idaho Army National Guard (IDARNG). Because the Area is owned by the Bureau of Land Management (BLM) and leased to the Idaho Army National Guard, components of the area are also used by the public for recreation and by private industries. *(Continued on Page 7)*



MINING IDAHO'S HISTORY



Idaho Archaeology and Historic Preservation Month



May 2008

www.idahohistory.net
(208)334-3847

Impacts of Moisture and Temperature on Stored Seeds in Subterranean Pits

By Susan Hawkins
Intermountain Chapter Member

Introduction

Stewart (1938) ethnographic account notes that storage was an important part of the subsistence strategy for the Snake River Plain; however a recent comparison of archaeological sites shows little evidence of storage (Plew 2003). To examine this, Dunn (1995) attempted to replicate storage facilities to evaluate the impact of fungal contamination on raw and dry seeds. His experiment established that storing seeds in underground pits resulted in almost immediate fungal contamination suggesting that fungi likely impacts the duration of storage. Dunn's study provides a possible explanation for the few storage features found in the archaeological record and may imply a short term caching strategy of the type commonly associated with highly mobile foragers. The objective of this project is to measure moisture and temperature levels in subterranean storage pits using a Lascar RH/Temperature Data Logger to determine if these factors influence the development of fungi on stored seeds.

Methods

To gauge moisture and temperature levels of subterranean stored seeds, five pits were replicated using Dunn's model. The pits were located on a terrace along the Snake River and were used for a period of twenty weeks from October 2007 to March 2008.

All Pits were 50 cm round and 30 cm deep, lined with basalt rock, and capped with basalt and a sod/soil layer. Each pit was equipped with a Lascar EL-USB-2 Relative Humidity (RH), Temperature and Dew Point Data Logger (Table 1). Two pits contained 3 liters of raw *Atriplex* seed, one pit contained 3 liters of dry *Atriplex* seed, and one pit contained 3 liters of dry sunflowers



Figure 1 - Rock Lined Pits

seeds with hulls intact. Seed samples and a data logger were recovered in three phases, after 3 weeks of storage, after 13 weeks and after 20 weeks of storage. Seed samples were wet mounted on slides with lactophenol; a stain intended for use in the examination of plant fungi. Microscopic photos were taken under a general laboratory microscope at 40x.

Results

Final analysis revealed that raw *Atriplex* seed samples from Pits 1 and 2 exhibited greater fungal contamination than the dry *Atriplex* and dry sunflower seeds from Pits 3 and 4. Pits 1 and 2 samples had deteriorated and were dark in color after 3 weeks and 20 weeks in storage and both exhibited clear visible signs that the seeds were contaminated with fungi. Relative humidity data from both Pits 1 and 2 demonstrated that a high increase in moisture occurred almost immediately upon storage to nearly 100% (Table 1). Dry *Atriplex* seed samples from Pit 4 and dry sunflower seed from Pit 3 showed somewhat different results

	Seed	Data Logger	Weeks in Storage	Average Temperature (Degree F)	Average rH (%)
Storage Pit 1	<i>Atriplex</i> (Raw)	Yes	20	40	99.0
Storage Pit 2	<i>Atriplex</i> (Raw)	Yes	3	50	92.6
Storage Pit 3	Sunflower Seed	Yes	20	39	79.0
Storage Pit 4	<i>Atriplex</i> (Dry)	Yes	13	40	90.3
Storage Pit 5	Empty	Yes	20	39	99.7

Table 1 - Storage Pit Comparison

after 13 weeks and 20 weeks in storage. Both pits exhibited fungi contaminates on seeds exposed in areas between the soil/sod layer and basalt rock capstone but the interiors of both pits were dry. And of the two samples of sunflower seeds from Pit 3; the sample taken from the interior of the pit was virtually free of fungi. Average relative humidity for Pit 4 was 90.3% and ranged from 76.5 % and slowly approaching 100% at 94.8% by week 13. Relative humidity levels increased slowly for Pit 3 but the levels were much lower and ranged from 54.6% to 87.3% never approaching 100% as in the other pits. Average temperatures from all pits were proportionally the same as Pit 5, decreasing over time and then slightly rebounding after about 15 weeks of storage.

Conclusion

Dunn's (1995) experiment identified storage fungi and demonstrated that contamination occurred almost immediately upon storage. This suggested that effective storage may be limited to a short term caching strategy of the type associated with highly mobile foragers. This study confirms the results of Dunn's experiment that fungi contamination occurs almost immediately as noted by the first sample of raw *Atriplex* seeds. Although the dry *Atriplex* and sunflower seeds showed less signs of contamination than the raw seed, the samples were contaminated, most likely occurring in the first 3 weeks of storage. Two factors; humidity and temperature, have been shown to influence the development of fungi thus impacting the storability and the duration of stored seeds to short term caching. In contrast to the ethnographic record, storage facilities are not commonly found in the archaeological record for southwestern Idaho (see Plew 2003) but reflect mobile groups that generally do not store resources. As this study demonstrates, moisture and temperatures in subterranean pits have a definite impact on storage and effective storage is limited due to the nature of fungal contaminates. This may confirm that storage is limited to a short term caching strategy and that use of the cached food resources would have had to occur within days, or at most, less than three weeks. Continuing to use experimental methods such as these allows us to better understand the possible variables that constitute adaptation and change in prehistoric strategies.

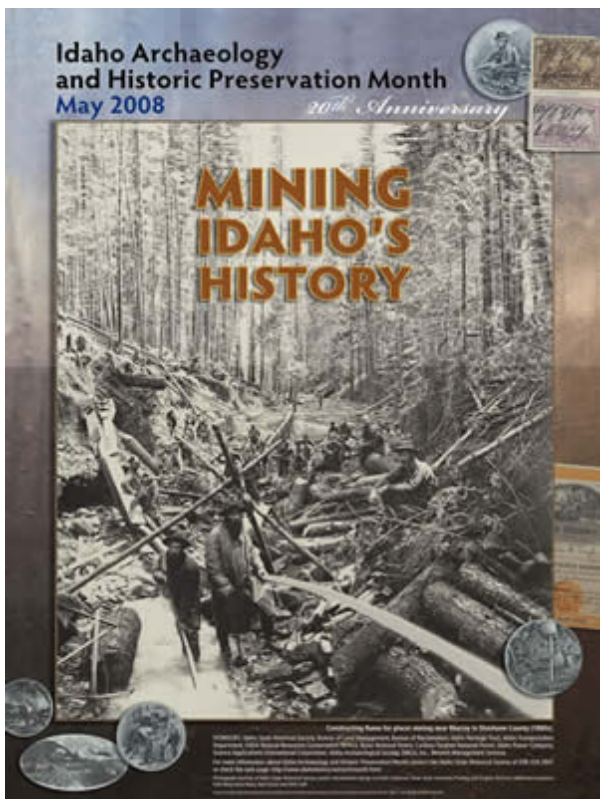
Upcoming Snake River Chapter Presentation

By Karen Quinton
Snake River Chapter President

The Snake River Chapter is pleased to host Dr. Brooke S. Arkush, Department of Anthropology and Sociology, Weber State University, Ogden, Utah on Saturday May 3rd, 2008. The lecture will be held at 1pm in the Aspen Bldg. Room 108 on the College of Southern Idaho campus. Dr. Arkush's presentation is entitled ***Recent Excavations at Trapper Cliff Shelter: A Riparian Zone Habitation Site in Cassia County, South Central, Idaho***

During the past two summers, the Weber State University Archaeological Field School has conducted excavations at Trapper Cliff Shelter, located along Trapper Creek in the eastern Cassia Mountains on public lands managed by the Sawtooth National Forest. Surprisingly, only a small portion of the site's deposits have been disturbed by vandalism, a situation that provides an ideal opportunity for investigation regional research topics concerning settlement practices, subsistence regimes, and technology, as well as for addressing site-specific questions regarding chronology, seasonality, and function.

Thus far, WSU has completed block excavations at two of the three major site loci and exposed five major living surfaces post-dating ca. A.D. 100. At the present time, it is known that the rockshelter experienced a number of intermittent occupations by northern Fremont and Shoshonean groups, one of the more intensive of which was represented in the fourth living floor of Locus I consisting of a burnt wickiup dating to around A.D. 750. The shelter's dry soils contain a large and diverse artifact assemblage including ceramics and incised stones, as well as a number of well-preserved faunal and macro botanical remains.



Great Basin Chapter Information

By Kathy Hamlett
IAS Great Basin Chapter President

The Great Basin Chapter of the IAS meets on the second Thursday of the month, September thru May. Sometimes the meetings are no more than an informal discussion of different archaeological subjects, other times formal presentations take place. A recent meeting saw a digital display of pictographs from the Dutch Antilles Island of Curacao. The general public is always welcome to attend the meetings which take place at 7:30 p.m. in the Orma J. Smith Museum, Boone Science Center, College of Idaho in Caldwell. While the meetings are worth while, the museum is a great reason for coming as well.

Questions can be answered by Kathy Hamlett at 466-8407.

New Evidence of Earliest North Americans

By Randolph E. Schmid
AP Science Writer

WASHINGTON — New evidence shows humans lived in North America more than 14,000 years ago, 1,000 years earlier than had previously been known. Discovered in a cave in Oregon, fossil feces yielded DNA indicating these early residents were related to people living in Siberia and East Asia, according to a report in Thursday's online edition of the journal *Science*.

"This is the first time we have been able to get dates that are undeniably human, and they are 1,000 years before Clovis," said Dennis L. Jenkins, a University of Oregon archaeologist, referring to the Clovis culture, well known for its unique spear-points that have been studied previously.

Humans are widely believed to have arrived in North America from Asia over a land-bridge between Alaska and Siberia during a warmer period. A variety of dates has been proposed and some are in dispute.

Few artifacts were found in the cave, leading Jenkins to speculate that these people stayed there only a few days at a time before moving on, perhaps following game animals or looking for other food. The petrified poop - coprolites to scientists - is yielding a look at the diet of these ancient Americans, Jenkins said. While the analysis is not yet complete, he said there are bones of squirrels, bison hair, fish scales, protein from birds and dogs and the remains of plants such as grass and sunflowers.

The oldest of several coprolites studied is 14,340 calendar years old, said co-author Eske Willerslev, director of the Centre for Ancient Genetics at Denmark's University of Copenhagen. "The Paisley Cave material represents, to the best of my knowledge, the oldest human DNA obtained from the Americas," he said. "Other pre-Clovis sites have been claimed, but no human DNA has been obtained." The date for the new coprolites is similar to that of Monte Verde in southern Chile, where human artifacts have been discovered, added Willerslev.

Jenkins said it isn't clear exactly who these people living in the Oregon caves were, since there were few artifacts found. He said there was one stone tool, a hand tool used perhaps to polish or grind or mash bones or fat. "We are not saying that these people were of a particular ethnic group. At this point, we know they most likely came from Siberia or Eastern Asia, and we know something about what they were eating, which is something we can learn from coprolites. We're talking about human signature," he said. "If you are looking for the first people in North America, you are going to have to step back more than 1,000 years beyond Clovis to find them," Jenkins said. The Clovis culture has been dated to between 13,200 and 12,900 calendar years ago and is best known by the tools left behind.

Michael Waters, director of the Center for the Study of the First Americans at Texas A&M University, said the find, along with indications of human presence at other locations, adds to the evidence for a pre-Clovis human presence in North America. "The genetic evidence from the coprolites from Paisley Caves is also consistent with the current genetic data for the peopling of the Americas - that the earliest inhabitants of the Americas came from Northeast Asia," added Waters, who was not part of the research team.

Anthropologist Ripan Malhi of the University of Illinois, Urbana-Champaign, said this data along

with material from Alaska provide increasing "evidence that ancestors of Native Americans used a coastal route during the colonization of the Americas." Malhi was not part of the research team.

Jenkins said that discoveries like those in the Oregon caves "help us to reconstruct the American past. Our heritage is really important and it is important to the majority of the American public. If you don't know where you come from, it's hard to have a feeling of community, of participation."

To make sure the Oregon cave material hadn't been contaminated with modern DNA, the researchers tested more than 50 people who worked at the site. The DNA testing indicated that the feces belonged to Native Americans in two groups that can be traced to Siberia and East Asia. In their paper the researchers dated the coprolites at 12,300 "carbon years" before the present. Prior to 3,000 years ago, carbon years differed from calendar years, resulting in the date of approximately 14,300 calendar years for the coprolites. The research was funded by the Museum of Natural and Cultural History, University of Oregon; Association of Oregon Archaeologists and the Marie Curie Actions program.

Idaho Army National Guard Cultural Resources Update Continued

(Continued from Page 1) The high desert environment additionally provides habitation for a number of species of plants and animals, including a variety of sages, grasses, small mammals and reptiles. The training area is also part of the larger Birds of Prey National Conservation Area and is a significant source of food for many raptors including the Golden Eagle, Ferruginous Hawk and Short-eared Owl which feed on the many ground squirrels and reptiles located within the area.

A Cultural Resources Survey and Inventory was performed on the training area and completed in 1986 by the BLM. This inventory identified and recorded 76 cultural sites based on surface deposits as identified by a pedestrian survey of approximately 84,000 acres.

During the past 20 years changes have occurred in the standards and practices used in the identification of cultural resources and archaeological sites. As a result of these changes, in 2004, a rerecording of known archaeological sites and a resurvey to identify additional sites was initiated on the Idaho Army National Guard Orchard Training Area south of Boise Idaho. The initial results of the partially complete project have led us to look at the effects of geomorphic processes and other impacting agents to discuss the changes in archaeological sites over time in a desert environment and ways to better identify, evaluate, and protect current and future archaeological resources. To date, over 20,000 acres have been surveyed and an additional 25 sites have been identified and recorded.

In the upcoming 2008 field season, archaeological field crew's hope to survey approximately 10,000 additional acres and record all identified resources in order to continue compiling data to help us understand site formation processes and site impacts in the Northern Great Basin.

Note: The Idaho Army National Guard is primarily composed of traditional guardsmen-Citizen Soldiers who serve their state, community, and country on a part-time basis (usually one weekend each month and two weeks a year).

**IDAHO
ARCHAEOLOGICAL
SOCIETY CHAPTER
INFORMATION**

**Salmon River Chapter
(McCall Area)**

Jeff Parnett - President
Call for Meeting Information
208-637-2202

**Great Basin Chapter
(Nampa/Caldwell Area)**

Kathy Hamlett - President
Call for Meeting Information
208-466-8407

**Snake River Chapter
(Twin Falls Area)**

Karen Quinton - President
Call for Meeting Information
208-655-4251

**Intermountain Chapter
(Boise Area)**

Pam Demo - President
Call for Meeting Information
208-342-3447

**North Idaho Chapter
(Moscow Area)**

(Formation in Progress)
Contact Susie Osgood
For Information
208-373-4242

New IAS Officers Elected

IAS held its general membership meeting on September 30th after the annual conference. The purpose of this meeting was to elect IAS officers and discuss the 2007 conference.

The officers are:

President: Susie Osgood

Professional Advisor: Mary Anne Davis

Vice President: Kevin Schroeder

Editor, *Idaho Archaeologist*: Mark Plew

Secretary: Julie Rodman

Treasurer: Lorraine Keaveney

REMEMBER THE IAS WEBSITE!

The website can be accessed at <http://anthro.boisestate.edu> then clicking the IAS link!

Thanks to Karen Quinton, Kathy Hamlett, Jake Fruhlinger, & Susan Hawkins for their contributions to this issue of ARTIFACTS.

MEMBERSHIP NOTE

**Your Recorded Expiration Date is on
Your Mailing Label!**

If you are viewing this electronically, please contact the editor to obtain your current membership status! Currently there are over 100 IAS members who have not renewed their membership for 2007-2008. Please take this time to fill out and send in the membership form in this issue, with your payment. Your support will help the IAS continue to bring you information and events about Idaho's heritage.

From the Editor

All IAS members and chapters are encouraged to submit news, articles, and any items of interest for publication. Without active contribution of IAS chapters and their members, ARTIFACTS would not be possible. Please feel free to submit any news of upcoming projects, excavations, lectures, workshops, and classes, as well as feature-length articles.

With your help, ARTIFACTS will continue to be a vital forum for news and commentary that deals with archaeology in Idaho and elsewhere.

We need your contributions if all IAS chapters are to be represented fairly and equitably.

Please send your contributions for publication to the following:

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