

SANTA CRUZ ARCHAEOLOGICAL SOCIETY NEWSLETTER

UCSC Students Excavate Cowell Ranch Hay Barn

Mary Gerbic, SCAS Member

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In the Spring Quarter of 2014, students from the University of California, Santa Cruz (UCSC) participated in an internship in Archaeology. Their project was to excavate at the Cowell Ranch Hay Barn, a short distance north, and uphill from the 2013 internship project at the Cowell Lime Works. I visited the Hay Barn site twice in May, speaking with Pat Paramoure, the internship leader, and most of the students.

The Hay Barn site is located in the Cowell Lime Works Historic District, near the entrance of the UCSC campus and accessed from Ranch View Road. Built in the 1860s, the barn was originally used to store the lime wagons for the ranch, and then repurposed over the years.



UCSC Student Archaeological Excavations at the Cowell Hay Barn Site (Photo M. Gerbic)

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...

The Cowell Lime Works Historic District, nominated for the National Register of Historic Places in 2007, is the site of one of the most important early industries in Santa Cruz: the mining, processing and shipping of lime for the building industry. Santa Cruz was an ideal place to establish this industry because of the abundance of high quality marble rock, which is actually metamorphosed limestone.

The white marble was quarried from several locations on and around the current UCSC campus. In the off season when the weather was not conducive to mining and hauling, the wagons had to be stored and repaired, and a barn was built for them.

Before this year's internship started, the barn was documented, dismantled, and sound wood was fumigated and stored for reuse on the site. One of the most striking features of the barn was its robust construction, including a massive ridge beam, which perhaps helped preserve it for so many years, although in recent years, the barn was deteriorating quickly.

On the first visit, I met the student interns and toured the site. Seven 3-foot by 3-foot units had been laid out, and excavation was proceeding in six-inch levels. Already, some interesting finds had been made. In the northeast corner at Unit #2, the students found a rock floor with a layer of lime rock.



Unit #2 Exposed Rock Floor, Cowell Ranch Hay Barn Site (photo M. Gerbic)

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...

This was possibly the ground head's office. The rest of the barn, Pat said, had a dirt floor. A top layer of decomposed granite had been added later.

Unit #3 was located on the western edge of the barn's foundation. In its east wall, one could see the construction materials of the foundation: roughly tabular, semi-dressed local rock and some fire bricks.



Unit #3 at the Cowell Ranch Hay Barn Site, Southern Edge of Barn Foundation

At Unit #5 at the southern edge of the barn, the exposed foundation was about 1 ½ feet wide, and made of the same semi-dressed rock in Unit #3.

Two of the units were outside the known boundary of the barn. Early photos of the barn showed a lean-to in this area. Digging here was very hard work.

Actually, a few of the students told me it was very hard work in the other units as well. There was a heat spell in early May, and the ground was "like digging through cement." Victoria Feeney told me she normally wore gloves while excavating, but this particular day she was without and "went home with blisters from smacking clods, so now I have awesome battle scars." With depth, most of the units became easier to excavate because of soil moisture.

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...



Unit #5 at the Cowell Ranch Hay Barn Site, Foundation Feature (photo M. Gerbic)



Hard Digging at the Cowell Ranch Hay Barn Site (Kaitin Gregg, photo M. Gerbic)

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...

In Unit #4, one of Pat's assistants, Christine Powell and her team were finding bolts, nails, glass and charcoal. Earlier they had found a wagon part, and later as I found out, more fire brick labeled "CARR" and a portion of an embossed platter.

At Unit # 5 where the foundation was visible, Pat was planning to extend the excavation with an adjoining unit because Unit #5 was on the foundation, but not at the corner. It would be nice to find the corner so the barn's original length could be verified. Pat said she thinks the building was shortened at some point, because the timbers were such unusual lengths. It may have been 80 feet long originally.



UCSC Students at Cowell Ranch Hay Barn Site (Shane Meston and Stephen Hennek, photo M.Gerbic)

At this point in the excavation process, artifacts such as square nails, bottle glass, flat glass, fire brick, white ceramic fragments, marine shells, animal bones and various metal fragments had been found. I asked Pat what plans the University had for this site. Pat said that the plan is to pour a slab foundation and construct a new building to support the many environmental programs on campus. A \$5 million donation from the Helen and Will Webster Foundation was making this work possible. There are plans to display the artifacts found here as well. "We won't get another chance to look at the barn archaeologically, so we need to do it now," said Pat.

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...

When I returned at the end of May, work on Unit #5 had progressed to opening a second unit adjacent to it called Unit #8. The object was to find the southwest corner of the barn.

That day, a post and a concrete post mold about 4 inches by 8 inches was uncovered.



UCSC Students at Cowell Ranch Hay Barn Site (Libby Tjoa and Christina Powell, photo M. Gerbic)

I asked some of the students what having this internship opportunity meant to them. Celina Rubio, an Anthropology/History major told me that otherwise there is no field school at UCSC. "If you want experience, you have to go somewhere else, and that's expensive. I'm really surprised that there are not very many internships like this or field schools in the area." She wants to take a year and do "grunt work" before heading to graduate school.

Angela Moniz said she'd like to go on to Sonoma State University, or a school like it. "In Archaeology, there is something for everybody. I have a Fine Arts degree from Monterey Peninsula College, but they had no Anthro." Kaitlin Gregg said "This is what I want to do for my career. I've been recommending the internship to everyone."

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...

Daunte Bell is a junior at UCSC. What made him choose UCSC, when his home is in Southern California? "The school had the major I wanted. I'm a history enthusiast. When I was in High School and doing a project, I came across Archaeology and Ethnology under Anthropology. It's cool that you can do all these things in one major."

Shane Meston told me, "I graduate in a couple weeks. It's a pretty rough world out there for Archaeologists with experience, but without...? I came from Santa Rosa Junior College. I transferred. There is not much Anthropology on campus there. There's a big difference between the conceptual and the practice."

Victoria Feeney is a Physical Anthropology major but wants to go to graduate school, and field work is required. She found out about the internship when Pat Paramoure spoke at Anthropology Tea Time. "I like archaeology, but I'm more on the skeletal osteology side. This is my last year. I'd like to stay in Santa Cruz. It depends upon the job market."



UCSC Student at Cowell Ranch Hay Barn Site (Victoria Feeney, photo M. Gerbic)

As I was unable to attend Open Hole on June 7, I asked Pat to relate what happened next. The corner of the barn was not located in Unit #8. It's possible that when the barn was shortened, the foundation was disrupted. However, an intact harrow tine was uncovered from the unit side wall.

UCSC Students Excavate at the Cowell Ranch Hay Barn, continued...

Most of the finds were farm related objects, with some white ware, shells, personal items like a bitters bottle, a fire brick brand never before found in Santa Cruz County, wagon parts, the harrow tine, and objects that might not be very old, as the barn area was in use until recently. Pat was happy to have a Munsell Book for standardized soil color recordation this year, and looks forward to the internship continuing next year. There is a strong possibility that the internship will be a 5-unit class next time, working around the cabin sites on the slope southwest of the lime kilns and cooperage.

We look forward to hearing more about this fascinating corner of the UCSC campus. In the meantime, you can learn more by contacting [The Friends of the Cowell Lime Works](#), checking with UCSC News center web page, or [You Tube](#).



UCSC Student Excavation Team, Cowell Ranch Hay Barn Site (photo, M.Gerbic)



Earliest Evidence of Gigantism-Like Disease Found in 3,800-Year-Old California Skeleton

Blake DePastino, March 2014 Western Digs

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The remains of a man buried 3,800 years ago in a richly decorated California grave bear some unusual but unmistakable features — a protruding brow, a lantern jaw, thick leg and arm bones, and teeth so crowded together that at one point they erupt in rows three deep.

According to a new study of the ancient skeleton, they are signs of acromegaly, a rare disorder of the endocrine system that's similar to gigantism.

The California man is among the very few examples of acromegaly ever found in the archaeological record, and it's the oldest ever identified, according to Dr. Eric Bartelink, a physical anthropologist at California State University, Chico.

"It is the earliest evidence of this condition in humans, the only documented case from prehistoric California, [and] one of the more complete skeletons documented with this condition," he said in an interview.

Acromegaly has only been identified definitively at two other archaeological sites in North America, Bartelink said: in the remains of a male buried in New Mexico about 600 years ago, and an unsexed 1,100-year-old skull found in Illinois.

The newly found case in California adds to the scant literature of the disorder, he said, potentially improving how acromegaly may be diagnosed in other remains, and also shedding light on the history of the disease, perhaps even how it was interpreted in the ancient past.

The skull of the man found in the site known as Burial 37 bears the distinct marks of acromegaly, new research finds. The black arrow indicates where the man's right eye tooth erupted just below his nose. (Photo by Eric Bartelink/Phoebe Hearst Museum)

The man, believed to have been in his mid-30s at the time of his death, was found in a burial mound with 176 other bodies near the Central Valley town of Elk Grove.

Labeled as Burial 37, the grave was originally excavated in the 1930s and dated to 3,750 to 3,950 years old.

The man was part of a hunter-gatherer culture known as the Windmillers, one of the earliest sedentary societies in the Central Valley, usually identified by its distinct burial practices, Bartelink said.

Earliest Evidence of Gigantism-Like Disease Found in 3,800-Year-Old California Skeleton, continued...

Windmillers typically buried their dead laying flat and face-down, rather than in a flexed position, with the heads pointing west. The deceased were also often sent off with a fine complement of grave goods, Bartelink said.

“The mortuary assemblages are rich with projectile points, shell beads, crystal, and charmstones, suggesting a more-or-less egalitarian society compared to groups more recent in time.”

In the case of Burial 37, the body was daubed with red ochre on the head, chest, pelvis, left elbow, and on both hands and feet.

The grave was festooned with 48 beads made from the shells of *Olivella* sea snails, and another 7 ornaments crafted from abalone.

But such artifacts weren’t unique to Burial 37, and the remains give little clue as to the specific cause of the man’s death.

“It is not clear that the condition contributed to death, but it certainly could have,” Bartelink said.

“Acromegalics have a lower life expectancy and many more respiratory and cardiac issues than unaffected people.”

Unlike true gigantism, in which the pituitary gland starts to release excessive amounts of growth hormone in childhood, acromegaly doesn’t begin until early adulthood, after all of the body’s long bones have finished growing.

Typically, a tumor on the pituitary triggers the flood of hormones, stimulating exaggerated

growth wherever bone development is still possible — typically in the face, hands, and feet.

So while the Burial 37 man wasn’t exceptionally large for his time — about 170 centimeters, or five feet five inches — his remains bear several signs of hypergrowth in adulthood, Bartelink said. Comparing the skull with 14 other male skulls from the same mound, Bartelink found it to be both taller and wider than average.

And analysis by x-ray revealed several areas of excessive bone formation in the face, including a heavy, prominent brow; bony processes around the sides of the eyes; an elongated chin; and a pronounced nose creating what Bartelink described as a “beak-like” appearance.

More importantly, he said, the bony pocket that holds the pituitary gland — known as the *sella turcica* because it resembles a Turkish saddle — showed significant signs of enlargement.

“This is a classic finding with acromegaly, because it results from an expanding pituitary tumor,” he said.

In what seems to have been an unrelated condition, the man’s right eyetooth also grew upside down, protruding through the bone of his face just under his nose.

How other Windmillers would have responded to such a distinctive visage is largely a matter of speculation, Bartelink said.

“I would expect that the person would have been treated differently, but it’s hard to say,” he said.

“The physical expression of the disease takes about 10 years to become fully noticeable, so it would have taken a bit for other members of the society to take notice.”

Earliest Evidence of Gigantism-Like Disease Found in 3,800-Year-Old California Skeleton, continued...

The Windmill burial mound, known as Blossom Mound, was found near the town of Elk Grove, adjacent to what's now the Cosumnes River Preserve.



Cosumnes River Preserve (image courtesy Western Digs)

If the ornaments in Burial 37's grave are any indication, he appears to have been neither revered nor ostracized, Bartelink said.

A few aspects of the burial were "interesting," however, including the fact that the man was buried face-up, instead of prone, and with his head oriented north rather than the west, like most others interred in the mound.

The head also seems to have been disturbed some time after death, and moved down to the left ankle, where it was originally found.

"This could reflect some aspect of mortuary ritual but could just have been someone digging a grave adjacent to this one and moving bones around," Bartelink said.

"I am not one to speculate, but there may be something of significance going on here. It's just not easily testable."

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