

Friday, Sept. 16, 1988  
Santa Cruz Sentinel

Section

E

# Third this century: Fossil walrus skull found in county

By RICHARD EMANUEL  
Sentinel staff writer

9-16-88

**W**ALRUSES are not the first creatures that come to mind when you think of California wildlife.

Maybe that's why Eric Burman didn't realize what he had when he found a fossil walrus skull on a local beach last winter.

The find is a rare one, according to Frank Perry, paleontological consultant to the Santa Cruz City Museum, where Burman's walrus skull now resides.

"This is one of only three pinniped skulls of this age found in the county in this century," Perry says. Pinnipeds are a group of marine mammals comprised of the sea lion, seal and walrus families.

Of course, walruses don't live in California anymore, outside of a few zoos. But the story was very different five million years ago, during the Pliocene Epoch, Perry says. As many as six species of walruses may have foraged for fish off the coast of California at the beginning of the Pliocene Epoch. But Pliocene walruses differed from modern walruses in some striking ways.

"They didn't have big tusks," says Perry. "The modern walrus has a tusk that can be 3 feet long, but that's apparently a fairly recent adaptation. Today, there is only one species of walrus, and it lives in Arctic waters. But five or six million years ago, there were at least five species on the West Coast. Some lived as far south as Baja California."

**I**N THE AFTERMATH of a storm last January, Eric and Dorris Burman were part of a group stalking fossils on a Santa Cruz County Beach.

The Burmans are amateur paleontologists. Eric is a cardiac nurse at Community Hospital in Santa Cruz and Good Samaritan Hospital in San Jose. Dorris is a high school biology teacher who taught at Santa Cruz High last year; she is a substitute teacher this year.

"It was a very successful expedition," Eric says. The group found a fossil whale skull in addition to other treasures.

Burman was taking a break from the hunt — specifically, "answering the call of nature" — when his eye fell on something protruding from the sand near his feet.

"There wasn't much of it that was visible," he says. But when he had unearthed the 30-pound mass of fossilized bone and sandstone, "I got pretty excited," he recalls.

Burman and fellow fossil-hunters knew they had a skull of some sort on their hands, but they couldn't decide what kind.

"We had an idea it was a sea lion skull, but it looked too massive for that," says Dorris. They figured it was some sort of marine mammal, however, so Eric decided to bring it back, even though it meant abandoning the whale skull they had found.

"I hated to leave the whale skull behind, but I didn't really know what this was," he says, indicating the walrus skull. "And I wanted to find out."

Burman cleaned up the specimen a bit and put it in a fossil show in Capitola Museum in March, along with displays by other fossil hunters. The group asked Perry to take a look at their finds, including Burman's "mystery bone."

"I knew there was something special about it when Frank asked me where I kept it," Burman recalls. "Then he asked whether I slept with it. Frank is usually a pretty serious fellow."

For his part, Perry remembers, "I could hardly contain my excitement when I recognized it as a walrus skull."

walrus skull.

**P**ERRY is a soft-spoken, modest, young man and he frankly admits that he is not an expert on fossil pinnipeds.

"There are only a half-dozen or so people in the country who specialize in fossilized marine mammals," he says. "But I know enough to know this is a rare and important find."

Perry is familiar with the rarity of the find because he himself discovered one of the three Pliocene pinniped skulls found in the county this century.

"One was found in the '20s, I found a sea lion skull about five years ago, and then there is Eric's," Perry recounts.

The pinniped skull found during the 1920's remains "a kind of a mystery. Paleontologists are still arguing about it," says Perry.

Some say the skull is from a kind of walrus, others say a kind of sea lion, he explains. But whatever its affinities, "it is out on its own branch of the evolutionary tree. It's sort of an enigma."

The large, mysterious skull now rests in a display case next to Burman's fossil in the Santa Cruz City Museum.

The sea lion skull that Perry found has been sent to a fossil marine mammal expert in Los Angeles for study. It turned out to be from a new species of sea lion and is now on display in the Los Angeles County Museum, although Perry expects it will one day return to Santa Cruz City Museum. Perry has talked to the same expert about Burman's fossil.

The scientific significance of Burman's walrus skull is something that may not leap out at the casual viewer. Hard, brown sandstone fills in the skull's cavities and sandstone encrusts the skull in places.

"The bone has been recrystallized," Perry says. "It is still calcium phosphate, which is what our bones are," but it is in a different crystal form.

Burman attempted to remove some of the attached

*Please see FOSSIL — E2*



Dan Coyro/Sentinel

Dorris and Eric Burman show fossil find.

## Fossil/ It's a walrus

*Continued from Page E1*

rock, but Perry urged him not to proceed.

"It has to be done very carefully," he says. "A skull like this might take an expert a month to properly prepare, which also means it is very expensive to do." Perry says, Burman's skull probably will be further prepared and studied by a pinniped specialist.

One of the problems commonly facing fossil pinniped experts is reconstructing the entire animal from a few surviving pieces. Although a great deal can be

learned from a skull, it is hard to determine just how a fossil animal relates to the rest of its family without seeing more of its skeleton.

"At least this specimen will now be available for scholars to study," says Perry. "We're very grateful to Eric for donating it to the museum."

"I didn't want it to be sent away," says Burman. "To be looked at and studied, fine. It's sort of a diamond in the rough."

"But I wanted people here to be able to see it. People should know that these things existed here."