

Rare seal fossils spark murder mystery

March 16 2011, By Donna Hesterman

A paleontologist suspects foul play in the death of two seals found along the shoreline in Santa Cruz County.

The perpetrator will likely go unnamed, however, since the trail is quite cold.

The seals met their demise more than 3 million years ago. Bobby Boessenecker, a graduate student at Montana State University, has conducted field research in Santa Cruz County since 2005, and according to his article published in last month's edition of the scientific journal *Palaios*, the seal bones appear to have been bitten by another mammal. Boessenecker said that fact makes them a rare find.

There are only two other examples in the world's [fossil](#) record of mammal on [marine mammal](#) violence, Boessenecker said. "And now we have two specimens, so that makes half the world's record from Santa Cruz."

The fossils appear to be an upper arm bone and a forearm bone of different seals believed to be ancient relatives of the Northern Fur seal. One of the bones was found by Frank Perry, a research associate of the Santa Cruz Museum of Natural History.

The two previously discovered specimens: a British Columbian sea lion pup killed by its father during the ice age and a 38 million-year-old Egyptian whale assaulted by a fellow whale.

Boessenecker has collected thousands of fossils in Santa Cruz County, including an entire pigmy baleen whale. "If it died in the sea, I've found it," he said.

His collection paints a picture of offshore life in pre-ice age Santa Cruz.

He's found the remains of a walrus with stubby, forward protruding upper and lower tusks; an ancient porpoise with a serious underbite; a 25-foot sea cow; and a bird with a 21-foot wingspan and toothlike projections on his lower beak.

"I wish I could say it ate people," he said. But it didn't.

Boessenecker searches for fossils in the Purisima Formation, a region of blue sandstone deposit that washed into the ocean from the Sierra Nevada Mountain Range nearly 7 million years ago. He's confining the list of possible suspects in the seal's deaths to species found within the formation.

He said that they can definitely rule out sharks in the investigation. The conical shaped puncture wounds indicate that a mammal inflicted the blow; however, it could have happened post mortem.

"There's no evidence that they passed through a digestive system," he said. "Usually when that happens, bone is dissolved by the digestive juices and it ends up with these weird, erosional pits. And the ends of the bones get dissolved away."

He said that he's not comfortable assuming anything further from the evidence.

"Dinosaur paleontologists are off their rockers going so far," he said of the detailed scenarios that unfold in documentaries about T. Rex and

company.

"Mammal paleontologists are a little more sane," he said.

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