

The Fossil Sea Cow

By Frank Perry

In this photograph, Frank Perry is mounting the replica of the sea cow skeleton, which is exhibited at the Santa Cruz Museum of Natural History.



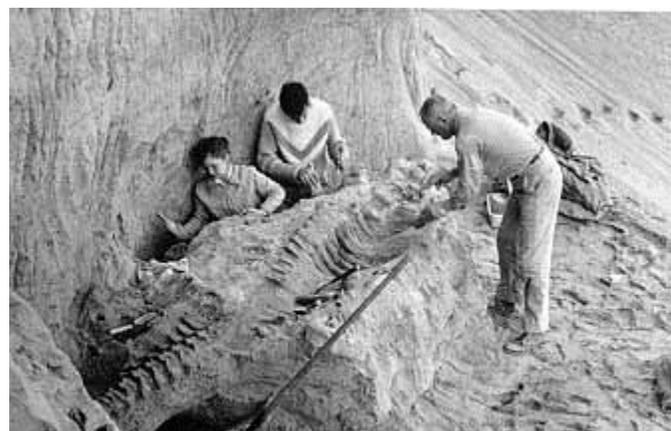
The skeleton is from a fossil sea cow (*Dusisiren jordani*) that lived in the Santa Cruz area 10 to 12 million years ago. The specimen is a cast made out of plastic. It is an exact replica of the original fossil bones, which are at the University of California, Berkeley. The original bones would be too heavy and fragile to mount in this way. This species was previously called *Metaxytherium jordani*, the name used in my book.

Sea Cows

Sea cows are herbivorous aquatic mammals. Like cetaceans (whales, dolphins, and porpoises), sea cows lack hind limbs and are thus restricted to life in the water. There are four living species: the West Indian Manatee, the Amazonian Manatee, the West African Manatee, and the Dugong, which inhabits the Indo-Pacific. A fifth species, the Steller's or Great Northern Sea Cow lived in the Bering Sea until hunted to extinction in the 1700's. Our fossil sea cow is an extinct genus more closely related to the Dugong than the Manatee. It was probably a direct evolutionary ancestor of the Steller's Sea Cow. Sea cows belong to their own separate order of mammals, the Sirenia. Within this order are two families: the manatees and the dugongs. Sirenians descended from land mammals and first took to the sea in the Eocene (38-55 million years ago). Note the vestigial pelvic bones, evidence of a distant terrestrial ancestor.

The Fossil

The bones were discovered in a Zayante sand quarry and collected under the direction of Dr. Samuel P. Welles of U.C. Berkeley in October, 1963. The animal rested on its back, with the bones laid out much as in life. The creature must have been buried soon after it died before currents and animals scattered the bones. It was a very old adult. Sea cows are not sexually dimorphic, so we can't tell if it was a male or a female. Note that several bones broke and imperfectly healed while the animal was alive. These include the left eleventh rib, right twelfth rib, the sternum (breast bone) and rostrum (front part of



Scientists Excavating the Skeleton

skull). The injuries seem to have been the result of a blow from underneath. Perhaps it was dashed against the rocks by a wave.

Ecology

Dusisiren was common in the shallow coastal waters of late Miocene California. The climate was slightly warmer than today, and there were many more bays and inland seas over California. The sea cow fed on algae and sea grasses, pulling up the vegetation with the horny pads in the front of its mouth. It did not have front teeth.

The Cast

A two-piece rubber mold (more for the skull) was painted over each bone. After the rubber cured, the original bone was removed from the mold and plastic poured in to make the cast. The casts were then painted to look like the fossils. This cast was made by technicians at the Takikawa Museum in Japan. There are only two skeletons of this species on display in the world. Both are casts: one in Japan and the one here. Our specimen is on loan from the Museum of Paleontology, University of California, Berkeley.

Sources

- *Copyright 1995 Frank Perry. This article is printed by permission of Frank Perry. Photographs courtesy of Frank Perry Museum Services.*

The content of this article is the responsibility of the individual author. It is the Library's intent to provide accurate local history information. However, it is not possible for the Library to completely verify the accuracy of individual articles obtained from a variety of sources. If you believe that factual statements in a local history article are incorrect and can provide documentation, please contact the Webmaster.