

# The Cerutti Mastodon site: evidence for hominins in southern California 130,000 years ago.

Thomas A Deméré  
San Diego Natural History Museum

Steven R. Holen  
Center for American Paleolithic Research

## Abstract

The Cerutti Mastodon (CM) site was discovered and excavated along State Route 54 in San Diego over a 5-month period during the winter of 1992-93 and yielded the partial remains of a single American mastodon (*Mammut americanum*) in association with evidence indicating that hominins used hammers and anvils to break the limb bones and molars. The bone assemblage and associated cobbles are contained within a fine-grain silt/sand in a low-energy overbank depositional setting. The taphonomic evidence for human agency is diverse and includes bone impact features (e.g., cone flakes, bulbs of percussion, and a large arcuate impact notch with associated negative flake scars); stone impact and usewear features (e.g., negative flake scars, Hertzian initiations, deep cracks and angular fractures); bone, tusk, and stone distribution patterns (e.g., femoral diaphysis fragments clustered around a single large cobble, detached femoral heads positioned side-by-side, and vertically oriented tusk); differential bone breakage (e.g., intact fragile ribs vs. sharply broken heavy limb bones); and bone, molar, and stone refits (e.g., 80-cm displacement of 5 pieces of a partial femoral diaphysis, 3-meter displacement of 3 pieces of single molar, 3-meter displacement of 7 pieces of a single large cobble). Significantly, most CM bones and stones were enclosed within crusts of pedogenic carbonate that establish a “chain of evidence” showing that breakage and positioning of objects at the site occurred many thousands of years ago, and, as we contend, before burial of the site. No knapped stones or butchery-marked bones were recovered at the CM site, which we propose was a bone-processing site occupied for a very short period of time for a very limited set of activities (expedient stone hammers and anvils used to break mastodon bones for marrow extraction and/or raw materials). Evidence from experimental archaeology supports these interpretations, as does evidence of human breakage of proboscidean limb bones on several continents and at several younger Pleistocene sites in North America. Alternative hypotheses (e.g., debris flow, plunge pool, alluvial fan, trampling, carnivore scavenging, and damage by heavy equipment) do not account for the multiple lines of evidence preserved at the CM site. We discuss possible dispersal routes into North America 130,000 years ago that humans could have used. We also discuss the various species of the genus *Homo* that potentially could have arrived in the Americas during the deglaciation event marking the transition from MIS 6 to MIS 5. Future work should include multidisciplinary efforts to explore geologic deposits of this age for additional evidence of human activity.