

## PALEONTOLOGY

# Fossil Deposit Found

Ice Age elephant bones, the tooth of a prehistoric horse and insect, tree, shrub and flower remains have been discovered near San Francisco Bay.

► BONES of an Ice Age elephant, the tooth of a prehistoric horse, insect remains and a wide variety of tree, shrub and wildflower fossils, found near San Francisco Bay, will help scientists picture prehistoric life in that region.

The fossil deposit was discovered when grading machinery, leveling off a hill that protruded into the edge of a former salt marsh, cut through the stump of a tree—and an elephant's tusk. The area was immediately investigated and the rich assortment of specimens is being studied at San Mateo Junior College, Frank M. Stanger states in *Science* (June 1).

Ten elephant tusks, ranging from four to ten feet in length, were found, as well as bones and teeth, but none of the skeletons were complete.

Tusks that appeared to be sound shattered into small bits at the first attempt to move them, and the bones were usually more fragile than the rock in which they were embedded. Portions of the bones were partially mineralized, while other parts, sometimes of the same bone, had completely disappeared. It was only with great care and the use of plaster casts, Mr. Stanger reports, that any of the tusks or bones were preserved.

Twenty-one more or less complete teeth were discovered, five of which were still in place in the jawbones. The jawbones of two animals are nearly complete, and one other pair was complete, but grotesquely distorted and badly decayed.

The tooth of the prehistoric horse was found in gravel at the edge of a stream bed. It was within a few feet of some of the elephant bones, but not in the same sedimentary deposit.

The green scarab-like iridescence of a beetle's wing was the first evidence of prehistoric insects to be discovered. Beetles, ants and grasshoppers have been identified by F. D. Klyver, paleobotanist at San Mateo Junior College. Numerous specimens of what appear to be insect and spider eggs were also found, either close beside the elephant bones or in the surrounding region.

Douglas fir, Monterey pine, Monterey cypress and alder head the list of identified trees. Snowberry and poison oak are

among the shrub species, and a wild blackberry vine was found, as well as several common Western wild flowers, such as red maids and miner's lettuce. Ranging from small seeds and fine particles of wood to stumps and sizable logs, 68 different varieties of plants have been identified thus far.

Geologists who have studied the fossils generally agree that they belong to the middle or late Pleistocene time. The deposit was discovered only 20 feet above sea level in the unincorporated village of Millbrae, south of San Francisco, on the peninsula that separates the bay from the ocean.

While the alluvial fan was being formed by the streams, Prof. Eliot Blackwelder of Stanford University reasons, much of its surface was probably covered with vegetation on which elephants might feed. During rainy seasons this bed of sand-clay was possibly soft enough to cause animals as heavy as elephants to sink in it and not be able to escape.

After they had been entrapped and

died, their carcasses would have been eaten by carnivores and their bones exposed, scattered and trampled, probably for some time, before being covered by the expanding alluvial deposits.

Once covered, the fineness of the mud-flow around them, together with the never-failing supply of ground water at this low level, would have tended to keep them from decaying completely. Slumps or crawling of the soil, or possibly earthquakes, may have subsequently distorted the bones.

Animals of the Ice Age, such as the ground sloth, mastodon and bison, have already been identified near San Francisco by scattered skeletal remains, but mostly through the discovery of isolated fragments of one animal.

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## AERONAUTICS

## Controllable-Wing Plane Makes Handling Easier

► SMALL airplanes may be easier to fly as the result of the development of a new controllable-wing plane now undergoing exhaustive tests at Stout Research Division in Dearborn, Mich. This experimental plane is built so that the position of the wings in relation to the fuselage may be changed at will by the pilot.

Advantage of the controllable wing



**CONTROLLABLE WINGS**—Greater safety and easier handling of personal aircraft may result from this new development. The controllable wing eliminates the necessity of ailerons, elevators and rudders.