

LATE PLEISTOCENE MEGAFUNA OF THE DESERT BORDERLANDS

by

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The arid borderlands (states of northwestern Mexico and of southwestern U.S.A.) provide unusual opportunities to investigate America's extinct megafauna. The large mammals of the late Pleistocene, such as Columbian mammoth, native horses, camels and at least another 20 species the size of a pronghorn or larger left their bones in various dry caves, lake sediments and alluvial deposits. The extinct mammoth seem less remote when their bones appear in floodwater gravels or sands also yielding artifacts of the first well established foragers in the region, the Clovis culture (Haynes 19___). Even more compelling are the mats of dry tissue, hair, keratinous hoofs or horn sheaths and balls (boluses) of dung found in a few dry caves. In the presence of such material, the disembodied ghosts of the extinct species all but recover a corporal presence and one can easily sympathize with Thomas Jefferson's belief that species "thought to be extinct" might well be found alive when the American West was more thoroughly explored by Lewis and Clark.

Dedicated botanists and ecologists find more than enough mystery in the plant and animal communities of the arid west as they exist right now without worrying about the role of megaherbivores missing from the land for some 10,000 years at least. While understandable, I fear that excluding a history denies insight into process. It is risky to discount the power of a 100-year flood on a desert river drainage simply because one has not seen such an event.

If the large herbivores missing for 10 millennia seem absolutely remote to us, they may be less so to native plants of the desert grassland which evolved under the shadow of mammoths, horses, camels and bison. For instance, the difference in palatability of succulent caulescent agaves, yuccas, and sotols which are not highly vulnerable to goats and of Hawaiian silverswords which are makes my point. To be sure, goats (*Capra*) are not native to either Hawaii or the North American continent but many similar arteodactyle including Herrington's extinct mountain goat (*Oreomnos*) were native to North America. Arborescent *Opuntia* species or Floreana in the Galapagos suffered severely when exposed to goat and burro browsing following historic

Edentata ground sloths and glyptodonts