Pleistocene megafaunal extinctions

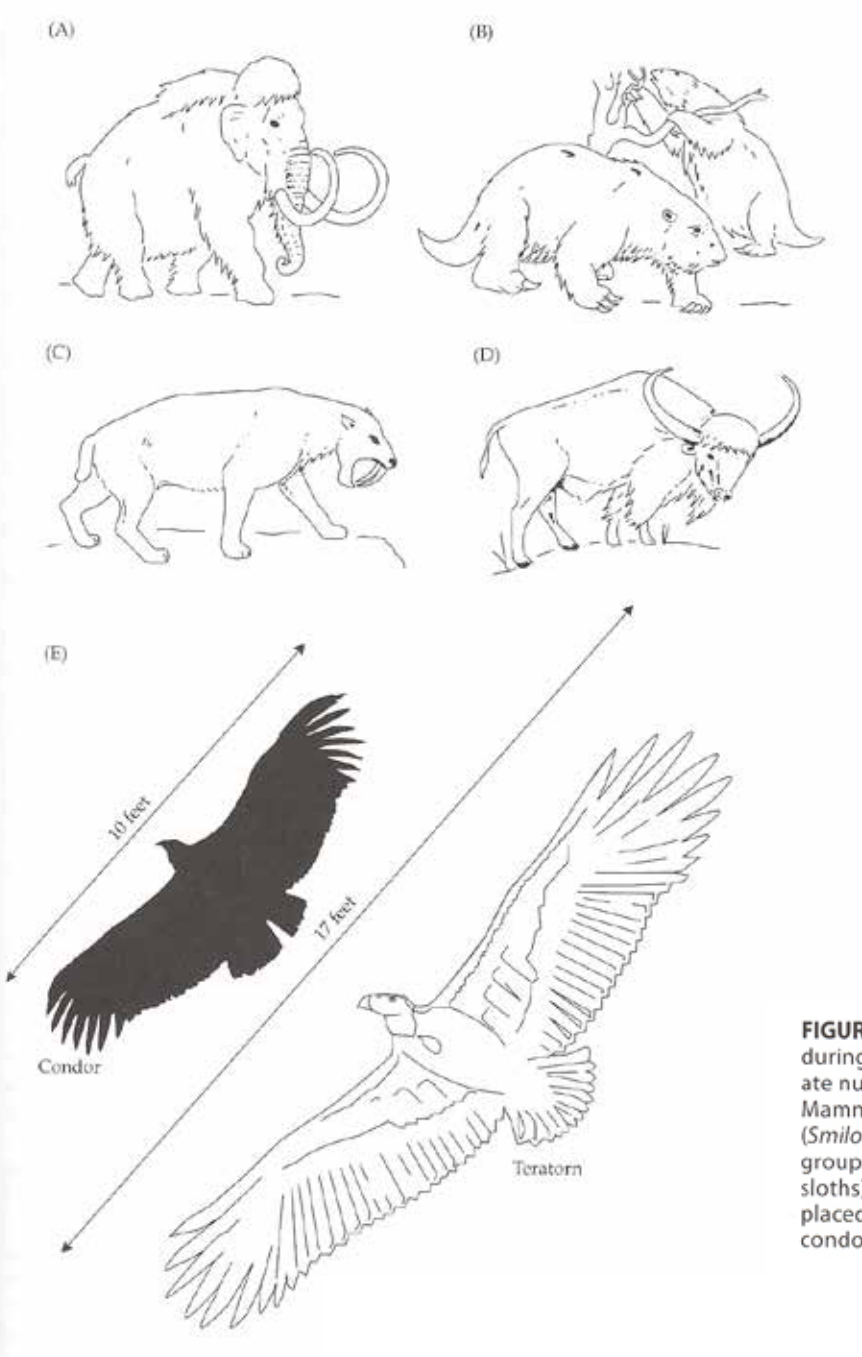
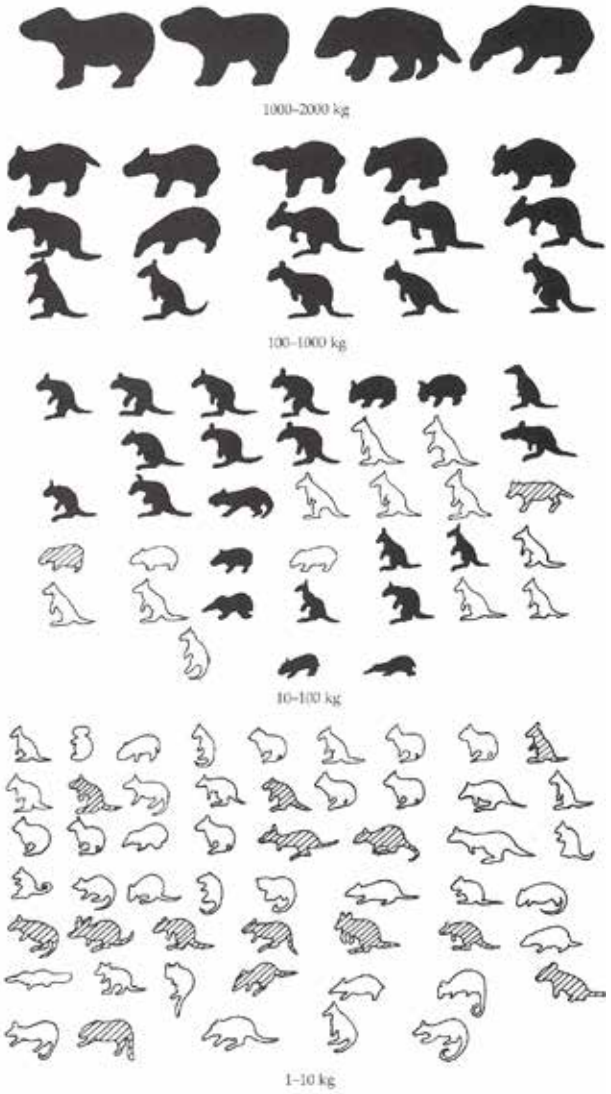


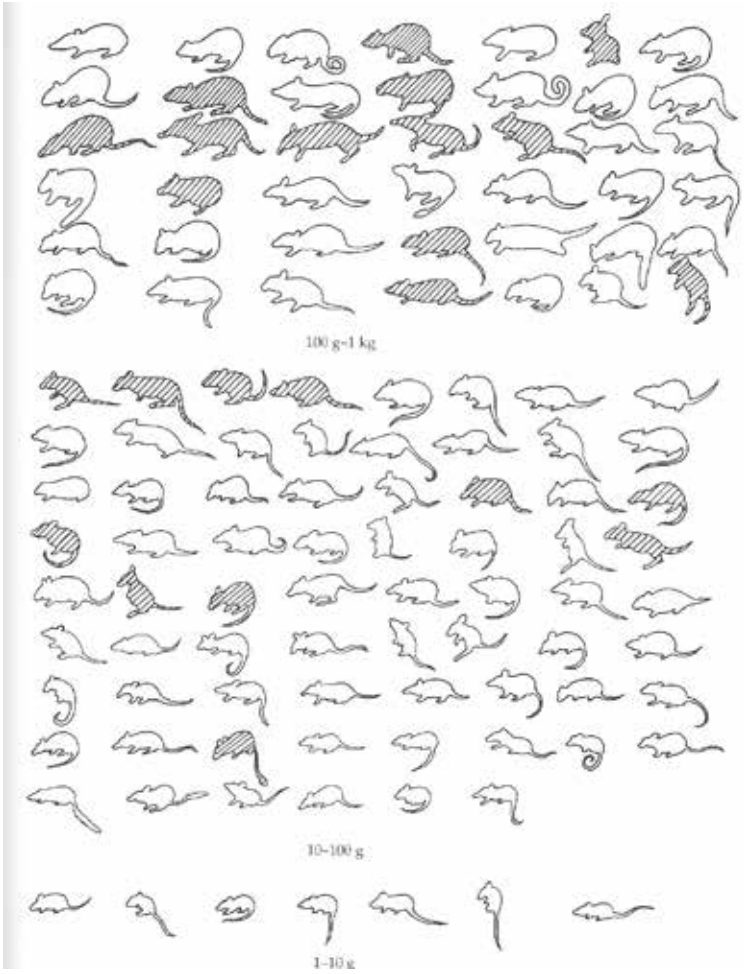
FIGURE 9.29 The mass extinction of terrestrial vertebrates that occurred in North America during the late Pleistocene and early Holocene included the loss of a highly disproportionate number of large mammals and birds, often referred to as the Pleistocene megafauna. (A) Mammoths (*Mammuthus* spp.); (B) ground sloths (*Megalonyx* spp.); (C) sabertooth cats (*Smilodon* spp.); (D) giant bison (*Bison latifrons*); and (E) teratorns (*Teratornis* spp.). These groups are either without modern day analogues in North America (mammoths and ground sloths) or they have been replaced by much more diminutive forms (sabertooth cats replaced by mountain lions and smaller felines; giant bison by American bison; teratorns by condors and vultures).

Lomolino et al. 2006

Selective extinction of largest mammals

FIGURE 9.34 Selective extinctions of large, megafaunal mammals in Australia during the Pleistocene and Holocene. Shown are outline drawings of species known to occur in these regions when they were colonized by aboriginal humans. Species suffering extinction during the Pleistocene and early Holocene are shown in black, while those that became extinct or endangered following European colonization are shaded (open outlines indicate extant, non-endangered species). (Information courtesy of T. F. Flannery; art based on original drawings by Tish Ennis, Australian Museum, Sydney.)

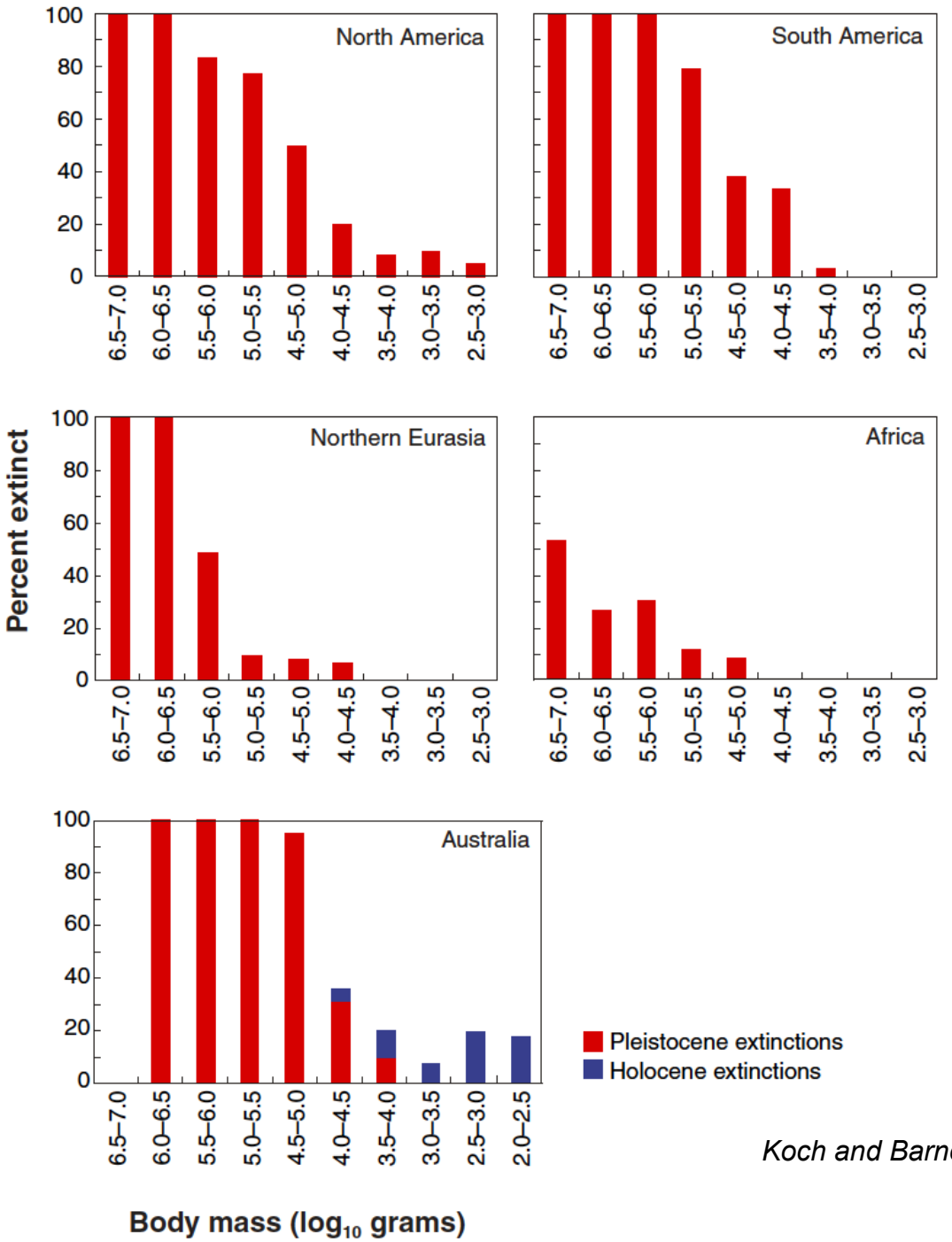




Lomolino et al. 2006

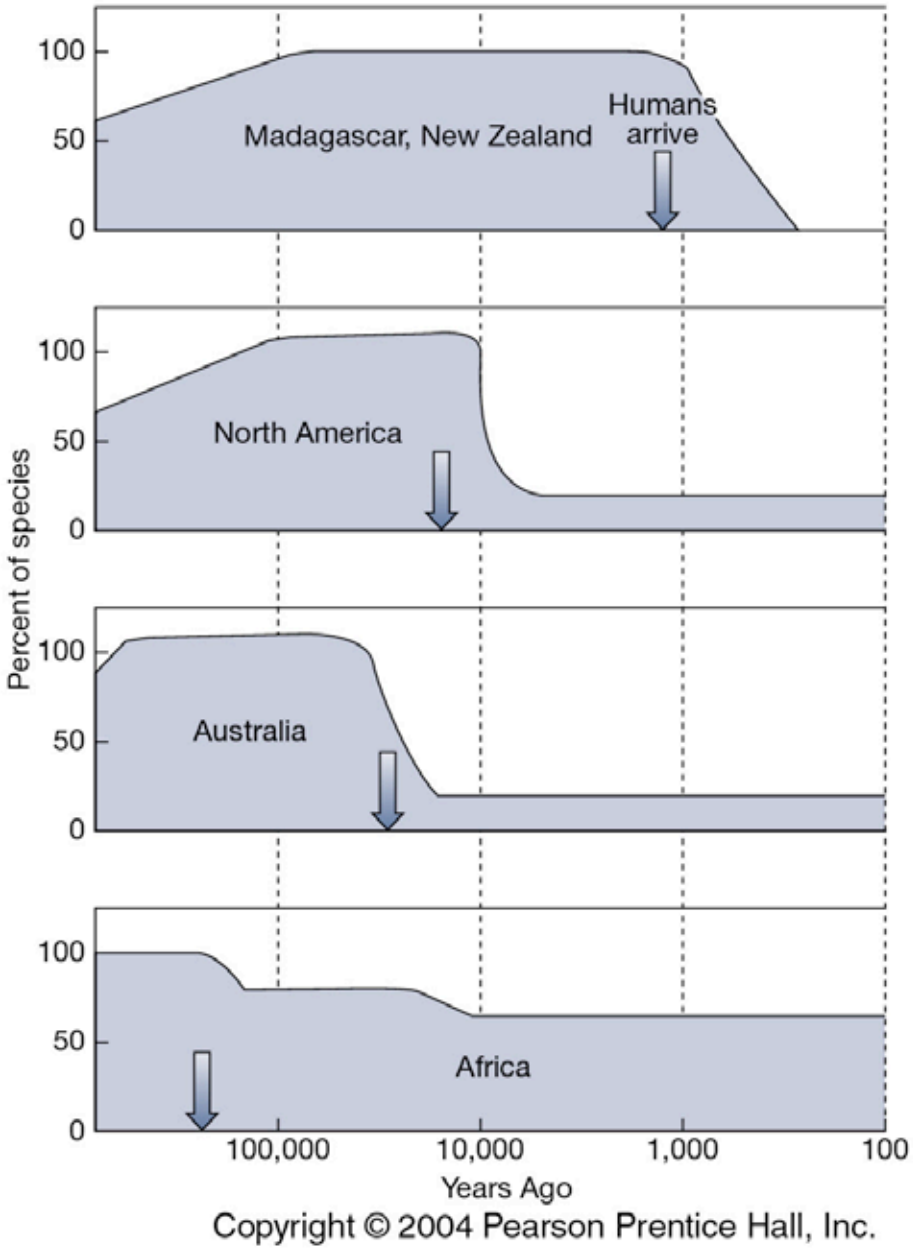
Figure 1

Percent extinction by body size class for five continents. Data are the percent of Pleistocene species that became extinct in the late Quaternary. Data for the histogram and a description of data sources are provided in **Supplemental Table 2**.



Koch and Barnosky 2006

Extinctions relative to human arrivals



Kump et al. 2004

Species distribution modeling

change in potential habitat from Pleistocene climate to present climate

No reduction in habitat?

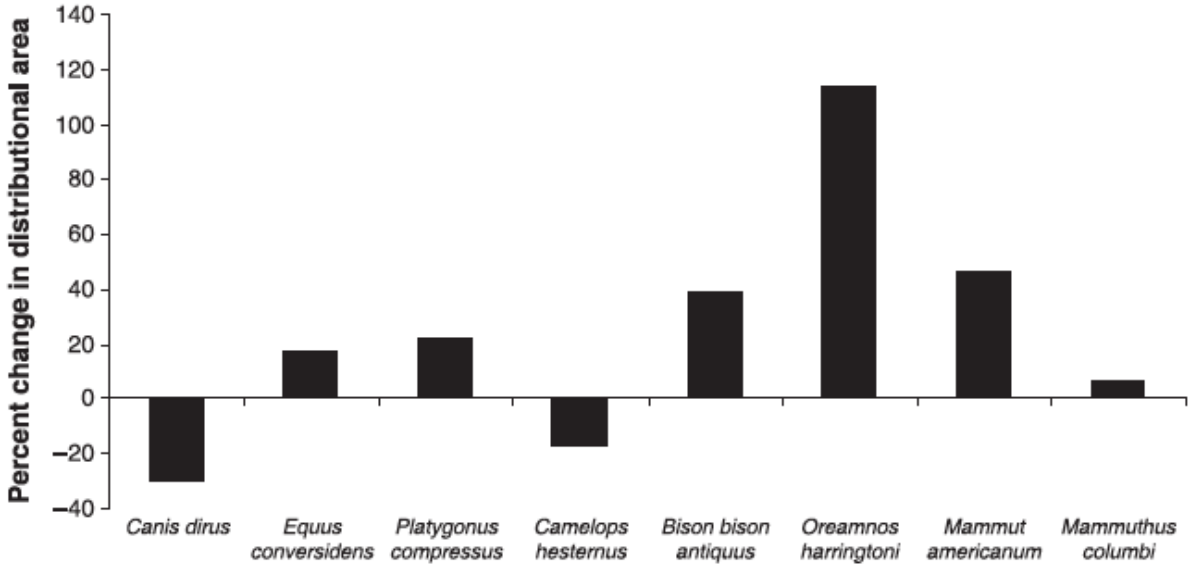


Figure 5 Predicted percent change of potential distributional area from the Pleistocene to the present for eight extinct Pleistocene mammal species.

Martinez-Meyer et al., 2004