



Did the Aztecs Lack Potential Animal Domesticates?

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American Ethnologist, Vol. 9, No. 3. (Aug., 1982), pp. 578-579.

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American Ethnologist is currently published by American Anthropological Association.

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critical commentary

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Harner (*AE* 4:117-135, 1977) attributes the unique elaboration of cannibalism alleged in the Aztec case to nutritional deficiencies due to a lack in Mesoamerica of significant domesticated animals—in particular, of herbivorous mammals. His argument rests on two linked assertions: first, that Aztec cannibalism is a response to a shortage of proteins and fats; and second, that this shortage is a consequence of a peculiarity of the Mesoamerican natural environment, to wit, an impoverished fauna lacking domesticable herbivores of significant size. Harner claims that this materialist/ecological explanation of Aztec cannibalism is superior to previous attempts at explanation which focused on Aztec religious ideology as sufficient cause (p. 133).

Ortiz de Montellano (*Science* 200:611-617, 1978) has criticized Harner on several key points—most notable, the insufficiency of the quantities of animal protein available from cannibalism to meet nutritional requirements. He also argues that Aztec vegetable foods alone provided adequate protein, and that sacrifices were not scheduled so as to provide protein during periods of greatest nutritional stress. Price (*AE* 5:98-115, 1978) has criticized Harner for explaining a “stylistic” feature (i.e., Aztec ritual cannibalism) in terms of materialist functions (i.e., the need for protein) (pp. 106, 112). She suggests that domesticated animals are ill-suited as staple food resources in intensive agricultural systems (p. 101). While these attacks leave Harner’s hypothesis in disarray, they are not exhaustive. In particular, neither critic (nor any other of whom I am aware) has addressed the question of the presumed inadequacy of the local fauna as a source of potential domesticates, a key link in Harner’s chain of materialist causation.

The assumption that herbivores suitable for domestication were lacking in the Mesoamerican region has been asserted repeatedly as a “fact” of Mesoamerican ethnozoology at least since Vaillant’s (1941) *Aztecs of Mexico*. I hope to show that the mammalian fauna of Mesoamerica was no less well endowed with potential domesticates than other world regions that supported the evolution of early civilizations. I will not attempt to explain the Mesoamerican peoples’ notable “failure” to domesticate any more efficient mammalian protein-converter than the omnivorous dog (*Canis familiaris*). Rather, I note only that this failure is not readily attributed to a lack of zoological raw material (*contra* Sanders and Price 1968:9).

The alleged absence of domesticable mammalian herbivores finds no support in the relevant zoogeographic references (Grzimek 1975; Leopold 1972; Walker 1968). Although it is impossible to prove that a given species could have been domesticated when in fact it was not, we nevertheless may identify animals as potential domesticates that share salient characteristics with species domesticated under comparable conditions elsewhere. I have surveyed the Mesoamerican fauna for mammals with some or all of the following characteristics, each deemed conducive to domestication. (1) Species available to the Aztecs: These include animals of highland and lowland areas from throughout Mesoamerica. I do not confine my search to species common in the Valley of Mexico—the core of the Aztec domain—since peoples throughout the Mesoamerican region have exchanged cultural ideas as well as domesticated plants and animals since before the Formative Period, that is, before 2500 B.C. (Sanders and Price 1968:7, 9, 23-25, 108). (2) Exclusively or primarily herbivorous mammals: Such animals are more efficient sources of human dietary protein than are meat-eating animals, due to their low trophic level. (3) Large mammals, that is, those averaging more than two kilograms: Although smaller animals have been domesticated elsewhere, for example, European rabbits and guinea pigs, “economy of scale” suggests that larger animals should be more efficient as sources of dietary protein. (4) Highly social species, since such animals should more readily tolerate conditions of domestication. (5) Species with close phylogenetic or ecological counterparts under domestication elsewhere.

The following meet many or all of the criteria cited.

1. Peccary, of which two species occur, the collared (*Pecari tajacu* = *Tayassu tajacu*) and the white-lipped (*Tayassu pecari*). Adult weights average 16-30 kg. The New World peccaries are classed with Old World pigs (Suidae) in the sub-order Suiformes, but in a separate family (Tayasuidae). They are distinguished primarily on the basis of details of foot structure (Walker 1968, II:1365-1366). Peccaries are gregarious, medium to large nonruminant ungulates. Collared peccaries typically occur in groups of 5-15 animals, while the larger white-lipped peccaries run in herds of 50-100. Both demonstrate close ecological and behavioral parallels to Old World pigs (Grzimek 1975, XIII:106). Although the white-lipped peccary is an especially dangerous adversary, it is certainly no more so than the wild progenitors of the Old World domesticated hog (*Sus scrofa*). The white-lipped peccary is restricted to lowland forests, but the collared peccary is still a common animal nearly throughout Mexico. It

was present and hunted in the Tehuacán Valley (Flannery 1967) but is rare in archaeological sites in the Valley of Mexico (Sanders, Parsons, and Santley, *The Basin of Mexico* [New York: Academic Press], 1979). It remains an important game species despite heavy human predation (Leopold 1972:497). Collared peccaries are also known to be easily tamed and to make excellent pets (Leopold 1972:496). Sahagún (1956, III:227) describes a peccary as *coyámetl* in Nahuatl.

2. Pronghorn antelope (*Antilocapra americana*). Adult weights average 36–60 kg. This distinctive New World antelope is the ecological counterpart of the Old World sheep (*Ovis* spp.) and goats (*Capra* spp.) (Leopold 1972:523). Ranging in large bands of up to 100 individuals, they occurred in historic times south to the very edge of the Valley of Mexico and before 7000 B.C. to the Tehuacán Valley (Flannery 1967). They were the subject of large-scale Indian hunting parties shortly after the Conquest (Leopold 1972:518). The “Chichimec” progenitors of the rulers of Tenochtitlán would have been very well acquainted with the habits and food potential of the pronghorn. The species is well described in Sahagún (1956, III:282); it was known in Nahuatl as *tlamacazcamazátl* (*mazátl* is the generic term for “deer”). Pronghorn hunting practices described for the Great Basin and Plains regions of North America emphasize the curiosity of the species, a behavioral trait that should have facilitated domestication. Although attempts to breed pronghorns in captivity outside their native ecological zone have met with limited success, they have been successfully reared within that zone (Grzimek 1975, XIII:270).

3. Tapir (*Tapirella bairdii* = *Tapirus bairdi*). Adult weights average 225–300 kg. The tapir is a swamp- and forest-dwelling relative of the horse and rhinoceros, reminiscent of the Old World water buffalo (*Bubalus* spp.) in its choice of habitat. Although nongregarious and of limited distribution in Mesoamerica, it was well known to the Maya (Tozzer, *Papers of the Peabody Museum* 18:203, 1941) and was known by the Aztecs as *tlacaxólotl* (Sahagún 1956, III:223). Their flesh is “extremely fat” and highly prized. Tapirs are judged to have “characteristics suitable for domestication” (Grzimek 1975, XIII:29), despite their intolerance of the ecological changes induced by human agricultural settlement. A closely related species of tapir has been used in recent times as a draft animal in the Brazilian Amazonia (Grzimek 1975, XIII:29).

4. Agouti (*Dasyprocta* spp.) and paca (*Cuniculus paca*). Adult weights of agouti average 1.3–4 kg; of the paca, 6.3–10 kg. These large rodents are the Mesoamerican representatives of the suborder Cavoidea, to which the Andean-domesticated guinea pigs (*Cavia* spp.) belong. Although less gregarious (Leopold 1972:390) than the wild progenitors of guinea pigs, agoutis and the paca are common and widespread in the forested tropical lowlands of Mesoamerica. They are much larger than guinea pigs and their flesh is considered “outstandingly delicious” (Leopold

1972:391). Agoutis “tame easily and make excellent pets” (Walker 1968, II:1027).

5. It is also noteworthy that the Muscovy duck (*Cairina moschata*)—domesticated in the Amazon region—though widespread along the lowland forest streams of Mexico and Guatemala, was never domesticated in Mesoamerica.

In sum, the native Mesoamerican fauna includes close analogs of such key Old World and Andean domesticates as pig, sheep, goat, and guinea pig. None were domesticated despite evidence that they were all available, well known to the local people, tractable, and desirable as food. The “failure” of Mesoamerican animal husbandry requires explanation. However, that failure is not attributable to a simple environmental determinism. Nor can this failure be attributed to ignorance of the principles of animal husbandry, since domestic dogs and turkeys (*Meleagris gallopavo*) were raised for food by the Aztecs and their neighbors. The Aztecs are also known to have been careful students of zoology, maintaining extensive zoological collections (Soustelle, *Daily Life of the Aztecs* . . . [Stanford: Stanford University Press], 1961:124–128). I suspect there was no “failure” at all; rather, a choice of more efficient means of nutrient provision through intensive agriculture. The underutilization of animal protein resources in Mesoamerica strongly suggests that the Aztec need for animal foods has been greatly exaggerated. Thus, Harner’s *deus ex machina* for Aztec cannibalism is called into question.

references cited

- Flannery, Kent V.
1967 Vertebrate Fauna and Hunting Patterns. In *The Prehistory of the Tehuacán Valley*, Vol. 1: Environment and Subsistence. Douglas S. Byers, ed. pp. 132–177. Austin: University of Texas Press.
- Grzimek, Bernhard, ed.
1975 *Grzimek’s Animal Life Encyclopedia*. New York: Van Nostrand Reinhold.
- Leopold, A. Sarker
1972 *Wildlife of Mexico: The Game Birds and Mammals*. Berkeley: University of California Press.
- Sahagún, Bernardino de
1956 *Historia General de las Cosas de Nueva España*. México, D. F.: Editorial Porrúa.
- Sanders, William T., and Barbara J. Price
1968 *Mesoamerica: The Evolution of a Civilization*. New York: Random House.
- Walker, Ernest P.
1968 *Mammals of the World*. Baltimore: The Johns Hopkins University Press.

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Submitted 30 October 1981

Revised version received 9 February 1982

Accepted 9 February 1982