

## Additional Reading

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## Beringian Research Notes

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Figure 1. Restoration of an adult flat-headed peccary in defensive position. Illustration from a painting by George Teichmann.

### Flat-headed Peccary

Herds of this boar-sized peccary (*Platygonus compressus*) were relatively common in Pleistocene (about 2 million to 10,000 years ago) mammal faunas of southern regions in North America. Therefore, the report of a specimen from the Old Crow Basin, Yukon was very surprising.

This peccary was one of the first North American fossil animals discovered (Figure 1). A skull was found in a Kentucky cave in about 1804, and the noted collector Caspar Wistar identified it as a peccary in 1806. Joseph Leidy provided a description of the specimen in 1853. Meanwhile, J. LeConte had named the species *Platygonus compressus* in 1848 based on fragmentary material from Galena, Illinois.

The flat-headed peccary was about the size of a European wild boar (*Sus scrofa*) and stood nearly 76 cm at the shoulder. The species differs from Leidy's peccary (*Platygonus vetus*) in its generally smaller body size and having a shorter, deeper

snout and less-flaring cheek bones. Compared to living peccaries, e.g. the white-lipped (*Tayassu peccari*) and collared (*Tayassu tajacu*) peccaries, the flat-headed peccary had longer legs, a larger nasal cavity, and more trenchant teeth. Reduction of the side toes is complete and the species lacked dew claws.

The only specimen known from Eastern Beringia is a part of a left radius (upper foreleg) found about 1 km from the mouth of King Edward Creek on the Old Crow River in northern Yukon (Figure 2 inset). In her description of this rare northern specimen, Brenda Beebe considered it to be of Mid-Wisconsinan age (about 65,000 to 35,000 years ago), but it was not radiocarbon dated. It is the second report of a peccary, and the first of *Platygonus compressus*, in Canada. A tooth fragment of *Platygonus* sp., possibly *P. bicalcaratus* is known from the Early Pleistocene Wellsch Valley fauna of Saskatchewan (estimated to be 1.7 million years old). The Old Crow Basin fossil was found some 3000 km north of its previously known Pleistocene range! The species probably entered Yukon from southern North America during a warmer period of the last ice age, as did the American mastodon (*Mammuth americanum*), Jefferson's ground sloth (*Megalonyx jeffersonii*), and the giant short-faced bear (*Arctodus simus*). Nevertheless, the main mammalian invasion into Canada came from Eurasia via the Bering Isthmus (a broad landmass exposed between Siberia and Alaska during periods of lower worldwide sea level that occurred mainly during peak glacial phases).

The greatly enlarged olfactory lobe (implying a pronounced sense of smell) of the brain, the higher more posterior position of the eyes, and the relatively long limbs indicate that the flat-headed peccary occupied open country, where there was a need for sharper eyesight and greater escape speed. Extensive turbinates in the nasal region helped filter the dry, dusty air of the plains, as did those of another member of the Yukon ice age fauna, the saiga antelope (*Saiga tatarica*).

Peccaries have been found in Old World Oligocene (about 34 to 23 million years ago) and Miocene (about 23 to 5 million years ago) deposits and Lower Oligocene (about 34 to 30 million years ago) to contemporary deposits in North America. Peccaries differ from true pigs in having vertical upper canine teeth, relatively short, simple molars, fused lower foreleg bones and reduced side toes. The ancestry of the flat-headed peccary can be traced back to Cope's peccary (*Platygonus bicalcaratus*) – perhaps the only large peccary that lived on the Great Plains and in Florida as early as 3 million years ago.

*Platygonus* was widely distributed throughout North America – from Atlantic to Pacific coasts and from central Mexico to northern Michigan, as well as northern Yukon. Even before the Yukon specimen was discovered the species was recognized as having broad climate tolerance ranging from temperate to periglacial regions. The species is known from approximately 70 last (Sangamonian) interglacial (about 132,000 to 120,000 years ago) and Wisconsinan (about 120,000 to 10,000 years ago) glacial sites.

The flat-headed peccary lived in small herds composed of both sexes and all ages. Groups from 5 to 12 individuals have been preserved in deposits at Columbus,

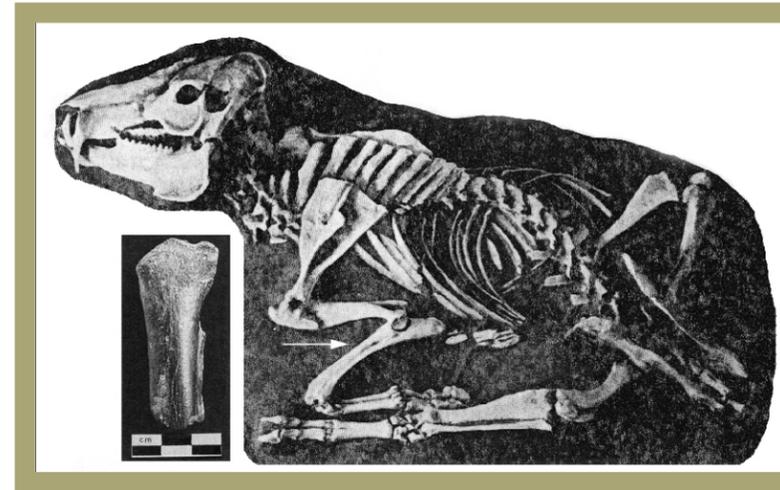


Figure 2. Flat-headed peccary skeleton (cast) found in place in windblown silts at Hickman, Kentucky. Inset shows front view of upper part of a left radius (an arrow marks this lower foreleg bone on the skeleton) from Old Crow Basin, Yukon.

Ohio, Goodland, Kansas, Denver, Colorado, Belding, Michigan and Hickman, Kentucky.

Apparently the Hickman peccaries (Figure 2) had been caught in a violent dust storm more than 34,000 years ago and had turned their backs to the wind to wait it out, but were suffocated instead. These peccaries often took cover in caves and rock shelters suggesting that they were highly gregarious. At least 98 individuals were represented at Bat Cave, Missouri, and 81 individuals were recovered from Zoo Cave, Missouri.

Flat-headed peccaries were well adapted for fighting – the razor sharp lower canine teeth being their main weapon. Fighting would have been directed against predators (e.g. black bears and wolves) or for dominance within the herds by males during rut. Cheek teeth were adapted to chewing coarse vegetation and the dentition suggests browsing habits. Probably a good idea of their feeding and behaviour can be gained from the habits of the Eurasian wild boar.

There is no evidence that people played a part in the species' extinction. Perhaps loss of habitat due to climate and vegetational changes along with direct competition and predation by black bears (*Ursus americanus*) resulted in extinction by the end of the Pleistocene. The latest known radiocarbon-dated specimens are about 10,000 years old – the time of extinction of many large ice-age mammals.

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