PORCUPINE FROM THE OZARK HIGHLANDS OF MISSOURI

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ABSTRACT.—An incomplete left jaw of a porcupine (*Erethizon dorsatum*), found in an archaeological rockshelter site in Phelps County, Missouri, constitutes the second prehistoric record of porcupine for Missouri.

A part of the lower left jaw of a porcupine, *Erethizon dorsatum*, was found during periodic excavations in 1961-62 at the Tick Creek Cave Site, 12 miles west of Rolla, Phelps County, Missouri. The jaw was that of a juvenile animal; the premolar had not yet erupted above the rim of the alveolus. Approximately one-half of the ventral margin had been broken away, apparently during the digging operations and the incisor, M_1 and about half the ramus were missing. A series of light, transverse skinning cuts occurred at the base of the coronoid fossa, indicating the animal had been taken and skinned by the Late Woodland occupants (800-1300? A.D.) of this rockshelter. The presence of only this one element in over 40,000 bones may or may not indicate its former abundance in this area.

The Ozark Highland represents an old, deeply dissected plateau which now appears as hills with steep intervening valleys cut by numerous clear streams arising in the higher elevations. The original mesophytic forest cover was an oak and hickory type—a western extension of the large deciduous forests of eastern United States — interspersed with shortleaf pine. This environment formed suitable habitat for a variety of vertebrate species, particularly mammals, which were used extensively by the Indians occupying this area. In order of decreasing abundance the following mammal remains were also recovered at this site: whitetailed deer, raccoon, squirrels (*Sciurus* spp.), cottontail, elk, striped skunk, gray fox, beaver, canids and woodchuck. Bones of the turkey and turtles (especially *Terrapene*) were abundant.

Prior to the recovery of the specimen reported here from the Tick Creek Cave Site, the only evidence for the former occurrence of porcupine in Missouri were two lower jaws recorded by Simpson (1949) from Cherokee Cave in St. Louis along with a mixture of Pleistocene (peccary, armadillo) and recent (black bear, raccoon, beaver and porcupine) forms. These records and the bones of porcupine from a cave in Monroe County, Illinois (Parmalee, Bieri and Mohrman, 1961) established the former occurrence of *E. dorsatum* southward along the Mississippi River bluffs in the central Midwest.

The prehistoric occurrence of porcupine in Phelps County is noteworthy in that it fills a gap in the known range of this species in the central Midwest region. Judging from the distributional map presented by Hall and Kelson (1959), this Ozark Highlands animal may be *Erethizon d. dorsatum* and represents a southwestern extension of this northeastern subspecies. Cockrum (1952) records *Erethizon d. bruneri* from Johnson County, Kansas, a distance of approximately 160 miles northwest of the Phelps County, Missouri locality. The prairie regions of northern and western Missouri may well have formed a natural barrier separating the two forms.

Extreme southern and western range extensions for the porcupine in the eastern half of the United States have been established on the basis of remains from caves (Kellogg, 1939; Parmalee, Bieri and Mohrman, 1961) and archaeological sites (Barkalow, 1961). There were no historic accounts of the rodent from these areas and it appears the porcupine disappeared from these farthest localities prior to the coming of the white man. Possibly the xerothermic period (3,500-1,000 B.C.) of warm and dry climate may have been an influencing factor, directly and indirectly, reducing or eliminating small populations at the range extremities. Although the

topography and vegetation type in the regions from which these prehistoric marginal records occurred still appear to be suitable habitat for the porcupine. It was apparently unable to survive climatic/vegetation change or possibly hunting pressure by early man in many areas of its former range in eastern United States.

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