

THE  
MUMMY CAVE PROJECT  
IN  
NORTHWESTERN WYOMING

by

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## VIII: The Mummy Cave Tetrapods

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### Materials and Methods

Several thousand bone fragments from Mummy Cave were received in early summer, 1967, for identification and interpretation. Most fragments were small and unidentifiable. Over 2000 bones, however, were identified to a useful taxonomic level. The original specimen catalogues are stored permanently at the Museum of Arid Land Biology; catalogue numbers X5001-X7028 are applied to the Mummy Cave specimens. The bones, identified and otherwise, are in the possession of Dr. McCracken, Whitney Gallery of Western Art.

In identifying the bones, normal basic assumptions were made. Particularly to be noted here is that, unless evidence to the contrary can be found, the forms recovered are expected to be the same kinds now found in the area or species that now occur in nearby, different habitats but which could have lived at the site if different climatic-vegetational conditions had been present.

In several cases, comparative materials for some of the possible species were unavailable, thus decreasing the reliability of identification (denoted by "cf.", indicating close similarity and presumptive identity with the taxon cited, and "?", indicating an educated guess).

The authority for present geographic ranges of the mammals is Long (1965), whose *The Mammals of Wyoming* provides an up-to-date source of distribution and taxonomy for the region. The scientific names used also follow this work.

The minimum possible number of individuals of each kind present in each cultural level was calculated by observation of duplicated skeletal elements or obvious sexual or age differences. Bones only tentatively identified ("cf.") were included, but queried ("?") identifications were not.

A perusal of the animals identified from Mummy Cave shows no form not now found in the area. Thus the recovered fauna does not indicate appreciable climatic-vegetational changes occurring at the cave site during the last 9000 or so years.

Several factors may conceal some climatic change, however. Firstly, a relatively small proportion of the recovered fauna is made up of the smaller, climate-sensitive species. Thus fluctuations in abundance of these kinds - or alternations of presence and absence - cannot be clear-cut because of the small sample. Secondly, some climatic fluctuation could occur before many members adapted to the present environment would be forced out and replaced by other forms. The position of the cave well within a life-zone provides a buffering effect not present in areas near or in tension zones between different major plant associations.

Regardless of the actual presence of absence of climatic changes, the effects upon humans in the area likely would be few since there is no indication of significant changes in prey species of mammals or birds. The single exception is in numbers of Mountain Sheep - the high numbers could conceivably be a result of climatic conditions.

The most important species utilized by Man was the Mountain Sheep. Not only is it the commonest member of the recovered fauna, but many cuts on various bones and

many burned elements definitely tie these animals to human use. There seems to have been no discrimination as to sex or age in the hunting of these sheep. Aged, mature, young, and even fetal or new-born animals are represented as are both sexes.

A common Southwestern archaeological relationship between numbers of Mountain Sheep and deer is pretty much reversed here, with far greater numbers of sheep than deer being represented (88 sheep to 15 deer, an approximate ratio of 6:1). Judging from descriptions of the area, deer should be rather plentiful, likely commoner than sheep. Sheep numbers are consistently equal or greater than deer numbers throughout the cave fill. Several explanations are possible for the large number of sheep from the levels. Possibly the cave was sometimes used as a base camp for hunts in the nearby, higher country, where fewer deer but more Mountain Sheep would be found. The larger total number of animals represented may also indicate a larger number of hunters or longer occupancy than at other levels. The smaller game, possibly collected by women or youths from the vicinity of the cave, also is present in relatively great numbers. Or, there may actually have been more sheep present around the cave at some times than during other periods. Mountain Sheep tend to descend to lower levels in winter than are occupied in summer, particularly during times of severe weather conditions. During hard winters, the cave area might be nearly abandoned by these animals, with the bulk of the sheep herds at lower elevations; under milder conditions, the region might support a heavy winter population. In the latter case, the animals would be particularly vulnerable to human predation. Thus Levels 3 and 9 conceivably could represent occupancy during winter hunts. Level 3 shows the presence of a migratory bird and several mammalian hibernators; likely it was inhabited during warmer weather whether or not it was used during the winter also. Level 9 does not show the presence of strictly warm weather forms.

That deer were used for food and tools is evidenced by butchering marks on several elements, burned fragments of limb bones, and a worked antler base. Among the other mammalian elements, a rabbit shoulder blade displays cut marks and a Beaver humerus has been partially burned, indicating association with Man. Likely many of the birds and some of the other mammals were utilized, but in the absence of definite evidence, their use can only be surmised. Marmots generally seem to prefer smaller crevices and self-made burrows to larger chambers, so it is quite likely that Man is responsible for their presence in Mummy Cave. Likewise, the rabbits in general are forms likely to have been added to the cave fauna by Man or other predators. It seems reasonable to list duck, goose, grouse, and marmot as forms probably used and the deer, Mountain Sheep, rabbits, and Beaver as surely utilized. Wapiti and Bison presumably were used also. The remaining birds, porcupine, chipmunk, ground squirrel, small rodents, and carnivores could well have been used or could just as well represent natural occurrences.

Dogs may have been present at the time of deposition of Cultural Level 22 (c.5190 B.C.) and at least sporadically thereafter, but the remains are too equivocal for certainty.

The presence of a fetal or new-born artiodactyl (probably a Mountain Sheep) indicates occupation during early spring. Likely some of the younger Mountain Sheep were killed during their first summer. Several of the birds (e.g., goose) migrate from the area during the colder seasons and some of the mammals (marmot, chipmunk, and ground squirrels) hibernate, also indicating warm season occupancy if Man is responsible for their presence. Bears, which have a torpid cold-weather period, are more easily taken in winter, but of course are available from spring to fall also.

In general summary, the bones recovered from most levels seem similar insofar as the samples can reveal, indicating little climatic change. The local birds were utilized as were such medium sized mammals as hares, cottontails, and marmots. Major dependency for meats was upon the Mountain Sheep, though cervids also were taken. Carnivores may have been killed for flesh or skins and Dogs may have been present after deposition of Cultural Level 23 (c.5680 B.C.).

## Kinds of tetrapods and minimum numbers of each identified by Culture Levels:

## Level 3:

Galliform Bird - probably Grouse 1  
 Great Horned Owl (*Bubo virginianus*) 1  
 Cottontail (*Sylvilagus* sp.) 1  
 Beaver (?) (*Castor canadensis*) 2  
 Bushy-tailed Wood Rat (*Neotoma* cf. *cinerea*) 1  
 Porcupine (*Erethizon dorsatum*) 1  
 Dog or Coyote (*Canis familiaris* or *C. latrans*) 1  
 Black Bear (*Ursus* cf. *americanus*) 1  
 Grizzly Bear (*Ursus horribilis*) 1  
 Bobcat or Lynx (*Lynx* sp.) 1  
 Wapiti or Moose (Cf. *Cervus canadensis* (poss. *Alces*) 1  
 Deer (*Odocoileus* sp.) 2  
 Mountain Sheep (*Ovis canadensis*) 25

## Level 5:

Bird 1  
 Cottontail (*Sylvilagus* sp.) 1  
 Bushy-tailed Wood Rat (*Neotoma cinerea*) 1  
 Montana Vole (*Microtus* cf. *montanus*) 1  
 Porcupine (*Erethizon dorsatum*) 1  
 Deer (*Odocoileus* sp.) 1  
 Nuttall's Cottontail (*Sylvilagus nuttalli*) 1  
 Mountain Sheep (*Ovis canadensis*) 2

## Level 7:

Bird 2  
 Cottontail (*Sylvilagus* sp.) 1  
 Snowshoe Rabbit (*Lepus* cf. *americanus*) 1  
 ? Yellow-bellied Marmot (Cf. *Marmota flaviventris*) 1  
 Deer (*Odocoileus* sp.) 2  
 Mountain Sheep (*Ovis canadensis*) 2

## Level 9:

Bird 1  
 Duck (small) 1  
 Galliform Bird - probably Grouse 1  
 Passeriform Bird 1  
 Cottontail or Jack Rabbit (*Sylvilagus* or *Lepus*) 1  
 Beaver (*Castor canadensis*) 1  
 Yellow-bellied Marmot (*Marmota flaviventris*) 2  
 Uinta Ground Squirrel (*Spermophilus* cf. *armatus*) 2  
 Bushy-tailed Wood Rat (*Neotoma* cf. *cinerea*) 2  
 Porcupine (*Erethizon dorsatum*) 1  
 Canine (Dog?) (Cf. *Canis*) 1  
 Red Fox (? *Vulpes vulpes*) 1  
 Bear (*Ursus* sp.) 1  
 Deer (*Odocoileus* sp.) 1  
 White-tailed Deer (*Odocoileus* cf. *virginianus*) 1  
 Wapiti, Moose or Bison (*Cervus*, *Alces*, or *Bison*) 1  
 Mountain Sheep (*Ovis canadensis*) 17

## Level 11:

Bird 1  
 Mouse-eared Bat (Cf. *Myotis*) 1  
 Cottontail (*Sylvilagus* sp.) 1  
 Jack Rabbit (*Lepus* sp.) 1  
 Yellow-bellied Marmot (Cf. *Marmota flaviventris*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Dog or Coyote (*Canis latrans* or *C. familiaris*) 1  
 Deer (Cf. *Odocoileus*) 1  
 Mountain Sheep (*Ovis canadensis*) 5

## Level 12:

Mountain Sheep (*Ovis Canadensis*) 1

## Level 13:

Mountain Sheep (*Ovis canadensis*) 1

## Level 15:

Galliform Bird - probably Grouse 1  
 Cottontail Rabbit (*Sylvilagus* sp.) 1  
 White-tailed Jack Rabbit (*Lepus townsendi*) 1  
 Yellow-bellied Marmot (Cf. *Marmota flaviventris*) 1  
 Deer (*Odocoileus* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 3

## Level 16:

Bird 1  
 Passeriform Bird 1  
 Yellow-bellied Marmot (*Marmota flaviventris*) 1  
 Deer Mouse (*Peromyscus* cf. *maniculatus*) 1  
 Vole (*Microtus* sp.) 1  
 Mountain Sheep (Cf. *Ovis canadensis*) 1

## Level 18:

Bird 1  
 Wood Rat (*Neotoma* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 1

## Level 19:

Water Shrew (*Sorex palustris*) 1  
 Jack Rabbit (*Lepus* sp.) 1  
 Beaver (*Castor canadensis*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Dog or Coyote (*Canis latrans* or *C. familiaris*) 1  
 Mountain Sheep (*Ovis canadensis*) 1

## Level 20:

Bird 1  
 White-footed Mouse (Cf. *Peromyscus*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 1

## Level 21:

Galliform Bird - probably Grouse 1  
 Passeriform Bird 1  
 White-tailed Jack Rabbit (*Lepus townsendi*) 1  
 Deer Mouse (*Peromyscus* cf. *maniculatus*) 2  
 Wood Rat (*Neotoma* sp.) 2  
 Dog or Wolf (Cf. *Canis familiaris* or *C. lupus*) 1  
 Marten (*Martes americana*) 1  
 Deer (*Odocoileus* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 4

## Level 22:

Bird 1  
 Jack Rabbit (*Sylvilagus* sp.) 1  
 White-tailed Jack Rabbit (*Lepus townsendi*) 1  
 Montana Vole (*Microtus* cf. *montanus*) 1  
 Dog or Coyote (*Canis familiaris* or *C. latrans*) 1  
 Deer (*Odocoileus* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 2

## Level 23:

Galliform Bird - probably Grouse 1  
 Passeriform Bird 2  
 Canada Goose (Cf. *Branta canadensis*) 1  
 Beaver (Cf. *Castor canadensis*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Deer (*Odocoileus* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 2

## Level 24:

Bird 2  
 Wood Rat (*Neotoma* sp.) 1  
 Vole (*Microtus* sp.) 1  
 Mountain Sheep (Cf. *Ovis canadensis*) 1

## Level 25:

Passeriform Bird 1  
 Jack Rabbit (Cf. *Lepus*) 1  
 Wood Rat (? *Neotoma*) 1  
 Mountain Sheep (*Ovis canadensis*) 1

## Level 27:

Yellow-bellied Marmot (*Marmota flaviventris*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Porcupine (*Erethizon dorsatum*) 1  
 Mountain Sheep (*Ovis canadensis*) 2

## Level 28:

Mountain Sheep (*Ovis canadensis*) 3

## Level 29:

Common Raven (*Corvus corax*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Marmot (? *Marmota*) 1  
 Porcupine (*Erethizon dorsatum*) 1  
 Mountain Sheep (*Ovis canadensis*) 4

## Level 30:

Bird 1  
 Wood Rat (*Neotoma* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 4

## Level 31:

Porcupine (*Erethizon dorsatum*) 1  
 Bear (? *Ursus*) 1  
 Deer (*Odocoileus* sp.) 1  
 Mountain Sheep (*Ovis canadensis*) 2

## Level 33:

Bird 1  
 Nuttall's Cottontail (*Sylvilagus nuttalli*) 1  
 Snowshoe Rabbit (*Lepus americanus*) 1  
 Wood Rat (*Neotoma* sp.) 2  
 Porcupine (*Erethizon dorsatum*) 1  
 Deer (*Odocoileus* sp.) 1  
 Mountain Sheep (Cf. *Ovis canadensis*) 1

## Level 34:

Wood Rat (*Neotoma* sp.) 1

## Level 35:

White-tailed Jack Rabbit (*Lepus townsendi*) 1  
 Beaver (? *Castor canadensis*) 1  
 Yellow-bellied Marmot (*Marmota flaviventris*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Deer (*Odocoileus* sp.) 1

## Level 38:

Duck 1  
 Passeriform Bird 2  
 Cottontail (*Sylvilagus* sp.) 1  
 Snowshoe Rabbit (*Lepus americanus*) 1  
 White-tailed Jack Rabbit (*Lepus townsendi*) 1  
 Yellow-bellied Marmot (*Marmota flaviventris*) 1  
 Wood Rat (*Neotoma* sp.) 1  
 Bushy-tailed Wood Rat (*Neotoma* cf. *cinerea*) 1  
 Red Fox (? *Vulpes vulpes*) 1  
 Mountain Sheep (*Ovis canadensis*) 1

## No Level Given - Mouth of Cave 35 ft. below surface:

Bison (*Bison* cf. *bison*) 1