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Cureloms and Cumoms

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Abstract: Miller discusses his speculations as to the identity of the "cureloms" and "cumoms" mentioned in the Book of Ether in the Book of Mormon text. A number of different animals are considered to be potential candidates or dismissed as unlikely.

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Cureloms and Cumoms

When reading the names of animals called "cureloms" and "cumoms" in the Book of Ether, most people's curiosity is immediately piqued. What could these strange animals be? Well, they might not be strange at all. Any identification of them on my part has to be speculative. But it is speculation based on likely candidates. Since cureloms and cumoms are unknown to us today as actual animals by those names, my potential identifications given below could apply to either one.

First, though, why did Joseph Smith not assign recognizable animals in his translation? That is a fair question. A good possibility, which has been expressed by others, is that Joseph was not aware of any present-day animals to which he could assign them. These animals were outside his realm of experience. Probably they were extinct animals. I've wondered if relatives and friends directly asked him what these animals were? My guess is, yes.

What would have been his answer? Probably it was, "I don't know." In getting back to the translation problem, I see different possibilities. One of these is that the prophet Mormon, who abridged the record that Joseph translated, knew what these animals were, but Joseph did not. Another possibility is that Mosiah, son of king Benjamin, who translated the Jaredite record from the plates of gold (Mosiah 28:11), did not know these animals either, and simply used the Jaredite terms for them.

LDS archaeologist, John L. Sorenson, wrote that in his opinion cureloms and cumoms were large animals (1992, p. 41). This seems reasonable. They are grouped with the elephant, and separated from the other listed animals (Ether 9:18-19). Also, along with the elephant, they were written as being especially useful to man. It seems like they would qualify as beasts of burden. What are the possibilities of the identities of the curelom and cu-

mom? Let's consider some of the candidates. While I indicated that these were probably extinct animals, perhaps they were not.

What are the possibilities of large, useful present-day beasts? Actually there are not too many to draw upon. One is the tapir (Figure 9), a relative of both the horse and rhinoceros. This animal currently lives in southern Mexico on into South America (with one species living in southeast Asia). The living tapir is bulky, with larger individuals weighing well over 600 pounds, and standing a little over three feet high (Walker et al., 1968, p. 1347). They can be tamed if caught young, but apparently have not been put to use by man.

Figure 9. This restoration is of an extinct late Pleistocene tapir, *Tapirus* sp., with its young. Extinct tapirs are known in several parts of the world, with fossils in the New World coming from North, Central, and South America. Living species are found in Central and South America, as well as Southeast Asia. All living types come from humid areas, and are semi-aquatic. ***(From Harris and Jefferson, 1985, Treasures of the Tar Pits: Courtesy of the George C. Page Museum. John Dawson, artist.)***

Figure 10. Only one type of antilocaprid (or pronghorn) now survives. Several species, though, lived in the Pleistocene of North America, down through Mexico. Shown restored here is one of these extinct species, *Capromeryx minor*. The living antilocaprid represents one of the largest types, while the one depicted here is much smaller. The size range of these animals is close to that of modern deer. It nowhere states how large curelomsor cumoms were in the Book of Ether, just that these animals were especially useful to man. The antilocaprid, based on the living species, has not been domesticated but is used for food. *(Figure by courtesy of the George C. Page Museum in southern California. John Dawson, artist. From Harris and Jefferson, 1985, "Treasures of the Tar Pits.")*

Different species of deer live in Mesoamerica. However, they seem unlikely candidates to me for a curelom or cumom as all are of small size. While they can be tamed, domestication would

have been (and is now) difficult. Even much larger deer relatives that live to the north, like the elk and moose, would not likely be domesticated. One other mammal to be considered is the pronghorn (commonly miscalled an antelope). This animal is native to North America and now ranges from Canada to Mexico. But it, too, is only of medium size, and not known to be domesticated (Figure 10).

There are a number of strange animals that once lived in North, Central, and South America called edentates (or xenarthrans). The armadillo is a relatively small living representative of this group as are the larger anteaters as well as the tree sloths of Central and South America. Many extinct edentates reached exceptionally large size, including the armored glyptodonts and giant ground sloths. One of these ground sloths was over 18 feet in length, and weighed an estimated three tons! A somewhat smaller form had a length of about 11 feet, and weighed approximately 3,500 pounds. (Figure 11) Four different genera are known from Mesoamerica. So, all lived in the presumed "right area." It's possible that at least some lived after the time of the late Pleistocene extinctions. At some widespread localities ground sloth hair and dung have been collected and analyzed. In fact I've examined some of this type of material from caves in Utah and Nevada. Now the problem in seriously considering any of these animals as qualifying as cureloms or cumoms, is that I don't see how they could be very useful (although armadillos are sometimes eaten by man).

Based on foot structure, they walked on the sides to back of their "hands" and feet. Additionally, they would have been among the least intelligent of contemporary mammals and it is doubtful

that they could have been trained for useful tasks. The relatively small size of their brain cavities reveals this. So, now what's left?

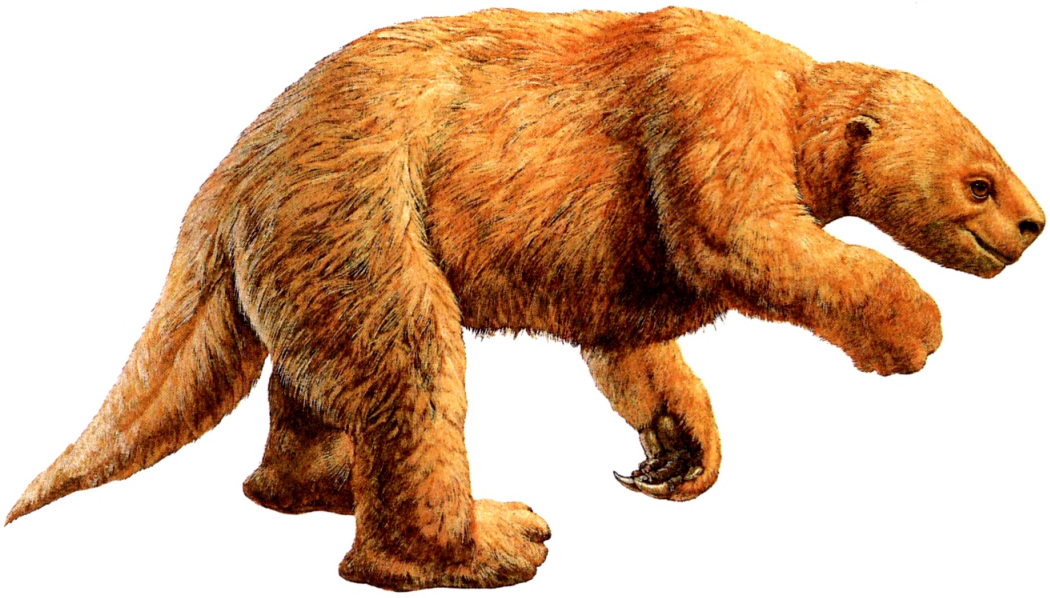

Figure 11. This restoration shows one type of giant ground sloth, *Glossotherium harlani*. There were several others known from the Pleistocene epoch, and possibly later, from North America. Whether this animal or its close relatives would have been useful to man, as were cureloms or cumoms mentioned in the Book of Ether, is very doubtful. The size of their brains indicates an animal that was probably not intelligent enough to be used as a beast of burden. Based on living tree sloths, their meat was probably inedible. *(Figure by courtesy of the George C. Page Museum in southern California. John Dawson, artist. From Harris and Jefferson, 1985, "Treasures of the Tar Pits.")*

My pick for either the curelom or cumom is a member of the camel family. We know that camels have been very useful to man for millennia. But camels must have been known to Joseph Smith, so why didn't he use that name? While he must have known what a camel is, there are several related forms with which he would not be familiar, ones which look significantly different.

It is doubtful that back in 1829 when the Book of Mormon was translated, and Joseph Smith was only 23 years old (and having had very little formal education and time to study), that he knew about llamas. While they are a type of living South American camel, most people in the United States would also not have known about them at that time. Because of this, even if Mosiah translated the original Jaredite word based on his knowledge of the animal, Joseph Smith would not have known what the animal was. Now, would a llama, either an existing or a recently extinct type, have been especially useful to the Jaredites as stated in the Book of Ether (9:19)? I think so.

The following is a quote concerning the importance of the llama to man today as well as in ancient times:

"*It is easy to realize the importance of the llama to the Indian, as he utilizes it almost 100 per cent, from its smallest hairs to its most insignificant droppings. Jerked llama meat nourishes the Indian; its woven fleece keeps him warm; its hide is made into the crude sandals with which he is shod; its tallow is used in making candles; braided, the long hairs serve him as rope; and the excrement, dried, constitutes a fuel which helps him ward off the penetrating chill of his treeless high altitude home.*" (Walker et al., 1968, p. 1377).

More than this, the llama is and has been an excellent beast of burden. They can carry heavy loads. The larger extinct types of

llamas stood from six to seven feet high at the shoulder, and could have carried heavier loads than living types. Modern llamas and alpacas are both known now as domestic animals (they basically are no longer in the wild).

Living wild types like the guanaco and vicuña can be domesticated. According to archaeologists, the Old World camels have been domesticated for millennia. It is assumed that this propensity for domestication might also apply to the recently extinct members of the camel family as well. Anthropologist Ricardo Latcham stated that New World cameloids (llamas and related forms were domesticated in Precolumbian times (1922, p. 7-8). Archaeologist Jane Wheeler, in a study of llama history, indicated that the domestication of the llama goes back about 5,500 years (2003, p. 1).

The past geographic distribution of the llama, which includes many genera and species, covers most of North, Central, and South America. In the Pleistocene this group ranged from Alaska to the southern part of Argentina. As recorded by paleontologist S. David Webb, "... one of the early llama groups spread to South America, there radiated extensively, and then, in part, spread back to North America." (1974, p. 170). Several llama species were present in the Pleistocene of Mesoamerica, the presumable home of Book of Mormon peoples (Figure 12).

A few extinct species have been identified in this region. When did they actually become extinct? As reported above, many large mammals thought to have become extinct at least 10,000 years ago, have been found to have lived on much longer. One called the American camel (actually this camel is more closely related to the llama than to the Old World camel) is known as a fossil

throughout North America. One young appearing specimen was found in a lava tube (cave-like cavity) in Utah.

Figure 12. Two different extinct llamas are depicted here. *Camelops* (looking more like a camel in this depiction) is shown on the left, and *Hemiauchenia* on the right. They were very numerous as indicated by their fossils in North America throughout the Pleistocene - and probably later in time. Like living llamas and their relatives, they probably could have been domesticated. Living species have been domesticated for a few thousand years. They have been used by native peoples of South America for beasts of burden, food and clothing, as well as for a variety of other uses. They could easily fit the category of curelom or cumom as mentioned in the Book of Ether. *(Figures by courtesy of the George C. Page Museum in southern California. John Dawson, artist. From Harris and Jefferson, 1985, "Treasures of the Tar Pits.")*

The special interest of this fossil is that it has dried muscle fibers attached to bone. It was also said to still retain an oily residue in the bone (Romer, 1929, p. 261-262). To my knowledge this fossil has not yet been Carbon-14 dated. This particular animal must have survived the Late Pleistocene extinction, and probably lived at a time when man was in America. A number of archaeological sites, including those in Mesoamerica, have included llama (broad sense) bones and teeth. Some of these co-occurrences in Mesoamerica have been reported in scientific literature (e.g., Irwin-Williams, 1967; Schmidt, 1988; Arroyo-Cabrales and Polaco, 2003).

Some of the more recent dates for the extinction of fossil llamas in North and Mesoamerica show that they would have been associated with man (Figure 13). A few of the recorded dates are: 8,240; 8,527; and possibly to 3,000 years ago (Mead and Meltzer, 1984, p. 441, 446); 7,400 to 8,200 years ago (Hester, 1960, p. 68, 73); 7,432 years ago (Frison et al., 1978, p. 386); ~ 3,800 years ago (Arroyo-Cabrales and Alvarez, 2003, p.265). Again it needs to be emphasized that the last recorded date for an extinct animal (such as some types of llama) does not mean it vanished from the earth at that point. Undoubtedly some small populations existed for at least hundreds, and possibly a few thousands, of years later. All things considered, I believe that some type of llama makes a good candidate for either a curelom or cumom.

We are now left to identify the other animal that could qualify as the curelom or cumom. What beasts are left from which to choose? They need to be ones that lived at the right time and in the right place - that is the time and place where the Jaredites were. Remember, too, they had to be especially useful to man. I can think of only one other general type to fit these conditions.

Figure 13. Photograph of petroglyphs on Newspaper Rock in southeastern Utah. These include what could be a llama (shown in extreme lower left corner of the picture). If this is an image of a llama, it does show that this animal was known to ancient American peoples in this region. It has been used as a beast of burden in the New World for thousands of years. This animal could easily have been known to the Jaredites. According to Bureau of Land Management archaeologists (on the information sign at the site), these petroglyphs were made over a period of many centuries. ***(Photo courtesy of Robert Moore)***

This one type is represented by two different species. While these species look fairly similar, they have long separate histories as shown by their fossils. Both are now extinct. Each, though, belongs to a group (called an "Order" in biological terms) known as the Proboscidea - animals with a trunk (Figure 14). As you have guessed by now, this is the group which includes the elephants.

Of the two candidates for a curelom or cumom, the less well known is a type of gomphothere named *Cuvieronius* (scientifically named after the famous French naturalist, Georges Cuvier, 1769-1832). Based on its elephantine size, its trunk (the presence of which was determined from the character of its skull), and large tusks, it should have been about equal to an elephant in its ability to do work for man if tamed. The size of its braincase indicates that it was an intelligent animal. While a somewhat lesser candidate for a curelom or cumom in my opinion, fossil finds of *Cuvieronius* have been significant over the past three or four decades. I think that this is a lesser candidate, because my best guess is for another animal that is much more abundant, whose fossils have been found associated with man at numerous localities throughout North and Central America. *Cuvieronius* (Figure 15) had a geographic range from the southern United States, through Mesoamerica, to southern South America. (García-Bárcena, 1989, p. 47-48). A number of different localities from Mexico to Costa Rica have produced fossils of this proboscidean (Lucas and Gonzalez-Leon, 1997, p. 12; Montellano-Ballesteros, 2002, p. 580). Its presence in Mexico mostly comes from fossils collected in the central and southern part of the country.

There have been some reports of *Cuvieronius* being associated with man, but they are not numerous (García-Bárcena, 1989, p. 55; Prado et al., 2001, p. 338). I could find very little information concerning when this animal became extinct. However, it is supposed that small populations might have existed until at least a few thousand years ago. Joseph Smith could not have known about this animal as it was not formally recognized or named until the early 1900's.

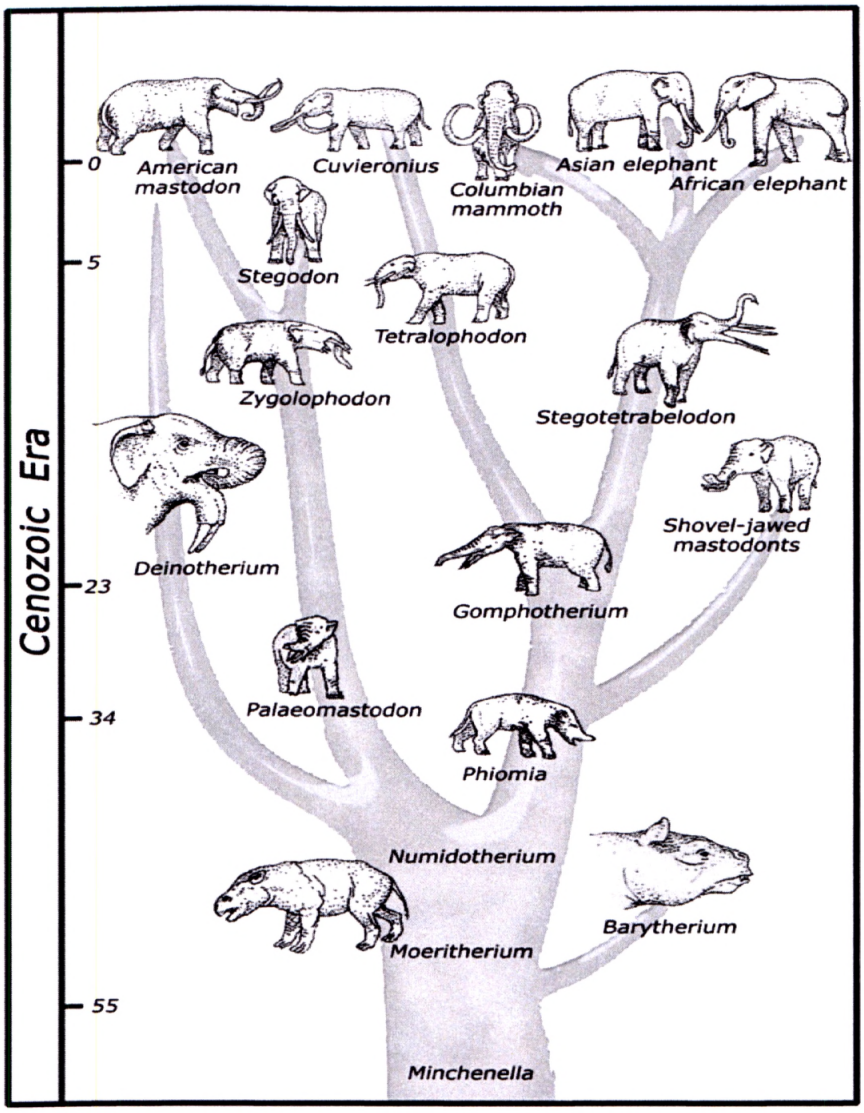

Figure 14. Simplified family tree (phylogeny) of the Proboscidea beginning with the earliest known ancestors. While there are many species that belong to this group (Order), only some of the better known types are represented here. The Columbian mammoth is evidently the elephant to which reference is made in the Book of Ether. The American mastodon and *Cuvieronius* might be either the curelom or cumom mentioned in the same book. Along with the mammoth (elephant), they both lived in the southern part of the North American continent, and presumably up until the time that the Jaredites inhabited the land. All would have been excellent beasts of burden. ***(Adapted from Prothero and Dott, 2002, "Evolution of the Earth") [Numbers shown on chart represent millions of years.]***

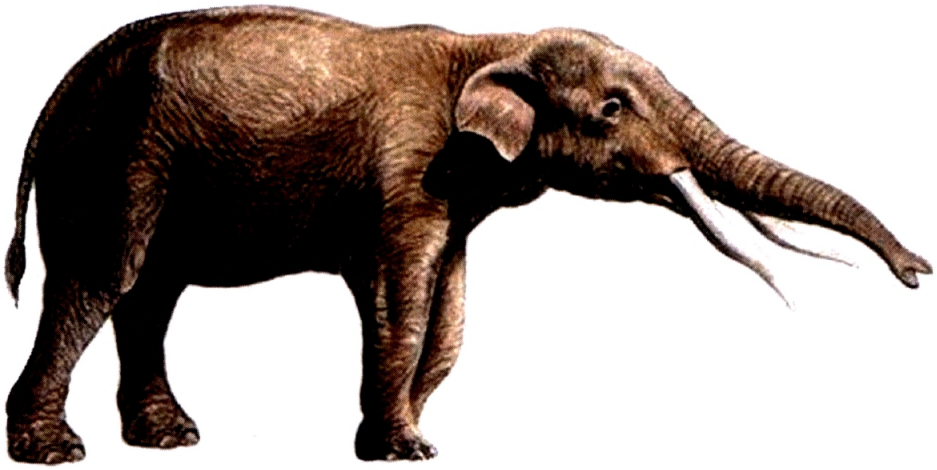

Figure 15. Restoration of the genus *Cuvieronius*, an elephant-like animal called a gomphothere (see chart on phylogeny of the Proboscidea), that lived into historic time. It ranged from the southern United States through South America. Like the American mastodon, this animal could possibly be an animal referred to as a curelom or cumom in the Book of Ether. ***(Figure by courtesy of the Florida Department of Environmental Protection, Florida Geological Survey)***

The last animal to be discussed in this section as a possible curelom or cumom is the American mastodon (Figure 16). Although some mastodon fossils were known during the time of Joseph Smith, they were not well understood. In fact its fossils known at that time were considered to be of an elephant. Not until after the death of Joseph Smith were mastodon fossils in America critically studied, and a scientific name assigned (*Mammut americanum*). There is much more evidence for *Mammut* in North and Central America than for *Cuvieronius* (a gomphothere).

According to paleontologists Bjorn Kurtén and Elaine Anderson, "The American mastodon is one of the best-known Pleistocene mammals, and its remains have been found throughout the country." (1980, p. 344). Based on its fossils, the American mastodon was on average just a little shorter than the Indian elephant. However, it was of stockier build. This animal was certainly capable of being useful to man, just as the elephant is now. Its appearance, though, would have been enough different from an elephant to cause the Jaredites to call it by a separate name.

Fossils of the American mastodon are known from Alaska to Honduras, with many being discovered in Mesoamerica. To date it has never been identified in South America. This animal could apparently live in a variety of environments (which would be an advantage to man), but seemed to prefer open wooded to forested areas. While many mastodons lived in lowlands, others lived in elevations up to 10,000 feet (Miller, 1987, p. 180-181). There is no question about the mastodon being associated with man in America (e.g., Mead et al., 1979; Graham et al., 1981; Shipman et al., 1984; Fisher, 1984; García-Bárcena, 1989; Pichardo, 2001).

Considering the later recorded dates for the presence of the American mastodon, and that it would have lived for sometime after these dates, they were most likely living animals known to the Jaredites. However, mastodons seemingly became extinct before the Nephites arrived in America - at least in Book of Mormon lands. Some of the recorded later dates for living mastodons in years before the present are: 8,260 (Pichardo, 2001); 8,000 (Polaco et al., 2001); 7,590; 7,090 (Miller, 1987); 8,910; 5,950 Mead and Meltzer, 1984): 7,070; 6,300; 6,100; 5,300 (Hester, 1960).

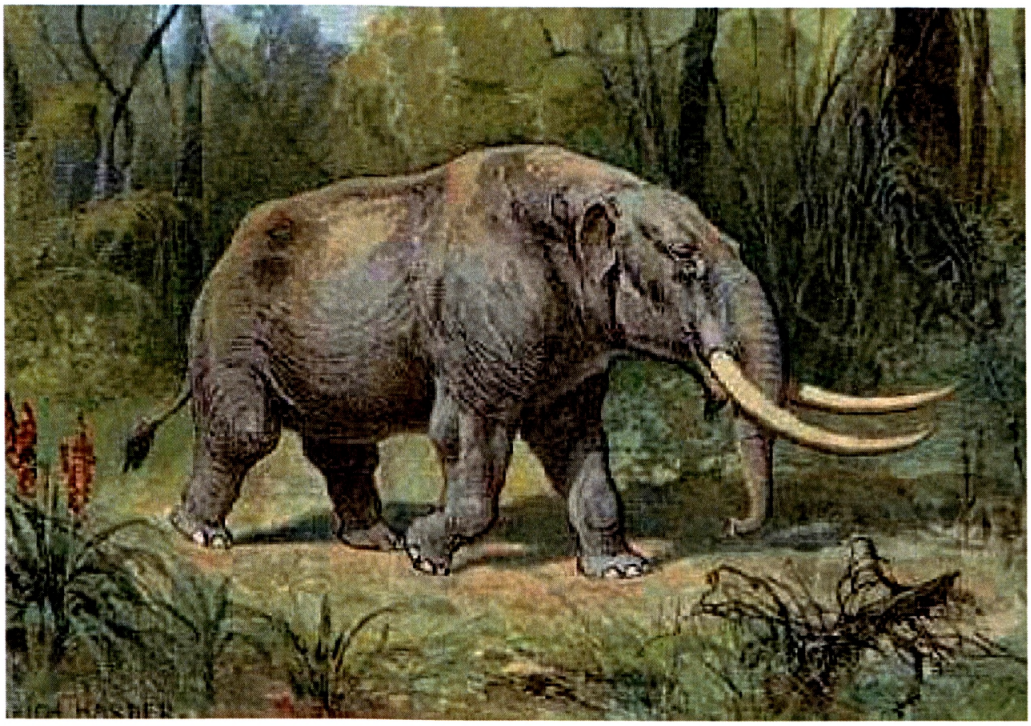

Figure 16. American mastodon (*Mammut americanum*) is represented here in a subtropical setting. Fossils of these animals are known throughout North America, from sea level to an altitude of 10,000 feet. They were numerous in many areas and across many environments. This is an animal that could possibly be one of those referred to as a curelom or cumom in the Book of Ether. *(Restoration is by artist Heinrich Harder, 1858 - 1935).*

Another interesting aspect related to the co-existence of man and mastodon is indicated by petroglyphs. Although specific ages are not known for these, they do demonstrate they lived at the same time and in the same areas. Ones with which I have a personal knowledge are in Utah. Geologist William Lee Stokes published a brief description of them (1972, p. 84-85). In speaking with him on the matter, we both agree that the three figures represented in different locations are of a mastodon and not a mammoth.

The American mastodon is a strong possibility for being either a curelom or cumom as mentioned in the Book of Mormon. This conclusion is based on several evidences. It was certainly a large enough animal to be a very useful beast of burden. Indications based on a study of the skull of this animal are that it was intelligent, capable of being trained. Its ability to adapt to different environments makes it desirable for use. The mastodon occupied regions that must have included land inhabited by Jaredites. And there is no question that this animal lived alongside man in ancient times. Unfortunately the Jaredite record keepers did not include drawings of cureloms and cumoms.