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The Spanish Mustang: Historical and Archeological Implications in Texas

by Thomas E. Speir

ABSTRACT: The historical and archeological significance of the Spanish Mustang breed and its descendants is discussed. Implications for historic sites archeology up to and including the Civil War period are suggested.

INTRODUCTION

The quincentenary of Columbus's arrival in the New World heralded another anniversary that had tremendous impact on the indigenous population of the southwestern United States and that shaped the traditional history of Texas. Only one year later, in 1493, the first European horses were introduced into the Americas.

A translation of the royal order that is probably the only existing record of the transportation of the first horses to America reads as follows:

The Twenty-Third of May, 1493. Archive of the Indies. The King and the Queen: Fernando Zarpa, our Secretary. We command that certain vessels be prepared to send to the Islands and to the mainland which has been newly discovered in the ocean sea in that part of the Indies, and to prepare these vessels for the Admiral Don Christopher Columbus ... and among the other people we are commanding to go in these vessels there will be sent twenty lancers with horses . . . and five of them shall take two horses each, and these two horses which they will take shall be mares. (Denhardt 1947:36)

Little attention has been given to the possible significance that evidence of equines could have in the interpretation of the archeological record. However, in view of the tremendous impact these animals had on indigenous American cultures, the five-hundred-year anniversary of the introduction of the horse has highlighted the need to review our knowledge of horses and their use during the early historic period.

The impact of the introduction of horses on Native American cultures is well documented in historical accounts. It is not possible to fully

understand the effects of European contact with Native American peoples without taking into account the introduction of the horses of the conquistadors, the original Spanish Mustangs. Study of equines in subsequent historic sites requires a knowledge of the development and evolution of feral mustangs of the 20th century and their original Spanish Mustang ancestors, as well as the more "modern" horse breeds from the Eastern United States (Thoroughbreds from Great Britain during the Colonial period and American breeds during the early 20th century).

As the availability and usage of horses spread across the New World, the corresponding increase in the mobility of indigenous populations of Texas and the Southwest contributed to changes in food-gathering techniques (Kenmotsu and Perttula 1993:158,160). Additional changes in intertribal relationships are suggested as the increased range of a given tribe expanded previous tribal boundaries. An excellent case in point is the Comanches, whose acquisition of the horse led to their intrusion into the Southern Plains (Wallace and Hoebel 1952:339). Whereas trade undoubtedly increased (Kenmotsu and Perttula 1993:161), possible conflicts also were increased. The impact of infectious diseases may have been multiplied by the presence of the horse, as greater mobility contributed to the rapid spread of infectious diseases throughout the entire population.

HISTORICAL BACKGROUND

It is considered probable that the origin of domesticated horses can be traced to one of the North American zebras dating back to 3.5 million years before the present (Groves 1974:47). The trail of the descendants of this animal circles the globe, returning to North America where, it is generally believed, all species had become extinct by approximately 8,000 B.C.

The first horses used by historic period Native Americans, as well as the wild bands of Spanish Mustangs in Texas, have long been thought to have descended from abandoned and stray Spanish horses. However, some (Wyman 1945:17) suspect that early Native American horses were bred from foundation stock acquired by local Native American bands (probably Apache) that worked at Santa Fe, a Spanish Mission founded in 1606. This theory is lent credence by evidence that these missions were also the source of Spanish longhorn cattle, thus a likely source for foundation herds of Spanish Mustangs (Ensminger 1963:18).

Regardless of the specific mechanism(s) by which the horse was introduced, Spanish horses were introduced in the New World to a temperate climate with tens of thousands of square miles of rich grasslands and no significant natural enemies. In such a beneficial environment, their population exploded. Similarly, their impact on Native American cultures, particularly west of the Mississippi River, was almost uniformly one of the

greatest changes in traditional cultural, social, and economic lifestyles that these populations faced, comparable in its own way to the impact of European diseases and weapons. Walter Prescott Webb, historian of the Great Plains, asserted: "Steam, electricity, and gasoline have wrought no greater changes in our culture than did horses in the culture of the Plains Indians" (in Wallace and Hoebel 1952:35).

The first horses actually to enter Texas probably were those with the de Soto Expedition in 1542. Of the 223 to 243 horses with the expedition, only 30 remained when the Spaniards returned to the Mississippi. Some of these horses may have died in Texas (Bruseth 1992:91), but some may have escaped, notwithstanding the Spanish law imposing the severest penalties should a horse fall into Native American hands. This law would severely limit the probability of horses being traded by the Spanish for food or other supplies.

The first historical record of horses among the Indians of Texas occurs in the chronicles of the French explorer La Salle, who in 1686 acquired five horses from Caddo Indians in East Texas. Despite the scarcity of these animals, the Caddo had a large supply of them in 1689, when Henri de Tonti was searching for La Salle (Newcomb 1961:87).

Mustangs may have been the cause for the earliest incursion of Anglo-Americans into Texas. In 1785, Phillip Nolan sought to enter the province of Texas to capture and purchase mustangs, which he planned to sell in Natchez or New Orleans. Thomas Jefferson wrote Nolan in 1798 asking for information about the habits of the wild horses of Texas (Worcester 1986). Nolan, with a party of 21 men, journeyed as far as the Brazos River in the autumn of 1800 and gathered several hundred horses (Richardson 1943).

In 1807, at a Spanish garrison east of San Antonio, a military commander reported that his herds had stampeded into the "infinite herds of mustangs," leaving his soldiers afoot to chase down runaways (Amaral 1977:10). This was a complaint echoed many times by early Texas settlers.

The Little Rock *Arkansas Gazette* of July 10, 1839, describes the mustangs of Texas:

The mustang or wild horse is certainly the greatest curiosity to those unaccustomed to the sight, that we meet with upon the prairies of Texas. They are seen in vast numbers, and are often times of exceeding beauty. The spectator is compelled to stand in amazement, and contemplate this noble animal, as he bounds over the earth, with the conscious pride of freedom. We still meet with many in the lower counties, and during the summer hundreds were seen in the neighborhood of Houston, darting over the plains, and seeming to dare the sportsman for a contest in the chase.

J. Frank Dobie wrote of Texas's mid-19th-century mustangs:

Between the Nueces River and the Rio Grande lies a tract of land 300 miles long and from one to two hundred miles wide. The assessment rolls of 1870 showed ownership of 299,193 cattle and 73,593 horses in this region. Tens of thousands of mustangs and thousands of mavericks were claimed by nobody. In all probability, the number of cattle and horses actually grazing in the territory totaled well up towards a million. (Dobie 1929:53)

Later he wrote, "One band that ran between Quihi Prairie and the Hondo were all palominos, cream-colored with white manes and tails. There must have been nearly a hundred in this band." (Dobie 1936:69).

Lieutenant Ulysses S. Grant, when he was with General Zachary Taylor's army on the Nueces River, noted that the wild herds were so huge that it would have taken corrals the size of Delaware or Rhode Island to hold them all (Amaral 1977:10). Since most of the horses that played an important role in early Texas history were Spanish Mustangs, this article will focus primarily on this breed.

COMPARING MODERN MUSTANGS WITH SPANISH MUSTANGS

Depending on the suspected time period of an archeological site, the recovery of the remains of different horse breeds can signify trade or other cultural interactions not otherwise indicated by the cultural remains. In less precise historical contexts, however, it can be difficult to determine whether the equines used by the site's occupants were original Spanish Mustangs or more modern Eastern breeds.

Determining the difference between original Spanish Mustangs and later-era mustangs can be even more difficult. A comparison of the two is necessary to denote actual differences.

The original purebred Spanish Mustangs are the primary ancestors of the wild horses in the western United States today. Today's wild horses are commonly defined as mustangs, but this usage indicates any wild horse and does not refer to the purebred Iberian-stock wild horses of the Spanish Colonial and early frontier periods.

Research in equine blood analysis by Dr. Gus Cothran at the University of Kentucky proves that today's "government mustangs" (modern feral horses managed by the Bureau of Land Management) do still bear traces of their original Spanish Mustang ancestry. Further research will be required to determine percentages in given herd management areas. Cothran's work in the classification of equine blood types and factors is currently restricted to living specimens. He is reportedly expanding his means of equine identification to include DNA research.

Some purebred descendants of the original Spanish Mustangs still exist, despite popular opinion that all of them were exterminated at the conclusion of the American Indian wars. By some estimates there still exist today about 2000 to 3000 Spanish Mustangs in private hands in various parts of the country, principally in Texas, Oklahoma, California, and the High Plains states. From examination of these animals, some skeletal characteristics that are common to numerous purebred Spanish Mustangs can be identified.

The original herds of wild Spanish Mustangs roamed the vast lands of the western United States from the mid-16th century until the late 18th century. From the later frontier period until today, the bloodlines of the wild-horse herds have been continuously diluted with the blood of many modern breeds. Although many ranch horses escaped and joined local herds, Thoroughbreds and even draft horses were sometimes intentionally released into herds to "improve the breed," producing the horses we know today simply as mustangs.

PHYSICAL CHARACTERISTICS OF SPANISH MUSTANGS

The original Spanish horses consisted mainly of Spanish, Ginete, Arabian, Villano, Berber, and Barb bloodlines known as Andalusian (Jones 1989). An abbreviated physical description of the horse of the conquistadors (as the animal still exists today) is important in any understanding the role of the Mustang in the historical period.

The Spanish Mustang stands from 13.3 to 15 hands and weighs 750 to 1000 pounds. There are three different types. One is lighter bodied and slightly leggy, a legacy from Barb ancestors. A second type, heavier and blocky, is often referred to as the Northern-type Mustang. A third, lighter-framed type is commonly referred to as the Southwestern, or desert, type. The more blocky type is reminiscent of the Spanish Ginete. Some Mustangs of this type have heavy bone protruding over the eyes, but the muzzle is refined and small. On all types, the hooves are small, usually taking 00 to 0 shoes; many of the purest Mustangs have mule hooves. The Mustang's hooves are of a harder texture than domestic horses and many never need be shod (Spanish Mustang Registry 1968).

The Spanish Mustang has a significantly different skeletal structure from modern horse breeds. Many of the purebred Spanish Mustangs, and possibly the majority of them, have only five large lumbar vertebrae, or a fused fifth and sixth lumbar, while the Andalusian and Southwestern types sometimes have five complete and one partial. This compares to the six lumbar vertebrae common in modern breeds of horses, particularly those with Thoroughbred blood. Many Arabians have only five large lumbar vertebrae. The purebred Spanish Mustang also often has seventeen pairs of ribs, compared to the eighteen pairs found in modern breeds of

horses. The associated floating ribs are usually two in number but may include a shortened third rib (Spanish Mustang Registry 1968).

One historic purebred Mustang is known to have had five large lumbar vertebrae, an extra sacral vertebrae, and only fifteen pairs of ribs. This skeletal configuration is comparable to more primitive equine structures as evidenced in the Przewalski and Tarpan horses. These oldest living descendants of the "proto-horse" have only seventeen pairs of ribs, five large lumbar vertebrae, and the extra sacral vertebrae (Spanish Mustang Registry 1968).

In domesticated horses, the upper and lower profile lines of the skull converge strongly at an angle between 25 to 32°. Horses of Iberian stock have the smaller, more refined muzzle referred to above. This may be compared with the Przewalski horse, which has a more conical head, a forehead only slightly vaulted, and straight upper and lower profile lines with an angle of only 16 to 20° (Groves 1974:55).

In archeological assemblages, specimens should be examined for damage to the mandible, such as a break or fracture, particularly in the region of the diastema. Such damage may be the result of use of the typical Spanish bit of the early colonial period. These bits were quite severe, as were the large pointed rowels of the early Spanish spurs. The recovery of a broken equine mandible from a predominantly Native American site context of the appropriate period may suggest a horse captured or stolen from colonial Spanish sources.

A cross section of the cannon bone of the front leg, with its related splint bones, is more cylindrical in shape in Spanish Mustangs than in modern horse breeds. In modern breeds of horses the front cannon bone is oval shaped. However, the comparatively shorter cannon bone associated with Mustangs will be difficult to distinguish from the cannon bones of younger horses of other breeds if identification is based on length alone.

A better point of comparison between Mustangs and modern varieties of horses is the hooves. Mustang hooves, and the rear hooves in particular, are often somewhat smaller than those of the modern horse and are more elongated from toe to heel, especially in Mustangs of the Southwestern type. A slight widening of the hoof width just in front of the heel bulbs gives the Mustang hoof a slight arrowpoint shape, while the hooves of modern breeds are the classic "horseshoe" shape. The size and shape of the Spanish Mustang hoof is, however, quite similar to that of a light mule of 700 to 800 lbs., which usually stands 14 hands (56 in.) high at the point of the shoulder.

The unique skeletal traits for Spanish Mustangs seem quite striking, but whether skeletal remains in an archeological assemblage can be conclusively identified will depend, in part, on the elements that are present. And, as more attention is directed toward the study of equine remains, we

will be faced with the typical archeological dilemma: this skeletal material,

like other faunal remains, may not endure at some sites, depending on soil conditions and depositional context of particular sites.

ARCHEOLOGICAL EVIDENCE OF SPANISH MUSTANG

There is not an extensive material record associated with Native American use of the mustang. Native American horsemen rode with little or no tack, and the little tack that they used was made from materials that would not be likely to survive in the archeological record. Secondary evidence of the use of horses may be present in the form of trails. For example, in arid climates such as West Texas, heavily traveled trails made a century ago are still evident today. Horse trails may be distinguished by the severe cutting action of the hoof into the soil. This leaves a narrow, but deep, trenchlike feature that is easily differentiated from the shallow, padded trails made by human feet. Nevertheless, the most likely evidence of the presence of equines at a site will be parts of the animal's skeletal structure, or, more likely, the metal pieces of riding tack and equine-powered equipment or conveyances.

Metal pieces of tack may include, but are not limited to, bits or portions of bits, including shanks, mouthpieces and curb chains; rings and D-shaped rings of various sizes; buckles; decorative conchos, possibly in a pattern, as on the remains of a saddle; iron saddle horns or caps; iron stirrups, spurs, and rowels; horseshoes and horseshoe nails; and farrier equipment, such as rasps and nippers. A good indicator of the presence of Spanish Mustangs is the size of mouthpieces from bits. Spanish Mustangs commonly have a smaller, shallower, and more refined muzzle than modern or Eastern breeds. As such, smaller bits, usually 4.5 inches in width, were manufactured for use with these horses or with mules. The severity of the earliest bits of Spanish design frequently caused fractured and broken jaws. This was caused by the extreme leverage generated by extra long shanks on the bit. These long shanks can help to differentiate between horse bits and pony bits. Spanish influence also dictated the use of spurs with large, pointed rowels.

An example of archeological recovery of material evidence of mustangs can be found in recent studies at the Marshall Powder Mill (Speir and Journey 1996). That this mid-19th-century military-industrial site's metal artifacts would reveal evidence of the use of equines was, of course, anticipated. However, the remains suggest the use of types of equines that was not expected. The primary evidence was a horseshoe, almost identical to horseshoes recovered at the same site during previous investigations. The size and shape of the recovered shoe indicates that the mustangs of that period still retained Spanish Mustang physical traits.

HORSESHOE ANALYSIS

Of the items listed above, horseshoes are likely to be the most common

evidence of equines in the archeological record. As indicated in the above discussion of skeletal structure, the arrowhead shape of the Spanish Mustang hoof is distinctive from the hooves of other horse breeds and is similar only to the hooves of light mules.

When analyzing horseshoes, consider first the size of the shoe to determine the likely size of the animal for which the shoe was made. Second, consider the shape to help determine if the shoe was made for a horse or a mule, a front hoof or a rear hoof. Wear patterns can determine not only which hoof wore the shoe, but how long the shoe had been worn prior to its being removed or lost. As most horseshoes in the early historic period were hand made from bar stock, each shoe was customized for the specific hoof it was to be placed on. Corrective shoeing techniques serve as indicators of the physical well-being of the animal at the time of shoeing and the tasks it was performing.

The shoe is an artificial base of support for preserving the health of the feet and legs, as any equine, regardless of its other characteristics, is subject to the adage "No hoof, no horse." All shoes have certain properties in common, such as form, width, thickness, length, surfaces, borders, "fullering," nail holes, and clips. The individual hoof will determine the form, and the average shoe width should be about double the thickness of the hoof wall at the toe, the shoe being wider at the toe than at the ends of the branches. Thickness of the shoe usually is sufficient to make it last four to six weeks. The length of the shoe depends upon the obliquity of the hoof viewed in profile. The surface of the shoe that is turned toward the hoof is the "upper" or "hoof" surface, and the surface that makes contact with the ground is the "lower" or "ground" surface. Borders of the shoe are usually beveled under the foot. "Fullering" refers to a groove in the ground surface of the shoe that makes the shoe lighter in proportion to its width and makes the ground surface rougher, providing traction. Nail holes help to suggest the size of the animal for which the shoe was made: a medium or light equine needs a shoe with six nail holes (three in each branch of the shoe), whereas a heavier animal will require eight nail holes. Clips are half-circular ears drawn up from the outer edge of the shoe either at the toe or opposite the side wall. Clips secure the shoe from shifting, particularly on an infirm hoof with a thin or damaged hoof wall (Pearson et. al. 1903:565-567).

A horseshoe should first be examined to determine the upper surface of the shoe (flat surface that lies against the hoof). This should be easily identifiable, despite areas of heavy rust. Size of the shoe should then be considered in order to determine the weight of the animal for which it was made. The weight will correlate to the height or size of the animal, which

will aid in determining the breed of animal (young equines under two years of age are not rideable, and therefore not shod). Shoe nail holes are a simple means of identification. If a shoe has only three nail holes per side, it is meant

for a small equine, under 800 lbs. Shoes with four holes per side are made for larger-framed equines with larger hooves, ranging from 800 lbs. up to 1300 lbs. (barring draft animals, the larger the shoe, the more likely it was made for a modern equine).

A pronounced point on the toe of the shoe indicates that the shoe was for a back hoof, as front hooves have a more rounded toe. However, mules have a more pronounced point on all their hooves than horses. Distinguishing a horse's back shoe from the shoe of a mule of similar size may not be possible without comparable shoes from a similar provenience.

Wear patterns will indicate which hoof the shoe had been attached to. The toe of the shoe receives the most wear. Due to "breaking over," the "paddling" motion of the hoof as the animal moves (in toward the animal's centerline on the step downward and outward, away from the body during the step upward), the inside edge of the shoe's toe impacts first. Additionally, causes that shorten the animal's stride, such as stiffening of the limbs through age, overwork, or disease, bring the grounding wear nearer the toe. Thus, a shoe with wear patterns on the left side of the toe would come from a right hoof (bear in mind which side of the shoe is the top).

Average use of a shoe, depending on local terrain, is six to eight weeks before the shoe wears too thin to provide sufficient protection to the hoof. Wear on the impact point on the toe of a shoe that is greater than 60% of the thickness of the shoe indicates that the shoe had been completely used. Lack of nails in the nail holes may suggest that the shoe was removed by a blacksmith during the reshoeing process. The presence of nails in the nail holes, particularly nails with the ends still cinched (bent over at a sharp angle toward the outside of the shoe) indicates that the shoe was lost by the animal rather than removed for replacement.

It is not unusual for a shoe to show evidence of being made by hand from bar stock. Handmade shoes were the only means of shoeing horses prior to the availability of commercially made, or "keg," shoes, which occurred around 1880. Handmade shoes were commonly customized for not only the individual animal, but the individual hoof that was being protected.

The hand-made shoe could be customized in several aspects. Evidence of the remains of a slight rising lip on the toe of the shoe (which would cover part of the hoof, as opposed to acting like a cleat) may be difficult to find in heavily rusted shoes. This lip, which comes up over the front quarter inch of the hoof, is called a clip and is used to prevent further splitting of hooves that are already cracked. That mules and Spanish

Mustangs have hard, tough hooves is well documented (Jones 1989). However, they are descended primarily from desert stock, and their hooves are thus prone to fungus infections in damp environments. This infection, called "seedy toe," often weakens the hoof wall and causes cracking. Clips on the shoe of one of these equines therefore suggest that the animal for which the shoe was made spent a great deal of time working or being stalled in a wet

area. Another customizing feature of some shoes is the addition of extensions, called "trailers," on the ends; these may protrude as much as three-quarters of an inch past the heel. Trailers were a corrective shoeing technique for slowing the action of the back feet. This technique was used on horses that had a tendency to "interfere"; that is, the hind feet, when stepping forward, would frequently strike the rear of the front hoof. Today, shoes with trailers are used primarily on riding horses. However, this feature could indicate an attempt to slow the rear animal in a hitched team.

SUMMARY

While the significance of equines has long been appreciated in studying the archeology of the historic period, we tend to lack appreciation for the diversity that was present in early horse stock in the New World. Any archeological evidence specifically identifying the Spanish Mustang, a breed that played such a prominent role in the early history of the region, is highly significant. While archeological evidence for the true Spanish Mustang may be limited and difficult to interpret, the value of such evidence seems clear.

While this study has not attempted a definitive categorization of the remains of the Spanish Mustang breed as it changed through time, it may help to differentiate the archeological remains of original purebred Spanish Mustangs that roamed exclusively during the earlier historic period, and its varied descendants of later periods.

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