Paleoenvironmental: Vertebrates

Late-Pleistocene Horse (Equus sp.) from the Wilson-Leonard Archaeological Site, Central Texas

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The Wilson-Leonard site (41WM235) near Austin represents one of the best preserved and dated, long-term archaeological sequences in the Southern Plains. Occupations are pre-Clovis through late-Prehistoric in age (Collins 1998; Collins et al. 1993). The site is located on Brushy Creek in Williamson County, on the eastern edge of the Edwards Plateau along an ecotone with the Black Prairie. The Wilson-Leonard site has received wide attention for the recovery a late-Paleoindian human female skeleton (Wilson Component), as well as for the generalized human diet inferred for the late-Pleistocene / early-Holocene transition (Bousman 1998). Extensive subsistence and environmental data have been reported, including a well preserved vertebrate faunal assemblage (Baker 1994, 1998a, 1998b, 1998c; Balinsky 1997, 1998; Decker 1998, and Winkler 1990).

Within the faunal assemblage is a single horse bone (Equus sp.). Following the nomenclature of Driesch (1976:91) and Peters (1987), the bone is a complete left central tarsal (os tarsi centrale [navicular]. Archaeological provenience is as follows: Excavation square E28/S78; Level 39A&B; Stratigraphic Unit Is/Icl. The central tarsal is not burned, and no cut marks or other forms of potential cultural modification were observed. This bone was recovered from an area of the site referred to as the Bone Bed Component. The Texas Department of Transportation (TxDOT) recovered the bone during 1982-1984 excavations at the site. Subsequent excavations by the Texas Archeological Research Laboratory at the University of Texas at Austin yielded no additional horse remains.

The Bone Bed Component, which overlies a Clovis component, dates to ca. 11,400-11,000 yr B.P. (Collins 1998). Stylistically, the artifact assemblage from the bone bed is difficult to interpret. Artifacts include an unfluted projectile point, 26 bifaces, an engraved stone, chipped stone tools, a mano, sandstone and hematite, and more than 3,000 debitage fragments. Associated faunal remains include the horse bone, the partial remains of at least two bison (Bison sp.), along with low frequencies of other taxa such as snake (Colubridae), musk turtle (Sternotherus sp.), bird (Phasianidae), woodrat (Neotoma sp.), gopher (Geomys sp.), muskrat (Ondatra zibethicus), rabbit (Sylvilagus sp.), canid (Canis sp.) and deer (Odocoileus sp.).

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The horse bone was identified based on comparison with skeletal material in the Zooarchaeological Research Collection, Texas A&M University and the Vertebrate Paleontology Laboratory, The University of Texas at Austin. Following the measurements of Driesch (1976:91), its greatest breadth is 4.56 cm. Late-Pleistocene and early-Holocene records of horse in Texas, along with paleoenvironmental implications, are reviewed by Toomey (1993:407-413) and Toomey et al. (1992). Kurtén and Anderson (1980:291) noted that terminal dates for native Equus in North America may extend to ca. 8,000 yr B.P. However, Meltzer and Mead (1983) reported the youngest reliable age for North American Equus at 10,370+350 yr B.P. from Jaguar Cave in Idaho. More recently, Toomey (1993:409) reported Equus from Hall’s Cave on the western Edwards Plateau of central Texas dating to 8,700-9,200 yr B.P. He stated, however, that “Until more radiocarbon dating . . . can be done, it would be premature to claim late horse survival in central Texas” (Toomey 1993:409).

Toomey (1993:109) noted that all late-Pleistocene equids were cursorial grazers and that their presence suggests the presence of open grasslands. The bison remains from the Wilson-Leonard bone bed also reflect open grasslands at this ecotonal setting. A taxonomic assessment of the Wilson-Leonard horse remains difficult. Small late-Pleistocene equids may be of either the E. francisci group (stilt-legged), or the E. alaskae group (stout-legged) (Lundelius and Stevens 1970; Toomey 1993:408; Winans 1985, 1989). The E. alaskae group of Winans (1985, 1989) includes what is most commonly identified as E. conversidens. Distinction between the small stilt- and stout-legged forms is based on cranial and metapodial characters and morphometrics. Since the Wilson-Leonard sample produced only a single equid central tarsal, a more detailed assignment beyond Equus sp. could not be made. For more recent discussions of fossil horse taxonomy, the reader is referred to Azzaroli (1992, 1995), Azzaroli and Voorhies (1993), Eisenmann and Baylac (2000), and Pichardo (2000).

Grayson (1984) determined that Equus is second only to Mammuthus in terms of the number of radiocarbon dated North American late-Pleistocene sites with human associations and extinct mammals. Pichardo (2000:275) stated that horse remains are ubiquitous in Paleoindian sites. However, Equus is typically represented by very few individuals at any given site. Kooyman et al. (2001) provided a recent review of such associations. This contrasts with European sites such as Solutré, in which large numbers of horses were exploited in single events (Olsen 1989). Woodward (1991) suggested this is because Pleistocene North American equids lived in smaller and more widely distributed social units than European horses. Overall, while the single horse bone from Wilson-Leonard is not definitively associated with Paleoindian hunting, it adds to the known late-Pleistocene geographic distribution of the genus in the United States.

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References Cited


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