News & Notes

Palaeoindian subsistence behaviour at the Clary Ranch site, Nebraska, USA

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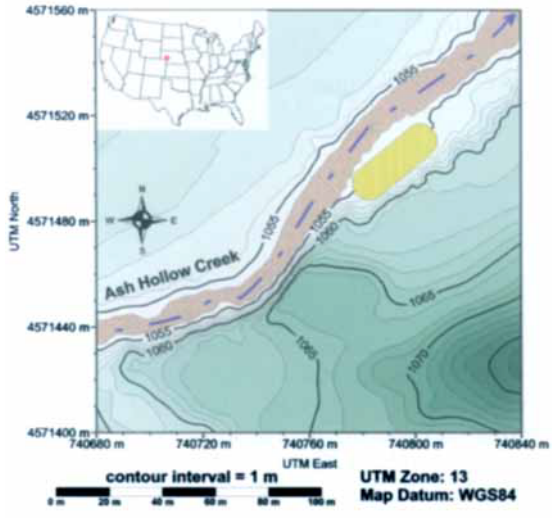

FIGURE 1. *Map showing the location of the Clary Ranch site and the University of Nebraska State Museum excavation area (yellow) along the south bank of Ash Hollow Creek. (Map M.G. Hill.)*

FIGURE 2. *University of Nebraska State Museum excavations in progress on the south bank of Ash Hollow Creek. (Photo T.P. Myers.)*

FIGURE 3. *Late Palaeoindian projectile points from the Clary Ranch site. (Photo M.G. Hill.)*

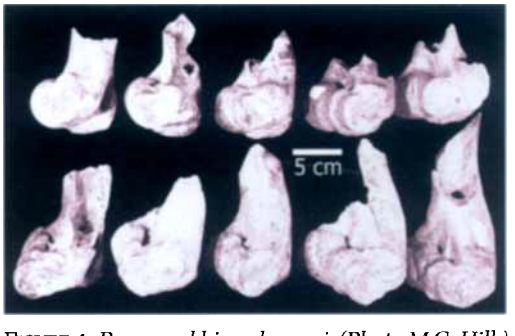

FIGURE 4. *Processed bison humeri. (Photo M.G. Hill.)*

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ANTIQUITY 76 (2002): 311–12

Fifty years of intensive archaeological research on the northwestern Great Plains of North America has resulted in the accumulation of a wealth of information on the lifeways of late Pleistocene–early Holocene Palaeoindian hunter–gatherers in the region (Frison 1991). Sophisticated weaponry, use of non-local or exotic lithic raw materials for manufacture of stone tools, a 'gourmet' butchery strategy, and the ephemeral nature of most Palaeoindian sites are usually taken together as evidence for wide-ranging group movement, presumably reflecting a settlement-subsistence strategy focusing on bison (Frison 1991; Kelly & Todd 1988). Archaeological information emerging from the Clary Ranch site (Nebraska, USA) challenges this monolithic descriptive outline and requires us to rethink fundamental ideas about Palaeoindian adaptations to the region (Hill 2001).

Clary Ranch is located along the south bank of Ash Hollow Creek, an intermittent tributary of the North Platte River, and is buried beneath as much as 10 m of early Holocene valley-fill (Myers *et al.* 1981). In 1979, Thomas P. Myers, University of Nebraska State Museum, supervised the first of four consecutive field seasons at the site in which 194 sq. m of the archaeological component was excavated by the end of the 1982 season (FIGURES 1 & 2). We have made major progress towards preparing a monograph on the site through analysis of the extant bison and lithic collections and limited field investigations directed by Matthew Glenn Hill. Problem-oriented excavations and related specialist fieldwork are planned for the immediate future to address several persistent questions that cannot be resolved with the existing data sets, including aspects of the site's geoarchaeological and palaeoenvironmental context, the intensity and duration of the occupation and differences in Palaeoindian activities across the site.

The remains of at least 41 bison are represented, along with a lithic assemblage consisting of 13 projectile points, 63 other formal tools and utilized flakes, 12,103 unmodified lithic flakes (mostly microdebitage resulting from tool resharpening), and 15 hammer/anvil stones. All of the chipped stone artefacts appear to be made from local lithic raw materials. Projectile point typology and size comparisons of the bison calcanea firmly establish its Late Palaeoindian age (*c.* 9000–8500 BP). The points show parallel-oblique flaking and bevelled blade resharpening, and fall comfortably into a continuum of Late Palaeoindian weapon tips commonly referred to as either James Allen, Frederick or Meserve types (FIGURE 3). Bison dentition eruption and wear patterns indicate a late summer–early fall season of occupation. Skeletal part frequencies and butchery patterns reveal that complete or near-complete limbs removed from carcasses at the kill site were transported to Clary Ranch, where the long bones were disjointed, intensively processed for marrow and then discarded. Of the 154 long bones represented in the archaeofauna, 139 (90%) were intentionally fractured by Palaeoindians during marrow extraction activities (FIGURE 4). Only 15 long bones are complete, unbroken specimens. Drying of meat stripped from ribs, scapulae and long bones is also strongly suspected. The combined evidence suggests that Palaeoindian activities at the site were conducted as part of a future-oriented subsistence strategy intended to counter impending winter food shortages.

As an example of a secondary processing area located near a mass kill, Clary Ranch differs from other Palaeoindian bison kill-butchery bonebeds. The selective transport of high-utility carcass segments from a kill locality to a secondary processing area, intensive processing for marrow, presumed on-site spatial segregation of various butchering activities and the overall future-oriented nature of the subsistence strategy, including incipient storage behaviours, are important departures from Early Palaeoindian behavioural patterns in the region. Future fieldwork at Clary Ranch is designed to evaluate the hypothesis that these shifts in behaviour are responses to changes in regional resource structure occurring at the close of the Pleistocene. More specifically, we suspect that the emergence of strongly seasonal Holocene climates in the region resulted in increased overall severity of interannual fluctuations in food resource availability, in particular, subsistence stresses occurring in the winter and spring. Palaeoindian groups responded accordingly by restructuring components of their settlement-subsistence strategy.

References

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