Zooarchaeological Evidence of Human Niche Construction at The Harris Site (LA1867)

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Overview

- The Harris Site (LA1867) is a large Mimbres Late Pithouse period (A.D. 950-1200) site on an agricultural village located along the Mimbres River in southwestern New Mexico. (See Figure 1)
- This period is characterized as a time of demographic and social change associated with domestic variability and change.
- This is when we see people in the Mimbres Valley commit to year-round occupation and make a real investment in agricultural subsistence.
- While the Harris Site itself is not currently being used, the Harris Site pivot in niche constructing activities?

Methods

- The faunal assemblage was collected during excavations conducted by Dr. Barbra Roth with UNLV field schools from 2008-2012.
- 2,527 bone fragments were identified for examining features and categorized by element and a taxonomic category of Family or below.
- Applied animal indices (AI) have been used to calculate several different kinds of secondary data. In addition to NISP, and MNI the Artiodactyl, Rodent, and Lagomorph Indices will also be calculated in order to better calculate several different kinds of secondary data.

Contrasting NISP, and MNI the Artiodactyl, Rodent, and Lagomorph Indices

- The Lagomorph Index has been used as a proxy measure for a variety of things including pest species and migrating birds. The presence of a bug modifying environment is linked to efforts to increase the crop species by the Harris Site.
- Rodents in this type of assemblage are often considered intrusive, it is clear people were consuming them as well.
- A growing dependency on agriculture meant prioritizing the relationship they had with particular plants over others through dedicated fields or gardens. This altered the relationship between humans and the surrounding landscape, as well as their relationships with animals and other plants and so should affect the archaeological record.

Application Animal Indices

1. NISP (number of identified species)
2. MNI (minimum number of individuals)
3. NISP/FA (number of identified species per function) "a proxy measure for a variety of things including pest species and migrating birds. The presence of a bug modifying environment is linked to efforts to increase the crop species by the Harris Site."
4. Lagomorph Index: a measure of the frequency of rabbit and hares in an assemblage relative to other faunal Indices.
5. Rodent Index: a measure of the frequency of rodents in an assemblage relative to other faunal Indices.

Overlapng the Harris Site on the First River Terrace

Miners River Environment
Gila River Wetland Environment
Pitcon Shrubland Low Mountain
Desert Grassland
Mountain Grassland and Ridgetop
High Mountain Forest

Figure 1: The Harris Site Location in Southwestern New Mexico

Figure 2: The Harris Site Village Map

Overlooking the Harris Site on the First River Terrace

Expectations

- We expect the Harris Site assemblage to tell us about both environmental and cultural changes during the late Mimbres period.
- People who settled at the Harris Site brought with them knowledge of, and relationships with various species of plants and animals.
- A primary dependence on agriculture meant prioritizing the relationship they had with particular plants over others through dedicated fields or gardens. This altered the relationship between humans and the surrounding landscape, as well as their relationships with animals and other plants and so should affect the archaeological record.
- Agricultural fields create a resource dense environment distinct from the surrounding landscape. The concentration of resources must the higher populations of pest species and migrating birds.
- Animals that are more common in disturbed areas are those who are attracted to the disturbed resources found in the fields. Species should dominate the assemblage.
- Generally, the Harris Site is located on the first river terrace. It is not far from the river and there are lot of little marshes and streams.
- The Harris Site also has four different environments:
  1. Grassy and wooded areas
  2. Open fields
  3. Hilltops
  4. Middle Corridor

Results

- The results of the analysis of 2,527 bones identified to the taxonomic category of Order Lagomorpha: Rodents and hares, and Lagomorph Index:
  - Rodents and hares were by far the most common in the assemblage making up 80% of the total.
  - The closest to Rodents with roughly 70%, but its important to note that the number of the material identified as hare is probably artifacts since hare have a very long life spans. For example, the number of the material identified as hare make up 90% of the total.
- Rodent Index:
  - A measure of the frequency of rodents in an assemblage relative to other faunal Indices.
  - The Rodent Index is has been used as a proxy measure for a variety of things including pest species and migrating birds. The presence of a bug modifying environment is linked to efforts to increase the crop species by the Harris Site.
- Lagomorph Index:
  - A measure of the frequency of rabbit and hares in an assemblage relative to other faunal Indices.
  - The lagomorph index has been used as a proxy measure for a variety of things including pest species and migrating birds. The presence of a bug modifying environment is linked to efforts to increase the crop species by the Harris Site.

Conclusion

- This faunal analysis supports the hypothesis that people at the Harris Site were committed to agricultural subsistence practices and a sedentary lifestyle resulting in a more permanent and stable site assemblage.
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- People at the Harris Site did not have to wait to control threats to their gardens and agricultural fields generating a large number of small mammals available for consumption. Deer are also known to be a threat to the managed fields and gardens inhabiting the area.
- We expect the Harris Site assemblage to tell us about both environmental and cultural changes during the late Mimbres period. People who settled at the Harris Site brought with them knowledge of, and relationships with various species of plants and animals. In addition to NISP, and MNI the Artiodactyl, Rodent, and Lagomorph Indices will also be calculated in order to better calculate several different kinds of secondary data.

Future Research

- Birds make up an interesting aspect of the assemblage and getting more accurate species identification might help us to paint a more complete picture of the kinds of birds they targeted and why.
- Faunal and Chacoan data presented in this manuscript are applicable to other assemblages in different environments? Are identifiable to be associated or do they have to go to the desert plains for rabbit drives?