Archaeological Results of Faunal Analysis from Sosonee Pan'nakwuate Newe Sogope Gahnee

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Introduction

Sosonee Pan'nakwuate Newe Sogope Gahnee (previously known as Aviator's Cave) is located on the INL site. It remains largely understudied for it's tribal and archaeological significance until now. Unlike other lava tubes in the Eastern Snake River Plain (ESRP), this was occupied exclusively during the Medieval Warm Period (ca. A.D. 900-1300), a climatic anomaly in North America that had periods of dry conditions and droughts (Cook et al. 2004). By analyzing the faunal assemblage collected from the 1989 excavation, I aim to better understand first foods and potential site function during this period. Investigating this cave will provide important insight into ancestral Shoshone and Bannock lifeways, cultural resilience strategies, and associated responses to climate change.

Research Question

In what ways can the faunal assemblage at Sosonee Pan'nakwuate Newe Sogope Gahnee tell us about first foods in the region?

Methods

At Sosonee Pan'nakwuate Newe Sogope Gahnee, a total of 2,221 bones were analyzed. Visual inspection was conducted on animal bones that had identifying characteristics (Figure 1), and indeterminate specimens were compared to a reference collection at the Idaho Museum of Natural History to identify taxa. Bone type, taxa, and cultural modifications such as evidence of burning, cut marks and green fractures on the bones were documented using Microsoft Excel. All specimens observed and documented were captured in high-resolution photographs.

Due to time constraints, large mammals were prioritized while small mammals such as those falling under the category of *Rodentia and Lagomorpha* were not fully evaluated for this study.

Results

Out of the 2,221 bones analyzed, only 169 were diagnostic bone specimens that could be identified to a taxon. Artiodactyla (such as bison, deer, elk and pronghorn) is the most common taxon identified followed by carnivora (such as coyote and wolf)(Table 1).

Of the 169 diagnostic bone specimens 58 bones were culturally modified; 46 consist of green fractures, four had cut marks (Figure 2) and four specimens were identified as bone tools (Figure 3). From the remaining 2,059 bone fragments, 725 had evidence of being burned. Majority of bones analyzed still had tissue and bone fat preserved, indicating a high level of preservation in the cave.

Figure 1. Analysis of a *Canus lupus* (wolf) skull at the INL CRMO Lab.

Taxon	Sum
Accipiter gentilis	1
Antilocapra americana	17
Artiodactyla	21
Bison bison	76
Canis	1
Canis latrans	14
Canis lupus	2
Carnivora	1
Centrocercus urophasianus	4
Cervus canadensis	13
Falconiformes	2
Indeterminate	14
Lepus californicus	1
Odocoileus hemionus	1
Sylvilagus nuttallii	1
Grand Total	**169**

Table 1. Number of Identified Specimens.

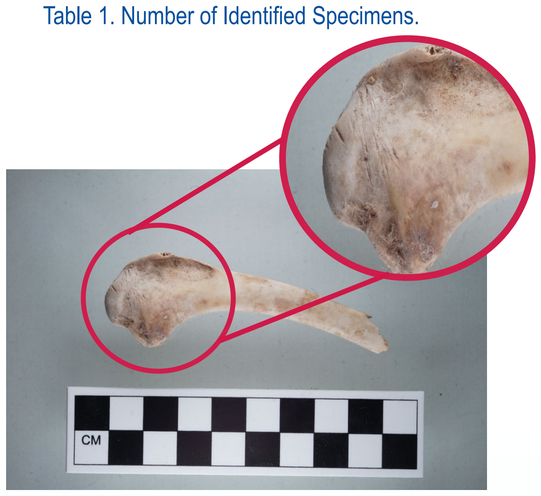

Figure 2. *Centrocercus urophasianus* (Sage Grouse) proximal humerus with visible cut marks.

Figure 3. *Cervus canadensis* (Elk) antler tool with visible cut and pounding marks.

Discussion

The faunal analysis at Sosonee Pan'nakwuate Newe Sogope provides unique insight into past lifeways on the ESRP with bison, pronghorn, and indeterminate artiodactyl being the most common. Other excavated lava tube caves across the ESRP typically show a dominance of bison bones as the primary food source (Plew 1986, Henrikson 2003, Brewlawski 2014, Byers et al. 2016).This new information challenges the common misconception that the ancestral Shoshone and Bannock people were solely bison hunters on the ESRP. Evidence shows they consumed bison in addition to deer, elk, and pronghorn, and used specific skeletal remains (antlers, ribs, and scapulas) as tools. The presence of multiple green fractured long bones suggests they were selected for bone marrow extraction, indicating that fat was a valued resource.

What is rather odd about this analysis is that very fragmented bison skulls were identified, along with multiple coyote skulls, and a single cottontail and wolf skull, but there was absolutely no evidence of deer, elk, or pronghorn skulls in the faunal assemblage. Future research needs to investigate the reasons behind the absence of deer, elk, and pronghorn skulls in the faunal assemblage.

Conclusion

Sosonee Pan'nakwuate Newe Sogope Gahnee is a unique cave that showcases a diverse array of species consumed by ancestral Shoshone and Bannock people. Bison, deer, elk, and pronghorn, emerged as the most common animals in this analysis, indicating a significant reliance on these animals. Of the 2,221 bones analyzed, a subset were identifiable to specific taxa, with several exhibiting cultural modifications, fractures, cut marks, or being utilized as tools, and a significant number of fragments showing evidence of burning. Remarkably, most of the bones still had tissue and bone fat intact, signifying excellent preservation of fauna within the cave.

This faunal study provides valuable insights into the seasonal availability of first foods, Shoshone and Bannock lifeways, as well as associated responses during the Medieval Warm Period on the ESRP. Sosonee Pan'nakwuate Newe Sogope Gahnee is unique and does not fit the common theme observed in other lava tube caves in Idaho, highlighting its exceptional nature and significance.

References:
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