A Geochronological and Petrographic Analysis of Ceramics from the Estero Site in SW Florida

Anthony P. Farace, Neill J. Wallis, Michelle J. LeFebvre, Charles R. Cobb, Victor D. Thompson, George D. Kamenov

INTRODUCTION

- Estero Island site (also known as Mound House) is located on a shell ridge in what is now Fort Myers Beach in SW Florida (Figure 1). Conservation efforts to preserve exposed Calusa archaeological deposits at Mound House led to the excavation of five 1x1 units.
- The goal of this exploratory analysis of ceramics from one of five units at Mound House was to determine local and nonlocal production through characterization of geophysical (LA-ICP-MS) and macroscopic composition. Few geophysical assays of Calusa ceramics exist from southwest Florida.
- We use a subset of ceramic geochemical data from Tampa Bay assays of Calusa ceramics exist from southwest Florida. We compare the current data to select ceramic matrix and grog sample data from Tampa Bay (Duke 2022).

RESULTS

LA-ICP-MS and Comparison

- Figure 3 and 4: Principal Component Analysis (PCA) of ceramic pastes and loading plot comparing Mound House to select ceramic matrix and grog sample data from Tampa Bay (Duke 2022).
- Figure 5 and 6: PCA of ceramic pastes from Mound House to select ceramic matrix and grog sample data from Tampa Bay (Duke 2022).

Ceramic Petrography

- Petrographic analysis improved the detail of the macroscopic analysis by quantifying constituents, uncommined mineral inclusions, and providing a sand size index (Stoltman 1989). Expanded paste categories are seen on the right.
- Some paste groups are best distinguished by comparing sponge spicule % to matrix and sand % (Figure 7).

CONCLUSION

- Our analysis presents chemical characterization through LA-ICP-MS and ceramic petrography of Mound House ceramic pastes, a baseline for southwest Florida and Calusa ceramic signatures.
- We see evidence of sandy temper in the finest paste categories (SAND A), and evidence of a mix of sandy and clayey temper in the medium paste categories (SAND B).
- PINELAND pastes show the presence of sand and clay inclusions, as well as the absence of sponge spicules.

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