**DIFFERENTIAL PERDIZ ARROW POINT MORPHOLOGY AMONG SITES, RAW MATERIALS, AND MORTUARY CONTEXTS IN THE SOUTHERN CADDO AREA**

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Sixty-four Perdiz arrow points from six Caddo sites were used in a two-dimensional comparison of projectile morphology. Results illustrate some significant differences in Perdiz projectile shape among the sites.

METHODS

Two-dimensional (2D) images were collected at a 600dpi resolution to produce uncompressed tiff files. Points were subsequently masked in Adobe Photoshop 2020 (v. 21.2.3), exported as jpegs, and imported to R ([R Development Core Team 2020](#_ENREF_8)), where the Momocs library was used for the subsequent elliptical Fourier analysis (EFA) ([Bonhomme, et al. 2014](#_ENREF_2)). EFA is a common tool for analyses of stone tool shape ([Gero and Mazzullo 1984](#_ENREF_3); [Iovita and McPherron 2011](#_ENREF_4); [Iovita, et al. 2017](#_ENREF_5); [Ioviţă 2009](#_ENREF_6), [2010](#_ENREF_7); [Saragusti, et al. 2005](#_ENREF_9); [Serwatka 2015](#_ENREF_10)), and provides visualizations that can be more meaningful than linear metrics alone. The outline of each projectile was retained (Figure m1), and all specimens were normalized to a common centroid, then rescaled using centroid size ([Bonhomme, et al. 2017](#_ENREF_1)). The *calibrate harmonic power* function was used to identify the number of harmonics necessary to capture Perdiz point shape ([Bonhomme, et al. 2014](#_ENREF_2)), and 11 harmonics were retained to achieve 99 percent harmonic power.



Figure m1. XY transformations for the first five principal components (90.8 percent of the cumulative shape variance).

An exploratory measure (EFA-PCA) was used to assess

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