

**Abstract:**

In this case study, we will examine the unprovenienced remains of four human individuals collected from the private island of Mustique that reportedly originated from the small offshore island of Petite Mustique in the Southern Caribbean. Due to the diverse population history and replacement of indigenous people as a result of European colonization and processes related to the Transatlantic Slave Trade, the bioarchaeological record of Caribbean islands can be complex. In order to determine the biological and cultural identity of the individuals studied, standard osteological analysis will be carried out in the determination of age, sex, stature, body mass, ancestry, and pathology. This investigation emphasizes determination of ancestry so as to provide a recommendation for proper repatriation of the remains. Dental morphology data (Arizona State University Dental Anthropology System) has suggested that the individuals present are not of Amerindian descent, and therefore most likely postdate contact. Direct radiocarbon dating of the bone will serve as confirmation of analyses previously done. Craniometric data will also be assessed using the FORDISC (forensic discriminants) database to further specify ancestral affiliation. Lastly, pathological analysis will evaluate skeletal indicators of diet, habitual activities, and overall health of the individuals present. Although much information is lost with the removal of archaeological remains from their context, the techniques utilized in this research will provide an important means to identify the ancestry of these individuals using advanced analytical tools.

**Methods:**

This project will employ a number of bioarchaeological methods to build the biological profile of the individuals present in the collection. The remains were commingled when brought to the University of Oregon, and so the individuals were separated on the basis of estimated age, sex, size and bone morphology. Age and sex were preliminarily assessed based on nonmetric osteological standards. Stature has also been reconstructed for individuals (n=4) with more complete skeletons using comparative linear regression analysis. In addition, I scored the presence and degree of twenty-three dental morphology traits based on the Arizona State University Dental Anthropology System (ASUDAS). Dental morphology traits can serve as a proxy for genetic inheritance and are therefore useful in determining relatedness to various human populations. These traits support a non-Amerindian ancestry for the individuals analyzed, but due to the small sample size of this collection, the ASUDAS system cannot separate African and European populations on the basis of dental traits.

To commence with the determination of a more specific ancestral affiliation, replicated cranial measurement data will be analyzed using the FORDISC database. These standard cranial measurements are consistently utilized by anthropologists and forensic workers who enter their data into this comparative database. This database will be used to determine if there is a statistically significant relationship between the individuals in the Mustique collection and individuals of another population previously entered into the database. This analysis of craniometrics will be used to confirm that the remains are not of Amerindian descent, and to determine whether the skeletal characteristics more closely align with African or European population characteristics.

To assess skeletal pathologies, I will examine general dietary patterns by scoring the degree of dental wear present for each individual. I also plan to evaluate potential habitual activities through the assessment of muscle insertions and bone remodeling. To identify any illnesses or nonspecific stress indicators, I will consider bone resorption and osteophytic activity, and utilize available comparative skeletal collections at the University of Oregon. This analysis will help develop a biological profile of the individuals and may yield insights into the quality of life and disease load on these individuals and their population at the time.

Although the described methods have been shown to be robust through scientific assessment of accuracy and precision rates, these procedures should be supplemented when possible with other relevant data, particularly when studying unprovenienced remains. Accelerator mass spectrometry

(AMS) radiocarbon dating will assist in determining the group identity of the individuals under study by dating the remains. Because the date of European contact in this area of the Caribbean is fairly well known based on ethnographic accounts, radiocarbon dates would definitively confirm either Amerindian ancestry or European/African ancestry. The results of these methods will be synthesized to produce a report on the life histories of the individuals studied that will contribute to regional archaeological knowledge of past populations in the Caribbean islands, despite the lack of context for the remains.