**SUPPLEMENTAL FILE 1**

**Methods**

*Record Identification and Compilation*

I performed an extensive literature review to compile all possible prehistoric and protohistoric Amerindian records of deer remains from the West Indies. The literature search was based primarily on English publications, unpublished reports, conference proceedings, and the online Deer Bone Database maintained by the University of Nottingham, but also included searches of Spanish, French and Dutch language publicationsusing scientific names as key terms in combination with geographic filters. Specimen searches were also conducted through the online catalogues of the Muséum national d’Histoirenaturelle(Inventaire National du Patrimoine Naturel database) and the Yale Peabody Museum of Natural History (Anthropology collections). I visited the latter institution to examine worked bone specimens identified in the database search. Notwithstanding, I cannot claim to have identified all records as there are undoubtedly instances where these were missed due to under-publication, language barriers, improper search parameters, or collections inaccessibility.

In addition to the literature and collections search, I reviewed a portion of Elizabeth Wing’s original analysis cards archived by the Environmental Archaeology Program at the Florida Museum of Natural History (Gainesville, USA). These records derive from Wing’s zooarchaeological investigations of multiple sites on Trinidad (Cedros, Chagonaray, Erin, Mayo, Palo Seco, Quinam and St. Joseph) and Curaçao (Santa Barbara). The unpublished data were used with her kind permission and provide valuable information on specimen counts, skeletal part representation and bone modification that augment the existing published studies. Wing’s data are incorporated into the literature review, where applicable (cited in the main text as ‘unpublished data’); any errors in their rendition are my own.

Results are compiled in Supplemental Table S2 and include records for both worked and unworked bone and antler attributed to the cervid family at any taxonomic level. I use the term ‘worked’ to denote any skeletal element exhibiting modification consistent with intentional subtraction of bone that occurs secondary to carcass butchery (i.e., initial butchery cut marks are not considered ‘working’). Worked bone may include formal finished artifacts, shaped or roughed-out preforms or waste material produced in the manufacture of preforms and formal artifacts (i.e., bone debitage). Previously reported finds for deer remains are recognized for a total of 27 sites on six islands. Where possible, the number of identified specimens (NISP) and minimum number of individuals (MNI) associated with these records are provided. In many instances, particularly for older publications, quantitative information is unavailable or ambiguous (indicated as ‘data deficient’ in Table S2). Finds for Trinidad are limited to major published sites since, as a native taxon, deer are expected to be a common archaeological find and not in need of exhaustive reporting.

Table S2 also includes four new records from Carriacou and Grenada in the southern Lesser Antilles, plus a fifth unpublished record also from Grenada (Stokes 1990). These five records, comprising two partial mandibles and three distal metapodials, are significant as the first and sole instances of which I am aware for deer specimens recovered in the biogeographic Caribbean proper (continental islands off Venezuela are not considered part of the Caribbean bioregion). The Grenada and Carriacou finds, along with five Trinidadian worked bone specimens examined at the Yale Peabody Museum, are the only ones in this study to which I had direct access. The taxonomic attribution of the Grenada and Carriacou specimens was facilitated by use of comparative osteological specimens from the Mammalogy collections of the Carnegie Museum of Natural History, the Mammalogy and Environmental Archaeology collections of the Florida Museum of Natural History, and the Archaeology Faunal Lab collections of the University of Queensland. Criteria for distinguishing cervids from bovids, particularly sheep (*Ovis aries*) and goat (*Capra hircus*), which occur on the islands today, follow Hillson (1999) and Gudea and Stan (2011, 2012). While siding of distal metapodials is possible (Gilbert 1990; Hillson 1999), the metapodial specimens in this study could not be referred to left or right with absolute certainty and are therefore left undesignated. The Trinidadian worked bone specimens were not referred below the family level as comparative osteological material was not readily available at the time of inspection. Current issues in Neotropical cervid systematics are reviewed below as these present complications for the taxonomic attribution of archaeological deer specimens.

*Taxonomic Attribution and Neotropical Cervid Systematics*

The deer taxa comprising probable candidates for pre-Columbian Caribbean introduction are the white-tailed deer (*Odocoileus virginianus*) and the brocket deers (*Mazama* spp.), which inhabit Central America and northern lowland South America. Stocky and fusiform, brockets are morphologically adapted for browsing densely vegetated rainforests, but can be found in a variety of habitats, including gallery forest, savannas, and croplands near forest edge, where they overlap in range with white-tailed deer (Emmons and Feer 1997; Geist 1998; Pérez-Solano et al. 2016). In recent years, the phylogeny of both genera in the Neotropics has received heavy scrutiny. At principle issue is the number of species and genera grouped under the polyphyletic genus *Mazama* andits relationship to *Odocoileus*. Cytogenetic and mtDNA studies of *Mazama* indicate significant karyotype and molecular diversity masked by morphological similarity and broadly divide this species complex into the red brocket (including *M. americana*, *M. temama*,and *M. pandora*) and gray brocket (including *M. gouazoubira*) clades, the latter most likely requiring placement within a new genus (Abril et al. 2010; Duarte et al. 2008; Escobedo-Morales et al. 2016; see also Caparroz et al. 2015; for archaeologically recorded dwarf deer in the Pearl Islands of Panama and its taxonomic affinity with *Mazama* see Cooke et al. 2016; Martínez-Polanco et al. 2015).

At the same time, proposals have been advanced for dividing *O. viginianu*s into at least two species, with the *virginianus* division representing white-tailed deer proper and *O.* *cariacou* representing most remaining populations with a Neotropical distribution (Molina and Molinari 1999). Molina and Molinari (1999) have further argued for the elevation of three Venezuelan subspecies (*goudotii, gymnotis, margaritae*) to the species level, although this proposition has been debated and is yet to be formally accepted (Moscarella et al. 2003). Further complicating the issue are recent phylogenetic studies indicating that *Odocoileus* falls into the red brocket clade, which if acted upon would require all species of this genus to be reassigned to *Mazama,* as this latter name takes precedence (Escobedo-Morales et al. 2016; Groves and Grubb 2011). Wilson and Reeder (2005) currently list *O. virginianus* as the only representative of this genus in the Neotropics, while the IUCN (2016) recognizes ten species of *Mazama* in South and Central America. Like the Neotropical deer *Blastocerus*, *Ozotoceros,* and *Pudu*,many of the *Mazama* spp. can be excluded as probable candidates for introduction based on geographic distributions (e.g. west of the Andes, south of Amazonia) or extreme diminutive stature. This leaves only *O. virginianus*, the *M. americana* clade (including *M. temama*), and less likely, *M. gouazoubira* as translocation candidates, each with the recognized problems in their taxonomy noted above.

One approach to facilitating lower-level taxonomic identification of fragmented archaeological deer remains in the Caribbean has been to rely on size differences to distinguish between the generally smaller *Mazama* spp. and larger *O. virginianus*. Size may not always be a reliable discriminating factor however. Neotropical *O. virginianus* (30-50 kg) tend to be more gracile than their North American counterparts and can overlap significantly in body mass with the larger brocket species: the red brocket, *M. americana* (24-48 kg, large males up to 65 kg), and the Central American red brocket, *M. temama* (data deficient, but similar to *M. americana*) (Emmons and Feer 1997; Geist 1998) (Figure 1, main text). Sexual dimorphism, with females smaller than males, further complicates the process of identification, as could potential deer management by humans. In this study, I maintain the original taxonomic attributions of published records (Table S2), but caution against placing too much confidence in these designations, especially those at the species or subspecies level. In reporting the four new deer records, I take a conservative approach to taxonomic attribution tempered by the current state of flux in Neotropical deer systematics.

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