

EAA

2021

Kiel, 6-11 Sept.

Widening Horizons

Virtual Meeting



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FIDO IN THE FIELD: NEW MORPHOMETRIC AND STABLE ISOTOPE EVIDENCE FOR HUMAN-DOG RELATIONSHIPS IN PREHISTORIC CROATIA

Abstract author(s): Zavodny, Emily (University of Central Florida) - Welker, Martin (Arizona State Museum) - McClure, Sarah (University of California Santa Barbara)

Abstract format: Oral

The development of seasonal transhumance as an economic strategy in the coastal and mountainous areas of prehistoric Croatia was part of a larger cultural readjustment to changing demographic and environmental conditions; namely, growing populations and a more intensively managed landscape. While most archaeological studies of this phenomenon have focused on the scale, composition, and movement of livestock, other equally important practices or human-animal partnerships may have also formed during this time. New linear morphometric and stable carbon and nitrogen isotope analyses of prehistoric domestic dog remains from the regions of Dalmatia and Lika suggest increasing human manipulation of canine size, physical proportion, and diet from the Neolithic period (ca. 6000-4000 B.C.) onwards. The appearance of these more robust dogs in later prehistory could indicate the emergence of dogs that were adapted specifically for livestock management and worked closely with humans to move herds between valleys and mountain pastures throughout the year.

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LIVING ON THE EDGE: A SEQUENTIAL MULTI-ISOTOPIC APPROACH TO UNDERSTANDING NORSE CATTLE HUSBANDRY PRACTICES IN THE WESTERN ISLES OF SCOTLAND

Abstract author(s): Griffith, Jacob (Vrije Universiteit Brussel - VUB) - Mulville, Jacqui (Cardiff University)

Abstract format: Oral

Domestic cattle held a prominent role within the Norse subsistence economy at Mounds 2 and 2a, Bornais; a multi-period site on the island of South Uist, Scotland. Inhabitation of this site was constrained by its liminal environment and as such, the determination of how the Norse managed and utilised their cattle is an important element of understanding how they subsisted and survived. This study performed sequential multi-isotopic analysis on the dentine and enamel of the first and second molars of five cattle individuals taken from the Norse phases of the site. The aim was to recreate an oxygen, carbon and nitrogen isotopic biography of the early life of these cattle; oxygen biography from in utero through the first twelve/thirteen months of life and a nitrogen and carbon biography of the first twenty-four to twenty-five months. The results patterned isotopic values against ascending age, revealing ratio changes intrinsic with human-mediated interactions and provided evidence for husbandry practices previously unobservable. Practices included; autumn birthing rhythms in the Middle Norse period, human-mediated early weaning, seasonal transhumance during the spring/summer to in-land pastures and the supplementation of fodder during the winter, which was collected off-site. It also provides evidence suggesting that domestic cattle of that time may have lactated for longer periods than first presumed. The study therefore concludes that the cattle husbandry practices of the Norse occupants centred on the environment in order to maximise yield from their herd.

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A DOG’S PURPOSE:INTEGRATING ZOOARCHAEOLOGICAL STUDIES AND ADNA ANALYSIS TO ESTABLISH POSSIBLE RELATIONS BETWEEN FUNCTIONS AND CHARACTERIZATION OF DOGS IN ANDALUSIA

Abstract author(s): Lupiáñez Corpas, Natividad (Conservation and Evolutionary Genetics Group. Estación Biológica de Doñana - EBD-CSIC) - García Viñas, Esteban (Laboratorio de Paleontología y Paleobiología. Instituto Andaluz del Patrimonio Histórico - IAPH) - Villalón Torres, David (Sistemas de Información. Instituto Andaluz del Patrimonio Histórico - IAPH) - Cornellas, Anna (Conservation and Evolutionary Genetics Group. Estación Biológica de Doñana - EBD-CSIC) - Bernáldez Sánchez, Eloísa (Laboratorio de Paleontología y Paleobiología. Instituto Andaluz del Patrimonio Histórico - IAPH) - Leonard, Jennifer (Conservation and Evolutionary Genetics Group. Estación Biológica de Doñana - EBD-CSIC)

Abstract format: Oral

Since their domestication, dogs have been used for diverse purposes as reflected in the different contexts their remains have been found in archaeological sites.

In order to understand the place of dogs in early human communities, we review Andalusian sites with published zooarchaeological studies from Paleolithic to Bronze Age. In spite of the existence of more than 15,000 archaeological sites in this region of the Iberian Peninsula, barely 100 of them have fauna studies published. Despite the lack of published data from this area and the difficulty of finding these studies, we see dogs in foundation rituals, funerary offerings, and even for human consumption.

By integrating these archaeological records with biomolecular data (aDNA analysis), we aim to establish the possible relation between the different purposes of dogs and their characterization from a genetic approach. To do so, we will select nuclear genes related to traits that could have been associated with some of the uses of dogs in these communities. These genes are related to morphological (coat color, hairlessness, size...), metabolism (starch digestion), sensory (olfactory receptors) and behavioral traits. Through mitochondrial DNA analysis, we will firstly verify if the studied remains actually belong to dogs or to another wild canid species. Then, we will attempt to determine if dogs used for certain proposes were local or imported from other regions.

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BURROWING INTO THE BIO-CULTURAL HISTORY OF RABBITS

Abstract author(s): Doherty, Sean - Ameen, Carly (University of Exeter) - Alves, Joel - Granja Martins, Sofia - Larson, Greger (University of Oxford) - Sykes, Naomi (University of Exeter)

Abstract format: Oral

Rabbits (*Oryctolagus cuniculus*) are one of the most recently domesticated animals, yet remarkably little is known about the timing or location of their domestication. Native to the Iberian peninsula and southwest France, they have been transported by humans to all corners of the globe to live in diverse relationships with people: as pets, pests, sources of food and laboratory animals. The AHRC-funded project 'Exploring the Easter E.g.' is integrating historical and linguistic techniques with traditional zooarchaeological and biomolecular methods (including full-suite osteometric, geometric morphometric, isotope and genetic analysis) to examine the dynamics of varying human-rabbit relationships. In this paper we present our results of the integration of zooarchaeological, isotopic and geometric morphometric data for deciphering the management strategies of British rabbits after their reintroduction in the Middle Ages. We demonstrate how the combination of these complementary approaches is necessary to decipher the complex processes surrounding both rabbit domestication and subsequent husbandry practices, and unpick this animal's unique bio-cultural history.

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ANIMAL LIFE HISTORIES: BIOCHEMICAL ANALYSES AS PROXIES FOR DIET AND MOBILITY AMONG DOGS AND CAMELIDS IN NORTHERN ARID PERU

Abstract author(s): Alaica, Aleksa (University of Toronto) - Gonzalez La Rosa, Luis Manuel (Archaeology Centre, University of Toronto) - Knudson, Kelly (Arizona State University)

Abstract format: Oral

Animal life histories serve as proxies for human daily and long-term strategies. As a particularly powerful set of analyses, biochemical methodologies provide effective datasets to quantify the types of resources on which animals fodder and graze, but also their mobility patterns. Stable and radiogenic isotopes are compared among dog and camelids from the 1st millennium CE site of Huaca Colorada on the northern coast of Peru. Examining the variable dietary and mobility trends among these species allows for the elucidation of their role in trade labour, as pastoral tools and as companions. This paper examines the variation in carbon, nitrogen and strontium isotopes among dogs and camelids ensuring spatial control for each specimen. Most dog and camelid remains that are analyzed by isotope analyses are from dental samples that have associated age details. By considering the age of each animal, their spatial context and their chronological association, this paper determines that dogs were locally raised and interred at Huaca Colorada, while camelids were traveling from distant regions to bring valued trade goods from highland and other coastal locations. The variable evidence of dogs and camelids in herding strategies in arid northern Peru attests to the integral role of dogs as pastoral companions and herding tools and camelids as key labour capital.

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AN OSTEOBIOGRAPHY OF CHOPPERS THE ‘PG TIPS CHIMP’

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Abstract format: Oral

There is expansive literature about the history of zoological gardens, and what these institutions represent in terms of human-animal relationships. However, with the exception of a few celebrity individuals, the animals' stories have never been told. Many zoos donated specimens of deceased zoo animals to natural history museums (e.g. those of Paris, London and Edinburgh) and these skeletons have the potential to reveal the lived experiences of zoo animals. The creation of osteobiographies is a well-established method for reconstructing life/death histories from human remains, but the approach is seldom applied to animals. Using detailed skeletal (osteology, pathology) and biomolecular analyses (stable isotope analysis, elemental analysis), combined with archives that include her medical and social histories, we will narrate the life of one particular zoo animal, ‘Choppers’, a chimpanzee who featured in advertisements for the British brand of tea, PG Tips. This first osteobiographical analysis of a zoo animal provides a first step in the wider analysis of how chimpanzees have adapted to a life in captivity, including the impact of feeding on their development and health in comparison with wild chimpanzees. We conclude that zooarchaeological techniques can be deployed to benefit modern zoo-animal management.