

AGM – Archaeozoology, Genetics and Morphometrics (ICAZ working group)

REPORT OF THE SIXTH SCIENTIFIC MEETING OF THE AGM ICAZ WORKING GROUP

26th-28th March 2014, Lisbon, Portugal

The AGM ICAZ working group was founded at Durham (UK), during the 7th ICAZ meeting (August 2002), by J.-D. Vigne, M. Zeder and D. Bradley. It held its five first meetings in Paris (2004), Cambridge (2005), Tallinn (2008), Paris (2010) and Basel (2012). Primarily, the working group aimed to promote exchange and collaboration between archaeo(zoo)logists and (palaeo)geneticists. During the Basel meeting, it appeared that a lot of approaches were combining genetics, paleogenetics and morphometrics. It was then decided to increase the circle to classical and new techniques of morphometrics. The sixth scientific meeting was held on the 26th-28th March 2014, in Lisbon, ably organised by Catarina Ginja (CAN/FCUL), Ana Elisabete Pires (CBA/FCUL), Cleia Detry (UNIARQ/FLUL), Cristina Luis (MUHNAC/UL), Luciana Simões (CBA/FCUL) and Raquel Silva (CBA/FCUL).

The 36 delegates from 13 countries¹ met at the Faculty of Sciences of Lisbon University. Except a short introduction by the organizers and by the correspondent of the ICAZ WG, the programme was composed of 26 presentations (including two posters) organized in three sections, each of them being introduced by an Invited speaker. The reasonably small number of delegates, as well as the presence of frequent time slots for discussions and the rich and diverse social program, allowed numerous and very dynamic exchanges about the techniques and the results.

The first section was introduced by Arturo Morales (Madrid) who presented a well documented critical reflection about horses coat colours before and after domestication (“Spotted horses: Reconciling genetic and cave art data?”). Anna Linderholm and Greger Larson (Durham) completed this approach by an assessment of the knowledge about coat colour from wild to domestic, with a special attention paid to the biochemical and genetic mechanisms involved. Liisa Loog and collaborators (Durham) presented a new method for exploring the past migrations using biological and cultural variation data. Mélanie Pruvost and coll. (Paris) presented a series of protocols for aDNA high-throughput studies of the past biodiversity. Silvia Guimaraes and coll. (Paris) presented their experimental results about the extraction of aDNA from small mammal bones in modern owl pellets and applications to Pleistocene and Holocene Moroccan accumulations. Els Thieren and coll. (Brussels) discussed the presence of two species of sturgeons in North Sea and their hybridisation based on aDNA results, with special attention to the re-introduction of sturgeon in these areas. Camilla Speller and coll. (York) investigated the past role of humans on the demography of several sub-species of North America elk based on both archaeozoological and genetic data. Ophélie Lebrasseur and Greger Larson (Durham) statistically tested the extent to which modern mitochondrial DNA can be used to retrace domestication and past histories of two domesticates, dog and chicken. Elçin Ekşi and İnci Togan (Ankara) sexed and differentiated sheep from goat with ancient DNA.

Ludovic Orlando (Copenhagen) introduced the second section of the conference with an amazing presentation of the new techniques of capture and extraction of aDNA which make it possible now to get very old DNA (Middle Pleistocene), to detect the adaptive

¹ Belgium (1), Denmark (1), Estonia (2), France (4), Germany (1), Norway (1), Portugal (8), Romania (1), Spain (4), Sweden (1), Switzerland (2), Turkey (1), UK (9).

genes involved in the domestication of horses or even to access to epigenetics only based on bioinformatic processing of the genomic sequences. This opens completely new and exciting perspectives. Raquel Silva and coll. (Lisbon) presented then their mitochondrial aDNA results about the Iberian and North African horses, addressing the question of the possible domestication of this species in this area. Julia Elsner and collaborators (Basel) presented the first central European recording of “domestic” mitochondrial haplogroups in the Iron Age horses from Switzerland. Angela Schlumbaum and collaborators (Basel) addressed the issue of possible very small aurochs vs local domestication of aurochs in Switzerland during the Middle Neolithic, based on new mitochondrial aDNA sequences. Catarina Ginja and coll. (Lisbon) presented new mitochondrial aDNA sequences of large bovids from the Chalcolithic of the Iberian peninsula, which ask the question of possible T types in the Iberian aurochs. Jennifer Leonard (Seville) differentiated dogs, from wolves and coyotes in a series of archaeological deposits in North America and Siberia. Ana Elisabete Pires and coll. (Lisbon) presented new sequences for the Pre-neolithic and Neolithic wild and domestic canids of the Iberian Peninsula and compared them with modern Near Eastern data. Eva Rannamäe and coll. (Tartu) presented a series of new mitochondrial data for ancient sheep in Estonia, and discussed the genetic variations through times in this area. Yiru Wang addressed the difficult question of the osteological discrimination of the small ruminant species in North China, and presented a series of osteometric criteria namely on the metapodes. Fabien Belhaous (Montpellier) presented efficient logshape ratio morphometric analyses based on a series of landmarks, for differentiating dogs from wolves during the Protohistorical and Classical periods in South France.

The last section was introduced by Simon Davis, who presented an overview of the origins of domesticated animals in Southern Portugal, with a comparison with the Near East, mostly based on classical osteometric analyses. Liselotte Takken Beijersbergen (Bergen) investigated medieval reindeer mass hunting stations in South Norway, and proposed a series of multivariate discriminant functions for discriminating sexes. Desiree Scott (UK) presented a detailed overview of the modern dog breeds. Katie Manning and coll. analysed an impressive dataset of measurements collected in the literature which confirmed that the domestic cattle decreased in size from the Early Neolithic to the Bronze Age and evidenced interesting regional differences.

This conference was marked by a good participation of both archaeozoologists and geneticists, by the presence of numerous young scientists and by very dynamic discussions about the classical and new techniques. For genetics as well as for morphometrics, it appeared that new techniques are really very promising, but also that classical techniques will stay important.

A short meeting of information will be organized in San Rafael, Argentina, during the 12th ICAZ conference, 22-27th September 2014. The next scientific meeting of the AGM working group will take place in 2016 in Aberdeen, UK.

April 8, J.-D. Vigne