

REPORT OF THE THIRD SCIENTIFIC MEETING OF THE A&G ICAZ WORKING GROUP

26th-28th June 2008, Tallinn, Estonia

The A&G 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 two first meetings in Paris and Cambridge, UK, June 2004 and June 2005, respectively. The working group aims to promote exchange and collaboration between archaeo(zoo)logists and (archaeo)geneticists. The third scientific meeting was held on the 26th-28th June 2008, in Tallinn, at the Institute of History of the University of Tallinn, ably organised by Lembi Lougas.

Twenty-five scientists, from 8 countries¹ gathered together to hear a variety of first-class presentations which included discussions of the genetics of wild species, domestication and the methodological challenges posed by ancient DNA. Attendance of the 2008 A&G ICAZ Working Group meeting was reduced relative to previous meetings. In part the decline in attendance reflected the smaller pool of local participants in Tallinn (47 % of attendants in the 2004 Paris meeting were French, while 51 % of the attendants of the 2006 Cambridge were British). Two other important conferences involving Palaeogenetics scheduled for the summer of 2008 may have also contributed to the reduced attendance of this meeting. However, 75 % of the delegates in Tallinn also attended the first two conferences. Definitely, this ICAZ working group has a committed core of ca. 20 scientists, representing a good deal of the leading animal aDNA labs. Though small, this group perseveres in the construction of a true interdisciplinary community in a field where it is both absolutely necessary but hard to actually do. The rise of the number and quality of the true interdisciplinary papers which have been presented in Tallinn demonstrates the working group is achieving its founding mission of promoting truly collaborative efforts. The number of osteoarchaeologists not directly involved in genetic analysis, which had already decreased between the 2004 and 2005 conferences, was still more reduced in Tallinn. This may be due to the increasing complexity of molecular technologies.

A general introduction of the conference by J.-D. Vigne presented a brief overview of ICAZ, its working groups, and the of the A & G working group. Once again, he emphasized that aDNA is an archaeological item and, as such, that processing aDNA is shaped by archaeo(zoo)logical constraints and practices, that molecular geneticists who process animal aDNA have to become more familiar with archaeo(zoo)logical approaches and practices, and that it is necessary to take into greater consideration the heavy investment of archaeologists and archaeozoologists to the production of a single good sample for aDNA analyses, the cost of which have been evaluated ca. 250 € basing on the example of the excavations at Shillourokambos, Cyprus. The whole conference itself emphasized that there have been consistent improvements in collaborative practice. Nearly all the presentations were co-authored by archaeo(zoo)logists and geneticists. However, it also appeared that the question there is still a need to better inform archaeo(zoo)logists about the potentials and methodological challenges of genetic analysis, especially when dealing with ancient DNA.

¹ Belgium (1), Estonia (7), France (6), Germany (6), Japan (1), Sweden (2), Switzerland (1), United Kingdom (1).

The first session took place in the natural heritage site of Naissaar Island. It was devoted to phylogeography of wild species, bears (M. Korsten and coll.) and salmon (R. Gross). The second section, held in the Archaeological Institute at Tallinn and was devoted to the genetic history of domestication and to the connected methodological improvements. It comprised nine papers and five posters.

Six complementary presentations dealt with aurochs and the origin of Neolithic domestic cattle: R. Bollongino et al. integrated osteometric and palaeogenetic evidence for demonstrating that, at the present time, there is no evidence of introgression of the European aurochs lineages into the domestic ones. E. Svensson and A. Götherström invalidated the evidence of introgression which have been previously proposed basing on the Y chromosome and presented an evaluation of contamination of ancient samples by modern DNA. E.-M. Geigl and C. Berthelot et al. drew attention one more time on several potential sources of palaeogenetic bias and pleaded for the generalisation of more accurate techniques and practices. A. Scheu et al. sexed several individuals of the last wild aurochs' populations in North-Eastern Germany.

One of the main novelties of this conference was the presentation by M. Cieslack et al., then by M. Pruvost et al., of very exciting results about the origins of the domestic horse basing on parts of the nuclear genes which are responsible of the coat color. They are able to follow the diversification of colorations types and patterns resulting from the domestication during the Bronze and Iron Age in Europe, starting from brown and probably black types.

Two papers contributed to the question of the origin of the European domestic pig, which have been however recently extensively documented by Larson et al. Basing on the analysis of numerous Neolithic wild and domestic pig sequences of Bulgaria, C. Rütze et al. found evidence of two different wild boar lineages and the alien origin of the Neolithic domestic pigs in this area. They suggested a possible transfer from the East via the northern shores of the Black Sea. F.-X. Ricaut et al. presented some preliminary results on the Anatolian domestic pigs. All these data should be connected with the more general pattern proposed by Larson et al.

C. Kluetsch and P. Savolainen presented more sequences of modern dogs and, still without making reference to the archaeozoological and historical data, proposed a Chinese origin of all the modern dog lineages.

A. Schlumbaum et al. determined that leather from the leg of a pair of late Neolithic trousers from the Bernese Alps were derived from a goat belonging to the B lineage. This paper highlighted the rich potential of organic items which being more frequently discovered with the withdrawal of alpine glaciers.

The last paper of the conference focused on botanical studies. There is a considerable overlap between the problem orientation and methodological concerns of palaeogenetics of archaeozoological and archaeobotanical materials. A. Yano et al. presented their aDNA determination of the subspecies of rice which was grown and eaten ca. 3000 BP in the Yangtze River basin, China (*Oriza sativa japonica*).

After each paper and during the poster session, there was free flowing and open discussion, with positive and interesting exchanges. It was agreed by all participants that, in spite of the small number of delegates, this meeting was a valuable, productive and positive

event. A wealth of new data and ancient DNA sequence and results were presented, which testify that collaborations, sampling and processing are very active in several labs and that aDNA has a greater and greater importance in the history of the relationships between human societies and animals. More and more numerous nuclear DNA based researches open new perspectives for the study of difficult groups, such as horses, or for understanding how domestication (an more generally speaking, environment) have acted in the complex processes involved in the history of human-animal relationships.

Two very nice excursions, and several excellent dinners, strengthened friendly relationships between the delegates, and stimulated both exchanges and collaborations. All of them warmly congratulated and thanked Lembi Lougas and the Estonian Institute of Archaeology for the perfect organisation of the conference and for the warm welcome.

Delegates hope that the 11th ICAZ conference in Paris will be a good opportunity to broaden the involvement of osteoarchaeologists in the A&G ICAZ Working Group. They enthusiastically endorsed Eva-Maria Geigl proposal to organise the 4th scientific meeting of the working group during for either the day before or after the general meeting. They also proposed to promote broader participation by scheduling, during this meeting, some didactic presentations on the new molecular techniques. The 5th A & G conference may be organised in 2011, 2012 or 2013, according to the schedule of the other international conferences which will be known at that time. A. Schlumbaum kindly proposed to organise it at Basel, a B plan being proposed by R. Bollongino at Mainz.

June 08, J.-D. Vigne