Canine Y-chromosome variability in the Iberian Peninsula

Carla Borges[1], Fernanda Simões[1], Francisco Petrucci-Fonseca[2], José Matos[1] & Ana Elisabete Pires[1,2]

[1] INETI - Instituto Nacional de Engenharia e Tecnologia e Inovação, Grupo de Biologia Molecular, 1649-038 Lisboa, Portugal
[2] Centro de Biologia Ambiental - Departamento de Biologia Animal, Faculdade de Ciências da Universidade de Lisboa, Campo Grande, Edifício C2 - 3º Piso, 1749-016 Lisboa, Portugal

Abstract

By the use of the Y-chromosome markers (paternally inherited) it was possible to complement previous studies based on mtDNA sequences (maternally inherited) and autosomal markers (biparentally inherited) regarding the origin of the Portuguese native domestic dog breeds. A total of 86 male dogs from 9 Portuguese native breeds, 5 other populations of dogs and 14 Iberian male wolves (Canis lupus signatus) were for the first time analysed using a combination of 11 SNPs specific to the canine Ychromosome. Preliminary data show that at the origin of these dog breeds there is a biased contribution from each gender. We found fewer number of founder patrilineages than matrilineages (1:4). We identified two diagnostic haplotypes of Iberian dog and wolf origins. Based on contemporary data, apparently there is no evidence of local domestication, nor the occurrence of recent backcrosses with the Iberian wolf. The study of ancient Portuguese dogs will allow to definitely ascertaining this last aspect, a research that is currently ongoing. These markers will be useful to perform sex identification in osteoarchaeological dog samples and to better understand the evolutionary trajectory of the Iberian dog breeds.

Poster
VI Congresso Ibérico sobre Recursos Genéticos Animais
Faculdade de Ciências de Lisboa, 18-20 setembro 2008