

**RECONSTRUCTING THE HUMAN GENETIC HISTORY OF THE IBERIAN PENINSULA. AUTOSOMAL AND UNIPARENTAL MARKERS YIELD PARALLEL RESULTS ON THE PRESENCE OF AFRICAN SIGNATURES IN THE ANDALUSIAN POPULATION STRUCTURE**

Reales Guillermo<sup>1</sup>, Hernández Candela L.<sup>1</sup>, Dugoujon Jean-Michel<sup>2</sup>, Novelletto Andrea<sup>3</sup>, Fortes-Lima César<sup>2</sup>, Rodríguez Juan<sup>4</sup>, Calderón Rosario<sup>1</sup>

<sup>1</sup>*Departamento de Zoología y Antropología Física, Facultad de Biología, Universidad Complutense, Madrid, Spain*

<sup>2</sup>*Laboratoire d'Anthropologie, Centre National de la Recherche Scientifique (CNRS), Université Paul Sabatier, Toulouse, France*

<sup>3</sup>*Dipartimento di Biologia, Università Tor Vergata Rome, Italy*

<sup>4</sup>*Servicio de Hematología, Hospital Juan Ramón Jiménez, Huelva, Spain*

The analysis of contemporary human population structure based on numerous and varied markers in genomic regions, and combined by careful sampling strategies is helping us to answer many important questions on human history. Such studies are performed in different geographic scales. The Mediterranean area – a biodiversity hotspot with well-defined characteristics in its geography, archaeology and anthropology – seems to harbour an important fraction of the world human genetic diversity. The Iberian Peninsula, given its location in the south-western corner of Europe and in the immediacy of Africa, has had a decisive role in Europe peopling. Within Iberia, Andalusia – the southernmost region of Spain – deserves a special attention, as it has been a human crossroad open to numerous and different human populations and cultures from all around the Mediterranean. Here we summarize some key results obtained by our team after surveying western and eastern Andalusian population structure, regarding mtDNA and Y-C variation, along with other informative autosomal markers (e.g. GM and APOE). Our data reveal that certain African maternal (e.g. U6 and L) and paternal (e.g. E-M81) lineages are particularly detectable in Andalusians and neighbouring Atlantic Iberian populations. APOE polymorphism –main Alzheimer's disease susceptibility marker– revealed a somewhat similar landscape in Andalusia and Morocco, thus interrupting its prevalent trend in Europe. The above scenario is consistent with the relatively high incidence of the Sub-Saharan GM 1,17 5\* haplotype in south-western Iberia. In conclusion, advances in the knowledge of the genetic structure in western Mediterranean highlight the presence of African genetic signature in the Iberia Peninsula, yet its spatial pattern is not uniform.

**Key words:** *mtDNA and Y-chromosome variation, Western Mediterranean populations, human migrations, genetic structure*

Contact information: Calderón Rosario, e-mail: rcalfer@bio.ucm.es.