

9^ο ΣΥΝΕΔΡΙΟ: ΤΟ ΠΕΡΙΒΑΛΛΟΝ ΚΑΙ Ο ΑΝΘΡΩΠΟΣ



ΠΕΒ

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CRETE AS A HUB FOR HUMAN NEOLITHIC MIGRATIONS INTO EUROPE

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The modern European genome comes from a merging of Paleolithic settlers (40-35,000BPE) and Neolithic migrants (~9,000BPE). Three are the possible routes of this migration: By land to North-Eastern Anatolia then Thrace, a maritime route from the Aegean Anatolian coast, or a maritime route from the Levantine coast.

In our study we showed that the maritime route from the Aegean Anatolian coast is the most probable way of migration for the Neolithic people. To that end, we collected and genotyped 202 samples from the Eastern Mediterranean, including Greek samples, and combined them with 4 other datasets.

We performed PCA and ADMIXTURE analyses on merged dataset of 964 samples from 32 populations focused on the Mediterranean, genotyped on 75,194 SNPs. We also performed network analysis using a novel approach, and phylogenetic analysis, using Fst, BARRIER, NeighborNet, TreeMix and lastly IBDSim for simulation.

PCA showed that genes mirror geography in the Mediterranean basin. ADMIXTURE identified an African and a European East-West cline. Our network analysis showed a convergence in Anatolia with Crete and Dodecanese among the main nodes. These results were reinforced by all the other analyses.

Archaeological evidence and carbon dating also supports our results. Clinal distribution of allelic frequencies correlates with the spread of agriculture in Europe. The Mediterranean has mostly acted as a barrier between African and European coasts. [Supported by ARISTEIA II grant to PP (4386 - GENOMAP.GR). Operational Programme “Education and Lifelong Learning”, co-funded by the European Union (European Social Fund) and national funds].