

MATERNAL AND PATERNAL LEGACIES OF AN EASTERN ADRIATIC GENETIC ISOLATE – AN EXAMPLE OF VARIOUS HISTORICAL AND MICROEVOLUTIONARY FORCES

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This study aimed to clarify the effect that evolutionary forces and historical events have had on the population structure of Mljet, an Eastern Adriatic island, through the analyses of mtDNA and Y chromosome variability and comparison between the two markers. As previously reported, island of Mljet has the lowest mtDNA diversity among the Eastern Adriatic islands. We used 39 Y chromosome samples and previously published 68 mtDNA. For comparison, we also used 179 Y chromosome samples from the mainland city of Dubrovnik together with previously reported 181 mtDNAs. Results of both maternal and paternal haplogroup lineages on the island fit within the south-east European context. But, analysis of the mtDNA haplogroup variability showed very low diversity, which was not expected considering the relative closeness of the mainland city of Dubrovnik, as reported in previous research. After Y chromosome analysis, the variation of paternal lineages showed average diversity as usually expected, but it is not in concordance with the low mtDNA diversity. Both mtDNA and Y chromosome results could tell their own separate stories about the shaping of Mljet's genetic landscape, but combined, they are both an outcome of numerous past demographic and migration processes. Considering very turbulent and unlucky historical events that occurred on the island, severe living environment, the practice of consanguinity and the presence of autochthonous diseases, the island of Mljet serves as an excellent example for studying the interplay of microevolutionary forces and demographic actions that shape the population structure of genetic isolates.

Key words: *Island of Mljet, Y chromosome, mtDNA, microevolutionary forces, historical events, population structure, genetic isolate*

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