

# Hair from mummy's clothes provides insights into red deer lineage

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Genetic analysis of Neolithic deer hair from Italian Alps mummy's clothes ties deer population to modern day western European lineage, in contrast to the eastern lineage found in the Italian alps today, according to a study published July 2, 2014 in the open-access journal *PLOS ONE* by Cristina Olivieri from University of Camerino, Italy and colleagues.

Found in the Italian Alps in 1991, Tyrolean Iceman's body, clothing, and equipment were exceptionally well preserved. The mummy lived ~5,300 years ago, during the Copper Age and previous analysis suggests that Neolithic [red deer](#) were a source for clothing, food, and tools. However, little is known about the lineage of the Neolithic red deer population. Combined with current lineage information about contemporary and ancient red deer populations, scientists analyzed red deer hair from the mummy's clothing. The scientists obtained DNA from the hair shafts collected from the fur worn by the Tyrolean Iceman. Then using genetic analysis, sequenced the DNA and compared the results with phylogeny of contemporary and ancient red deer populations.

Red deer fall into three distinct genetic lineages, western, eastern, and North-African/Sardinian. The genetic analyses of the Neolithic deer hair showed that the Alpine Copper Age red deer falls within the western European lineage. This contrasts the current populations in the Italian Alps, which belongs to the eastern lineage. The authors suggest these differences in [lineage](#) may highlight the impact of different glacial refugia and postglacial recolonization processes of the European red [deer population](#).

**More information:** Olivieri C, Marota I, Rizzi E, Ermini L, Fusco L, et al. (2014) Positioning the Red Deer (*Cervus elaphus*) Hunted by the Tyrolean Iceman into a Mitochondrial DNA Phylogeny. PLoS ONE 9(7): e100136. [DOI: 10.1371/journal.pone.0100136](https://doi.org/10.1371/journal.pone.0100136)

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