

# Viking families traveled together, research shows

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The "Lofotr" viking ship and the smaller "femkeiping". Both reconstructions based on excavations from the Gokstad find. Credit: Geir Are Johansen/Wikipedia

(Phys.org)—A new study shows that when Vikings moved to new territories, men and women traveled together. Erika Hagelberg of the University of Oslo and her colleagues compared ancient Norse and

Icelandic mitochondrial DNA with mitochondrial DNA of modern Northwestern Europeans. They found similarities between the ancient and modern DNA suggesting women played a significant role in Viking migrations. The research appears in *The Royal Society Philosophical Transactions B*.

Vikings traveled long distances, establishing colonies in Iceland and many parts of Northwestern Europe. They even traveled as far as North America. It's a commonly held belief that Viking expeditions consisted entirely of men, and that a shortage of women at home compelled Viking men to seek out women in foreign lands. Earlier genetic studies have suggested that while Viking men ventured forth to pillage and plunder, women and children stayed home. Viking women did not rejoin their men until after the men had already settled in new territories.

Hagelberg's team wanted to gain a better understanding of the migration patterns of Viking women. To do this, they studied mitochondrial DNA. Carried in egg cytoplasm, mitochondrial DNA passes through the maternal line. The team examined mitochondrial DNA from the teeth and long bones of 45 skeletons of ancient Norwegians who lived between A.D. 796 and 1066. They found that it was similar to the previously analyzed mitochondrial DNA of ancient Icelanders.

The researchers then compared the Norse and Icelandic mitochondrial DNA to the mitochondrial DNA of more than 5,000 modern people from the Scottish mainland, the Shetland and Orkney Islands, Norway, Sweden, England, Germany and France. They found that the ancient mitochondrial DNA closely resembled that of the modern Northwestern Europeans.

Hagelberg and her colleagues discovered that the mitochondrial DNA from the Norse and Icelandic specimens most closely matched mitochondrial DNA of people from the Orkney and Shetland Islands,

which are close to Scandinavia.

The findings illustrate the path Viking [women](#) would have taken as they spread across northern Europe. Hagelberg and her team say their research indicates that Vikings traveled as families when colonizing new lands.

Hagelberg's team would like to obtain a better understanding of the relationships between the ancient Norse and other ancient peoples by studying ancient British DNA.

**More information:** Mitochondrial DNA variation in the Viking age population of Norway, Published 8 December 2014. [DOI: 10.1098/rstb.2013.0384](https://doi.org/10.1098/rstb.2013.0384)

## **ABSTRACT**

The medieval Norsemen or Vikings had an important biological and cultural impact on many parts of Europe through raids, colonization and trade, from about AD 793 to 1066. To help understand the genetic affinities of the ancient Norsemen, and their genetic contribution to the gene pool of other Europeans, we analysed DNA markers in Late Iron Age skeletal remains from Norway. DNA was extracted from 80 individuals, and mitochondrial DNA polymorphisms were detected by next-generation sequencing. The sequences of 45 ancient Norwegians were verified as genuine through the identification of damage patterns characteristic of ancient DNA. The ancient Norwegians were genetically similar to previously analysed ancient Icelanders, and to present-day Shetland and Orkney Islanders, Norwegians, Swedes, Scots, English, German and French. The Viking Age population had higher frequencies of K\*, U\*, V\* and I\* haplogroups than their modern counterparts, but a lower proportion of T\* and H\* haplogroups. Three individuals carried haplotypes that are rare in Norway today (U5b1b1, Hg A\* and an uncommon variant of H\*). Our combined analyses indicate that Norse

women were important agents in the overseas expansion and settlement of the Vikings, and that women from the Orkneys and Western Isles contributed to the colonization of Iceland.

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