



PRESS RELEASE

8. July 2025

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News from the Qimmeq Project

Research is often time demanding. Research into the history, culture, and genetics of Qimmeq, our sled dog, is no exception.

Morten Meldgaard from Ilisimatusarfik explains:

”We started the Qimmeq Project 9 years ago. The first results lead to new questions that we have continued to investigate. Now one of the worlds leading journals SCIENCE has published an article with our latest results about Qimmeq’s immigration into Greenland, about genetically discrete sled dog types in North, West, and East Greenland and about the now extinct Northeast Greenland sled dog that may have immigrated to Greenland unexpectedly early.”

The extinct Northeast Greenland Qimmeq

Through more than 800 years a genetically distinct type of sled dogs existed in Northeast Greenland. It migrated through northern Greenland from Canada together with early inuit hunters. Inhabiting a vast high arctic landmass this Northeast Greenland dog was isolated from all other Qimmit and of its own genetic makeup. By ca. 1850 the dog and its people were gone.

This is revealed by research carried out by Qimmeq Project researchers from Ilisimatusarfik (University of Greenland) and Nunatta Katersugaasivia Allagaateqarfialu (National Museum of Greenland) in collaboration with University of Copenhagen and National Institutes of Health. The study has just been published in the journal *Science*.

The results also show that the dog populations in Kitaa (West Greenland), Tunu (East Greenland), and Avanersuaq (North Greenland) have been sufficiently isolated from each other to develop genetic differences. Geographically this aligns well with the distribution of the three greenlandic languages *Kalaallisut*, *Tunumiit oraasiat*, and *Inuktun*. It could be relevant to consider how to preserve these three different dog types, in fact many hunters in Greenland recognize these different dog types by their looks and skills.

The first author of the SCIENCE paper is the Qimmeq Project’s Dr. Tatiana Feuerborn, who explains:

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“A thousand years ago – around the year 1000 - the Inuit of Nunavut kept the ancestors of the Qimmit of Greenland. It appears that the early Inuit and their dogs settled Northeast Greenland from Nunavut and after only a few centuries the dogs with the inuit moved south and populated West Greenland and Southeast Greenland. Thus the dogs have revealed to us that together the inuit and Qimmit may have arrived several centuries earlier to Greenland than previously thought.”

The origin of the arctic sled dogs

Arctic dog breeds like Siberian Husky, Alaska Malemute, Samoyed, Canadian Inuit Dog, and the greenlandic Qimmeq all originate from one common Siberian ancestor adapted to the arctic environment in Siberia by 9000 years ago. We also know that the immediate ancestor to the Qimmit of Greenland existed in Alaska approximately 4000 years ago. This is revealed by the close genetic relationship to a 3,700 year old dog from Alaska. All together this evidence supports our supposition that the greenlandic Qimmeq is one of the oldest dog breeds alive in the world (see Guinness Book of Records).

The dog was domesticated from the wolf, the two can still interbreed and have fertile offspring. Based on genetic analysis we can see that the arctic dog breeds have more wolf in them and thus have more frequently been crossed with wolves than is the case for their Eurasian and African counterparts.

Manumina Lund Jensen, PhD student at Ilisimatusarfik relates: *“Knowledge holders from Avanersuaq tell of occasional crossing of female dogs with arctic wolves. During bear and muskox hunts in Umingmak Nunaa (Ellesmere Island) the female dog would be tethered in wolf territory with food for a week. If a male wolf came by the meet could result in mating and off-spring.”*

We have not yet found genetic traces of more recent crossing between wolves and Qimmit. An explanation could be that wolf-dog off-spring did not perform well enough and therefore had limited success as breeding stock. Another explanation could be that we lack sufficient samples from the regions with the greatest overlap between dogs and wolves.

The question of inbreeding and admixture of European breeds

Even though the 15.000 sled dogs that exist in Greenland today stem from a relatively small population of dogs that immigrated centuries years ago they remain genetically healthy. However, there are examples from historical times and more recently of inbreeding because of declines in local dog populations. Lack of dog food because of poor hunting and fishing and epidemics among the dogs are some of the most important causes. In this connection it is suggestive that the now extinct dog population in Northeast Greenland had a higher degree of inbreeding than dogs from pre-colonial Kitaa (West Greenland) and Tunu (East Greenland). It must have been a challenging life in the high arctic that limited the number of dogs that could be kept.

Today there are only few genetic traces of European dog breeds in the greenlandic sled dog. This may seem odd considering European whalers, colonists and others with foreign dogs have frequented and settled especially on the west coast of Greenland for over 400 years. One explanation could be – similar to wolf-dog off-spring- that sled dogs with European genes simply are not good sled dogs and therefore do not persist in the population. But

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importantly the last century's strict regulations banning other dog breeds from the sledding districts have prevented additional admixture with other breeds.

Greenlandic labrador dogs

We have sampled dog fur from old skin parkas and other garments. We also sampled a few short- and black-haired linings from womens national dresses. One was from Nuuk dated 1882 and a skull from 1958 in Maniitsoq with the tag identifying it as "the last labrador dog". The DNA from both samples confirmed higher levels of European dog sharing. The tradition of using short haired black fur is still alive just using other types of fur. We don't know if the keeping and use of labrador dogs date back to the European whaling period or whether they were imported by later colonists.

Making research relevant

Anders Johannes Hansen of the Qimmeq Project feels that *"you can't help but become fascinated by Qimmeq's thousand year long tight connection to Inuit. We have studied how Qimmeq genes have changed through centuries and we have identified different patterns in the variation in the different Qimmeq populations. The patterns also mirror periods of starvation and epidemics, where dog populations have diminished.*

Anders is determined that the research results should be used for the benefit of the Qimmit and their owners. For instance how to prevent inbreeding in the relatively small population of Tunu Qimmeq. He also states that *"the 50 % reduction of the sled dog populations all over Greenland in the past decades does not appear to give inbreeding problems yet, but it is wise to be alert and take precautions if it becomes necessary. Greenland has already lost one unique dog population, and we want that to be the last".*

Article title:

Feuerborn et al. (2025) 'Origins and diversity of Greenland's Qimmit revealed with genomes of ancient and modern sled dogs. *Science*

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Links:

<https://en.nka.gl/heritage/dogs/research-and-preservation-ongoing-projects/>

<https://da.uni.gl/forskning/Qimmeq-en-jagt-paa-slaedehundens-sjael/>