

**OLOF ERSSSON LINDAHL**

**OCH HANS DNA**

Erling Häggström Gunfridsson

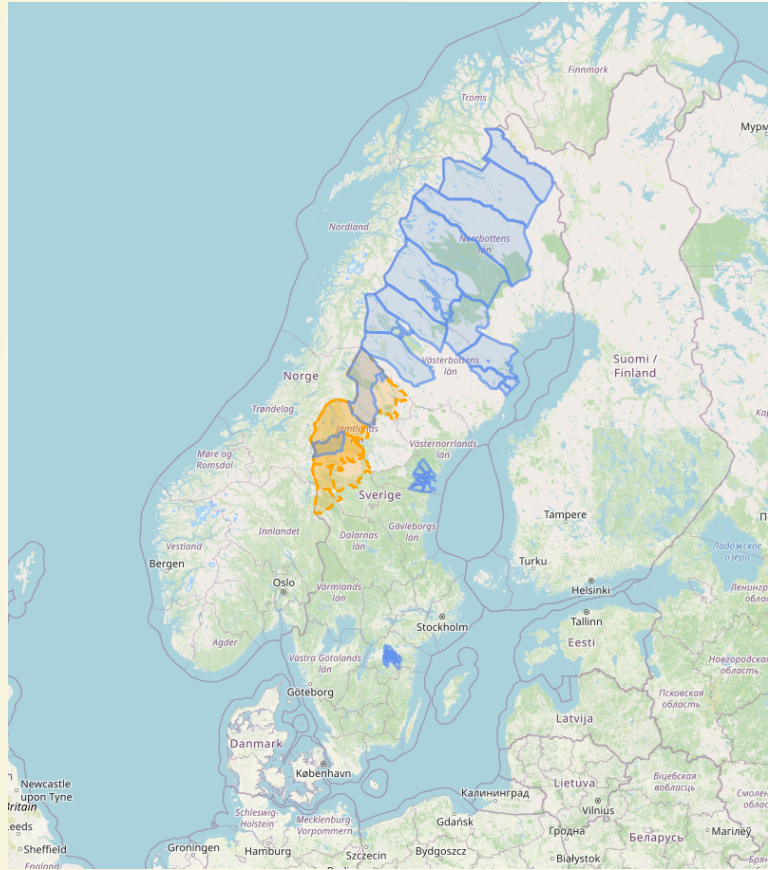
Vilhelmina

2024-08-25

# OM MIG

- Statistiker vid Demografiska databasen/CEDAR
- Vi digitaliserar och forskar på kyrkboksdata
- Tillgängligt via Familia: <https://familia.ddb.umu.se/>

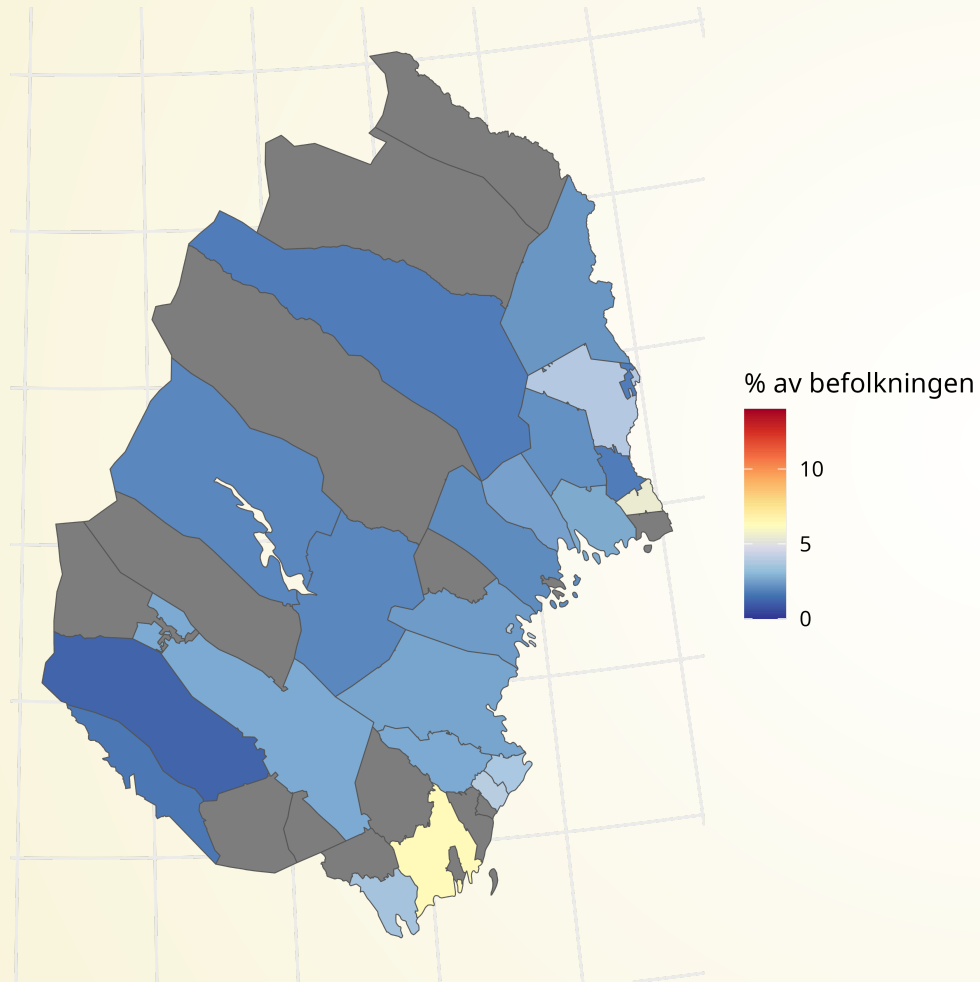
# FAMILIA, OMRÅDEN



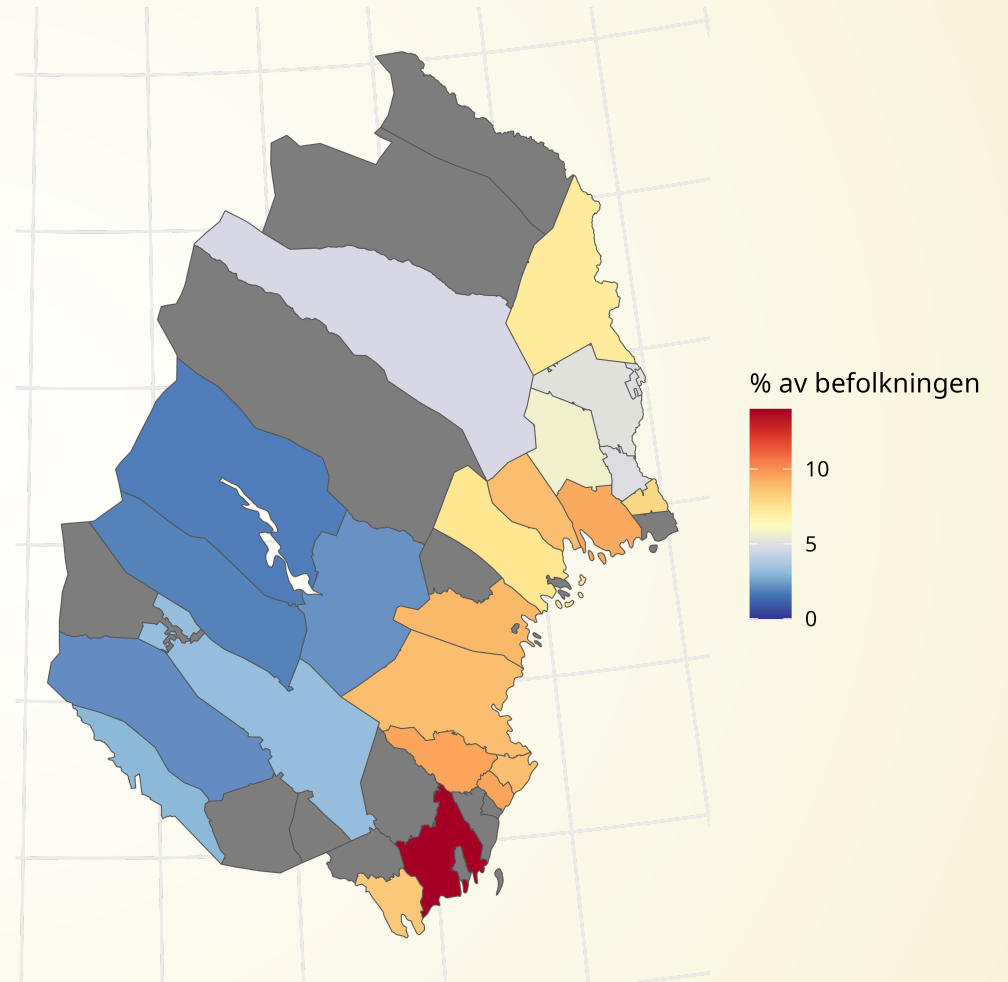
- Lappland
- Skellefteå
- Sundsvall
- Linköping

# KRISER UNDER 1800-TALET, FINSKA KRIGET 1808-1809

Mortalitet 1808

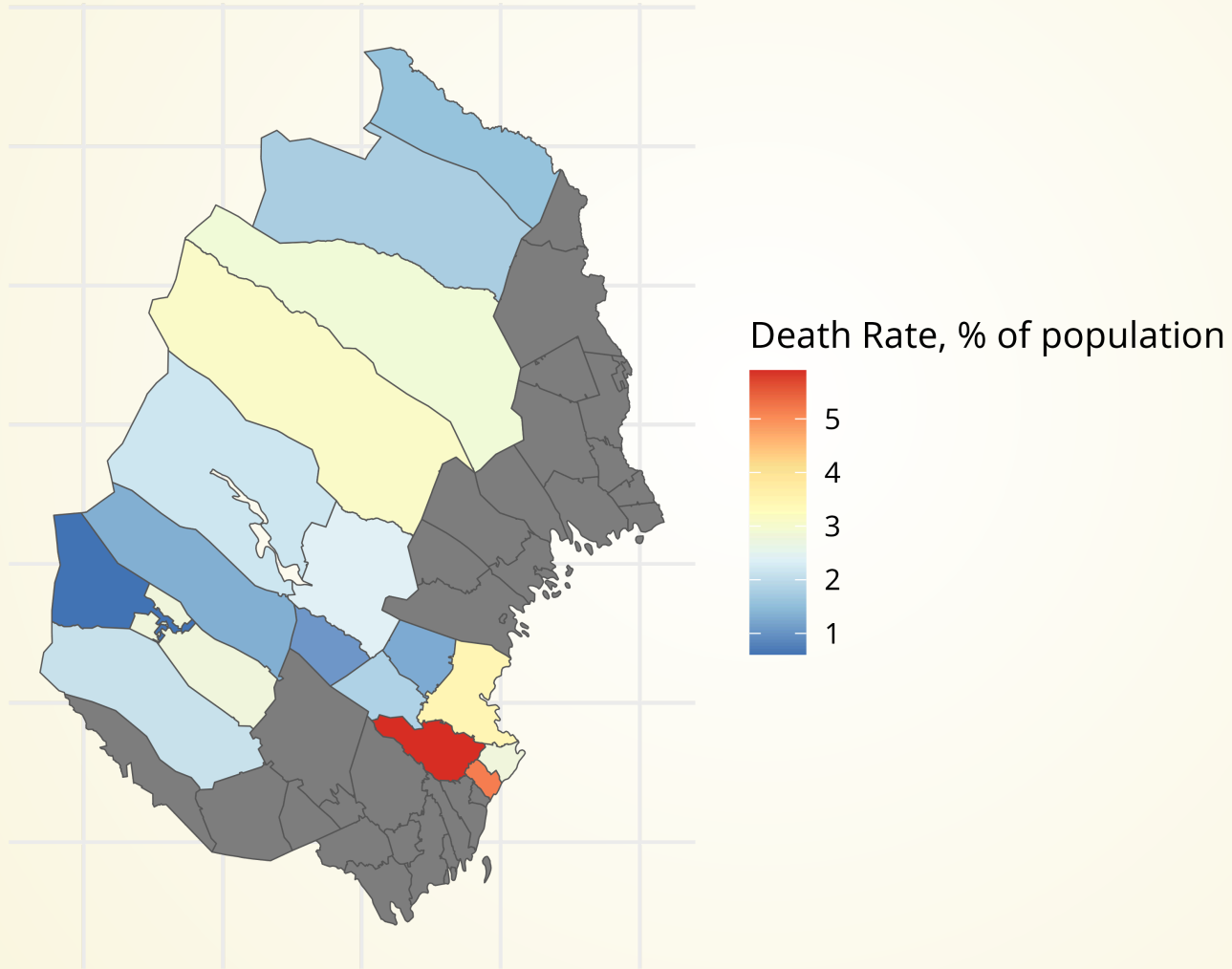


Mortalitet 1809



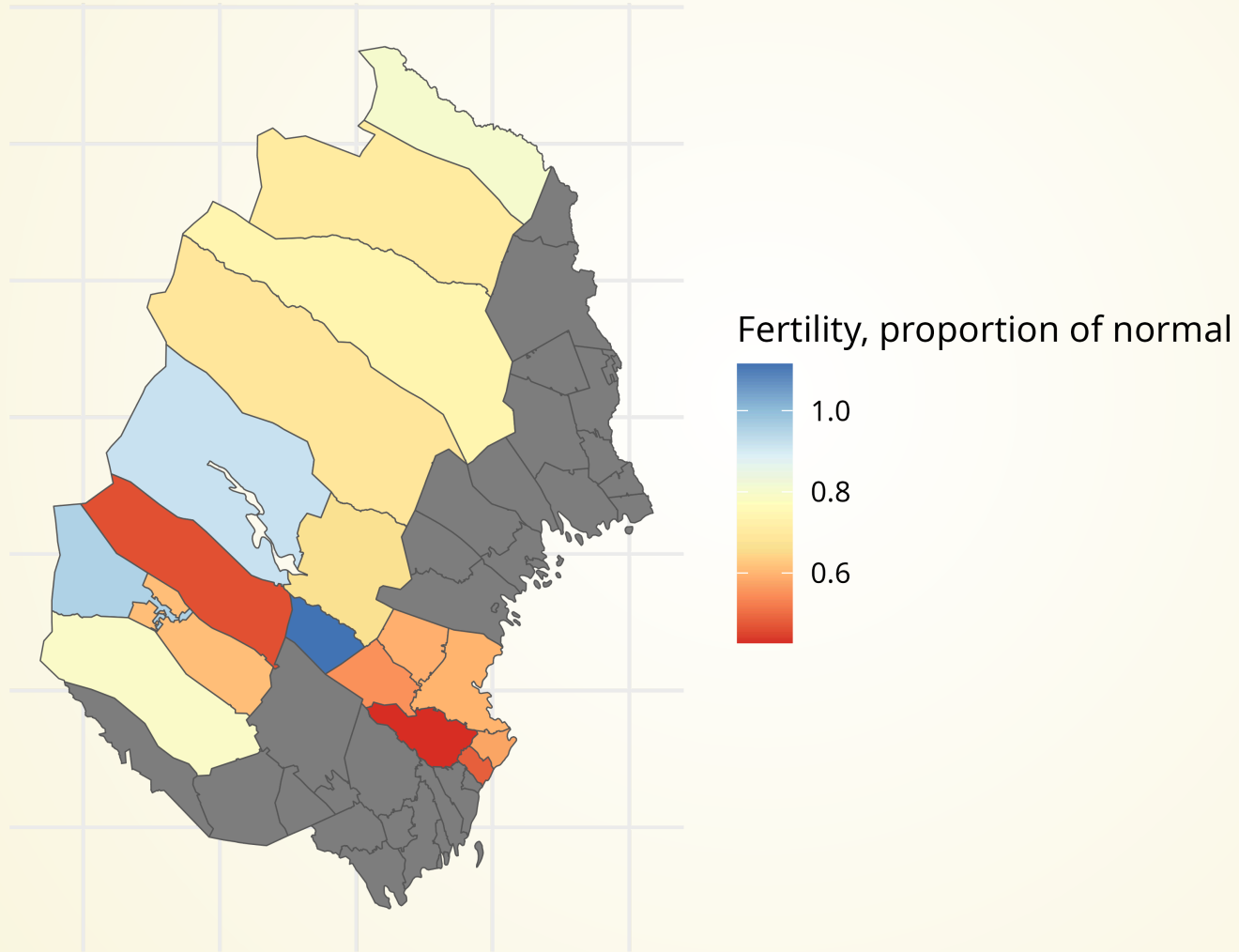
# KRISER UNDER 1800-TALET, STORSVAGÅREN

Death Rates by Parish in Northern Sweden 1868



# KRISER UNDER 1800-TALET, STORSVAGÅREN

Fertility by Parish in Northern Sweden 1868 compared to 1860-1865



# INAVEL I SKELLEFTEÅ

ANNALS OF HUMAN BIOLOGY  
2024, VOL. 51, NO. 1, 2369281  
<https://doi.org/10.1080/03014460.2024.2369281>

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RESEARCH PAPER

OPEN ACCESS

Check for updates

**Long-term health outcomes from inbreeding in a historical Swedish population: longevity, fertility, and impairments**

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**ABSTRACT**  
**Background:** Inbreeding, arising from consanguinity between related parents, has been observed to impact the health of individuals, typically attributed to biological factors. Nevertheless, these effects may be influenced by the social and environmental conditions. The prevalence of consanguineous marriages increased in certain parts of Sweden after it became legal in 1844, which offers a unique opportunity to study and understand the effects of inbreeding on health.  
**Aim:** The objective of this study is to explore the potential impact of inbreeding on the longevity, fertility, and impairments of individuals born in the Skellefteå region, Sweden, between 1890 and 1905, with a follow-up period extending until 1950.  
**Subjects and methods:** The level of inbreeding is calculated using micro-level parish register data and related to longevity, fertility, and impairments using regression analysis.  
**Results:** Inbreeding is shown to be associated with longevity, fertility, and impairments. It seems to affect the risk of stillbirth and impairments and male longevity and fertility.  
**Conclusion:** Inbreeding seems to have had a detrimental effect on some health outcomes in this historical population under study.

**ARTICLE HISTORY**  
Received 7 November 2023  
Revised 16 May 2024  
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**KEYWORDS**  
Human inbreeding; consanguinity; fertility; impairment; longevity

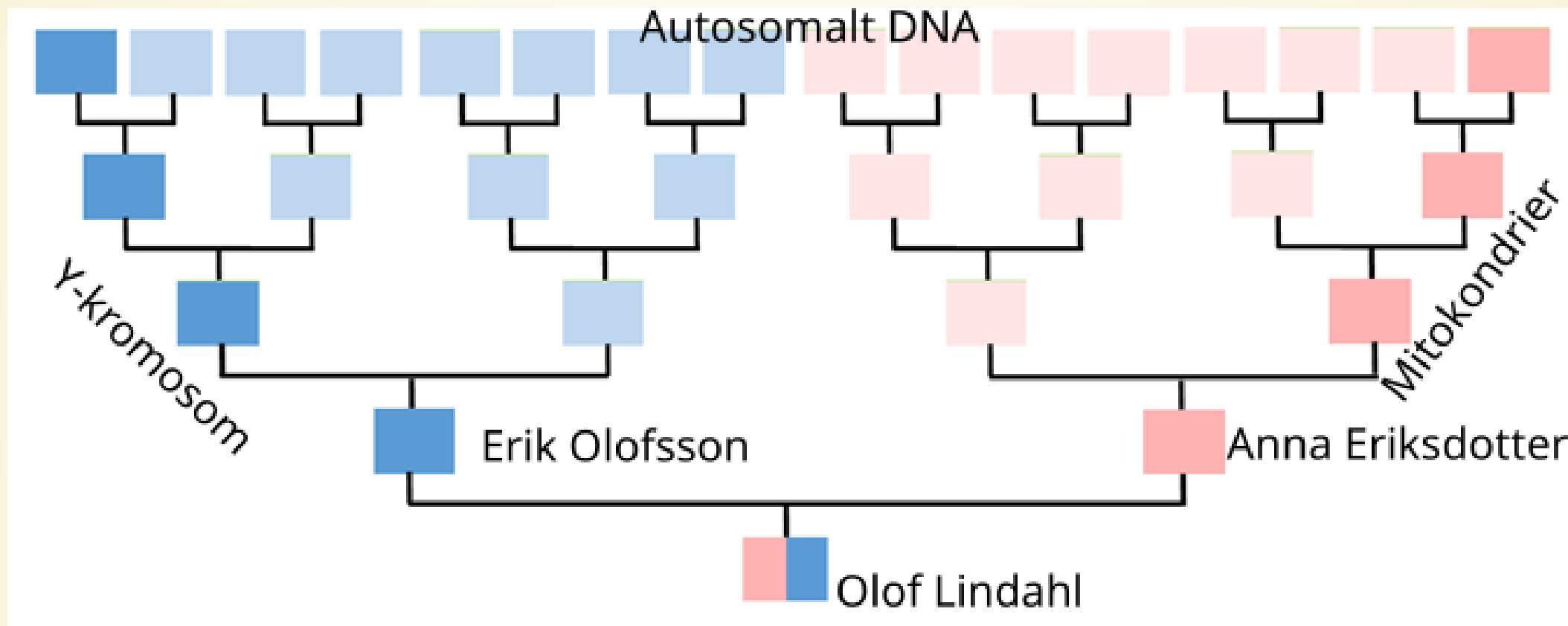
- Bygger på kyrkoboksdata
- Vad hände tidigare?
- Lösning:
- DNA släktforskning!

# DNA SLÄKTFORSKNING

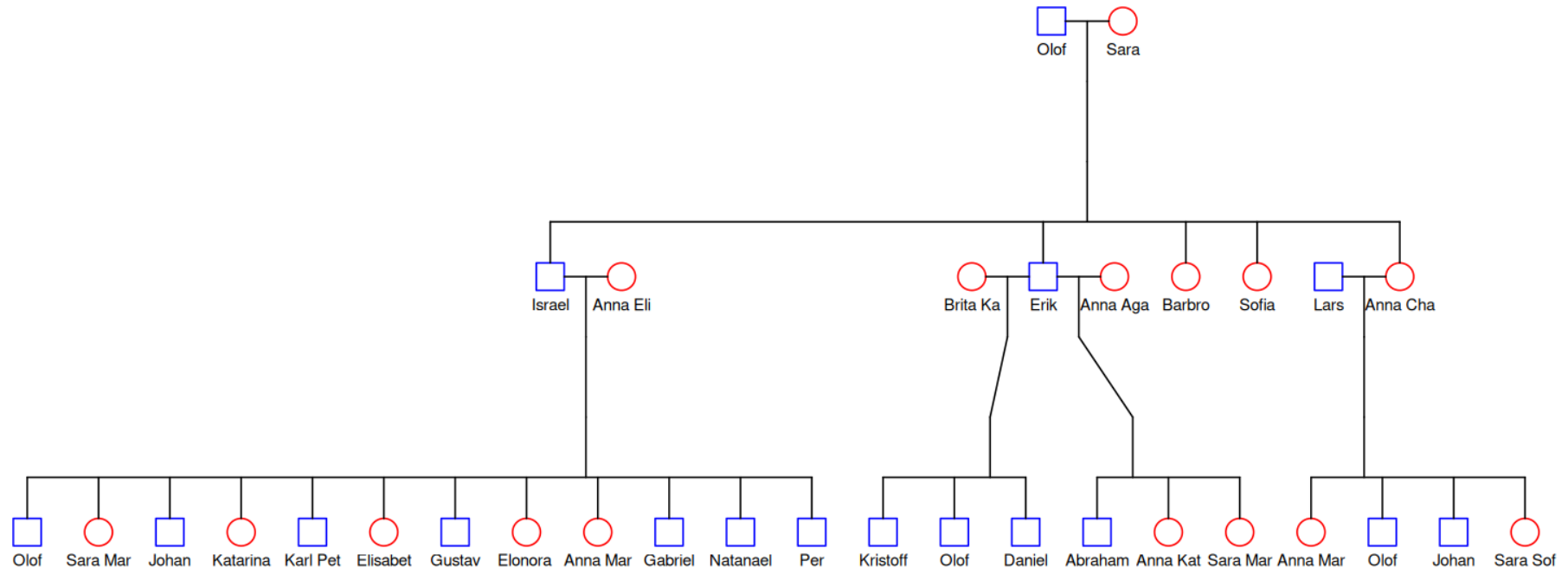
- Y-kromosomen, manslinje
- Mitokondrierna, kvinnolinje
- Autosomalt DNA, kan komma från alla förfäder



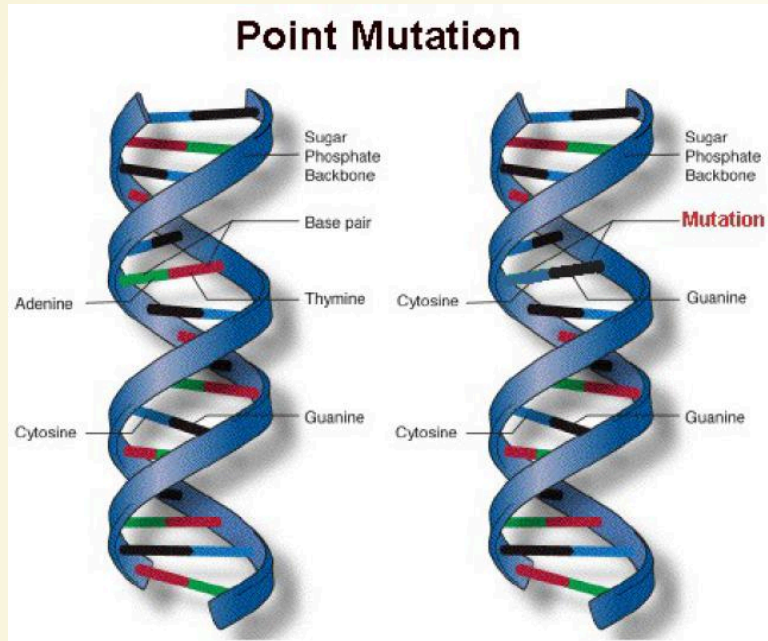
# FÖRFÄDER:



# ÄTTLINGAR:

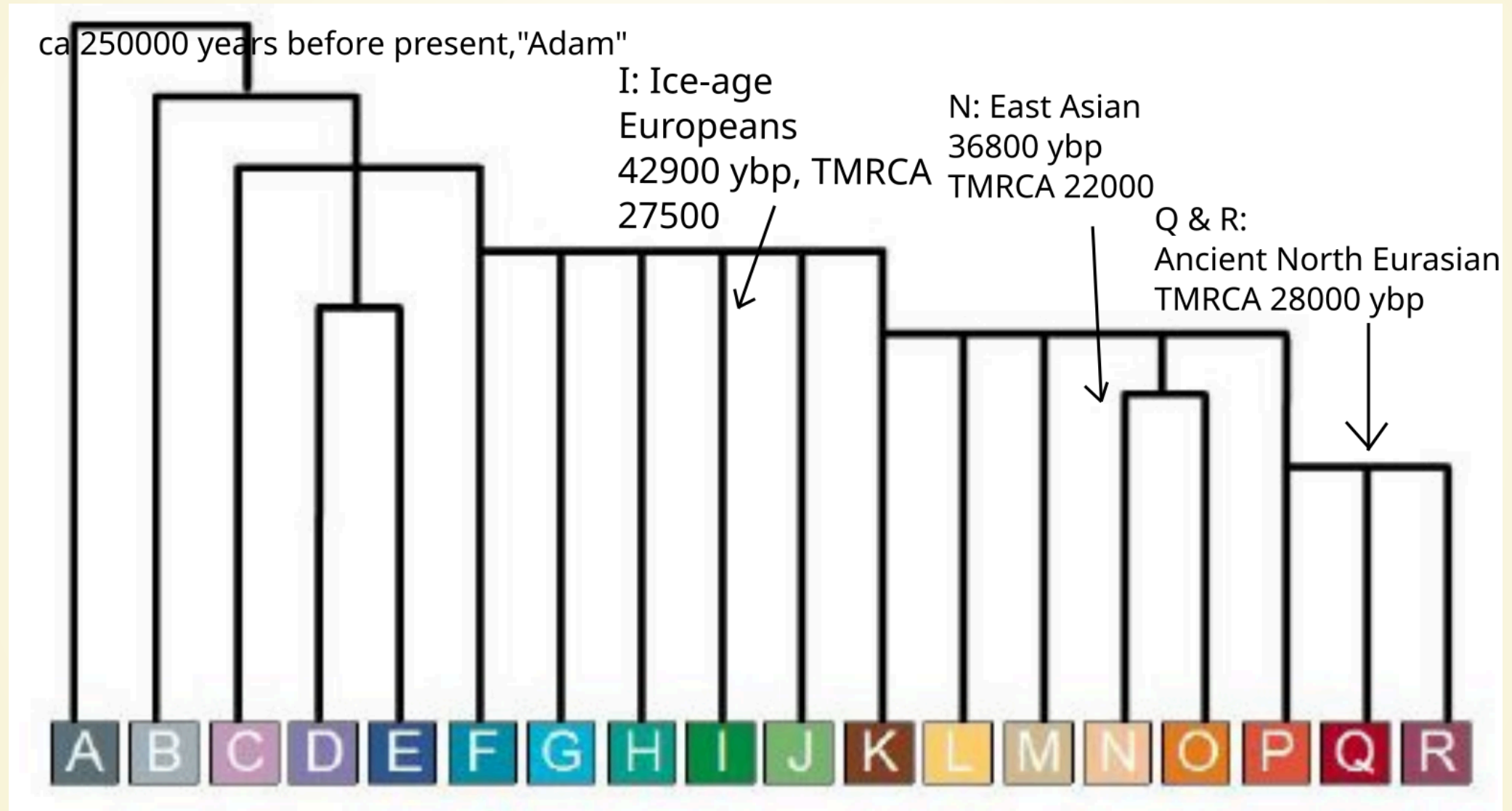


# MUTATIONER I Y-KROMOSOMEN

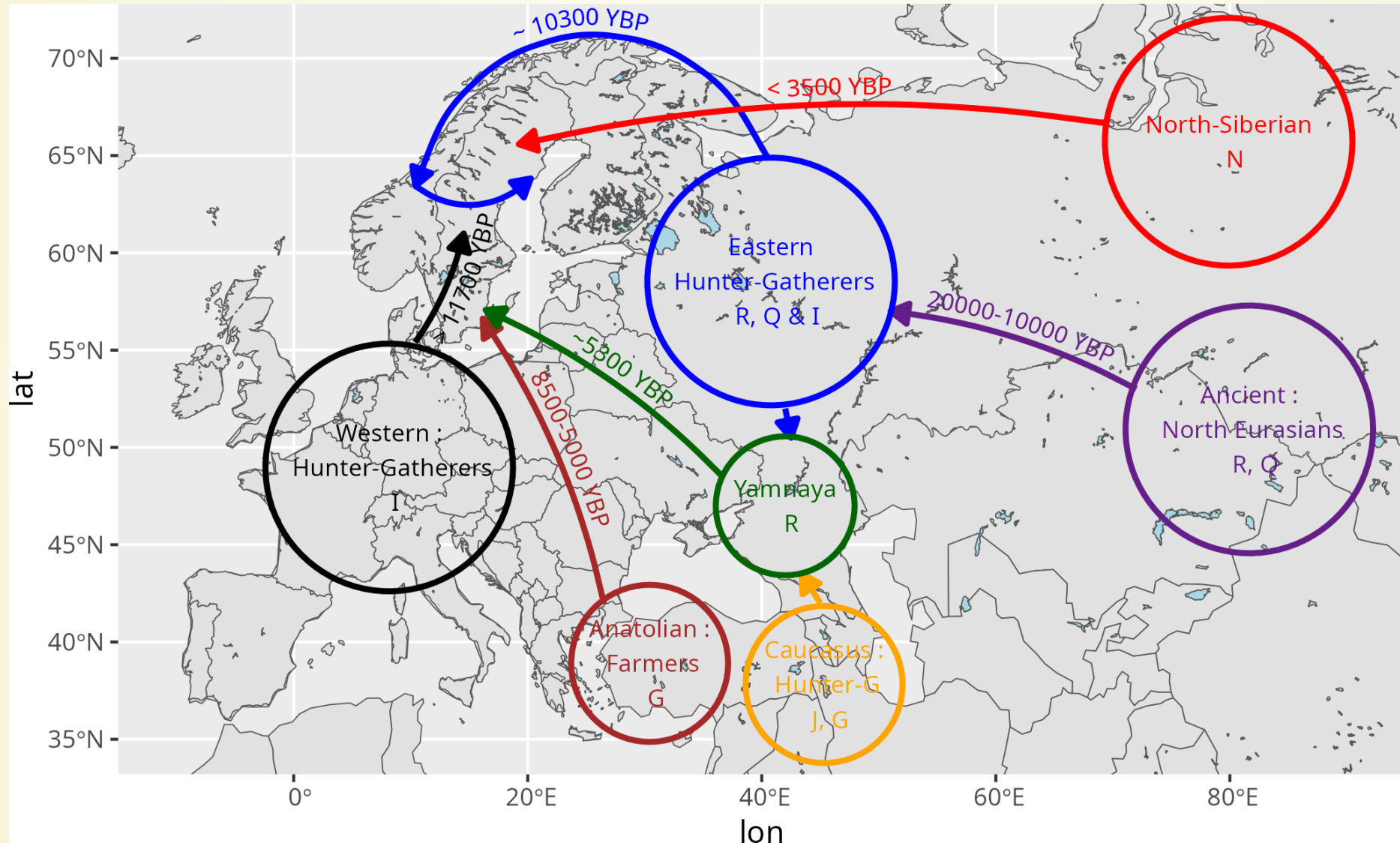


Mutationer  
slumpmässiga:  
En på 140 år

# HAPLOGRUPPER

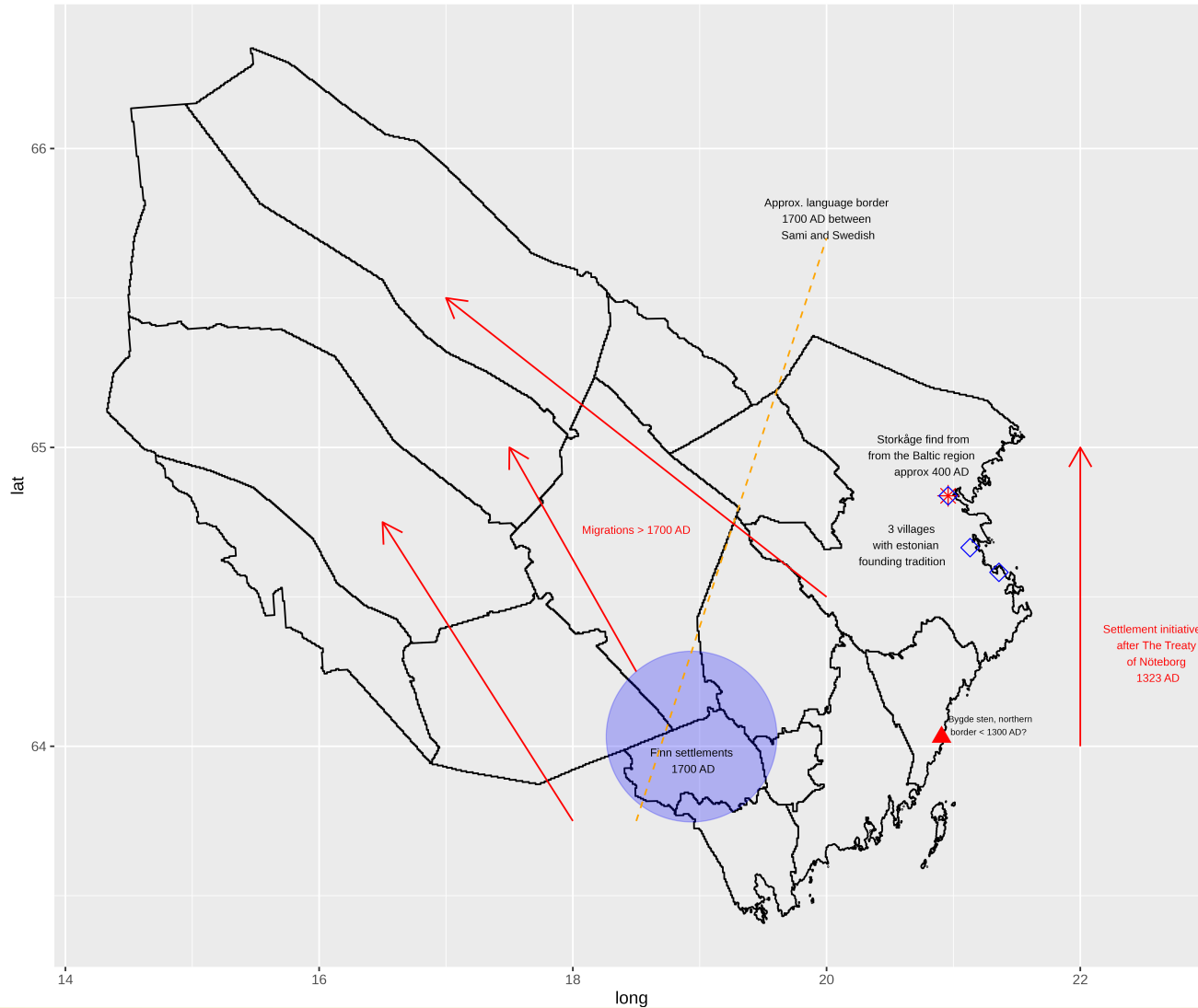


# KOLONISATION EFTER ISTIDEN

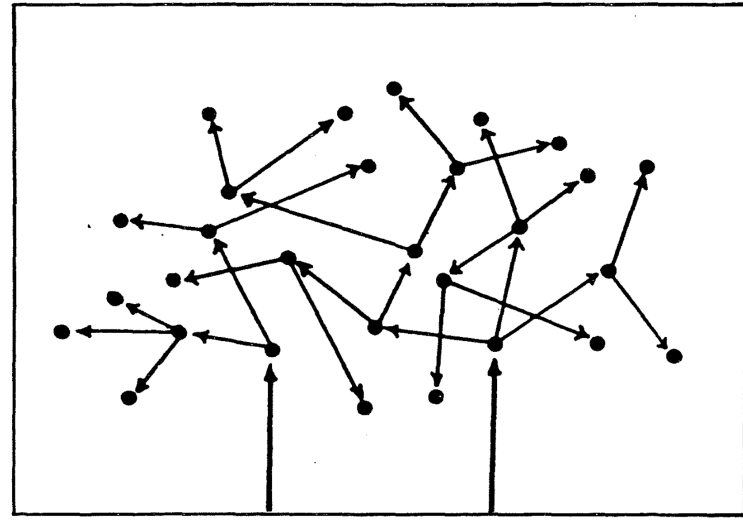


# MIGRATION

Settlers in Västerbotten



# KLON-KOLONISATION



- Bylund (1988) föreslår “Klonkolonisation”
- Söner flyttar och startar nya byar
- Borde avspeglas i Y-kromosomerna!

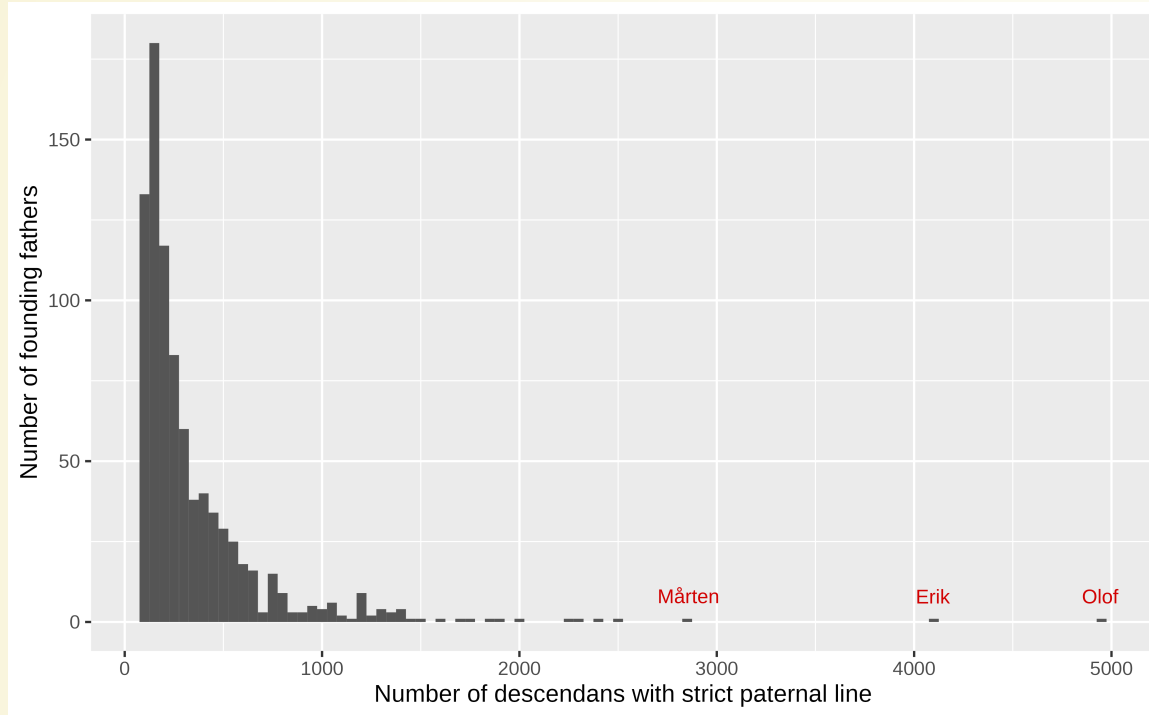
# KLON-KOLONISATION, KYRKBÖCKER

## Clone Colonisation





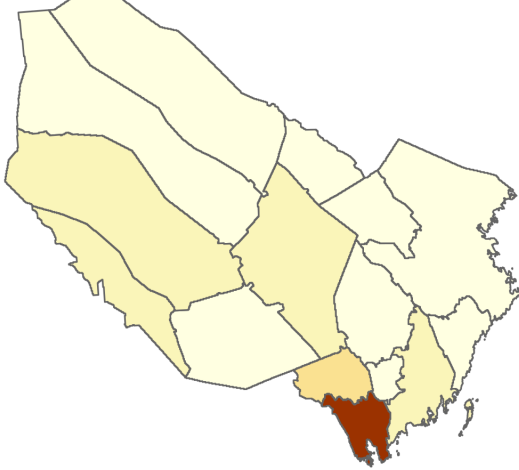
# KLON-KOLONISATION, KYRKBÖCKER



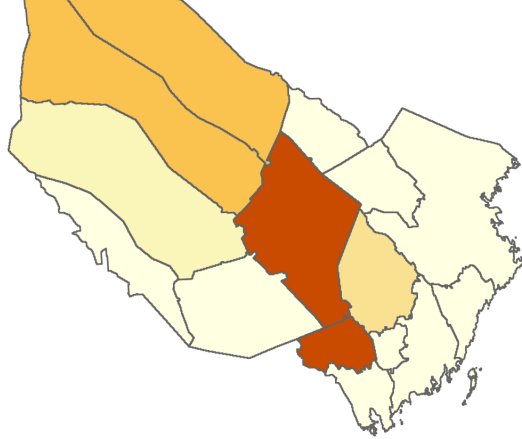
- Y: Antal urfäder
- X: Antal med farslinje till urfäder 1900
- 3 män har extremt många ättlingar!

# KLON-KOLONISATION, KYRKBÖCKER

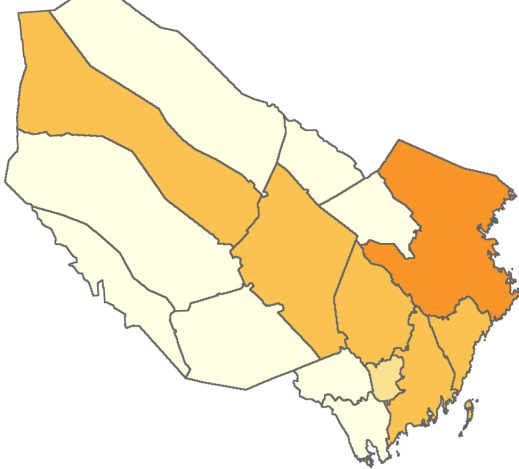
Olof Eriksson, ca 1470, Brattsbacka, 4960 descendants



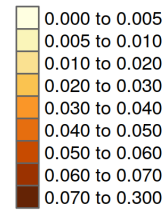
Erik, sons Erik and Håkan, Örrträsk & Knäppen, Y-DNA: Q-L804, 4083 descendants



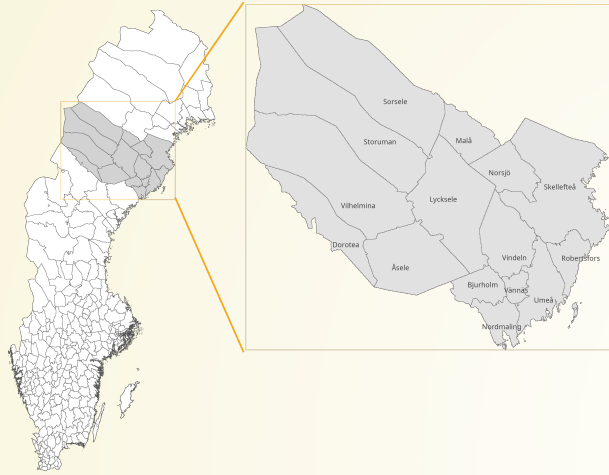
Mårten Larsson 1667, Burträsk, 2847 descendants



Proportion paternal lines

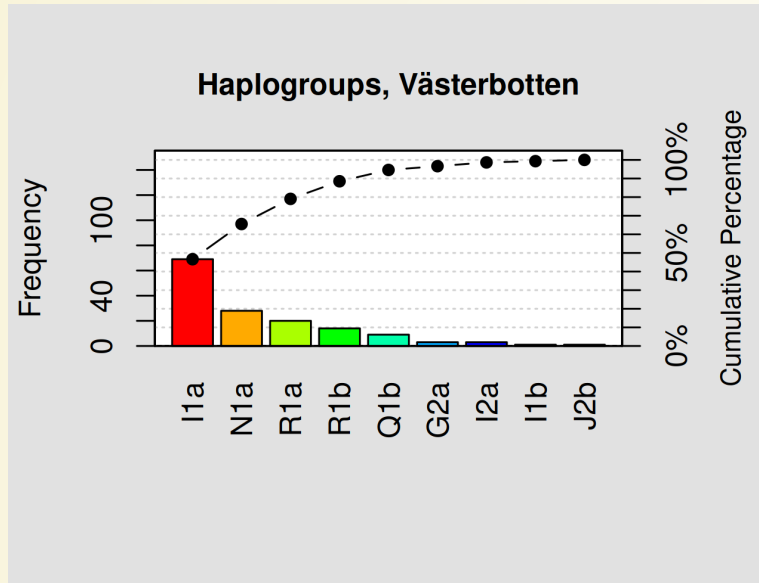


# DNA DATA



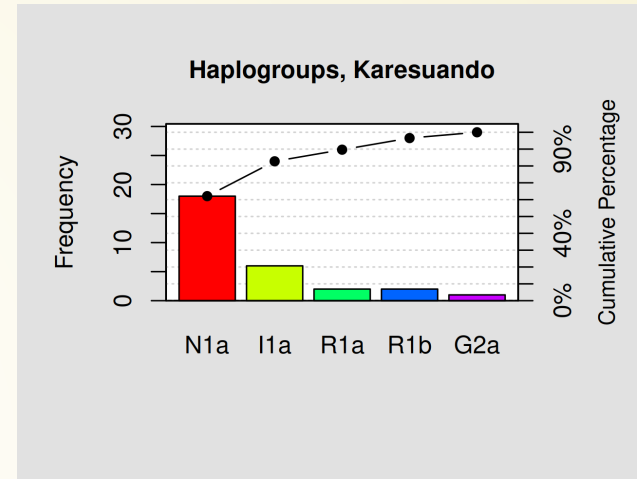
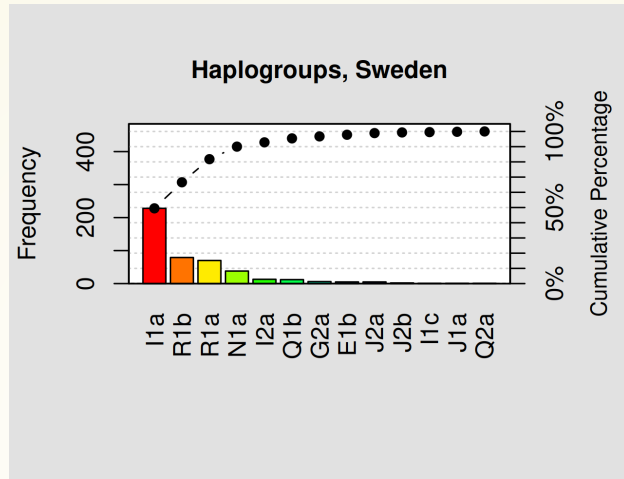
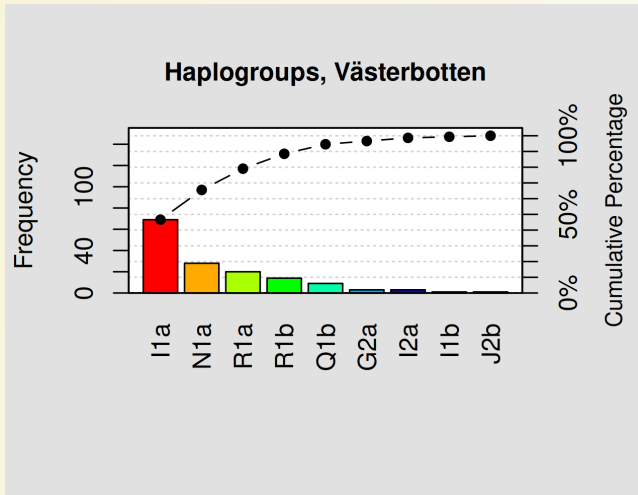
- **ACpop 148** äldre män från Västerbotten
- **SweGen 461** män från hela Sverige
- **NSPHS 29** män från Karesuando

# HAPLOGROUPS: VÄSTERBOTTEN



- I 47%
- N 18%
- R1a 13%
- R1b 9%
- Q 6%

# JÄMFÖRT MED DE ANDRA



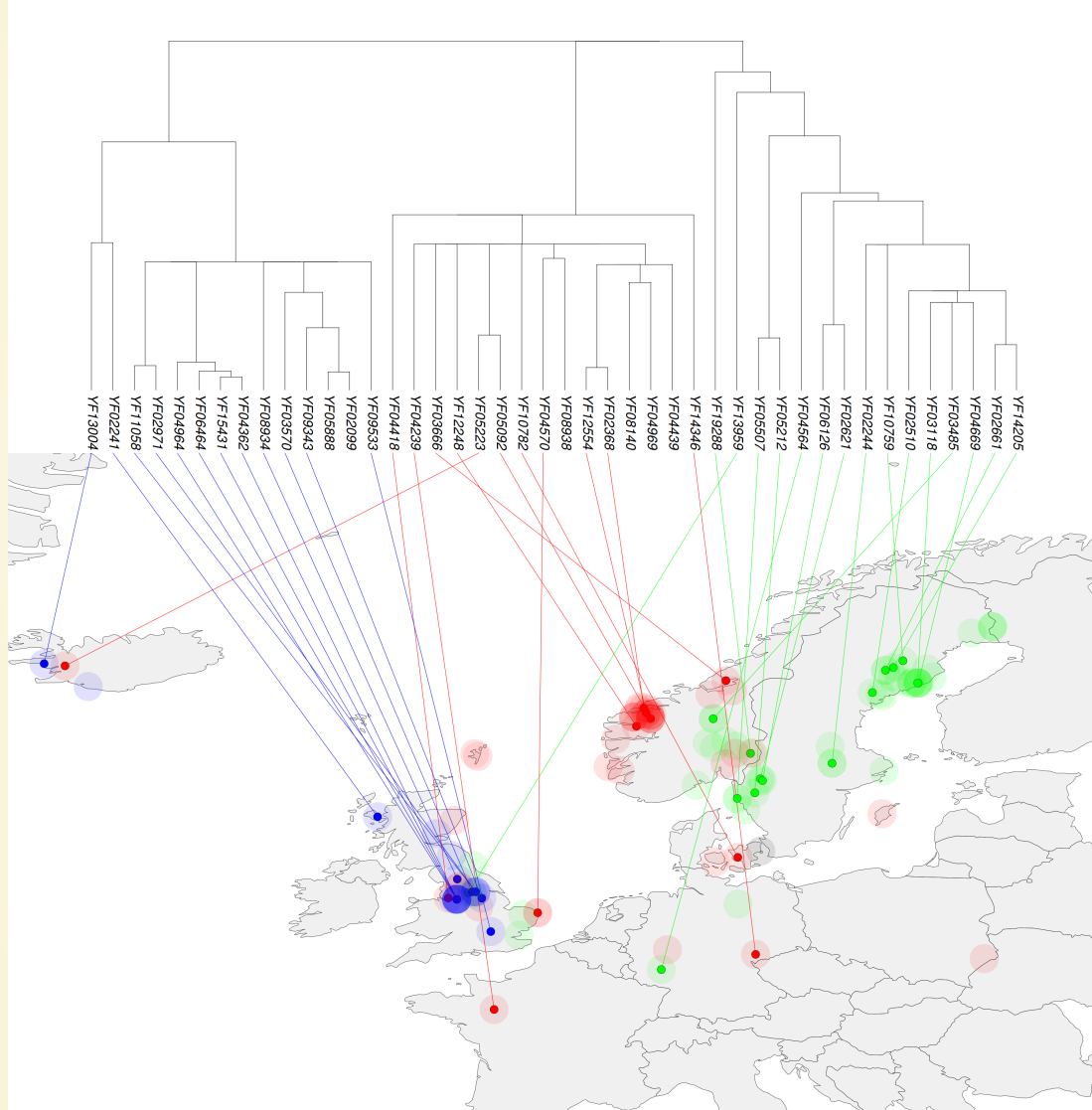
# FYRA GRENAR:

- Q, Ancient North Eurasian (ANE)
- R1a, R1b, ANE, Yamnaya
- N, East Asian
- I, Ice-age Europeans

# Q-L804

- Närmast släkt med Native American
- Tre europeiska grenar, svensk, norsk and brittisk

# GEOGRAFI FÖR Q-L804



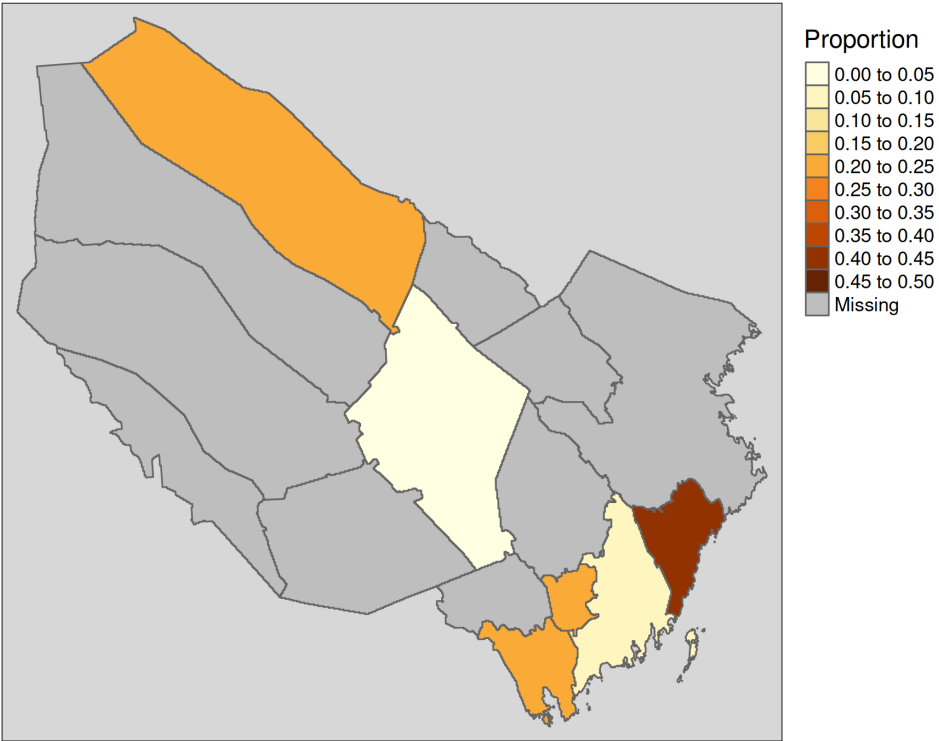


# ÄLSTA FARSLINJE I UMEÅ (KARTA 1661)



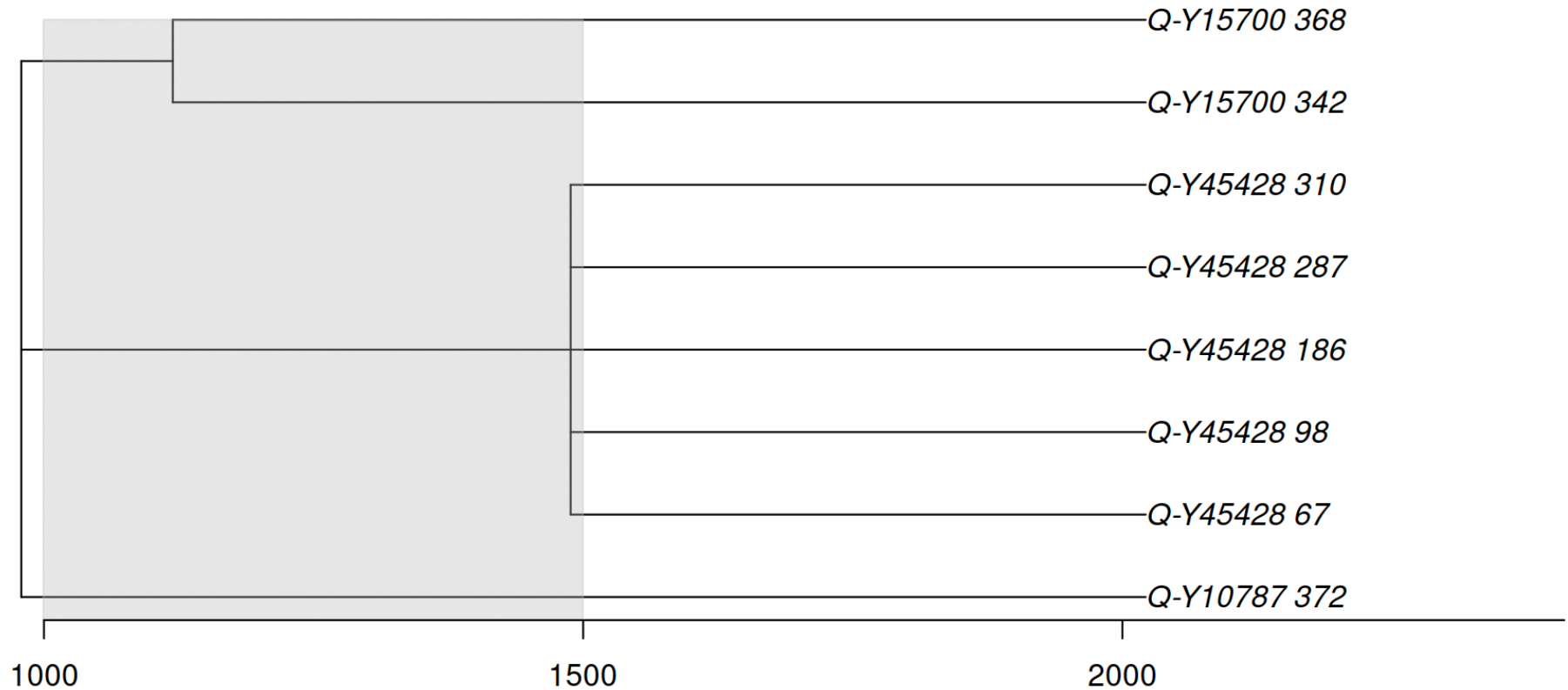
# GEOGRAPHY OF THE Q-L804 TESTERS

Q-L804



# Q-L804, UMEÅ GRENEN

Q1b1a1b3b1b : Estimated branch length in years



# Q-L804, GRAVFÄLT PÅ ÖN YUZHNY OLENY OSTROV

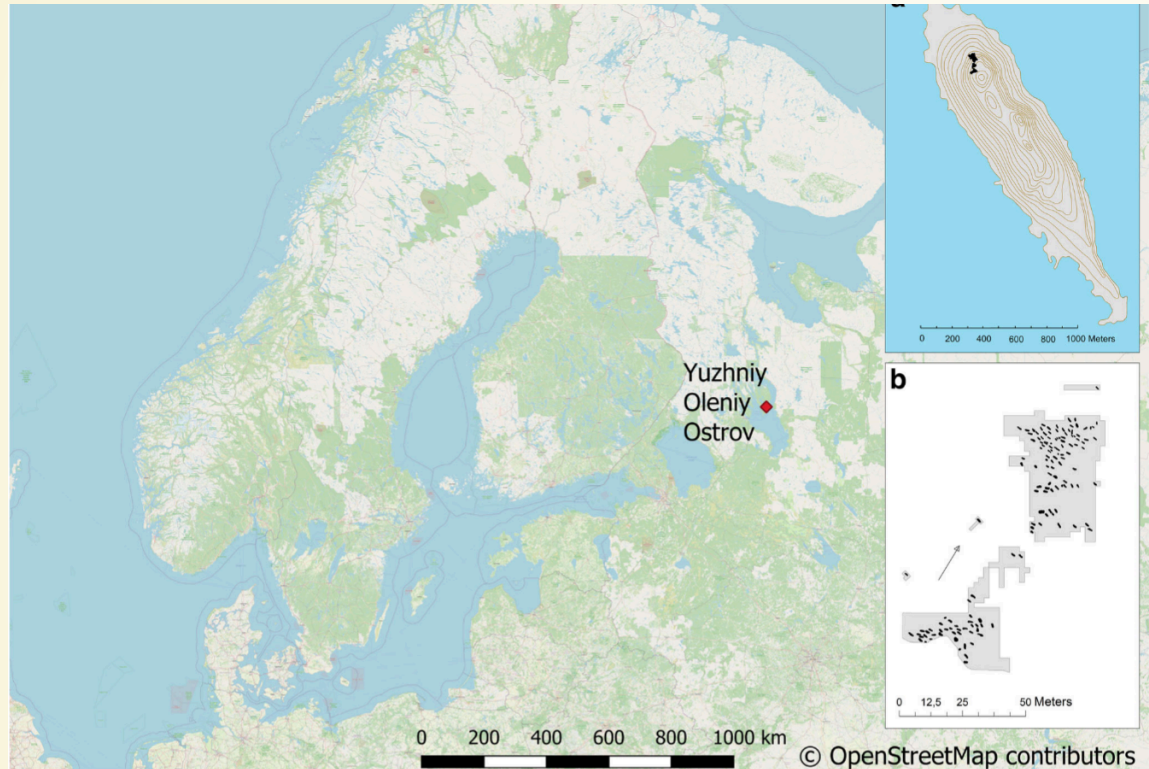
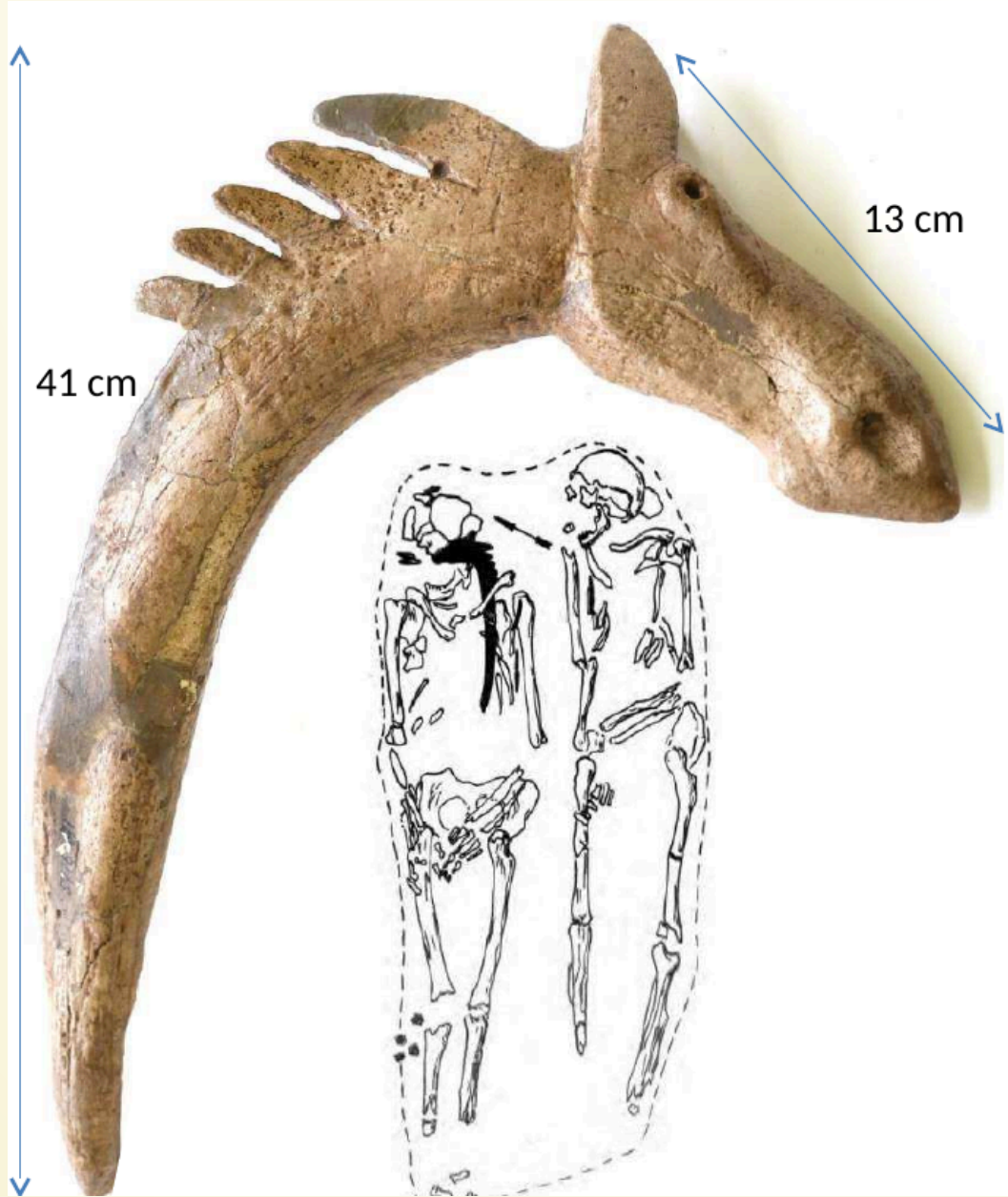


Fig. 1 Location of Yuzhny Oleniy Ostrov in Lake Onega, Northwest Russia, and the distribution of graves (according to Gurina 1956). Map: Johanna Roiha

- Eastern Hunter-Gatherers 8100 YBP
- Pressure-blade stone-tools

**Q-L804, GRAY 153**



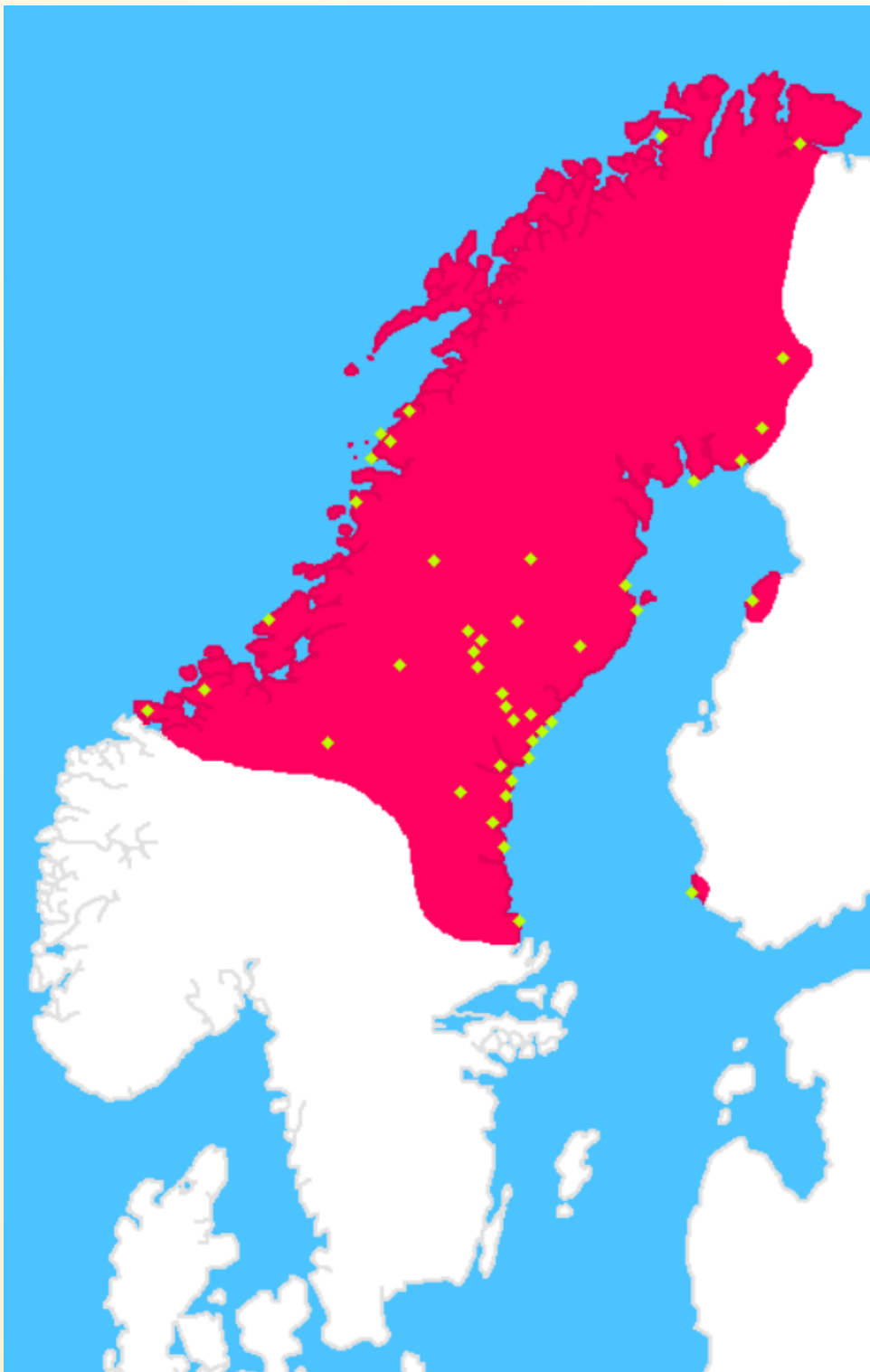
# Q-L804, NÄMFORSSEN



Älghuvudstavar?

**Q-L804, SKIFFERKULTUREN 5300-4000 YPB**





Älghuvudstavar?

# R, ÖLSUND, CA. 4570-4140 YBP



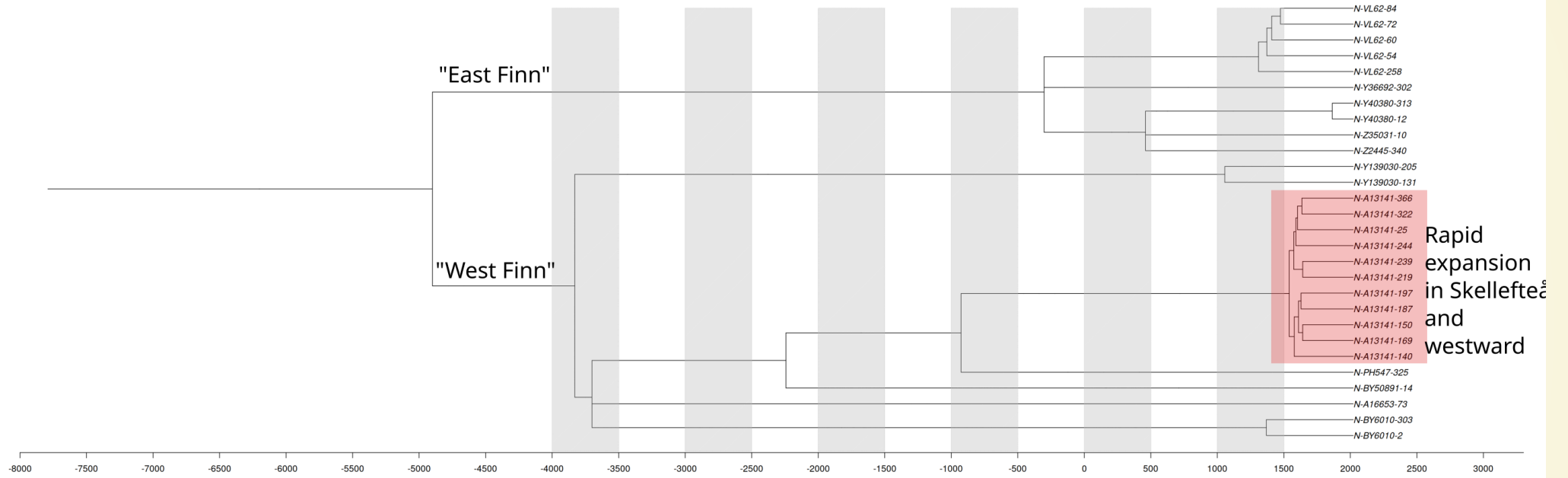
**SURA JORDAR LÖSER UPP BEN...**



Grav från Västra  
Ansvar 7500-  
6000 ybp

# N

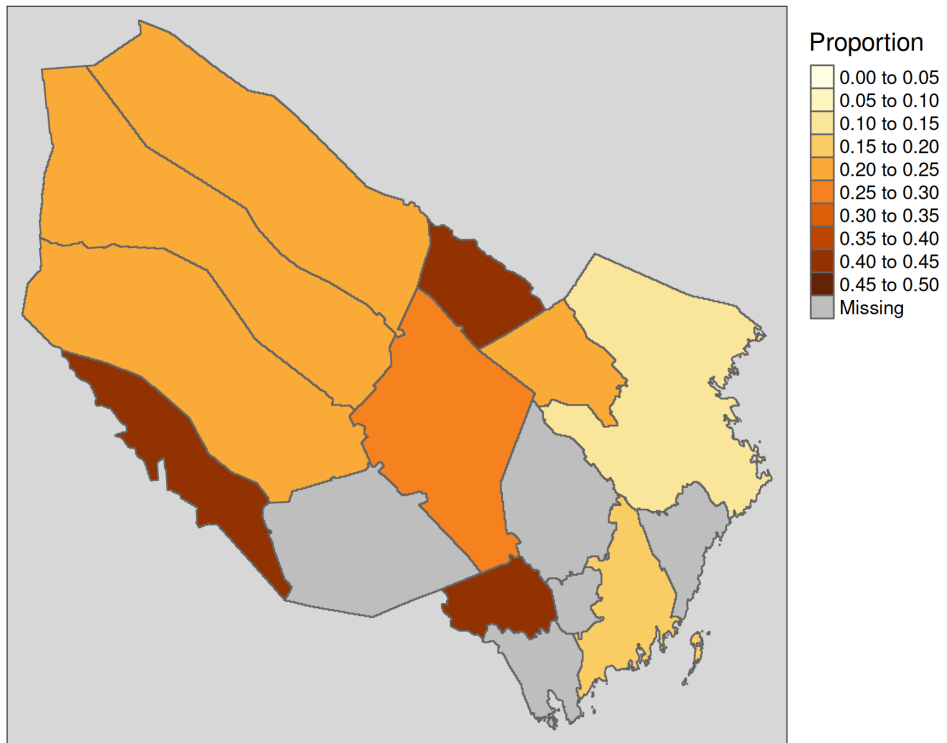
N : Estimated branch length in years





# N TESTARE

All-N1a



# STORKÅGE, 1600 YPB









# I-L1302, SALME VIKING MASS-GRAV



- Saaremaa, Estland  
700-750 AD
- 3 av 42 av männen I-L1302

# MASSGRAV I OXFORD, EN VIKING L1302



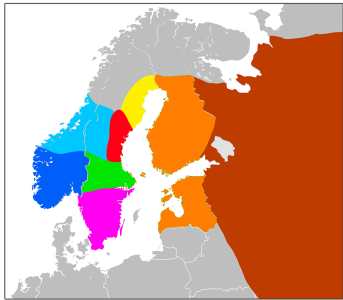
# I1-L1302 PROJEKTET

## I1-L1302 Tree

Tree of all BigY results of men on the I1-L1302 branch. They all have a common ancestor who lived in the 3rd-4th Century AD.

Analysed and presented 2018-12-25 by the I1-L1302 Project Team: Peter Sjölund, Aleksandr Seliverstov, Jakob Norstedt, Niclas Burenhult and Erik Holmlund.

## Geographic regions



Tree nodes are labeled with FTDNA kit number of the tested person.

Nodes are geographically colour coded according to where the tested man's earliest known ancestor lived.

Splitting branches within the tree are labeled with name of a SNP shared by all men on sub-branches.

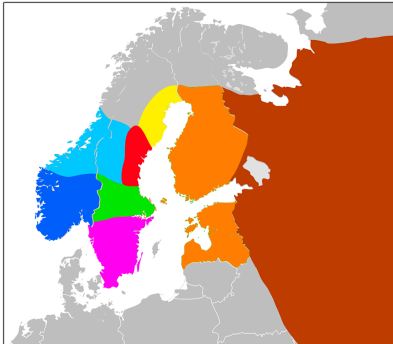


# I1-L1302 Tree

Tree of all BigY results of men on the I1-L1302 branch. They all have a common ancestor who lived in the 3rd-4th Century AD.

Analysed and presented 2018-12-25 by the I1-L1302 Project Team: Peter Sjölund, Aleksandr Seliverstov, Jakob Norstedt, Niclas Burenhult and Erik Holmlund.

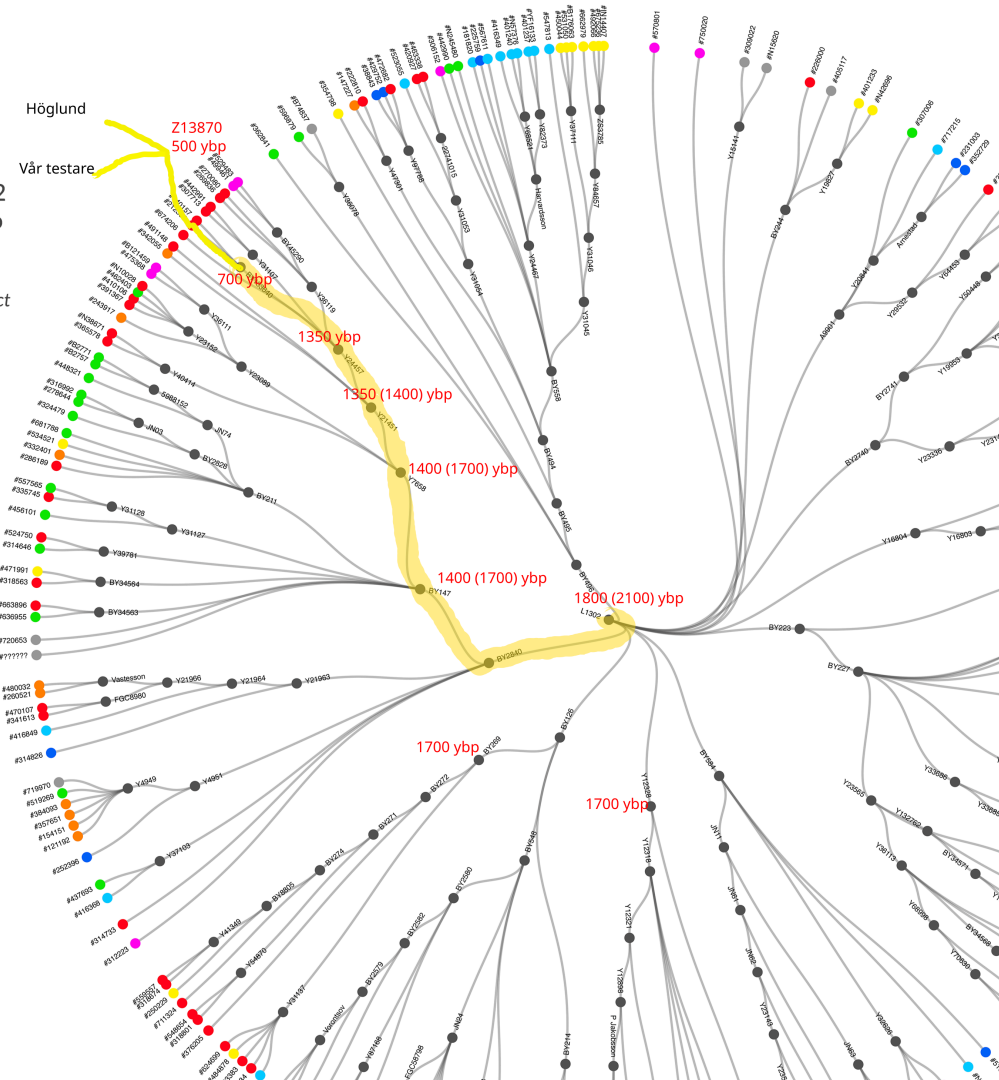
## Geographic regions



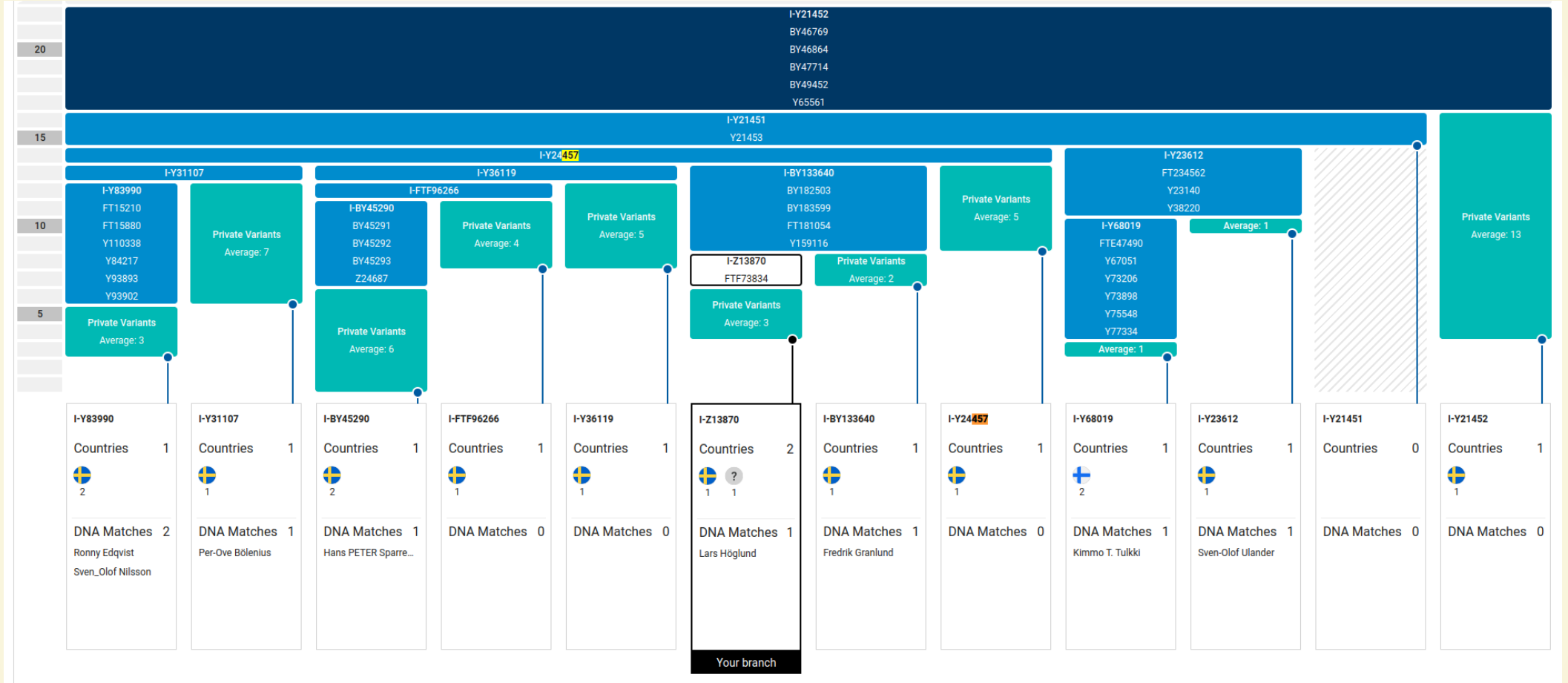
Tree nodes are labeled with FTDNA kit number of the tested person.

Nodes are geographically colour coded according to where the tested man's earliest known ancestor lived.

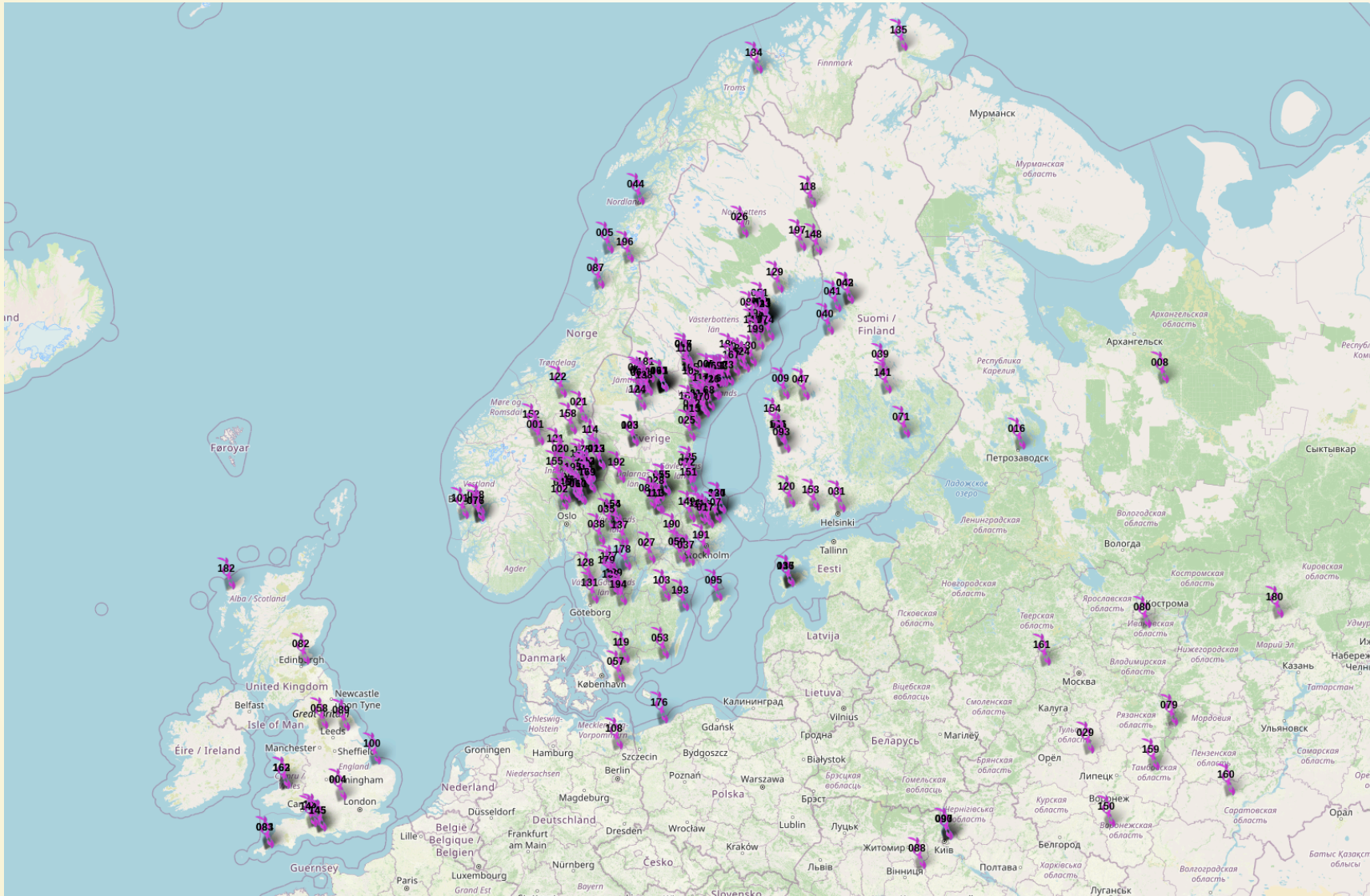
Splitting branches within the tree are labeled with name of a SNP shared by



# BLOCKTRÄD

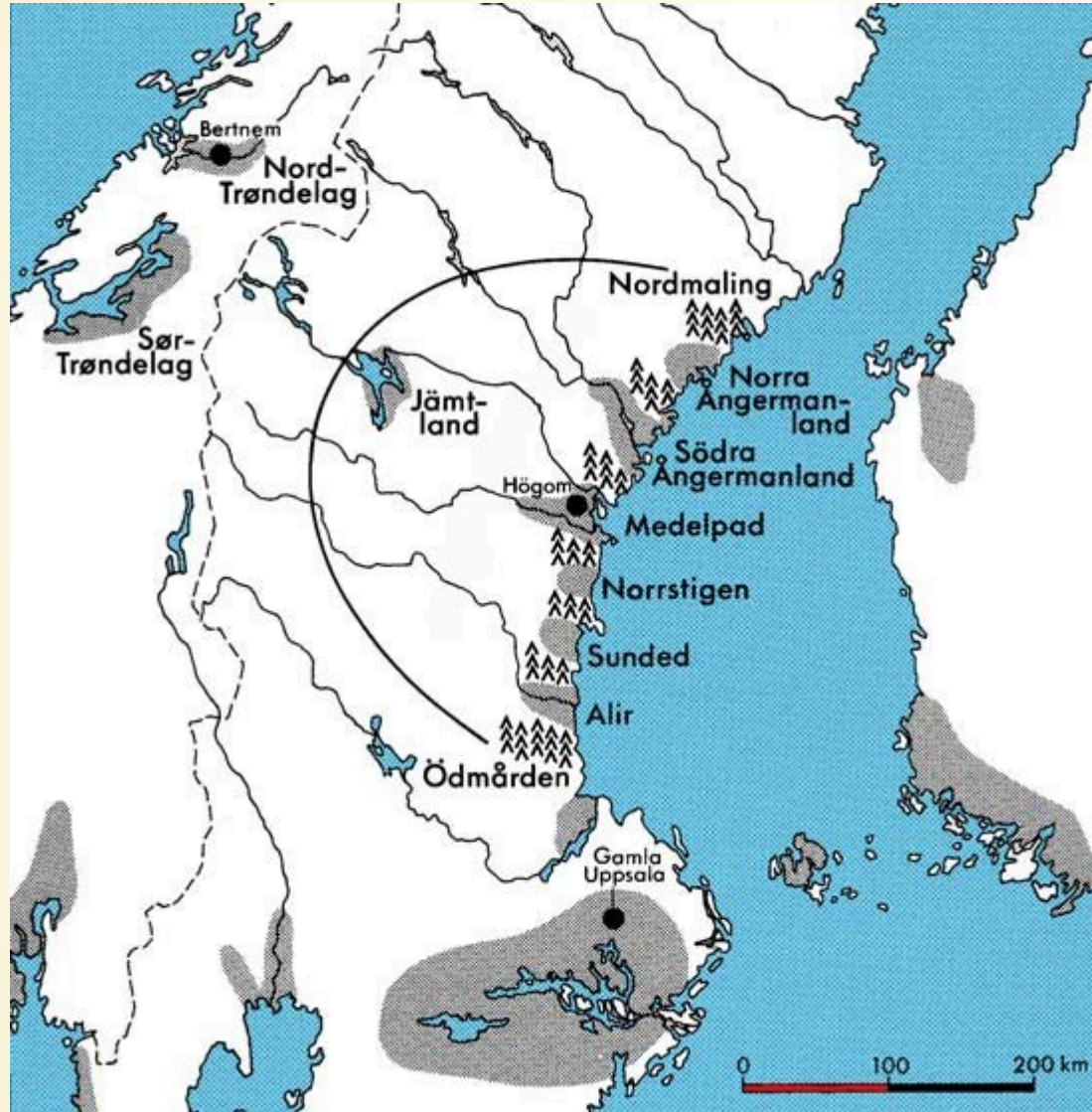


# I-L1302





# STOR-HÄLSNINGLAND



# RÖDKLITT, FORNBORG 1600-1000 YBP



# ANTALET MANLIGA LINJER I VÄSTERBOTTEN ÖVER TID

