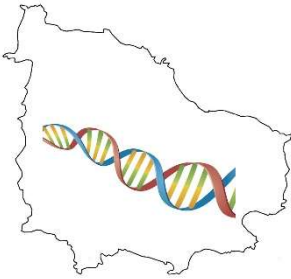


Norfolk Island DNA

by Kerry Farmer



Population studies have examined the DNA of hundreds of Norfolk Islanders who had at least one ancestor among the original founding population that travelled in 1856 from Pitcairn Island. These studies found that their DNA supported the claims of their genealogy.

For example, mitochondrial DNA (mtDNA, inherited from one's mother's mothers) indicated that 45% of those tested descended from Polynesian females, with haplogroup B4a1 inherited from six Polynesian founders, along four separate lineages. The other 55% had mtDNA with haplogroup H, indicating some European female ancestor.

All the tested males with Pitcairn ancestry had Y-chromosomes indicating likely European ancestors. The most common haplogroups were R1a, R1b, I and J. This Y-DNA would also have been common among the British convicts, soldiers and administrators who came to Norfolk Island.

Starting from an examination of the different types of DNA, this presentation looks at how to explore genetic matches for all types of DNA tested, whether or not someone has ancestors from Norfolk Island.

Medical studies have also examined the DNA of Norfolk Islanders because of the closed population group, with a small number of known ancestors with similar environmental influences. Studies were conducted into gene areas related to certain diseases, including: glaucoma, cardiovascular disease, migraines, obesity and type 2 diabetes. Among their findings was that a significant number had a higher tendency for migraines than the global population, especially females. This led to the conclusion that two areas on the X-chromosome contribute to the tendency.

Further reading

- Ancestry.com.au – **ancestry.com.au** (*DNA testing company*)
- DNA for Genealogists – **gould.com.au/dna-for-genealogists-4th-edition/utp0291/** (*book by Kerry Farmer*)
- DNA inheritance patterns – **dna-explained.com/y-dna-resources/** (*DNAeXplained, Roberta Estes*)
- European and Polynesian admixture in the Norfolk Island population – **nature.com/articles/hdy2009175** (*Heredity, McEvoy, Zhao, McGregor et al, 2009*)
- Family Tree DNA – **familytreedna.com** (*DNA testing company*)
 - Australian Convicts – **bit.ly/FT-Convicts** (*project*)
 - Australian Settler Arrivals – **bit.ly/FT-AustSettlers** (*project*)
 - Polynesian DNA – **bit.ly/FT-Polynesian** (*project*)
- (The) Family Tree Guide to DNA Testing and Genetic Genealogy – **bit.ly/FTG-DNA**
- GEDmatch – **gedmatch.com** (*third party site for comparing DNA from multiple testing companies*)
- Genetic ancestry groups and genetic similarity – **gcbias.org** (*Population & Evolutionary Genetics: UC Davis*)
- 'Mutiny on the Bounty': the genetic history of Norfolk Island reveals extreme gender-biased admixture – **bit.ly/BSB-NI** (*Investigative Genetics, Benton, Stuart, Bellis et al, 2015*)
- MyHeritage – **myheritage.com** (*DNA testing company*)
- Norfolk Island Health Study – **bit.ly/QUT-NI-health** (*QUT Health: Genomics Research Centre*)
- Understanding ancestry in the Norfolk Island population – **bit.ly/ABS-NI** (*Australian Bureau of Statistics*)
- Unlocking the Genealogical Secrets of the X Chromosome – **bit.ly/BB-Xchrom** (*Blaine Bettinger*)
- (An) X Chromosome Association Scan of the Norfolk Island Genetic Isolate – **bit.ly/PLOS-NI-X** (*PLOS*)

