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WORD TO THE YS: THE TREZISE FAMILY AND ITS ORIGINS IN CORNWALL

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By David Trezise

Abstract
The Trezise DNA Project started in 2008 with sixteen (16) subjects who underwent cheek swabbing as well as a family tree analysis. All persons had surname spellings Trezise, Tresise, Tresize, Trezies and had family trees with data springing from the 1600s that had been compiled using Parish records, wills, the census and latterly certificates.

A 67-marker Y-STR BATWING test[1] indicated they were possibly all related so basic Y-SNP testing of the Y chromosome was undertaken. All samples were part of the R1b-Z16943 branch of the world-wide Y DNA haplogroup tree and remarkably it appeared that more than half of the STR profiles could be mapped to an area within Cornwall. It was hypothesised that deeper SNP profiles would be an even better way to map back to Cornwall.

The advent of the Big Y-700 from Family Tree DNA in 2019 gave an opportunity to test the hypothesis so twenty five (25) subjects with the Trezise surname or one of its variants was chosen for the study. This testing revealed that the Trezise family derived from a single male who moved into Cornwall probably from Devon and that SNPs can be used to document family lines for males living outside Cornwall.

History of the Trezise Surname
The surname Trezise derives from a Cornish byname (TRE meaning place, farm or dwelling – SIES meaning English or Englishman[2]).
The first documented instance found is a Robert de Treseis living in Roche, Cornwall in 1302[3].
Migration since the 1600's has dispersed the name throughout the United States, Canada, Australia, South Africa, and New Zealand. Trezises have also moved to other counties in the United Kingdom including in England, Wales and Scotland.

Introduction
In 1905 Nettie Stevens, while working at Carnegie Institution in Washington, published a paper on the mammalian sex chromosomes X and Y[4].
The Y chromosome is the smallest of the human chromosomes and is only present in male individuals[4]. It is inherited by male children from their father. Male children get a Y chromosome from their father and an X chromosome from their mother[5].

It is the Y chromosome that has been followed in this study. It has a long arm and a short arm (see figure 1) and has around 57,000000 base pairs with around 40% useful for testing[6].

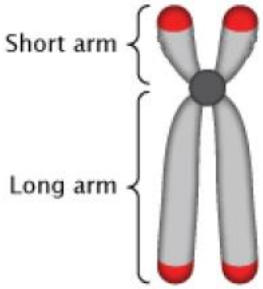

Figure 1: A diagrammatic representation of the Y chromosome.

Family Tree DNA in Houston, Texas does Y chromosome sequencing (Big Y-700 test) and has found over 500,000 unique mutations[6]. The GeneticHomeland database has over 1,600,000 SNP marker labels on the Y chromosome[7] including those found by Family Tree.

On the long arm (see figure 1) most of the DNA is non-combining so around 95% of the Y chromosome is passed from father to son[8]. Males will share that same non-combining region of that chromosome with their father, grandfather, great grandfather etc. In the case of the "Trezise family" it will be the same part of the chromosome as the R-P312 one formed approximately 2600 years ago in the Bronze Age. However, every now and again the DNA is not copied exactly and that leads to a new single nucleotide polymorphism (SNP) which is then passed down to the next generation of males. It is DNA in non-combining regions on the long arm where these SNPs are located. These are stable mutations and result in new "twigs" in the family genetic tree. These changes happen about every 80-100 years on average[9]. Each mutation that gets passed to the next generation is given a marker name[6,7]. This study traces these stable mutations in the Trezise family and enables the construction of a phylogenetic tree.

Results

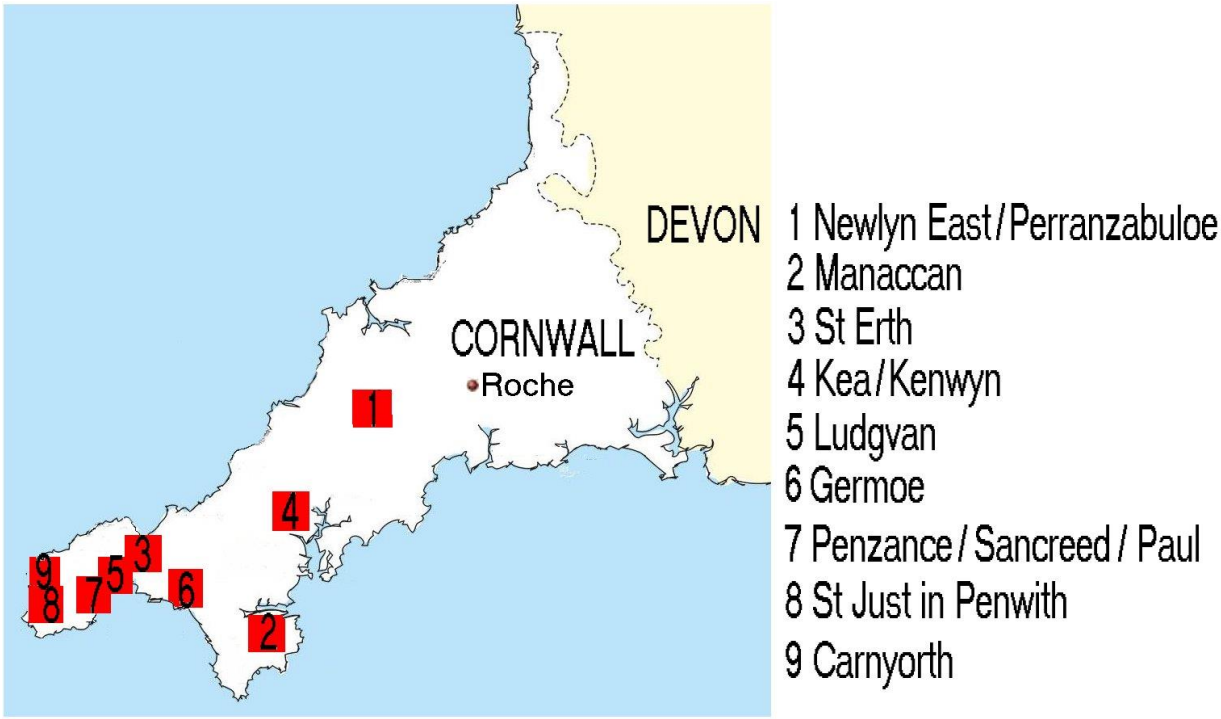

Figure 2: The 9 Cornish regions to which subjects mapped

Newlyn East/Perranzabuloe: R-Z16943 > FGC59265 > FGC59277 > FGC59272.
Manaccan: R-Z16943 > FGC59265 > FGC59277 > FGC59272 > FGC59270.
St Erth: R-Z16943 > FGC59265 > FGC59277 > FGC59272 > FGC59270 > FTA56888.
Kea: R-Z16943 > FGC59265 > FGC59277 > FGC59272 > FGC59270 > FTA56888> FTA80680.
Ludgvan: R-Z16943 > FGC59265 > FGC59277 > FGC59272 > FGC59270 > FGC59292.
Penzance/Paul: R-Z16943 > FGC59265 > FGC59277 > FGC59272 > FGC59270 > FGC59292 > A30146.
Germoe: R-Z16943 > FGC59265 > FGC59277 > FGC59272 > FGC59270 > FGC59292 > A30146 > FTB8522.
St Just in Penwith: R-Z16943 > FGC59277 > FGC59272 > FGC59270 > FGC59292 > FTB23357.
Carnyorth: R-Z16943 > FGC59277 > FGC59272 > FGC59270 > FGC59292 > FGC59264.
Table 1: The SNP mutations corresponding to each Cornish region

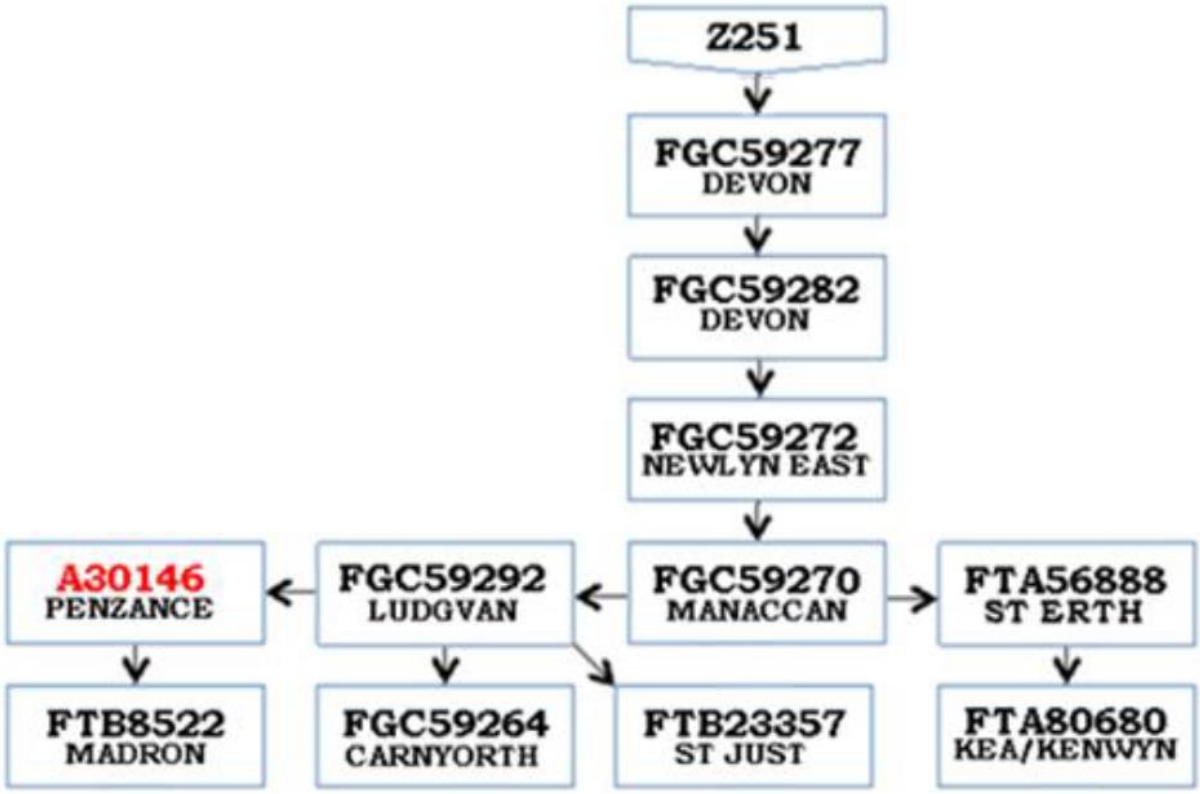

Figure 3: A summary of the SNP twigs from the Trezise family trees and the nine regions to which they map. Red represents a deletion SNP and the others are substitutions.

Discussion

Subclade R-FGC59277 developed during the Iron Age (767 BC to 262 AD[10]). There are a number of Devon families[11] with this mutation and that may indicate that a male with this subclade moved across the county border into Cornwall and perhaps settled in Roche. The earliest documented instance of the Trezise family found is a Robert de Treseis living in Roche, Cornwall 1302[2]. There were two tinners

named John Treseys living at Roche in the Great subsidy of 1524[12] and in the 14th century Richard, lord of Tremodret, had gifted one acre of land in Roche to Martin de Treseis[13]. There is an area in Roche called Tresayes[14] along with some street names so the surname Tresise probably derives from this area[2].

At some stage (around 948 BC to 36 AD[10]) there had been a new mutation and all subsequent males in the Trezise family living in Cornwall carry the FGC59272 marker. Those in Devon do not have this marker[11].

The Trezise family no longer lives in the Roche region so cannot be tested but we have evidence of them living there for many centuries[12,13]. After Roche the trail leads to Newlyn East and later Perranzabuloe. (Newlyn East is around 11 miles (16 km) from Roche).

Using MacDonald's method[10] for dating terminal SNPs those for this Newlyn family have the earliest uniquely "Trezise" markers found and certainly the spelling of the surname as Tresies is the same as that in Roche as well. The inference is that this Newlyn East family was started from a branch of the Treseis family from Roche, Cornwall first documented in the 14th century[2,3].

One (or more) males from that Newlyn East/Perranzabuloe family must have moved to St Martin/Manaccan/St Keverne for that is where we find the next twig, R-FGC59270. It formed about 1420 AD (The 95% confidence interval dates it between 1395 and 1455)[10]. The earliest known mention of a paper record for Trezise in St Martin parish (1447 AD[15]) matches the DNA data nicely. There is an area in St Martin-in-Menage called Trezise[2].

In the 1641 Protestation Returns Manaccan and surrounds are well represented with around 13 male Trezises documented[16].

All of the subsequent twigs in the Trezise family tree derive from the St Martin-in-Meneage branch (R-FGC59270). They were certainly prolific.

The R-FTA56888 marker at St Erth came first (see figure 3). Anthony Tresise married Alce Jenkin 8 Jan 1631 at St Erth[17] and started a large dynasty. Results of this study and family trees show his descendants are stretched far and wide across the Globe including the USA, New Zealand, South Africa and Australia.

The R-FTA80680 SNP came next (see figure 3). Nicholas Trezise went to Kea, Cornwall probably from St Erth and married Catren Burly in April 1664 at Kea[18]. He started an even bigger dynasty. Results of this study show his successors are found extensively in the USA and in Australia. Trezises from Kenwyn, Cornwall are also on this twig.

R-A30146 is an interesting marker (see figure 3). It is a deletion at position 22738764 on the Y chromosome. A guanine thymine pair has been replaced by a single guanine. It makes it very easy to recognise males in this branch and there were seven (7) of these studied out of the twenty five (25). Results show families with this marker were concentrated around Penzance (Madron, Paul, and Gulval). One family with this A30146 marker has kept the surname spelling Trezies and has established a large group of families in London[19].
One twig from the A30146 line is the FTB8522 mutation (see figure 3). It has spread widely throughout the World especially in Australia when miners came out for the Victorian goldrush and settled as farmers[20].

Marker FTB23357 is found in Trezises around St Just in Penwith as is the FGC59264 marker. The FGC59264 SNP is also found in the hamlet of Carnyorth just north of St Just in Penwith. Two of the FGC59264 subjects in this study descend from copper miners who came to Little Cornwall, the copper centre in South Australia[21].

Conclusion

Normally a surname might have a number of origins but not so Trezise and all its variants. It traces back to one man in Cornwall and has spread to many regions of the World. The limitation of this study is that we are using DNA of males living in this era and can only rely on Parish records, the census and wills to establish recent history. Some families may fall through the cracks as a result.

New tests have become available and we are now able to map most of the Y chromosome. It is possible to submit a DNA sample for a Big Y-700 analysis to pinpoint just where in Cornwall a Trezise family originated. Using deep SNP analysis each Trezise family plots to one of nine possible regions in Cornwall. All Trezise males are related and belong with the R-Z16943 branch of the world-wide Y DNA haplogroup tree.

Conflict of Interest

The author declares no conflicts of interest and no commercial interests in the subjects covered by this study. He has no financial or personal interest in Family Tree DNA.

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Supplementary tables

1 Brazil, Cornwall, Queensland - Newlyn East/Perranzabuloe
2 Ireland, New Zealand, Queensland -Manaccan
3 Arizona, South Carolina, Zimbabwe - St Erth
4 District of Columbia, New South Wales, Ontario, Victoria - Kea/Kenwyn
5 Cornwall, Northhamptonshire - Ludgvan
6 Australian Capital Territory, Victoria - Germoe
7 Middlesex, South Africa, Victoria, Wales - Penzance/Sancreed/Paul
8 Victoria - St Just in Penwith
9 Queensland, South Australia - Carnyorth
Table 2: Current residences of the 25 subjects

Table2 shows the current residences of the subjects used in the study and gives an idea of the diaspora from Cornwall that has occurred

Devon/Cornwall: R-FGC59277. Mutation at position 8935997 (hg38[7]) on the Y chromosome and is a thymine substituting for a cytosine.
Manaccan: R-FGC59270. Mutation at position 6607304 (hg38[7]) on the Y chromosome and is an adenine substituting for a cytosine.
St Erth: R-FTA56888. Mutation at position 12068949 (hg38[7]) on the Y chromosome and is a thymine substituting for a guanine.
Kea: R-FTA80680. Mutation at position 12211996 (hg38[7]) on the Y chromosome and is a guanine substituting for a thymine.
Ludgvan: R-FGC59292. Mutation at position 19337558 (hg38[7]) on the Y chromosome and is a guanine substituting for a thymine.
Penzance/Paul: R-A30146. Mutation at position 22738764 (hg38[7]) on the Y chromosome and is a deletion where a guanine was substituted for a guanine-thymine pair.

Germoe: R-FTB8522. Mutation at position 3824470 (hg38[7]) on the Y chromosome and is a cytosine substituting for a thymine.
St Just in Penwith: R-FTB23357. Mutation at position 19305023 (hg38[7]) on the Y chromosome and is a thymine substituting for a cytosine.
Carnyorth: R-FGC59264. Mutation at position 2962567 (hg38[7]) on the Y chromosome and is a guanine substituting for an adenosine.
Table 3: The Y chromosome change for each critical SNP