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Genealogical Research and Y-DNA Testing on the Yeamans/Youmans Family

The Yeamans/Youmans family has a long history in America, dating back to the mid-seventeenth century. Today, many Yoemans descendants like me are looking for their family's English origins. Many of us wonder if we descend from the well-known Yeamans family of Bristol, England, which was prosperous prior to the English Civil War. As Royalists the family suffered for their activities, with two members executed, but after the King was restored in 1660, some Yeamans were knighted and rewarded with property.

The absence of written documentation has made finding these origins difficult, but DNA studies offer hope for resolution. This article discusses traditional genealogical sources for the Yeamans/Youmans family and recent advanced Y-DNA testing.

Sir John Yeamans (1611–1674), 1st Baronet, who was prominent in Bristol, settled in Barbados in 1650.[1] Christopher Yeamans[2] (1638–1721), of unknown origin, settled in Hempstead, Long Island, in 1656. The northern Yeamans descendants document lines from Christopher Yeamans, but members of the southern branch have been inclined to claim Sir John as their ancestor. The paper trail is often elusive. For example, Captain Levi Youmans, a South Carolina Loyalist during the Revolutionary War, long thought to be a descendant of Sir John might instead be a descendant of Christopher.

The Y-DNA Yeomans Project, which I administer, was created on FamilyTreeDNA.com in 2009 to help determine whether a connection between Sir John and Christopher could be proved. Several types of Y-DNA tests were carried out on the 18 project members, who comprise seven different family groupings. Preliminary test results confirmed with a 90% confidence level that they all share a common ancestor within the past twelve generations. In November 2019, we began using the new FamilyTreeDNA Big Y 700 testing technique on eight project members. Those test results, which are detailed here, confirmed with virtually 100% certainty that all 18 members do share a common ancestor.

Documented genealogical research

Research on the Yeamans/Youmans family has been underway for almost 100 years. In 1926, Grant S. Youmans founded the International Yeamans-Yeomans-Youmans Genealogical and Biographical Society, aimed at compiling a comprehensive genealogy. He assembled a massive amount of material and published *The Yeamans-Yeomans-Youmans Genealogy* in 1946.[3] Due to ill health he didn't publish anything further but noted that he had sufficient material for two more volumes that would explain how all families with surnames Yeamans, Yeomans, and Youmans with known descendants in America shared a common English ancestry. These two volumes would likely have focused on the common ancestry of four key families: Edward

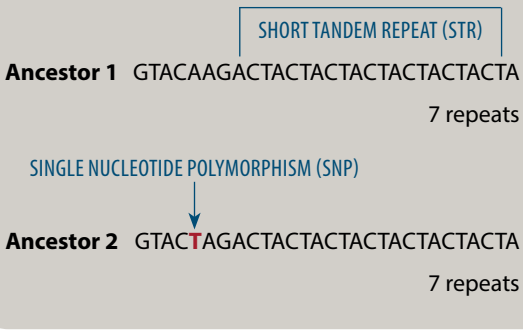


Figure 1. STR vs SNP

Yeomans, who settled in Haverhill, Massachusetts, in 1650; Christopher Yeamans, who settled on Long Island, New York, in 1656; Sir John Yeamans, who settled in Barbados in 1650 and later in South Carolina; and the latter's grandson, John Yeamans, who settled in New York City in 1720.

Tom Yoemans, my cousin, documented the genealogy of our great-great-great-grandfather William Youmans to 1780.[4] The ancestry of Edward Livingston Youmans (1821–1887), an American scientific writer, lecturer, and founder of *Popular Science* magazine, was published in an 1894 book by John Fiske. Edward L. Youmans's great-great-great-grandfather was listed as Samuel Youmans, son of Solomon, whose father was Christopher Yeamans of Long Island.[5] A biographical sketch of Orion Lavelle Yoemans traced Christopher's descendants from his son Solomon Youmans to Orion's great-great-grandfather.[6] Included were Solomon's son Samuel, Samuel's son Anthony Sr., and Anthony's children. This source provided proof that another project member and I shared three ancestors in common in a line from Christopher.

Y-DNA testing techniques

Before discussing our Big Y-DNA 700 test results, we will review the basics of the two predominant Y-DNA testing techniques. Each one involves analyzing changes (mutations) that occur in the four nucleobases in the Y chromosome DNA. The first type is called Short Tandem Repeat (STR) analysis testing. STR analysis is a molecular biology method used to compare allele[7] repeats at specific loci in the Y chromosome DNA between two or more samples.[8] In Figure 1, "STR vs SNP," we see a STR for Ancestor 1 showing the nucleotide bases CTA repeating seven times. A STR is given a name, usually based on its location. For example, the STR located at DYS393 stands for DNA Y-chromosome Segment 393. The value (or allele) marker would be seven, and this value is used to compare the DYS393 marker test results of two or more individuals. Testing would typically start at the 37-marker level for initial comparisons, and once close matches are found, an add-on test would be performed to increase the markers to 67 or 111. Tests at these higher levels are more accurate in predicting how closely two individuals are related. STR testing is useful for predicting a possible ancestral relationship with a very high confidence.

To pinpoint a specific ancestor genetically, we would apply the second Y-DNA testing approach, Single Nucleotide Polymorphism (SNP) analysis. SNPs (pronounced "snips") are single-nucleotide substitutions of one base for another. Each location on the Y-DNA chromosome can have up to four versions: one for each nucleotide, A, C, G, and T. For example, at a specific location on the Y chromosome, the C nucleotide appears in most individuals, but in a small number of individuals, the position is occupied by an A. This means a SNP is at this specific location. Figure 1 illustrates the difference between STR and SNP analysis. Referring to Ancestor 2 in Figure 1, we see that a mutation has occurred where the original nucleobase that was "A" in Ancestor 1 has now mutated to a "T." This mutation is usually permanent and passed on to all male descendants.

Big Y-DNA 700 test results

We will now discuss the specific results of the eight Big Y-DNA tests.[9] FamilyTreeDNA provided me with a block diagram depicting where I fit on the "Y-DNA Phylogenetic Tree of Humankind,"[10] which I illustrate in Figure 2, "Y-DNA Phylogenetic Tree for Yeamans/Youmans Family of Humankind." Each level in the diagram lists SNPs for which I tested positive. The SNPs in the first four levels are older and are shared by many thousands of males. On the last level in Figure 2, we see SNP R-FT161984, which is the first of 49 SNPs unique to Yeamans/Youmans male descendants. Think of a mutation as a unique location on the Y-DNA chromosome. Experts say that unique Y-DNA mutations generally occur about every three generations, with a generation equaling 25 years. According to these estimates, the number of generations since the inception of SNP R-FT161984 is 147, placing the year of the mutation at about 1675 BC—which is not very

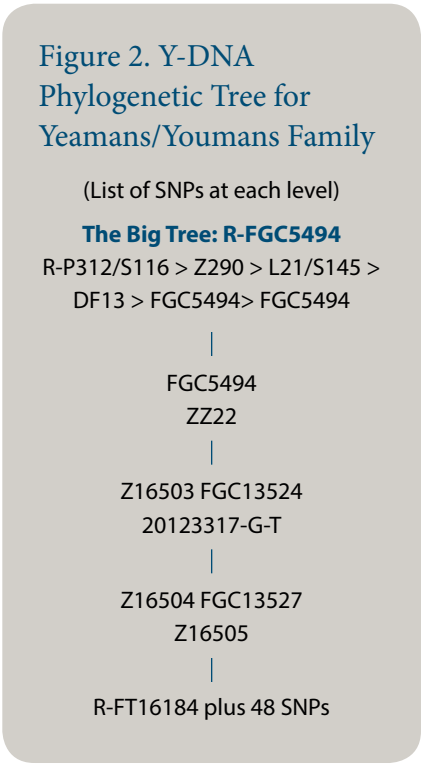
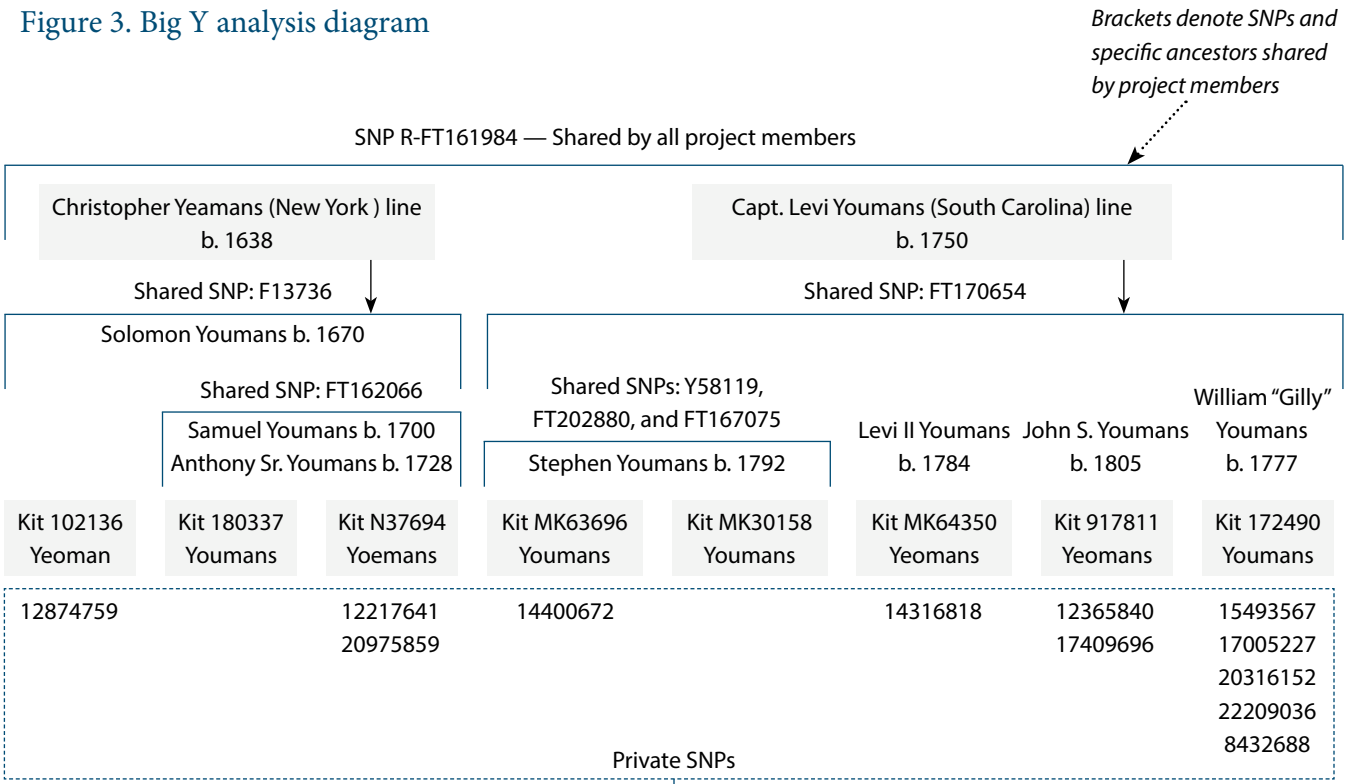


Figure 2. Y-DNA Phylogenetic Tree for Yeamans/Youmans Family

Figure 3. Big Y analysis diagram



Private SNPs are mutations that occurred after two or more individuals shared a common ancestor. They are unique to the individual and will only be shared by their male descendants.

useful for more recent genealogical research.

Fortunately, the Big Y-DNA 700 tests for unique SNPs that only my paternal line has carried for the past two to twelve generations. These SNPs help fill the gap between what the STRs can tell us and what our written histories reveal. My Big Y test compared my SNPs against the 70,000 known SNPs on the SNP Y-DNA Chromosome list. The results showed that I had 1,895 of these named SNPs or variants. My known variants were then compared against other individuals' test results and presented in a personalized dashboard. The Big Y test results confirmed my Y-DNA Haplogroup as R-FT162006, which is my lowest branch of the Y-Chromosome Phylogenetic Tree of Humankind. The 700 in the Big Y test name refers to the additional STRs, beyond the 111-marker test STRs, that are provided. These additional STRs can prove useful when looking for close family relationships between two or more project members.

Figure 3, "Big Y Analysis Diagram" is a continuation of Figure 2, providing more granular details on the SNP test results. At the top of the diagram, we see the shared Yeamans/Youmans SNP FT161984 coming down from the Figure 2 block diagram. All project members share this SNP—which represents a common ancestor. Since the order in which the SNPs occurred is unknown, FamilyTreeDNA uses the first SNP discovered as the lead SNP for the branch. Everyone who is listed under any block should carry the SNPs above it. For example, in my kit, R-FT161984 is the leading SNP (see Figure 2) that was first discovered; all the SNPs below it were discovered afterward.

Moving down the display, we see the two main ancestors, Christopher Yeamans and Capt. Levi Youmans, shown above their descendants. The three project members who descend from Christopher share F13736 in common and the five members who descend from Capt. Levi share SNP FT170654. For privacy reasons, the eight individuals tested are listed by their kit numbers. Above each one are ancestors and birth years. Prior to the Big Y testing, written genealogies suggested that my great-great-great-grandfather William Youmans descended from Christopher. This relationship has been confirmed because all three project members who descend from Christopher and Solomon share SNP R-F13736. The individuals with kit 102136 and kit number 180337 both have written proof documenting their respective descents from Christopher Yeamans.

The Figure 3 display shows that kit N37694—my personal kit—and kit 180337 share two common ancestors beyond the one they share with kit 102136; only these two project members share SNP FT162066 in common. Likewise, we see that kit MK63696 and

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kit MK30158 share two SNPs, which reconfirms what we knew from their written genealogies—that Stephen Youmans is their common ancestor. While the remaining three members share SNP FT170654 with two other kit members, Figure 3 shows they each descend from one of Levi's other three sons. That the test results perfectly matched our traditional genealogical sources is reassuring.

Conclusion

STR and SNP testing offer very powerful tools for overcoming genealogical brick walls. Many family societies and FamilyTreeDNA Y-DNA projects are employing these testing methods to determine whether their different surname branches share a common ancestor. I hope that this Y-DNA case study can serve as an example for others who are trying to overcome similar problems. My next focus will be to find individuals to be tested who live in the United States, Canada, or especially England, who can prove their lineage through documentary sources back to the Yeamans Family of England. Anyone with the surname Yeamans or Youmans or a derivative who is interested in joining the project can contact me at myoemans1@gmail.com. ◆

NOTES

1 Wikipedia's "John Yeamans" entry, last modified September 20, 2019, wikipedia.org/wiki/John_Yeamans.

2 While Christopher's last name was often spelled Youmans, his original surname, Yeamans, will be used in this article.

3 Grant S. Youmans, *The Yeamans-Yeomans-Youmans Genealogy* (Rutland, Vt.: Tuttle Publishing Co., 1946). Available at catalog.hathitrust.org/Record/005787842.

4 Thomas William Yoemans, *Yoemans Genealogy*. Unpublished manuscript, last modified 1/21/2003.

5 John Fiske, *Edward Livingston Youmans, Interpreter of Science for the People* (New York: D. Appleton and Company, 1894), 585–89.

6 David Lawrence Pierson, *History of the Oranges to 1921* (New York: Lewis Historical Publishing Co., 1922), 4:88–90.

7 An allele is a genetic variant at a specific point, or locus, in our genetic code.

8 Wikipedia's "STR analysis" entry, last modified Dec. 8, 2019, wikipedia.org/wiki/STR_analysis.

9 We did not need to test all 18 projects members since some of the relationships were known and Big Y testing is expensive.

10 The Big Tree website created by Alex Williamson provides a draft phylogenetic tree for the R-P312 Y-DNA haplogroup, at ytree.net. FamilyTreeDNA patterned their Block Diagram after this one.