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# Pinpointing the Phair Scottish Paternal Ancestral Genetic Homeland

A Scottish Case Study

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29<sup>th</sup> January 2026

## Introduction

A simple painless commercial ancestral Y chromosome DNA test will potentially provide one with the names of many hundreds of individuals with whom one shares a common male ancestor. But what often perplexes people is how one can match lots of individuals with many different surnames? The answer is quite simple. Approximately 1,000 years ago one's direct medieval male ancestor, the first for example to take the 'Cameron' surname was living near others with whom he was related but who took other surnames like MacPhie, Campbell, and MacNabb. Given that hundreds of years have passed since paternally inherited surnames became common, there will be many descendants of those individuals some of whom will today undergo commercial ancestral Y-DNA testing. Hence the surnames of one's medieval ancestor's neighbours will be revealed in today's Y-DNA test results.

Early 19<sup>th</sup> century census data demonstrates that Scottish surnames could still be found concentrated in the areas from which they originated. One can therefore use census data to determine the origin of the surnames that appear in one's Y-DNA results, identifying an area common to all, and reveal ones '**Paternal Ancestral Genetic Homeland.**' The genetic homeland is the small area (usually within a 5-mile radius) where one's ancestors lived for hundreds if not thousands of years. It is the area where one's ancestor first inherited his surname surrounded by relatives who inherited others. It is the area where one's ancestors left their mark in its placenames, its history, and in the DNA of its current inhabitants. Since modern science can pinpoint a paternal ancestral genetic homeland, it can also be used to confirm it by DNA testing individuals from the pinpointed area.

### Notes of caution!

1. Scientific research has shown that each of the estimated 1,500 unique Irish surnames had a single founding ancestor, which is an estimated 1,500 Adams from whom anyone with Irish paternal ancestry (and with one of those unique surnames) can trace direct descent. But science has demonstrated that only 50% of individuals with a unique Irish surname will be related to the surnames founding ancestor, the other 50% of people will have an association that has arisen due to a 'non-paternal event,' usually a result of adoptions or maternal transfer of the surname. Since Scotland adopted a similar clan-based society, these scientific findings can be applied to Scotland and people with Scottish ancestry.
2. Often people are looking for their DNA results to trace back to a specific area. One must remember that the results typically reflect one's ancestor's neighbours from around 1,000 years ago. As a result, if one's Scottish ancestor was descended from an Anglo-Saxon settler, Viking raider, or 12<sup>th</sup> Century Norman one's DNA results may reflect earlier English, Welsh, French, and Scandinavian origin. One must approach this process with an open mind!

## Interpreting the Y-DNA test results

To pinpoint a paternal ancestral genetic homeland, one must first identify the surnames that appear as one's closest genetic matches upon commercial ancestral Y-DNA testing. Those surnames, particularly ones that recur throughout the Y-DNA results, will typically reflect the surnames of one's ancestral neighbours. The test subject's closest recurring genetic surname matches as revealed by commercial ancestral Y-DNA STR testing are detailed in **Figures 1 and 2**.

111 Y-DNA STR Marker Matches							
Surname	Match Date	Markers Tested	Genetic Distance	Big Y STR Differences	Y-DNA Haplogroup	Paternal Country of Origin	Earliest Known Ancestor
Truitt	January 26 2026	1 to 700	2	Not Available	R-FT5737	United States	Benjamin F. Truitt, b. 1842 and d. 1928
CAMERON	January 26 2026	1 to 700	6	Not Available	R-Y136585	Scotland	Alexander Cameron, b. 1737 & d. 1832/1854
Cameron	January 26 2026	1 to 111	7	Not Available	R-M269	Scotland	
Grove	January 26 2026	1 to 111	7	Not Available	R-L151	Unknown Origin	
CAMERON	January 26 2026	1 to 700	7	Not Available	R-BY191529	Scotland	John Cameron b.1769 d.1858 Merchant Tailor of Edin
Cameron	January 26 2026	1 to 700	7	Not Available	R-BY60977	Unknown Origin	
McPhee	January 26 2026	1 to 700	7	Not Available	R-FTC61694	Australia	Duncan McPhee, b. Lismore 27/10/1893 d. 26/3/1967
Cameron	January 26 2026	1 to 700	8	Not Available	R-BY101707	Unknown Origin	
Cameron	January 26 2026	1 to 700	8	Not Available	R-FT202839	Scotland	John Cameron b. 1782 circa and d. 21st April 1860
Cameron	January 26 2026	1 to 700	8	Not Available	R-Y136587	Scotland	James Cameron b.1792 and d. 1872
Cameron	January 26 2026	1 to 700	8	Not Available	R-L21	Scotland	Angus Cameron, b. 1737
Cameron	January 26 2026	1 to 700	8	Not Available	R-FT25194	Unknown Origin	
McPhee	January 26 2026	1 to 700	8	Not Available	R-Y205757	Unknown Origin	
McFee	January 26 2026	1 to 700	8	Not Available	R-BY179712	Scotland	John McPhee c.1770-1838
McPhee	January 26 2026	1 to 700	8	Not Available	R-FT32559	Scotland	Donald McPhee b. c. 1810 - d. 1869 (Canada)
McPhee	January 26 2026	1 to 700	8	Not Available	R-BY179712	Scotland	Duncan McPhee b. 1788 d. 1861 Kinlochell, Arl
Williams	January 26 2026	1 to 700	8	Not Available	R-FTC61694	Unknown Origin	
Cameron	January 26 2026	1 to 700	8	Not Available	R-BY191529	Scotland	Captain James Cameron
Cameron	January 26 2026	1 to 111	9	Not Available	R-L21	Unknown Origin	James William Cameron
Campbell	January 26 2026	1 to 111	9	Not Available	R-L151	Unknown Origin	
Gilroy	January 26 2026	1 to 111	9	Not Available	R-L151	Scotland	John Cameron, b. 1796
Henderson	January 26 2026	1 to 111	9	Not Available	R-M269	Unknown Origin	
McNab	January 26 2026	1 to 111	9	Not Available	R-M269	Unknown Origin	
McPhee	January 26 2026	1 to 111	9	Not Available	R-M269	Scotland	
Naugle	January 26 2026	1 to 111	9	Not Available	R-L21	Scotland	John McPhee b. Easter Bunloit, Glen Urquhart, Inver
Cameron	January 26 2026	1 to 500	9	Not Available	R-BY191529	Unknown Origin	
Grant	January 26 2026	1 to 500	9	Not Available	R-BY97146	Scotland	Peter Grant, b. 3 Dec 1795 d. 13 Apr 1881 Badenoch
MacMillan	January 26 2026	1 to 500	9	Not Available	R-BY178256	Scotland	LAughin MacMillan
MacPhee	January 26 2026	1 to 500	9	Not Available	R-A6607	Scotland	Angus Roy McPhee, Glen Urquhart
Macnab	January 26 2026	1 to 500	9	Not Available	R-BY120210	United States	Robert Christy Macnab
CAMERON	January 26 2026	1 to 700	9	Not Available	R-BY74404	United Kingdom	John Mor' CAMERON , b. 1790 and d. 1881
Cameron	January 26 2026	1 to 700	9	Not Available	R-BY74404	Scotland	Alexander MacGillonie Cameron b.1736 d. 1831
Cameron	January 26 2026	1 to 700	9	Not Available	R-BY60977	Scotland	Mr. Angus Cameron, b. 1751 and d. 1805
Cameron	January 26 2026	1 to 700	9	Not Available	R-Y136585	Scotland	Angus Cameron 1830 - 1903

**Figure 1:** Mr. Phair's closest Y-DNA STR revealed genetic surname matches reveal a Scottish paternal origin. The more Y-DNA STR or SNP markers/mutations two males share the more recent their shared paternal ancestor once lived. The test subject's closest Y-DNA genetic surname matches are **NOT RANDOM**; they are dominated by males with Scottish-associated ancestral surnames, some of which like Cameron (red arrows) McNab (green arrows) and McPhee (yellow arrows) recur among his closest Y-DNA results together with individuals with earliest recorded links with **Scotland**. Highlighted font indicates the ethnicity associated with each surname or location of an earliest paternal ancestor: **Scottish/Scotland, Scottish-associated**. An examination of the test subject's closest matches reveals that they detail **Y-DNP SNPs** that are associated with a branch of the Indo-European R-DF13/R-ZZ10\_1 Haplogroup tree.

Upon commercial ancestral Y-DNA testing, the test subject matched a single male with the similar 'Fair' surname at the 37-marker level (*data not shown*). This indicates that the test subject may be directly descended from his surnames founding ancestor (a 'Phair/Fair-Adam') or that the Phair surname has been in his paternal line for many generations. The complete dominance of Scottish Gaelic-associated surnames among his Y-DNA STR revealed matches indicates that his paternal line originated ultimately within Gaelic Western Scotland, see **Figures 1, 2, and 3**. A close examination of the terminal Y-DNA SNP recorded by the test subject's closest Y-DNA revealed paternal genetic relatives reveals that his paternal line lies on a branch of the prominent Scottish-associated Indo-European R-DF13/R-ZZ10\_1 Haplogroup tree, see **Figure 1**.

## ‘Phair’ Y-DNA Case Study January 2026

		Phair Closest Recurring Y-DNA STR Surname Matches							
Test Subject	Haologroup	111 Markers				67 Markers			
		Genetic Distance				Genetic Distance			
		6	7	9	10	4	5	6	7
Phair	R-ZZ10_1	Cameron (x82)	McPhie/McPhee (x25)	Campbell (x4) McNabb/Mcnab (x9) Grant (x5) Johnson/Johnston (x2) McMillan (x2)	Dunn (x2)	McPherson (x2)	Patterson (x2)	Day (x2) McDonald (x4)	Douglas/Douglass (x2) McRae (x2) Hewitt (x2) Matthews (x2)

**Figure 2:** Mr. Phair’s closest recurring surname matches confirm a Scottish Gaelic origin. Each surname is positioned at the point at which it first appears as a genetic match while surnames in brackets detail how many individuals with each surname appear as a Y-DNA STR match at the 111, 67, and 37 marker levels. For example, the first male named ‘Cameron’ to appear as a Y-DNA match shares 105 of 111 Y-DNA STR markers, although not all the 82 males named Cameron who appear as a close genetic relative at the 111, 67, and 37 marker levels may match at that level. The test subject’s closest and most frequent surname matches are dominated by males with Gaelic Scottish-associated surnames confirming a paternal origin within Gaelic Western Scotland. Highlighted font indicates each surnames associated ethnicity; Scottish, Scottish-associated.

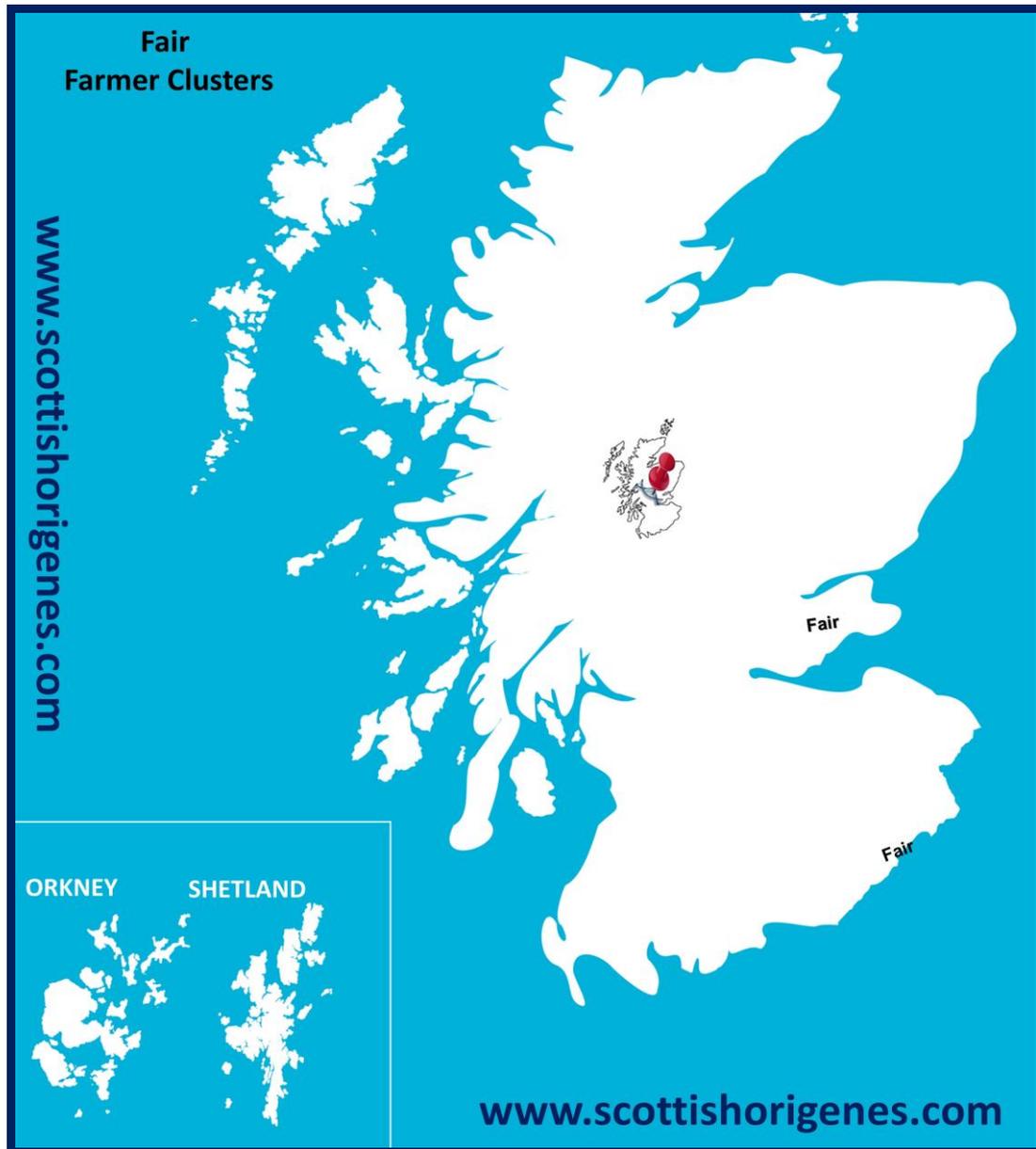


**Figure 3:** Maximum extent of Gaelic (Mac) Surnames in Scotland. By mapping the distribution of Scottish surnames and tracing the furthest reach of Gaelic (Mac) ones (red line), a striking east–west divide emerges across Scotland. The Y-DNA results reveals that the test subject’s Scottish paternal line originated in Gaelic Western Scotland. Surnames are positioned as they appear on the Scottish Origenes Surnames map, a digital copy of which is FREE to view online at [www.origenesmaps.com](http://www.origenesmaps.com)

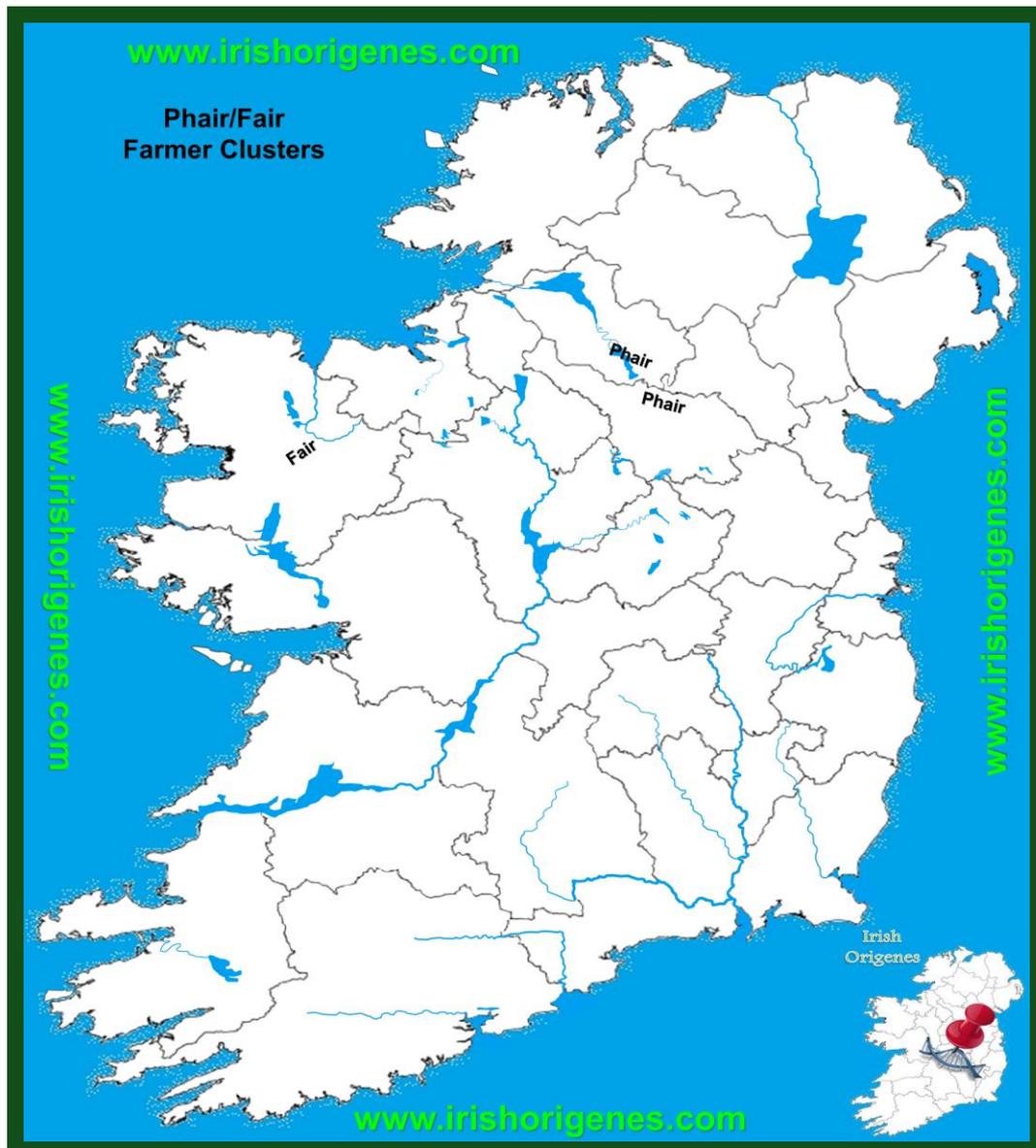
### Scottish ‘Fair’ and Scots Irish ‘Phair’

Scottish surnames arose approximately 1,000 years ago in an agrarian society. As a result, farmers with each surname could still be found in early census data concentrated in the area where their surname first appeared or in the area where one’s ancestors first settled. One can therefore examine the distribution of Scottish farmers named ‘Phair’ or ‘Fair’ to determine how many Scottish clans used that surname. The 1841 census reveals the existence of approximately 2 distinct groups

of 'Fair' farmers found in non-Gaelic Eastern Scotland, see **Figure 4**. Hence, there were potentially 2 genetically distinct Fair clans, each founded by a Fair-Adam, one of whom (as revealed by the Y-DNA test results) the test subject may be related to. The 'Phair/Fair' surname is also associated with 17<sup>th</sup> Century Scottish settlement within Ireland, and an examination of the distribution of Protestant Irish farmers named 'Phair' reveals 3 distinct groups in Ireland, see **Figure 5**.



**Figure 4:** The Scottish Phair/Fair farming community. Distribution mapping of farmers named Phair/Fair reveals 2 distinct groups found in Eastern Scotland. Each surname has been placed on the map in the area where farmers with that surname concentrate in early census data. The most common spelling is detailed in each location. Surnames are positioned as they appear on the Scottish Origenes Surnames map, a digital copy of which is FREE to view online at [www.origenesmaps.com](http://www.origenesmaps.com)



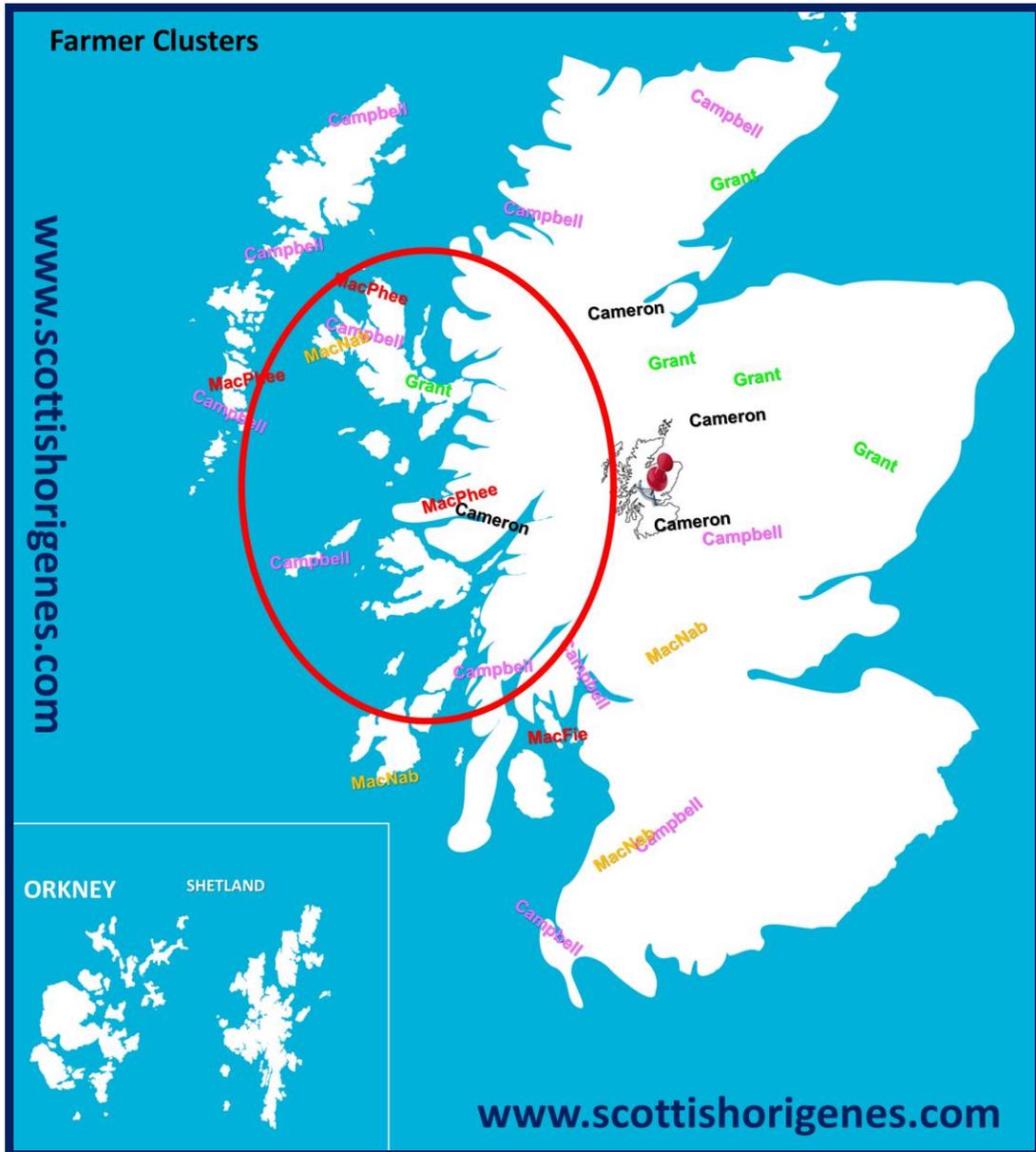
**Figure 5:** The Scots Irish 'Phair/Fair' farming community. Irish census data reveals that the descendants of Gaelic Irish, Normans, and mercenary Scottish Gallowglass were overwhelmingly Catholic while those of 16<sup>th</sup> and 17<sup>th</sup> Century Plantation settlement were overwhelmingly Protestant. Distribution mapping of Protestant Irish farmers named Phair/Fair reveals at least 3 distinct groups within Ireland. Each surname has been placed on the map in the area where farmers (Protestant, male, heads of household) with that surname concentrate in early census data. The most common spelling is detailed in each location. Surnames are positioned as they appear on the Irish Origenes Plantation Surnames of Ireland map, a digital copy of which is free to explore online at [www.origenesmaps.com](http://www.origenesmaps.com)

### **A Paternal Ancestral Origin within the Highlands of Scotland**

The method of using genetic surname matches as revealed by commercial ancestral Y-DNA testing to pinpoint a paternal ancestral genetic homeland works by exploiting the link between the Y chromosome, surname, and land, which are typically passed from father to son through the generations. In the absence of a link to the land the process becomes more challenging. The link with the land is greatest among the farming community, and since farmers can still be found farming the land where their ancestor lived when he first inherited his surname, or where one's ancestor

first settled, one can plot where farmers with the surnames that appear in one's Y-DNA results originate and identify an area common to most if not all. This means that upon Y-DNA testing a male named 'Fair' from Fife will be a Y-DNA genetic match to males named Beath, Dowie, and Reddie, surnames associated with Eastern Scotland. In contrast, a 'Fair' male from Roxburghshire will be a Y-DNA genetic match to individuals named Cavers, Hopkirk, and Oliver, surnames associated with Southern Scotland.

Commercial ancestral Y-DNA STR testing reveals that the Cameron surname dominates in closeness and frequency among the test subject's Y-DNA results which indicates that his paternal ancestor was named 'Cameron' prior to acquiring the 'Phair' surname, see **Figure 2**. Y-DNA testing reveals that Cameron, Campbell, Grant, MacPhee, and MacNab surnames arose among a tribal group of related Gaelic males living in the west of Scotland, see **Figure 2** and **3**. Distribution mapping of Scottish farmers named Cameron, Campbell, Grant, MacPhee, and MacNab reveals that they concentrate in closest proximity together in Northwest Scotland, see **Figure 6**. An examination of Northwest Scotland as it appears on the Scottish Origenes Surnames of Scotland map reveals the Camerons that dominate his Y-DNA results on the shores of loch Linnhe and surrounded by surnames that appear among his closest Y-DNA revealed genetic relatives, see **Figures 2** and **7**.



**Figure 6:** Overlay mapping reveals a paternal origin within Northwest Scotland. Y-DNA STR testing revealed that the Cameron, Campbell, Grant, MacPhee/MacFie, and MacNabb surnames arose among related males in Gaelic Western Scotland. Overlay mapping reveals that the Cameron, Campbell, Grant, MacPhee/MacFie, and MacNabb farming communities occur together within Gaelic Northwest Scotland (**red circle**). Each surname has been placed on the map in the area where farmers with that surname concentrate in early census data. The most common spelling is detailed in each location. Surnames are positioned as they appear on the Scottish Origenes Surnames map, a digital copy of which is free to explore online at [www.origenesmaps.com](http://www.origenesmaps.com)



**Figure 7:** The Surnames surrounding loch Linnhe in Gaelic Northwest Scotland. An examination of Northwest Scotland reveals an area dominated by Gaelic (Mac) surnames. The map reveals that the Camerons (**black arrow**) that dominate the test subject's Y-DNA results concentrated near Loch Linnhe and surrounded by surnames that appear among the test subject's closest recurring (**red arrows**) Y-DNA matches. Each surname is positioned in the location where farmers with each surname concentrate in early census data. The most common spelling is detailed in each location. Surnames in **red font** are associated with a single geographical area within Scotland. Image taken from the Scottish Origenes Surnames of Scotland Map, a digital copy of which is free to explore online at: [www.origenesmaps.com](http://www.origenesmaps.com)

### The Clan Territories surrounding Loch Linnhe in Scotland

By examining the locations of the castles and towerhouses that are historically associated with a particular surname, it reveals that Medieval Scotland was a patchwork of territories dominated by notable clans and families. Research at Scottish Origenes has revealed that almost everyone with Scottish paternal ancestry will be genetically related to at least one of these prominent clans or families that once ruled over one's paternal ancestral genetic homeland. An examination of the castles and towerhouses surrounding Loch Linnhe reveals clans that claim Gaelic and Norse Gael origin, see **Figure 8**. The clan map reveals that the Camerons who dominate the test subject's Y-DNA results were a prominent Highland clan with lands that bordered those associated with the MacDonalds who also appear as close recurring matches to the test subject, see **Figures 2 and 8**. The lands of clan MacDonald spanned Scotland and Ireland which allowed them to control the flow of mercenary Scottish warriors known as Gallowglass into Ireland from the 13<sup>th</sup> until the 17<sup>th</sup> Century.



**Figure 8:** The principal Medieval Clans and Families of surrounding Loch Linnhe in Northwest Scotland. An examination of the area surrounding Loch Linnhe as it appears on the clan territories map reveals an area dominated by clans that claim Gael and Norse Gael origin. The clan map reveals that the test subject's 'Cameron' ancestors were a prominent clan with lands (**black arrow**) that spanned the northern shores of Loch Linnhe. Their lands bordered those of Clan MacDonald (**red arrow**) who also appear among the test subject's paternal genetic relatives. The Scottish Origenes clan map was reconstructed based on the location of castles and towerhouses and their historically associated clan or family. Image taken from the Scottish Origenes Clan Territories of Scotland Map, a digital copy of which is free to explore online at: [www.origenesmaps.com](http://www.origenesmaps.com)

### Mr Phair's Scottish Paternal Ancestral Genetic Homeland

The Camerons dominate the test subject's Y-DNA results which indicates that his paternal ancestor was named 'Cameron' prior to acquiring the 'Phair' surname. Early census data reveals that farmers named Cameron concentrated in the area surrounding Loch Linnhe that lies between the island of Lismore and the town of Fort William in the Highlands of Scotland, and it is there that the test subject's Scottish Paternal Ancestral Genetic Homeland is to be found, see **Figure 9**. It was there that the test subject's direct male ancestor lived when he first took the 'Cameron' surname when paternally inherited surnames became common in Scotland an estimated 1,000 years ago. His paternal ancestor lived surrounded by paternal genetic relatives who would take other surnames like MacPhee and MacNabb among others. The longer a surname has been linked with an area the greater the likelihood that one will find evidence of that surname in the surrounding monuments and placenames. An examination of the surrounding area reveals castles/towerhouses and placenames that area associated with the Camerons, see **Figure 9**. The test subject's paternal ancestors will also have left evidence of their ancestral links with the Highlands of Scotland in its history and in the DNA of the Camerons who still live there.



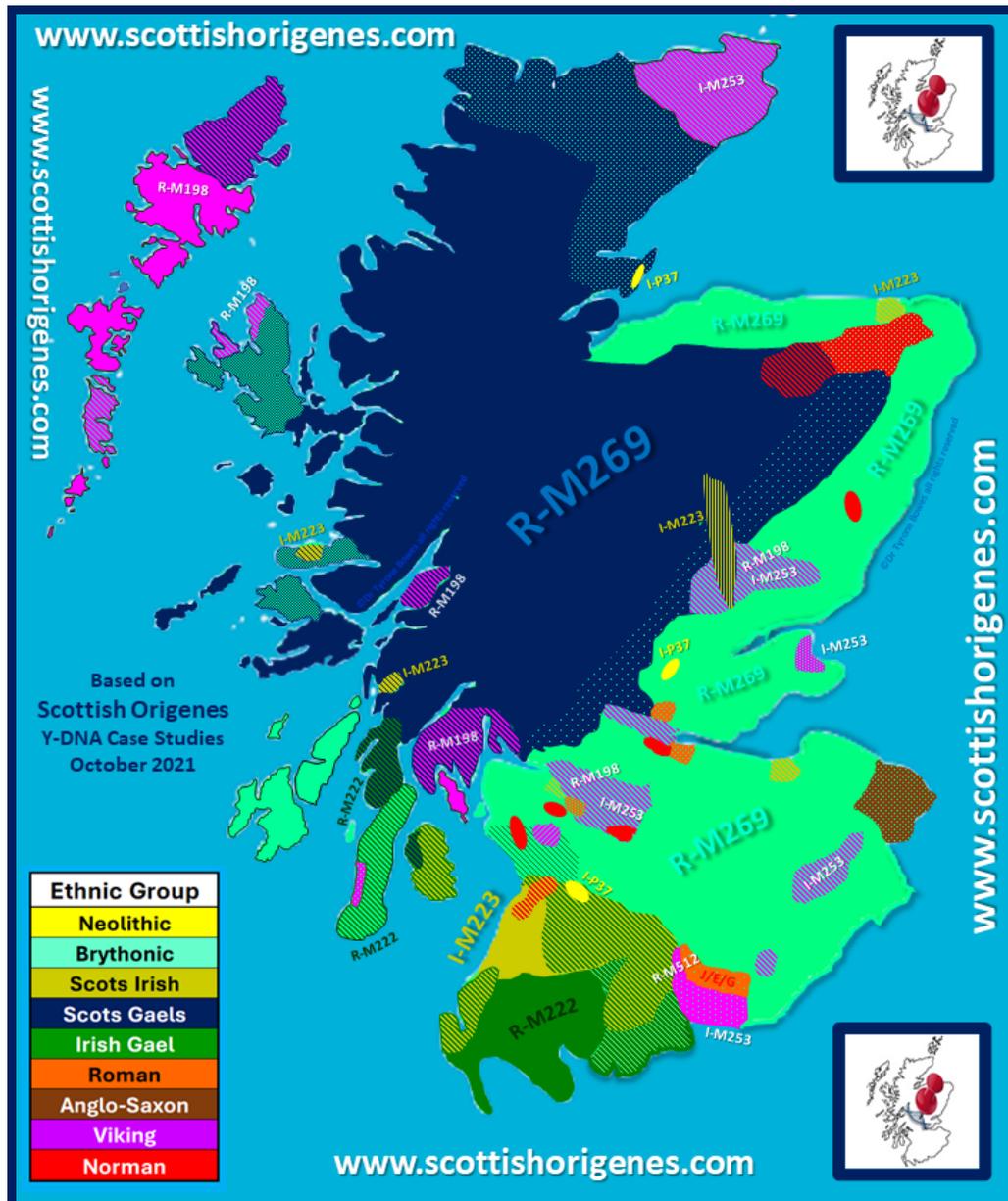
**Figure 9:** Mr Phair's Scottish Paternal Ancestral Genetic Homeland. Early census data reveals the Camerons that dominate the test subject's Y-DNA results concentrate along the shores of Loch Linnhe between the island of Lismore and the town of Fort George, and it is there that the test subject's Scottish Paternal Ancestral Genetic Homeland (orange broken circle) is to be found. It was there that the test subject's direct male ancestor lived when he first took the Cameron surname. His Cameron ancestors have left evidence of their ancestral links with the Highlands of Scotland in its castles/towerhouses and placenames. The test subject's paternal ancestors will also have left evidence of their links with this area in its history and in the DNA of the Camerons that still live and farm there. Image taken from the Scottish Origenes Castles of Scotland Map, a digital copy of which is free to explore online at: [www.origenesmaps.com](http://www.origenesmaps.com)

### A Paternal 'Gallowglass' link with Northern Ireland

The test subject's earliest Phair ancestor is recorded in County Cavan in the north of Ireland where his surname is associated with early 17<sup>th</sup> Lowland Scottish settlement. An examination of the surnames associated with Southern Ulster reveals the Phair surname concentrated near the Cavan, Fermanagh, and Monaghan borderlands and in an area where one finds surnames like MacDonald that are associated with earlier post 1259AD Scottish mercenary Gallowglass settlement within Ireland, see **Figure 10**. The Gallowglass were descendants of Vikings who had been absorbed among the Gaels of the Highlands and Islands of Scotland. The Scottish MacDonalds were the most notable Gallowglass clan who controlled the flow of mercenary Norse Gaels into Ireland. The Y-DNA results reveal that the test subject's paternal 'Cameron' ancestor arrived in Ireland as a mercenary at some point after 1259AD when the first Gallowglass are recorded in Ireland. With the arrival of Plantation Lowland Scots with surnames like 'Fair' in around 1610AD a non-paternal event (adoption/maternal transfer of a surname) occurred in Southern Ulster that resulted in the test subject's paternal ancestor acquiring the 'Phair' surname most likely during the turbulent 1640's.

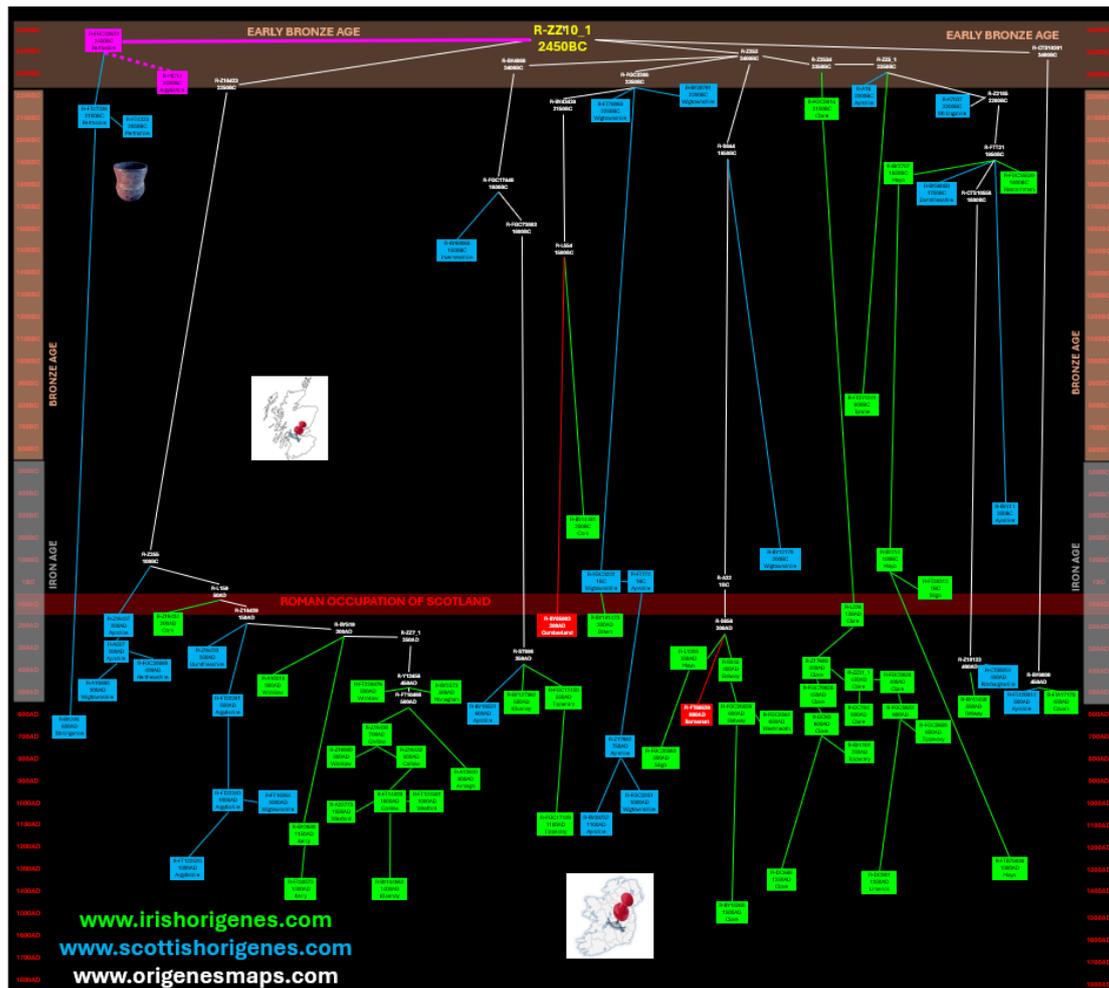


migrate north into Scotland were they would contribute to the formation of the Scottish Gaels in Northwest Scotland. The test subject's branch of the R-ZZ10\_1 Haplogroup tree is detailed in **Figure 12**. With the arrival of the Vikings in the Western Islands and Highlands of Scotland, his paternal ancestor was absorbed among the Norse Gaels that came to dominate the Highlands and Islands of Northwest Scotland. The Viking link is confirmed by a comparison of the test subject's predictive Y-DNA SNP sequence with ancient remains which indicates that he matches closest a set of Viking remains recovered from Norway (the descendant of a Scottish Gael whose paternal line had migrated to Norway), see **Figure 13**.



**Figure 11:** The Scottish Origenes Y-DNA ethnicity map of Scotland. Y-DNA Case Studies at Scottish Origenes reveals an ethnicity map of Scotland. The test subject's paternal ancestors were the Indo-Europeans (R-M269/R-DF13/R-ZZ10\_1) whose Y-DNA signature dominates Scotland.

## 'Phair' Y-DNA Case Study January 2026



**Figure 12:** Mr Phair's predicted R-FT5737 branch on the Updated R-M269/R-DF13/R-ZZ10\_1 Haplogroup tree. An examination of the terminal Y-DNA SNPs of the test subject's closest paternal genetic relatives (fig 1) reveals that they share the R-FT5737 mutation which indicates that his paternal line is a branch (violet line) of the R-ZZ10\_1 Haplogroup tree. The original R-ZZ10\_1 Haplogroup tree is FREE to explore online at [www.origenesmaps.com](http://www.origenesmaps.com)

Object-ID	FTDNA-Y-Haplotree	Date	Culture Grouping	SiteID	Country
VK528	M207>M173>M343>L754>L389>P297>M269>L23>L51>P310>L151>P312>Z290>L21>DF13>ZZ10_1>FGC42672>MC14>FT27338>FT5388>Y16762>Z19670>BY13	700-900 CE	Viking Norway	Troms	Norway
Phair Test Subject	M207>M173>M343>L754>L389>P297>M269>L23>L51>P310>L151>P312>Z290>L21>DF13>ZZ10_1>FGC42672>MC14>FT27338>FT4323>FT5388>Y16762>Z196	1000AD	Norse-Gaels	Loch Linnhe	Scotland

**Figure 13:** Alignment of Mr. Phair's commercial ancestral Y-DNA SNP mutations with R-ZZ10\_1 Ancient Remains. Alignment of Y-DNA SNP mutations reveal that Mr. Phair matches closest a set of Viking remains with whom he shares the R-FT27336 mutation (red arrows). Those remains are from an individual from the Western Isles of Scotland whose descendant was absorbed among Viking settlers who travelled back to Norway, clear evidence of Viking links between Scotland and Scandinavia. Ancient DNA sample data available at <https://indo-european.eu/>

### How to confirm the Phair Paternal Genetic Homeland

One must keep in mind that this is a scientific DNA approach to identifying an origin.

As such, the connection to an identified area can be confirmed by Y-DNA testing males with the surname of interest from the identified location. The Scottish origin within the Highlands can be confirmed by Y-DNA testing males named Cameron from the farmland that surrounds Loch Linnhe between Lismore and Fort William.

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which DNA test is suitable for you!**