Pinpointing the BLAIR Paternal Ancestral Genetic Homeland

A Scottish Case Study

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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 many individuals with lots of different surnames? The answer is quite simple. Roughly 1,000 years ago one's direct medieval male ancestor, the first for example to call himself 'Blair' was living in close proximity to others with whom he was related but who assumed other surnames like MacCrorie, Muir and Burns. Given that 1,000 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 19th century census data demonstrate that Scottish surnames could still be found concentrated in the areas from which they originated. One can therefore use that 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 ones 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. In Ireland each of the estimated 1,500 distinct surnames had a single founding ancestor, that's an estimated 1,500 Adams from whom anyone with Irish ancestry can trace direct descent. But science has demonstrated that only 50% of individuals with a particular Irish surname will be related to the surnames founding ancestor, the other 50% of people will have an association that has arisen as a result of what are called 'non-paternal events' usually a result of adoptions or infidelity. 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 12th Century Norman one's DNA results will reflect earlier English, Welsh, French, and possibly 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 genetic matches. Those surnames, particularly one's that recur throughout one's Y-DNA results will typically reflect the surnames of one's medieval ancestor's neighbours. Genetically recurring surname matches revealed in the FTDNA database for test subject 'Blair' are shown in **Figure1.** By uploading the test subject's Y-DNA test results to the y-search.org database, and by dropping the match criteria a number of additional genetic surname matches were revealed, see **Figure 1**.

Y-DNA Test Results								
Test Subject	Haplogroup	67 Markers -1	67 Markers -5	37 Markers -4	Ysearch.org matches Surname	Markers Compared	Genetic Distance	Frequency
Blair	R-DF49	Blair(x15)	McCrary/McCreary(x3)	Moore(x3)[1]	Blair	67	1	5
					McCrary	67	5	2
					Stevens	43	6	1
					Carter	42	4	1
					Brown	42	5	1
					Edwards	42	5	1
					Johnson	42	5	1
					Noel	42	5	1
					Burns	42	6	1
					Hendricks	42	6	1
					Lyon	42	6	1
					Moore	37	4	1
					Stanley	37	4	1

Figure 1: *Mr Blair's closest genetic matches as revealed in the FTDNA and Ysearch.org databases. Surnames appear at the point at which they first occur as a genetic match e.g. the first match to an individual called Blair occurs at 66/67 markers, although not all Blairs may match at that level. Figures in brackets represent the number of individuals with a particular surname who appear as a genetic match. Coloured font denotes the ethnicity associated with each surname;* ***Scottish****,* ***Scottish-associated****, black font indicates multiple associated ethnicities.* [1]*Moore is a common variant of Scottish 'Muir;' most of the genetically matching Moores appear at the 12 marker level and the shared ancestry may precede the appearance of surnames.*

Upon commercial ancestral Y-DNA testing Mr Blair matched many other individuals called Blair. This would indicate that the he is directly descended from a Blair-Adam; literally the first male to take that surname who lived approximately 1000 years ago when paternally inherited surnames became common. Blair is a common surname associated exclusively with Scotland. The test subject's closest genetic surnames matches are either exclusively Scottish like MacCrorie and Burns, or are to surnames that are associated with Scotland like Moore, Johnson and Lyons, see **Figure 1**. These genetic matches indicate that the test subject's paternal ancestry is linked with the Scotland.

Early census data reveals 5 distinct clusters of Blair farmers spread throughout Central Scotland which would indicate the existence of at least 5 distinct Scottish Blair Clans/families; one of whom the test subject may share common ancestry with, see **Figure 2.** An examination of Scottish placenames reveals a considerable number that are clear references to the Blair surname, see **Figure 2.** Some of these placenames are found in areas where there are no significant Blair farming communities. The absence of a Blair farming communities in 1841 in Northern and

Southwest Scotland (where Blair placenames are found) may simply be a result of the industrial revolution and/or emigration.

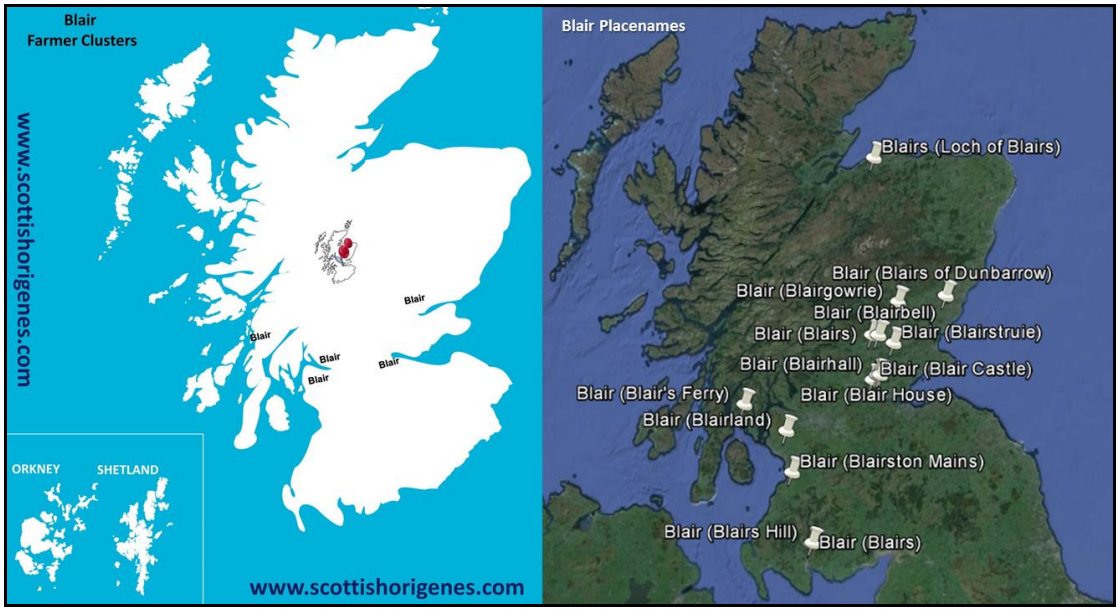

Figure 2: *Scottish Blair. Blair is a common Scottish surname. Early census data reveals that there were 5 distinct clusters of Blair farmers spread throughout Central Scotland (**left panel**). This indicates the existence of at least 5 distinct Blair Clans; one of whom the test subject may share common ancestry with. Each surname has been placed on the map in the area where farmers with that surname cluster in early census data. An examination of Scottish placenames (**right panel**) reveals a number that are clear references to the Blair surname. Some of these placenames appear beyond Central Scotland indicating that the Blair surname is associated with other locations, particularly with the Scottish north and southwest.*

A Paternal Ancestral link with Southwest 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 amongst the farming community and since farmers in Scotland can still be found farming the lands where their ancestor lived when he first inherited his surname, or where one's ancestor first settled within Scotland, one can plot where farmers with the surnames that appear in one's Y-DNA results cluster and identify an area common to all. For example upon Y-DNA testing Blairs from Perthshire will be a genetic match to people with surnames like Fenwick, Burnfield and Irons; surnames associated with Perthshire, while the Blairs of Dumbartonshire will be a genetic match to people called Traquair and Govan; surnames associated with West Central Scotland. Hence, it is Mr Blair's genetic surname matches that are revealed in his Y-DNA test results which can be used to pinpoint where his Blair ancestors once lived. This is because those surnames (revealed in his Y-DNA results) will have arisen among a group of related males living in a very specific location, plot where they occur and one should reveal an area within Scotland that is common to all.

An examination of Mr Blair's Y-DNA results reveals that the surnames Blair, McCreary, Moore and Burns appear as his closest and 'exclusively' Scottish surname

matches, see **Figure 1**. The spelling of a surname typically evolves over both time and distance and McCrary and Moore are variants of MacCrorie/MacRury and Muir respectively. Distribution mapping of farmers called Blair, MacCrorie, MacRury, Muir and Burns reveals that these surnames are all associated with Southwest Scotland, see **Figure 3**. The McCreary surname appears amongst the test subject's closest genetic relatives and this surname is either a corruption of Ayrshire MacCrorie or MacRury; a surname which is associated exclusively with the Western Isles, see **Figure 3**. However it is only within Ayrshire that one finds the Blair surname together with MacCrories, see **Figure 3**.

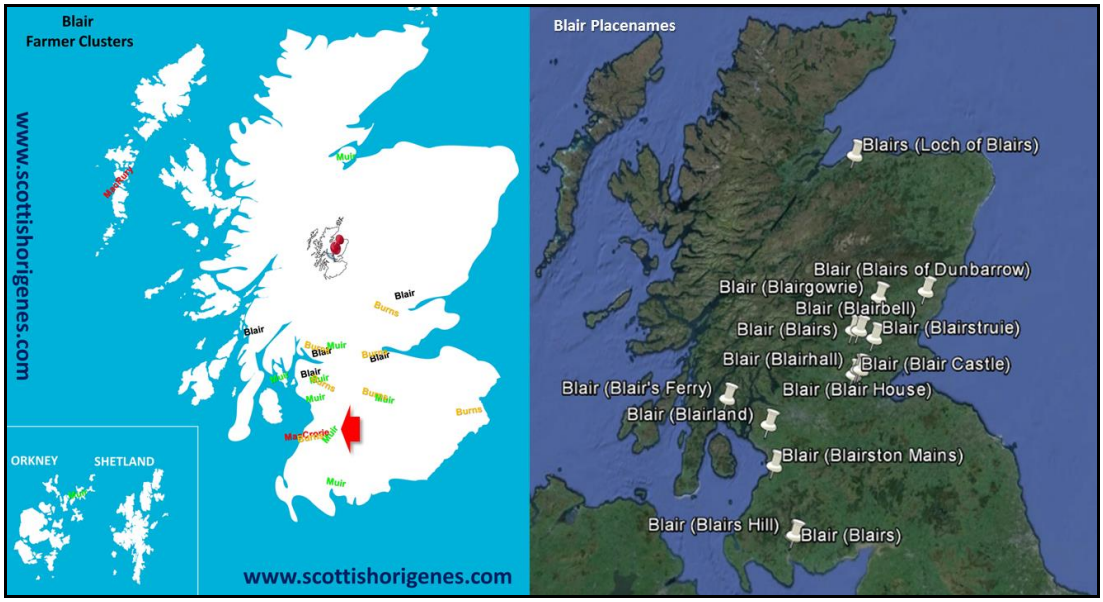

***Figure 3**: Mr Blair's closest genetic surname matches reveal an ancestral link with Southwest Scotland. An examination of the distribution of the Blair, MacCrorie, MacRurie, Burns and Muir farming communities' reveals that they are associated Southwest Scotland. The MacCrorie surname is associated with a single location (**red arrow**) within Central Ayrshire where one finds Burns and Muir farming communities. Although no Blair farming clusters are associated with Central Ayrshire one does find a hamlet called **Blair**ston Mains which is a clear indication that the Blair surname was associated with Central Ayrshire.*

The Scottish Origenes 'Surnames and DNA Map' shows precisely where farmers with each surname concentrated within Scotland in early census data. An examination of Central Ayrshire as it appears on this map reveals the MacCrorie, Burns, Muir and Brown farmers in the area that lies just south of Ayr town and Blairston Mains, see **Figure 4**. Although there is no significant concentration of Blair farmers in Central Ayrshire one does find 'Blairston' in addition to a small number of Blair farmers recorded in 1841 in the parishes of Dundonald and Dailly that lie to the north and south of Blairston Mains respectively, see **Figure 4**.

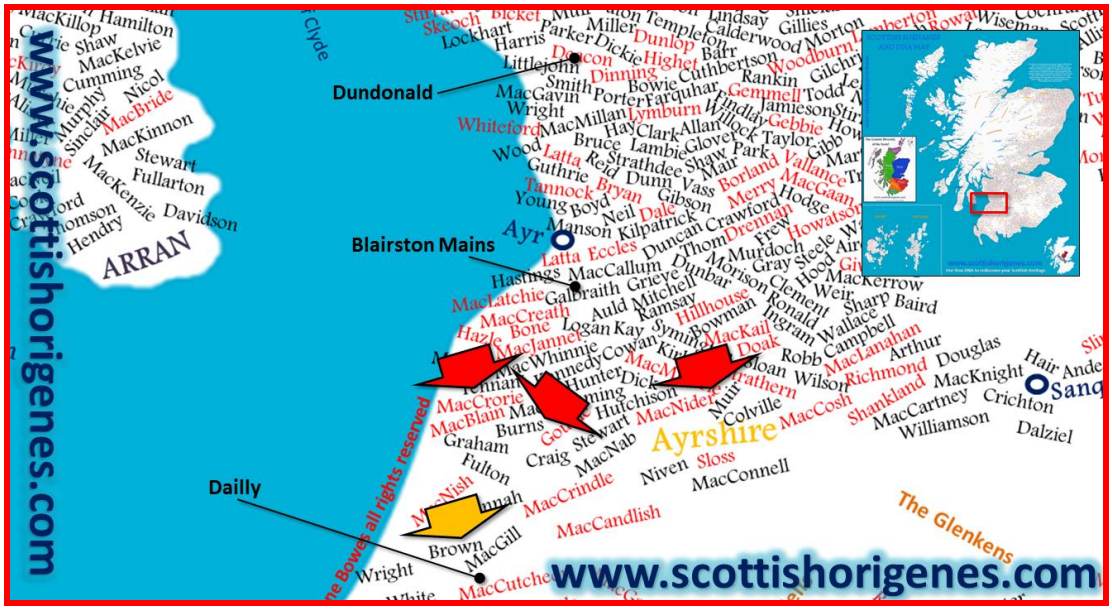

Figure 4: *The Surnames of Central Ayrshire. An examination of Central Ayrshire reveals a number of surnames that appear as recurring genetic matches to Mr Blair in the FTDNA database (**red arrows**) and as a singular match in the Ysearch.org database (**orange arrow**). Although there are no significant clusters of Blair farmers found in Central Ayrshire one does find Blair farmers in early census data in the parishes of Dundonald and Dunlop. Each surname has been placed on the map where farmers with that surname concentrated in early census data. Surnames in **red font** are associated with a single geographical area within Scotland.*

The Clan Territories of Central Ayrshire

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. Typically one's Y-DNA results will reveal shared paternal ancestry with at least one of the Clans or Families that once dominated one's Scottish paternal ancestral genetic homeland. An examination of the castles and towerhouses found in the area surrounding Ayr town reveals that it was dominated by Clans and families of Hiberno-Norse, Ancient Briton and Norman origin, see **Figure 5**. The Clans of Hiberno-Norse origin dominated the area to the South of Ayr town, with Clans and families of Ancient Briton and Norman origin dominating the area to the north and east, see **Figure 5**. Although none of these Clans and Families appear amongst the test subject's genetic matches, some may appear in the future as more and more people participate in Y-DNA testing.

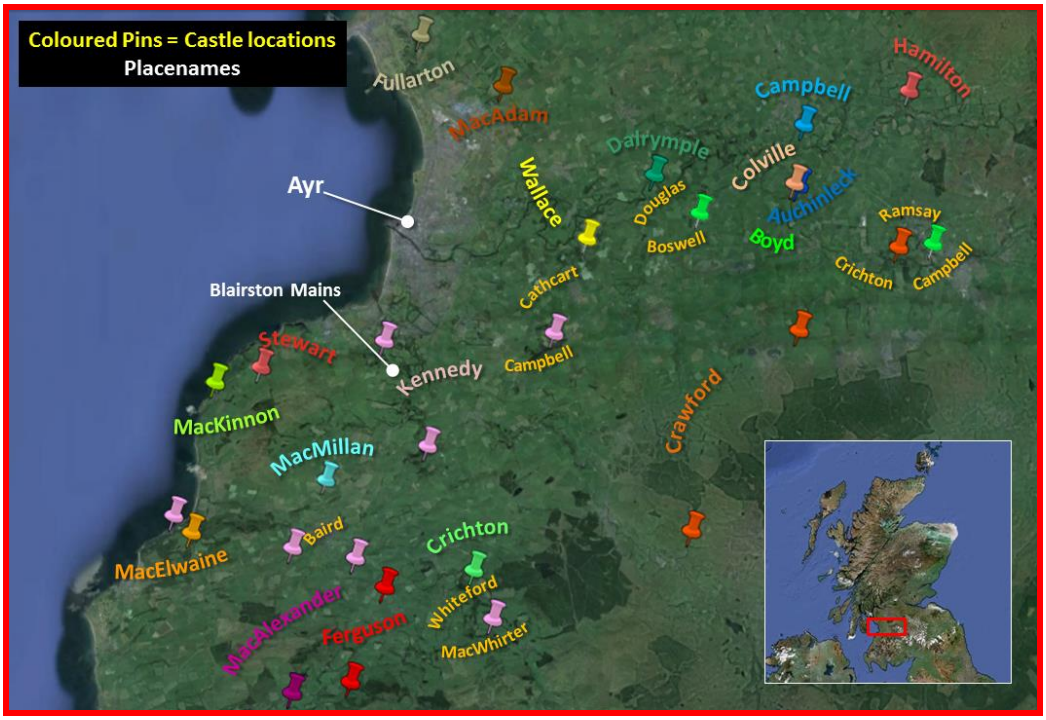

Figure 5: *The Principal Medieval Clans and Families of Central Ayrshire. The area surrounding Blairston Mains was once dominated by many notable Clans and Families of Hiberno-Norse, Ancient Briton and Norman origin. Although none of the Clans or Families appear amongst the test subject's closest genetic relatives, some may appear in the future as the database of people taking the Y-DNA test increases.*

Mr Blair's Paternal Ancestral Genetic Homeland

Mr Blairs paternal ancestral genetic homeland lies in the area surrounding the hamlet of Blairston Mains in Central Ayrshire, see **Figure 6** and **7**. It was there that the test subject's direct male ancestor lived when paternally inherited surnames first appeared within Scotland an estimated 1000 years ago. His ancestor lived surrounded by male relatives who picked other surnames like MacCrorie, Burns, Brown, Muir and Lyon, see **Figure 6**. Often when one's ancestors have lived long enough in an area they leave evidence of their ancestral links with that area in the surrounding historical monuments and placenames. Besides '**Blairs**ton Mains' one also finds '***Blair***quhan Castle' which is historically associated with the MacWhirters, Kennedys and Whitefords, see **Figure 6**. In the surrounding area one also finds many references in the placenames to the Muirs, Lyons, Browns and Burns who appear amongst his genetic relatives, see **Figure 6**. Although Blair farmers are now rare within this area the Blairs of Blairston have left evidence of their long ancestral links with this area in the history of this location. An internet search reveals a 'John Blair' of Adamton or Middle Auchendrane (now Blairston) as a member of the Ayrshire gentry who perished in 1513AD at the battle of Flodden field, and a reference to a 'Hugh Blair of Blairston' in 1658AD in the book 'Ayr and its People' by John D Shearer. There is also a reference to a 'James Blair of Blairston' who was Provost (ceremonial head of a Scottish local authority) of Ayr in 1622AD, 1624AD, 1627AD and 1633AD. The rarity of Central Ayrshire Blairs may be a direct result of the Plantation of Ulster that began in about 1600AD when many Lowland Scots from this area emigrated to neighbouring Northern Ireland.

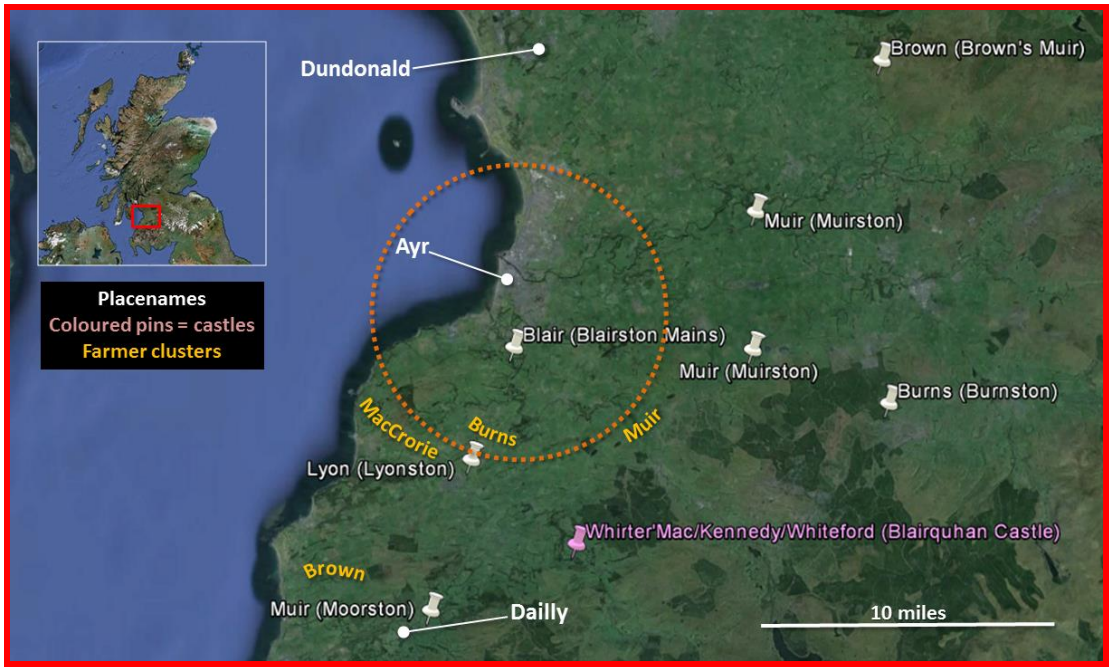

Figure 6: *Mr Blair's Paternal Ancestral Genetic Homeland. Mr Blair's Y-DNA results indicate that his Paternal Ancestral Genetic Homeland (orange broken circle) lies in the area surrounding the hamlet of Blairston Mains in Central Ayrshire. It is in this area that his paternal ancestor lived when paternally inherited surnames first appeared. His ancestor lived surrounded by relatives who inherited other surnames like MacCrorie, Burns, Lyons and Muir. In the surrounding area one can find evidence of his genetic relatives in the local placenames. All of these Clans and Families will have left evidence of their long ancestral links with this area in both the history of this location and in the DNA of the areas current inhabitants.*

Figure 7: *Blairston Mains in Central Ayrshire.*

How to confirm the Blair Genetic Homeland

Confirmation that Mr Blair's paternal ancestors originated from the area surrounding the hamlet of Blairston Mains will require the recruitment of male Blairs from the surrounding area for commercial ancestral Y-DNA testing.