

Case Study

Pinpointing the KEENEY Irish Paternal Ancestral Genetic Homeland

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A handwritten signature in black ink, appearing to read 'Tyrone Bowes'.

Dr Tyrone Bowes
6th November 2014

INTRODUCTION

A simple 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 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 'Keeney' was living in close proximity to others with whom he was related but who inherited other surnames like Quinn and Daly. Given that 1,000 years have passed since paternally inherited surnames were first adopted, 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 ancestors neighbours will be revealed in today's Y-DNA test results.

In Ireland surnames can still be found concentrated in the area where they first appeared or in the area where ones ancestors first settled. 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 one's '**Paternal Ancestral Genetic Homeland.**' The paternal ancestral 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.
2. Often people are looking for their DNA results to trace back to a specific area. One must remember that the results reflect one's ancestor's neighbours from around 1,000 years ago. As a result if your recent Irish ancestors were descended from 9th Century Viking raiders, 12th Century conquering Normans, or 16th Century Planters, your DNA results will reflect earlier English, Scottish, Welsh, and possibly Scandinavian origin. I have estimated that only 60% of those with Irish ancestry are related to the pre-Christian Celtic tribes of Ireland. One must approach this process with an open mind!

Interpreting the Y-DNA results

To pinpoint a paternal ancestral genetic homeland one must first identify the surnames that appear as genetic matches. Those surnames, particularly ones that recur throughout one's YDNA results will reflect the surnames of ones medieval ancestor's neighbours. Results for test subject 'Keeney' are shown in **Figure 1**.

Last Name	User ID	Haplogroup	Tested With	Markers Compared	Genetic Distance
Keeney	FDUJG	Unknown	Family Tree DNA	67	0
Keeney	RF2MQ	R1a1 (tested)	Family Tree DNA	67	1
Keeney	2F7KJ	Unknown	Family Tree DNA	37	1
Quinn	VYQ4Z	R1a*	Ancestry.com	33	6
Keeney	W6K4U	Unknown	Family Tree DNA	25	0
Keeney	TXRAD	Unknown	Family Tree DNA	25	1
Keeney	FG93D	Unknown	Family Tree DNA	25	2
Kinney	SB7QT	Unknown	Family Tree DNA	25	2
Luther	MEDYQ	Unknown	Family Tree DNA	25	2
Keeney	NZXP	Unknown	Family Tree DNA	25	3
Daley	EPB26	Unknown	Family Tree DNA	25	5
Daley	AXYTA	R1a1a (tested)	Family Tree DNA	25	5
Green	JDVBA	Unknown	Family Tree DNA	25	5
Prendergast	KH834	Unknown	Family Tree DNA	25	6
Stuart	GQKW7	Unknown	Family Tree DNA	25	6
Cotton	MX7FH	Unknown	Other - EthnoAncestry	22	6

Figure 1: Mr Keeney's closest genetic matches as revealed by commercial ancestral Y-DNA testing. Mr Keeney had a limited number of genetic matches in the FTDNA database. By uploading his results to Ysearch.org and dropping the match criteria it revealed numerous genetic matches. Block colour indicates the ethnicity associated with each surname; **Irish**, **Scottish**.

Upon Y-DNA testing Mr Keeney was a genetic match to other individuals called Keeney who tested independently of him. These genetic matches indicate that he is part of the 50% of individuals who after an estimated 1,000 years have retained the surname of their founding ancestor; the Keeney-Adam (the first to call himself 'Keeney'). Keeney is an Irish surname and an Irish paternal ancestral link is supported by his closest genetic matches to individuals called Quinn, Daley(Daly) and Prendergast; surnames that are associated almost exclusively with Ireland, see **Figure 1**.

Distribution mapping of the Keeney, Keaney, Keany and McKeaney surnames in Ireland in 1911 reveals that they are associated exclusively with the Northwest and West of Ireland, see **Figure 2**. Both Keeney and Keaney appear to be common variations of 'Keany;' a surname which appears to cluster in 2 distinct locations found within Counties Galway and Leitrim, see **Figure 2**. Farmers in Ireland can still be found clustering in the area where their surname first appeared and an examination of the distribution of Keany/McKeaney farmers reveals 2 distinct groups located within Counties Galway and Leitrim. This indicates the existence of at least 2 distinct Keany Clans from whom the test subject may be directly descended, see **Figure 3**. Often ones ancestors leave evidence of their long ancestral links with an area in the surrounding placenames and an examination of both Galway and Leitrim reveals a number of placenames that could be references to the Keany surname, see **Figure 3**.

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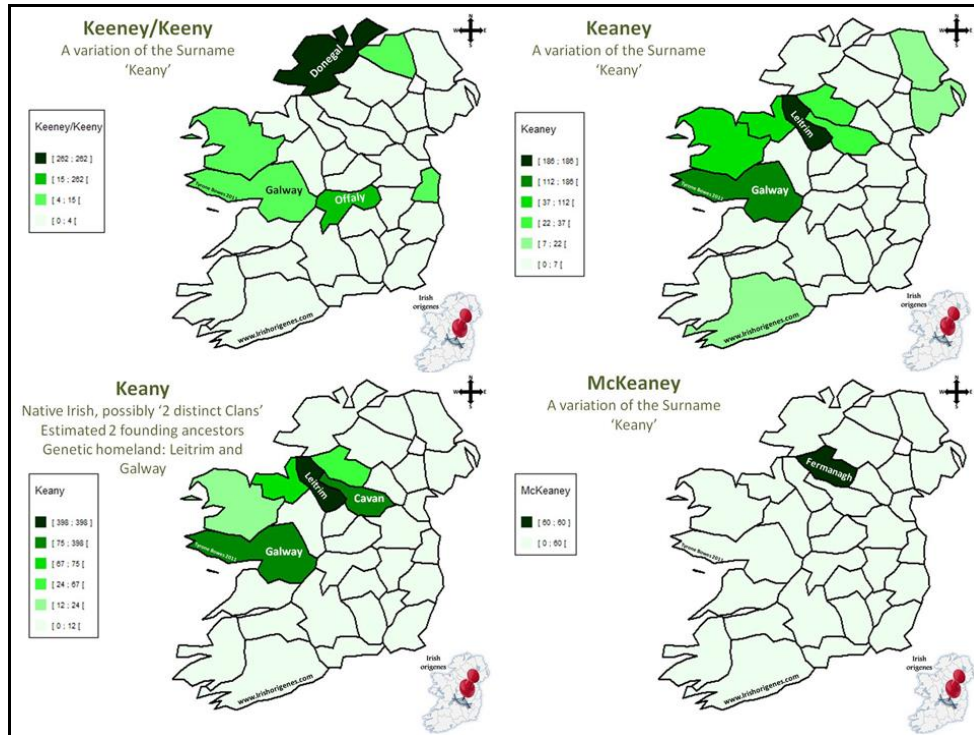


Figure 2: The Keeney surname in Ireland. Surname distribution mapping reveals that Keeney and Keeny are variations of the more common Irish surname Keany. These surnames are associated exclusively with the West and Northwest of Ireland where they appear to concentrate within Counties Leitrim and Galway.



Figure 3: Keany farmers and Placenames within Ireland. Keeney farmers cluster within Galway in the west and Leitrim in the northwest. Since the test subject is descended from a Keany-Adam his paternal ancestry is linked to one of these population clusters. An examination of local placenames reveals a number that may be ancient references to the Keany's.

A Paternal Ancestral link with the West of Ireland

Mr Keeney's closest genetic Irish surname matches, as a snapshot of his medieval male ancestors neighbours should exhibit a common area of association within Ireland and reveal where his Irish paternal ancestral genetic homeland is to be found (or which Keany Clan he shares common ancestry with). An examination of the distribution of the Daly, Quinn, Prendergast and Greene surnames; which appear as the test subjects closest Irish-associated genetic matches reveals that they are associated with multiple geographical areas, see **Figure 4**. Interestingly, although the Daly, Quinn and Green surnames are all associated with the west and northwest of Ireland, the Prendergast surname is only found in the west, see **Figure 4**. In addition 2 of Mr Keeney's closest DNA matches in the Ysearch.org database reveal last known paternal ancestors within County Mayo situated on Irelands west coast, see **Figure 5**. Mr Keeney's Y-DNA results reveal a paternal ancestral link with the west of Ireland.

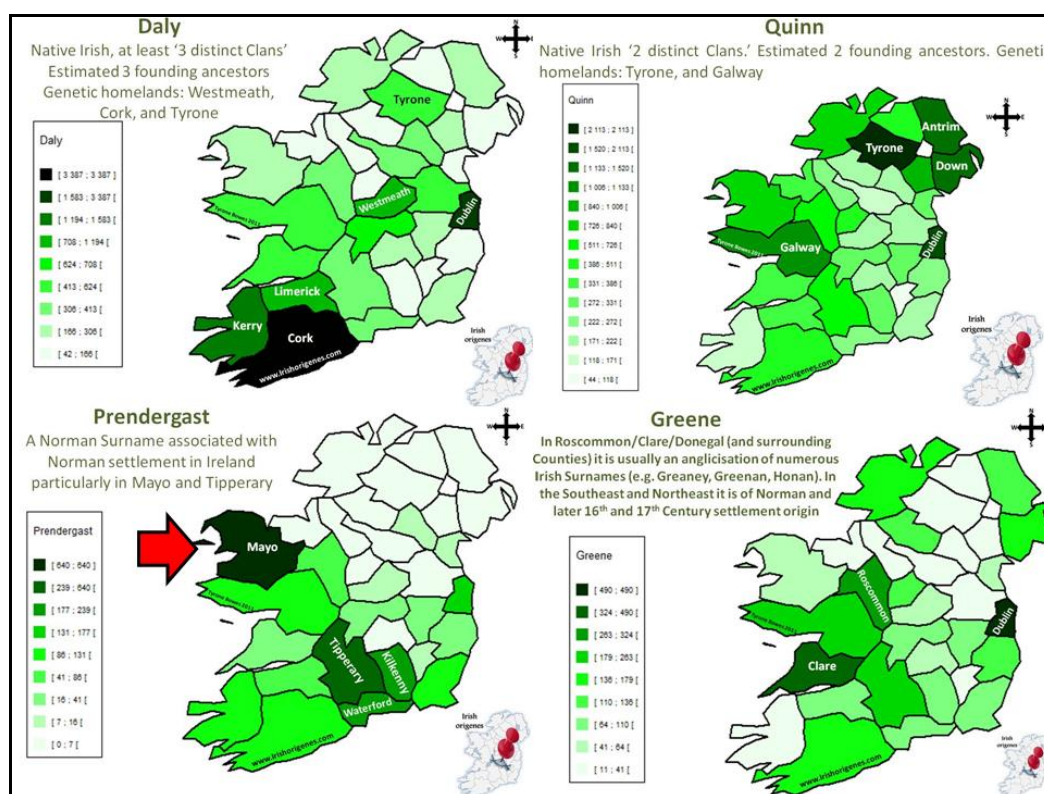


Figure 4: Surname distribution mapping reveals an ancestral link with the West of Ireland. Distribution mapping of the Daly, Quinn, Prendergast and Greene surnames which appear as the test subjects closest Irish-associated genetic matches reveals that they are associated with multiple locations within Ireland. However, Prendergast is only found in the south and **west** of Ireland (red arrow).

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Last Name	Haplogroup	Origin	Tested With	Markers Compared	Genetic Distance
Keeney	Unknown	Unknown	Family Tree DNA	67	0
Keeney	R1a1 (tested)	Unknown	Family Tree DNA	67	1
Keeney	Unknown	Unknown	Family Tree DNA	37	1
Quinn	R1a*	Claremorris, County Mayo, Mayo, Ireland	Ancestry.com	33	6
Keeney	Unknown	Unknown	Family Tree DNA	25	0
Keeney	Unknown	Unknown	Family Tree DNA	25	1
Keeney	Unknown	Unknown	Family Tree DNA	25	2
Kinney	Unknown	Unknown	Family Tree DNA	25	2
Luther	Unknown	Germany	Family Tree DNA	25	2
Keeney	Unknown	Virginia, USA	Family Tree DNA	25	3
Daley	Unknown	Unknown	Family Tree DNA	25	5
Daley	R1a1a (tested)	Walkill, New York, USA	Family Tree DNA	25	5
Green	Unknown	Unknown	Family Tree DNA	25	5
Prendergast	Unknown	Louisburgh/Aghany, Ireland	Family Tree DNA	25	6
Stuart	Unknown	Unknown	Family Tree DNA	25	6
Cotton	Unknown	Grampian, Scotland	Other - EthnoAncestry	22	6

Figure 5: Most recent known paternal ancestral origins of Mr Keeney's Ysearch.org genetic matches. An examination of Mr Keeney's closest genetic matches in the Ysearch.org database reveals 2 individuals with ancestral links with County Mayo in the west of Ireland.

THE MEDIEVAL CLAN TERRITORIES OF IRELAND

The Irish Origenes Medieval Clan Territories of Ireland Map was reconstructed based on the location of castles and their known historical association to a particular Clan or Family. Over 400 of the most prominent Irish, Norman, Viking, Gallowglass, and Scottish Clans and Families are detailed, and typically one's Y-DNA results will reveal shared ancestry to one or more of the prominent Clans/Families that dominated one's paternal ancestral genetic homeland. An examination of the west of Ireland as it appears on the Irish Origenes Clan Territories map reveals that it was dominated by Norman Families and Gaelic Irish Clans, see **Figure 6**. Within County Mayo one finds the territory of the Norman Prendergast family, while to the south in Galway lay the territory of the Gaelic Irish Daly Clan; both of these surnames appear among the test subjects genetic matches, see **Figure 6**.

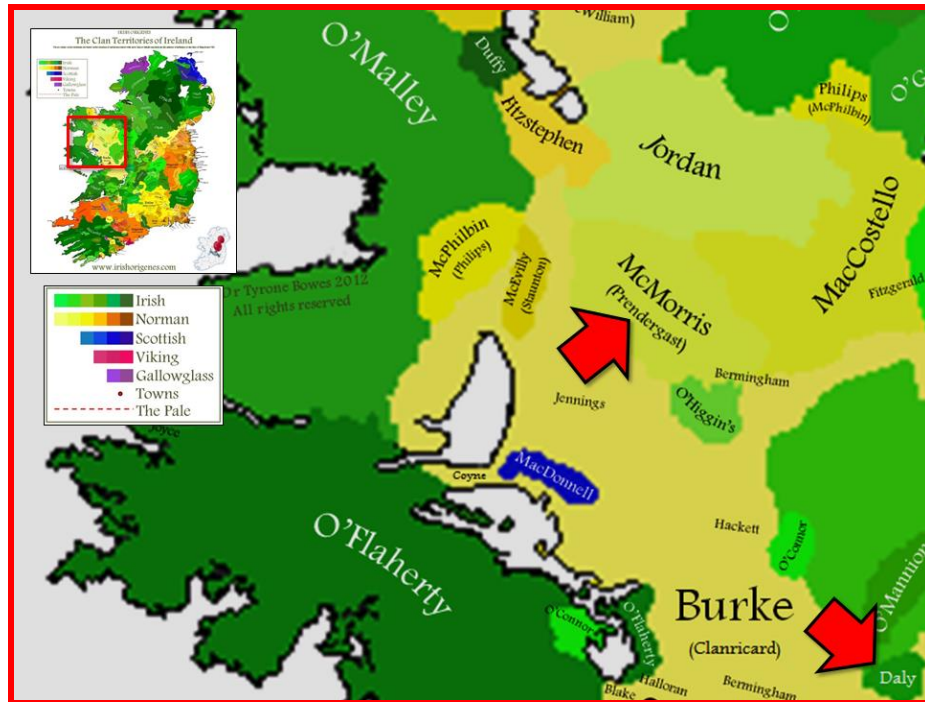


Figure 6: The Medieval Clan Territories of the Mayo and Galway borderlands. The west of Ireland was dominated by prominent Norman families and Gaelic Irish Clans. The test subject has genetic matches to Dalys and Prendergasts (red arrows) who were prominent families in this area.

Mr Keeney's Paternal Ancestral Genetic Homeland

The method of using genetically recurring 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 Ireland can still be found farming the lands where their ancestor lived when he first inherited his surname one can plot where the surnames that appear in one's Y-DNA results originate and identify an area common to all. Although the Keeney surname clusters in neighbouring County Galway, two of the test subject's genetic matches reveal ancestral links with towns located within County Mayo and in an area dominated by the Norman Prendergasts. By plotting the location of Keeney/Keeney farmers in County Mayo it reveals a small cluster just north of Lough Mask, see **Figure 7**. Interestingly these Keeney farmers cluster between Louisberg and Claremorris; the locations listed by Mr Keeney's closest genetic matches, see **Figure 7**. This small cluster of Keeney farmers on the northern shore of the Lough Mask are far removed from the more numerous Keeney's of Galway and may represent a smaller distinct Keeney Clan.

Mr Keeney's paternal ancestral genetic homeland lies in the farmland on the northern shore of Lough Mask in County Mayo, see **Figure 7**. It was there that the test subject's paternal ancestor lived when he first inherited the Keeney surname. His ancestor lived surrounded by male relatives who inherited other surnames like Quinn and Daly. With the arrival of the Normans some of his distant relatives

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assumed the Prendergast surname. Evidence of one's long ancestral links with an area is often reflected in the placenames one finds there, and an examination of the surrounding area reveals a Caherakeeny which could translate as 'Keanys stone fort,' see **Figure 8**. In the area surrounding Mr Keeney's genetic homeland one also finds references to the Dalys, Quinns and Prendergasts, see **Figure 7**. The Keanys will undoubtedly have left evidence of their long ancestral links with this area in its history, but also in the DNA of the Keanys who still live there.

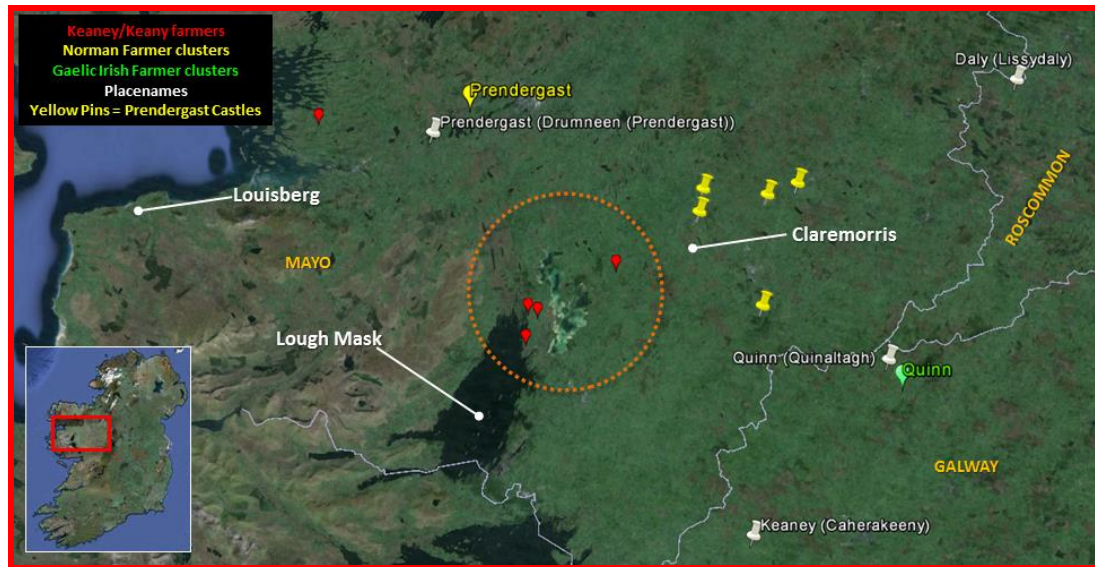


Figure 7: Mr Keeney's Paternal Ancestral Genetic Homeland. Mr Keeney's paternal ancestral genetic homeland lies on the northern shore of Lough Mask (**orange broken circle**) in County Mayo. It was there that a small number of Keanys clustered in 1911 surrounded by farmers with the surnames that appear amongst Mr Keeney's genetic matches. Some of these Clans and Families have left evidence of their ancestral links with this area in its history, castles, placenames, and in the DNA of its current inhabitants.



Figure 8: Caherakeeny townland in County Galway. Caherakeeny may translate as 'Keanys stone fort,' a possible reference to the Keanys who cluster to the Northwest.

Ancient Gaels

The predominance of the Gaelic Irish surnames Keany, Quinn and Daly in the test subjects DNA results indicate that the test subject's ancestors were of Gaelic Irish origin. In addition the R1a haplogroup and the location of his paternal ancestral genetic homeland in the west of Ireland would indicate that the test subject is a descendant of some the earliest prehistoric people to settle within Ireland.

How to confirm a pinpointed 'Paternal Ancestral Genetic Homeland'

Confirmation of the paternal ancestral genetic homeland will require the commercial ancestral Y-DNA testing of Keany farmers who current live on the northern shore of Lough Mask in County Mayo.