

# Case Study

## Pinpointing the DOOLEY Irish Paternal Ancestral Genetic Homeland

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**Contact Tyrone Bowes ([tyronebowes@gmail.com](mailto:tyronebowes@gmail.com)) for a FREE consultation on your DNA results**

### 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 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 'Dooley' was living in close proximity to others with whom he was related but who inherited other surnames like Carroll, Bowe and Flanagan. 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 ancestor's 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 unique surnames had a single founding ancestor, that's an estimated 1,500 Adam's 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 9<sup>th</sup> Century Viking raiders, 12<sup>th</sup> Century conquering Normans, or 16<sup>th</sup> 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 reappear as genetic matches, see **Figure 1**. These recurring surnames will reflect the surname of a medieval ancestors neighbour. Genetically recurring surname matches for test subject 'Dooley' are shown in **Figure 2**.

67 MARKERS - 23 MATCHES						
Genetic Distance	Name	Y-DNA	Most Distant Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date
3	Michael Dooley	Y-DNA67	H - Jeremiah Dooley, b. c. 1790 Ireland	R-M269		4/1/2011
3	Dooley	Y-DNA111	H02/01 - Patrick Dooley, b. ca 1810, Ireland	R-P312		9/5/2006
5	Brown	Y-DNA67 FF	George Washington Brown, b. 1858 and d. 1912	R-DF21	DF21	10/26/2013
5	Redmond	Y-DNA111 FF	REDMOND	R-P312		3/7/2013
5	Dooley	Y-DNA67	John Dooley b. 15 July 1823	R-P312		3/5/2012
5	Springer	Y-DNA67	Lawrence Springer, b. 1847, Barbados, died Rhode I	R-P312		8/2/2011
5	Dooley	Y-DNA67	H02/02 -Thomas Dooley, b. 1804, Danesfort, Kilkenny	R-DF21	DF21	8/5/2008
5	Carroll	Y-DNA111 FF	Denis Carroll 1809, NL Canada	R-P312		3/21/2008
6	Springer	Y-DNA111	John Springer b. 1620 and d. 1680	R-DF21		8/2/2011
6	Springer Jr.	Y-DNA67	SPRINGER, Lawrence	R-P312		8/11/2010
6	Crow	Y-DNA67 FF	CROW, George Washington b. 1822, KY	R-P312		7/29/2010
6	Hunter	Y-DNA67 FF	BV Davidson, but non-paternity event in this line	R-DF21		6/28/2010
6	(Flanagan)	Y-DNA111 FF	Flanagan John Westmeath Ireland b, c. 1817	R-DF21	DF21	9/12/2007
6	Lee	Y-DNA67	Patrick Lee, b. c. 1836, Ireland	R-P312		9/5/2006
7	Morris		William Morris, B.Oct. 21, 1772 D.July 4, 1840	R-M269		5/23/2014
7	Bowe	Y-DNA67	Michael Bowe, Ballycuddhy, Johnstown, Kilkenny, I	R-P312		1/19/2012
7	Carroll	Y-DNA111 FF	John Carroll, 1836-1910	R-DF21	DF21	9/1/2010
7	Springer	Y-DNA67	SPRINGER, John	R-M269		8/11/2010
7	Springer	Y-DNA67	SPRINGER	R-P312		8/11/2010
7	Flanagan			R-P312		5/7/2008
7	Carroll	Y-DNA67		R-P312	P312	4/18/2008
7	Dr. Dillon			R-P312		1/31/2008
7	Springer	Y-DNA111	SPRINGER, John b.c. 1733, Newport, RI	R-DF21	DF21	9/5/2006

**Figure 1:** Snapshot of Mr Dooley's Y-DNA matches. An examination of the names of people with whom Mr Dooley's Y-DNA shares a common male ancestor reveals that their surnames are not RANDOM. Some surnames like Dooley, Carroll, Flanagan and Springer (coloured arrows) appear as frequent genetic matches.

Test Subject	Haplogroup	Y-DNA test results												
		67 marker results						37 marker results						
		exact	-1	-2	-3	-4	-5	-6	-7	exact	-1	-2	-3	-4
Dooley	R-DF21				Dooley(x6)		Carroll(x12) Springer(x6)1	Flanagan(x8)	Bowe/Bowes(x5)				Powell(x3)	Egan(x4) Martin(x5) Moore(x5) Murphy(x3) Treacy(x7)

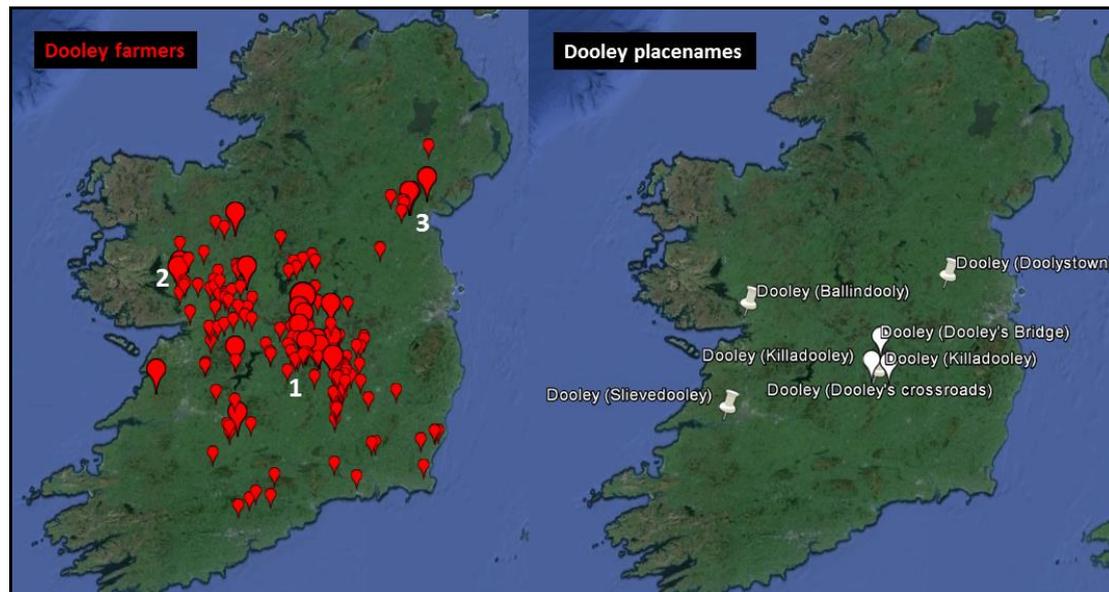
**Figure 2:** Genetically recurring surname matches to test subject Dooley as revealed by commercial ancestral Y-DNA testing. Surnames appear at the point at which they first occur as a genetic match e.g. the first Dooley to appear as a genetic match occurs at 64/67 markers, although not all Dooley's may match at that level. Coloured font indicates the ethnicity associated with each surname; Irish, Welsh/Norman, black font indicates multiple associated ethnicities. <sup>1</sup>Multiple individuals recruited from the same close family and excluded from further analysis.

Upon Y-DNA testing Mr Dooley matched other individuals called Dooley who tested independently of him. These genetic matches indicate that he is part of the 50% of male individuals who after an estimated 1,000 years have retained the surname of their founding ancestor; the Dooley-Adam (the first to call himself 'Dooley'). Dooley is an Irish surname, and a paternal ancestral link with Ireland is supported by recurring genetic matches to individuals called Flanagan, Egan, Treacy and Murphy; surnames that are associated exclusively with Ireland, see **Figure 2**. In addition many

## Dooley - A Case Study

of the other genetically recurring surnames can be of Irish origin including Bowe, Carroll, Martin and Moore, see **Figure 2**.

Surname distribution mapping of the Dooley surname in Ireland in 1911 reveals 3 main clusters of Dooley farmers; indicating the existence of at least 3 distinct Dooley Clans associated with different geographically locations within Ireland, see **Figure 3**. Since Mr Dooley is descended from a Dooley–Adam this means that he shares common ancestry with one of these groups of Dooleys. There are also a number of Dooley placenames found in the Irish Midlands where Dooley farmers reach their highest concentration, see **Figure 3**.

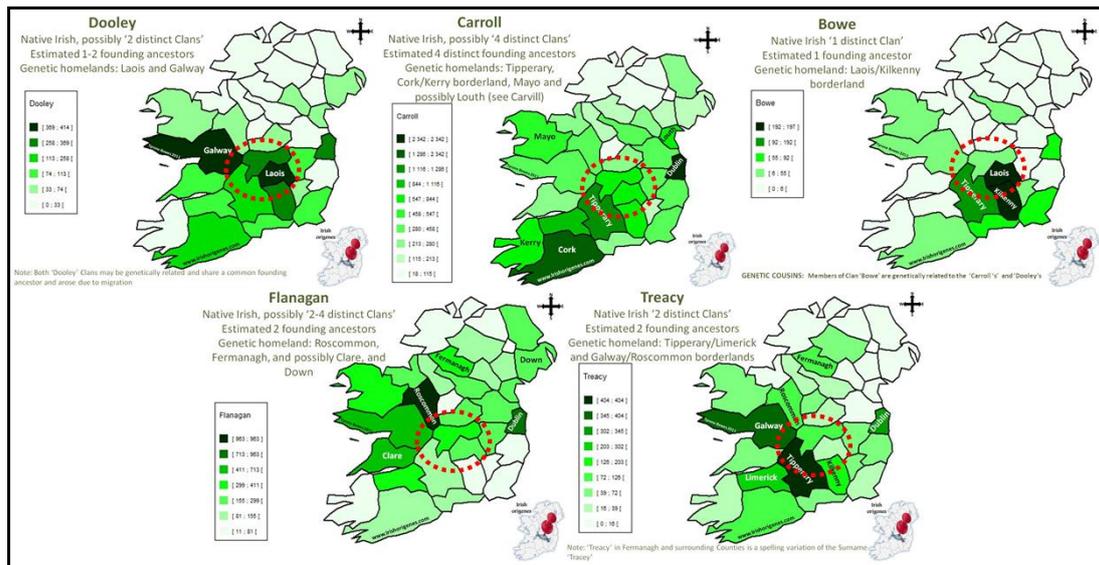


**Figure 3:** The Dooley surname in Ireland. By examining the distribution of Dooley farmers throughout Ireland in 1911 (**left panel**) it reveals that there are 3 main clusters; indicating the existence of at least 3 distinct Dooley Clans within Ireland. Dooley placenames (**right panel**) occur mainly within the Irish midlands where the Dooley surname concentrates.

### The Dooleys of Laois

Each Dooley Clan originated in a specific location surrounded by Clans with whom they shared common ancestry. This means for example that upon Y-DNA testing the Dooleys of the northeast (group 3 Figure 3) will have genetic matches to people with surnames like McMahon and O'Reilly; surnames associated with the northeast of Ireland, while the Dooleys of Galway (group 2 Figure 3) will have genetic matches to people with surnames like Flaherty and Higgins; surnames associated with the West of Ireland. Hence it is Mr Dooley's genetically recurring surname matches as a snapshot of his medieval male ancestor's neighbours which will exhibit a common area of association within Ireland and reveal where his Irish paternal ancestral genetic homeland is to be found (or which Dooley Clan he descends from). An examination of the distribution of Mr Dooley's closest genetically recurring surname matches reveals a paternal ancestral link with Laois, see **Figure 4**. Both Bowe (of which Bowes is a common variant) and Dooley are common within County Laois which is one of Ireland's smallest and least populated Counties, while Carroll, Flanagan and Treacy are associated with its bordering Counties, see **Figure 4**.

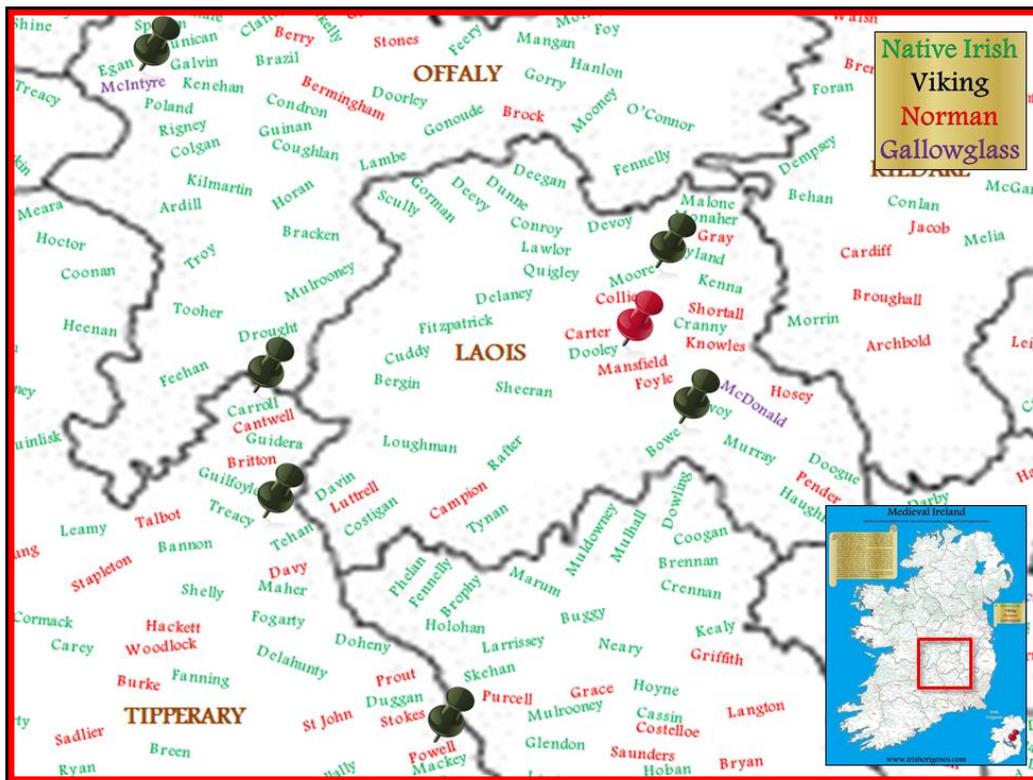
## Dooley - A Case Study



**Figure 4:** Surname distribution mapping reveals a paternal ancestral link with County Laois. The Irish Origenes Surname distribution maps reveal that the Dooley and Bowe surnames are concentrated in County Laois which is one of Ireland's smallest and least populated Counties. Although Carroll, Flanagan and Treacy are more common surnames they are also found in Laois or bordering Counties (red broken circle).

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 farmers with the surnames that appear in one's Y-DNA results cluster and pinpoint one's Irish origin. The Irish Origenes Surnames of Ireland map shows where farmers with a particular surname cluster in 1911 and examination of the Irish Midlands as it appears on this map reveals the Dooleys in central Laois surrounded by the surnames that appear as Mr Dooleys closest and most frequent genetic matches, see **Figure 5**.

## Dooley - A Case Study

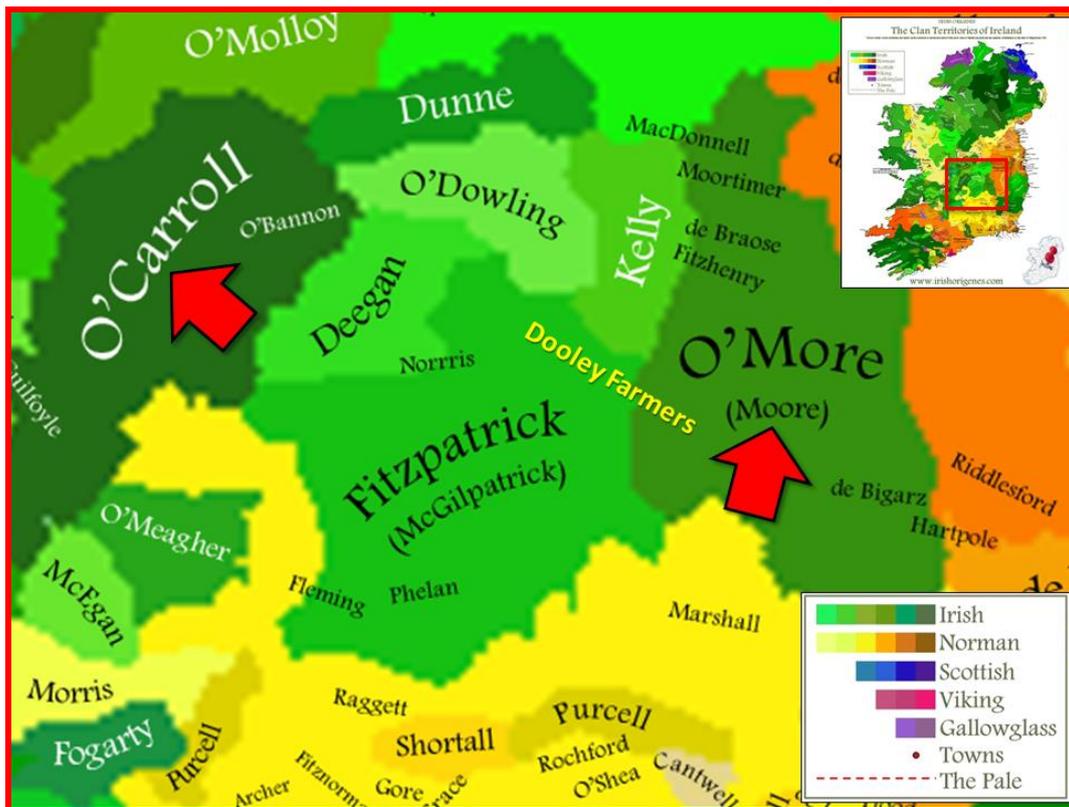


**Figure 5:** The farming communities associated with Mr Dooleys genetically recurring surname matches cluster in Laois. The Irish Origenes Surnames of Ireland map shows where farmers with each surname clustered in 1911. Dooley farmers cluster in central Laois surrounded by clusters of farmers called Bowe, Carroll, Dooley, Treacy, Egan, Moore, and Powell; all of whom appear as close genetic matches to Mr Dooley.

### 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 Laois and bordering Counties as it appears on the Irish Origenes Clan Territories map reveals that they lived in an area dominated by Gaelic Irish Clans but bordering areas controlled by Norman Families, see **Figure 6**. To the west of where Dooley farmers cluster in 1911 lies the territory of the Ely O'Carrolls who feature prominently as Mr Dooleys closest and most frequent genetic relatives. To the east one finds the territory of the O'More who also feature as more distant genetic cousins (Moore's see Figure 2). Mr Dooley's recurring genetic matches to Norman 'Powells' reflect non-paternal events between neighbouring Clans and families that are the result of the close proximity between Gaels and Normans over the last 800 years.



**Figure 6:** The Medieval Clan Territories of Laois. The Midlands of Ireland were dominated by Gaelic Irish Clans and Norman Families. The Ely O'Carrolls and the O'Mores of Laois (red arrows) both appear as recurring genetic matches to Mr Dooley. Although none of the prominent Norman Families found in this area appear as genetic matches, the close proximity between Gael and Gall (the Irish word for the Normans) is reflected in Mr Dooley's Y-DNA results where one finds genetic matches to Powells; a surname which arrived in Ireland with the Normans in 1169AD.

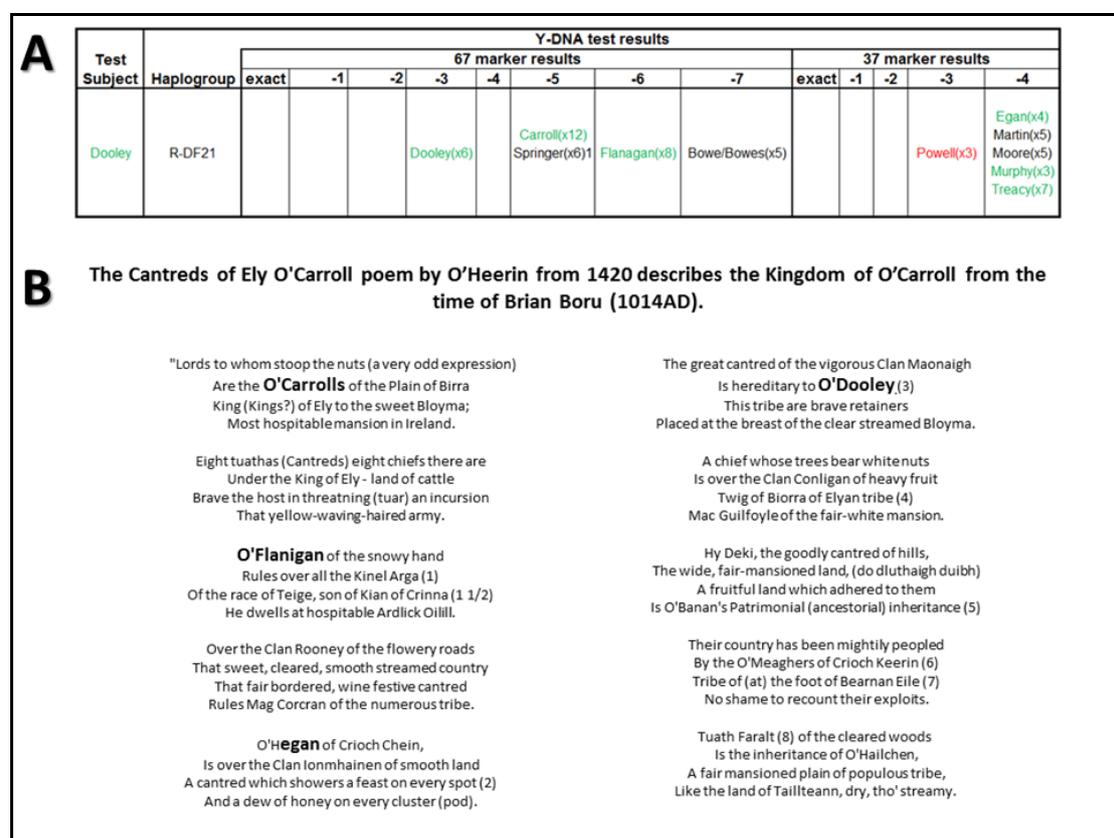
### Mr Dooley's Paternal Ancestral Genetic Homeland

The Dooleys of the Irish midlands are found concentrated in Laois close to the Slieve Bloom Mountains which form the northern border between Laois and Offaly and it is there that Mr Dooley's paternal ancestral genetic homeland is to be found, see **Figure 7**. It was there that his direct male ancestor first inherited the Dooley surname surrounded by male relatives who became the O'Carrolls, Bowes and Flanagans. Evidence of one's long ancestral link with an area is often reflected in the placenames one finds there, and an examination of County Laois reveals references to the Dooleys in the townland of Killadooley (Dooleys forest), Dooley's crossroad and Dooley's bridge, see **Figure 7** and **8**. To the west one finds many of the castles associated with the O'Carrolls. In addition one also finds references in the placenames to virtually all of the Gaelic Irish Clans (and Norman Family) that appear as genetic relatives to Mr Dooley, see **Figure 7**. The Dooleys will undoubtedly have left evidence of their ancestral links with this area in its history, but also in the DNA of the Dooleys who still live there.



### The Ely Tribal Group

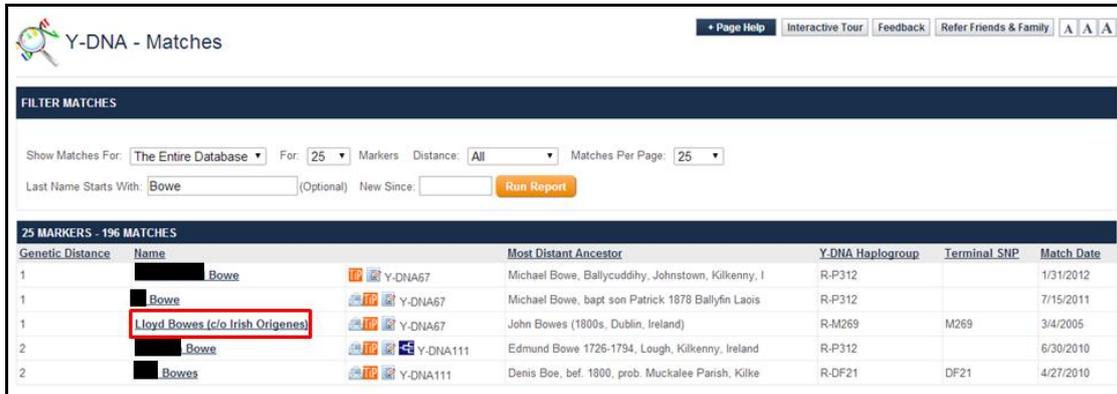
Prior to the appearance of surnames our ancestors lived in tribes organized on the basis of familial groups. These groups were bound by kinship relations and very often had strong ties to a particular location. Today, upon DNA testing one reveals the surnames that arose amongst one's ancient tribal group. Mr Dooley's tribal group lived in the Irish midlands and gave rise to the O'Carroll, Dooley, Flanagan, Bowe, Treacy and possibly Moore surnames. The O'Carrolls were the most notable of these Clans becoming known as the 'Ely O'Carroll's.' By Elizabethan times Ely O'Carroll territory covered over 400km<sup>2</sup> of Southern Offaly (see Figure 6). The Kinship of the O'Carrolls is described in a medieval poem known as the 'Cantreds of the Ely O'Carroll' which describes their territory from the time of Brian Boru (1014AD). Remarkably the poem mentions 4 of the surnames that appear as Mr Dooleys closest genetic relatives, see **Figure 9**.



**Figure 9:** The Cantreds of Ely O'Carroll. Mr Dooley's closest genetic relatives are detailed in Panel A. The Cantreds of Ely O'Carroll (panel B) is a medieval poem describing the territory and kinship of the O'Carrolls. It mentions 4 Clans that appear as the test subjects closest genetic relatives; Carrolls, O'Flanigans, Hegan (Egan) and Dooleys. The territory of the O'Dooleys is described as 'placed at the breast of the clear stream Bloyma' which is a reference to the Slieve Bloom mountains that straddle the northern border of Laois and Offaly, where in 1911 the Dooleys still concentrated.

### DNA EVIDENCE

Mr Dooley's genealogical papertrail and his DNA results link his paternal ancestors to Central Laois. But there is also corroborating DNA evidence that conclusively proves his long ancestral links with this area. Mr Dooley is a genetic match to Dr Tyrone Bowes, who first discovered his Laois paternal ancestral genetic homeland in 2010, see **Figure 10**. Mr Dooley is also a genetic match to a direct descendant of Charles Carroll of Carrollton; hereditary Clan Chief of the Ely O'Carrolls, see **Figure 11**.



Y-DNA - Matches

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FILTER MATCHES

Show Matches For: The Entire Database For: 25 Markers Distance: All Matches Per Page: 25

Last Name Starts With: Bowe (Optional) New Since: Run Report

Genetic Distance	Name	Markers	Most Distant Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date
1	Bowe	Y-DNA67	Michael Bowe, Ballycuddihy, Johnstown, Kilkenny, I	R-P312		1/31/2012
1	Bowe	Y-DNA67	Michael Bowe, bapt son Patrick 1878 Ballyfin Laois	R-P312		7/15/2011
1	Lloyd Bowes (c/o Irish Origenes)	Y-DNA67	John Bowes (1800s, Dublin, Ireland)	R-M269	M269	3/4/2005
2	Bowe	Y-DNA111	Edmund Bowe 1726-1794, Lough, Kilkenny, Ireland	R-P312		6/30/2010
2	Bowes	Y-DNA111	Denis Boe, bef. 1800, prob. Muckalee Parish, Kilke	R-DF21	DF21	4/27/2010

**Figure 10:** Mr Dooley is a genetic match to Dr Tyrone Bowes founder of Irish Origenes. Dr Tyrone Bowes rediscovered his Laois routes in 2010 using the results of a Y-DNA test and founded the Irish Origenes website in 2011. The aim of Irish Origenes is to show people how to pinpoint their Irish origin using only their DNA. Dr Tyrone Bowes is a genetic match to Mr Dooley (red box, Lloyd Bowes is Tyrone's brother). Bowe and Dooley farmers cluster close to one another in County Laois (see Figure 5 and 7).



**Figure 11:** Charles Carroll of Carrollton hereditary chief of the Ely O'Carrolls. A direct descendant of Charles Carroll of Carrollton, hereditary chief of the Ely O'Carrolls and signatory of the Declaration of Independence has Y-DNA tested and is a genetic match to both Mr Dooley and Dr Bowes.

**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 Dooley farmers who current live in County Laois.

**Contact Tyrone Bowes ([tyronebowes@gmail.com](mailto:tyronebowes@gmail.com)) for a FREE consultation on your DNA results**