

Contact Dr Tyrone Bowes ([tyronebowes@gmail.com](mailto:tyronebowes@gmail.com)) to find out about a suitable painless commercial ancestral DNA test for you, or for a FREE CONSULTATION on you DNA test results

If you believe you are a DNA match to the test subject (Mr Burns) then you should contact Margaret Nolan [margaret@margaretnolan.org](mailto:margaret@margaretnolan.org)

## PART I

# Case Study Pinpointing the Burns Irish Paternal Ancestral Genetic Homeland

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Handwritten signature of Dr Tyrone Bowes

Dr Tyrone Bowes  
13<sup>th</sup> July 2018

### 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. Roughly 1,000 years ago one's direct medieval male ancestor, the first for example to call himself 'O'Byrne' was living in close proximity to others with whom he was related but who inherited other surnames like Kenny, Cullen and Walsh. 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.

Surnames in Ireland can still be found concentrated in the areas 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 males will have an association that has arisen as a result of what are called 'non-paternal events,' usually a result of adoption or maternal transfer of the surname.
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!

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### Interpreting the Y-DNA results

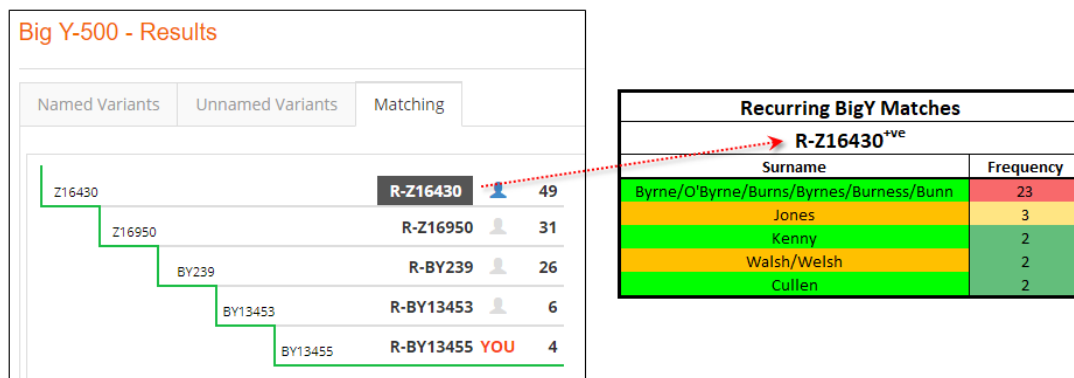
To pinpoint a paternal ancestral genetic homeland one must first identify the surnames that appear as one's closest genetic matches upon commercial ancestral Y-DNA testing, see **Figure 1** and **2**. Those surnames, particularly one's that *recur* among one's closest genetic matches, will typically reflect the surnames of one's medieval ancestral neighbours. Mr Burn's closest genetic surname matches as revealed by commercial ancestral Y-DNA testing are detailed in **Figure 1** and **2**.

111 Marker Matches					
Genetic Distance	Last Name	Earliest Known Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date
9	Burns		R-BY13455	BY13455	9/5/2013
9	Byrne	Francis Byrne, born Ireland 1821	R-M269	M269	7/11/2013
10	Byrne	Feilim Buidhe O'Byrne of Clonmore, b.c. 1500	R-M269		10/1/2013
10	Fee	Andrew Fee	R-M269		12/13/2014
10	Limbeck	B: 25 Dec 1851 D: 22 Dec 1939	R-M269		9/16/2014
9	Norton	Silas Mercer Norton b.1792 and d. 1872	R-M269		5/21/2018

67 Marker Matches					
Genetic Distance	Last Name	Earliest Known Ancestor	Y-DNA Haplogroup	Terminal SNP	Match Date
7	Barnes	Floyd Jack Barnes, b. 1908 and d. 1972	R-M269	M269	8/30/2016
6	Burns		R-M269		3/27/2013
7	Burns	Daniel Burns, 1781-1865	R-BY13455	BY13455	6/13/2016
7	Burns	Michael Byrne, 1795	R-M269		3/27/2013
7	Burns		R-BY13455	BY13455	3/27/2013
7	Burns		R-M269		3/27/2013
6	Byrne	William Joseph Byrne b 1883 and d 1960	R-M269		3/27/2013
7	Byrne	Francis Byrne, born Ireland 1821	R-M269	M269	3/27/2013
7	Byrnes	Edward Byrne b.1822 and d.1873	R-BY239	BY239	3/27/2013
7	Epperson	Robert Dixon d 1792, Georgia	R-M269		12/19/2017
7	Johnson		R-M269		3/27/2013
7	Jordan	Thomas Jordan b 1820Cork,IRE d NY md Bridget O'Day	R-M269		10/7/2015
6	Mullin	John Mullin, b. abt 1760, d. abt 1826	R-M269		3/27/2013
5	Norton	Silas Mercer Norton b. 1792 and d. 1872	R-M269		5/21/2018
7	Raines	John Maulden Moore, b.1817 and d.1882 GA	R-M269		3/20/2018

**Figure 1:** Snapshot of test subject Burns closest genetic surname matches at the 111 and 67 marker levels as revealed in the FTDNA Y-DNA STR database. The more Y-DNA markers two people share the more recent their shared paternal ancestor once lived. The test subject's closest genetic surname matches are **NOT RANDOM**; they are dominated by individuals with common spelling variants of the Gaelic Irish O'Byrne surname (red arrows), together with individuals with other Gaelic Irish or Irish-associated surnames, some of whom also record earliest paternal ancestral links with Ireland.



**Figure 2:** Mr Burn's closest genetically recurring surname matches as revealed upon Big Y-500 DNA SNP testing. BigY-DNA testing revealed 49 individuals that shared the test subject's R-Z16430 Haplogroup (left panel) which were dominated by individuals with surnames derived from Gaelic Irish O'Byrne (x23) together with multiple individuals named Jones, Kenny, Walsh/Welsh and Cullen (right panel). Highlighted font indicates the ethnicity associated with each surname; Gaelic Irish, Welsh surnames associated with the Norman conquest of Ireland.

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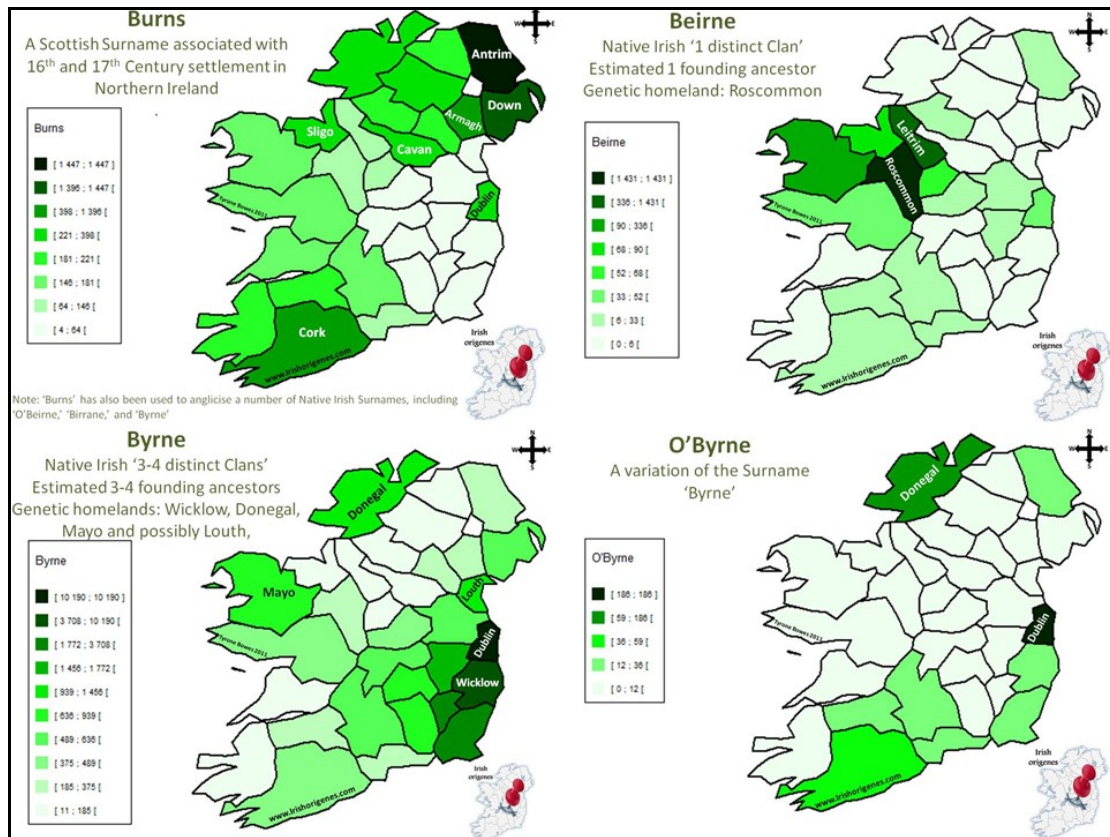
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Upon Y-DNA testing the test subject was a close genetic match to multiple individuals named 'Byrne,' 'Byrnes' or 'Burns;' all of which are common variants of Gaelic Irish 'O'Byrne,' see **Figure 1** and **2**. This would indicate that the test subject is directly descended from an O'Byrne-Adam; literally the first male (Adam) to take that surname who lived approximately 1,000 years ago (when paternally inherited surnames first appeared). The 'O'Byrne' surname is associated exclusively with Ireland and a most recent paternal ancestral link with Ireland is supported by the test subject's closest genetically recurring surname matches (revealed upon BigY DNA testing) which were dominated by Gaelic Irish and Norman-Irish surnames, see **Figure 2**.

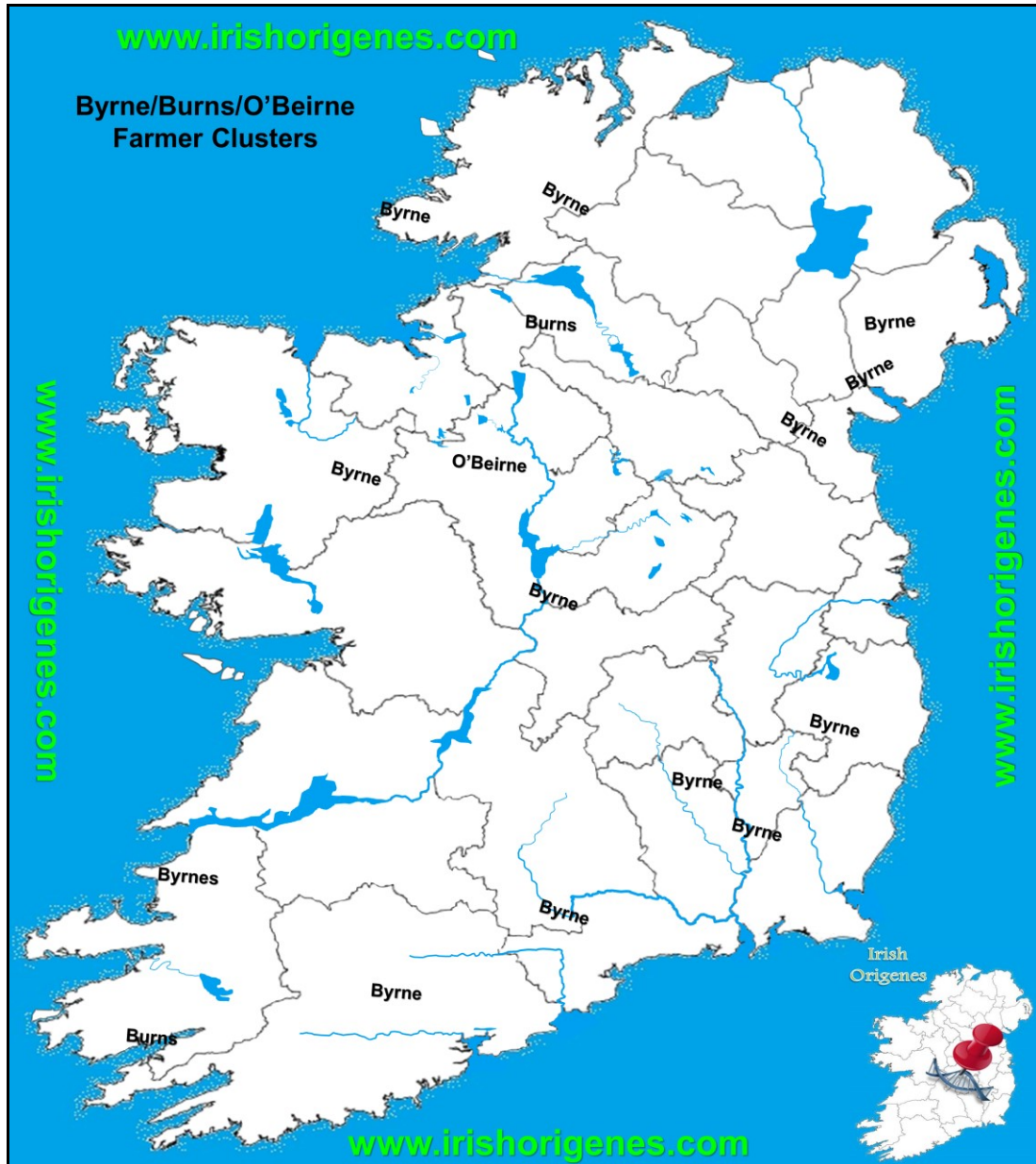
### The Irish O'Byrne Surname

Irish census data reveals approximately 39,000 individuals named Byrne, Burn, Byrnes, Burns, O'Byrne or Beirne in 1911. Distribution mapping of individuals with the most common spelling variants of O'Byrne reveals that they were not distributed evenly throughout Ireland but were associated with specific counties, see **Figure 3**. Since surnames arose in an agricultural based society, farmers with each surname can still be found concentrated in the area where their surname first appeared, or in the areas where one's ancestors first settled. An examination of the distribution of Catholic farmers with any of the common spelling variants of Gaelic O'Byrne reveals that they occur in 16 distinct groups within Ireland, see **Figure 4**. This indicates the existence of at least 16 genetically (and geographically) distinct Irish Clans that could have given rise to the 'Burns' surname; one of whom (as revealed by the Y-DNA results) the test subject shares common paternal ancestry with.

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**Figure 3:** Distribution mapping of individuals named Burns, Beirne, Byrne and O'Byrne in the 1911 census of Ireland. Distribution mapping reveals that individuals named Burns, Beirne, Byrne and O'Byrne were not distributed evenly throughout Ireland but were associated with specific Irish counties.



**Figure 4:** Irish Byrne, Byrnes, Burns and O'Beirne farming communities. An examination of the distribution of Catholic farmers with surnames that could have given rise to 'Burns' reveals 16 distinct groups or Clans within Ireland, one of whom the test subject shares common ancestry with. Each surname is positioned in the location where farmers with that surname concentrate in early census data. The most common spelling is detailed in each location.

### A Paternal Ancestral link with Southeast Ireland

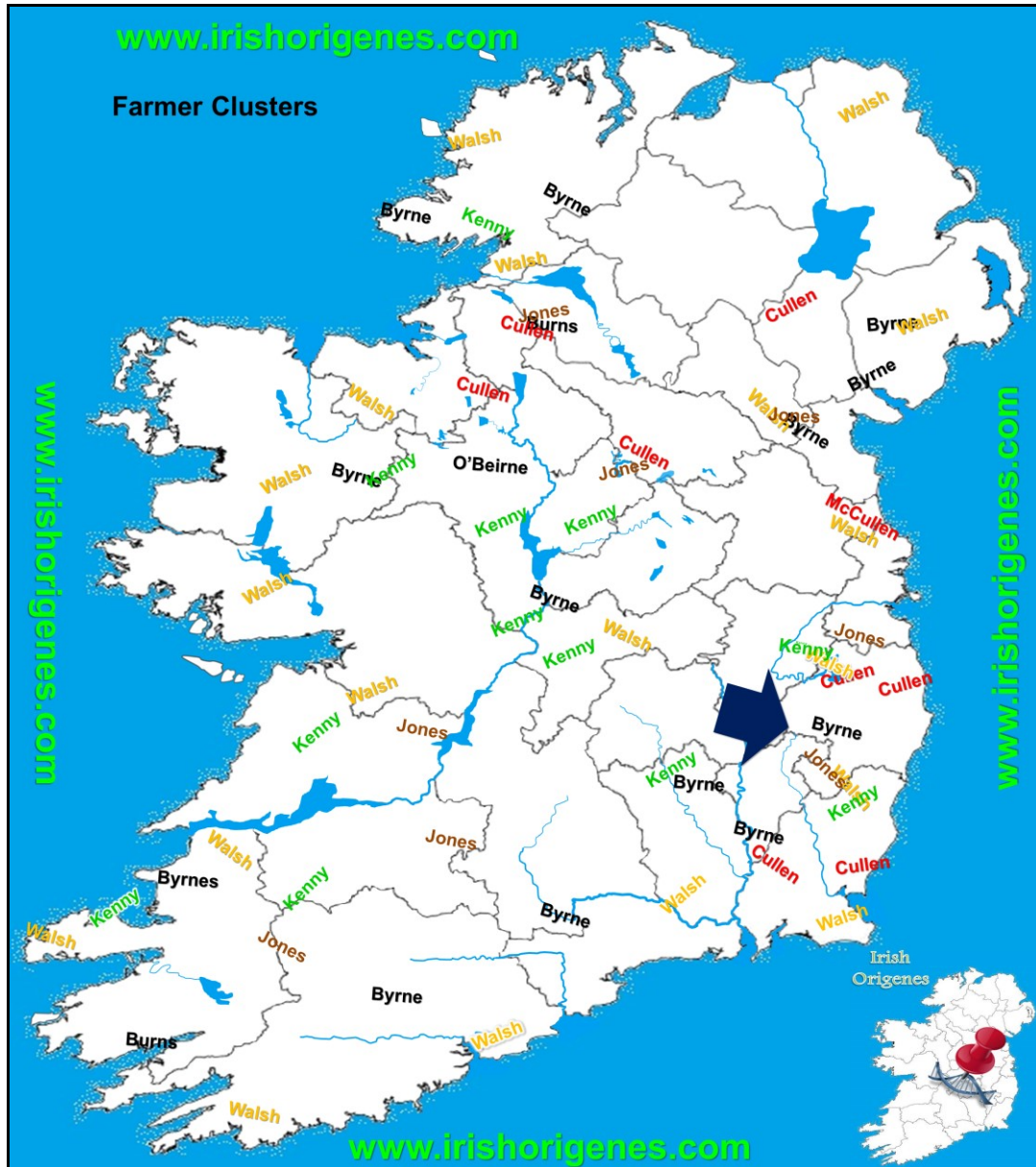
The method of using genetically recurring surname matches as revealed by commercial ancestral Y-DNA testing to pinpoint one's paternal ancestral genetic homeland works by exploiting the link between the Y chromosome, surname and land which are typically passed from father to son through the generations. 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 in Ireland 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 Ireland, one can plot where farmers with the surnames that appear in one's Y-DNA results originate, and identify

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an area common to all. This means for example, that a 'Burns' from County Donegal will upon Y-DNA testing be a genetic match to individuals named O'Boyle, McBrearty and O'Donnell; surnames associated with the northwest of Ireland. In contrast, a Burns from Kerry will be a Y-DNA genetic match to individuals named Sullivan, McCarthy and Donohoe; surnames associated with the far southwest of Ireland. Hence it is the test subject's closest Irish-associated genetically recurring surname matches revealed upon Y-DNA testing that will identify where his founding Burns ancestor originated.

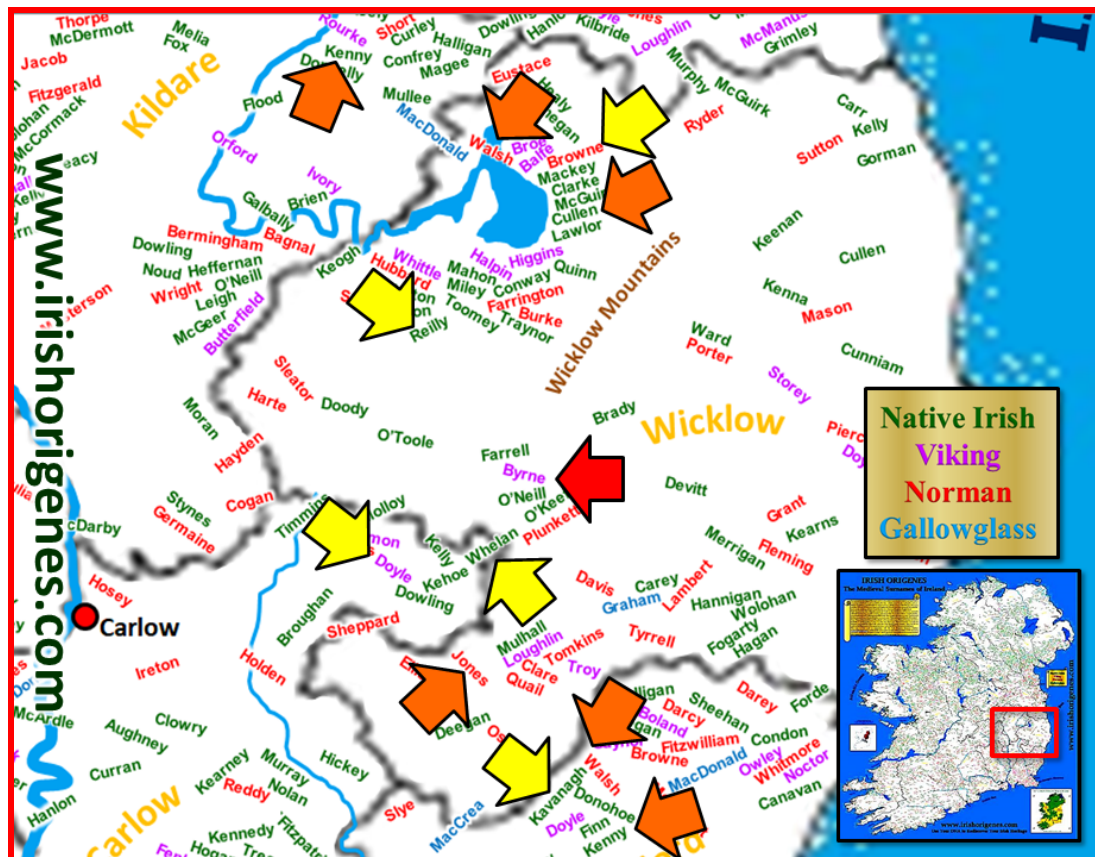
BigY SNP testing revealed that the Irish-associated surnames Kenny, Cullen, Jones and Walsh appeared among the test subjects closest genetically recurring matches, see **Figure 2**. An examination of the distribution of farmers named Burns, Kenny, Cullen, Jones and Walsh reveals that they are common surnames associated with multiple locations, but that they crucially occur together and in closest proximity to one another in the far southeast of Ireland, see **Figure 5**. An examination of the Surnames associated with Southeast Ireland (as it appears on the Irish Origenes Surnames map) reveals 'Byrne' farmers concentrated in Southwest Wicklow and surrounded by many of the surnames that appear as close Y-DNA genetic matches to the test subject, see **Figure 6**.



**Figure 5:** Overlay mapping of Burns, Kenny, Cullen, Jones and Walsh farming communities reveals a paternal ancestral origin within Southeast Ireland. The Burns, Kenny, Cullen, Jones and Walsh farming communities are each associated with multiple different locations within Ireland. However, these farming communities occur in closest proximity to one another within Southeast Ireland (**blue arrow**). The Byrne, Kenny, Cullen, Jones and Walsh surnames arose among a tribal group of related males living in Southeast Ireland an estimated 1,000 years ago. Each surname is positioned in the area where farmers with that surname concentrate in early census data. The most common spelling is detailed in each location.



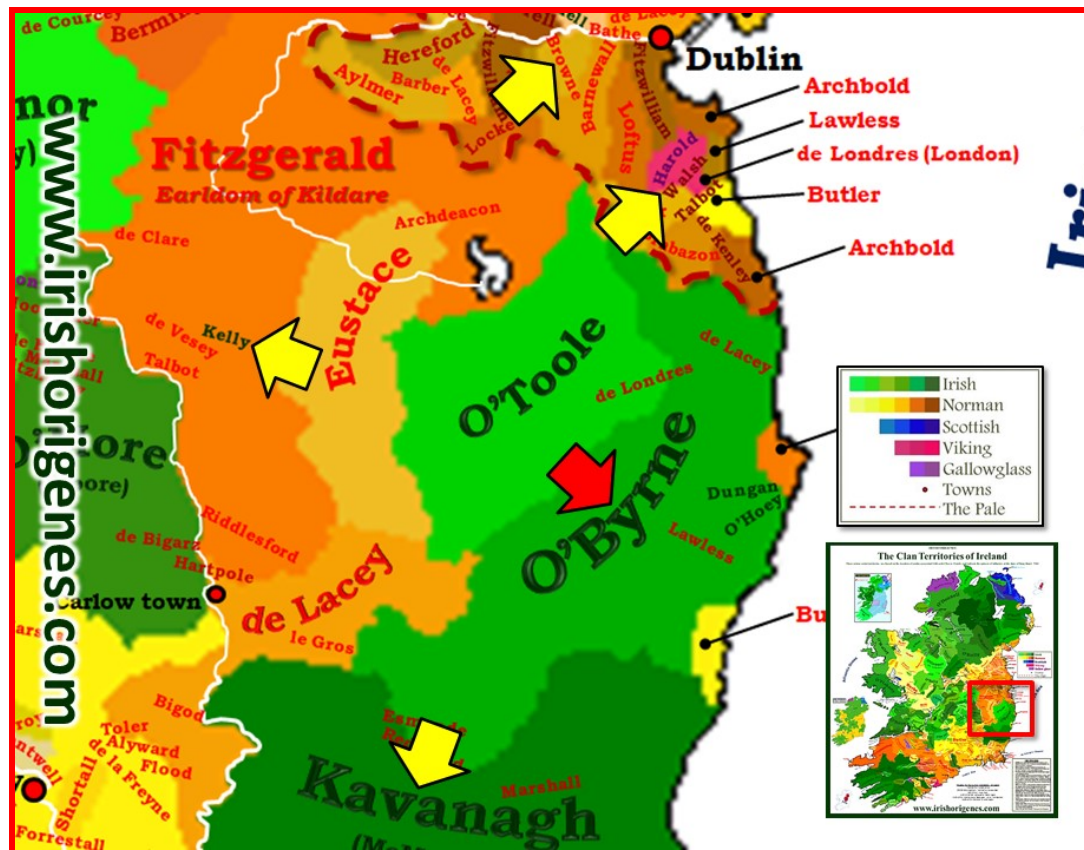
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**Figure 6:** The surnames of County Wicklow. An examination of the Pre-Plantation surnames found in Southeast Ireland reveals the test subject's Byrne ancestors (red arrow) surrounded by farming communities with many of the surnames that appear as close recurring genetic matches in the BigY (SNP) database (orange arrows) or singular genetic matches in the SNP or STR database (yellow arrows). These genetically matching surnames arose among a tribal group of related males who lived in Southeast Ireland an estimated 1,000 years ago. Image taken from the Irish Origenes Surnames of Ireland map which details where farmers with each surname concentrate in early census data. The most common spelling is detailed in each location.

### The Clan Territories of Southeast Ireland

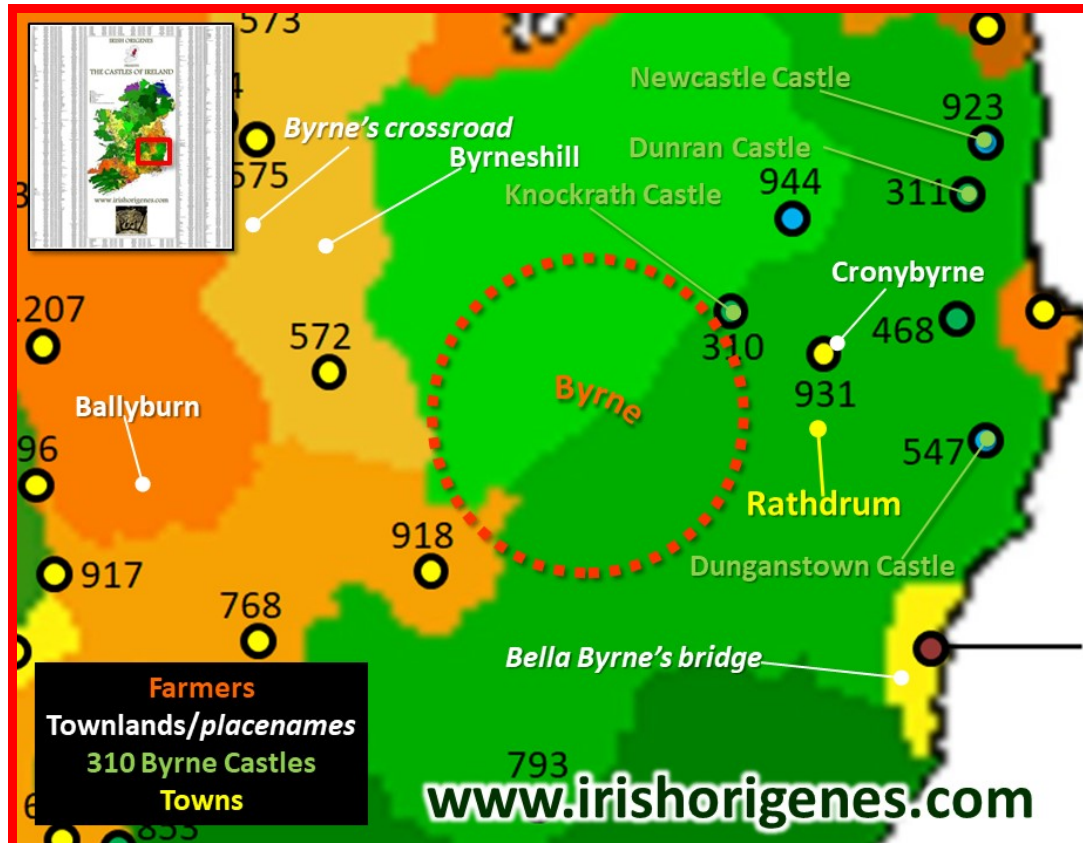
By the 14<sup>th</sup> and 15<sup>th</sup> Centuries Ireland was a patchwork of territories which were dominated by over 400 of the most notable Irish Clans and Norman families. The Irish Origenes Clan Territories of Ireland Map was reconstructed based on the location of castles and towerhouses and their known historical link to a particular Clan or Family. An examination of the Wicklow, Wexford and Carlow borderlands in Southeast Ireland as it appears on that map reveals an area that was dominated by Gaelic Irish Clans, which were in turn surrounded by the lands of prominent Norman Families, see **Figure 7**. The test subject's O'Byrne ancestors dominated a large part of modern County Wicklow, and some of their prominent Gaelic Irish and Norman neighbours appear as singular genetic matches to the test subject, see **Figure 7**.



**Figure 7:** The Clan territories of the Wicklow, Dublin, Wexford and Carlow borderlands. The test subject's Gaelic Irish 'O'Byrne' ancestors (red arrow) dominated large areas of County Wicklow. In the surrounding area one finds many Clans and Families (yellow arrows) that appear as close singular genetic matches to the test subject in either the SNP or STR Y-DNA databases. Some of these matches are the result of non-paternal events (maternal transfer of the surname or adoptions) that have occurred between Gaels and Normans who have been neighbours for over 800 years. Image taken from the Irish Origenes Clans of Ireland map which was reconstructed based on Irish castle locations and their historically associated Clan or Family.

### Mr Burns Irish Paternal Ancestral Genetic Homeland

Farmers named Byrne concentrate in the farmland that lies to the east of the village of Rathdrum in Southwest County Wicklow; and it is there that the test subject's Irish paternal ancestral genetic homeland is to be found, see **Figure 8**. It was there that the test subject's paternal ancestor lived approximately 1,000 years ago when he first took the Gaelic 'Ó'Broin' surname, which over time and distance has become Burns. His paternal ancestor lived among a Gaelic Irish tribal group among whom arose other surnames like Kenny, Cullen, Walsh, Kavanagh, Cullen and Reilly (among many others). When one's ancestors have lived in an area for long enough, one will often find evidence of their ancestral links with that area in the surrounding castles and placenames. An examination of the surrounding area revealed many castles, townlands and local placenames that are associated with the Byrne surname, see **Figure 8**. The test subject's Burns ancestors will also have left evidence of their long ancestral links with this area in its history and in the DNA of the current inhabitants.



**Figure 8:** Mr Burns Irish Paternal Ancestral Genetic Homeland. The test subject's Irish paternal ancestral genetic homeland (**orange broken circle**) is located in the farmland that lies to the west of the village of Rathdrum in Southwest County Wicklow. It was there that his Gaelic Irish paternal ancestor lived when he first acquired the Ó Broin surname approximately 1,000 years ago. His O'Byrne founding ancestor lived surrounded by male relatives who acquired other surnames like Kenny, Cullen, Walsh, Kavanagh, Cullen and Reilly. The surrounding area reveals castles, townlands and local placenames that are all associated with his O'Byrne ancestors. The test subject's genetic relatives will also have left evidence of their long ancestral links with this area in its history and in the DNA of its current inhabitants. Image taken from the Irish Origenes Castles of Ireland Map.

### How to confirm a pinpointed 'Paternal Ancestral 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  
Byrne males from the farmland of Southwest County Wicklow.