

## DNA of the Three Collas - Summary Report

By Peter Biggins, Josiah McGuire, Patrick McMahon, and Thomas Roderick

This material provides 41 groupings for 259 men whose 67-marker Y-chromosome DNA matches a modal for Clan Colla descendants. The groupings are based on surname, family genealogy, interpersonal genetic distance, and unique markers.

The Clan Colla modal DNA is based on the DNA of participants. To test the validity of the modal, the five largest groups were deleted from the data. The resulting modal was no different from the one produced with all participants. The overall group was first identified by matches of men with surnames historically said to be descended from the Three Collas who lived in 4<sup>th</sup> century Ulster. It was soon apparent that such men had an unusual null value for the 48<sup>th</sup> marker, 425. Almost all had an unusual value of 9 for the 47<sup>th</sup> marker, 511. Preliminary results for a new marker 505 tested in 2011 indicates a unique value of 9 for Clan Colla.

All who have done deep clade testing have the L21 SNP (single-nucleotide polymorphism). L21 is also called R1b1a2a1a1b4. Participants also have tested positive for SNP DF21, which is downstream of L21.

On the following pages are references to historic Clan Colla names in John O'Hart's *Irish Pedigrees*. The full title is *Irish Pedigrees; or, the Origin and Stem of the Irish Nation*, Fifth Edition, 1892, Volume I. It is available on Google Books at: <http://books.google.com/books?id=eINmAAAAMAAJ>

Genetic distance is based on the Hybrid Mutation Model as adopted by Family Tree DNA in 2011 with computation assistance provided by the McGee Utility (Beta).

Genetic distances from the modal DNA vary from 1 to 11. The average is 5.9. A 94% majority of the GDs are 3 to 9.

The 259 participants are members of Family Tree DNA, joining from 2003 to 2011. The 67-marker test became available in 2006. Data for 170 was obtained from the Clan Colla 425 Null project started in 2009 at FTDNA. The remaining data was obtained from many FTDNA surname projects and from Ysearch.

The Clan Colla 425 Null project can be found at: [www.familytreedna.com/public/clancolla425null](http://www.familytreedna.com/public/clancolla425null)

A web page for the DNA of the Three Collas can be found at: [www.peterspioneers.com/colla.htm](http://www.peterspioneers.com/colla.htm)

### Index (Surname: Group)

Alexander: McDonald 3	Cotton: Godwin	Little: Biggins	McDonald: McDonald 4	Paden: Paden
Almond: Judd	Dever: Smith 1	Lynch: Diverse 1	McDonell: McDonald 5	Pate: Pate
Beaghen: Biggins	Devine: Devine	MacDonald: Diverse 1	McGee: Hughes	Peden: Paden
Beeman: McAulay	Dorcy: Diverse 2	MacDonald: McDonald 5	McGinnis: McGinnis	Plunkett: Diverse 1
Beggan: Biggins	Duffy: Duffy	MacDougall: MacDougall	McGuire: Diverse 1	Ratray: McDonald 3
Bennett: Carroll 1	Dundas: McGuire 3	MacFarlane: Diverse 2	McGuire: McGuire 1	Reed: Carroll 1
Biggins: Biggins	Dunphy: Diverse 1	MacMahon: McMahon 1	McGuire: McGuire 2	Rice: Diverse 1
Bigham: Biggins	Edwards: McDonald 1	Mahon: Diverse 2	McGuire: McGuire 3	Roberts: Roberts 1
Bogner: McMahon 1	Ericson: Diverse 2	Main: McClain 1	McInnis: Diverse 1	Robertson: Diverse 1
Boyd: McKenna	Farrell: McMahon 1	Martin: McGuire 3	McKenna: McKenna	Robson: McMahon 1
Boylan: Boylan	Feehan: Diverse 2	Matthews: McMahon 1	McKinney: McKenna	Roderick: Roderick
Boyle: Diverse 2	Godwin: Godwin	McArdle: McMahon 1	McMahon: Diverse 1	Rogers: Diverse 2
Bumgarner: Judd	Goggins: Judd	McAtee: McGinnis	McMahon: Diverse 2	Sandison: Diverse 2
Burns: Diverse 1	Hancock: McDonald 3	McAulay: McAulay	McMahon: McMahon 1	Shannon: Shannon
Byrne: McKenna	Hart: Hart	McAuley: McAulay	McQuillan: McQuillan	Shea: Diverse 1
Cain: Diverse 1	Harte: Hart	McCall: McAulay	McQuillen: McQuillan	Smith: Diverse 2
Calkins: Calkins	Heaney: Diverse 1	McClain: Diverse 2	Moore: McKenna	Smith: McMahon 1
Campbell: Hughes	Hendrickson: Diverse 1	McClain: McClain 1	Moorhead: McMahon 1	Smith: Smith 1
Carroll: Carroll 1	Henry: Calkins	McClaren: McClain 1	Morris: Morris	Smith: Smith 2
Carroll: Carroll 2	Herrington: Hughes	McConnell: Connolly	Neal: Neal	Vacca: Diverse 2
Clark: Diverse 2	Higgins: Higgins	McDaniel: McDonald 1	Newell: Newell	Walden: Diverse 2
Clarke: Clarke	Hughes: Hughes	McDaniel: McDonald 3	O'Donoghue: Diverse 2	Walker: Paden
Collins: McQuillan	Judd: Judd	McDonald: Diverse 2	O'Guin: Pate	White: Diverse 2
Conley: Connolly	Kelly: Diverse 1	McDonald: McDonald 1	O'Neill: Diverse 1	
Connelly: Connolly	Kelly: Diverse 2	McDonald: McDonald 2	O'Reilly: McDonald 3	
Connolly: Connolly	Lawler: Diverse 1	McDonald: McDonald 3	O'Toole: Smith 2	

Genetic Distance from -							Surname	Number	Genetic Distance Matrix, Hybrid Mutation Model, McGea Utility (Beta)																													
Group	N	Mn	Lo	Hi	Mn	Lo			Hi																													
<b>Biggins</b>	<b>8</b>	<b>5.4</b>	<b>4</b>	<b>7</b>	<b>5.3</b>	<b>2</b>	<b>7</b>	Colla	DURRQ	-	7	5	6	6	6	5	4	4																				
Group has unique 413b=24								Beggan	166169	7	-	6	7	5	5	4	7	7																				
Descended from McGuire								Bigham	N86783	5	6	-	7	5	5	4	5	4																				
From <i>beag</i> , Irish for little								Little	69648	6	7	7	-	6	6	7	6	6																				
								Biggins	127469	6	5	5	6	-	2	3	6	6																				
								Beggan	190653	6	5	5	6	2	-	3	6	6																				
								Bigham	91030	5	4	4	7	3	3	-	5	5																				
								Biggins	146867	4	7	5	6	6	6	5	-	4																				
								Beaghen	N34030	4	7	4	6	6	6	5	4	-																				
<b>Boylan</b>	<b>2</b>	<b>3.5</b>	<b>3</b>	<b>4</b>	<b>1.0</b>	<b>1</b>	<b>1</b>	Colla	DURRQ	-	3	4																										
O'Hart <i>Irish Pedigrees</i> , 365, 420, 671								Boylan	65227	3	-	1																										
								Boylan	86258	4	1	-																										
<b>Calkins</b>	<b>25</b>	<b>4.6</b>	<b>3</b>	<b>7</b>	<b>3.1</b>	<b>0</b>	<b>7</b>	Colla	DURRQ	-	6	6	5	5	5	5	3	3	3	3	3	5	5	5	3	5	6	4	3	4	5	6	7	4				
O'Hart <i>Irish Pedigrees</i> , 608								Calkins	62104	6	-	4	5	5	5	5	3	3	3	3	3	3	5	3	5	3	3	2	6	3	4	5	2	7	4			
Family from 1571 Cheshire, England								Calkins	62098	6	4	-	5	5	5	5	3	3	3	3	5	5	4	3	5	4	6	3	4	5	4	6	4					
								Calkins	70545	5	5	5	-	2	2	4	2	2	2	2	2	2	4	4	2	4	4	2	4	5	3	2	3	2	5	2	3	
								Calkins	N16767	5	5	5	2	-	2	4	2	2	2	2	2	2	2	4	4	2	4	4	2	4	5	3	2	3	4	5	4	3
								Calkins	56933	5	5	5	2	2	-	4	4	2	2	2	2	2	4	4	2	4	4	2	4	5	3	2	3	4	5	4	3	
								Calkins	90197	5	5	5	4	4	4	-	4	2	2	2	2	2	4	4	2	4	4	2	4	5	2	3	4	5	6	3		
								Calkins	66609	5	5	5	4	2	4	4	-	2	2	2	2	2	4	4	2	4	4	2	4	5	2	3	4	5	6	3		
								Calkins	102175	3	3	3	2	2	2	2	2	2	-	0	0	0	0	0	2	2	2	0	2	2	3	3	0	1	2	3	4	1
								Calkins	55805	3	3	3	2	2	2	2	2	0	-	0	0	0	2	2	2	0	2	3	3	0	1	2	3	4	1			
								Calkins	64822	3	3	3	2	2	2	2	2	0	-	0	0	2	2	2	0	2	3	3	0	1	2	3	4	1				
								Calkins	69438	3	3	3	2	2	2	2	0	0	-	0	2	2	2	0	2	3	3	0	1	2	3	4	1					
								Calkins	93002	3	3	3	2	2	2	2	2	0	0	0	-	2	2	2	0	2	3	3	0	1	2	3	4	1				
								Calkins	92235	5	5	5	4	4	4	4	4	2	2	2	2	2	-	4	3	2	4	5	5	2	3	4	5	6	3			
								Calkins	143414	5	3	5	4	4	4	4	4	2	2	2	2	4	-	4	2	2	3	5	2	3	4	3	6	3				
								Calkins	150127	5	5	4	4	4	4	4	2	2	2	2	3	4	-	2	4	5	5	2	3	4	5	4	3					
								Calkins	150552	3	3	3	2	2	2	2	0	0	0	0	0	2	2	2	-	2	3	3	0	1	2	3	4	1				
								Calkins	150551	5	3	5	4	4	4	4	4	2	2	2	2	4	2	4	2	-	3	5	2	3	4	3	6	3				
								Calkins	150549	6	2	4	5	5	5	5	3	3	3	3	3	5	3	5	3	3	-	6	3	4	5	2	7	4				
								Calkins	176713	4	6	6	3	3	3	5	5	3	3	3	3	5	5	5	6	-	3	4	5	6	5	2						
								Calkins	182104	3	3	3	2	2	2	2	0	0	0	0	0	2	2	2	0	2	3	3	-	1	2	3	4	1				
								Calkins	173760	4	4	4	3	3	3	3	1	1	1	1	1	3	3	3	1	3	4	4	1	-	3	4	3	2				
								Calkins	129419	5	5	5	2	4	4	4	4	2	2	2	2	4	4	4	2	4	5	5	2	3	-	5	4	3				
								Henry	77610	6	2	4	5	5	5	5	3	3	3	3	5	3	5	3	3	2	6	3	4	5	-	7	4					
								Calkins	104240	7	7	6	2	4	4	6	6	4	4	4	4	6	6	4	4	6	7	5	4	3	4	7	-	5				
								Calkins	71614	4	4	4	3	3	3	3	3	1	1	1	1	1	3	3	3	1	3	4	2	1	2	3	4	5	-			
<b>Carroll 1</b>	<b>12</b>	<b>5.8</b>	<b>4</b>	<b>6</b>	<b>2.8</b>	<b>0</b>	<b>5</b>	Colla	DURRQ	-	6	5	6	6	6	6	6	6	4	6	6																	
O'Hart <i>Irish Pedigrees</i> , 671								Bennett	116894	6	-	2	3	2	2	3	2	4	2	3	2	1																
								Carroll	30624	5	2	-	1	2	2	3	2	4	2	2	2	1																
								Carroll	32061	6	3	1	-	3	3	4	3	5	3	3	2																	
								Carroll	91949	6	2	2	3	-	2	3	2	4	2	3	0	3																
								Carroll	101232	6	2	2	3	2	-	3	2	4	2	3	2	3																
								Carroll	102450	6	3	3	4	3	3	-	3	5	1	4	3	4																
								Carroll	105523	6	2	2	3	2	2	3	-	4	2	3	2	3																
								Carroll	105592	6	4	4	5	4	4	5	4	-	4	5	4	5																
								Carroll	107119	6	2	2	3	2	2	1	2	4	-	3	2	3																
								Carroll	167430	4	3	2	3	3	3	4	3	5	3	-	3	3																
								Carroll	N41845	6	2	2	3	0	2	3	2	4	2	3	-	3																
								Reed	176233	6	1	1	2	3	3	4	3	5	3	3	3	-																
<b>Carroll 2</b>	<b>2</b>	<b>4.5</b>	<b>3</b>	<b>6</b>	<b>9.0</b>	<b>9</b>	<b>9</b>	Colla	DURRQ	-	3	6																										
O'Hart <i>Irish Pedigrees</i> , 671								Carroll	33486	3	-	9																										
								Carroll	31491	6	9	-																										
<b>Clarke</b>	<b>4</b>	<b>5.0</b>	<b>4</b>	<b>7</b>	<b>5.7</b>	<b>0</b>	<b>9</b>	Colla	DURRQ	-	5	7	4	4																								
Group has unique 572=10								Clarke	117759	5	-	2	7	7																								
								Clarke	117758	7	2	-	9	9																								
								Clarke	130308	4	7	9	-	0																								
								Clarke	123611	4	7	9	0	-																								

Genetic Distance from -								Surname	Number	Genetic Distance Matrix, Hybrid Mutation Model, McGee Utility (Beta)									
Group	N	Mn	Lo	Hi	Mn	Lo	Hi			Colla Mode	Each	Other							
<b>Connolly</b>	4	5.8	5	6	7.2	5	8												
								Colla	DURRQ	-	5	6	6	6					
								O'Hart Irish Pedigrees, Vol. II, 577	Conley	84262	5	-	7	7	5				
									Connelly	78625	6	7	-	8	8				
									Connolly	N88161	6	7	8	-	8				
									McConnell	169972	6	5	8	8	-				
<b>Devine</b>	2	4.0	2	6	6.0	6	6												
								Colla	DURRQ	-	2	6							
								O'Hart Irish Pedigrees, 403	Devine	51491	2	-	6						
									Devine	117316	6	6	-						
<b>Duffy</b>	3	4.7	3	6	4.7	4	5												
								Colla	DURRQ	-	5	3	6						
								O'Hart Irish Pedigrees, 671	Duffy	100022	5	-	4	5					
									Duffy	N81681	3	4	-	5					
									Duffy	98477	6	5	5	-					
<b>Godwin</b>	5	8.8	8	10	1.6	0	3												
								Colla	DURRQ	-	8	9	10	8	9				
								Cotton	G-79	8	-	1	2	0	1				
								Godwin	G-36	9	1	-	3	1	2				
								Godwin	118691	10	2	3	-	2	3				
								Godwin	128287	8	0	1	2	-	1				
								Godwin	145564	9	1	2	3	1	-				
<b>Hart</b>	3	5.7	5	7	4.0	2	6												
								Colla	DURRQ	-	5	5	7						
								O'Hart Irish Pedigrees, 477	Hart	48620	5	-	2	6					
									Hart	166797	5	2	-	4					
									Harte	182999	7	6	4	-					
<b>Higgins</b>	3	7.0	5	9	7.3	4	10												
								Colla	DURRQ	-	9	7	5						
								O'Hart Irish Pedigrees, 669	Higgins	64895	9	-	4	10					
									Higgins	70725	7	4	-	8					
									Higgins	96415	5	10	8	-					
<b>Hughes</b>	7	5.1	4	7	4.2	0	7												
								Colla	DURRQ	-	6	4	5	5	4	5	7		
								O'Hart Irish Pedigrees, 542	Campbell	178848	6	-	6	5	7	6	3	5	
									Herrington	119300	4	6	-	5	1	0	5	5	
								McGee is variant of McHugh	Hughes	7996	5	5	5	-	6	5	4	4	
									Hughes	27184	5	7	1	6	-	1	4	4	
									Hughes	194157	4	6	0	5	1	-	5	5	
									Hughes	200241	5	3	5	4	4	5	-	2	
									McGee	183215	7	5	5	4	4	5	2	-	
<b>Judd</b>	5	4.8	4	5	4.6	1	7												
								Colla	DURRQ	-	5	5	5	5	4				
								Group has unique 487=12	Judd	187811	5	-	3	6	5	2			
									Bumgarner	62278	5	3	-	4	7	1			
									Almond	131057	5	6	4	-	7	5			
									Goggins	11664	5	5	7	7	-	6			
									Judd	62180	4	2	1	5	6	-			
<b>MacDougall</b>	2	8.0	8	8	3.0	3	3												
								Colla	DURRQ	-	8	8							
								O'Hart Irish Pedigrees, 539	MacDougall	144808	8	-	3						
									MacDougall	21971	8	3	-						
<b>McAulay</b>	4	4.8	4	6	4.8	4	7												
								Colla	DURRQ	-	6	4	5	4					
									McAulay	112471	6	-	4	7	4				
									McAuley	47703	4	4	-	5	4				
									Beeman	113649	5	7	5	-	5				
									McCall	39559	4	4	4	5	-				
<b>McClain 1</b>	3	3.3	2	4	2.7	2	4												
								Colla	DURRQ	-	4	2	4						
								O'Hart Irish Pedigrees, 669	McClain	87597	4	-	2	4					
									Main	189681	2	2	-	2					
									McClaren	DNZXY	4	4	2	-					



Genetic Distance from - Colla Mode Each Other							Surname	Number	Genetic Distance Matrix, Hybrid Mutation Model, McGee Utility (Beta)																					
Group	N	Mn	Lo	Hi	Mn	Lo			Hi																					
<b>McKenna</b>	<b>15</b>	<b>6.1</b>	<b>4</b>	<b>10</b>	<b>4.6</b>	<b>0</b>	<b>11</b>	Colla	DURRQ	-	7	6	5	9	6	6	7	6	4	5	5	10	5	5	5					
O'Hart Irish Pedigrees, 543								Boyd	150811	7	-	5	9	8	5	5	6	5	5	4	4	7	4	4	4	4				
								Byrne	149290	6	5	-	6	5	4	4	5	4	4	3	3	6	3	3	3	3				
								McKenna	6419	5	9	6	-	11	6	8	9	8	6	7	7	10	7	6	6	6	6	6		
								McKenna	21156	9	8	5	11	-	5	5	6	7	7	4	4	11	6	6	6	6	6	6		
								McKenna	64767	6	5	4	6	5	-	2	3	4	4	1	1	8	3	3	3	3	3	3	3	
								McKenna	64768	6	5	4	8	5	2	-	1	4	4	1	1	8	3	3	3	3	3	3	3	
								McKenna	64771	7	6	5	9	6	3	1	-	5	5	2	2	9	4	4	4	4	4	4	4	
								McKenna	65962	6	5	4	8	7	4	4	5	-	4	3	3	6	3	3	3	3	3	3	3	
								McKenna	67837	4	5	4	6	7	4	4	5	4	-	3	3	8	3	3	3	3	3	3	3	
								McKenna	100576	5	4	3	7	4	1	1	2	3	3	-	0	7	2	2	2	2	2	2	2	
								McKenna	171658	5	4	3	7	4	1	1	2	3	3	0	-	7	2	2	2	2	2	2	2	
								McKenna	194128	10	7	6	10	11	8	8	9	6	8	7	7	-	7	7	7	7	7	7	7	
								McKinney	68390	5	4	3	7	6	3	3	4	3	3	2	2	7	-	2	2	2	2	2	2	
								Moore	87853	5	4	3	6	6	3	3	4	3	3	2	2	7	2	-	0	0	0	0	0	
								Moore	111835	5	4	3	6	6	3	3	4	3	3	2	2	7	2	0	-	0	0	0	0	
<b>McMahon</b>	<b>1</b>	<b>12</b>	<b>4.0</b>	<b>2</b>	<b>6</b>	<b>3.8</b>	<b>1</b>	<b>6</b>	Colla	DURRQ	-	4	2	3	3	3	4	4	6	4	3	6	6	6	6					
O'Hart Irish Pedigrees, 549								Bogner	162173	4	-	2	3	3	5	4	4	6	4	3	6	6	6	6	6	6	6			
Pedigree for 145687								Farrell	CPT52	2	2	-	1	1	3	2	2	4	2	1	4	4	4	4	4	4	4	4		
								MacMahon	14876	3	3	1	-	2	2	1	3	3	3	2	3	3	3	3	3	3	3	3		
								MacMahon	69356	3	3	1	2	-	4	3	3	5	3	2	5	5	5	5	5	5	5	5	5	
								MacMahon	145687	3	5	3	2	4	-	3	5	5	5	4	5	5	5	5	5	5	5	5	5	
								MacMahon	183423	4	4	2	1	3	3	-	4	4	4	3	4	4	4	4	4	4	4	4	4	4
								MacMahon	197862	4	4	2	3	3	5	4	-	4	4	3	6	5	5	5	5	5	5	5	5	
								Matthews	52246	6	6	4	3	5	5	4	4	-	6	5	6	6	6	6	6	6	6	6	6	6
								McArdle	144005	4	4	2	3	3	5	4	4	6	-	3	6	6	6	6	6	6	6	6	6	
								Moorhead	N70960	3	3	1	2	2	4	3	3	5	3	-	5	5	5	5	5	5	5	5	5	5
								Robson	202841	6	6	4	3	5	5	4	6	6	6	5	-	6	6	6	6	6	6	6	6	
								Smith	83132	6	6	4	3	5	5	4	5	6	6	5	6	-	6	6	6	6	6	6	6	
<b>McQuillan</b>	<b>5</b>	<b>4.2</b>	<b>3</b>	<b>5</b>	<b>4.2</b>	<b>0</b>	<b>7</b>	Colla	DURRQ	-	5	3	5	4	4	4	4	4	4	4	4	4	4	4	4					
O'Hart Irish Pedigrees, Vol. II, 578								Collins	74679	5	-	6	0	6	7	7	7	7	7	7	7	7	7	7	7	7	7			
Collins is variant of McQuillan								Collins	170471	3	6	-	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
								Collins	209736	5	0	6	-	6	7	7	7	7	7	7	7	7	7	7	7	7				
								McQuillan	82960	4	6	1	6	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
								McQuillan	145804	4	7	1	7	2	-	2	2	2	2	2	2	2	2	2	2	2	2	2		
<b>Morris</b>	<b>3</b>	<b>8.0</b>	<b>7</b>	<b>9</b>	<b>2.0</b>	<b>1</b>	<b>3</b>	Colla	DURRQ	-	7	9	8	8	8	8	8	8	8	8	8	8	8	8	8					
								Morris	139975	7	-	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
								Morris	104952	9	2	-	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
								Morris	153530	8	1	3	-	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
<b>Neal</b>	<b>3</b>	<b>4.7</b>	<b>4</b>	<b>5</b>	<b>1.3</b>	<b>1</b>	<b>2</b>	Colla	DURRQ	-	4	5	5	5	5	5	5	5	5	5	5	5	5	5						
O'Hart Irish Pedigrees, 604								Neal	7206	4	-	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
								Neal	7207	5	2	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
								Neal	181440	5	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
<b>Newell</b>	<b>3</b>	<b>8.7</b>	<b>7</b>	<b>10</b>	<b>4.0</b>	<b>2</b>	<b>5</b>	Colla	DURRQ	-	7	10	9	9	9	9	9	9	9	9	9	9	9	9						
Group has unique 388=9								Newell	89148	7	-	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2				
								Newell	N68057	10	5	-	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5			
								Newell	176220	9	2	5	-	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
<b>Paden</b>	<b>9</b>	<b>3.9</b>	<b>3</b>	<b>5</b>	<b>2.1</b>	<b>0</b>	<b>5</b>	Colla	DURRQ	-	5	4	3	3	3	4	5	4	4	4	4	4	4	4						
								Paden	211583	5	-	3	2	2	2	3	4	3	5	5	5	5	5	5	5	5	5			
								Paden	36836	4	3	-	1	1	1	2	3	2	4	4	4	4	4	4	4	4	4	4		
								Paden	39872	3	2	1	-	0	0	1	2	1	3	3	3	3	3	3	3	3	3	3		
								Paden	129941	3	2	1	0	-	0	1	2	1	3	3	3	3	3	3	3	3	3	3	3	
								Paden	40917	3	2	1	0	0	-	1	2	1	3	3	3	3	3	3	3	3	3	3	3	
								Paden	41200	4	3	2	1	1	1	-	3	2	2	2	2	2	2	2	2	2	2	2	2	
								Paden	130086	5	4	3	2	2	2	3	-	1	5	5	5	5	5	5	5	5	5	5	5	
								Paden	177973	4	3	2	1	1	1	2	1	-	4	4	4	4	4	4	4	4	4	4	4	4
								Walker	112086	4	5	4	3	3	3	2	5	4	-	4	4	4	4	4	4	4	4	4	4	

Genetic Distance from - Colla Mode Each Other								Surname	Number	Genetic Distance Matrix, Hybrid Mutation Model, McGeE Utility (Beta)																			
Group	N	Mn	Lo	Hi	Mn	Lo	Hi																						
<b>Pate</b>	<b>3</b>	<b>5.7</b>	<b>5</b>	<b>6</b>	<b>0.7</b>	<b>0</b>	<b>1</b>	Colla	DURRQ	-	6	5	6																
								Pate	107012	6	-	1	0																
								O'Guin	182242	5	1	-	1																
								Pate	86648	6	0	1	-																
<b>Roberts 1</b>	<b>2</b>	<b>5.0</b>	<b>5</b>	<b>5</b>	<b>2.0</b>	<b>2</b>	<b>2</b>	Colla	DURRQ	-	5	5																	
Group has unique 446=12								Roberts	145674	5	-	2																	
O'Hart Irish Pedigrees, 565, 566								Roberts	23643	5	2	-																	
<b>Roderick</b>	<b>13</b>	<b>8.4</b>	<b>7</b>	<b>11</b>	<b>2.1</b>	<b>0</b>	<b>6</b>	Colla	DURRQ	-	8	8	10	9	7	9	11	7	8	8	8	7	9						
O'Hart Irish Pedigrees, 371, 383								Roderick	8551	8	-	2	2	1	3	1	3	1	2	0	0	1	1						
								Roderick	8553	8	2	-	2	1	1	1	5	3	2	2	2	3	1						
Family from 1675 Wales								Roderick	8651	10	2	2	-	1	3	1	5	3	4	2	2	3	1						
								Roderick	12484	9	1	1	1	-	2	0	4	2	3	1	1	2	0						
								Roderick	49959	7	3	1	3	2	-	2	6	4	3	3	3	4	2						
								Roderick	49960	9	1	1	1	0	2	-	4	2	3	1	1	2	0						
								Roderick	49961	11	3	5	5	4	6	4	-	4	3	3	3	4	4						
								Roderick	49962	7	1	3	3	2	4	2	4	-	3	1	1	2	2						
								Roderick	49963	8	2	2	4	3	3	3	3	3	-	2	2	3	3						
								Roderick	134799	8	0	2	2	1	3	1	3	1	2	-	0	1	1						
								Roderick	167671	8	0	2	2	1	3	1	3	1	2	0	-	1	1						
								Roderick	168082	7	1	3	3	2	4	2	4	2	3	1	1	-	2						
								Roderick	185740	9	1	1	1	0	2	0	4	2	3	1	1	2	-						
<b>Shannon</b>	<b>2</b>	<b>7.5</b>	<b>7</b>	<b>8</b>	<b>1.0</b>	<b>1</b>	<b>1</b>	Colla	DURRQ	-	8	7																	
O'Hart Irish Pedigrees, 640								Shannon	27818	8	-	1																	
								Shannon	27820	7	1	-																	
<b>Smith 1</b>	<b>6</b>	<b>7.8</b>	<b>7</b>	<b>10</b>	<b>1.9</b>	<b>0</b>	<b>4</b>	Colla	DURRQ	-	10	8	7	8	7	7													
Group has unique 385=10-15								Smith	74097	10	-	2	3	4	3	4													
								Smith	66214	8	2	-	1	2	1	2													
								Smith	135051	7	3	1	-	1	0	1													
								Smith	60356	8	4	2	1	-	1	2													
								Dever	83647	7	3	1	0	1	-	1													
								Smith	72558	7	4	2	1	2	1	-													
<b>Smith 2</b>	<b>3</b>	<b>7.7</b>	<b>7</b>	<b>8</b>	<b>5.3</b>	<b>3</b>	<b>8</b>	Colla	DURRQ	-	7	8	8																
								Smith	122652	7	-	5	3																
								Smith	119122	8	5	-	8																
								O'Toole	N57121	8	3	8	-																
<b>Diverse 1</b>	<b>19</b>	<b>6.3</b>	<b>4</b>	<b>8</b>	<b>9.8</b>	<b>5</b>	<b>14</b>	Colla	DURRQ	-	6	5	7	4	7	7	6	8	4	6	6	7	6	7	6	5	8	6	8
								Burns	N47257	6	-	11	10	6	9	10	6	12	9	10	8	9	9	9	12	9	9	10	14
								Cain	191286	5	11	-	6	7	10	8	8	9	9	8	10	10	10	10	9	11	7	8	
								Dunphy	104452	7	10	6	-	6	9	9	8	7	10	12	11	8	11	9	10	9	10	11	11
								Heaney	N49738	4	6	7	6	-	7	6	8	8	5	10	8	5	9	7	10	7	9	6	10
								Hendrickson	61096	7	9	10	9	7	-	11	11	11	10	11	13	10	12	10	11	12	8	9	9
								Kelly	84941	7	10	8	9	6	11	-	11	11	9	13	10	9	9	11	13	8	11	11	10
								Kelly	107942	6	6	8	8	8	11	11	-	10	10	8	7	11	10	13	10	7	12	9	13
								Kelly	160515	8	12	9	7	8	11	11	10	-	12	11	10	9	14	13	12	9	8	12	10
								Kern	37416	4	9	9	10	5	10	9	10	12	-	10	9	10	8	10	10	9	10	8	11
								Lawler	180119	6	10	8	12	10	11	13	8	11	10	-	7	11	11	13	9	10	12	10	11
								Lynch	135626	6	8	10	11	8	13	10	7	10	9	7	-	9	10	13	11	8	11	11	12
								McGuire	209574	7	9	10	8	5	10	9	11	9	10	11	9	-	12	9	13	10	10	13	
								McInnis	37243	6	9	10	11	9	12	9	10	14	8	11	10	12	-	10	10	9	10	12	
								McMahon	39409	7	9	10	9	7	10	11	13	13	10	13	13	9	10	-	13	12	8	11	11
								O'Neill	210109	6	12	10	10	10	11	13	10	12	10	9	11	13	10	13	-	7	12	11	9
								Plunkett	209101	5	9	9	9	7	12	8	7	9	9	10	8	10	9	12	7	-	13	10	10
								Rice	21802	8	9	11	10	9	8	11	12	8	10	12	11	10	10	8	12	13	-	10	11
								Robertson	133292	6	10	7	11	6	9	11	9	12	8	10	11	10	9	11	11	10	10	-	11
								Shea	78217	8	14	8	11	10	9	10	13	10	11	11	12	13	12	11	9	10	11	11	

		Genetic Distance from -						Surname	Number	Genetic Distance Matrix, Hybrid Mutation Model, McGee Utility (Beta)																			
Group	N	Mn	Lo	Hi	Mn	Lo	Hi																						
<b>Diverse 2</b>	<b>19</b>	<b>8.8</b>	<b>7</b>	<b>11</b>	<b>14.7</b>	<b>8</b>	<b>20</b>	Colla	DURRQ	-	8	11	7	7	8	8	9	8	11	10	8	9	9	9	9	11	7	9	10
								Boyle	N50500	8	-	17	11	14	16	14	14	11	18	18	10	9	13	13	15	17	15	15	13
								Clark	70435	11	17	-	14	13	13	13	18	18	14	19	19	14	11	14	15	14	13	18	18
								Dorcy	99727	7	11	14	-	14	9	13	10	14	18	13	9	14	12	14	13	16	14	14	16
								Ericson	PMBA2	7	14	13	14	-	13	14	13	13	13	13	15	12	14	14	12	14	9	15	16
								Feehan	98203	8	16	13	9	13	-	14	15	16	17	14	12	15	15	12	15	11	13	14	18
								Kelly	73887	8	14	13	13	14	14	-	17	14	14	18	14	15	8	15	15	15	13	14	12
								MacFarlane	60583	9	14	18	10	13	15	17	-	17	17	13	11	15	18	18	11	14	14	17	17
								Mahon	RQ5R9	8	11	18	14	13	16	14	17	-	17	16	14	10	14	16	11	17	14	15	15
								McClain	39313	11	18	14	18	13	17	14	17	17	-	19	19	16	18	18	16	16	8	17	20
								McDonald	&DWXBQ	10	18	19	13	13	14	18	13	16	19	-	16	17	17	17	13	17	15	19	18
								McMahon	13852	8	10	19	9	15	12	14	11	14	19	16	-	15	17	17	15	13	15	16	18
								O'Donoghue	97145	9	9	14	14	12	15	15	15	10	16	17	15	-	15	14	10	16	14	16	16
								Rogers	N52848	9	13	11	12	14	15	8	18	14	18	17	17	15	-	14	16	16	13	16	12
								Sandison	43163	9	13	14	14	14	12	15	18	16	18	17	17	14	14	-	15	13	14	16	16
								Smith	8RRV4	9	15	15	13	12	15	15	11	11	16	13	15	10	16	15	-	18	14	15	16
								Unknown	156013	11	17	14	16	14	11	15	14	17	16	17	13	16	16	13	18	-	14	19	19
								Vacca	R36AK	7	15	13	14	9	13	13	14	14	8	15	15	14	13	14	14	-	14	17	
								Walden	111018	9	15	18	14	15	14	14	17	15	17	19	16	16	16	16	15	19	14	-	17
								White	64804	10	13	18	16	16	18	12	17	15	20	18	18	16	12	16	16	19	17	17	-
<b>Total</b>	<b>259</b>	<b>5.9</b>	<b>1</b>	<b>11</b>	<b>9.9</b>	<b>0</b>	<b>21</b>																						