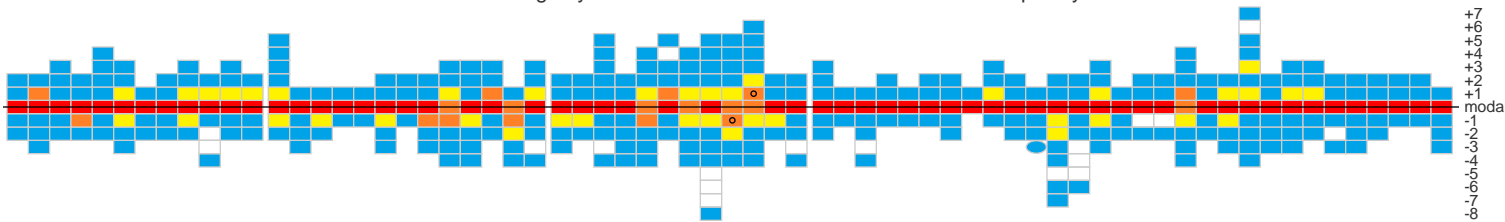


R-L21

This is the modal haplotype for the whole tree including any subtrees.

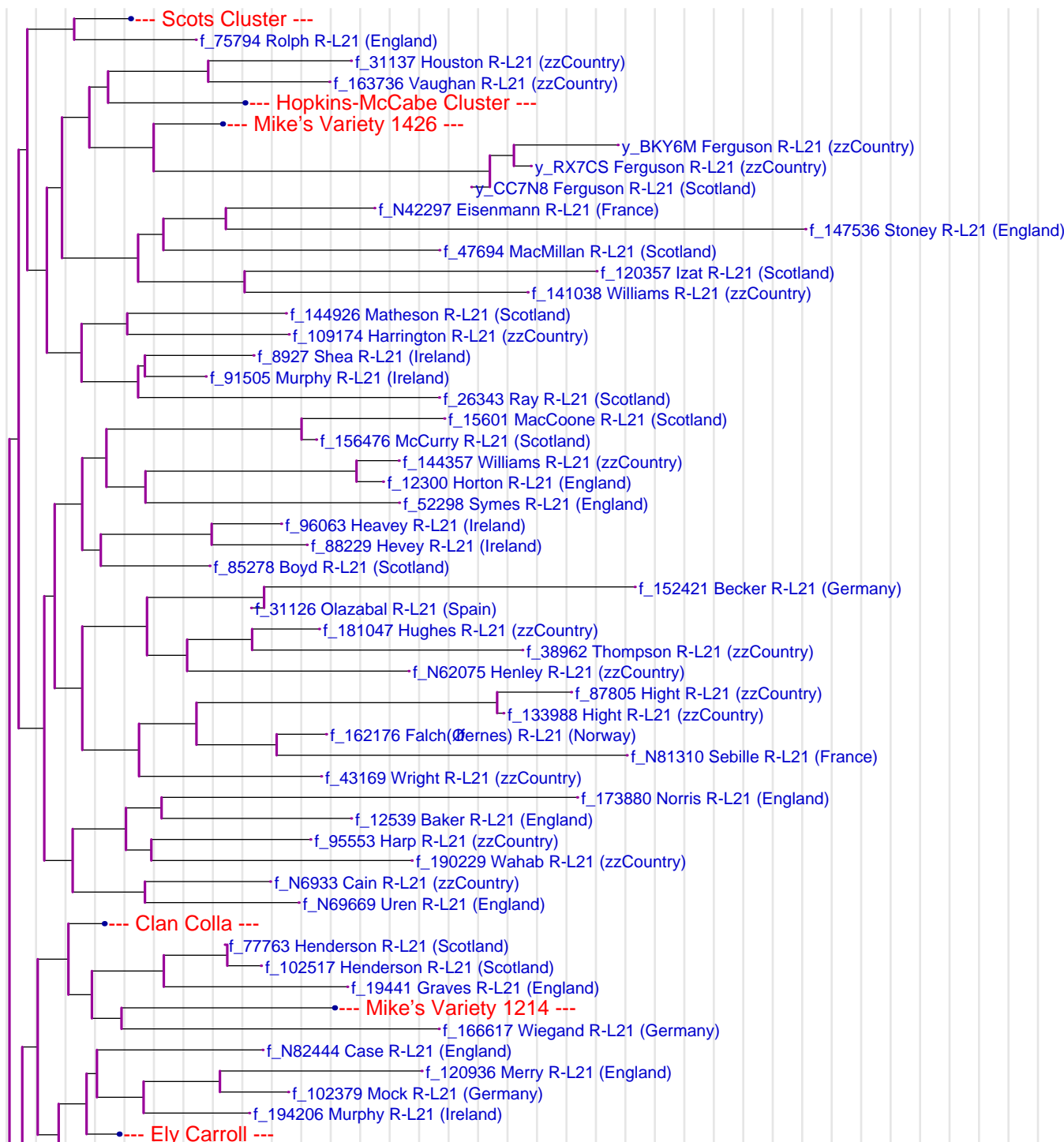
393	390	19	391	385a	385b	426	388	439	389i	392	389i-1	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	466	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
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This is the marker distribution for the whole tree including any subtrees. The color indicates the relative frequency of the alleles.

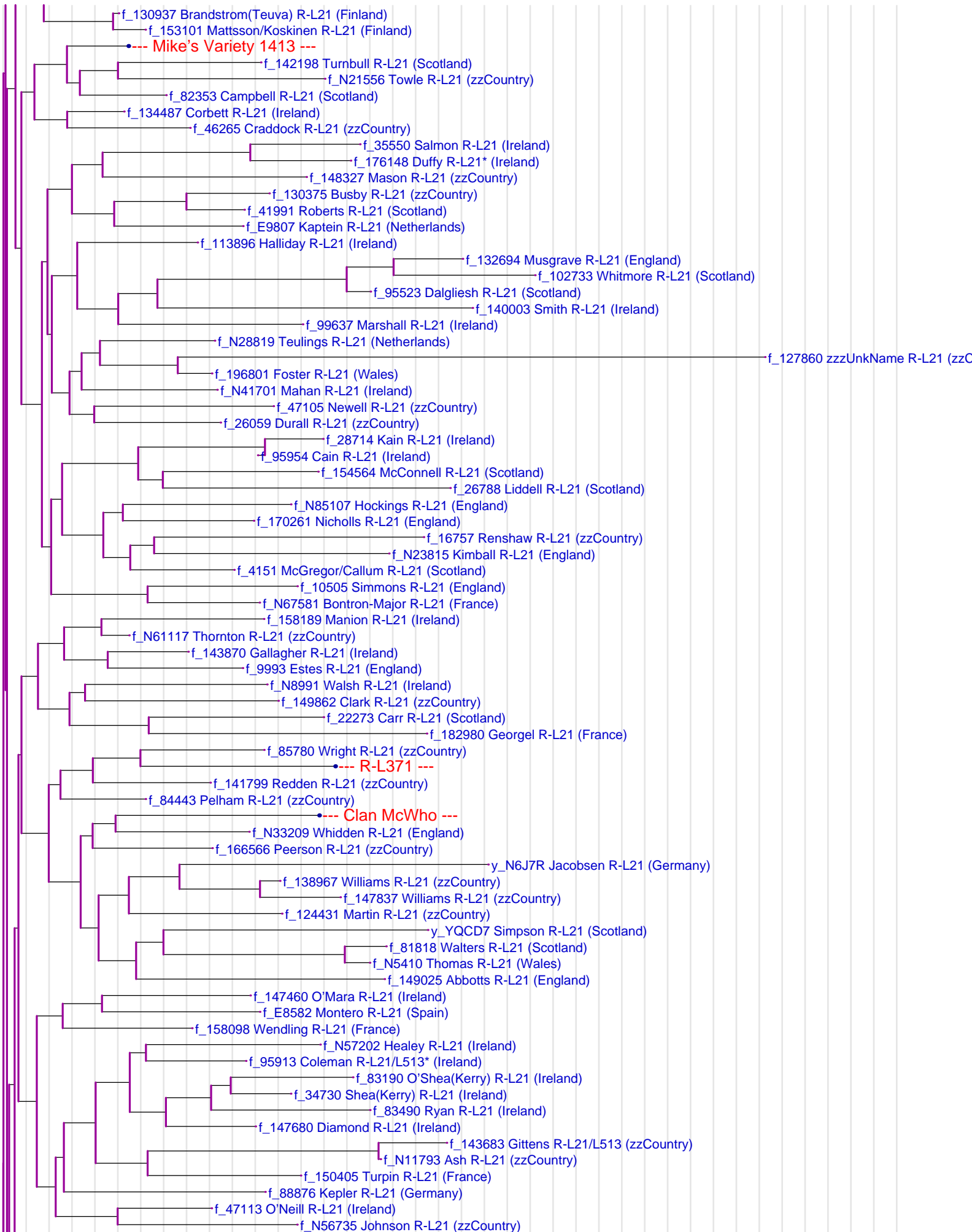


Age Analysis

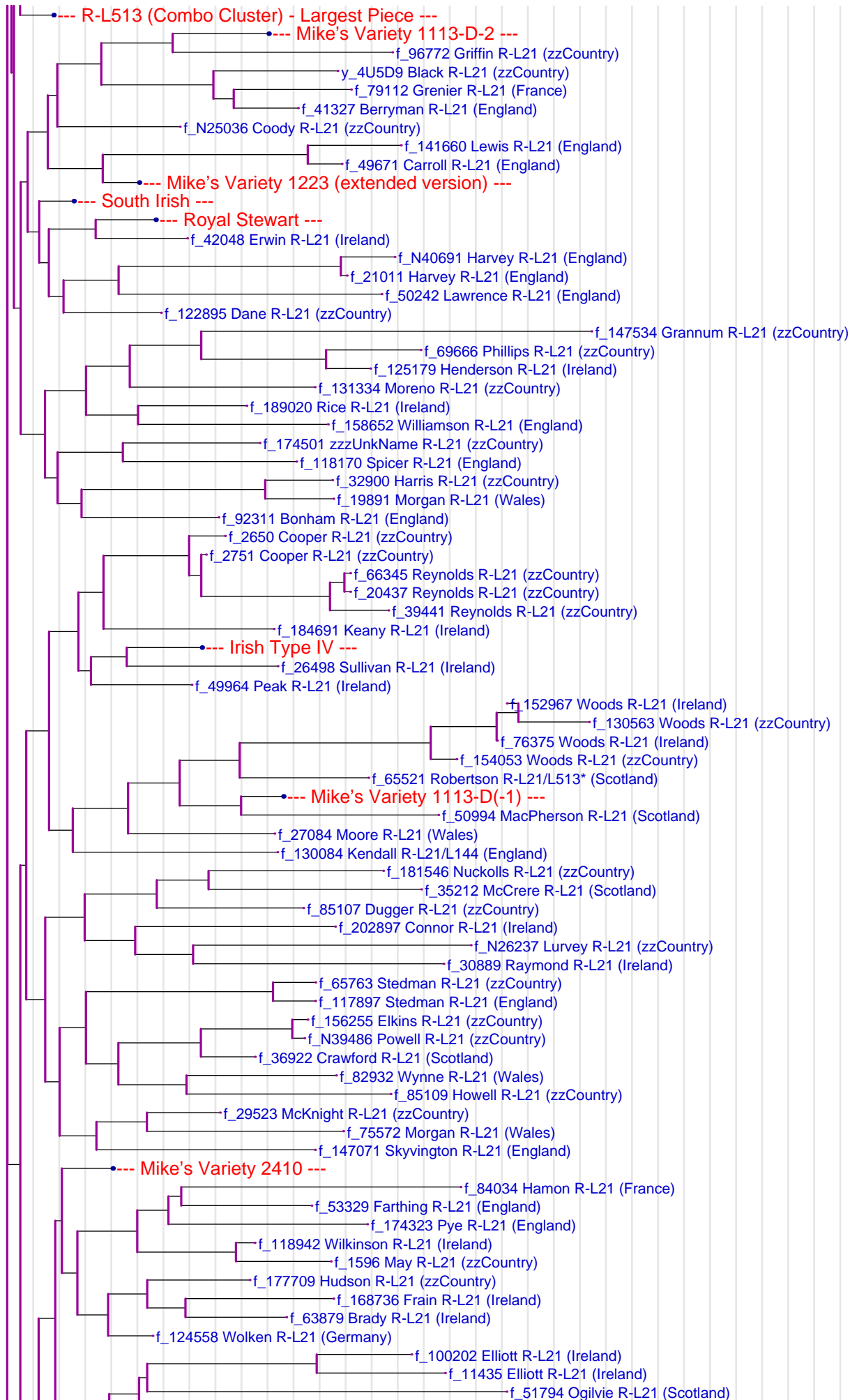
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
1795	120265	29229	24.30%	138.24±13.83	3455.88±488.863



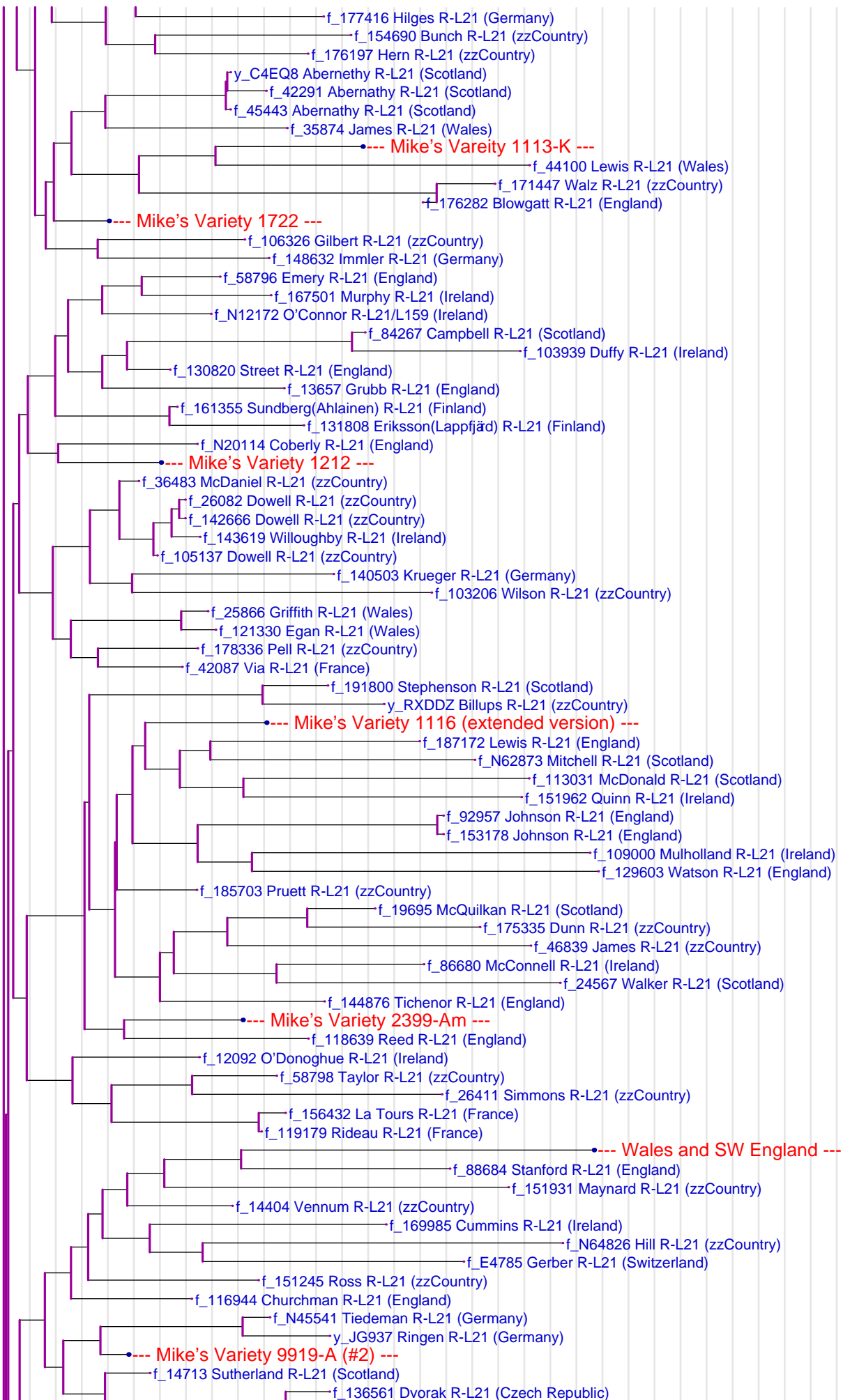
The vertical grey lines are separated 10 generations apart.



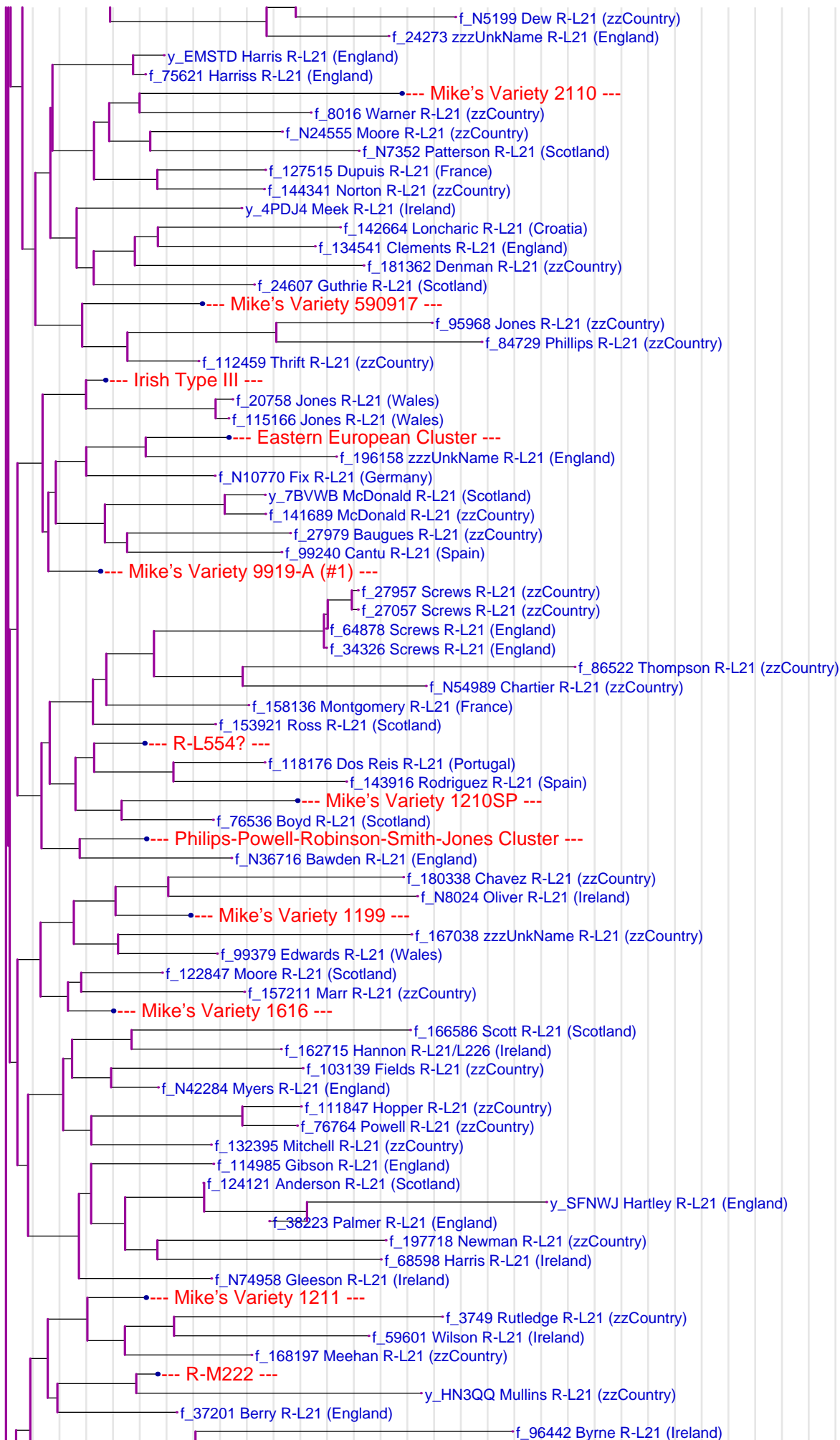
The vertical grey lines are separated 10 generations apart.



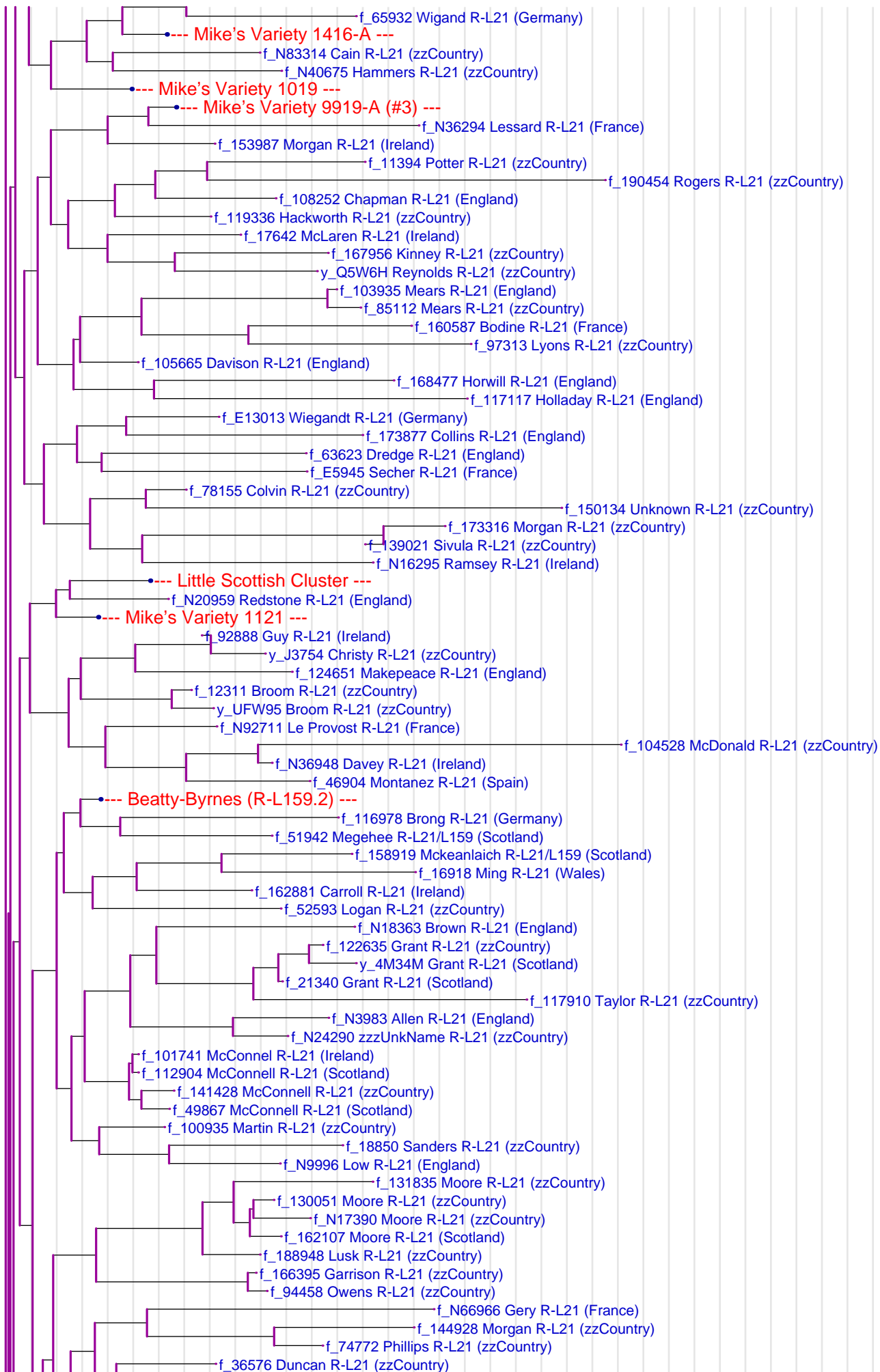
The vertical grey lines are separated 10 generations apart.



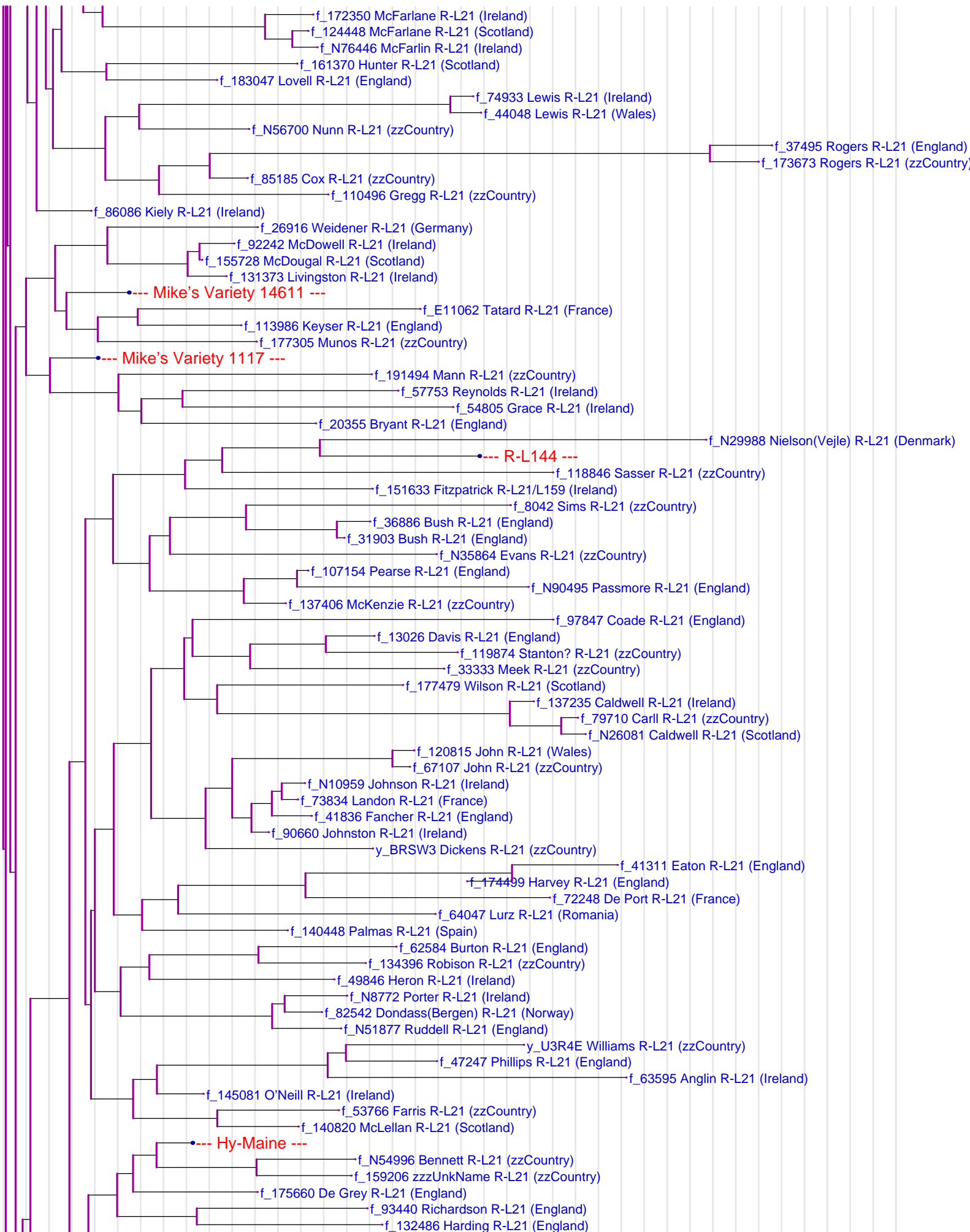
The vertical grey lines are separated 10 generations apart.



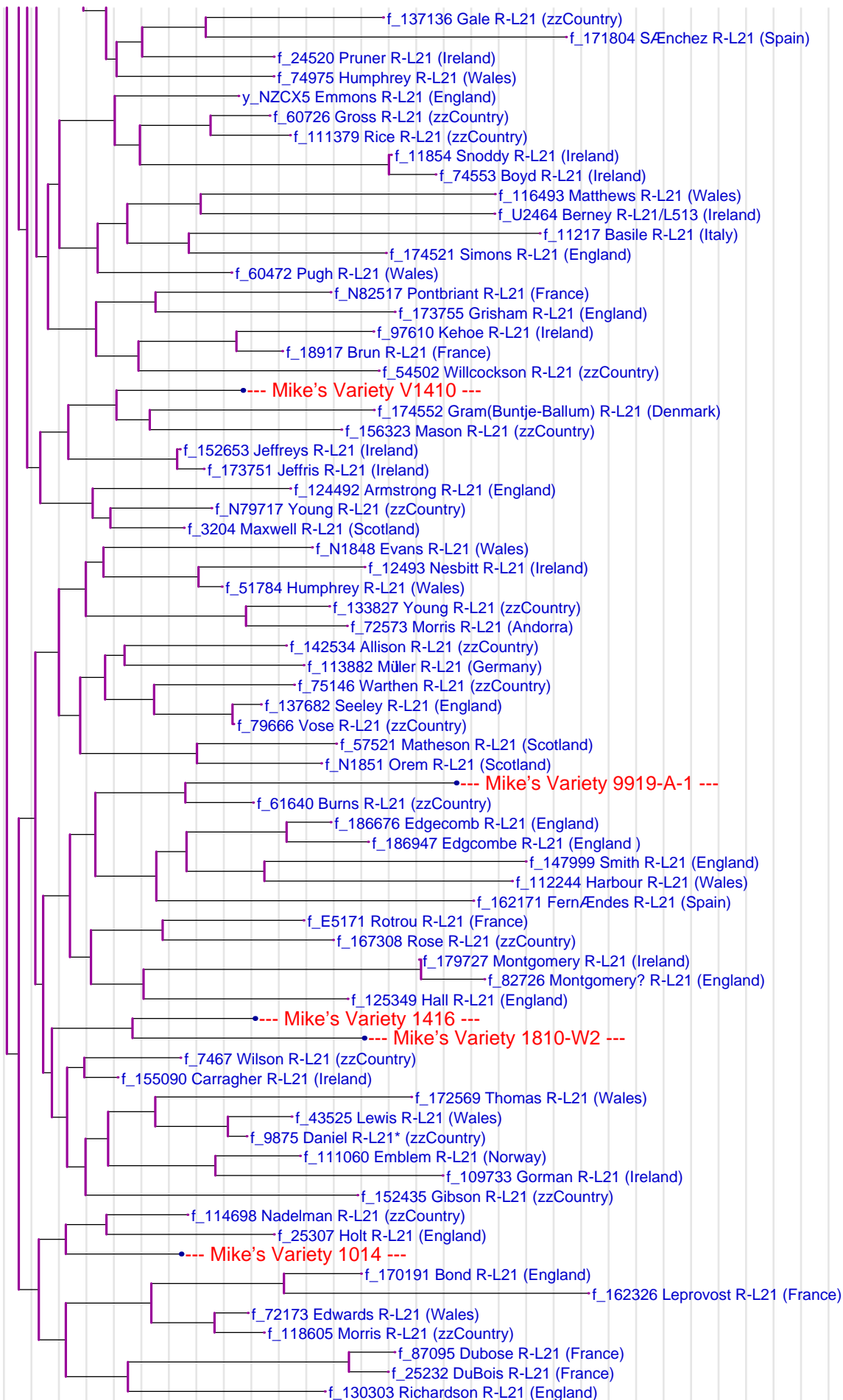
The vertical grey lines are separated 10 generations apart.



The vertical grey lines are separated 10 generations apart.



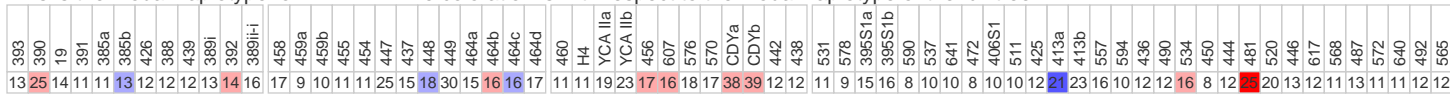
The vertical grey lines are separated 10 generations apart.



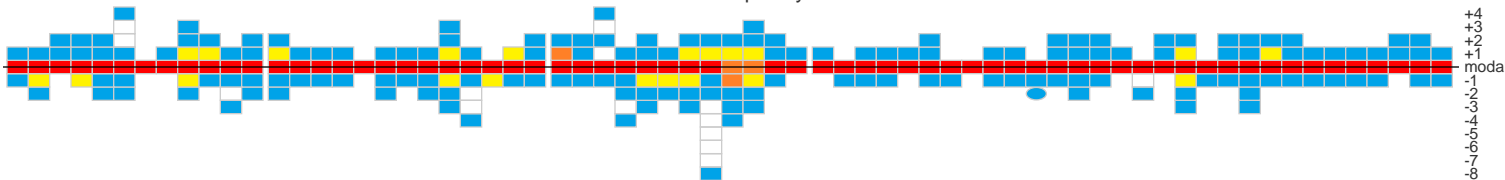
The vertical grey lines are separated 10 generations apart.

R-M222

This is the modal haplotype for R-M222. The coloration is with respect to the modal haplotype of the full tree.



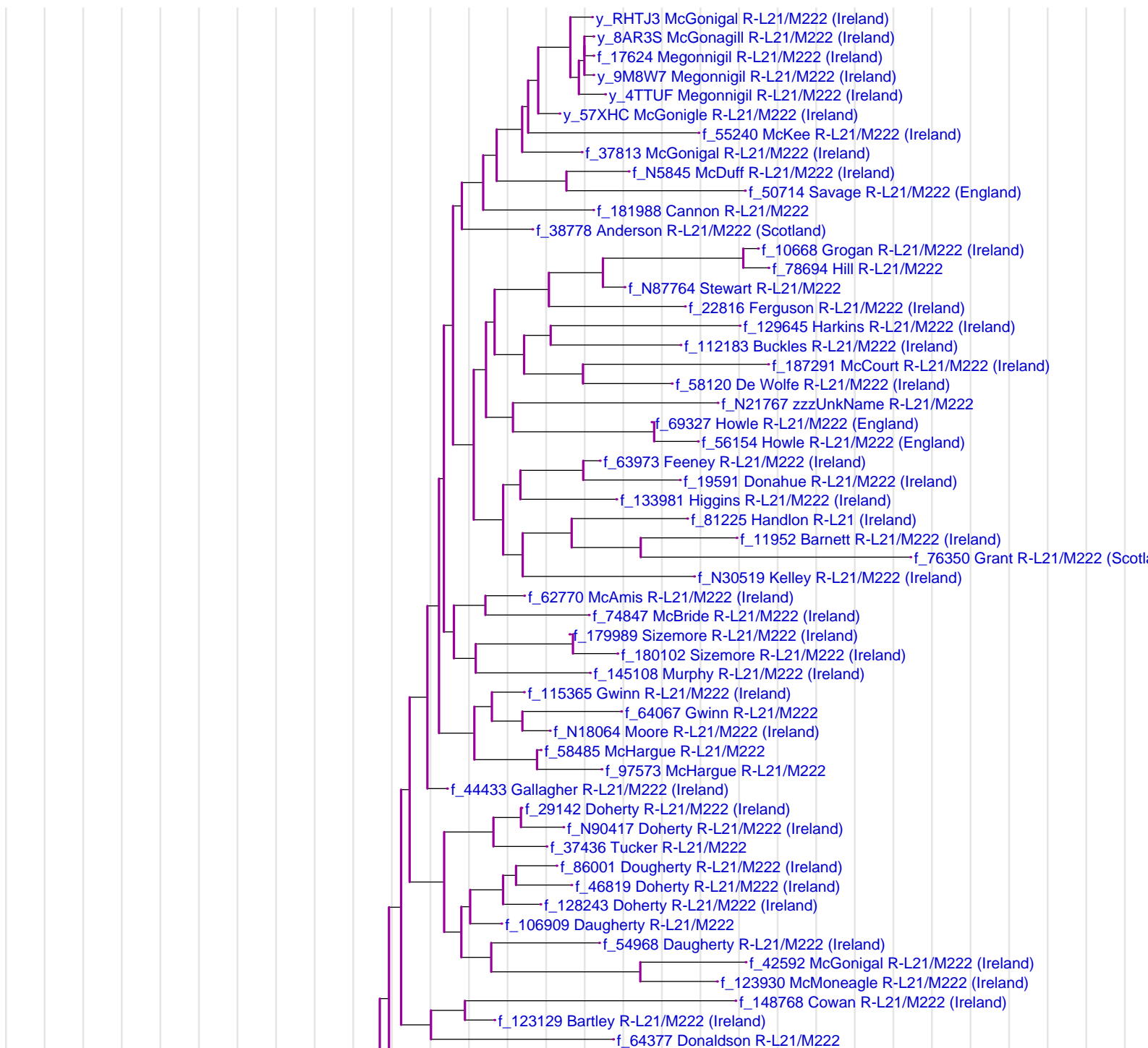
This is the marker distribution for R-M222. The color indicates the relative frequency of the alleles.



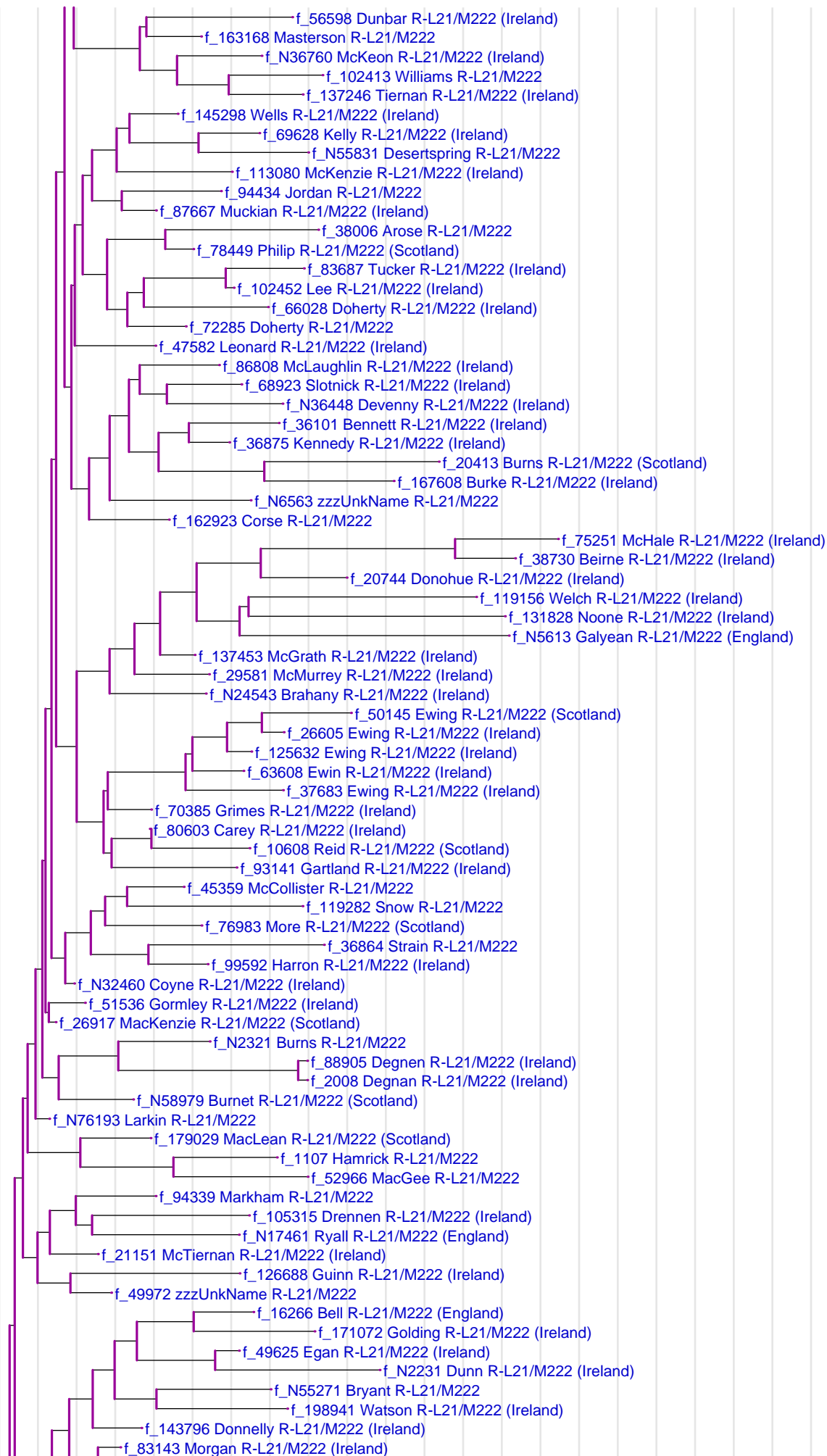
Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
375	25125	2852	11.35%	60.17±6.03	1504.19±212.96

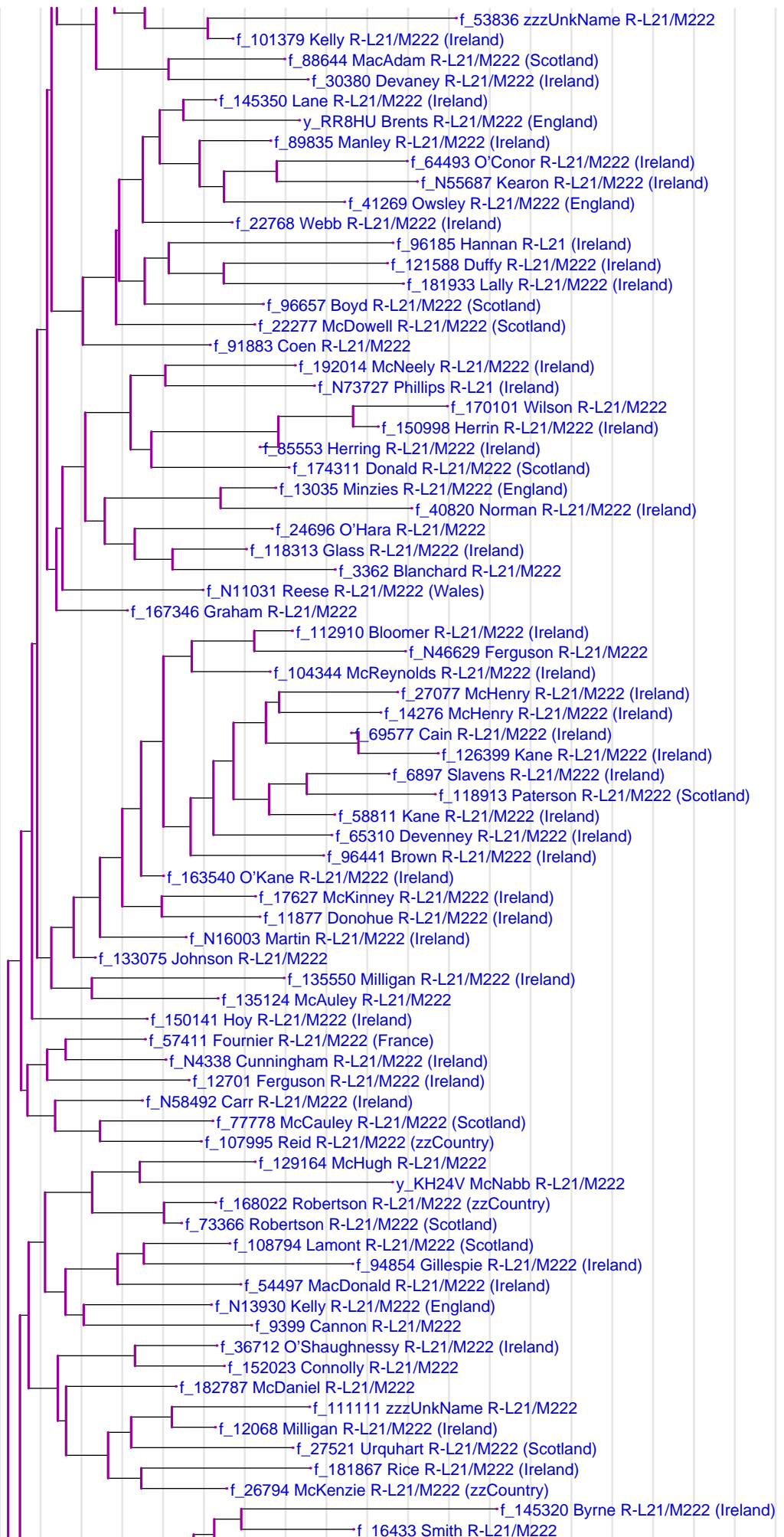
Note: Leister (f_N26284) is in fact M222-.



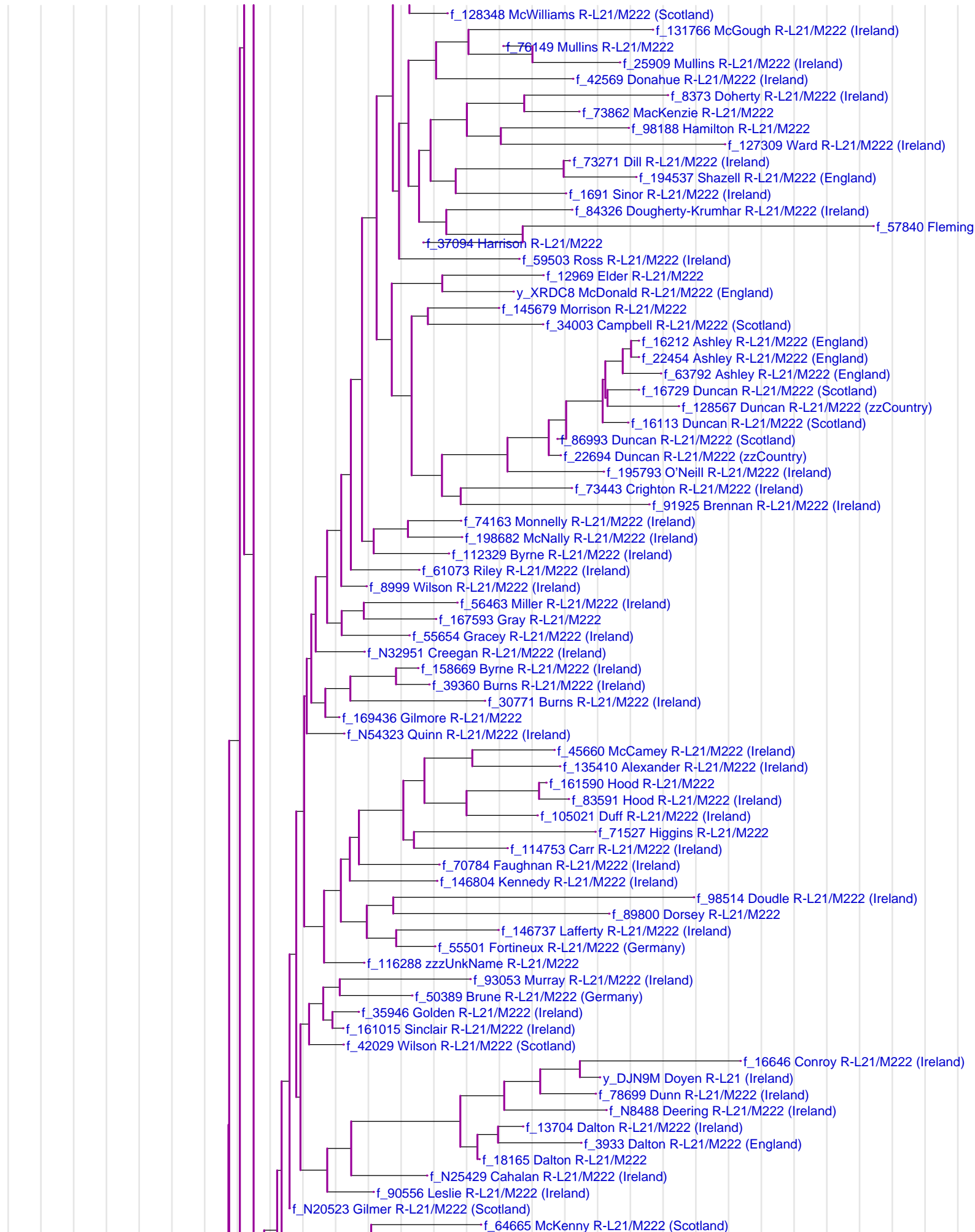
The vertical grey lines are separated 10 generations apart.



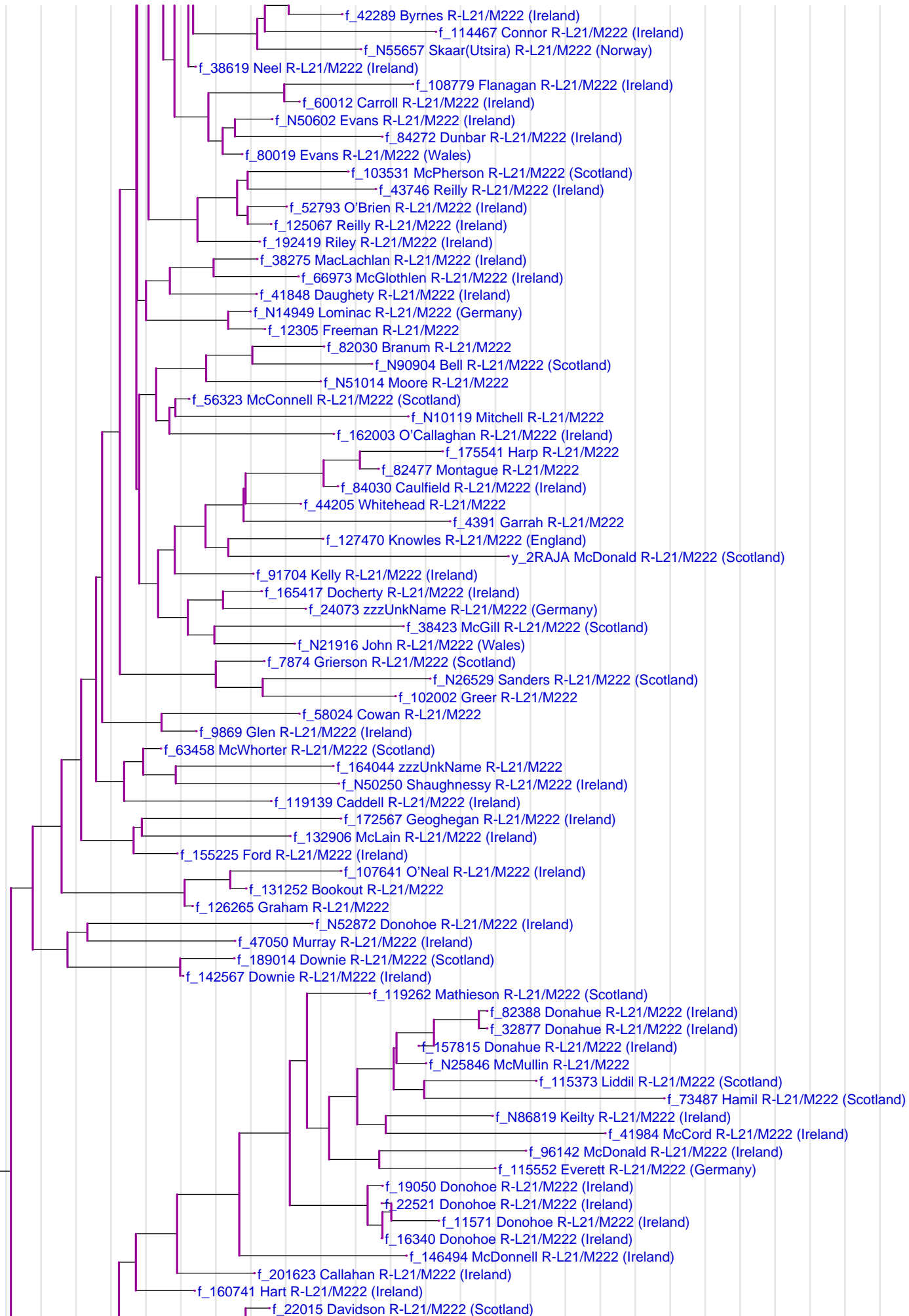
The vertical grey lines are separated 10 generations apart.



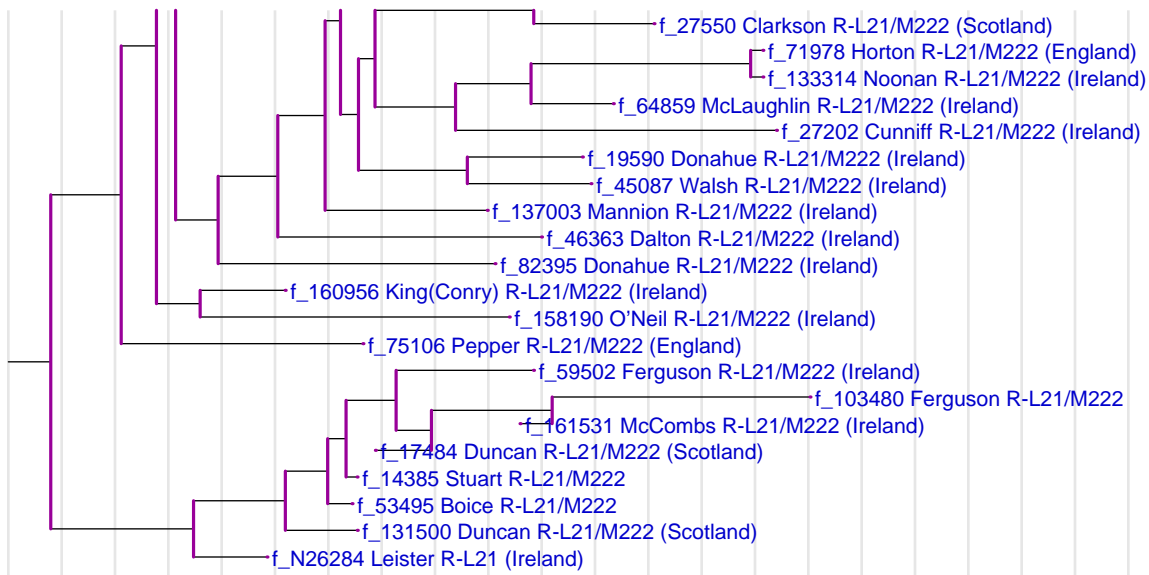
The vertical grey lines are separated 10 generations apart.



The vertical grey lines are separated 10 generations apart.



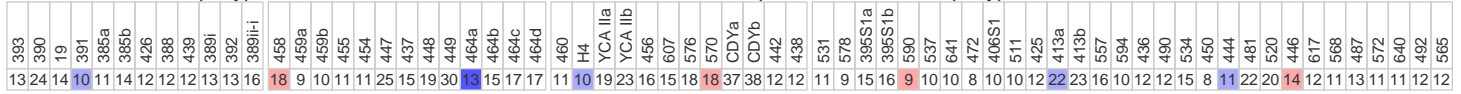
The vertical grey lines are separated 10 generations apart.



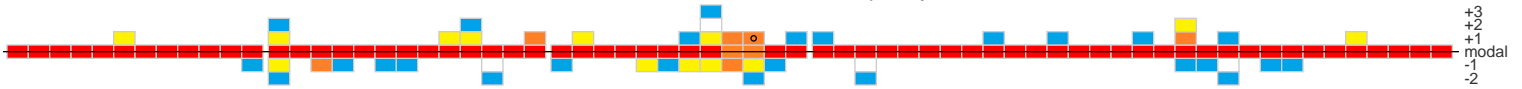
The vertical grey lines are separated 10 generations apart.

Little Scottish Cluster

This is the modal haplotype for Little Scottish Cluster. The coloration is with respect to the modal haplotype of the full tree.

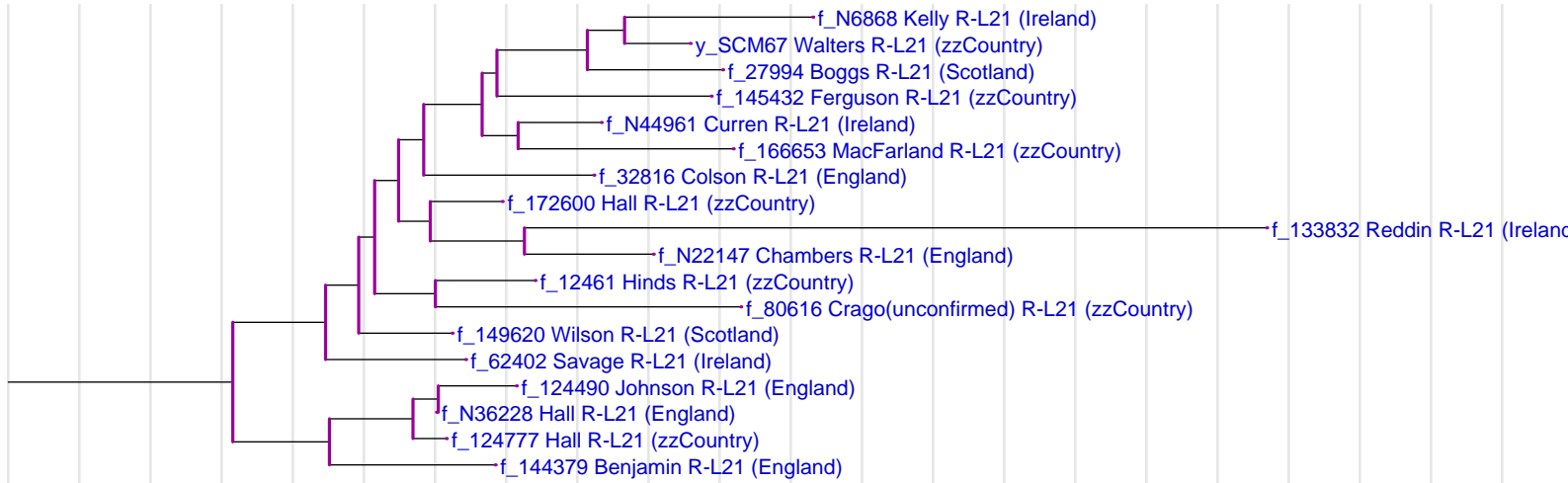


This is the marker distribution for Little Scottish Cluster. The color indicates the relative frequency of the alleles.



Age Analysis

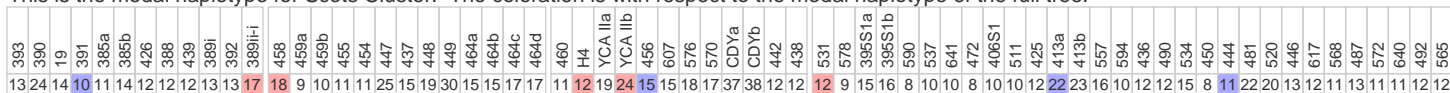
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
18	1206	106	8.79%	45.97±4.80	1149.14±166.144



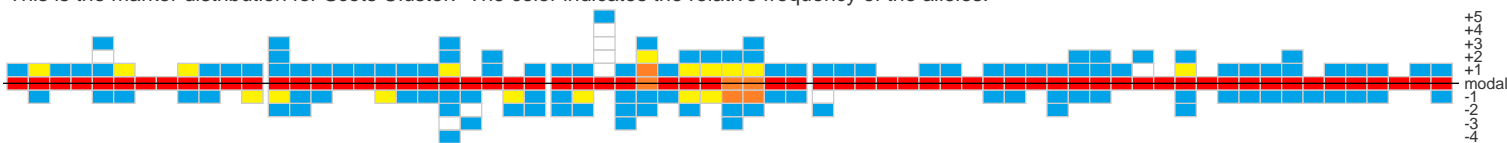
The vertical grey lines are separated 10 generations apart.

Scots Cluster

This is the modal haplotype for Scots Cluster. The coloration is with respect to the modal haplotype of the full tree.

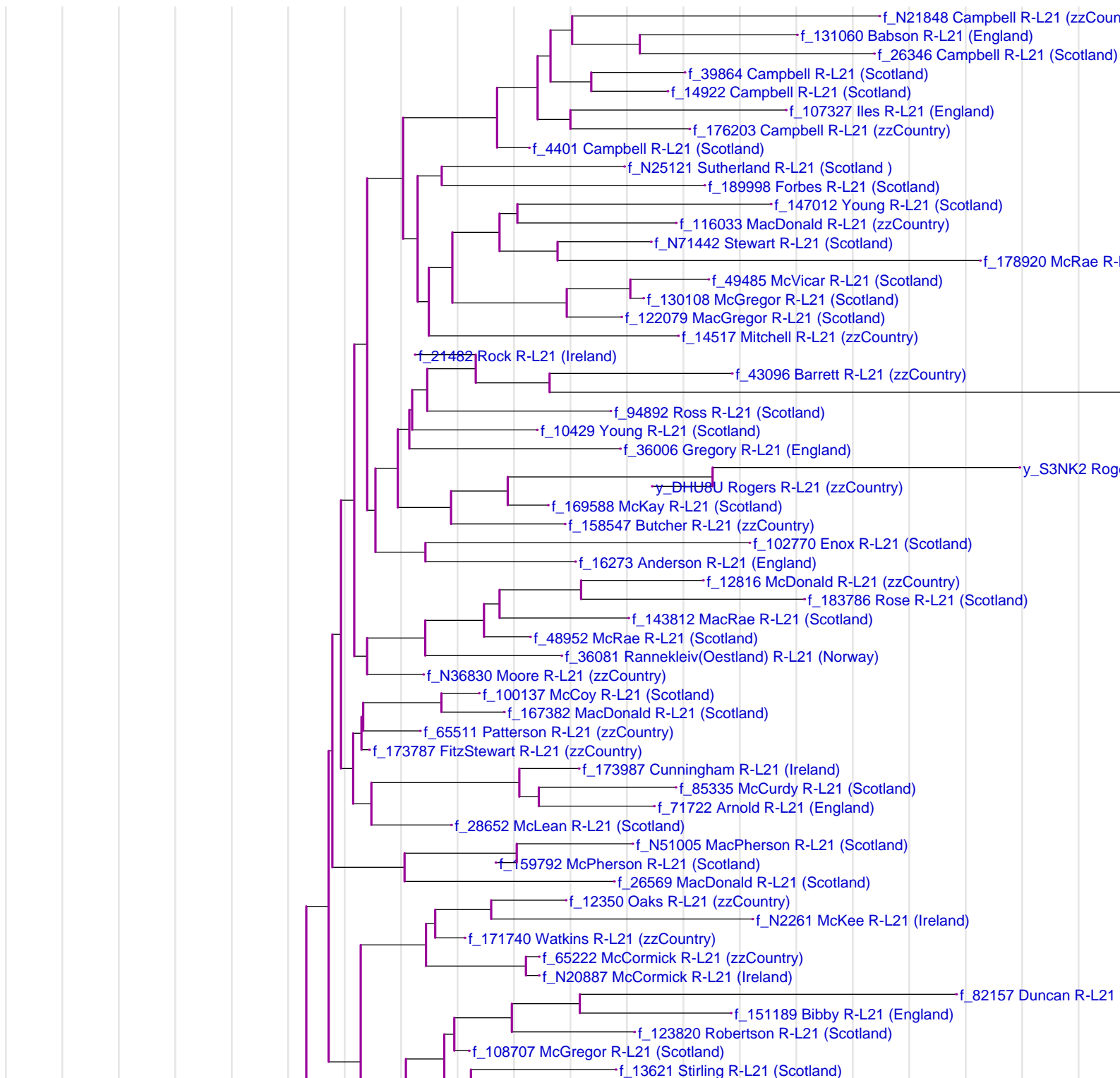


This is the marker distribution for Scots Cluster. The color indicates the relative frequency of the alleles.

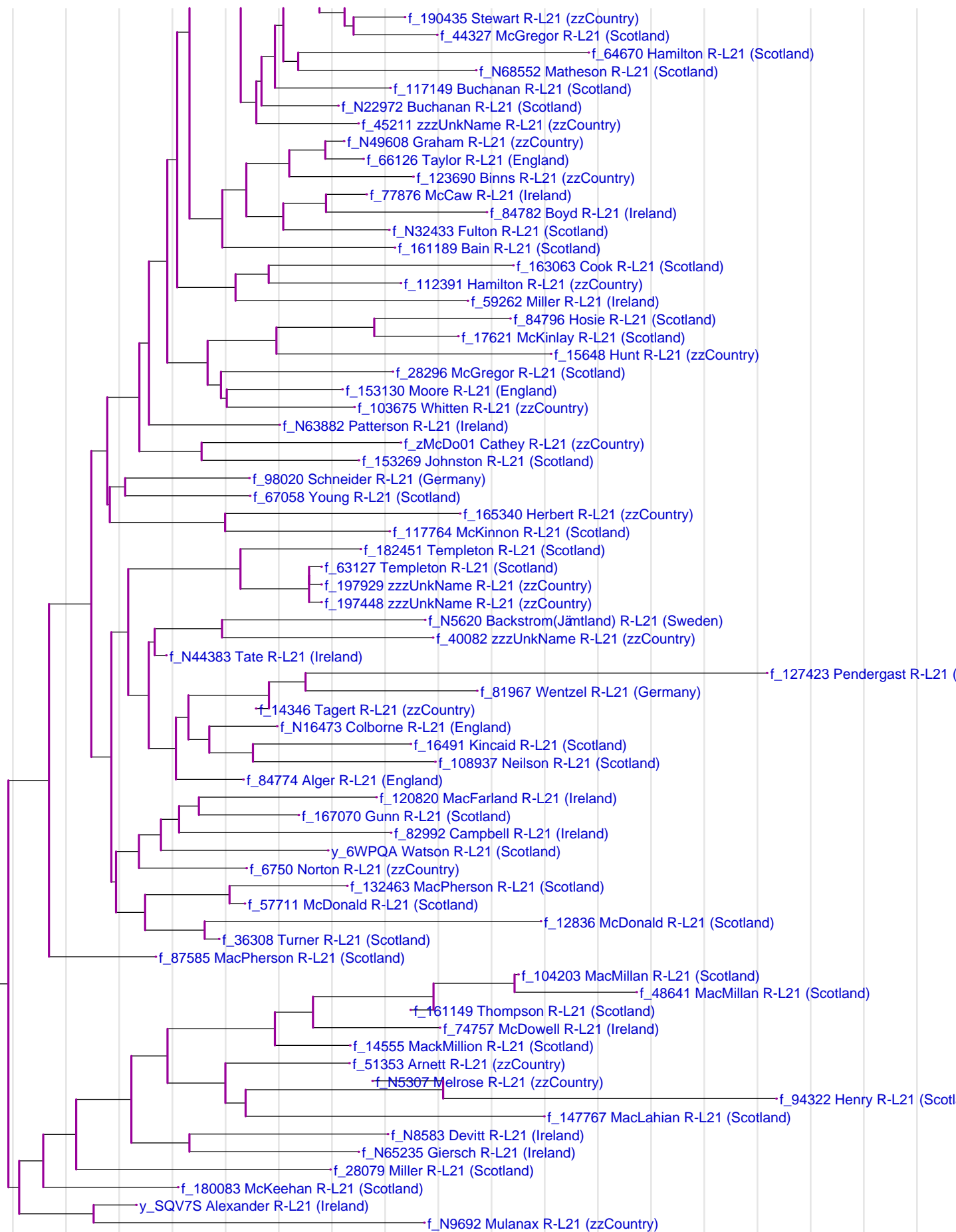


Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
126	8442	923	10.93%	57.83±5.82	1445.63±205.115



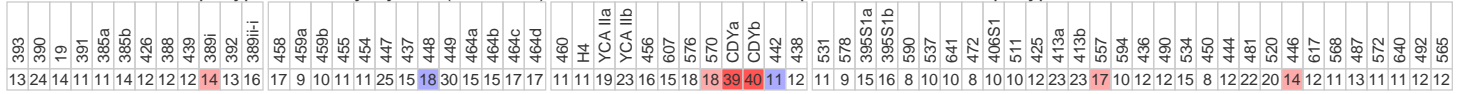
The vertical grey lines are separated 10 generations apart.



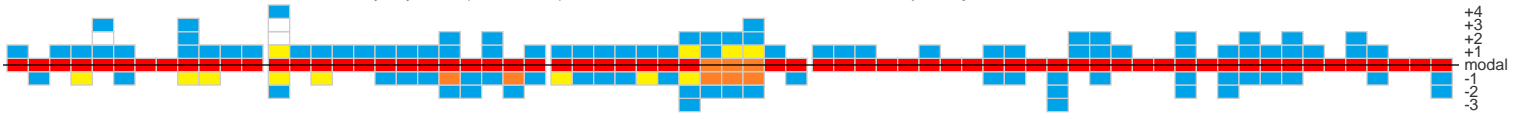
The vertical grey lines are separated 10 generations apart.

Beatty-Byrnes (R-L159.2)

This is the modal haplotype for Beatty-Byrnes (R-L159.2). The coloration is with respect to the modal haplotype of the full tree.



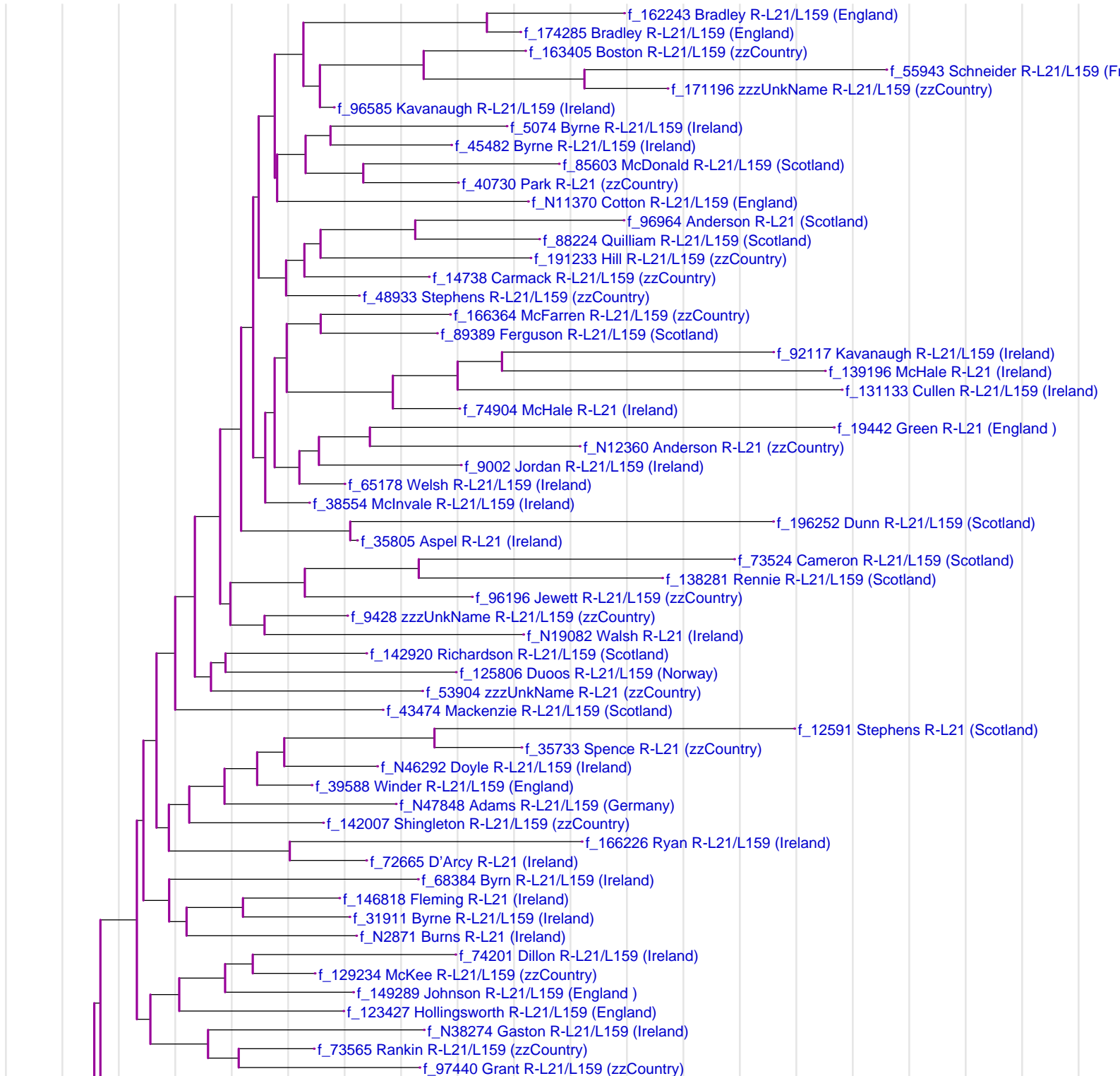
This is the marker distribution for Beatty-Byrnes (R-L159.2). The color indicates the relative frequency of the alleles.



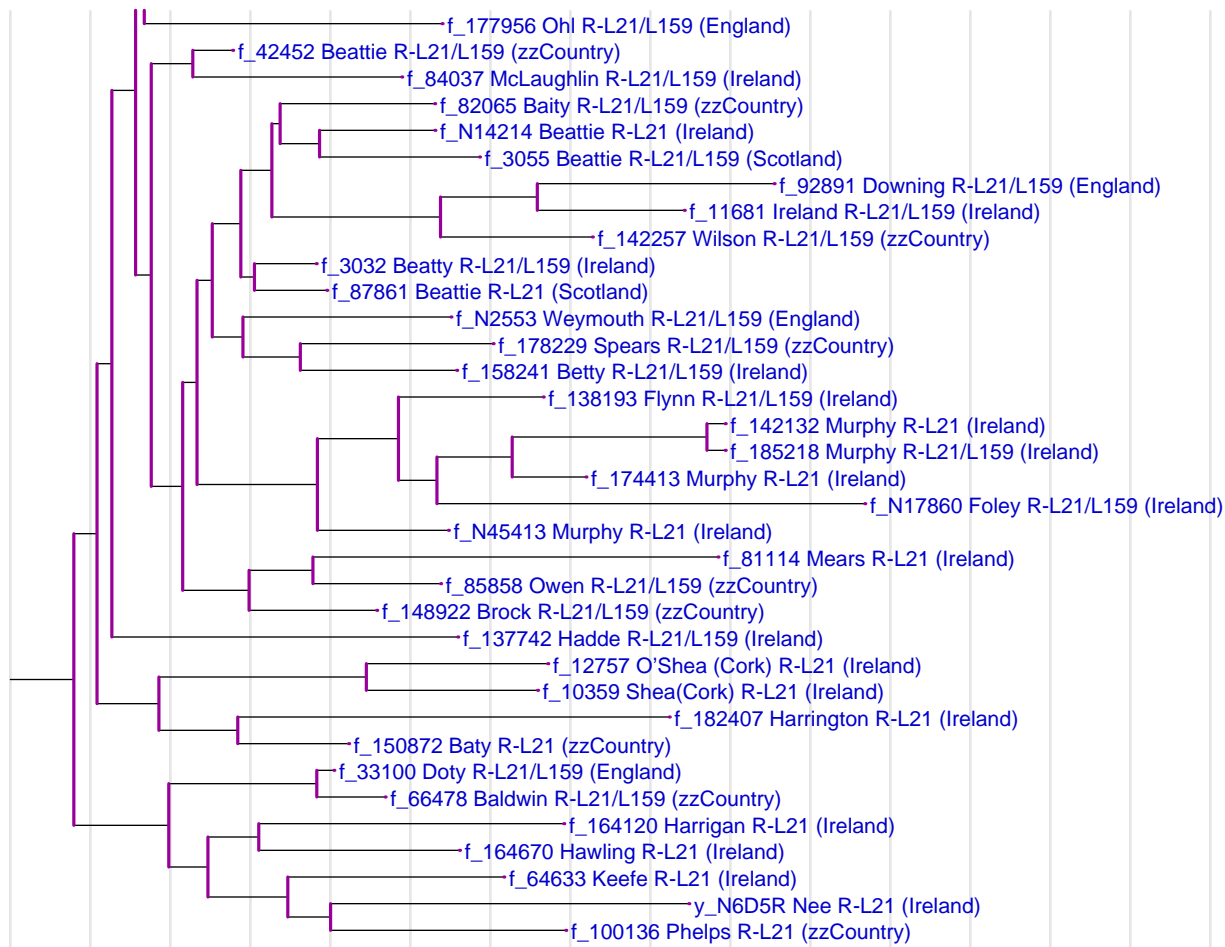
Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
92	6164	668	10.84%	57.29±5.78	1432.17±203.45

Note: This cluster is also known as the Leinster Cluster.



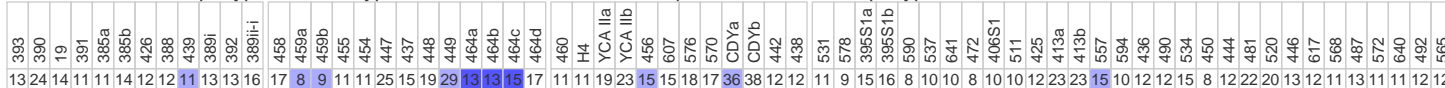
The vertical grey lines are separated 10 generations apart.



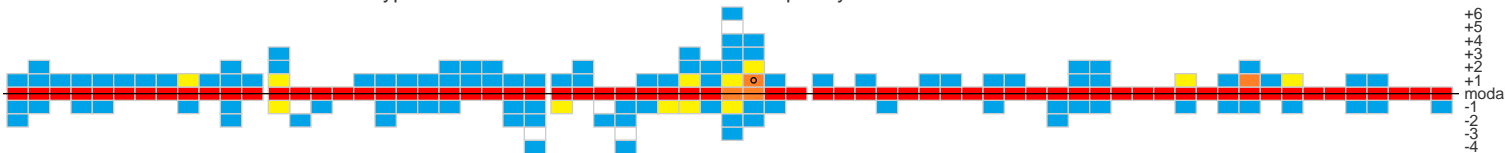
The vertical grey lines are separated 10 generations apart.

Irish Type III

This is the modal haplotype for Irish Type III. The coloration is with respect to the modal haplotype of the full tree.



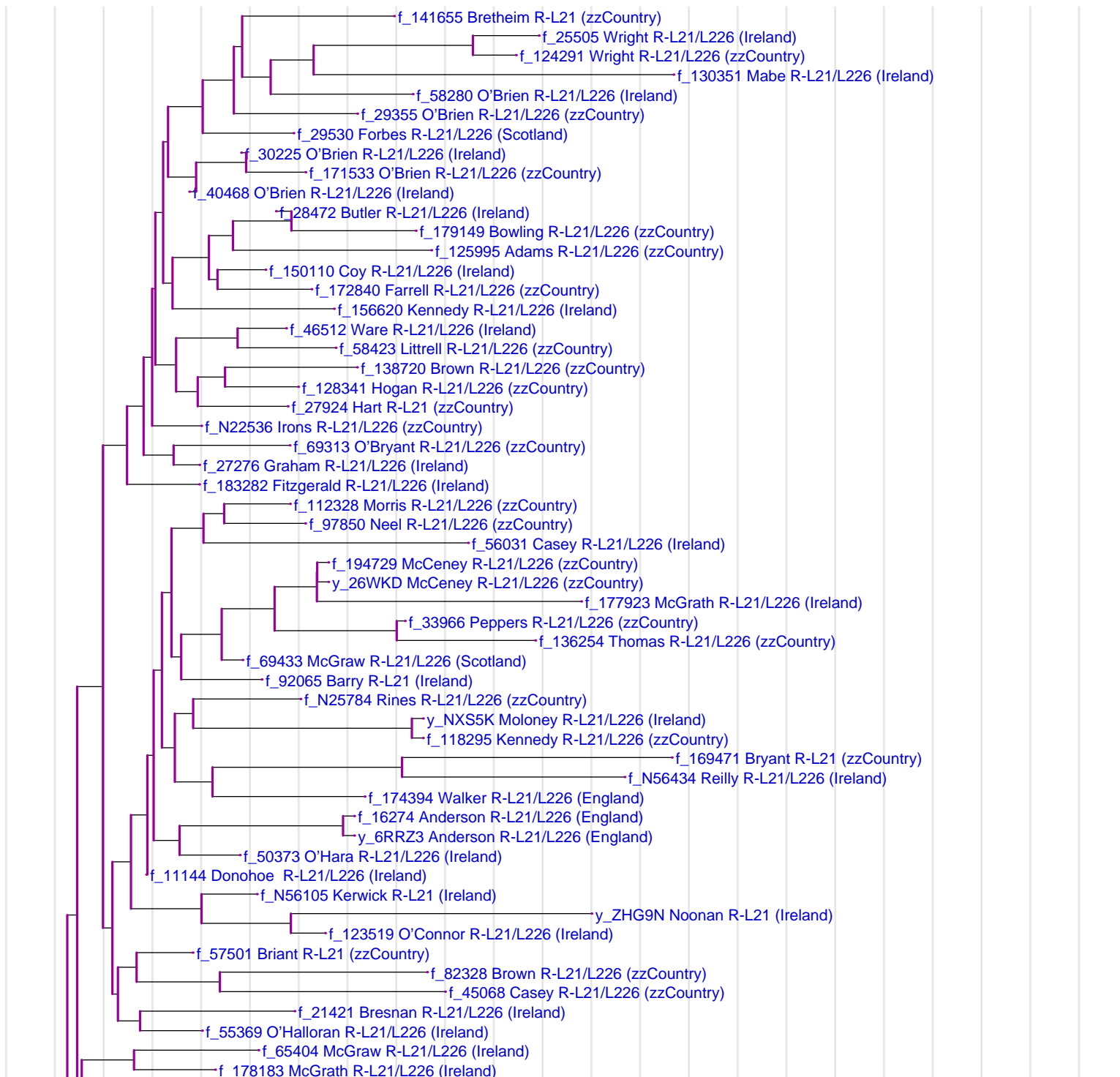
This is the marker distribution for Irish Type III. The color indicates the relative frequency of the alleles.



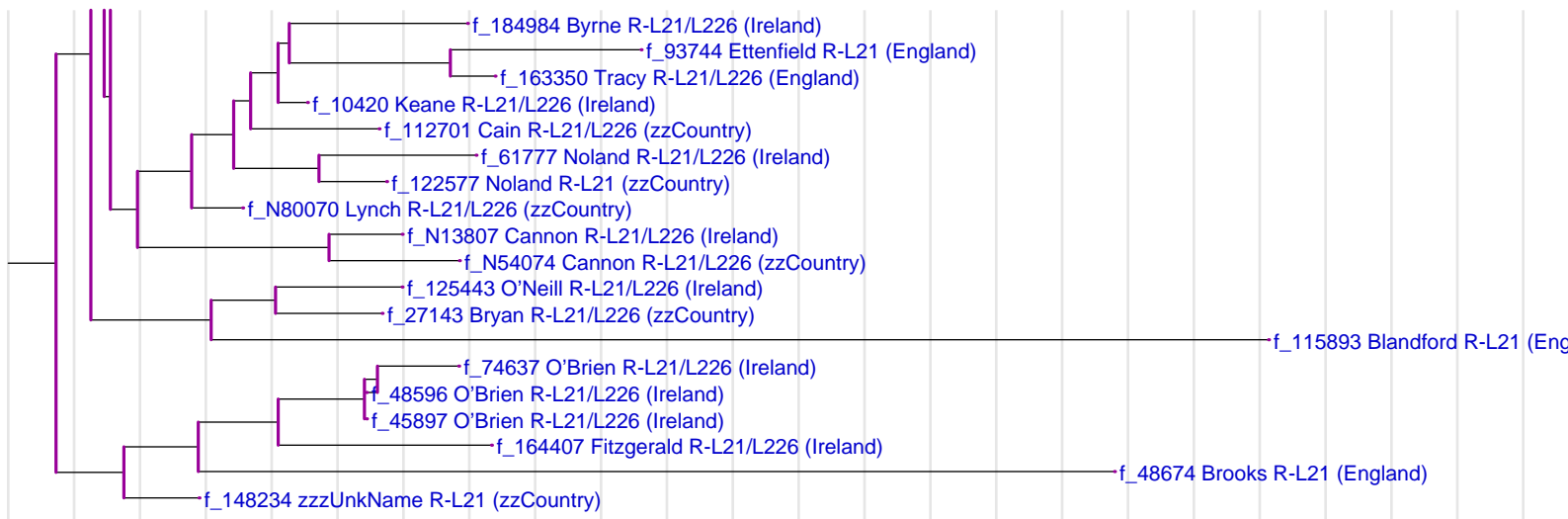
Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
74	4958	506	10.21%	53.77±5.44	1344.25±191.162

Note: Although Blandford (f_115893) and Brooks (48674) are situated within R-L226, they are L226-.



The vertical grey lines are separated 10 generations apart.



The vertical grey lines are separated 10 generations apart.

R-P314.2

This is the modal haplotype for R-P314.2. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	597	641	472	406S1	511	425	413a	413b	557	594	436	490	534	444	444	481	520	446	617	568	487	572	640	492	565
13	23	14	11	11	14	12	13	13	13	13	15	17	9	10	11	11	26	15	19	29	15	15	16	17	10	11	19	23	16	15	18	18	37	38	12	12	11	9	16	16	8	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	22	20	13	13	11	13	11	12	12

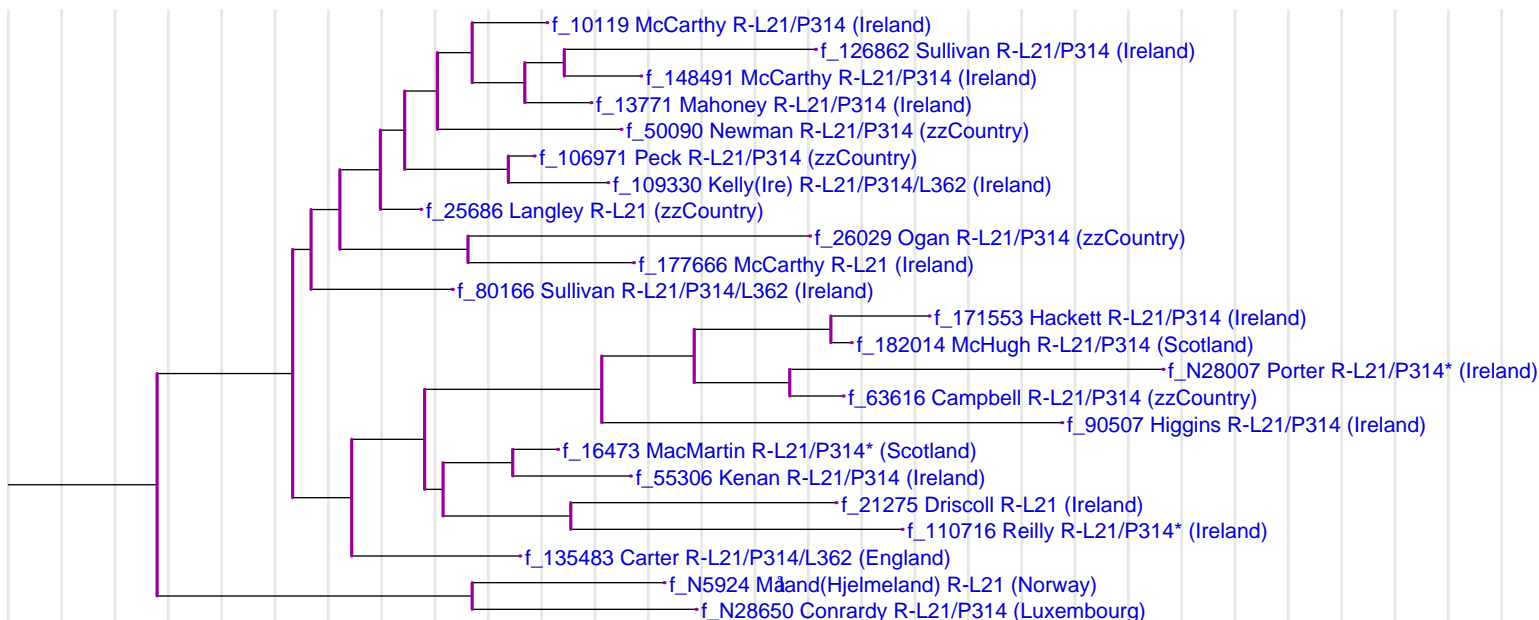
This is the marker distribution for R-P314.2. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
23	1541	215	13.95%	74.98±7.77	1874.55±269.979

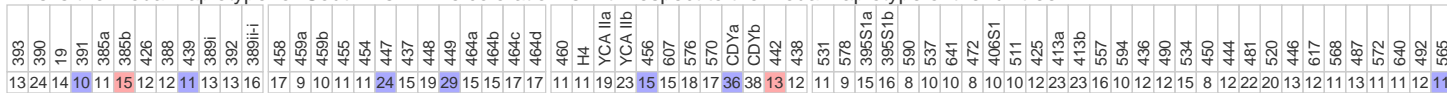
Note: Mike Walsh has divided R-P314.2 into two groups, those with DYS617=12, and those with DYS617=13.



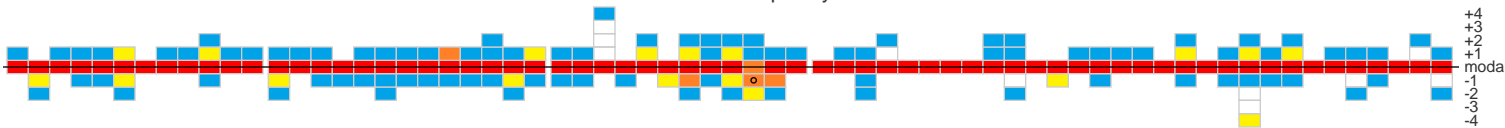
The vertical grey lines are separated 10 generations apart.

South Irish

This is the modal haplotype for South Irish. The coloration is with respect to the modal haplotype of the full tree.



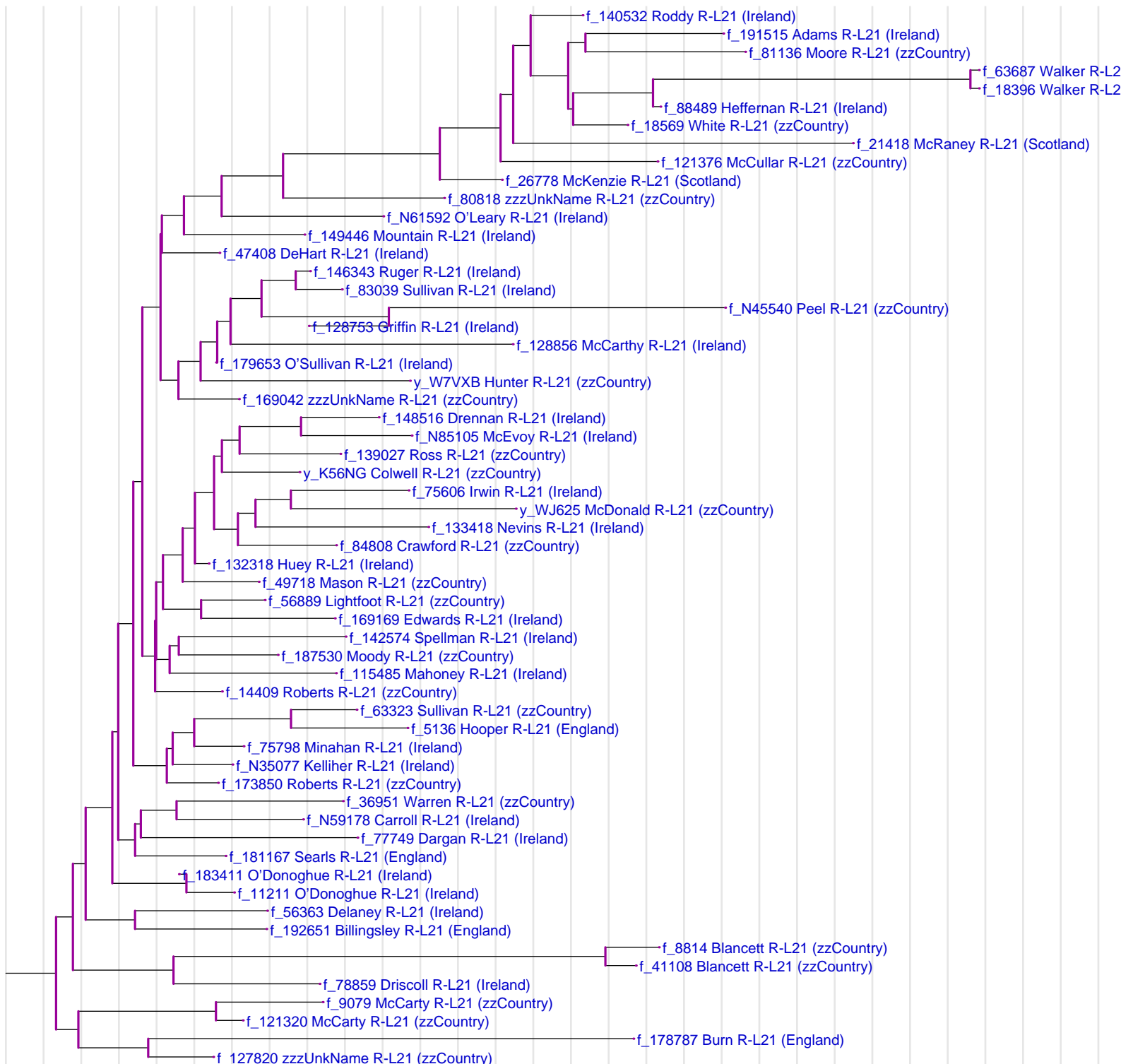
This is the marker distribution for South Irish. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
58	3886	488	12.56%	66.99±6.80	1674.76±238.561

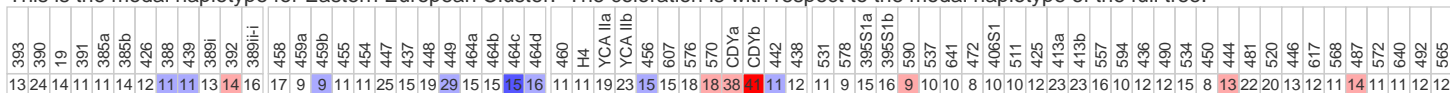
Note: AKA Irish Type II, this is Mike's Variety 1511-A-T2. At 67-markers, it's not always clear who should be included in this cluster near to where it connects to rest of



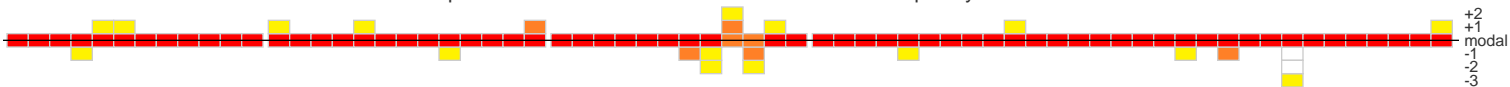
The vertical grey lines are separated 10 generations apart.

Eastern European Cluster

This is the modal haplotype for Eastern European Cluster. The coloration is with respect to the modal haplotype of the full tree.



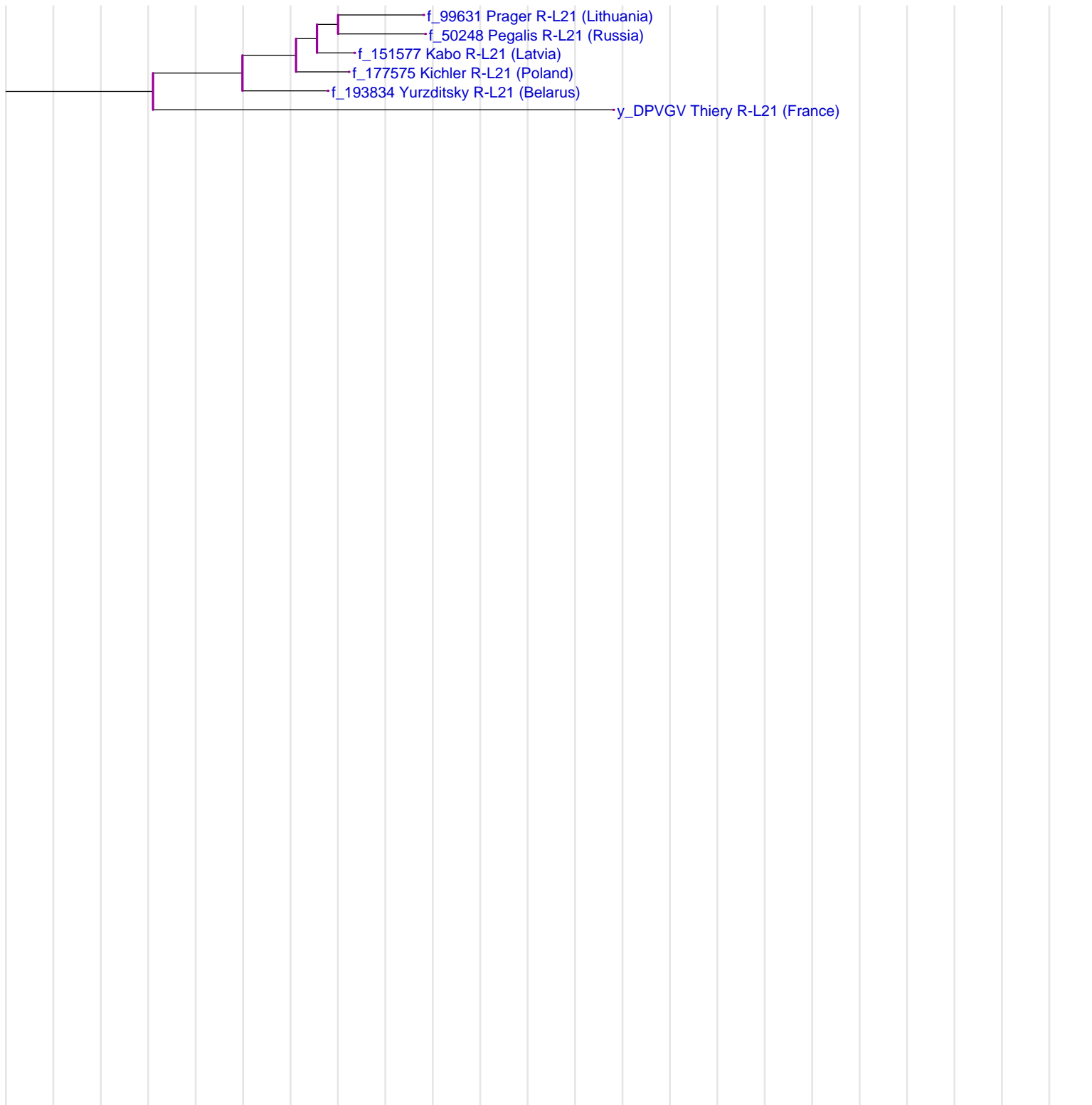
This is the marker distribution for Eastern European Cluster. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	31	7.71%	40.10±4.52	1002.57±150.996

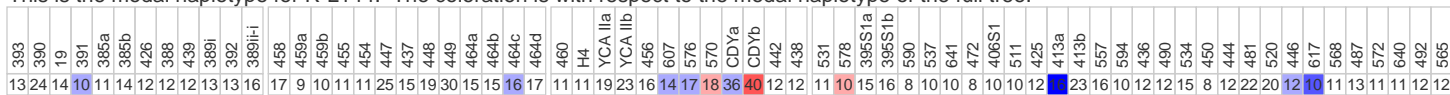
Note: This is Mike Walsh's Variety 1111EE.



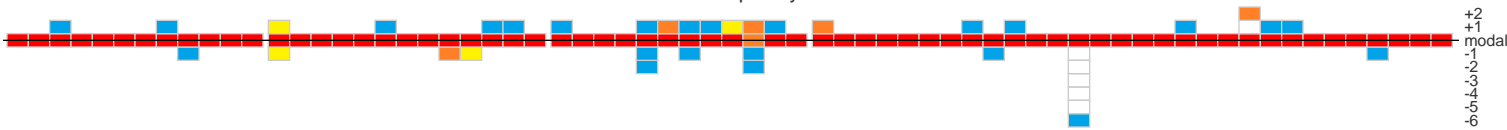
The vertical grey lines are separated 10 generations apart.

R-L144

This is the modal haplotype for R-L144. The coloration is with respect to the modal haplotype of the full tree.

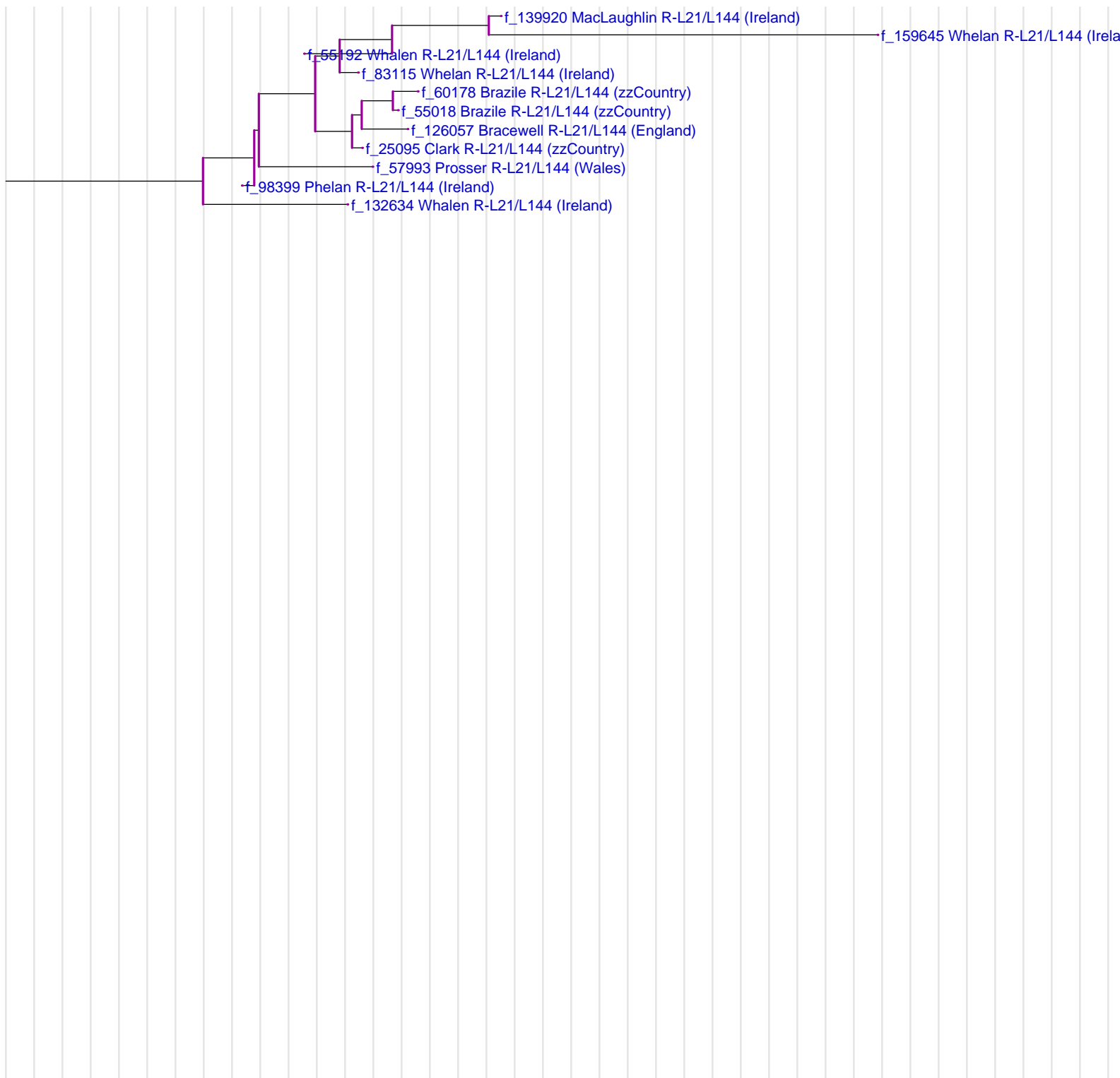


This is the marker distribution for R-L144. The color indicates the relative frequency of the alleles.



Age Analysis

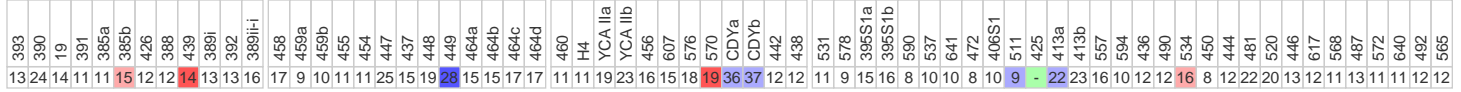
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
11	737	63	8.55%	44.65±4.78	1116.2±163.573



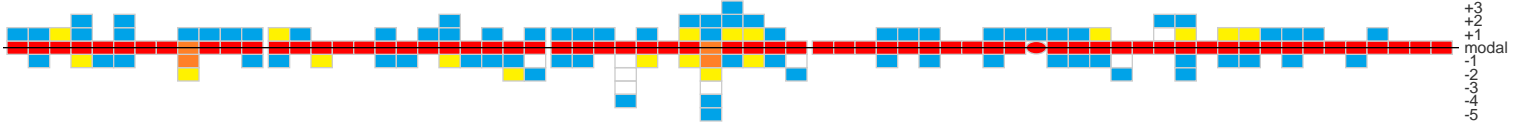
The vertical grey lines are separated 10 generations apart.

Clan Colla

This is the modal haplotype for Clan Colla. The coloration is with respect to the modal haplotype of the full tree.



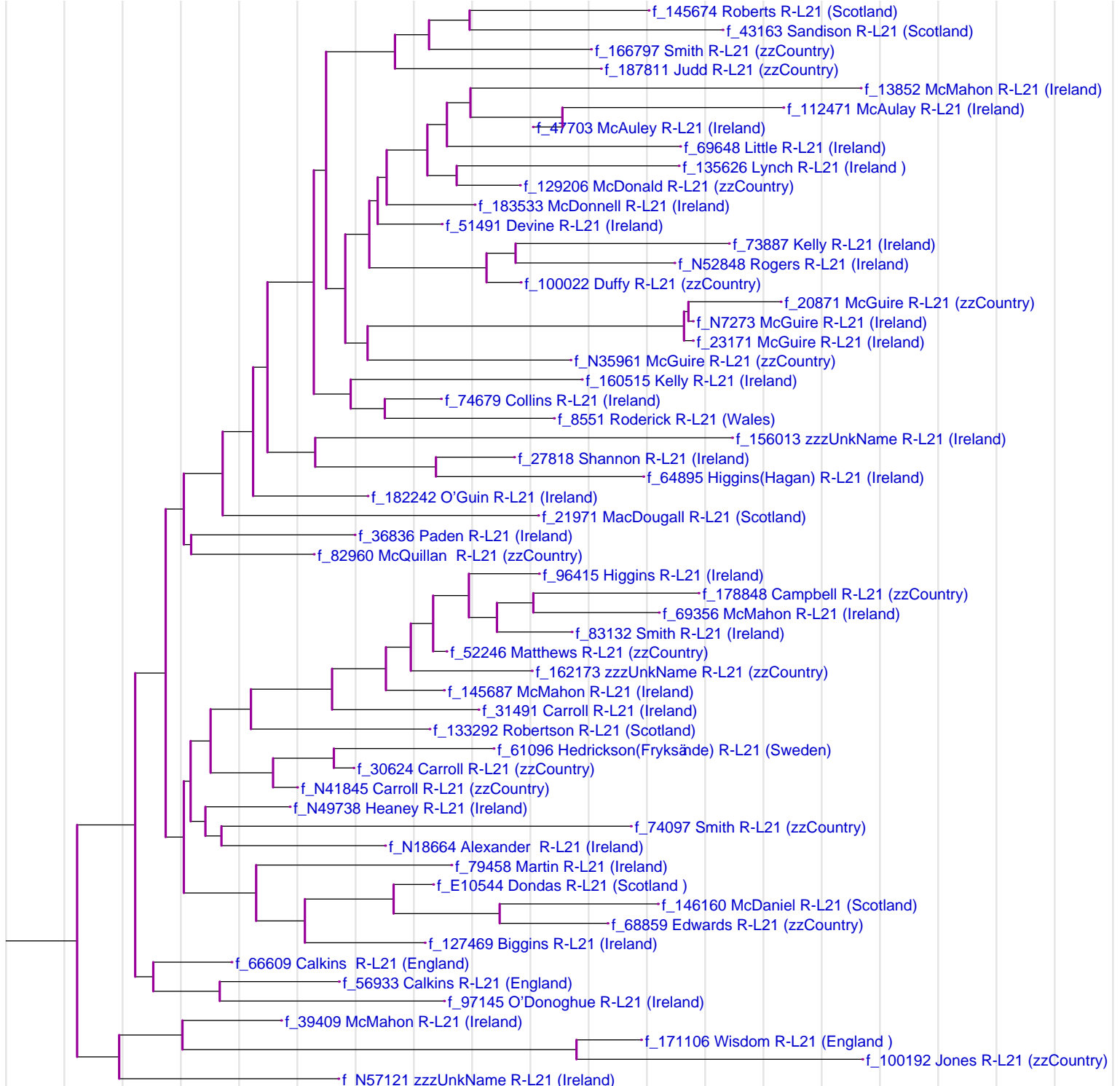
This is the marker distribution for Clan Colla. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
56	3752	403	10.74%	56.75±5.76	1418.74±202.119

Note: Jones (f100192) and Wisdom (171106) have DYS 425 = 12, and so perhaps shouldn't be considered a part of this cluster.



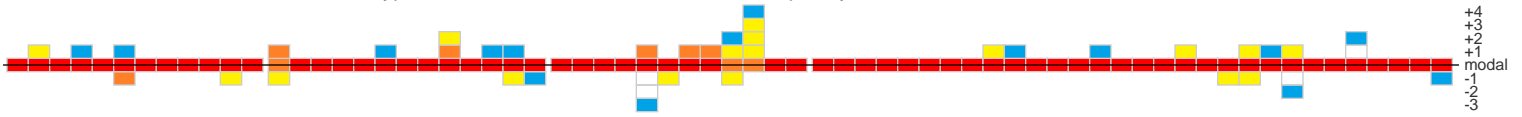
The vertical grey lines are separated 10 generations apart.

Irish Type IV

This is the modal haplotype for Irish Type IV. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	10	12	15	13	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	16	18	10	10	19	23	15	15	17	17	36	37	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	13	22	21	13	12	11	13	11	11	12	12

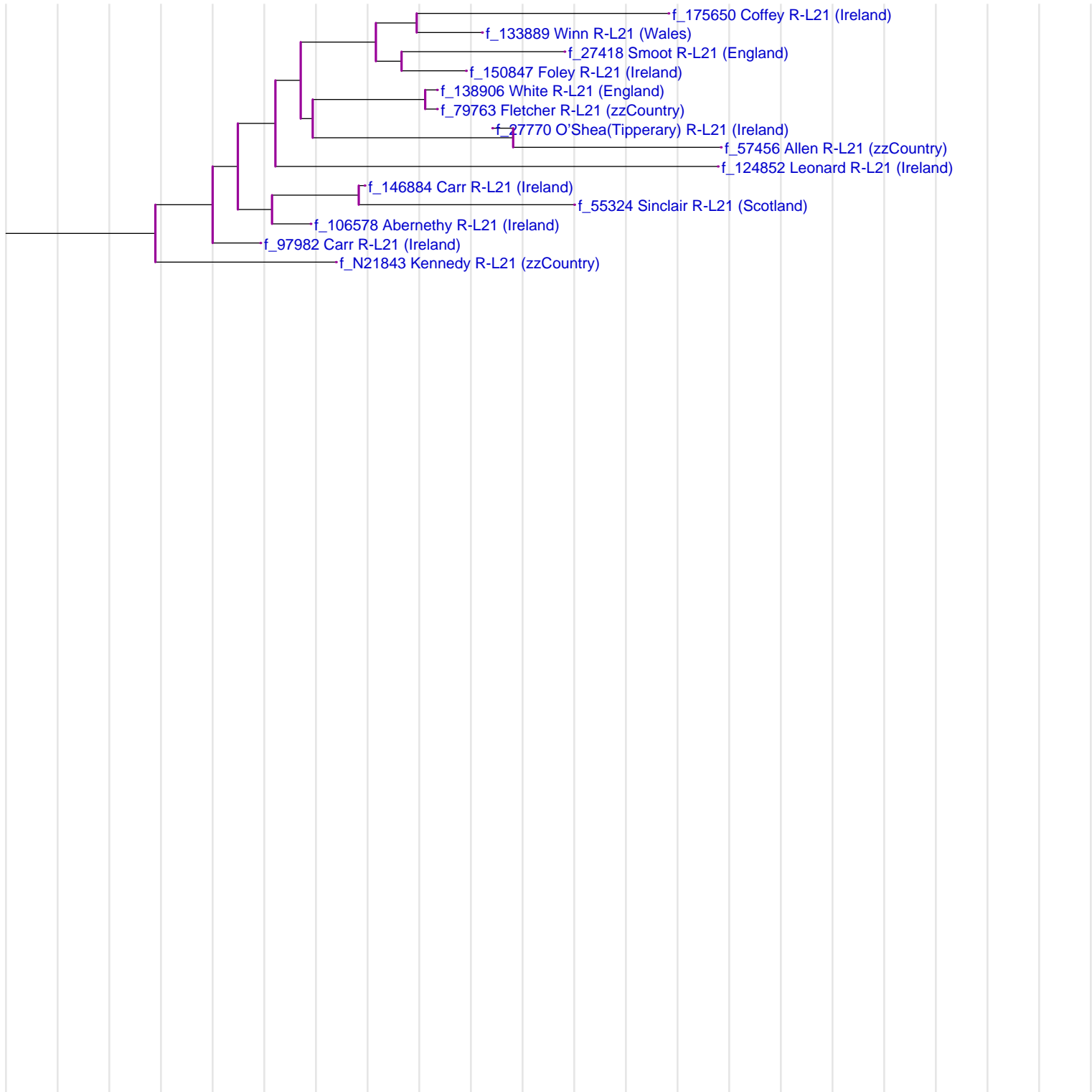
This is the marker distribution for Irish Type IV. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
14	938	102	10.87%	57.49±6.08	1437.35±209.208

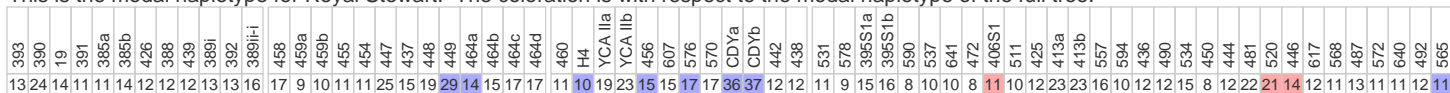
Note: This is Mike's Variety 1310-T4



The vertical grey lines are separated 10 generations apart.

Royal Stewart

This is the modal haplotype for Royal Stewart. The coloration is with respect to the modal haplotype of the full tree.



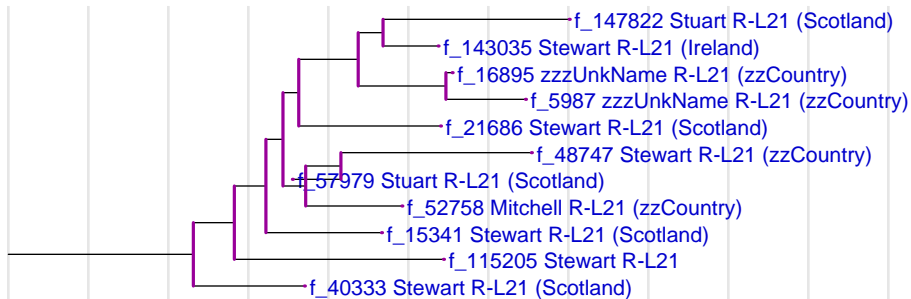
This is the marker distribution for Royal Stewart. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
11	737	34	4.61%	23.61±2.52	590.275±86.3905

Note: This is essentially Mike's Variety 1110



The vertical grey lines are separated 10 generations apart.

Philips-Powell-Robinson-Smith-Jones Cluster

This is the modal haplotype for Philips-Powell-Robinson-Smith-Jones Cluster. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-1	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	30	15	15	17	17	11	11	19	23	15	14	18	17	39	13	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	10	12	15	15	8	11	22	21	13	12	11	13	11	11	12	12	

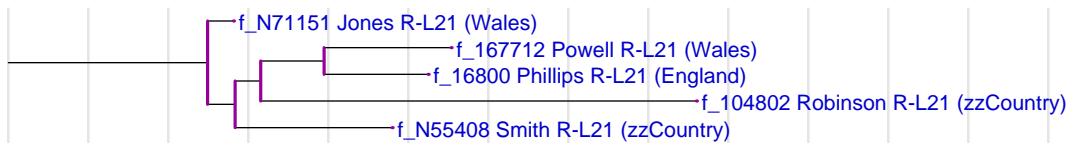
This is the marker distribution for Philips-Powell-Robinson-Smith-Jones Cluster. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	19	5.67%	29.19±3.35	729.641±111.032

Note: This is Mike's Variety 1114



The vertical grey lines are separated 10 generations apart.

Mike's Variety 2410

This is the modal haplotype for Mike's Variety 2410. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-I	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	11	15	12	12	12	13	13	16	17	9	10	11	11	25	15	20	30	15	16	17	17	11	10	19	24	15	15	18	18	16	36	38	12	12	11	9	15	16	8	10	10	10	12	23	23	16	10	12	12	12	16	8	12	22	20	13	12	11	13	11	11	12	12

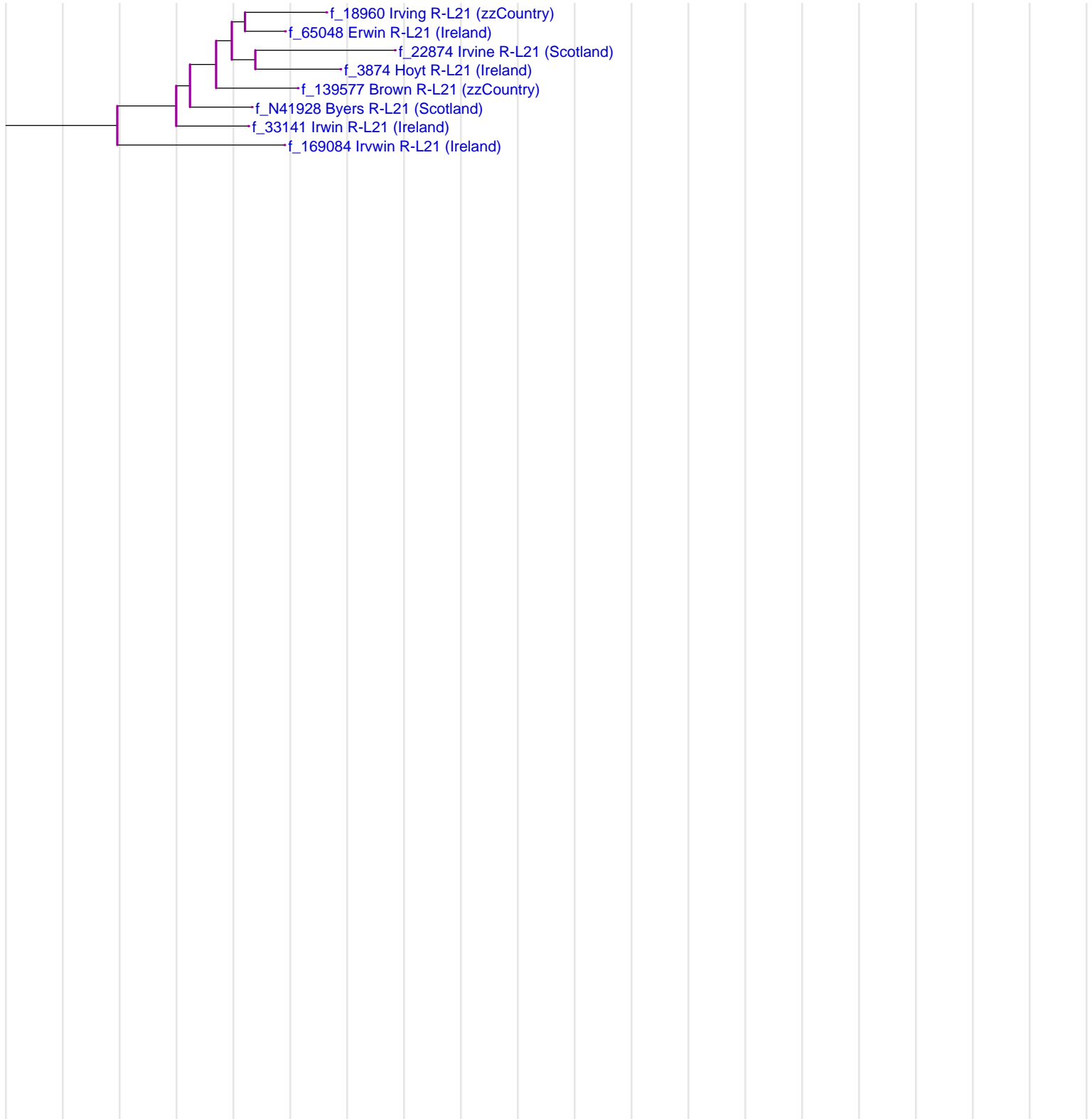
This is the marker distribution for Mike's Variety 2410. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
8	536	24	4.48%	22.90±2.50	572.517±84.8217

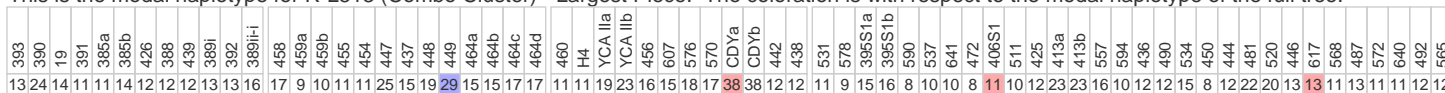
Note: This cluster does not include Lewis (f44100), although Mike has him classified as 2410 also.



The vertical grey lines are separated 10 generations apart.

R-L513 (Combo Cluster) - Largest Piece

This is the modal haplotype for R-L513 (Combo Cluster) - Largest Piece. The coloration is with respect to the modal haplotype of the full tree.



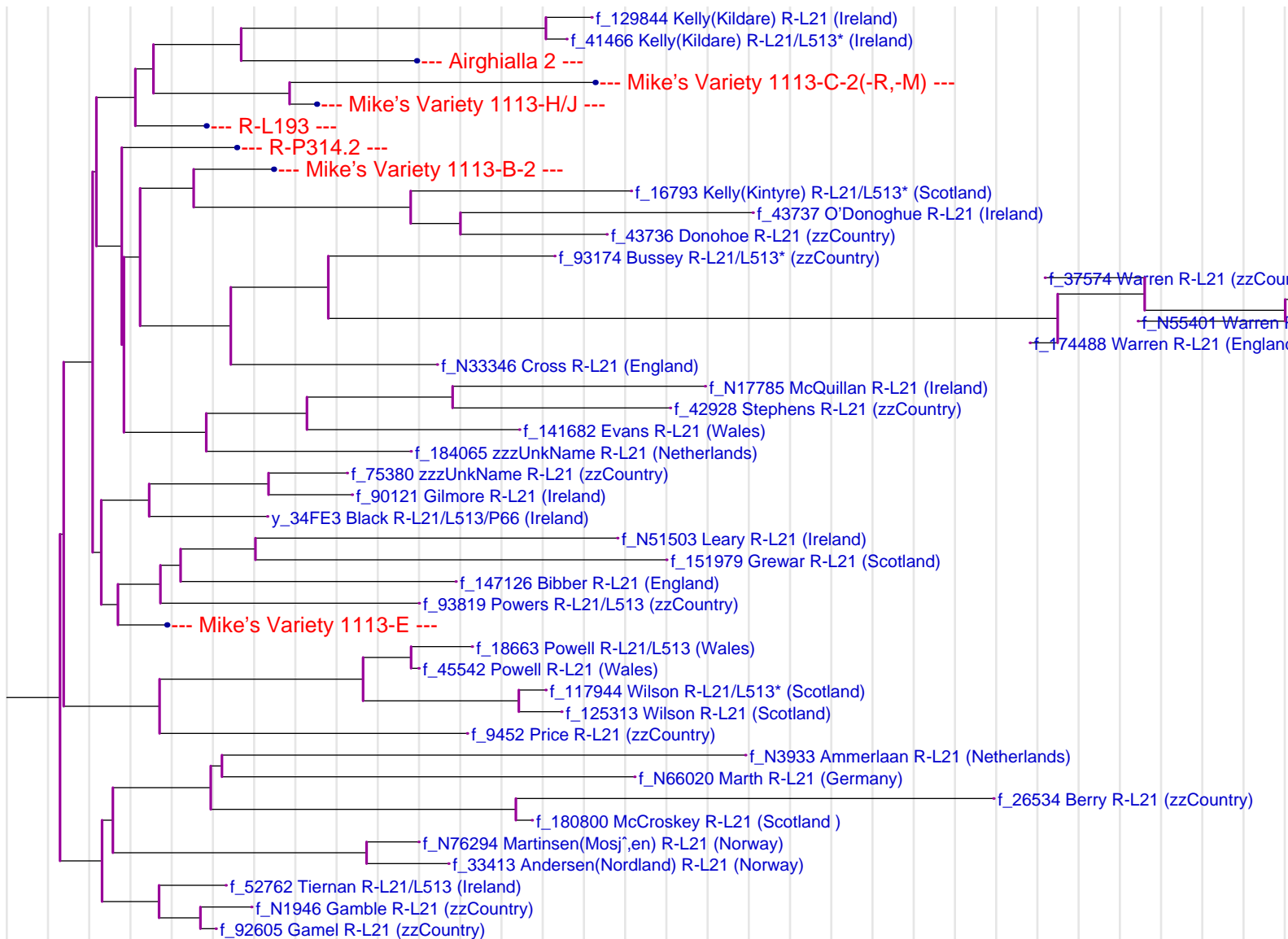
This is the marker distribution for R-L513 (Combo Cluster) - Largest Piece. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
164	10988	2223	20.23%	112.50±11.31	2812.42±398.832

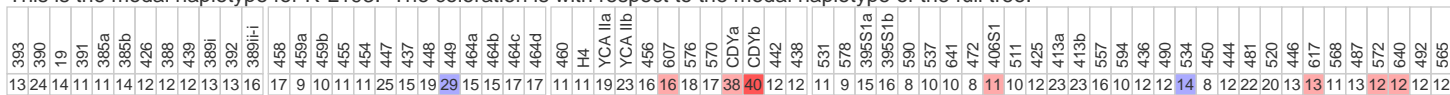
Note: This is Mike's Variety 1113. The 1113 Cluster appears as several pieces on the tree. This is the largest piece. Note that R-P314.2 is L513-.



The vertical grey lines are separated 10 generations apart.

R-L193

This is the modal haplotype for R-L193. The coloration is with respect to the modal haplotype of the full tree.



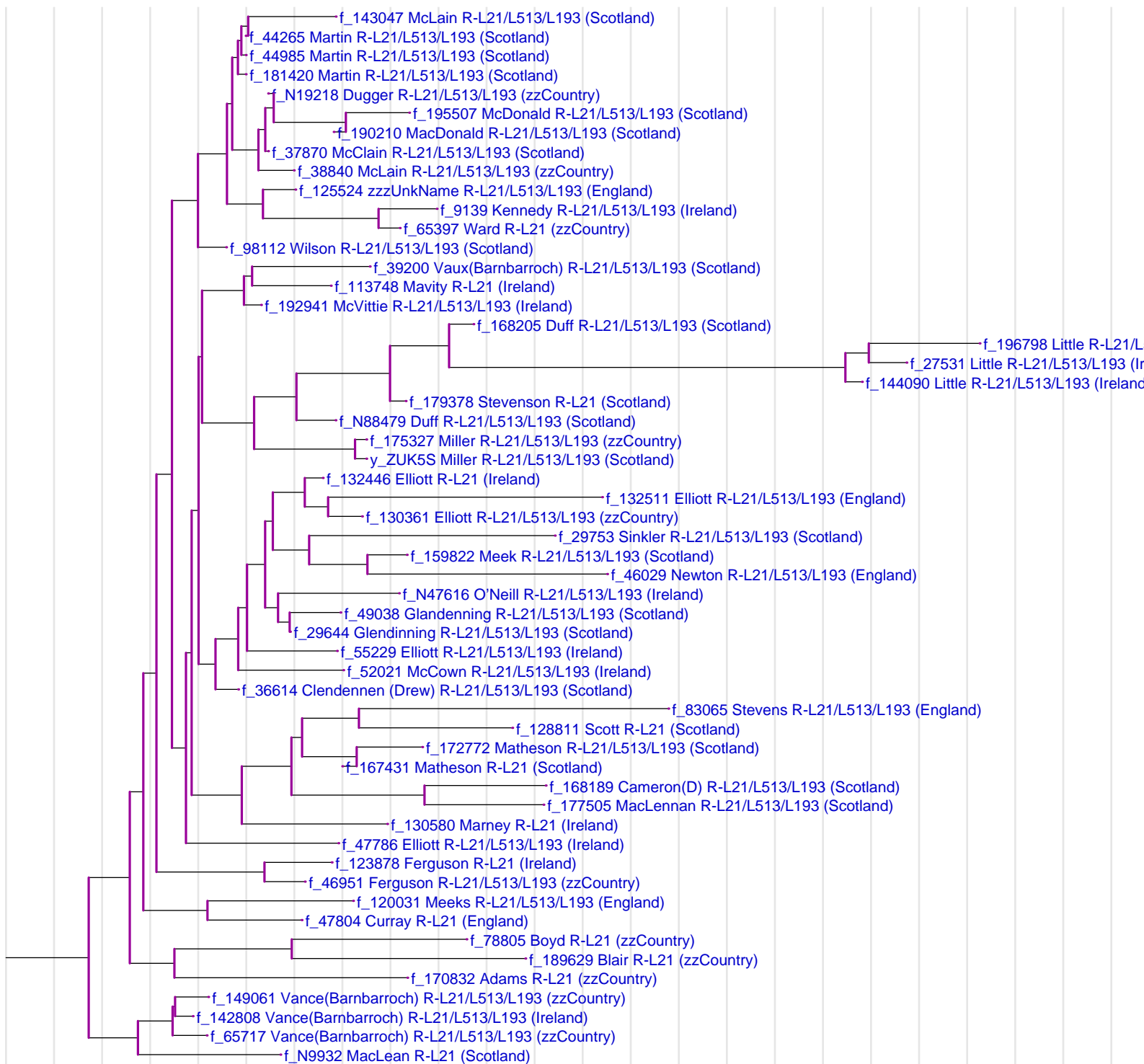
This is the marker distribution for R-L193. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
55	3685	338	9.17%	48.06±4.88	1201.61±171.19

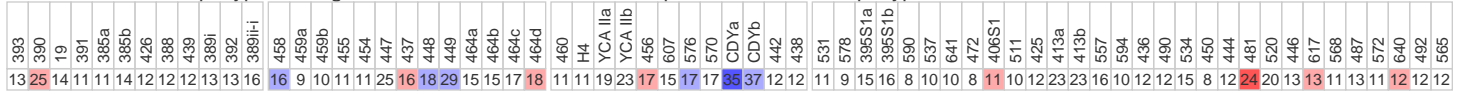
Note: Unlike everyone else in the cluster, MacLean (N9932) has DYS 572 = 11 and not 12.



The vertical grey lines are separated 10 generations apart.

Airghialla 2

This is the modal haplotype for Airghialla 2. The coloration is with respect to the modal haplotype of the full tree.



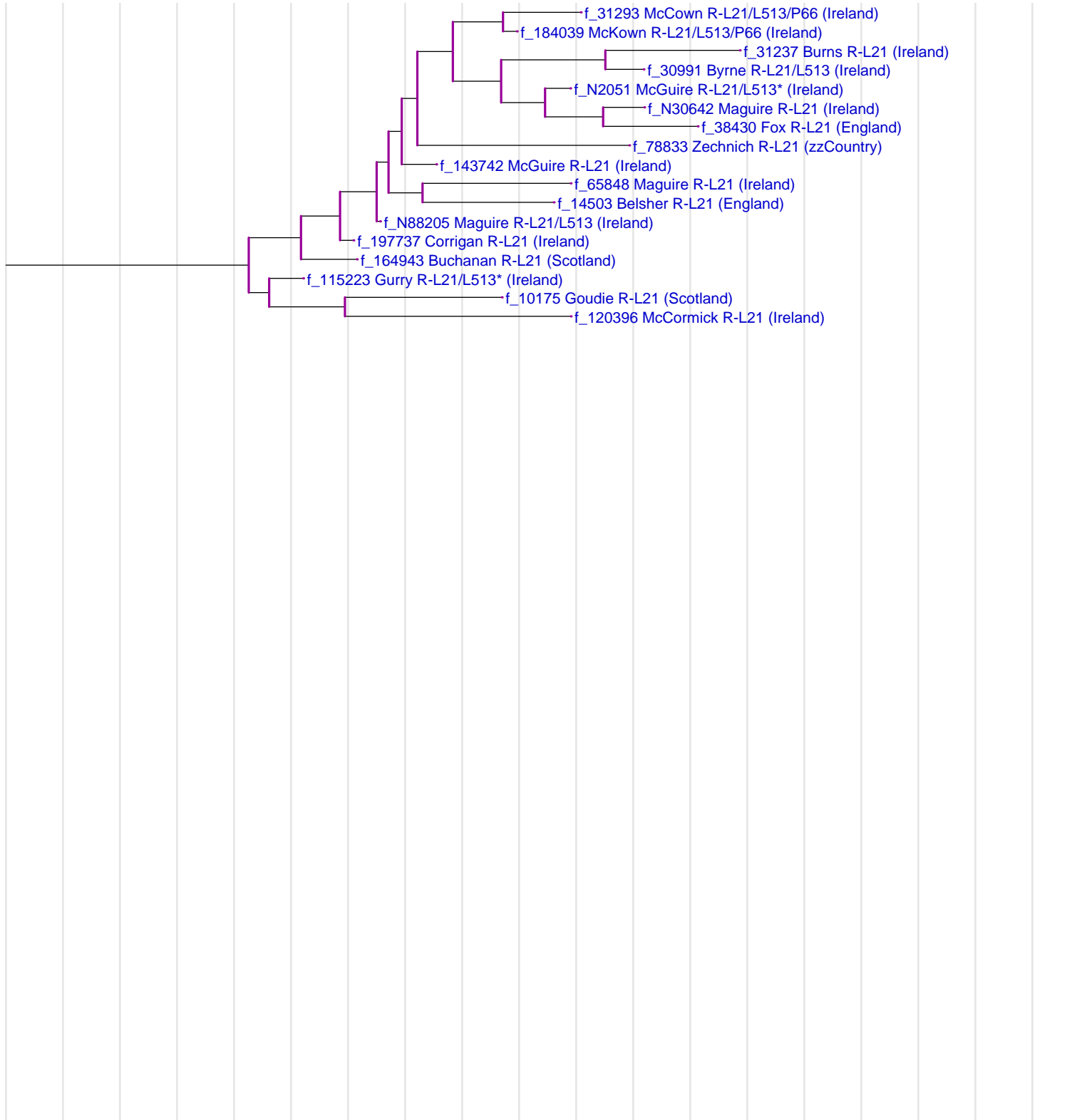
This is the marker distribution for Airghialla 2. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
17	1139	71	6.23%	32.17±3.36	804.251±116.362

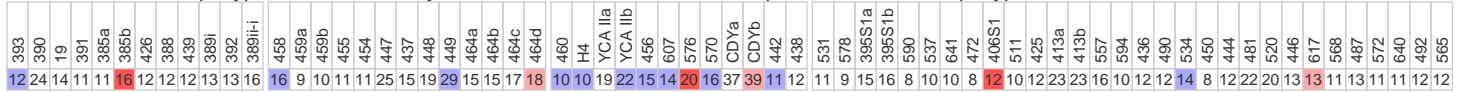
Note: Mike has referred to the majority of these men as 1113-A-2-M, but one is also 1113-A-2-B, and three are 1113-A-2.



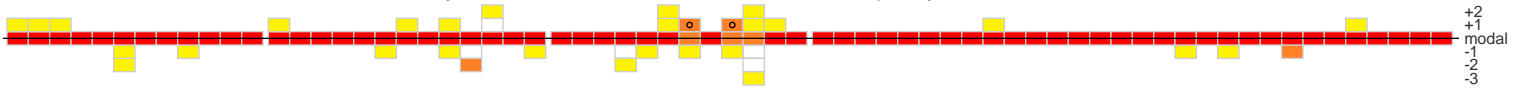
The vertical grey lines are separated 10 generations apart.

Mike's Vareity 1113-K

This is the modal haplotype for Mike's Vareity 1113-K. The coloration is with respect to the modal haplotype of the full tree.

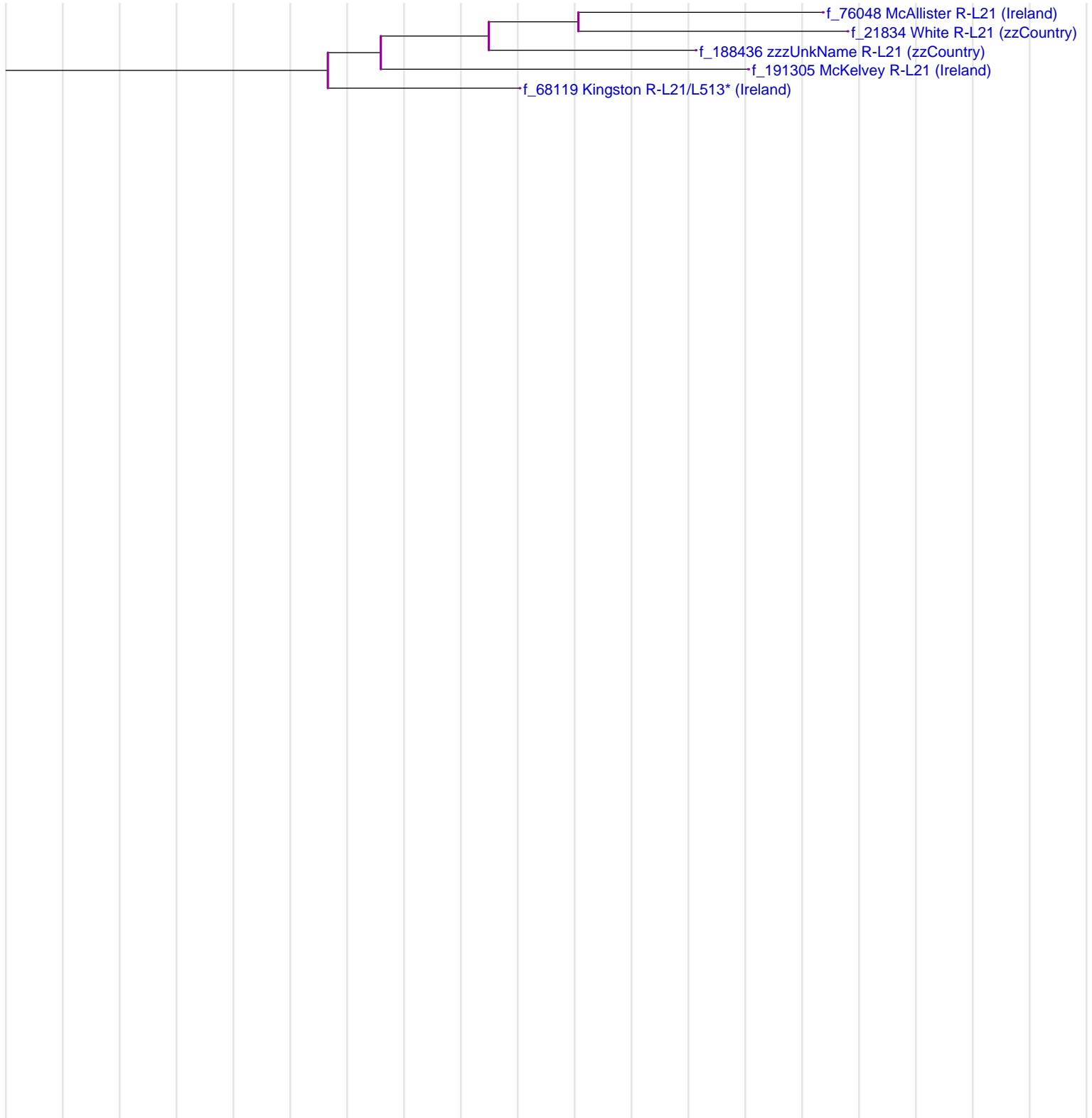


This is the marker distribution for Mike's Vareity 1113-K. The color indicates the relative frequency of the alleles.



Age Analysis

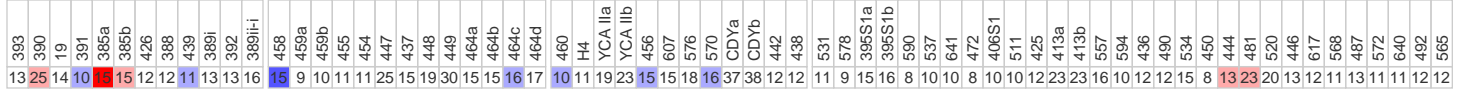
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	40	11.94%	63.49±7.34	1587.18±242.544



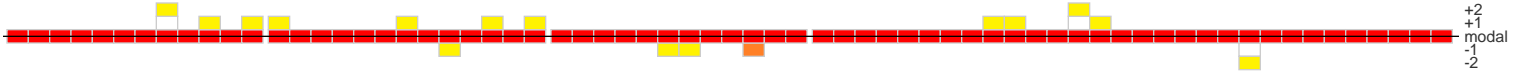
The vertical grey lines are separated 10 generations apart.

Clan McWho

This is the modal haplotype for Clan McWho. The coloration is with respect to the modal haplotype of the full tree.



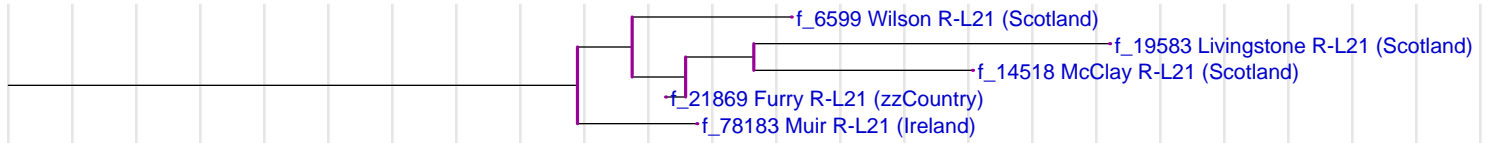
This is the marker distribution for Clan McWho. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	20	5.97%	30.77±3.53	769.224±117.079

Note: This is Mike's Variety 1515-Who



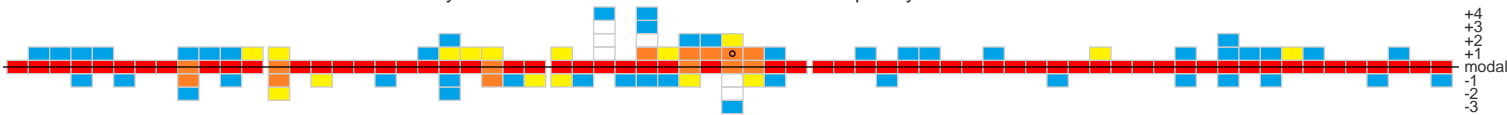
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1117

This is the modal haplotype for Mike's Variety 1117. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	444	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	14	12	12	13	13	13	16	18	9	10	11	11	25	15	19	30	14	15	16	17	11	11	19	23	16	15	18	16	37	39	13	12	11	9	15	16	8	10	10	8	10	11	12	23	23	17	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12	

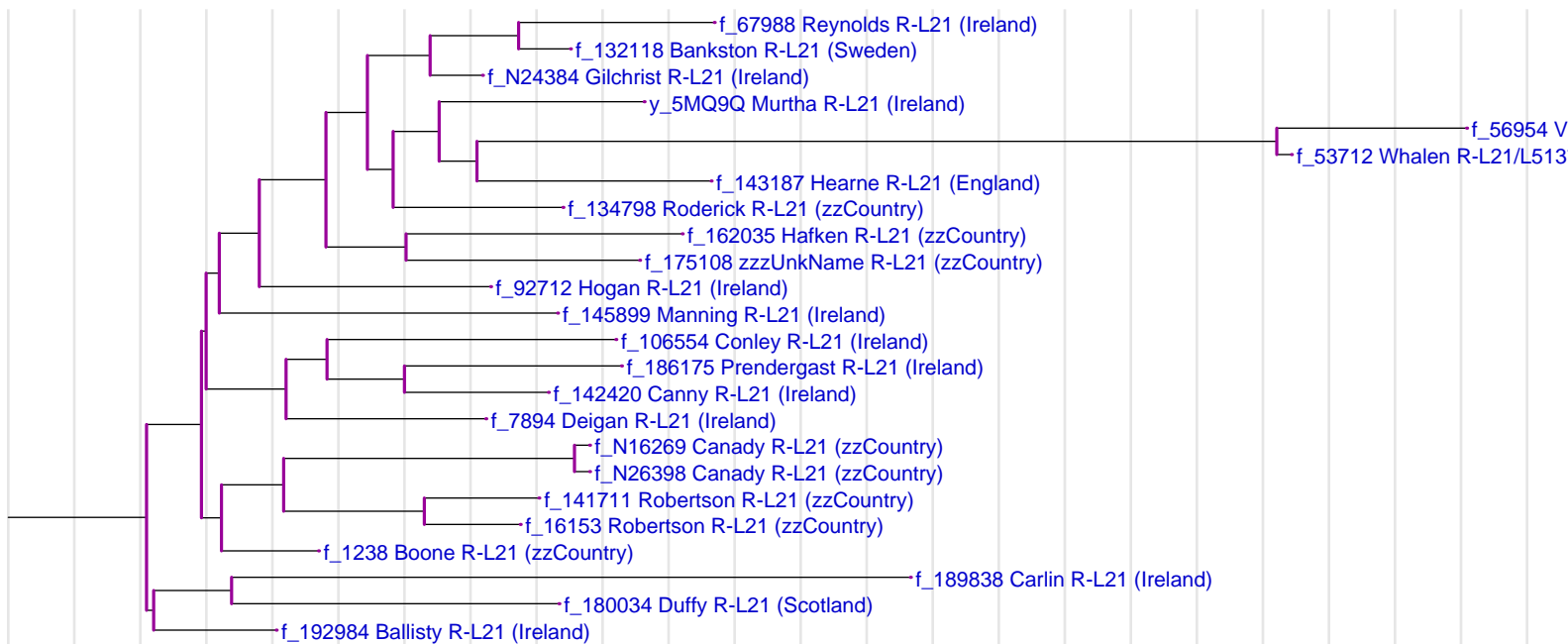
This is the marker distribution for Mike's Variety 1117. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
24	1608	214	13.31%	71.28±7.38	1781.96±256.425

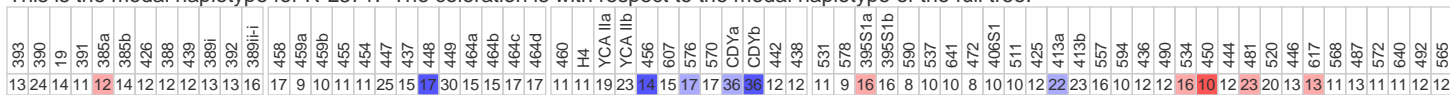
Note: Mike has Vance and Whalen as part of his Variety 1113-VW.



The vertical grey lines are separated 10 generations apart.

R-L371

This is the modal haplotype for R-L371. The coloration is with respect to the modal haplotype of the full tree.



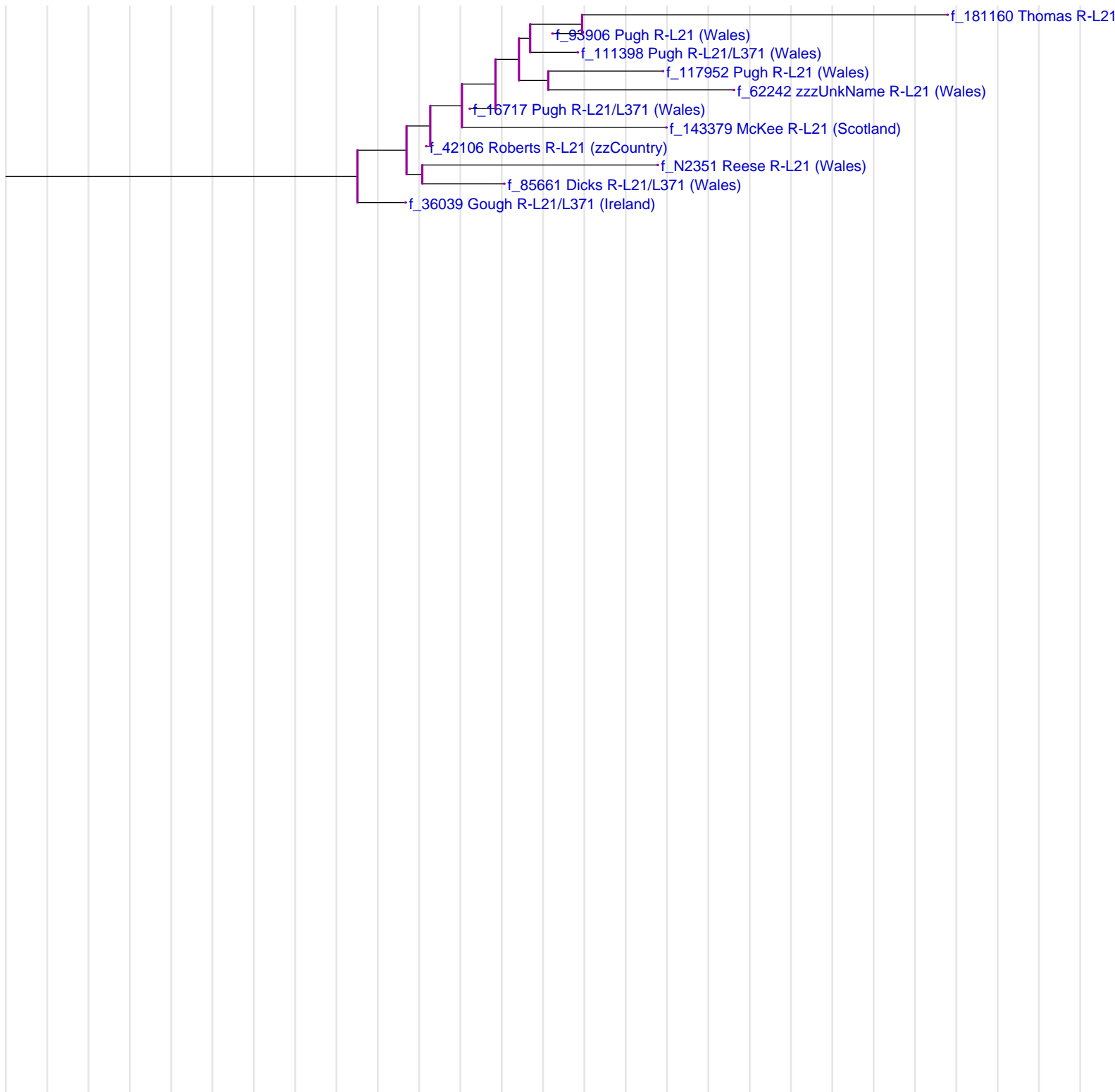
This is the marker distribution for R-L371. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
11	737	55	7.46%	38.76±4.15	968.975±141.947

Note: AKA Wales I. This is Mike's Variety 1830-W1(-A) or the 17-14-10 cluster by Robert Hughes.



The vertical grey lines are separated 10 generations apart.

Wales and SW England

This is the modal haplotype for Wales and SW England. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	444	481	520	446	617	568	487	572	640	492	565	
13	24	14	11	11	16	12	12	12	13	13	15	17	17	9	10	11	11	25	15	19	29	14	15	16	17	11	11	19	23	18	15	18	17	35	38	12	12	11	9	16	16	8	10	10	8	10	10	12	24	25	15	10	12	12	12	16	8	14	24	20	13	12	11	13	11	11	12	12

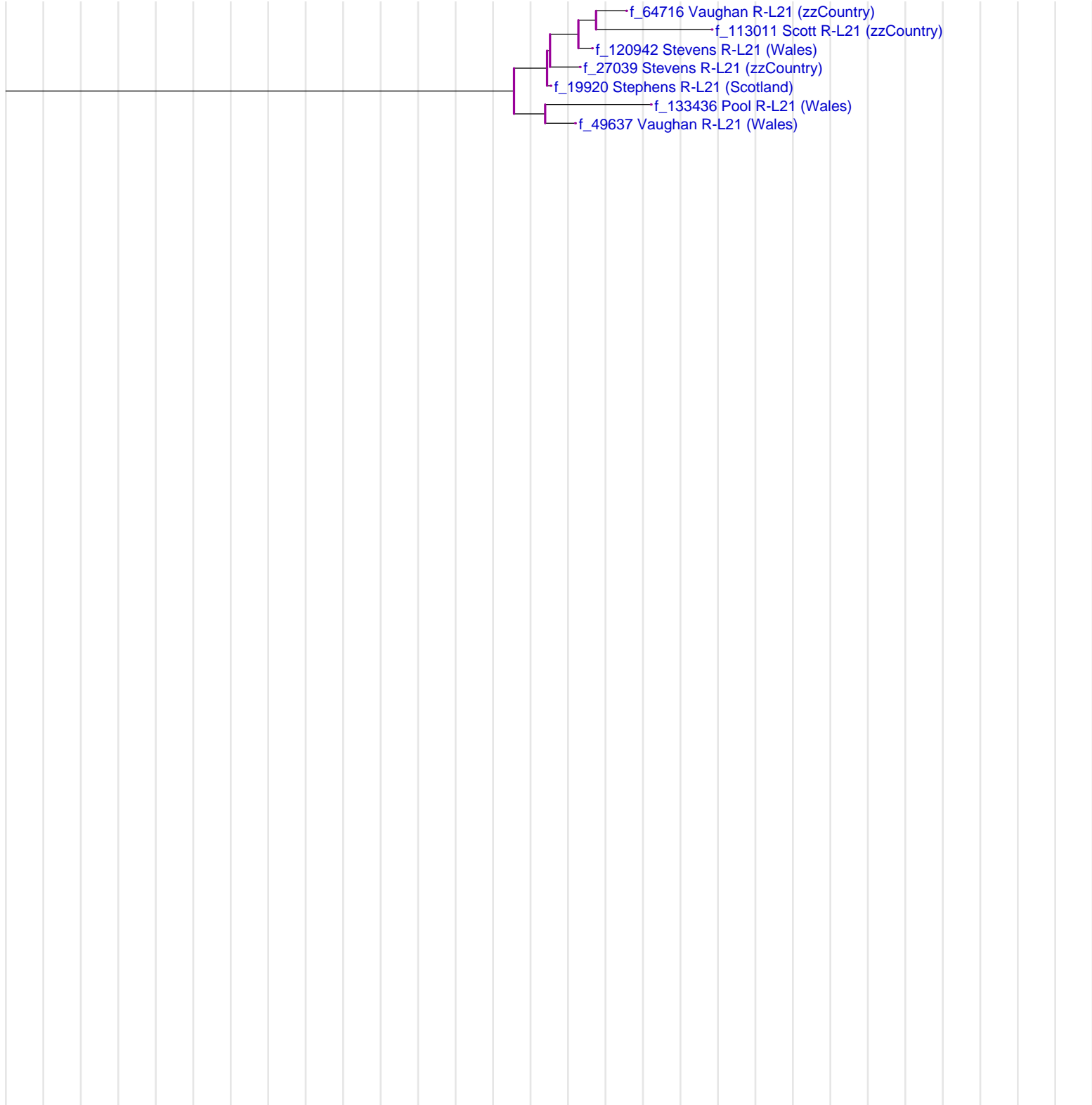
This is the marker distribution for Wales and SW England. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
7	469	18	3.84%	19.57±2.16	489.129±72.9029

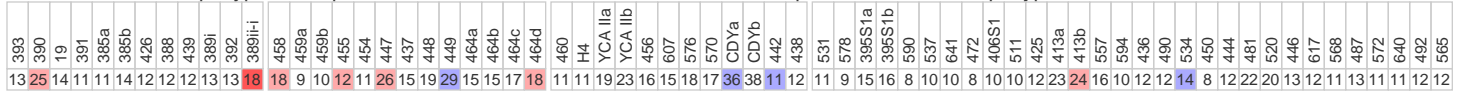
Note: This is Mike's Variety 1416-B-WSW



The vertical grey lines are separated 10 generations apart.

Hopkins-McCabe Cluster

This is the modal haplotype for Hopkins-McCabe Cluster. The coloration is with respect to the modal haplotype of the full tree.



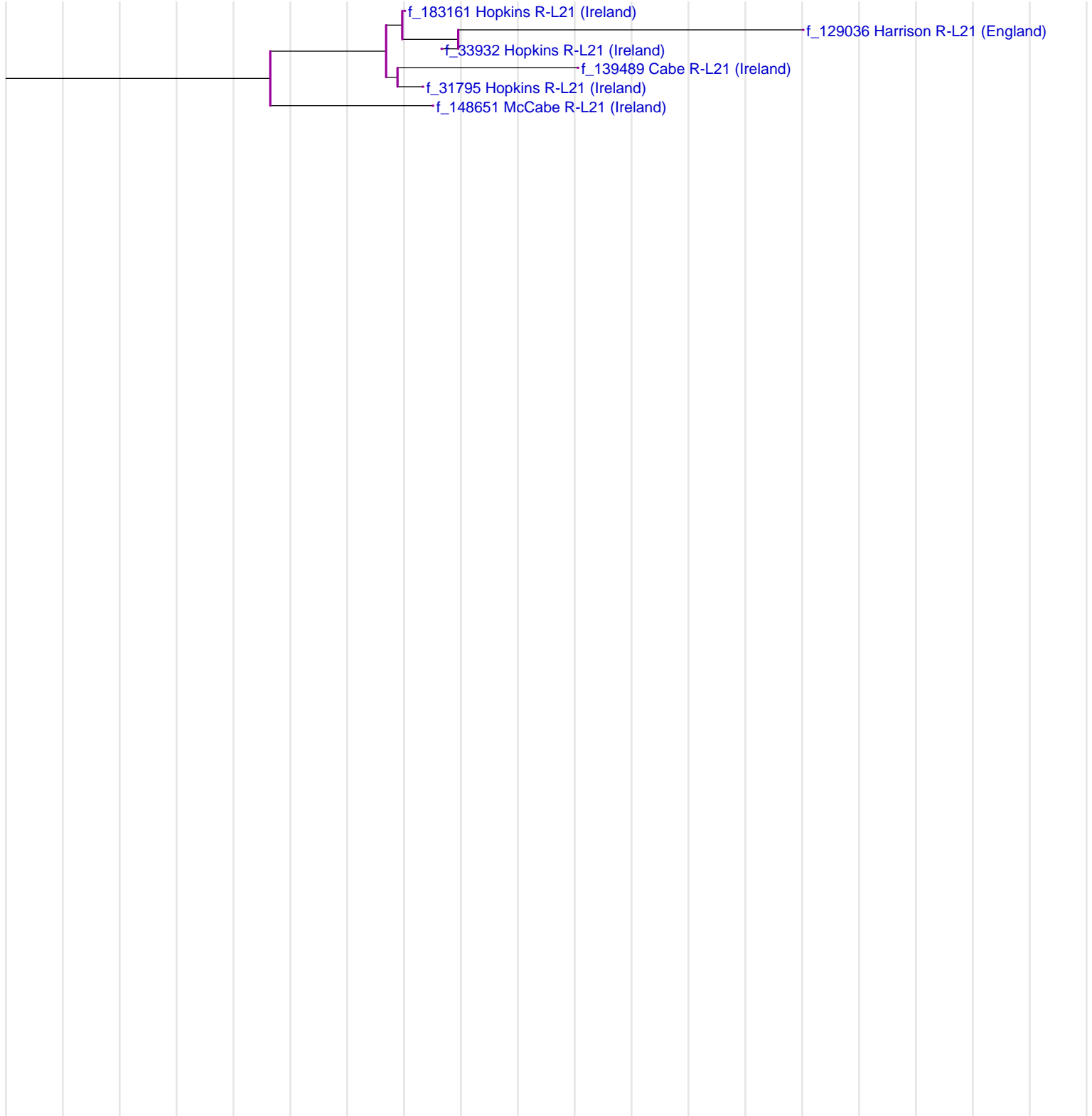
This is the marker distribution for Hopkins-McCabe Cluster. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	24	5.97%	30.77±3.46	769.224±115.738

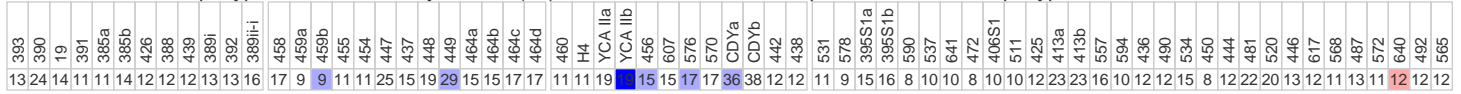
Note: This is Mike's Variety 1226.



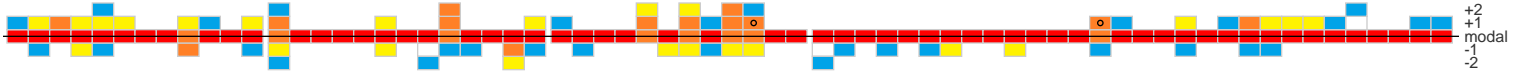
The vertical grey lines are separated 10 generations apart.

Mike's Variety 9919-A (#1)

This is the modal haplotype for Mike's Variety 9919-A (#1). The coloration is with respect to the modal haplotype of the full tree.



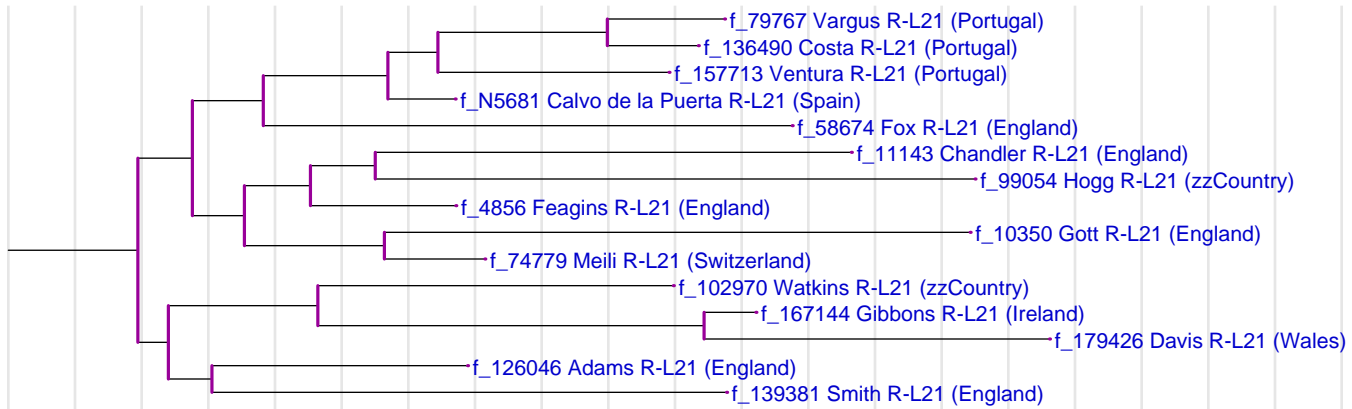
This is the marker distribution for Mike's Variety 9919-A (#1). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
15	1005	167	16.62%	90.59±9.57	2264.86±329.513

Note: This is a part of the 9919 Cluster.



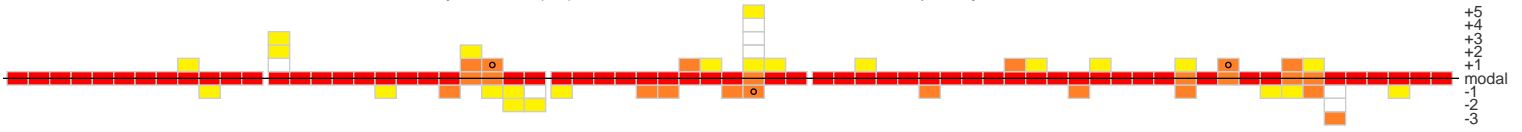
The vertical grey lines are separated 10 generations apart.

Mike's Variety 9919-A (#2)

This is the modal haplotype for Mike's Variety 9919-A (#2). The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565	
13	24	14	11	11	14	12	12	12	13	13	16	17	9	9	9	11	11	25	15	19	29	14	15	17	17	11	11	19	16	15	18	17	37	38	12	12	11	9	15	16	8	10	10	8	10	10	12	23	25	16	10	10	12	12	15	8	12	22	20	13	12	11	13	11	12	12	12

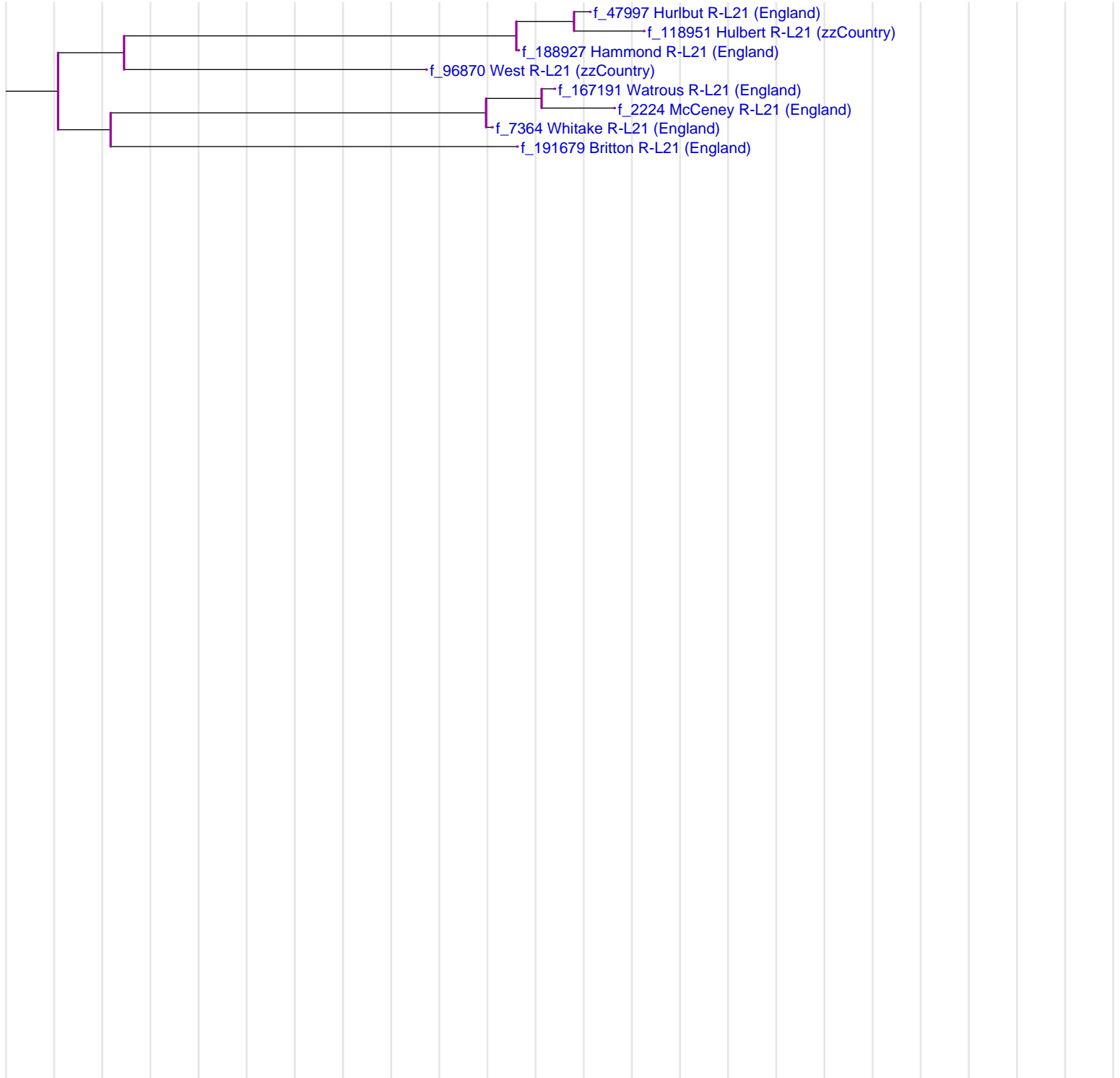
This is the marker distribution for Mike's Variety 9919-A (#2). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
8	536	85	15.86%	86.10±9.50	2152.6±320.537

Note: This is a part of the 9919 Cluster. West (96870) lacks the value $DYS640=12$ characteristic of this group.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 9919-A (#3)

This is the modal haplotype for Mike's Variety 9919-A (#3). The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	11	14	12	12	11	13	13	16	19	9	9	11	11	25	15	19	30	15	15	17	17	10	10	19	16	15	18	18	36	38	13	12	11	9	15	16	8	10	10	8	10	10	12	23	23	17	10	12	12	15	8	12	22	20	13	12	11	13	11	12	12	12

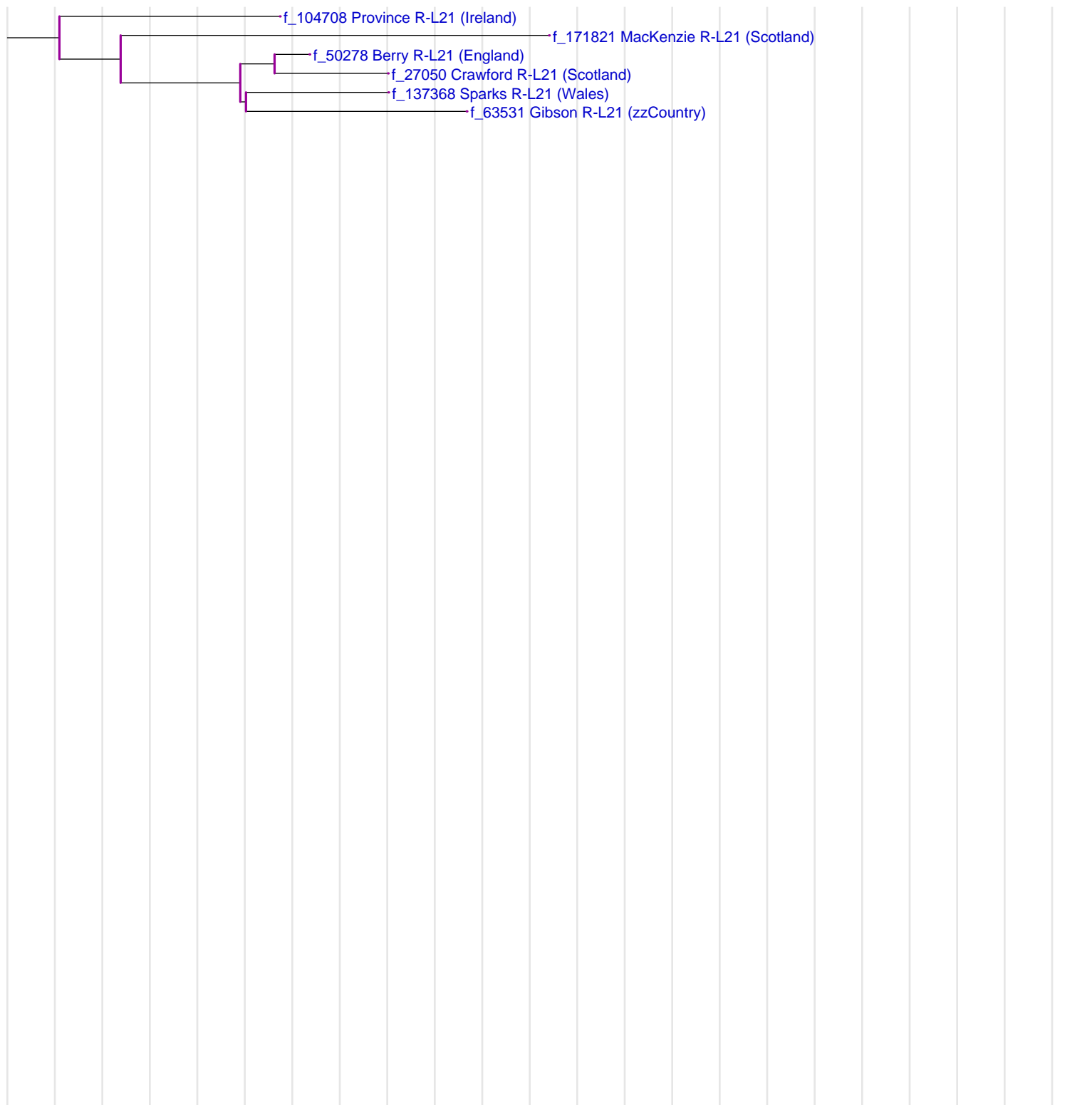
This is the marker distribution for Mike's Variety 9919-A (#3). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	42	10.45%	55.12±6.22	1377.88±207.847

Note: This is a part of the 9919 Cluster.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 9919-A-1

This is the modal haplotype for Mike's Variety 9919-A-1. The coloration is with respect to the modal haplotype of the full tree.

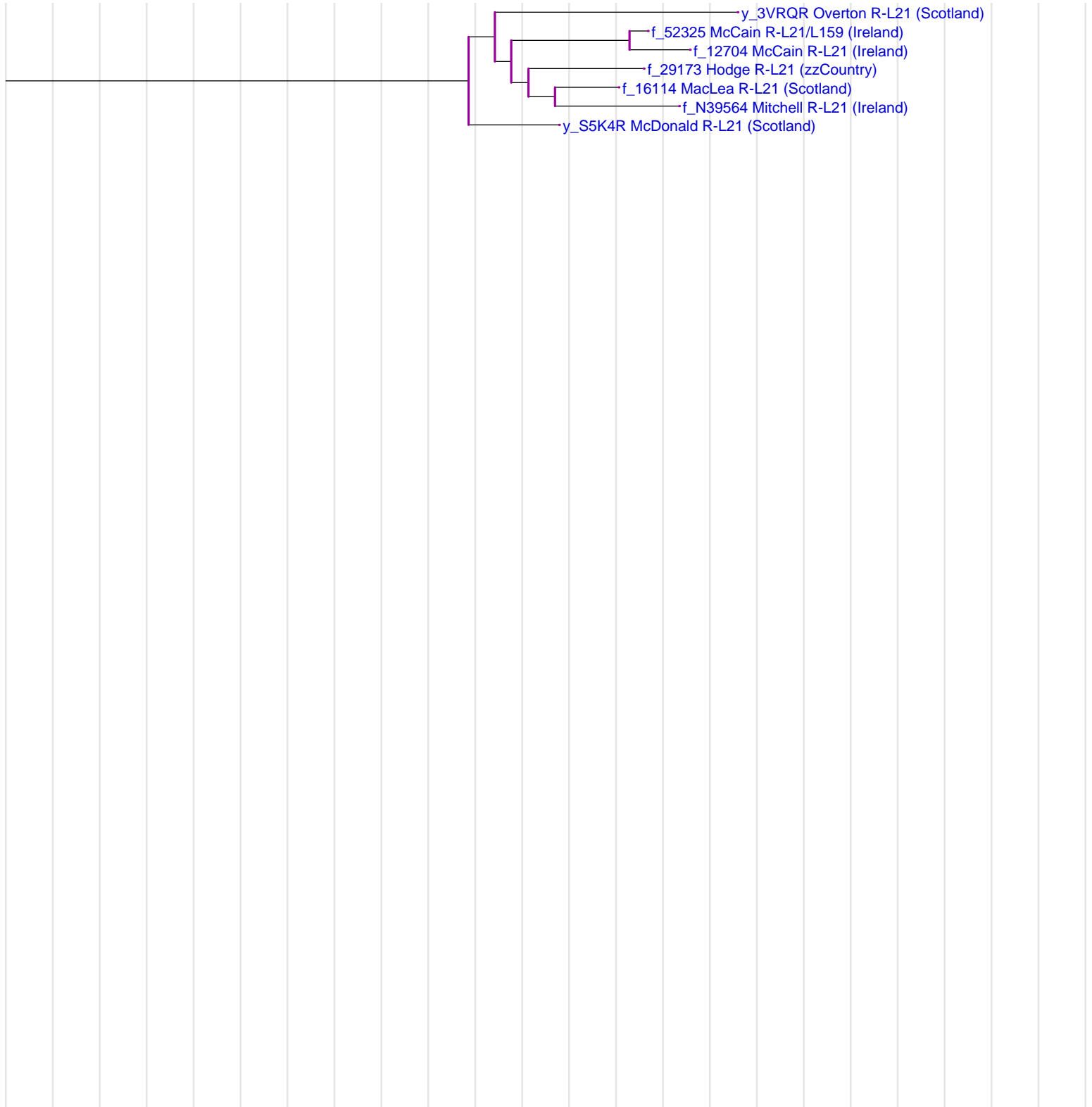
393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	11	14	12	12	12	13	13	16	16	9	9	11	11	25	15	19	31	15	16	16	17	11	11	19	17	15	20	17	38	40	12	12	11	9	16	17	8	10	10	8	10	10	12	23	23	16	10	12	12	14	8	13	24	22	13	12	11	13	11	12	12	12	

This is the marker distribution for Mike's Variety 9919-A-1. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
7	469	34	7.25%	37.61±4.17	940.25±140.376



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1416

This is the modal haplotype for Mike's Variety 1416. The coloration is with respect to the modal haplotype of the full tree.

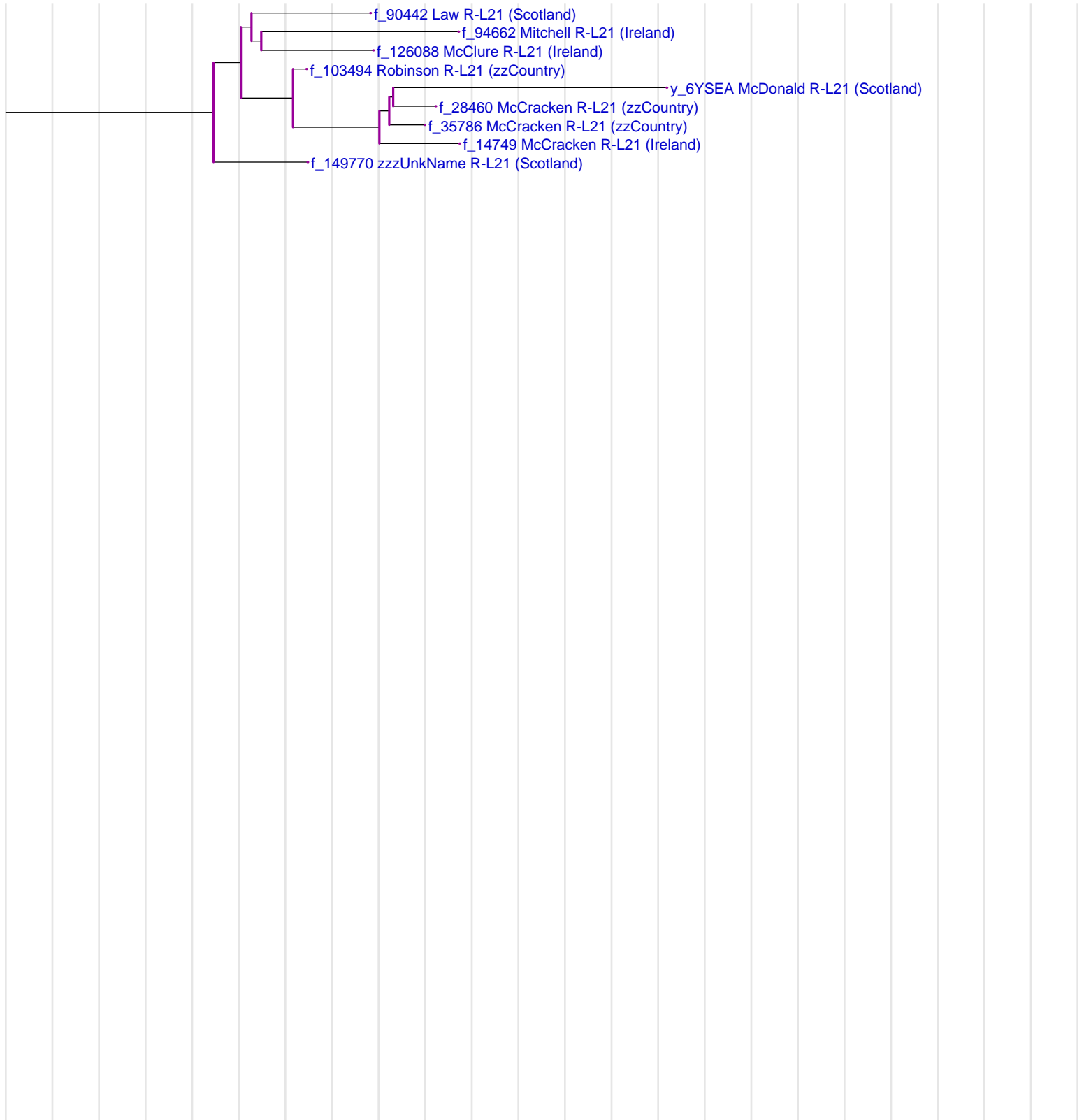
393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	444	444	481	520	446	617	568	487	572	640	492	565	
13	24	14	11	11	14	12	12	12	13	15	16	17	9	10	11	11	25	15	18	29	15	16	16	17	11	11	19	23	15	14	19	17	37	39	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	17	10	12	12	12	16	8	13	22	21	13	12	11	13	11	11	12	12

This is the marker distribution for Mike's Variety 1416. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
9	603	47	7.79%	40.55±4.40	1013.78±149.65



The vertical grey lines are separated 10 generations apart.

Mike's Variety V1410

This is the modal haplotype for Mike's Variety V1410. The coloration is with respect to the modal haplotype of the full tree.

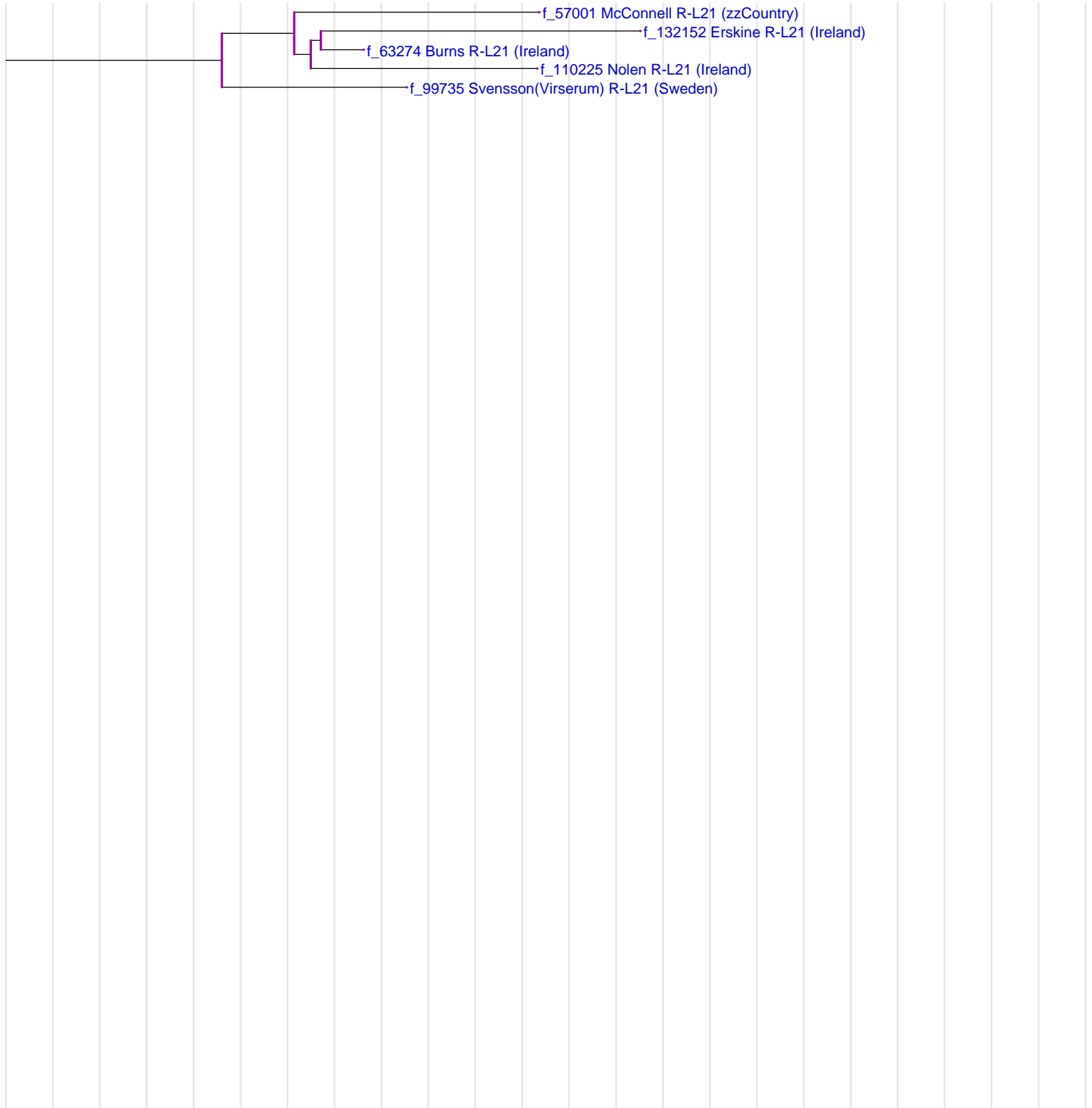
393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	444	444	481	520	446	617	568	487	572	640	492	565	
14	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	16	17	11	11	19	23	15	17	18	17	37	40	13	12	11	10	15	16	8	10	10	8	10	10	12	21	23	16	10	10	12	12	14	8	12	22	20	13	12	11	13	11	11	12	12

This is the marker distribution for Mike's Variety V1410. The color indicates the relative frequency of the alleles.



Age Analysis

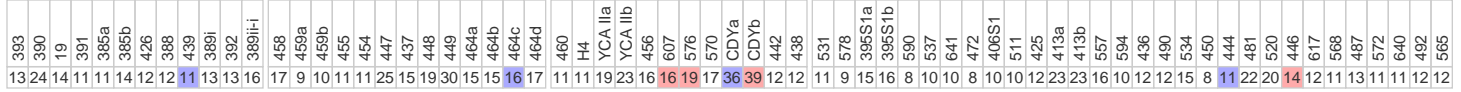
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	31	9.25%	48.51±5.59	1212.79±184.996



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1616

This is the modal haplotype for Mike's Variety 1616. The coloration is with respect to the modal haplotype of the full tree.

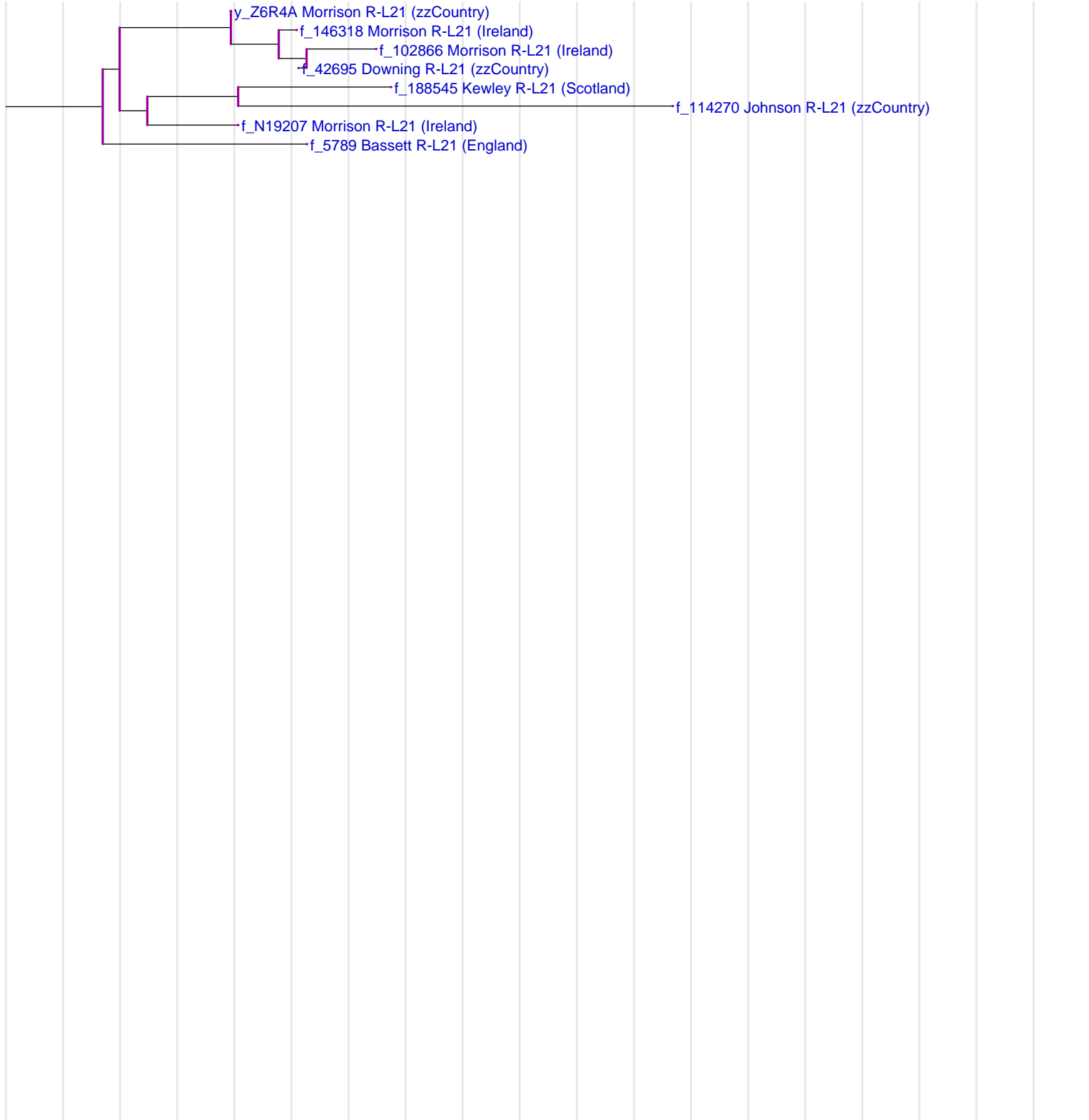


This is the marker distribution for Mike's Variety 1616. The color indicates the relative frequency of the alleles.



Age Analysis

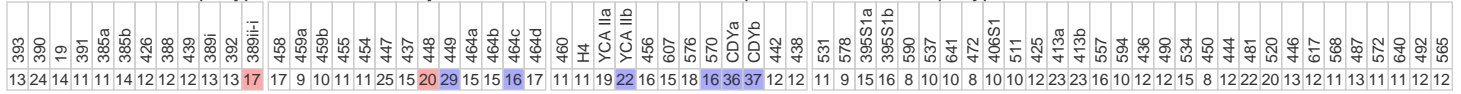
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
8	536	40	7.46%	38.76±4.25	968.975±143.747



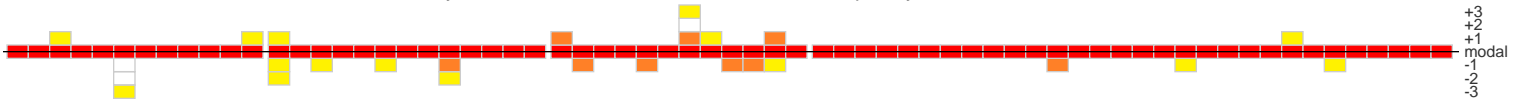
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1722

This is the modal haplotype for Mike's Variety 1722. The coloration is with respect to the modal haplotype of the full tree.

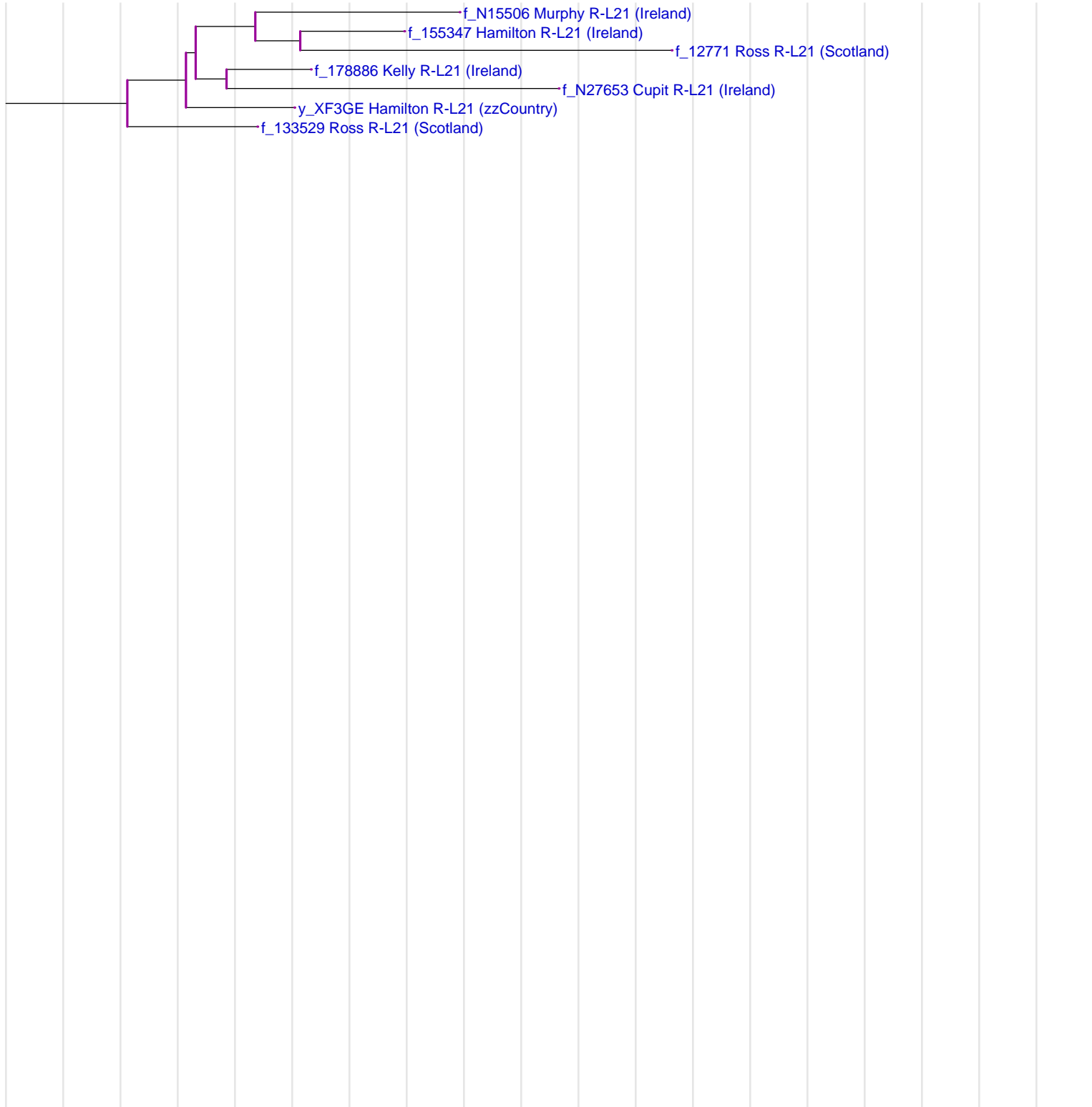


This is the marker distribution for Mike's Variety 1722. The color indicates the relative frequency of the alleles.



Age Analysis

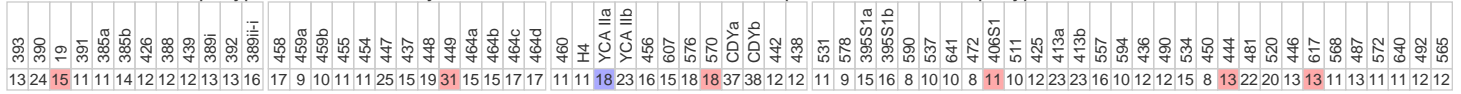
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
7	469	42	8.96%	46.87±5.20	1171.84±175.1



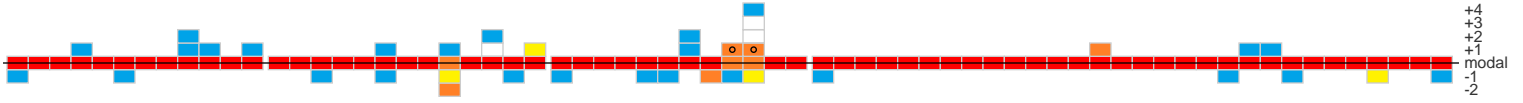
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1113-B-2

This is the modal haplotype for Mike's Variety 1113-B-2. The coloration is with respect to the modal haplotype of the full tree.

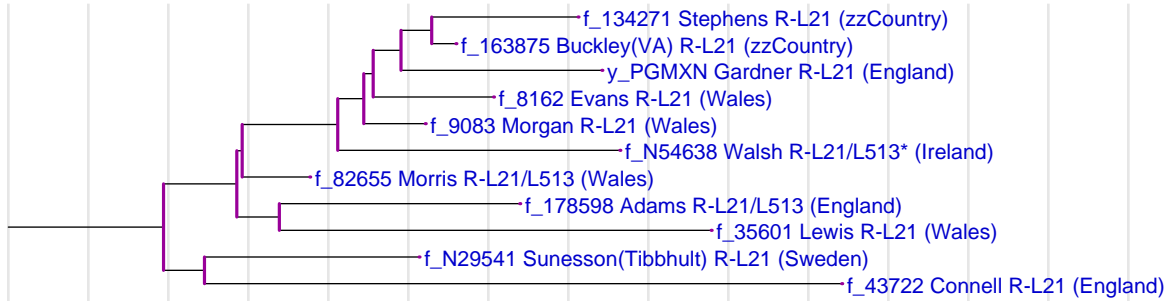


This is the marker distribution for Mike's Variety 1113-B-2. The color indicates the relative frequency of the alleles.



Age Analysis

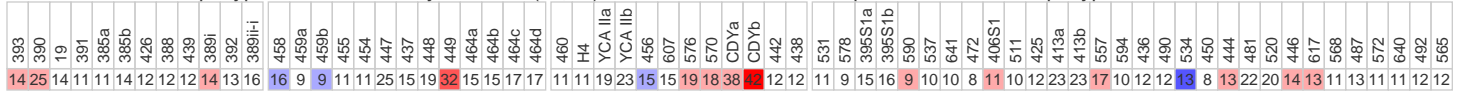
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
11	737	60	8.14%	42.43±4.54	1060.8±155.433



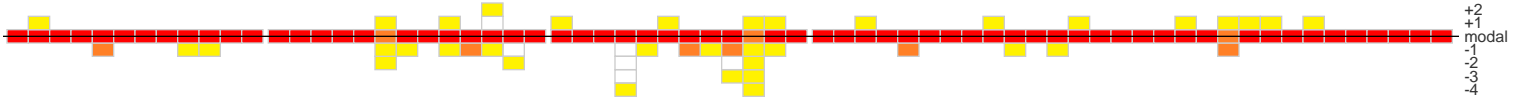
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1113-C-2(-R,-M)

This is the modal haplotype for Mike's Variety 1113-C-2(-R,-M). The coloration is with respect to the modal haplotype of the full tree.



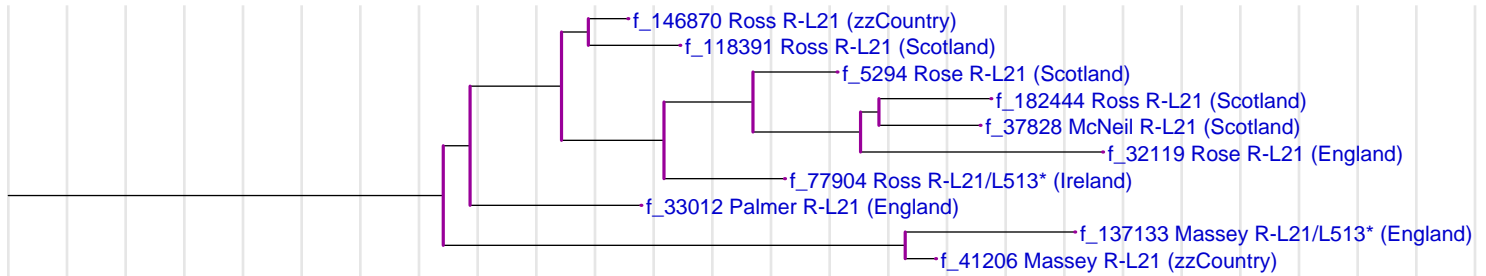
This is the marker distribution for Mike's Variety 1113-C-2(-R,-M). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
10	670	80	11.94%	63.49±6.86	1587.18±233.678

Note: The Masseys are 1113-C-2-M, while the Roses (or Rosses) are 1113-C-2-R.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1113-E

This is the modal haplotype for Mike's Variety 1113-E. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565		
13	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	18	29	15	15	17	18	11	11	19	23	16	15	15	18	17	36	37	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	10	12	12	15	8	12	22	20	13	13	11	13	11	11	12	12

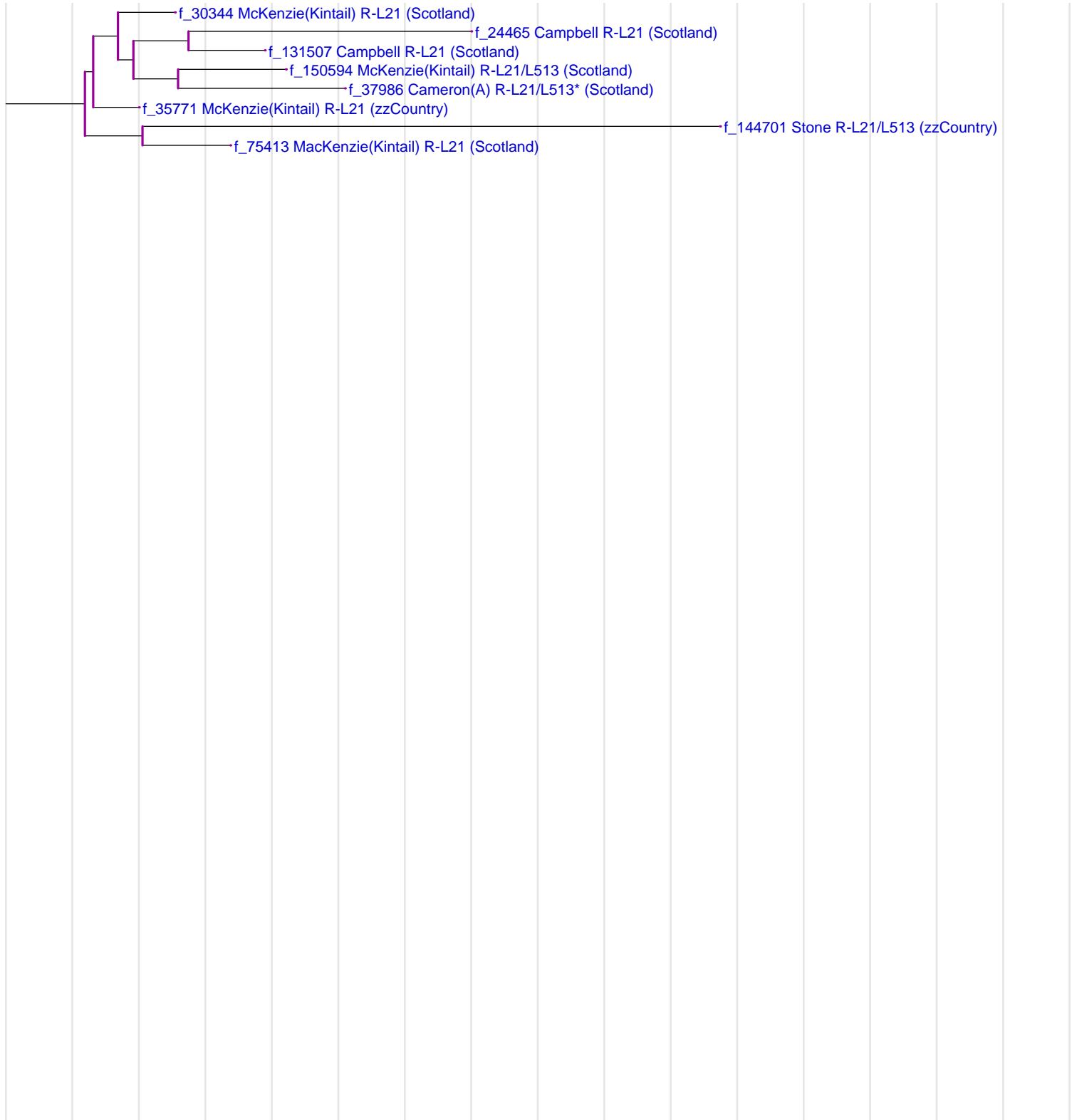
This is the marker distribution for Mike's Variety 1113-E. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
8	536	33	6.16%	31.76±3.48	794.025±117.726

Note: Stone is not 1113-E although he is 1113.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1113-D(-1)

This is the modal haplotype for Mike's Variety 1113-D(-1). The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565			
13	24	14	11	14	12	12	12	13	13	13	17	17	9	9	9	11	11	25	15	19	29	15	15	17	17	10	11	19	23	15	15	19	17	37	40	12	12	11	9	15	16	8	9	10	8	11	10	12	22	23	17	10	12	12	15	15	8	13	22	20	12	13	11	13	11	11	12	12	12

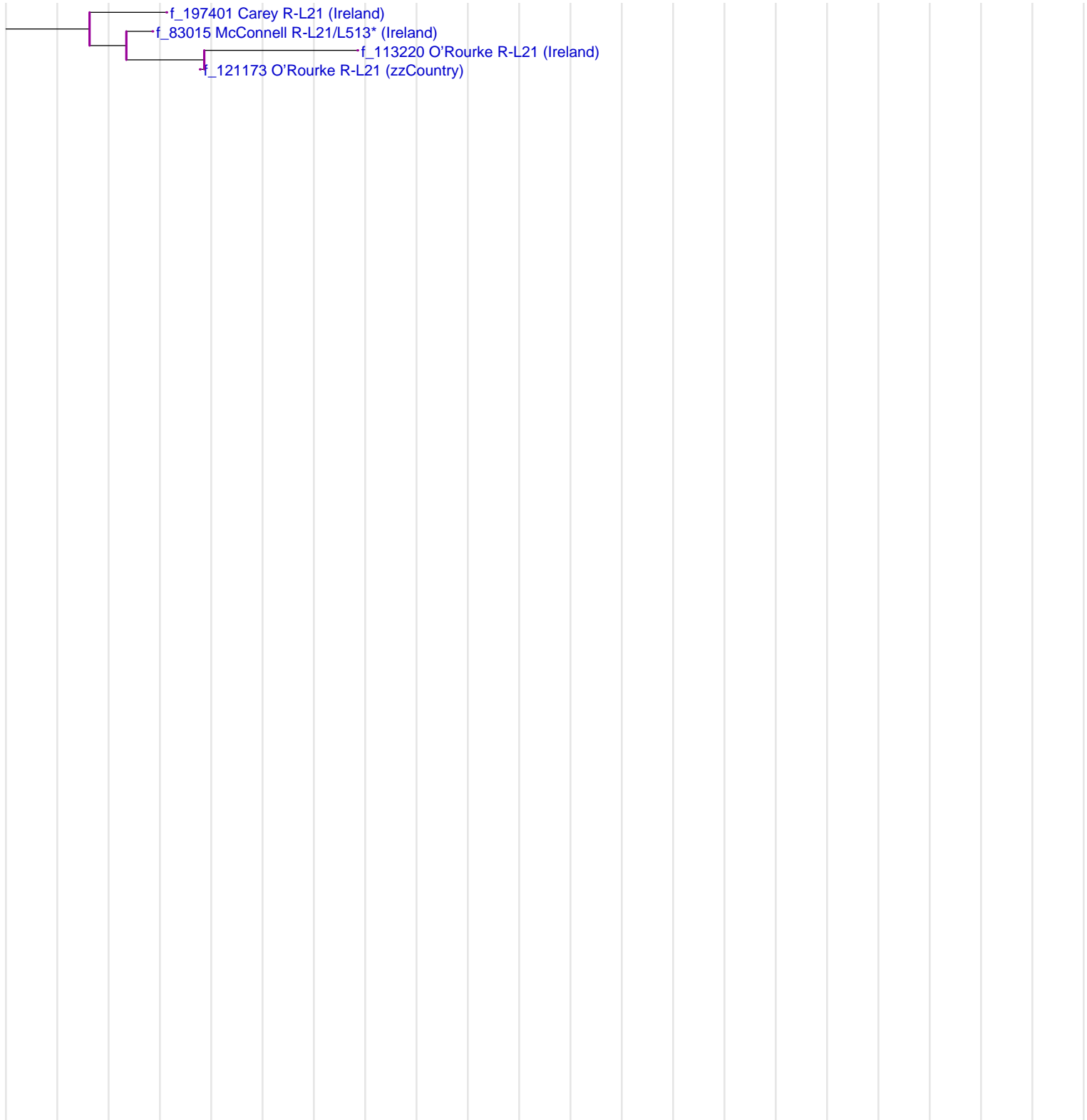
This is the marker distribution for Mike's Variety 1113-D(-1). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
4	268	12	4.48%	22.90±2.70	572.517±88.5095

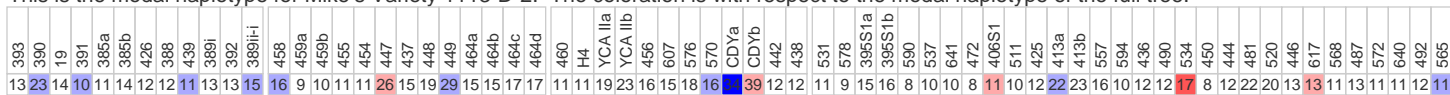
Note: McConnell and MacPherson are what Mike classifies as Variety 1113-D-1.



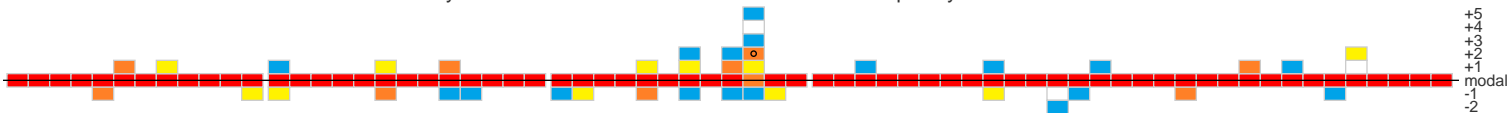
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1113-D-2

This is the modal haplotype for Mike's Variety 1113-D-2. The coloration is with respect to the modal haplotype of the full tree.



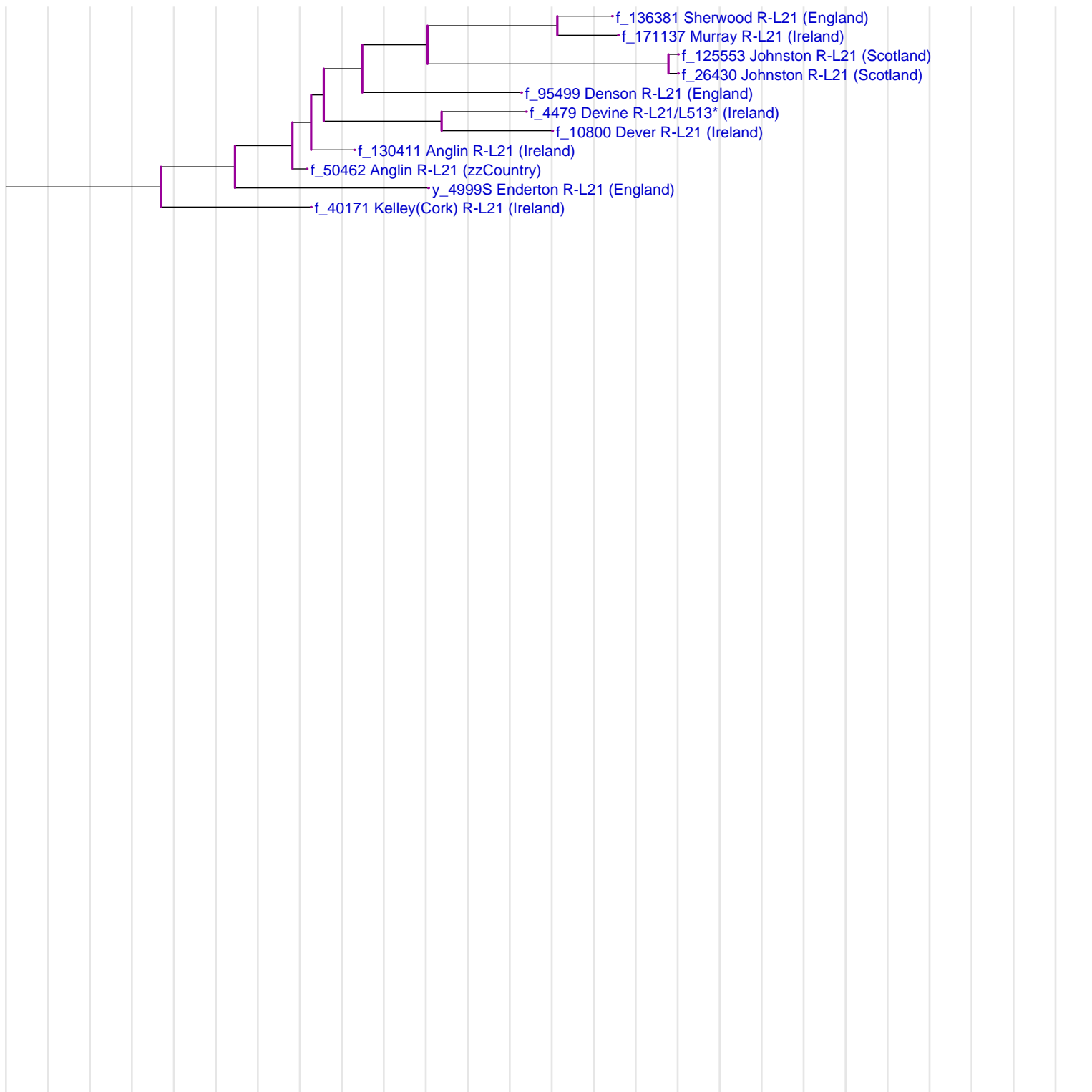
This is the marker distribution for Mike's Variety 1113-D-2. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
11	737	82	11.13%	58.90±6.32	1472.61±215.988

Note: Enderton (y4999S) and Kelley (f40172) have DYS617=13, but not DYS406S1=11.



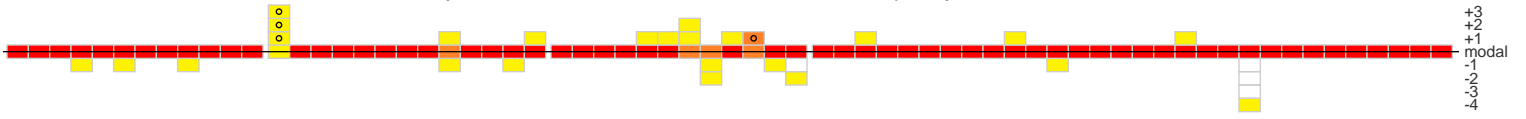
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1113-H/J

This is the modal haplotype for Mike's Variety 1113-H/J. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	441	481	520	446	617	568	487	572	640	492	565
13	25	14	11	11	14	12	12	13	14	13	16	17	9	10	11	11	25	15	19	31	15	15	17	17	11	11	19	23	15	15	16	18	38	38	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	10	12	12	15	8	12	22	20	14	13	11	13	11	11	12	12

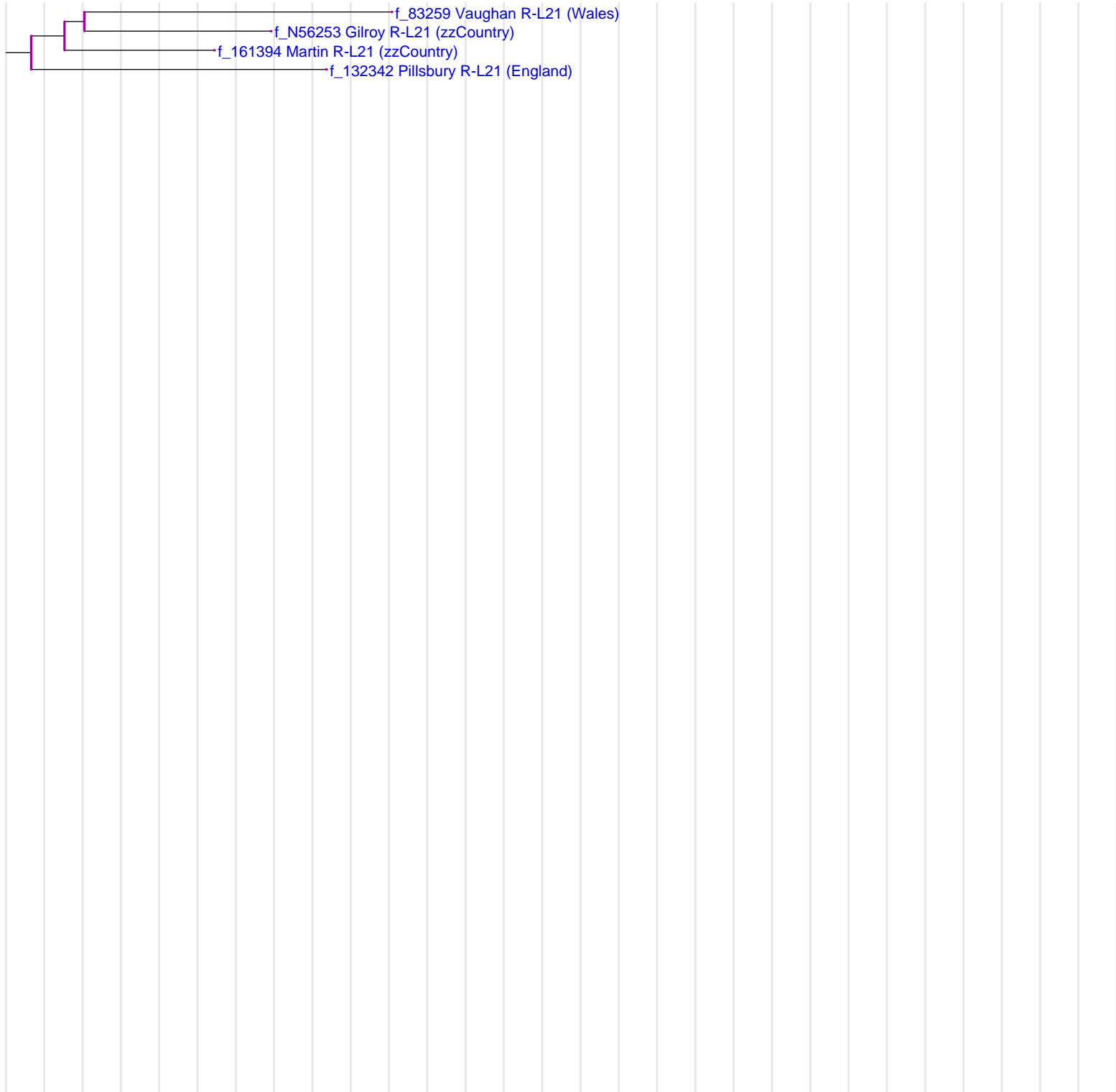
This is the marker distribution for Mike's Variety 1113-H/J. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
4	268	35	13.06%	69.85±8.33	1746.33±271.86

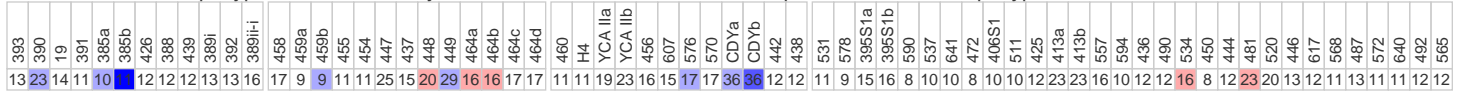
Note: Members of this cluster belong to either Mike's Variety 1113-H or 1113-J.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 2399-Am

This is the modal haplotype for Mike's Variety 2399-Am. The coloration is with respect to the modal haplotype of the full tree.



This is the marker distribution for Mike's Variety 2399-Am. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	49	12.19%	64.90±7.34	1622.39±244.975



The vertical grey lines are separated 10 generations apart.

Mike's Variety 590917

This is the modal haplotype for Mike's Variety 590917. The coloration is with respect to the modal haplotype of the full tree.

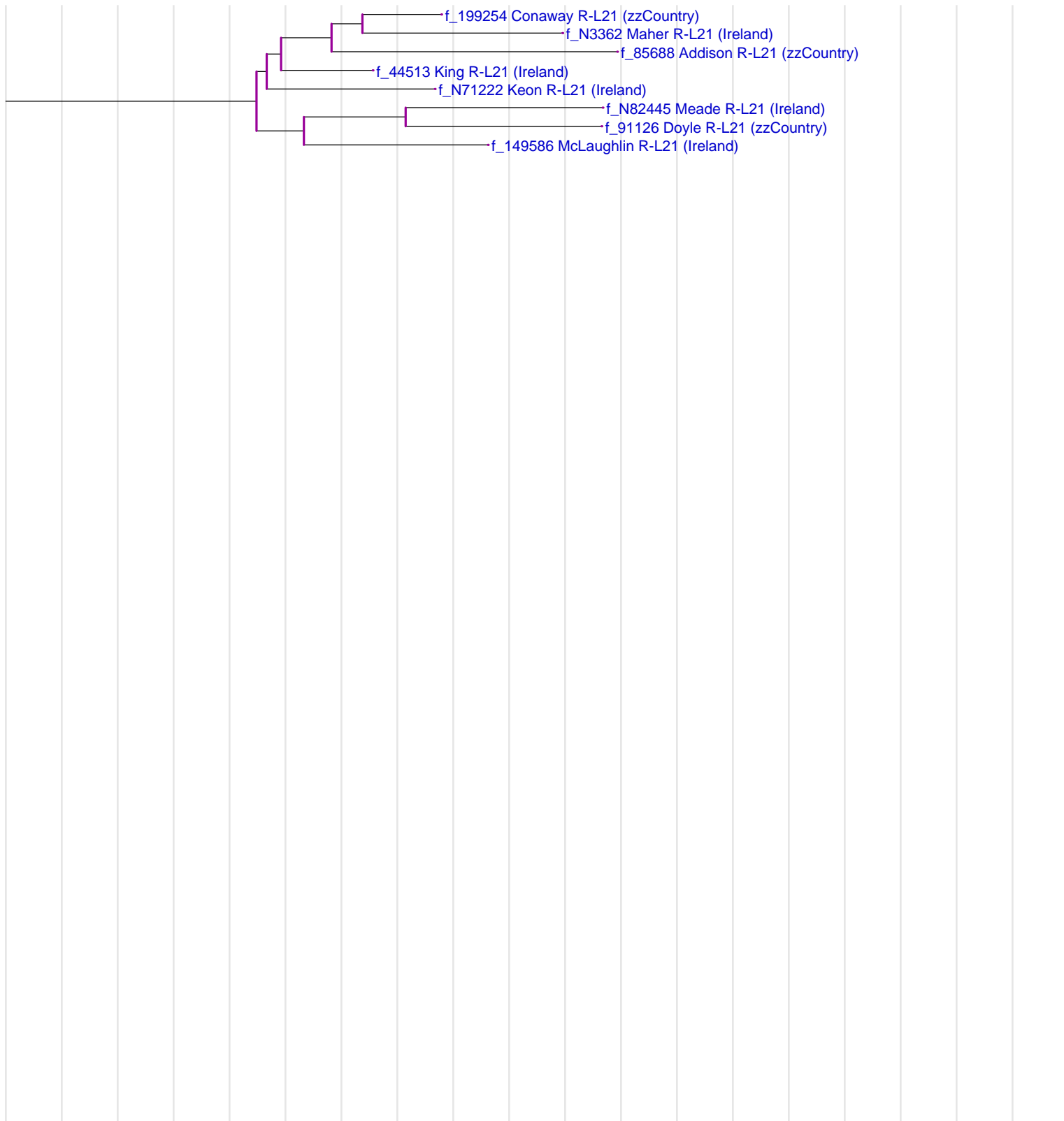
393	390	19	391	385a	385b	426	388	439	389i	392	389f-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	14	12	12	12	12	13	13	17	17	9	10	10	11	25	15	19	29	15	15	16	17	10	10	19	23	16	14	17	17	36	36	12	12	11	9	15	16	9	10	10	8	10	10	12	23	24	16	10	10	12	12	8	12	22	20	13	12	11	13	11	11	12	12

This is the marker distribution for Mike's Variety 590917. The color indicates the relative frequency of the alleles.



Age Analysis

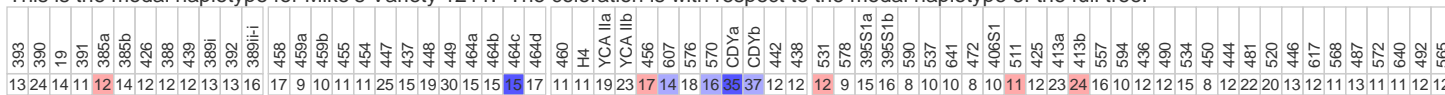
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
8	536	46	8.58%	44.83±4.92	1120.83±166.356



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1211

This is the modal haplotype for Mike's Variety 1211. The coloration is with respect to the modal haplotype of the full tree.

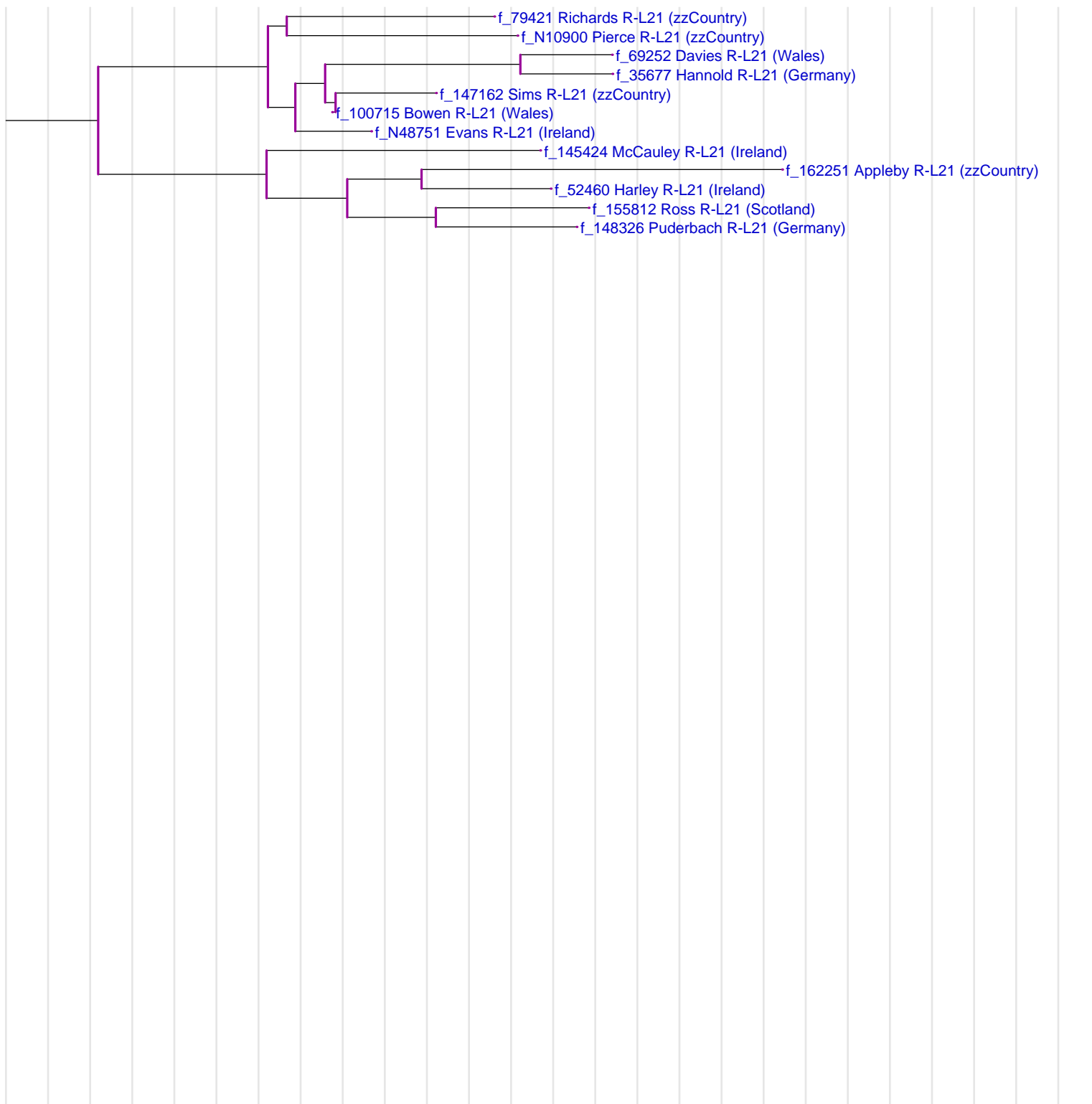


This is the marker distribution for Mike's Variety 1211. The color indicates the relative frequency of the alleles.



Age Analysis

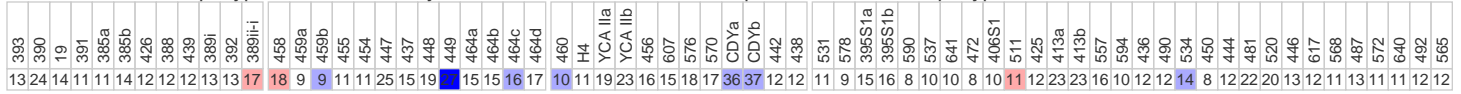
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
12	804	148	18.41%	101.34±10.86	2533.52±371.343



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1199

This is the modal haplotype for Mike's Variety 1199. The coloration is with respect to the modal haplotype of the full tree.

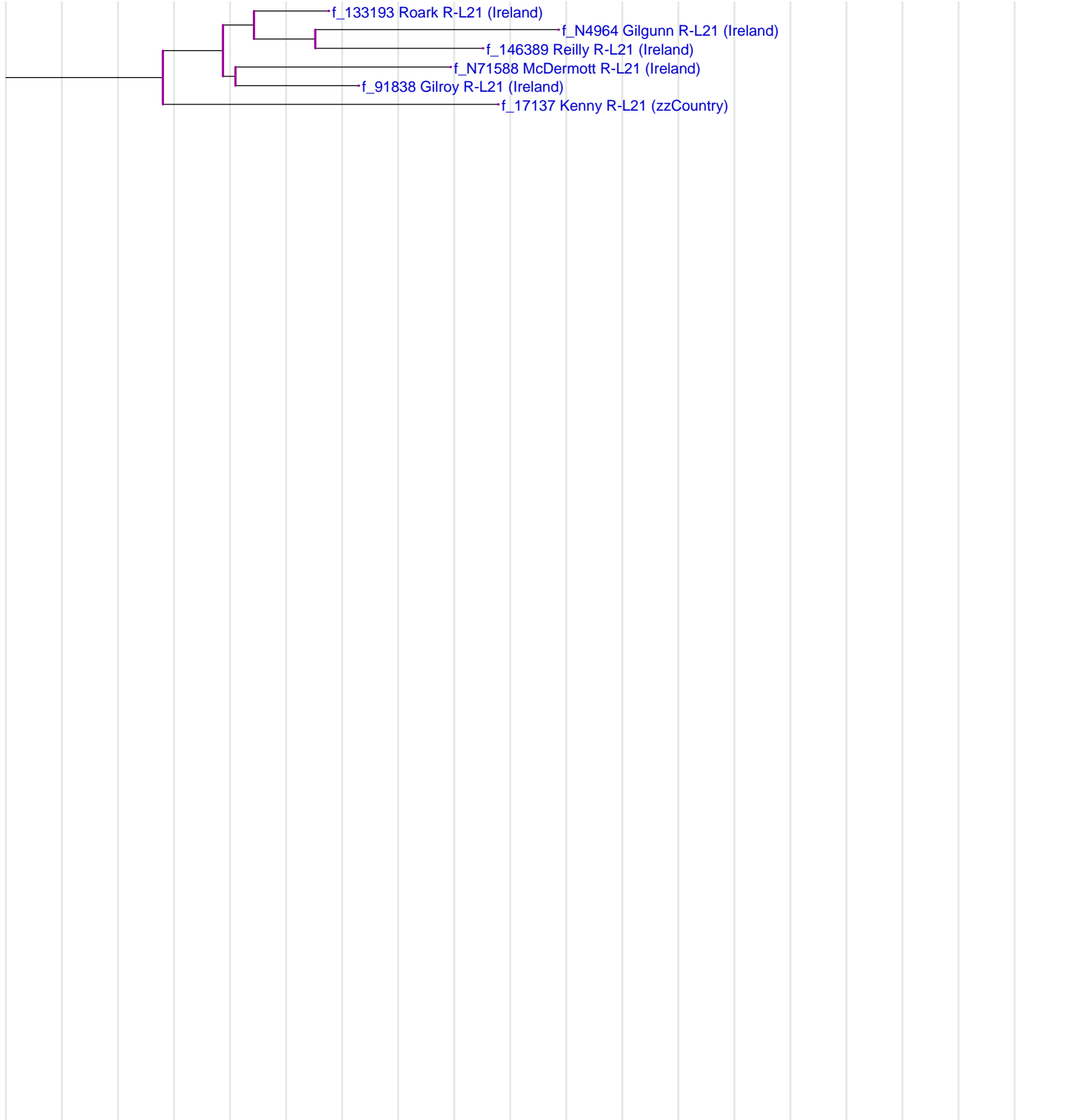


This is the marker distribution for Mike's Variety 1199. The color indicates the relative frequency of the alleles.



Age Analysis

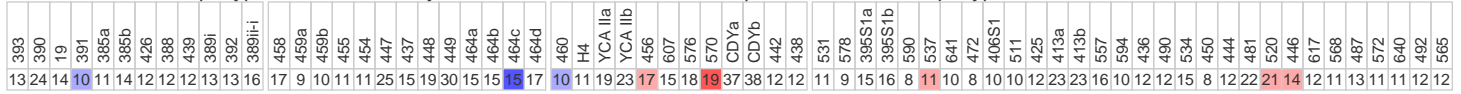
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	37	9.20%	48.24±5.44	1205.96±181.783



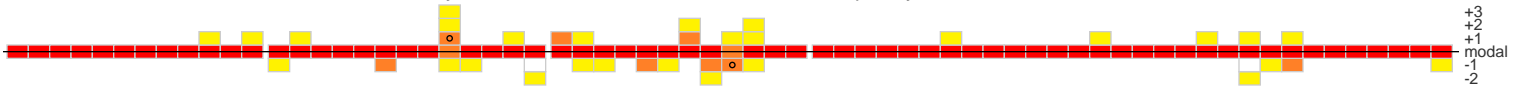
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1121

This is the modal haplotype for Mike's Variety 1121. The coloration is with respect to the modal haplotype of the full tree.

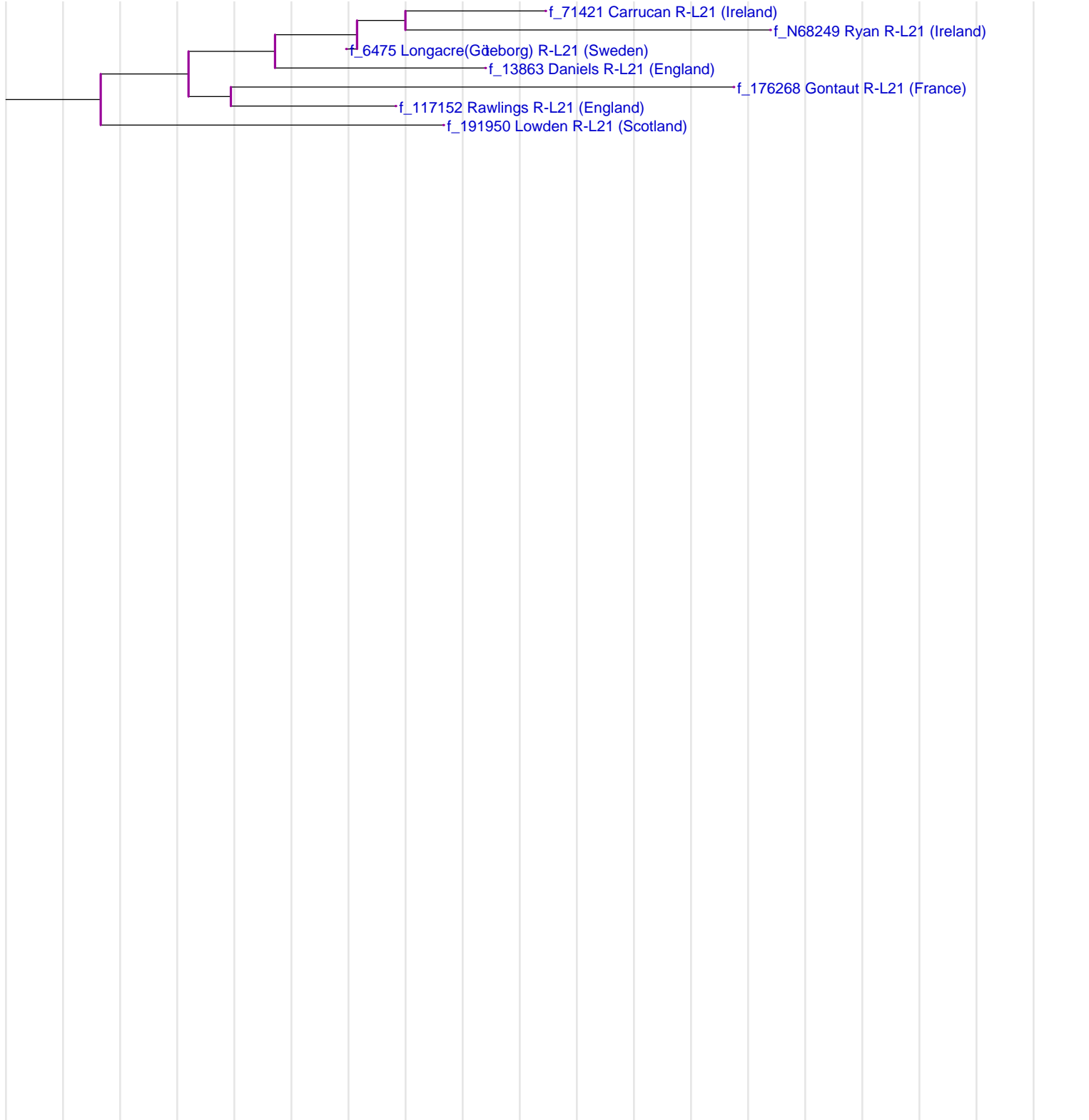


This is the marker distribution for Mike's Variety 1121. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
7	469	54	11.51%	61.08±6.80	1527.05±228.47



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1416-A

This is the modal haplotype for Mike's Variety 1416-A. The coloration is with respect to the modal haplotype of the full tree.

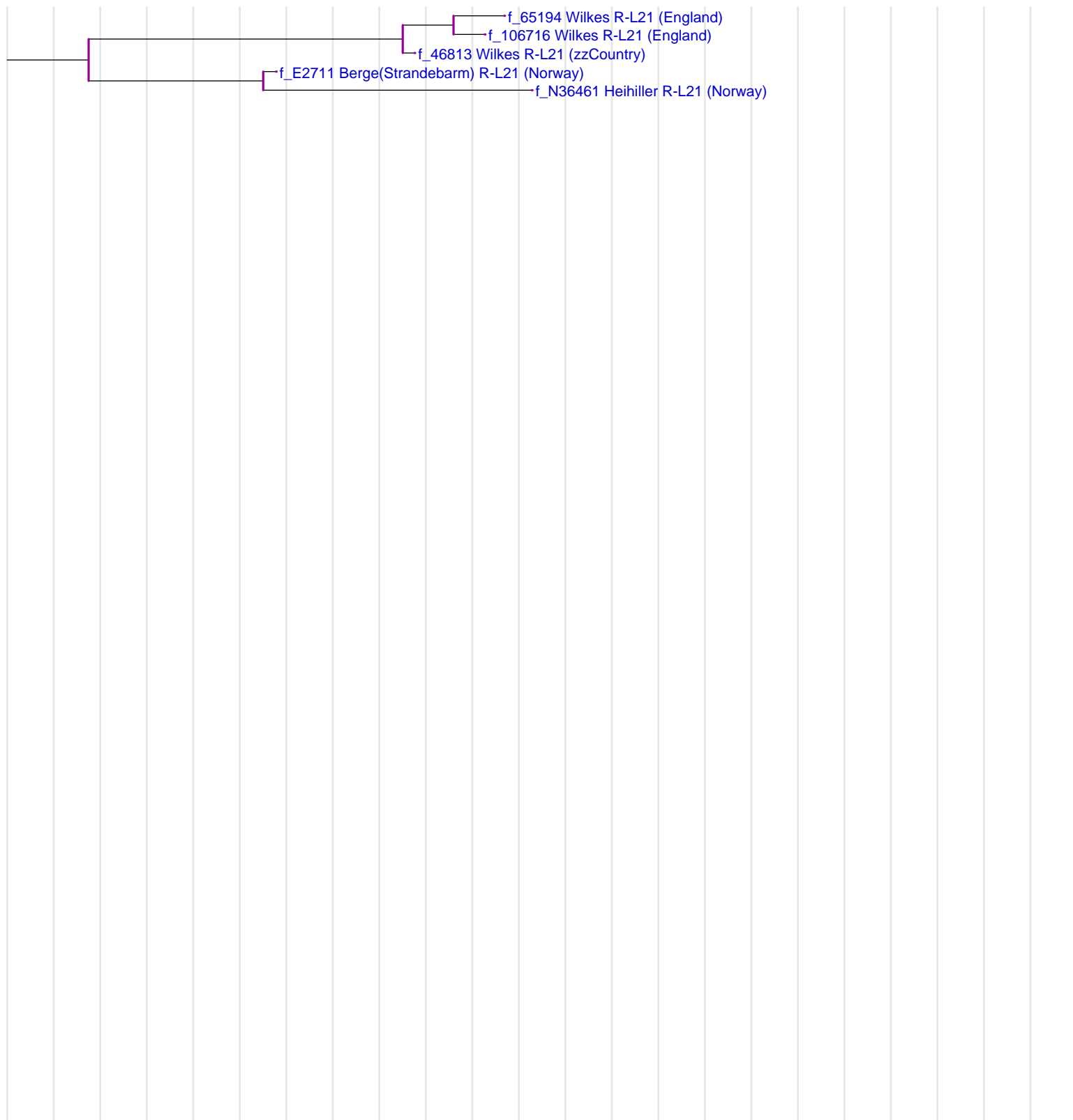
393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565	
13	24	14	10	11	14	12	12	13	13	14	16	17	9	10	11	11	25	15	19	29	15	15	17	17	11	12	19	23	16	16	19	16	37	37	12	12	11	10	15	16	8	10	10	8	10	10	12	21	23	16	10	10	12	12	16	8	12	22	18	13	12	11	13	11	11	12	12

This is the marker distribution for Mike's Variety 1416-A. The color indicates the relative frequency of the alleles.



Age Analysis

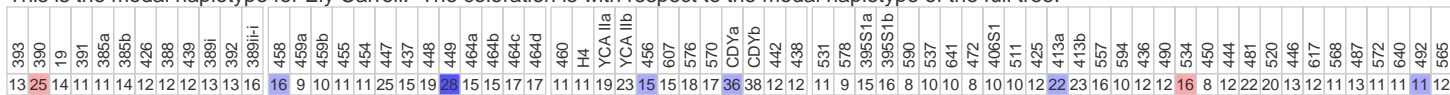
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	35	10.45%	55.12±6.36	1377.88±210.348



The vertical grey lines are separated 10 generations apart.

Ely Carroll

This is the modal haplotype for Ely Carroll. The coloration is with respect to the modal haplotype of the full tree.



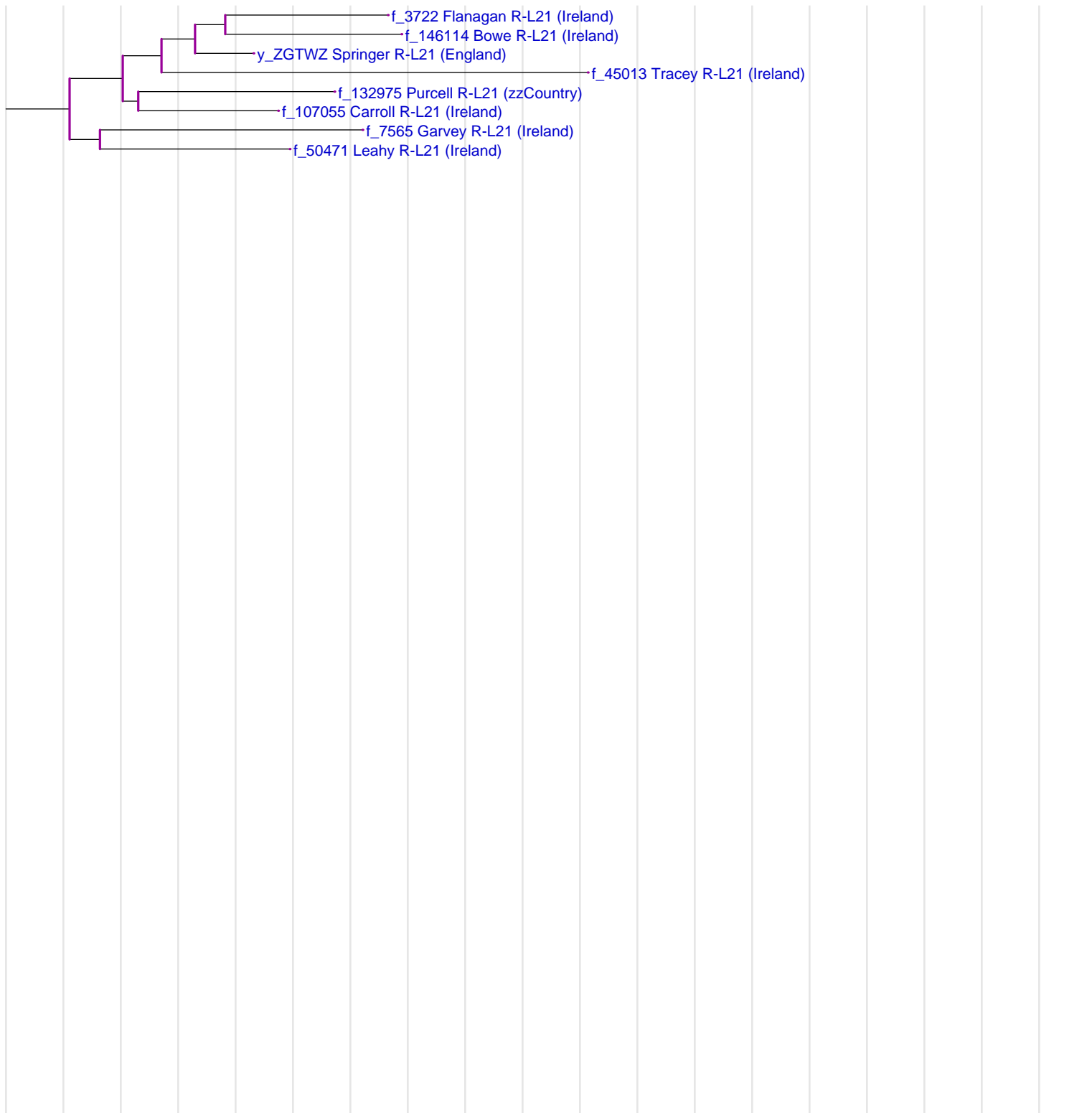
This is the marker distribution for Ely Carroll. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
8	536	47	8.77%	45.85±5.03	1146.31±170.152

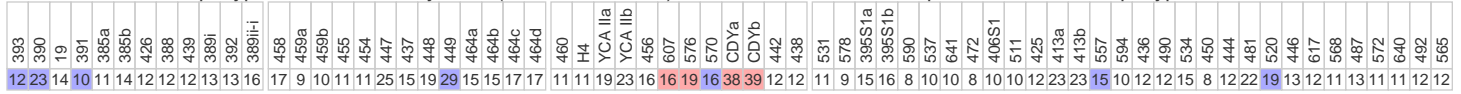
Note: This group of men constitute only the core group of Mike's 49211 men.



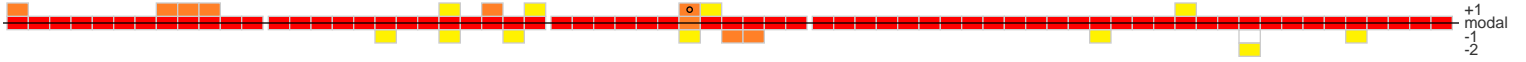
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1223 (extended version)

This is the modal haplotype for Mike's Variety 1223 (extended version). The coloration is with respect to the modal haplotype of the full tree.



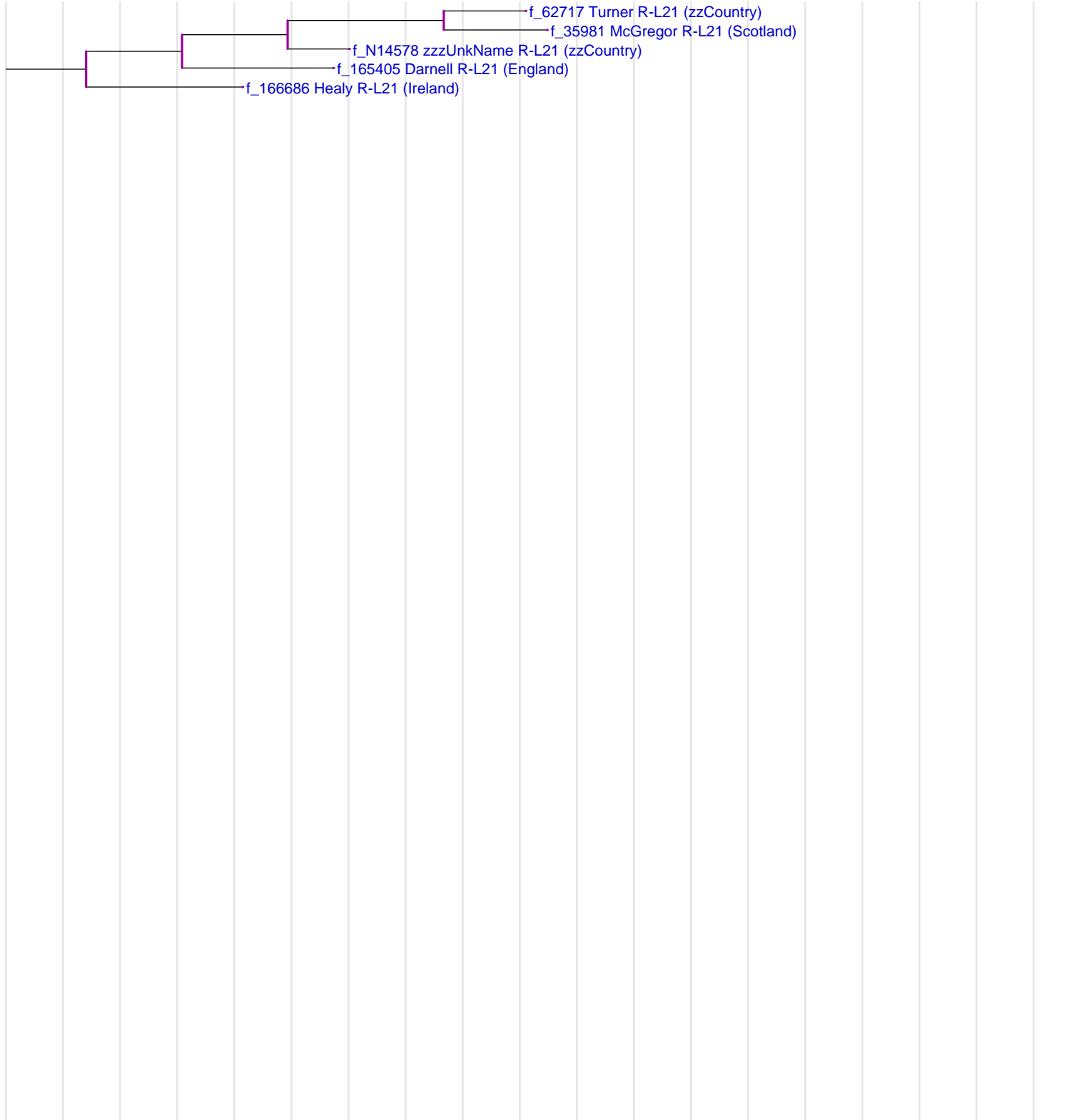
This is the marker distribution for Mike's Variety 1223 (extended version). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	28	8.36%	43.61±5.02	1090.31±166.214

Note: Mike's variety does not include Healy or Darnell.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1116 (extended version)

This is the modal haplotype for Mike's Variety 1116 (extended version). The coloration is with respect to the modal haplotype of the full tree.

393	390	19	301	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	444	444	481	520	446	617	568	487	572	640	492	565
13	23	14	11	11	11	12	12	11	13	13	16	16	9	10	11	11	24	15	19	28	15	16	17	18	11	11	19	23	15	15	17	17	38	38	12	12	11	9	15	16	8	10	10	8	10	10	12	22	23	16	10	12	12	14	8	12	22	20	12	12	11	13	11	11	12	12

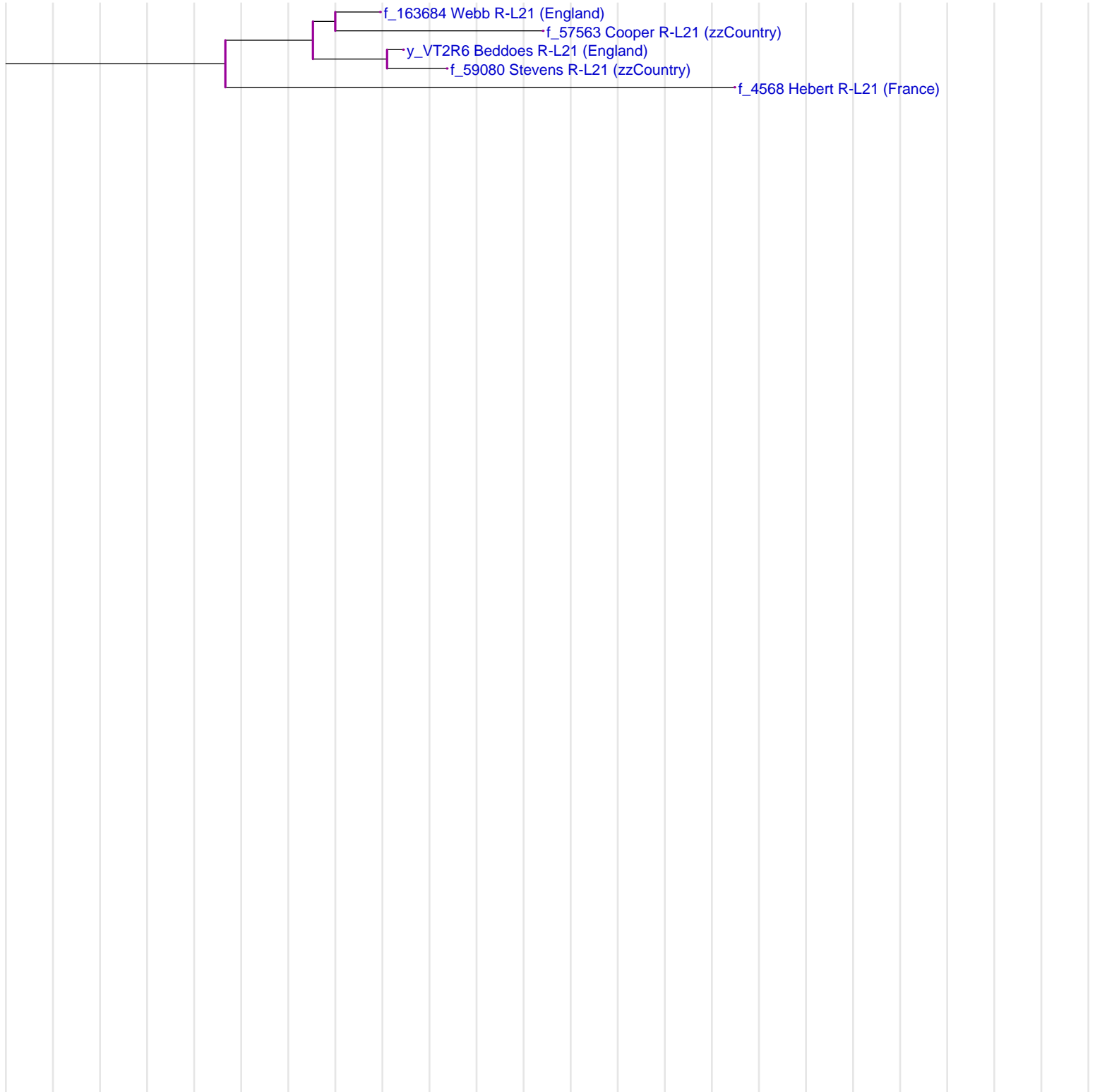
This is the marker distribution for Mike's Variety 1116 (extended version). The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	30	8.96%	46.87±5.40	1171.84±178.714

Note: Mike's variety does not include Hebert.



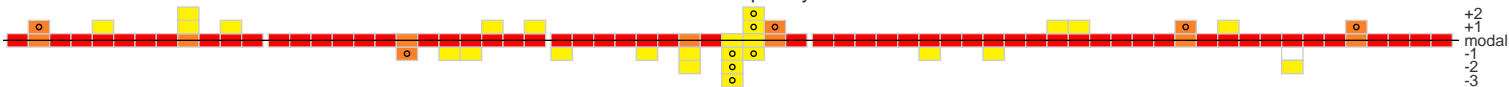
The vertical grey lines are separated 10 generations apart.

R-L554?

This is the modal haplotype for R-L554?. The coloration is with respect to the modal haplotype of the full tree.

393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	14	12	12	12	11	14	13	16	17	9	10	11	11	24	15	19	30	15	15	16	17	11	11	19	23	16	15	15	17	37	38	12	12	11	9	15	16	8	12	10	8	10	10	12	23	23	16	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12

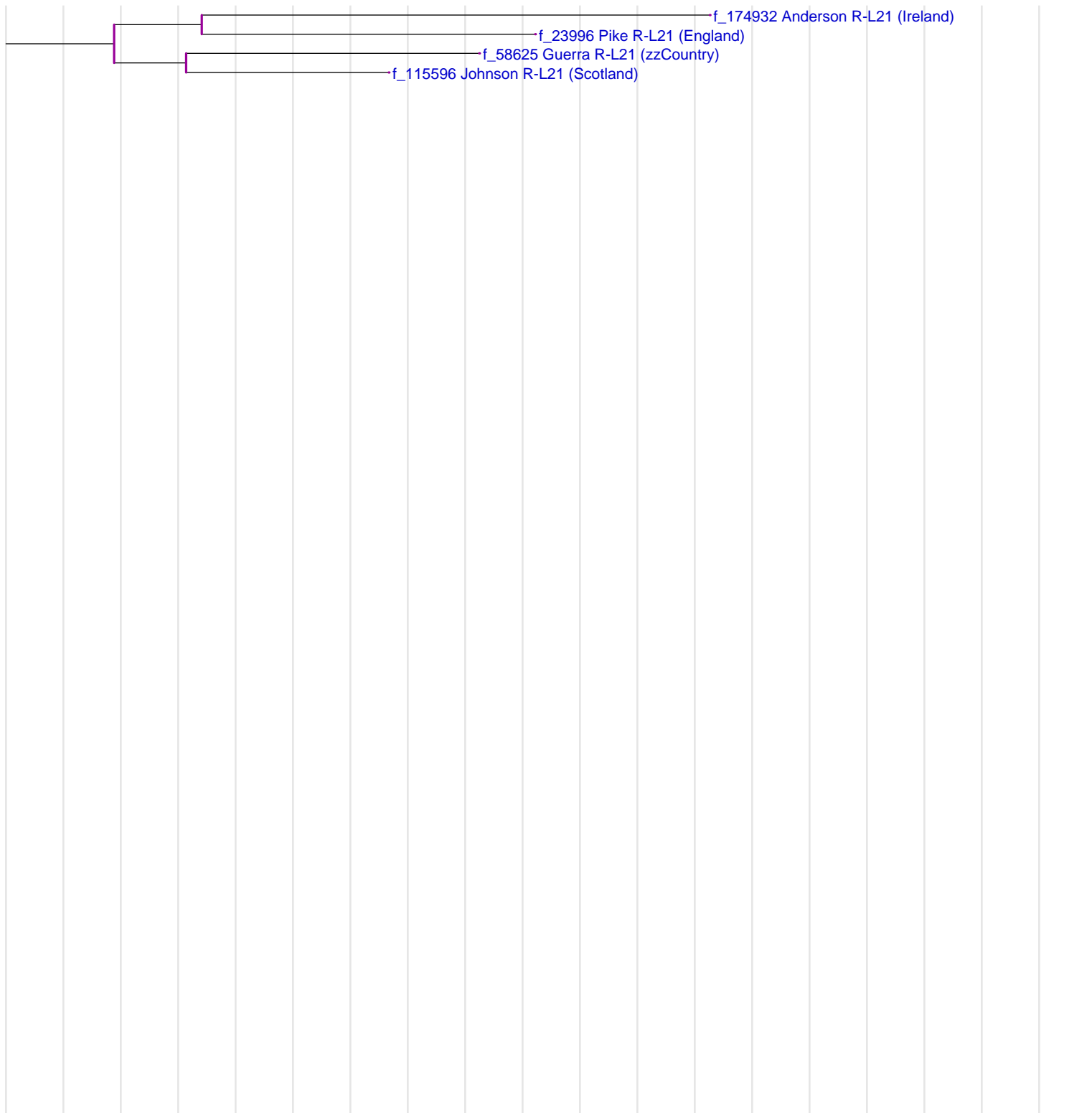
This is the marker distribution for R-L554?. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
4	268	41	15.30%	82.81±9.91	2070.37±322.899

Note: Possible cluster with DYS 537 = 12.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1810-W2

This is the modal haplotype for Mike's Variety 1810-W2. The coloration is with respect to the modal haplotype of the full tree.

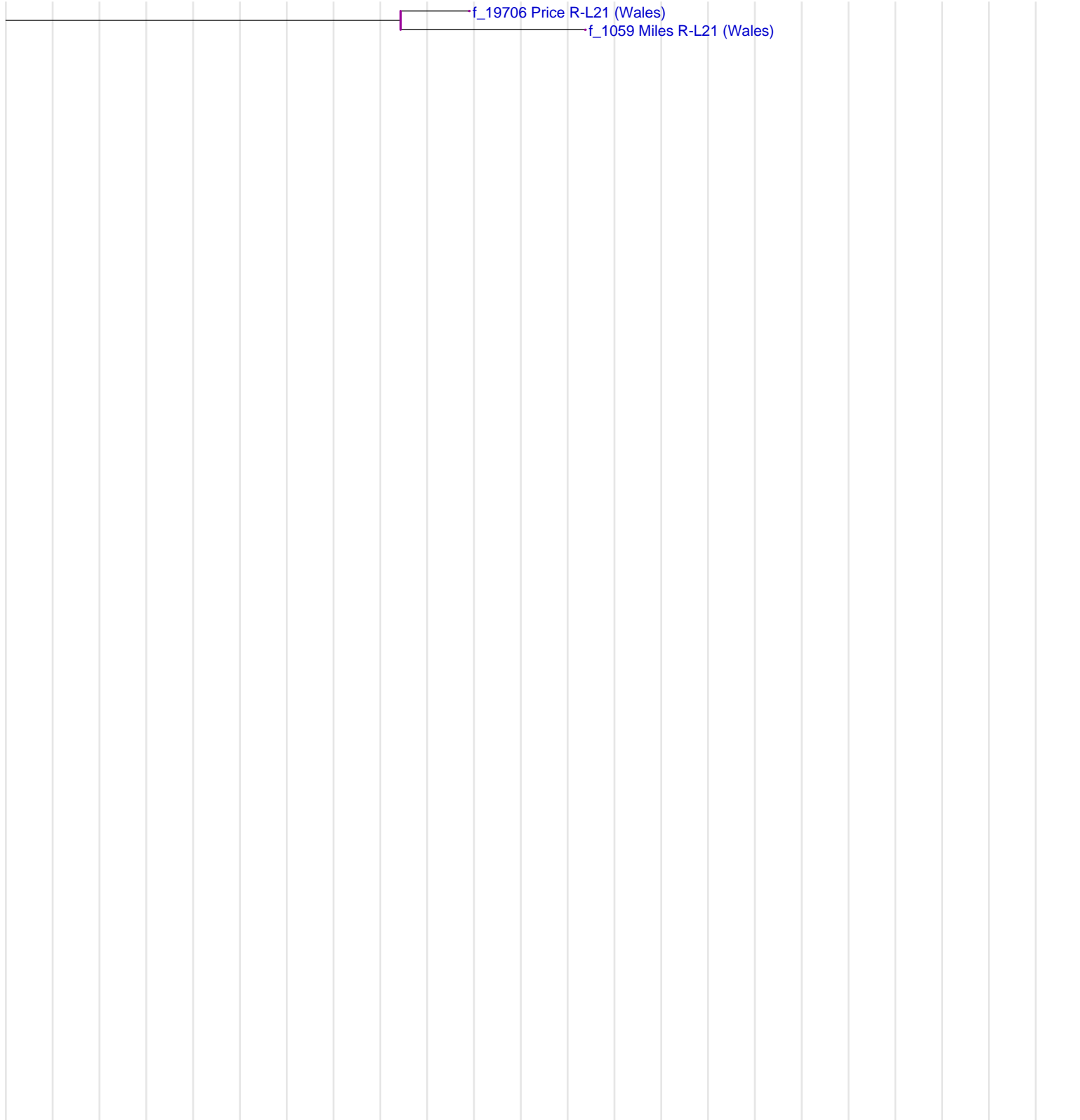
393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565	
13	24	14	10	12	14	12	12	12	13	13	16	17	10	10	11	11	25	15	18	29	15	16	16	17	11	10	19	23	15	16	19	17	37	38	12	12	11	9	15	16	8	10	10	8	10	10	11	12	23	23	16	10	12	12	14	8	13	22	20	12	12	11	13	11	11	12	12

This is the marker distribution for Mike's Variety 1810-W2. The color indicates the relative frequency of the alleles.



Age Analysis

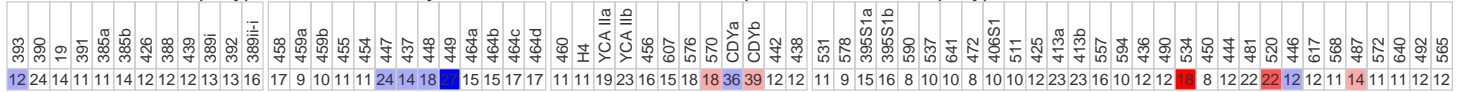
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
2	134	7	5.22%	26.82±3.58	670.494±111.909



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1214

This is the modal haplotype for Mike's Variety 1214. The coloration is with respect to the modal haplotype of the full tree.

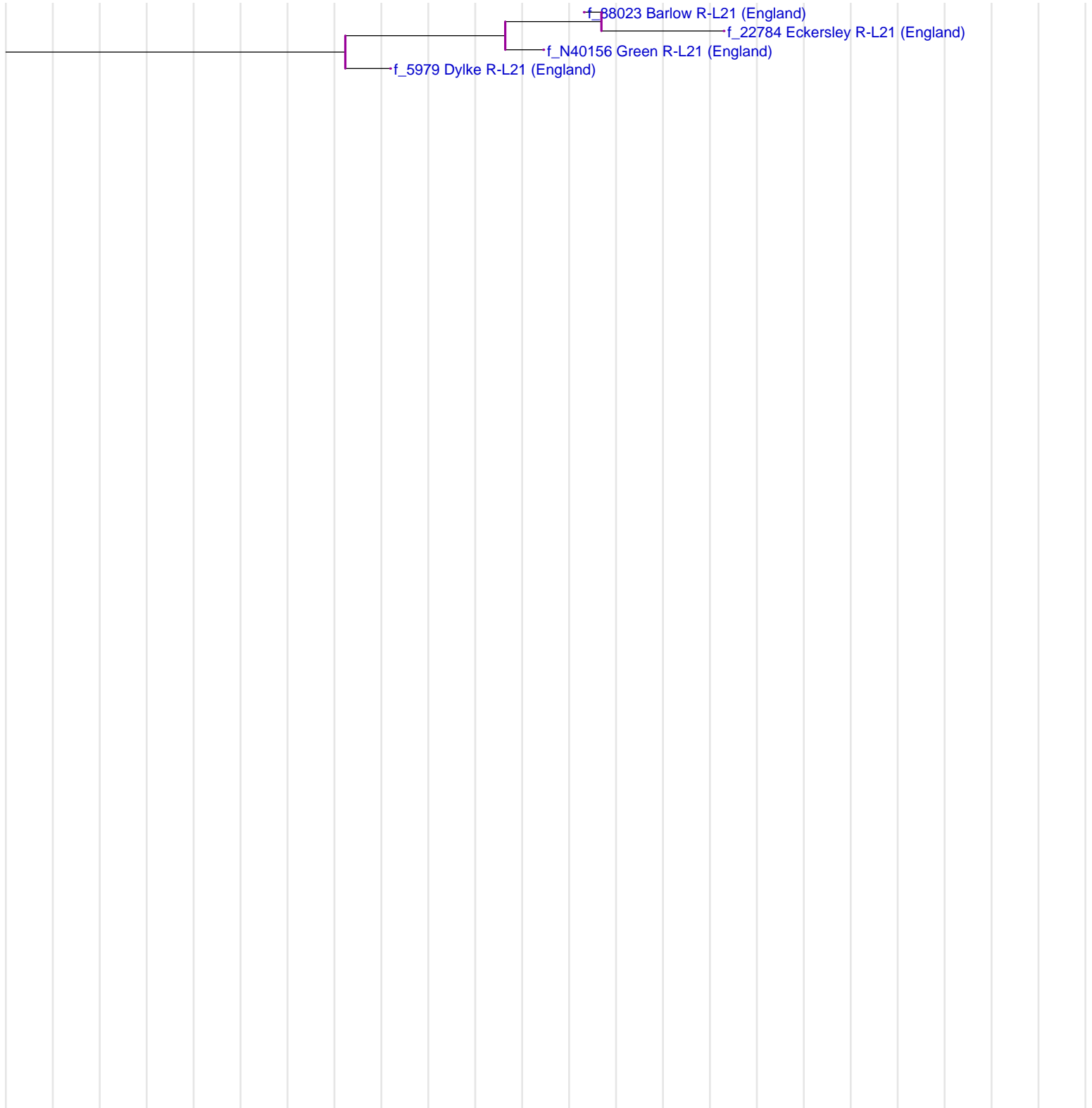


This is the marker distribution for Mike's Variety 1214. The color indicates the relative frequency of the alleles.



Age Analysis

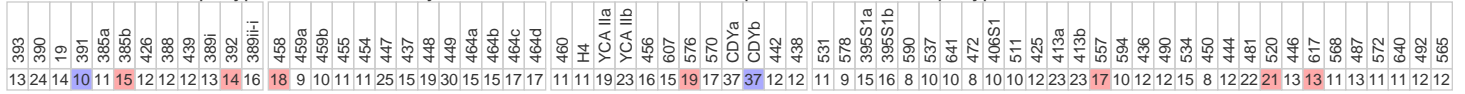
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
4	268	15	5.60%	28.79±3.40	719.764±111.373



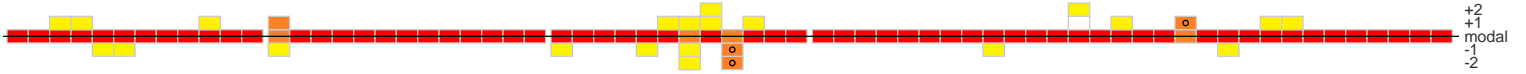
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1413

This is the modal haplotype for Mike's Variety 1413. The coloration is with respect to the modal haplotype of the full tree.

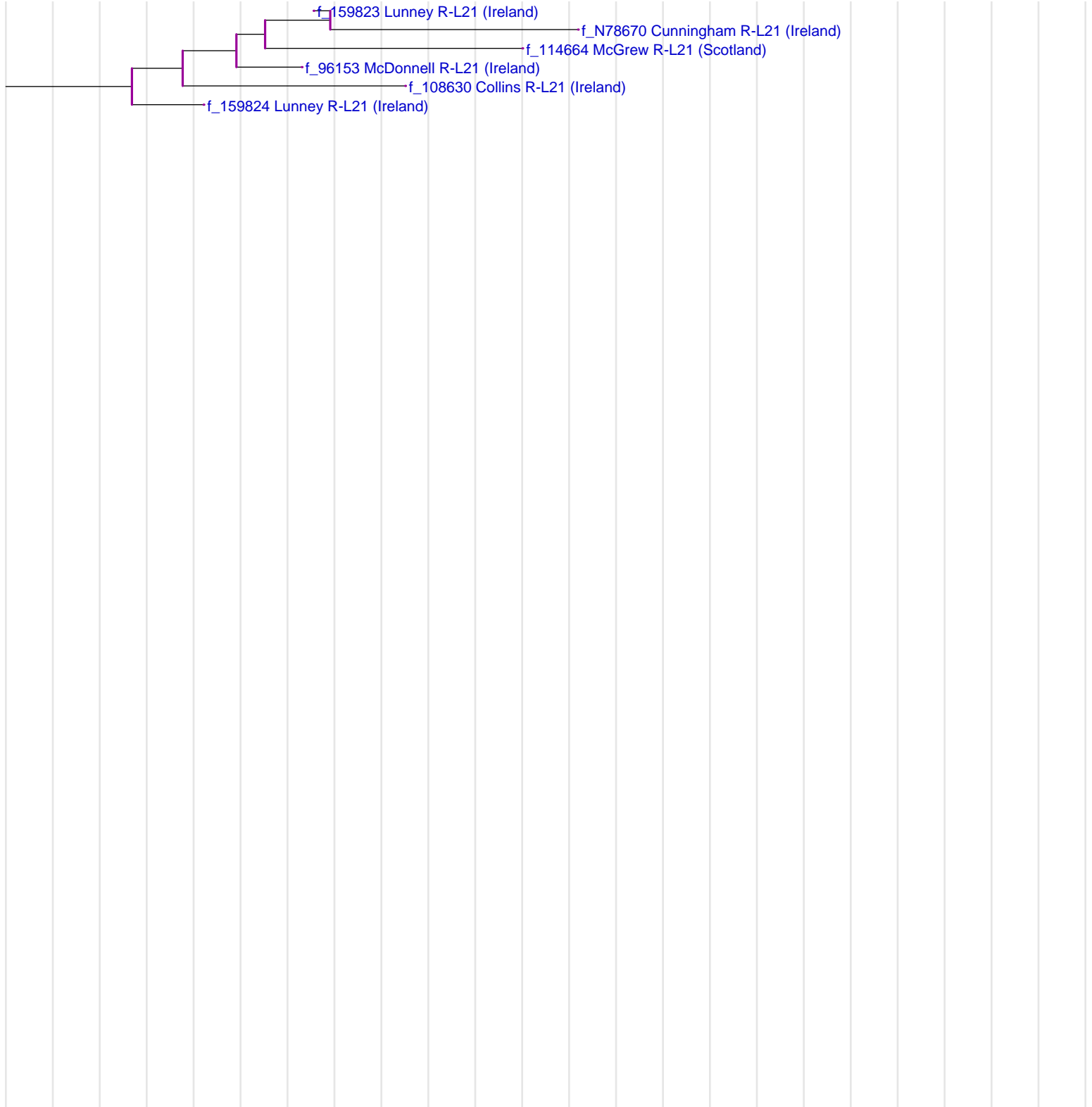


This is the marker distribution for Mike's Variety 1413. The color indicates the relative frequency of the alleles.



Age Analysis

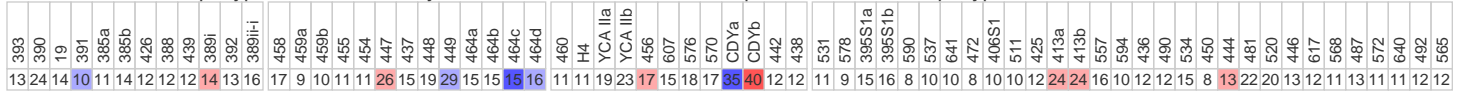
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	35	8.71%	45.51±5.13	1137.81±171.462



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1014

This is the modal haplotype for Mike's Variety 1014. The coloration is with respect to the modal haplotype of the full tree.

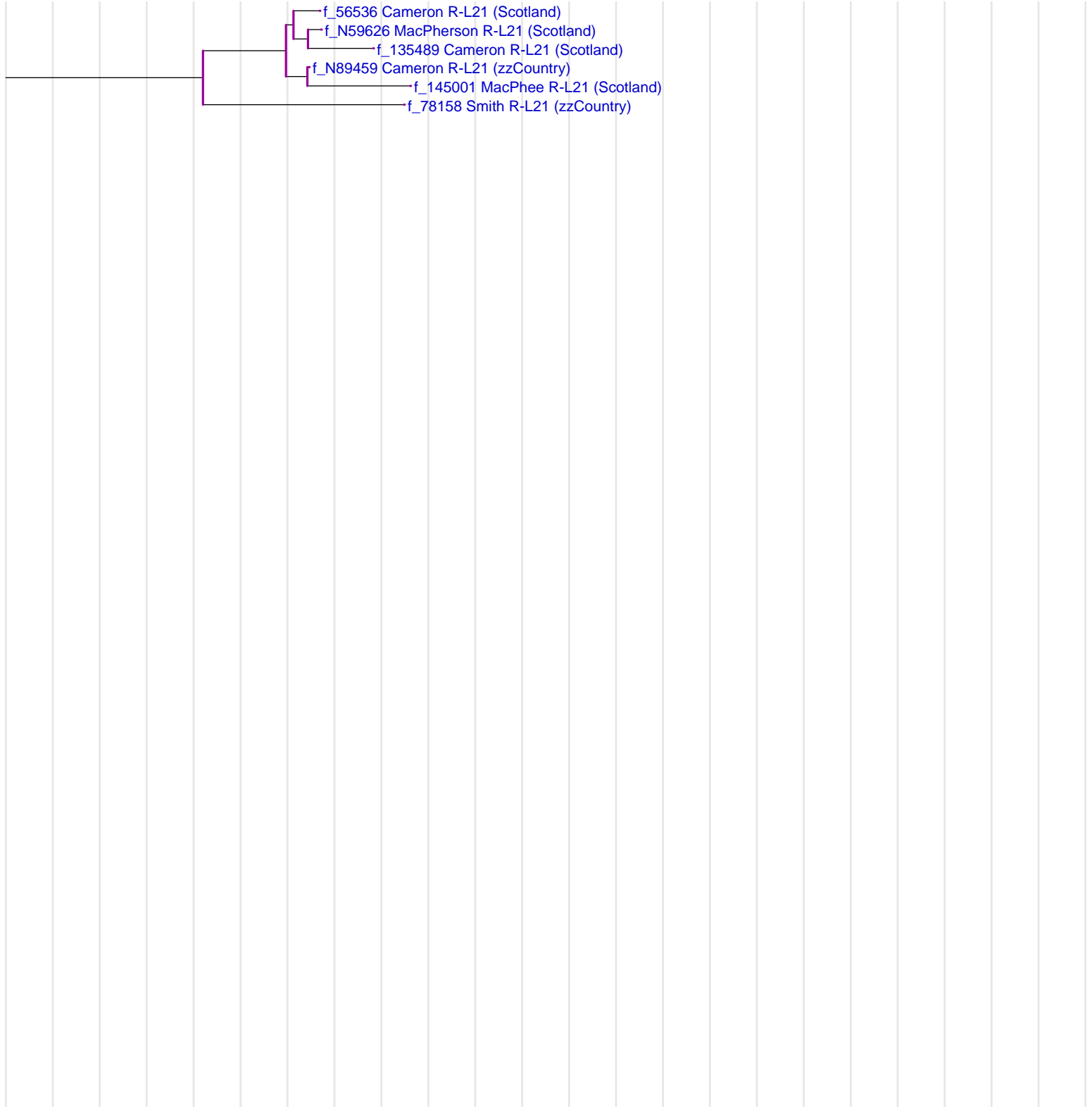


This is the marker distribution for Mike's Variety 1014. The color indicates the relative frequency of the alleles.



Age Analysis

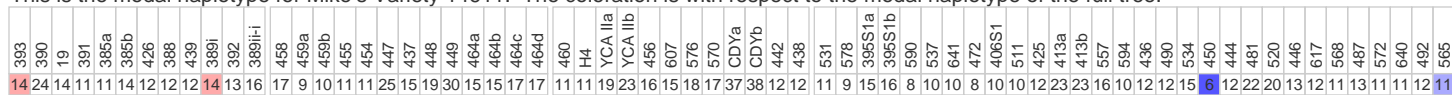
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
6	402	16	3.98%	20.30±2.28	507.613±76.2899



The vertical grey lines are separated 10 generations apart.

Mike's Variety 14611

This is the modal haplotype for Mike's Variety 14611. The coloration is with respect to the modal haplotype of the full tree.

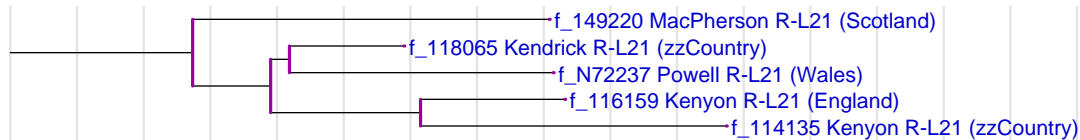


This is the marker distribution for Mike's Variety 14611. The color indicates the relative frequency of the alleles.



Age Analysis

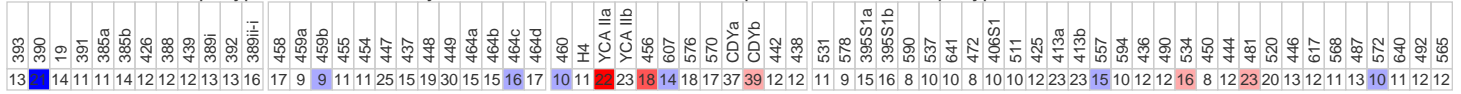
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	32	9.55%	50.15±5.78	1253.87±191.301



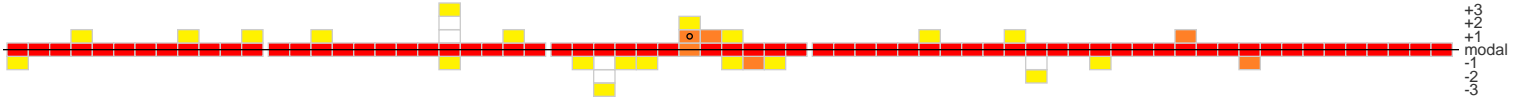
The vertical grey lines are separated 10 generations apart.

Mike's Variety 2110

This is the modal haplotype for Mike's Variety 2110. The coloration is with respect to the modal haplotype of the full tree.



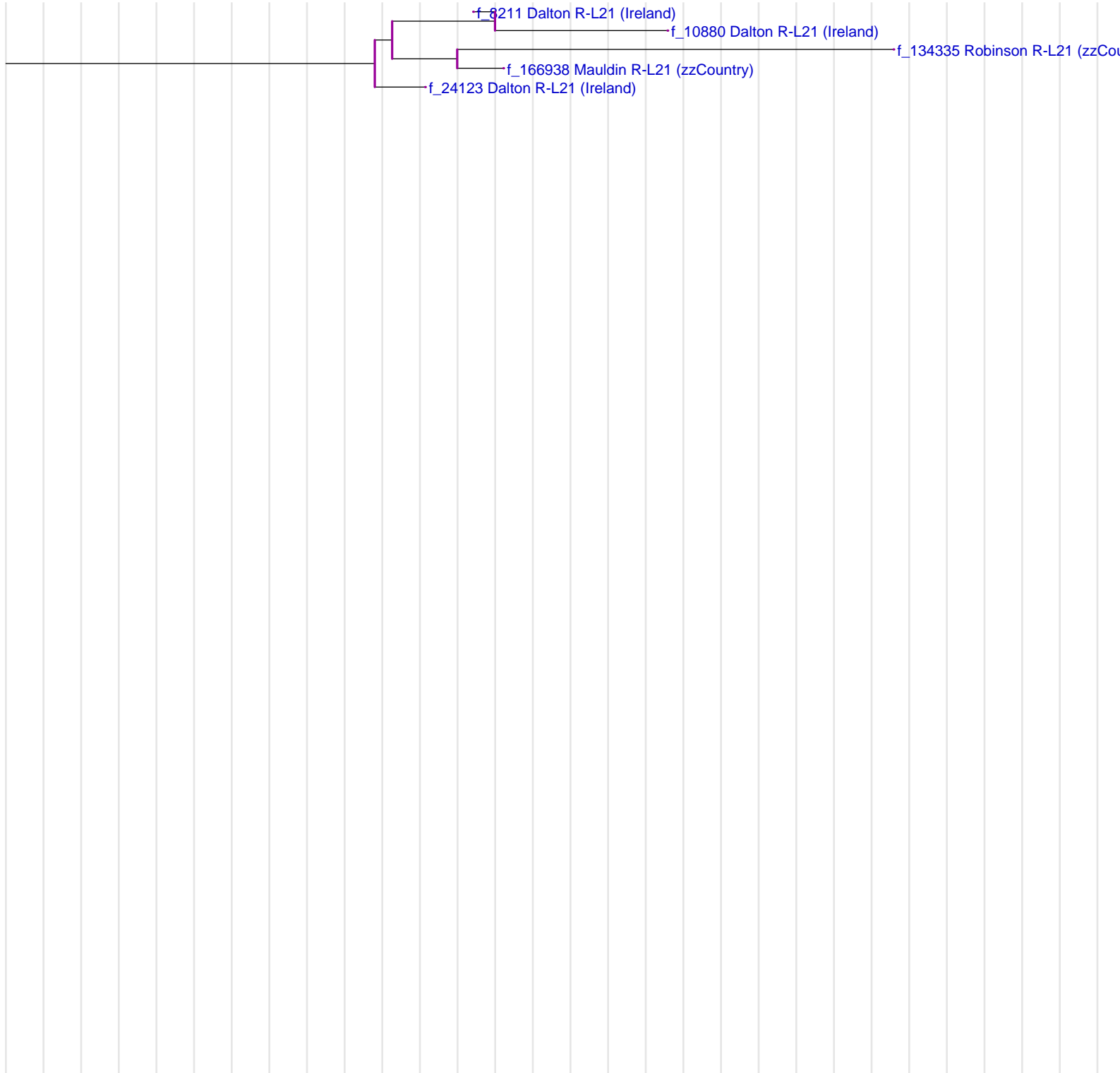
This is the marker distribution for Mike's Variety 2110. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	33	9.85%	51.80±5.97	1295.08±197.627

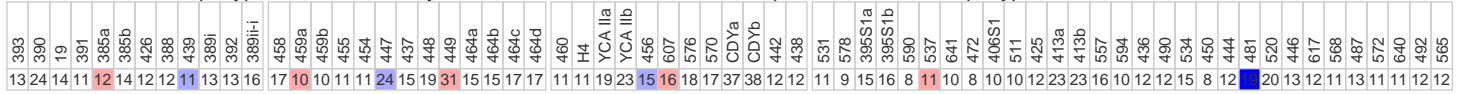
Note: Robinson (134335) is not a very good fit to this group.



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1210SP

This is the modal haplotype for Mike's Variety 1210SP. The coloration is with respect to the modal haplotype of the full tree.

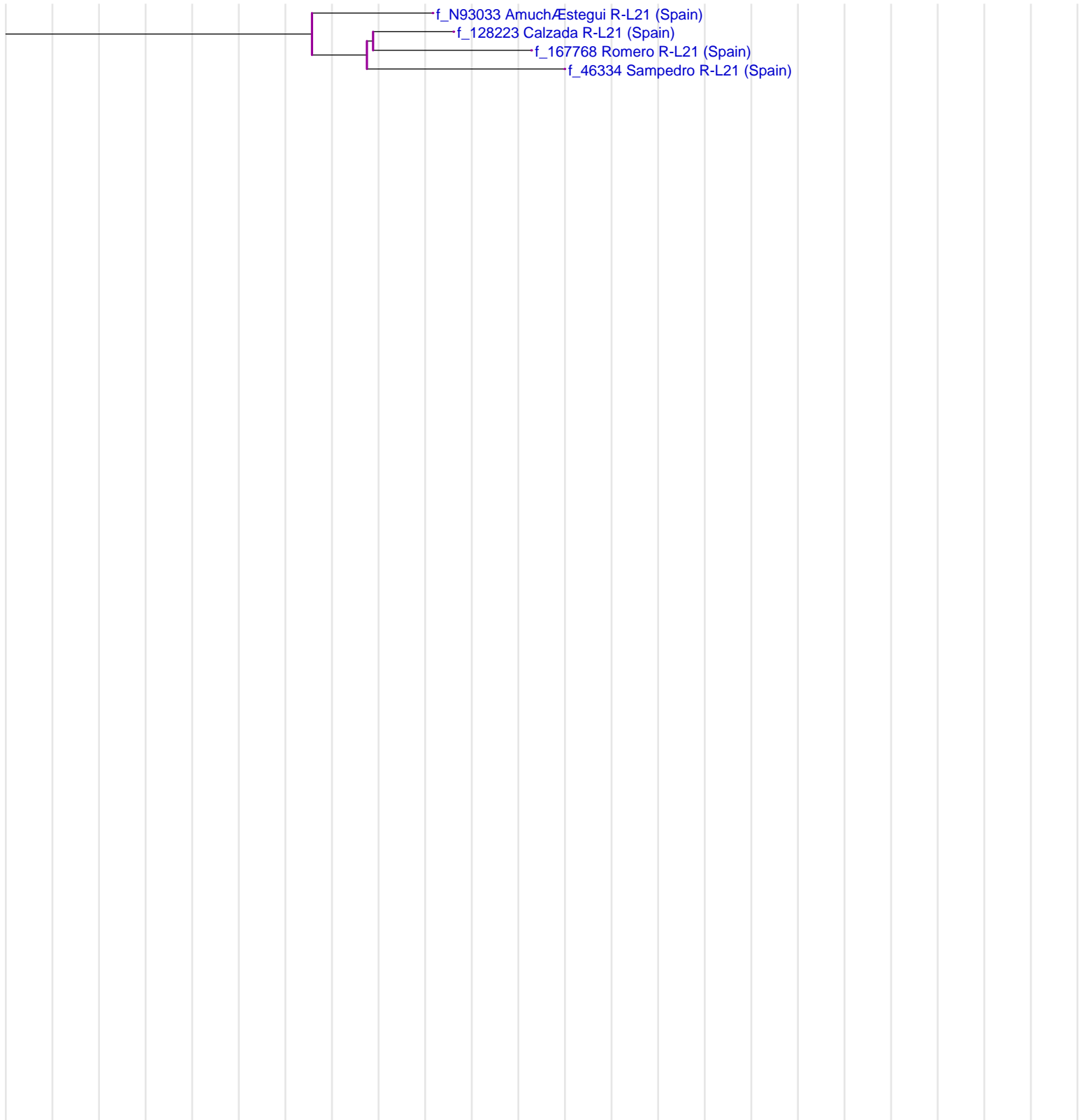


This is the marker distribution for Mike's Variety 1210SP. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
4	268	19	7.09%	36.75±4.35	918.748±142.334



The vertical grey lines are separated 10 generations apart.

Mike's Variety 1019

This is the modal haplotype for Mike's Variety 1019. The coloration is with respect to the modal haplotype of the full tree.

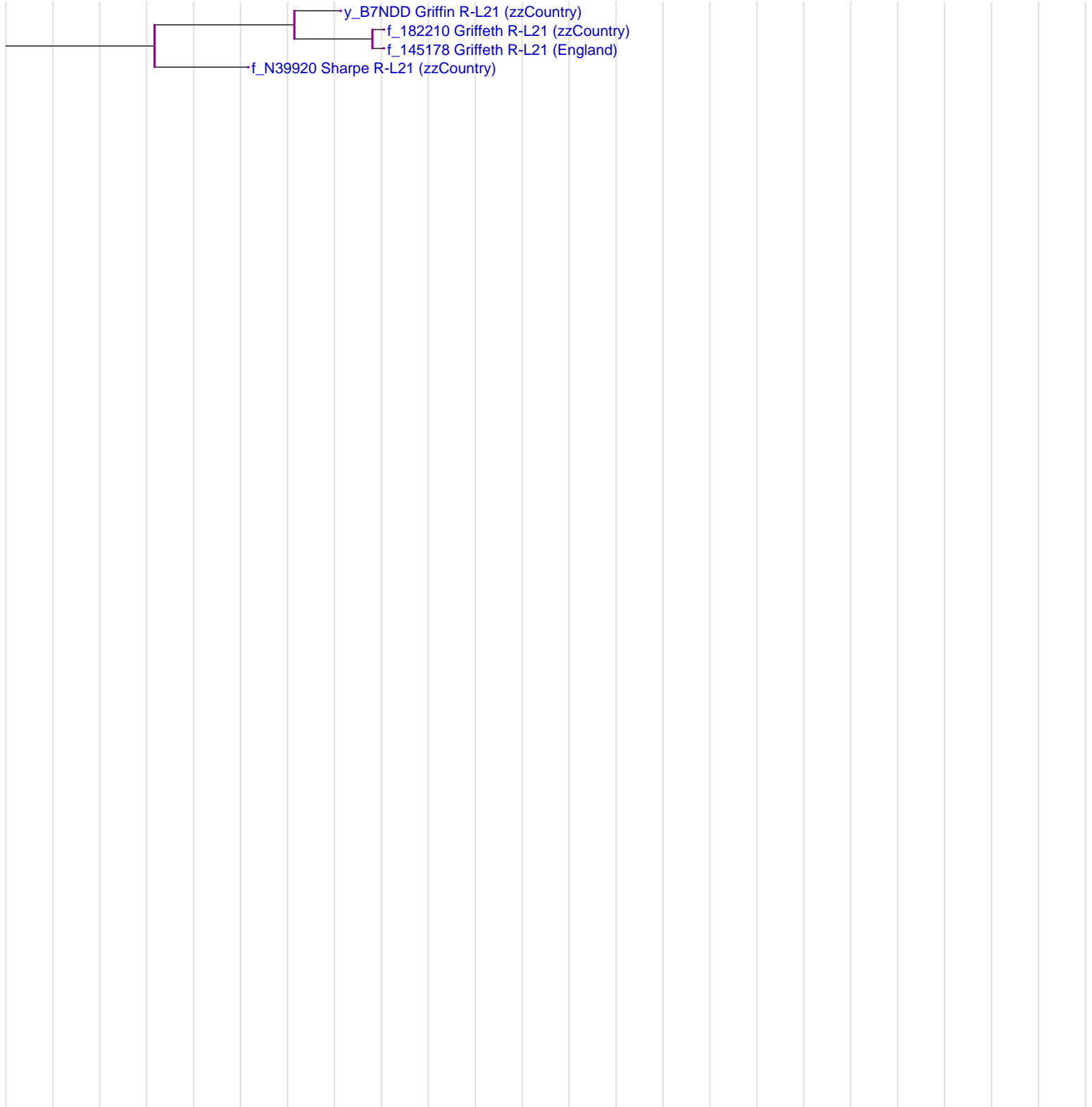
393	390	19	391	385a	385b	426	388	439	389i	392	389i-i	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	537	641	472	406S1	511	425	413a	413b	557	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565	
13	24	14	11	11	14	12	12	12	13	13	16	15	9	10	11	11	25	15	19	29	15	15	17	17	11	11	19	23	17	15	15	19	37	38	11	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	12	16	9	12	22	20	13	12	11	13	11	11	12	12

This is the marker distribution for Mike's Variety 1019. The color indicates the relative frequency of the alleles.



Age Analysis

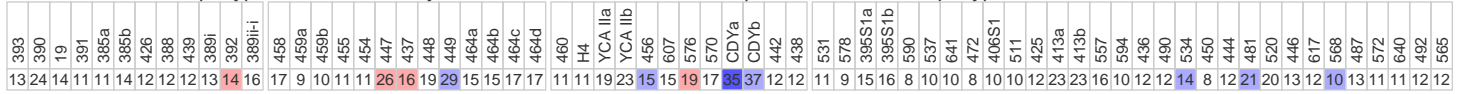
Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
4	268	13	4.85%	24.86±2.93	621.412±96.0972



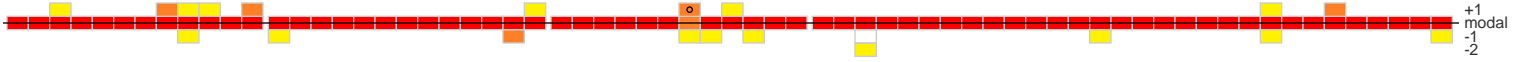
The vertical grey lines are separated 10 generations apart.

Mike's Variety 1426

This is the modal haplotype for Mike's Variety 1426. The coloration is with respect to the modal haplotype of the full tree.



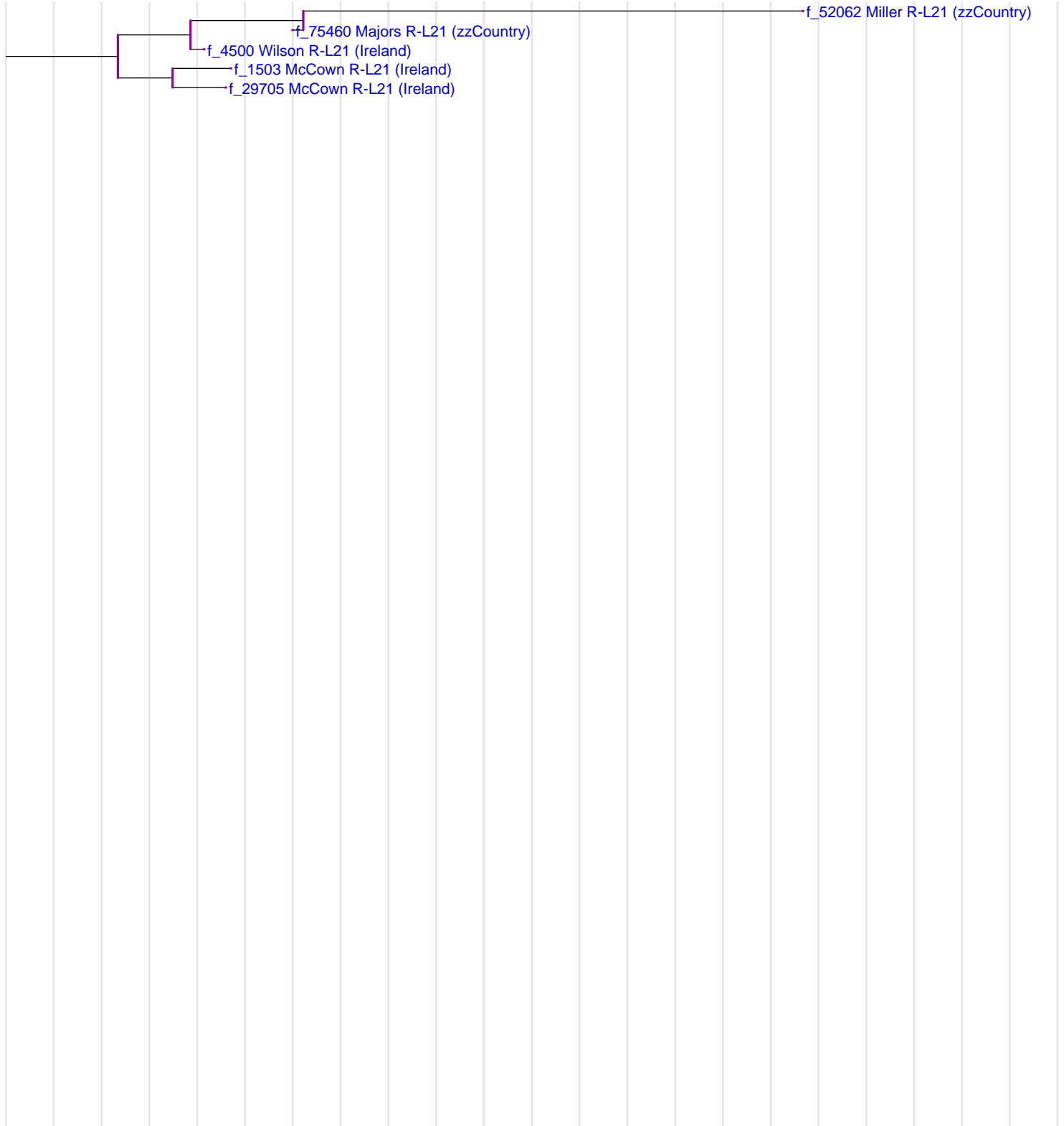
This is the marker distribution for Mike's Variety 1426. The color indicates the relative frequency of the alleles.



Age Analysis

Total number of members	Total number of markers	Total number of mutations	Mutation fraction	Age estimate (in generations)	Age estimate (in years)
5	335	26	7.76%	40.37±4.64	1009.3±153.802

Note: Miller's haplotype is a little odd, but it does share the same slow moving off-modal markers as the others.



The vertical grey lines are separated 10 generations apart.

Cluster Modals

Full Tree (R-L21)

Age: 3455.88±488.863 years

393	390	19	391	385a	385b	426	388	439	399i	392	389iH	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA Ila	YCA Iib	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	597	641	472	406S1	511	425	413a	413b	567	594	436	490	534	450	444	481	520	446	617	568	487	572	640	492	565
13	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	18	30	15	16	16	17	11	11	19	23	16	15	18	17	38	39	12	12	11	9	15	16	8	10	10	8	10	10	12	21	23	16	10	12	12	15	8	11	22	20	13	12	11	13	11	11	12	12

R-M222																												Age: 1504.19±212.96 years																																						
13	25	14	11	11	13	12	12	12	13	14	16	17	9	10	11	11	25	15	18	30	15	16	16	17	11	11	19	23	17	16	18	17	38	39	12	12	11	9	15	16	8	10	10	8	10	10	12	21	23	16	10	12	12	15	8	11	22	20	13	12	11	13	11	11	12	12

Little Scottish Cluster																												Age: 1149.14±166.144 years																																						
13	24	14	10	11	14	12	12	12	13	13	16	18	9	10	11	11	25	15	19	30	13	15	17	17	11	10	19	23	16	15	18	18	37	38	12	12	11	9	15	16	9	10	10	8	10	10	12	22	23	16	10	12	12	15	8	11	22	20	14	12	11	13	11	11	12	12

Scots Cluster																												Age: 1445.63±205.115 years																																								
13	24	14	10	11	14	12	12	12	13	13	17	18	9	10	11	11	25	15	19	30	15	15	17	17	11	11	12	19	24	15	15	18	17	37	38	12	12	12	12	9	15	16	8	10	10	8	10	10	12	22	23	16	10	12	12	15	8	11	22	20	13	12	11	13	11	11	12	12

Beatty-Byrnes (R-L159.2)																												Age: 1432.17±203.45 years																																					
13	24	14	11	11	14	12	12	12	13	16	17	9	10	11	11	25	15	18	30	15	15	17	17	11	11	19	23	16	15	18	18	39	40	11	12	11	9	15	16	8	10	10	8	10	10	12	23	23	17	10	12	12	15	8	11	22	20	14	12	11	13	11	11	12	12

Irish Type III																												Age: 1344.25±191.162 years																																						
13	24	14	11	11	14	12	12	11	13	13	16	17	8	9	11	11	25	15	19	29	13	13	15	17	11	11	19	23	15	15	18	17	36	38	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	15	10	12	12	15	8	11	22	20	13	12	11	13	11	11	12	12

R-P314.2																												Age: 1874.55±269.979 years																																					
13	23	14	11	11	14	12	13	13	13	15	17	9	10	11	11	26	15	19	29	15	15	16	17	10	11	19	23	16	15	18	18	37	38	12	12	11	9	16	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	22	20	13	13	11	13	11	11	12	12

South Irish																												Age: 1674.76±238.561 years																																						
13	24	14	10	11	15	12	12	11	13	13	16	17	9	10	11	11	24	15	19	29	15	15	17	17	11	11	19	23	15	15	18	17	36	38	13	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	15	8	11	22	20	13	12	11	13	11	11	12	11

Eastern European Cluster																												Age: 1002.57±150.996 years																																						
13	24	14	11	11	14	12	11	11	13	14	16	17	9	9	11	11	25	15	19	29	15	15	16	17	11	11	19	23	15	15	18	18	38	41	11	12	11	9	15	16	9	10	10	8	10	10	12	23	23	16	10	12	12	15	8	13	22	20	13	12	11	14	11	11	12	12

R-L144																												Age: 1116.2±163.573 years																																						
13	24	14	10	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	30	15	15	16	17	11	11	19	23	16	14	17	18	36	40	12	12	11	10	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	15	8	12	22	20	12	10	11	13	11	11	12	12

Clan Colla																												Age: 1418.74±202.119 years																																						
13	24	14	11	11	15	12	12	14	13	13	16	17	9	10	11	11	25	15	19	28	15	15	17	17	11	11	19	23	16	15	18	19	36	37	12	12	11	9	15	16	8	10	10	8	10	9	-	22	23	16	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12

Irish Type IV																												Age: 1437.35±209.208 years																																						
13	24	14	10	12	15	13	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	16	18	10	10	19	23	15	15	17	17	36	37	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	13	22	21	13	12	11	13	11	11	12	12

Royal Stewart																												Age: 590.275±86.3905 years																																						
13	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	29	14	15	17	17	11	10	19	23	15	15	17	17	36	37	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	22	21	14	12	11	13	11	11	12	11

Philips-Powell-Robinson-Smith-Jones Cluster																												Age: 729.641±111.032 years																																					
13	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	30	15	15	17	17	11	11	19	23	15	14	18	17	39	13	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	15	8	11	22	21	13	12	11	13	11	11	12	12

Mike's Variety 2410																												Age: 572.517±84.8217 years																																						
13	24	14	11	11	15	12	12	12	13	13	16	17	9	10	11	11	25	15	20	30	15	16	17	17	11	10	19	24	15	15	18	16	36	38	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12

R-L513 (Combo Cluster) - Largest Piece																												Age: 2812.42±398.832 years																																						
13	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	17	17	11	11	19	23	16	15	18	17	38	38	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	22	20	13	13	11	13	11	11	12	12

R-L193																												Age: 1201.61±171.19 years																																				
13	24	14	11	11	14	12	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	17	17	11	11	19	23	16	16	18	17	38	40	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	22	20	13	13	11	13	12	12

Airghialla 2																												Age: 804.251±116.362 years																																						
13	25	14	11	11	14	12	12	12	13	13	16	17	16	9	10	11	11	25	16	18	29	15	15	17	18	11	11	19	23	17	15	17	17	35	37	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	24	20	13	13	11	13	11	12	12

Mike's Variety 1113-K																												Age: 1587.18±242.544 years																																							
12	24	14	11	11	16	12	12	12	13	13	16	17	16	9	10	11	11	25	15	19	29	15	15	17	18	10	10	19	22	15	14	20	16	37	39	11	12	11	9	15	16	8	10	10	8	12	10	12	23	23	16	10	12	12	14	8	12	22	20	13	13	11	13	11	11	12	12

Clan McWho																												Age: 769.224±117.079 years																																					
13	25	14	10	15	15	12	11	13	13	16	15	9	10	11	11	25	15	19	30	15	15	16	17	10	11	19	23	15	15	18	16	37	38	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	15	8	13	23	20	13	12	11	13	11	11	12	12

Mike's Variety 1117																												Age: 1781.96±256.425 years																																						
13	24	14	11	11	14	12	12	13	13	16	18	9	10	11	11	25	15	19	30	14	15	16	17	11	11	19	23	16	15	18	16	37	39	13	12	11	9	15	16	8	10	10	8	10	10	11	12	23	23	17	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12

Cluster Modals (continued...)

Mike's Variety 1113-E

Age: 794.025±117.726 years

393	390	19	391	385a	385b	426	388	439	389i	392	389iH	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	H4	YCA Ila	YCA Iib	456	607	576	570	CDYa	CDYb	442	438	531	578	395S1a	395S1b	590	597	641	472	406S1	511	425	413a	413b	567	594	436	490	534	450	444	481	520	446	617	568	572	640	492	565	
13	24	14	11	11	14	12	12	13	13	16	17	9	9	10	11	11	25	15	19	29	15	15	17	17	10	11	19	23	15	15	19	17	37	40	12	12	11	9	15	16	8	9	10	8	11	10	12	22	23	17	10	12	12	15	8	13	22	20	12	13	11	13	11	11	12	12

Mike's Variety 1113-D(-1)

Age: 572.517±88.5095 years

13	24	14	11	11	14	12	12	13	13	16	17	9	9	11	11	25	15	19	29	15	15	17	17	10	11	19	23	15	15	19	17	37	40	12	12	11	9	15	16	8	9	10	8	11	10	12	22	23	17	10	12	12	15	8	13	22	20	12	13	11	13	11	11	12	12
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Mike's Variety 1113-D-2

Age: 1472.61±215.988 years

13	23	14	10	11	14	12	12	11	13	13	15	16	9	10	11	11	26	15	19	29	15	15	17	17	11	11	19	23	16	15	18	16	35	39	12	12	11	9	15	16	8	10	10	8	11	10	12	22	23	16	10	12	12	17	8	12	22	20	13	15	11	13	11	11	12	11
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Mike's Variety 1113-H/J

Age: 1746.33±271.86 years

13	25	14	11	11	14	12	12	13	14	13	16	17	9	10	11	11	25	15	19	31	15	15	17	17	11	11	19	23	15	15	18	18	38	38	12	12	11	9	15	16	8	10	10	8	11	10	12	23	23	16	10	12	12	15	8	12	22	20	14	13	11	13	11	11	12	12
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Mike's Variety 2399-Am

Age: 1622.39±244.975 years

13	23	14	11	10	12	12	12	13	13	16	17	9	9	11	11	25	15	19	20	29	16	16	17	17	11	11	19	23	16	15	17	17	36	36	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	16	8	12	23	20	13	12	11	13	11	11	12	12
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Mike's Variety 590917

Age: 1120.83±166.356 years

13	24	14	11	11	14	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	16	17	10	10	19	23	16	14	17	17	36	36	12	12	11	9	15	16	9	10	10	8	10	10	12	23	24	16	10	12	12	16	8	12	22	20	13	12	11	13	11	11	12	12
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Mike's Variety 1211

Age: 2533.52±371.343 years

13	24	14	11	12	14	12	12	13	13	16	17	9	10	11	11	25	15	19	30	15	15	15	17	11	11	19	23	17	14	18	16	35	37	12	12	12	11	9	15	16	8	10	10	8	10	10	11	12	23	24	16	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12
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Mike's Variety 1199

Age: 1205.96±181.783 years

13	24	14	11	11	14	12	12	13	13	16	17	9	9	11	11	25	15	19	15	15	16	17	10	11	19	23	16	15	18	17	36	37	12	12	11	9	15	16	8	10	10	8	10	10	11	12	23	23	16	10	12	12	14	8	12	22	20	13	12	11	13	11	11	12	12
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Mike's Variety 1121

Age: 1527.05±228.47 years

13	24	14	10	11	14	12	12	13	13	16	17	9	10	11	11	25	15	19	30	15	15	15	17	10	11	19	23	17	15	18	19	37	38	12	12	11	9	15	16	8	11	10	8	10	10	12	23	23	16	10	12	12	15	8	12	22	21	14	12	11	13	11	11	12	12
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Mike's Variety 1416-A

Age: 1377.88±210.348 years

13	24	14	10	11	14	12	12	13	14	16	17	9	10	11	11	25	15	19	29	15	15	17	17	11	12	19	23	16	16	19	16	37	37	12	12	11	10	15	16	8	10	10	8	10	10	12	21	23	16	10	12	12	16	8	12	22	18	13	12	11	13	11	11	12	12
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Hy-Maine

Age: 719.764±111.373 years

13	24	14	11	11	14	12	12	13	13	16	17	9	9	10	11	11	25	15	19	30	15	15	17	17	11	11	19	23	15	15	18	17	36	39	12	12	11	9	15	16	8	10	10	8	10	10	12	21	23	17	10	12	12	15	8	12	24	20	13	12	11	13	11	11	12	12
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Ely Carroll

Age: 1146.31±170.152 years

13	25	14	11	11	14	12	12	13	13	16	16	9	10	11	11	25	15	19	28	15	15	17	17	11	11	19	23	15	15	18	17	36	38	12	12	11	9	15	16	8	10	10	8	10	10	12	22	23	16	10	12	12	16	8	12	22	20	13	12	11	13	11	11	12	12
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Mike's Variety 1223 (extended version)

Age: 1090.31±166.214 years

12	23	14	10	11	14	12	12	13	13	16	17	9	10	11	11	25	15	19	29	15	15	17	17	11	11	19	23	16	16	19	16	38	39	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	15	10	12	12	15	8	12	22	19	13	12	11	13	11	11	12	12
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Mike's Variety 1116 (extended version)

Age: 1171.84±178.714 years

13	23	14	11	11	12	12	11	13	13	16	16	9	10	11	11	24	15	19	28	15	16	17	18	11	11	19	23	15	15	17	17	38	38	12	12	11	9	15	16	8	10	10	8	10	10	12	22	23	16	10	12	12	14	8	12	22	20	12	12	11	13	11	11	12	12
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R-L554?

Age: 2070.37±322.899 years

13	24	14	11	11	14	12	12	11	14	13	16	17	9	10	11	11	24	15	19	30	15	15	16	17	11	11	19	23	16	15	19	17	37	38	12	12	11	9	15	16	8	12	10	8	10	10	12	23	23	16	10	12	12	15	8	12	22	20	13	12	11	13	11	11	12	12
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Mike's Variety 1810-W2

Age: 670.494±111.909 years

13	24	14	10	12	14	12	12	13	13	16	17	10	10	11	11	25	15	18	29	15	16	16	17	11	10	19	23	15	16	19	17	37	38	12	12	11	9	15	16	8	10	10	8	10	10	11	12	23	23	16	10	12	12	14	8	13	22	20	12	12	11	13	11	11	12	12
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Mike's Variety 1214

Age: 719.764±111.373 years

12	24	14	11	11	14	12	12	13	13	16	17	9	10	11	11	24	14	18	15	15	17	17	11	11	19	23	16	15	18	18	36	39	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12	12	16	8	12	22	22	12	12	11	14	11	11	12	12
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Mike's Variety 1413

Age: 1137.81±171.462 years

13	24	14	10	11	15	12	12	13	14	16	18	9	10	11	11	25	15	19	30	15	15	17	17	11	11	19	23	16	15	19	17	37	37	12	12	11	9	15	16	8	10	10	8	10	10	12	23	23	17	10	12	12	15	8	12	22	21	13	13	11	13	11	11	12	12
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Mike's Variety 1014

Age: 507.613±76.2899 years

13	24	14	10	11	14	12	12	14	13	16	17	9	10	11	11	26	15	19	29	15	15	15	16	11	11	19	23	17	15	18	17	35	40	12	12	11	9	15	16	8	10	10	8	10	10	12	24	24	16	10	12	12	15	8	13	22	20	13	12	11	13	11	11	12	12
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Mike's Variety 14611

Age: 1253.87±191.301 years

14	24	14	11	11	14	12	12	14	13	16	17	9	10	11
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Notes

The Tree

The tree was generated using the neighbor-joining algorithm provided by the PHYLIP phylogeny package. This algorithm requires a distance matrix, for which the data came from the 2011-05-31 version of Mike Walsh's Excel spreadsheet. Only members with at least the 67 FTDNA markers were used. For now, only the markers in FTDNA's standard set of 67 were used to calculate the matrix, but I will use markers beyond these in the future.

Modal Values and Age Estimates

For each cluster on the tree, I provide both its modal haplotype determined from its descendant members on the tree, as well as an age analysis. The age analysis was completed in the style of what Anatole Klyosov describes in his Journal of Genetic Genealogy article, 5(2):186-216, 2009. I have not taken into consideration the up/down mutation asymmetry, but may do so in the future. I used a 67-marker average mutation rate of 0.002 and assumed 25 years per generation. I included a 10% uncertainty for the average mutation rate, and a 10% uncertainty for the average number of years in a generation.

For the calculation of the modal haplotypes, in the event of a tie for a particular marker, with two or more different allele values having the same count of haplotypes, the allele closest to the R-L21 modal haplotype was chosen. This was done so that the modal haplotype would more closely resemble what might be the ancestral haplotype for the cluster.

Allele Distribution Diagram

The allele distribution plot attempts to display relative frequency information of the various allele values for each marker. For each possible allele value of each marker, a different coloured box is used to represent the fraction of haplotypes, with that particular allele value. A red box indicates that more than 50% of the haplotypes have that particular value, an orange box indicates more than 33% have that particular value, yellow for more than 25%, and blue indicates that the fraction is simply greater than 0.

If the fraction for an allele is within 5% of what it is for the modal value, I have indicated that allele with a small circle. The idea here, is that if the other allele value is so close, then if you were to use different sample data, you could potentially end up with a different modal value.

- - greater than 0% of haplotypes
- - greater than 25% of haplotypes
- - greater than 33% of haplotypes
- - greater than 50% of haplotypes

Consider the following example of DYS 464c for the whole of R-L21. We look at what fraction of the 1483 people in this cluster have a particular allele value. The modal value is clearly 17, but 16 is not far behind. As 16 is within 5% of the modal value, I have indicated that close relationship with a small circle.

Allele	Count	Fraction	Colour
19	0	0.00%	
18	14	0.94%	■
17	694	46.80%	■
16	626	42.21%	■
15	145	9.78%	■
14	2	0.13%	■
13	2	0.13%	■
12	0	0.00%	

