

Report on Initial DNA Results for Plant(t)

by Dr John S Plant (May 2002)

Introduction

An article in The Times newspaper on 28 January 2002 described plans to obtain DNA from the skeleton of the Black Prince (a Plantagenet). This offers a prospect of making comparisons with the Y-Line DNA of other names. The Plant Family History Group DNA testing programme is open to all Plant-like names. Initial results show some interesting findings.

The received view was that Plant was a 'multi-origin' surname relating to several different families who just happened all to be 'gardeners'. However, the DNA results so far, for modern Plants from various regions of England, suggest that the name descends mostly from a single family. The preliminary results have allowed a characteristic Y-Line DNA signature to be identified for this family. Furthermore, a result has been obtained for one Plant who is known to descend from the name spelling Plantt. The spelling Plantt is found in early records in England as well as more recently elsewhere (*e.g.* USA) and it has appeared with its final 't' superscripted, as though an abbreviation (*cf.* the rare French surname Plantinet). DNA results for a *Plant^t* descendant have been found to match with those for the Plant surname.

This is a broad outline of the results. They are described in more detail below along with the possibilities of further progress. Further volunteers for the test are sought. The cost of the test has recently come down. I now have a new offer price of 99 US dollars (*e.g.* by credit card, or with an extra 10 to 15% to convert from another currency) with the *FamilyTree-DNA* (FT-DNA) Testing Laboratory (University of Arizona) provided we can obtain a further batch of 6 volunteers.

Volunteered Plant-like branches so far

The current list of volunteers is as follows...

Branch/spelling	Code for volunteer	Earliest known ancestor of branch	Status
USA. Plant(t)	PT1a	William Plant(t), b c1655, lived in VA.	OA
Sheffield, England. Plant	P1a	Thomas Plant of Clowne, ?b 1745 Sutton-cum-Duckmanton in NE Derbyshire to William Plant of Duckmanton.	OA
London, England. Plant	P2a	William Plant of Market Harborough, Leicestershire, c1720 (born 1716 Tur Langton).	OA
<i>ditto</i>	P2b	<i>ditto</i>	OA
Northants, England. Plant	P3a	Joseph Plant, b c1794 Ashton Under Lyne, Lancashire, subsequently of Duckinfield (1815) and Denton (1821-35).	OA
London, England. Plant	P4a	James Plant b 1806 Cheadle, Staffordshire.	OA
South Cheshire, England. Plant	P5a	Edward Plant of Siddington, c1565; with a line possibly from 15th century Rainow in east Cheshire.	OA
Canada. Plante	PE1a	Jean Plante, sailed to Canada in 1647 from La Rochelle-Laleu, France, landed at Quebec City, settled at Chateau Richer just to its east.	
Manchester, England. Plant	P6a	James Plant, b 1943	

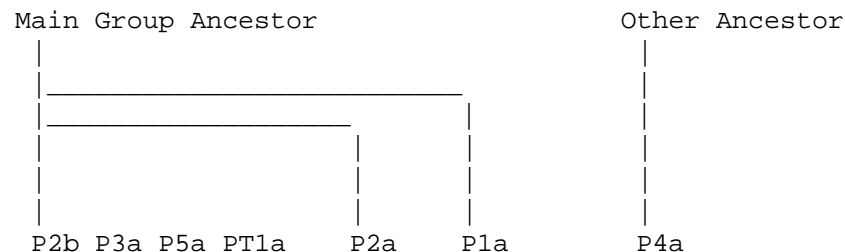
Each of the volunteers has been given a code, such as PT1a, P1a, P2a, P2b, P3a, etc., and these codes are used in the description below. The table above relates each code to the earliest known ancestor for each volunteer. A code beginning PT, for example, applies to a known ancestor with the name spelling Plantt while P applies to Plant.

First Results from Oxford Ancestors

Results for those volunteers marked with Status 'OA' in the above table are summarised below. Samples for the remaining volunteers have yet to be collected and sent to a Testing Laboratory. Buccal (cheek cell) samples from the first 7 volunteers were tested by the *Oxford Ancestors* Testing Laboratory, who measured the 10 DYS markers (alleles) listed below for each volunteer. The results were as follows...

	DYS	DYS	DYS	DYS	DYS	DYS	DYS	DYS	DYS	DYS
	19	388	390	391	392	393	389i	ii-i	425	426
Main Group										
P1a	14	12	24	11	12	13	10	16	12	12
P2a	14	13	24	11	13	13	10	16	12	12
P2b	14	12	24	11	13	13	10	16	12	12
P3a	14	12	24	11	13	13	10	16	12	12
P5a	14	12	24	11	13	13	10	16	12	12
PT1a	14	12	24	11	13	13	10	16	12	12
AMH										
HT1.15	14	12	24	11	13	13				
Other										
P4a	16	13	26	11	11	14	09	16	12	11

The 6 sets of results in the Main Group are for 5 different branches that are known from documentary evidence to be unrelated for the past 200 or 300 years and known to be from different parts of England and the USA. They include the name spelling Plantt (PT1a) as well as Plant. So far, all agree apart from single mutations for P1a and P2a (marked in bold). P2a and P2b are thought to be of the same branch 250 years ago, despite the mutation for P2a. A general scheme of the DNA results is as follows..



It can be noted, for the Main Group, that Plant(t)s from different regions of England and the USA have matched up consistently. This almost certainly indicates an agnate (purely male-to-male) family connection between them in the past millennium or so. Poisson statistics suggest that each of the lines of P2a and P1a is likely to have diverged separately from those of the other 4 sometime around 250 to 1250 years ago. Thus, there is a family connection between branches from Virginia USA (1655), NE Derbyshire (1745), Leicestershire (1720), Lancashire (1794), and east Cheshire (1565), with just single mutations found so far in the NE Derbyshire (P1a) and Leicestershire (P2a) branches. One might reasonably suppose for example that all these Plants descended from early Plants in the east Cheshire homeland (note especially that volunteer P5a descends from an east Cheshire Plant of 1565 and perhaps, earlier still, from a line in east Cheshire in the 15th century). More cautiously however, one might add that the origins of the Plant family name may have preceded the 14th century times of the east Cheshire homeland and there is just a chance that some of the lines in the ‘Main Group’ *might* have arrived at their destinations without passing through east Cheshire.

Though it is statistically most likely that a single mutation occurred around 250 to 1250 years ago, there is always a possibility that it may have occurred at any generation, even the most recent one for example. Assuming that the genealogy for the Leicestershire branch is correct, the mutation of P2a from P2b has happened more recently than when the P2 branch split off genealogically from P3, P5, and PT1. The full story for this branch is an example of the general wisdom that DNA testing works best when combined with information from more conventional genealogical investigations. Taking such evidence together might reveal more exactly when a mutation occurred and it can then be assumed that the mutation has been passed on to all male descendants through subsequent generations.

The result under ‘Other’ (P4a) is significantly different from the results for the ‘Main Group’ of Plants and it clearly has not arisen as a small mutation from the ‘Main Group’ ancestral lines in recent times.

Summary of Findings and further Prospects

A characteristic Y-Line DNA signature has been found for 6 of the 7 volunteers tested so far. An initial comment is that largely consistent results, such as those found so far, can be considered to have been *expectable* provided that it is supposed that the Plant name descended mostly from a single family. Such a family *might be* the 7th century Plantard family in France for example. A further preliminary comment is that the characteristic signature for Plant (as found so far) matches one for *Plant^t*, suggesting a connection to another

family name (*cf.* an abbreviation of Plantinet or Plantagenet). It might be added that the medieval Latin word *plantata* is sometimes spelled *plantada* and so we could imagine that the name Plantard could sometimes have been spelled Plantart, leaving us with the possibility that *Plant^t* could have been an abbreviation of a 7th century French name, provided we accept that the Plantard name dates back that far.

Grossly inconsistent results, unlike those found so far, could have been expected if there had been many false paternity events down the centuries or if there had originally been several different Plant families. The DNA results so far tend *not* to confirm such a supposition as one that there were *several unrelated* families who all adopted the name Plant for such a reason as they were *each separately* influenced into so calling themselves out of respect for the Plantagenet name for example.

Y-Line testing of other names, such as for the Plante family of Gascony (SW France) or the Plantard family of Brittany (NW France), might shed further light. We already have one volunteer (yet to be tested) of the Canadian Plante family (from Western France). More generally, in a French Telephone Directory, there are 102 entries for Plantie and 105 for Planty and these are clustered around Gascony (SW France) where most of the 817 entries for Plante are found. It would be interesting to discover if these share a characteristic Y-Line signature with the Plant(t)s.

Measuring more markers

Ten markers (alleles) were measured by Oxford Ancestors. Measurement of 9 of these markers plus another 3 is carried out for the standard price of US\$99 in the new agreement, mentioned in the introduction, with *Family Tree-DNA* (FT-DNA). If required, FT-DNA will then measure a further 9 markers (making a total of 21) for a subsequent additional fee of US\$80. A decision about paying the extra does not need to be made, however, until after the standard 12-marker FT-DNA results have been obtained. The case for measuring more markers is rather complex but it is outlined briefly below.

Particular values for 6 of the measured markers define a haplotype that is known as the Atlantic Modal Haplotype (AMH in the above table). These 6 of the 10 markers measured by *Oxford Ancestors* are DYS 19, 388, 390, 391, 392, and 393, and their values, as found for the Main Group of the Plant(t) name, match to within 1 mutation of the values that define the AMH. Such a match is denoted *HT1.15⁺*, with the '+' denoting '*and those haplotypes within 1 mutation of the AMH HT1.15*'. The AMH is believed to have arisen from a characteristic signature of the New Stone Age population of Western Europe. A match of *HT1.15⁺* is found most notably for 70% of the population of Wales (near the main Plant homeland) and for 56% of the Basque population (near the main Plante homeland). By contrast, only 1% of a typical Middle Eastern population (Syria) is found to have a *HT1.15⁺* match.

Just 7 of the 10 markers (alleles) measured by Oxford Ancestors, namely DYS 19, 390, 391, 392, 393, 389i, 389ii-i, can be compared with a European (forensic) database. On the basis of these 7 markers, there is 0% chance of a random match to someone from the general population for the rare signature of P4a, 0.3% chance for P1a, and 5.9% chance for the rest of the Plant(t) volunteers so far tested.

With the 10 markers measured by Oxford Ancestors, the chances of a fortuitous match to someone of a different name can be expected to be reduced from the 0%, 0.3%, 5.9% values found for 7 markers¹. We can accordingly be confident that our 10-marker Oxford Ancestors results are meaningful though it should be added that the chances of fortuitous matching are increased if one also includes the possibility of 'close matches' that allow a single mutation. In particular, it is possible that there may have been a preponderance of the 6-marker haplotype(+) *HT1.15⁺* in east Cheshire (near Wales) and further information may accrue in due course to allow us to assess how likely it is that a similar signature to that found for Plant(t) could have come about fortuitously there, by a false paternity event from someone of a different name. In any event, it clearly does no harm to measure more markers (*e.g.* the 12 or 21 offered by FT-DNA).

Measuring more markers offers the prospects of (i) reducing the (small) chances of fortuitous matching to someone descended from a different name and, more particularly, (ii) perhaps breaking down Plants of the 'Main Group' into smaller groups with each identified by a characteristic small mutation.

Possible prospects for further volunteers

As well as volunteers from further branches, additional adult male Plant volunteers from the same branches are sought in order to check the branch genealogy. Some branches have already been found to have a characteristic mutation (P1a and P2a) from the modal haplotype of the 'Main Group' of Plant(t)s and one volunteer (P4a) has been found to belong to an entirely separate Group.

¹The 10-marker DNA modal signature for Plant(t), as found for the Main Group, is known to match so far just with lines descending from George May (USA, VA in 1755), William Brooking (England, Devon in 1544), Fairservice (Canada, SCO in 17th century), and Dyson sample U (England, Yorks).

Testing further volunteers for those Main Group branches already showing a mutation (branches P1 and P2), might help to shed further light on when their particular mutation occurred and this may help, in turn, to test further details of the branch genealogy. Measuring more markers, in due course, for those Main Group branches that (so far) have no known mutation (P2b, P3, P5, PT1) *might* uncover a characteristic mutation in some of the markers not yet measured. Results for further Plant and Plant-like branches, as yet untested, will of course help to extend the overall picture.

To summarize, the results so far have been rewarding though there are still prospects of further findings, both for Plant-like names in general and for grouping Plants into individual Plant branches.

Please contact me (Member Number 52) if you wish to participate in this project.

Web Site Report

by Dr John S Plant (June 2002)

A recent addition to the web site has been an outline of the Distribution in France of Plant-like names in a French Telephone Directory. Also, the black-and-white outline of the Plant Coat of Arms has been replaced by a colour rendering, for which I am grateful for the crayoning of Linda S Wheeler (Member Number 95) and the digitisation by her sister Cordelia Ronelle Shields. In the longer term, it is hoped to add a database of Civil Registration Records for UK Plants to the web site; this is being coordinated by Mr Philip Plant (Member Number 168) whom you should contact if you wish to participate.

Usage of the web site continues to grow. The total hit rate in the months from December 2001 to May 2002 has changed from 3765 to 10785 to 7242 to 10095 to 10036 to 9109. In particular, there was a 5.4 fold increase from 1993 hits in November 2001 to 10785 in January 2002, though this was largely due to the addition of more graphics over the Christmas break — only 1886 of the requests in January were for textual documents of the web site with the rest being for graphics files associated with such things as new Navigation buttons. These statistics record only requests coming in for the Master Files at Keele and, once obtained, many of the files are held elsewhere in local caches. Requests for the Master Files have come from such diverse places as other Universities (Cambridge, Manchester, etc.), commercial sites in the UK, the USA, Canada, Australia, New Zealand, Spain, Switzerland, France, Netherlands, Finland, Estonia, Yugoslavia, and Japan. It is difficult to assess what these Master File requests imply in terms of people using the information but it seems that several hundred people are accessing several pages of the Plant web site each month. Particularly many requests are for particular items and the Top 5 of requested textual items on the web site has varied in recent months as indicated below..

Month	Top	No. 2	No. 3	No. 4	No. 5
Nov 2001	Chapter 13	Chapter 19	Name Origins	Reunion slides	Journal contents
Dec	Chapter 19	Reunion slides	DNA	Contacts	Name Origins
Jan 2002	Reunion slides	DNA	Chapter 13	Name Origins	Chapter 19
Feb	Reunion slides	DNA	Chapter 19	Chapter 13	Name Origins
Mar	DNA	Chapter 19	Name Origins	Journal contents	Members Interests
Apr	DNA	Chapter 13	Name Origins	Name Distribution	Chapter 23
May	DNA	Chapter 23	Chapter 13	Chapter 19	Reunion slides