

Observed R1b Y-DNA Allele Frequencies of Iberian and Non-Iberian Origins

by

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Introduction

The Y-chromosome R1b haplogroup encompasses such a large population in Western Europe that it is often difficult to differentiate population subgroups when looking at various haplotypes. Without extensive Y-SNP (single nucleotide polymorphisms) testing to determine subclades of R1b, other methods of differentiation should be explored. This study charts the allele frequencies between R1b populations with and without origins in the Iberian peninsula. It is generally accepted that the R1b group clustered in the Iberian peninsula during the Last Glacial Maximum (LGM). Since R1b presently appears at high levels in other areas of Western Europe, it is hoped that this data may be useful in differentiating subgroups of the R1b population.

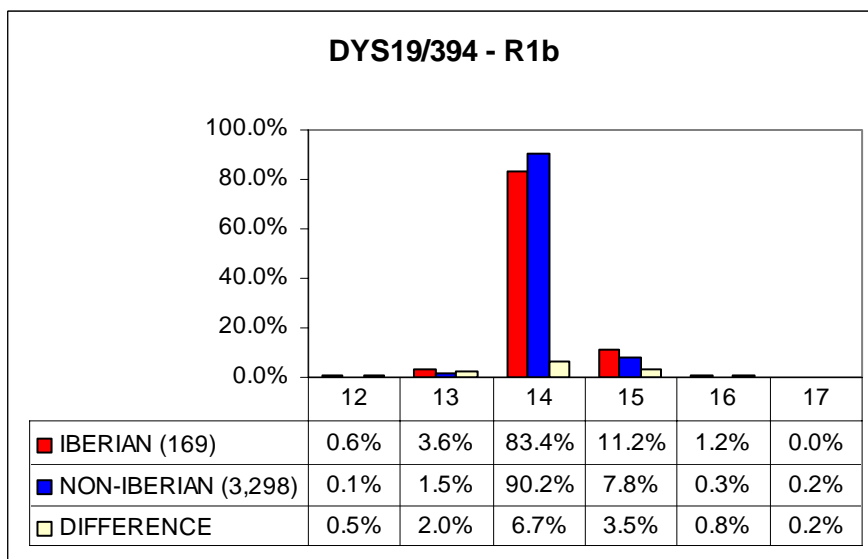
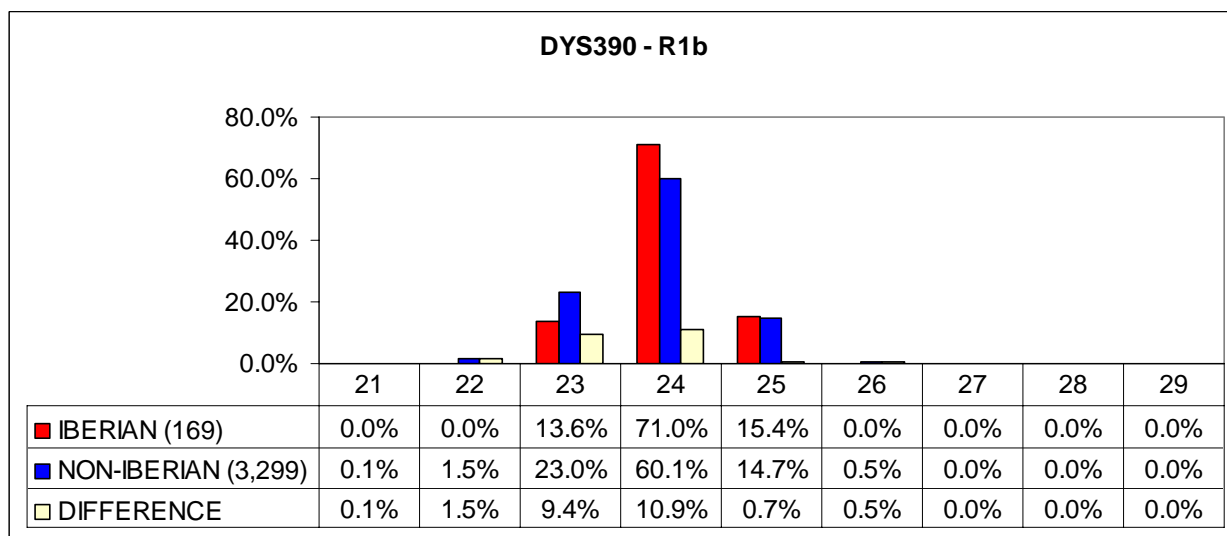
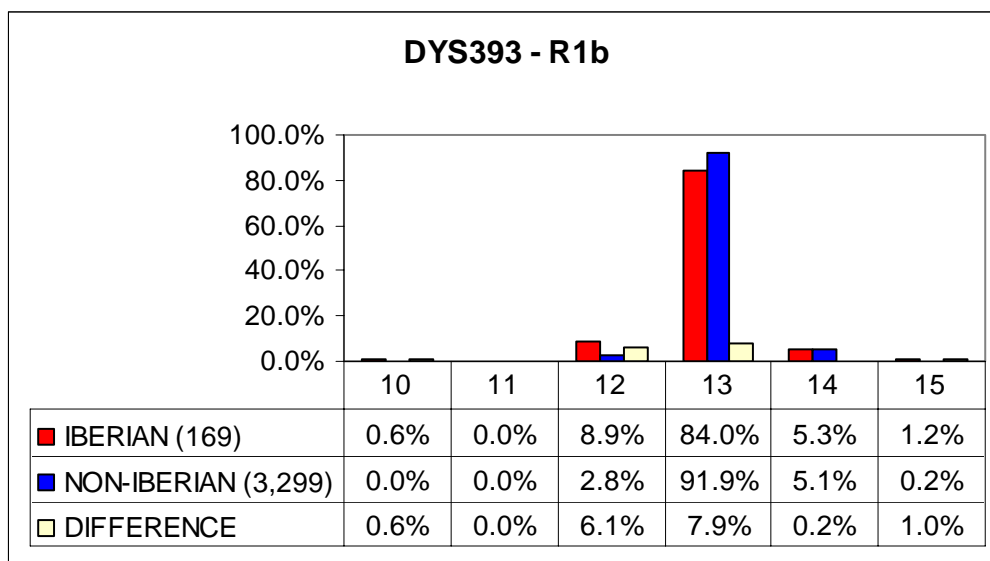
Data and Methodology

Haplotypes of Iberian and non-Iberian origins were studied. Data from 169 individuals of Iberian origin and 3,299 individuals of non-Iberian origin was used to determine the allele frequencies. The determination of Iberian origin was made based on factors of surname and country of origin for the oldest paternal ancestor. A small number of individual determinations were made on one factor alone but the vast majority was based on both surname and country of origin. Allele values for each DYS (DNA Y-chromosome Segment) marker shown were counted and percentages were calculated for their totals and differences between the two groups. The sample size used in the calculations is listed in parenthesis in the key for each marker group. It should be noted that certain markers have a very small sample size. Hopefully this will increase for future studies as various databases grow.

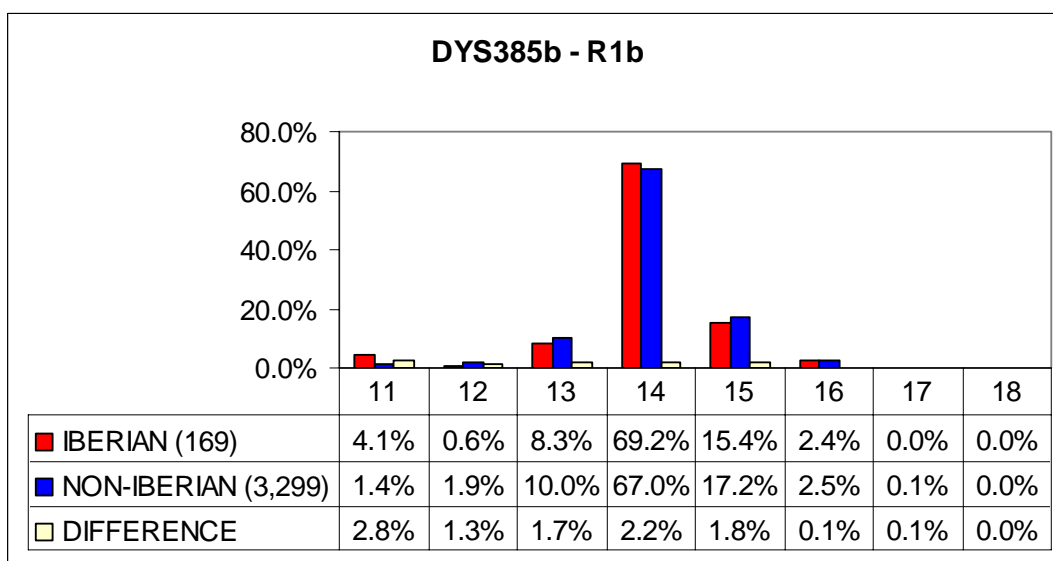
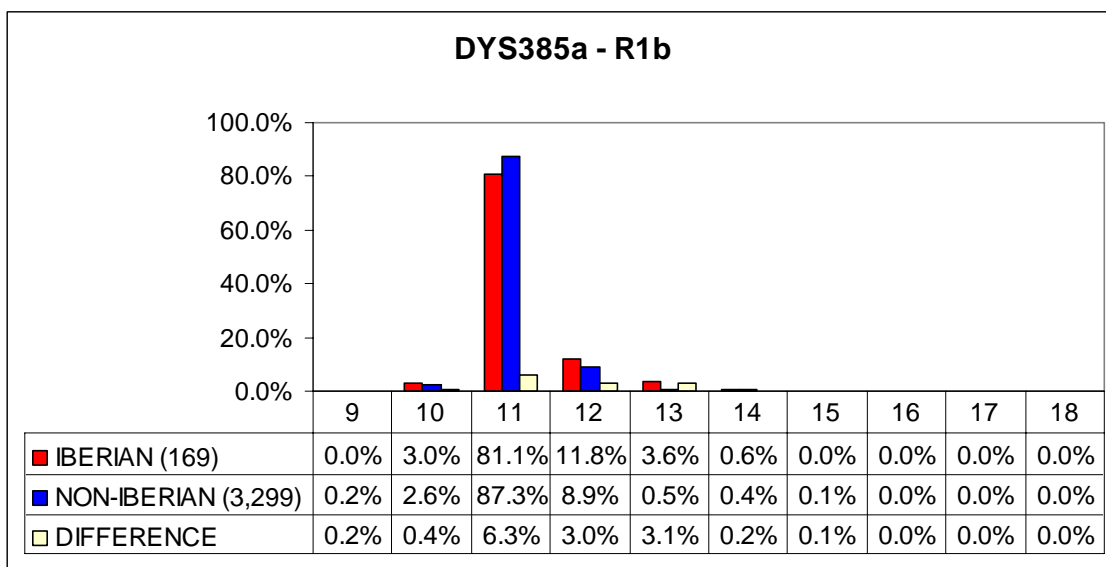
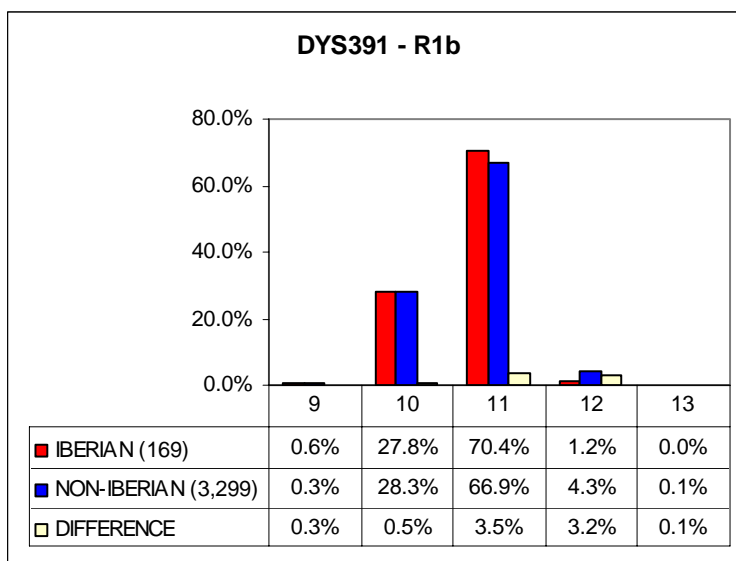
Presentation

Results for the allele frequencies are represented in columnar charts for each DYS marker and arranged in an order to match that used by Family Tree DNA (FTDNA) to facilitate data usage and comparison with the online database at <http://www.ysearch.org> .

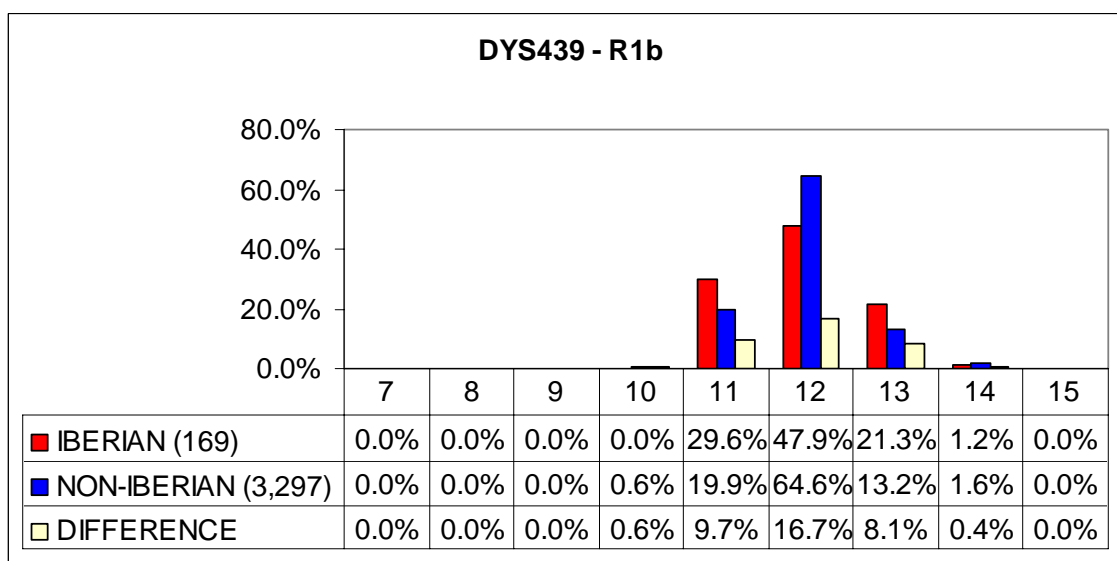
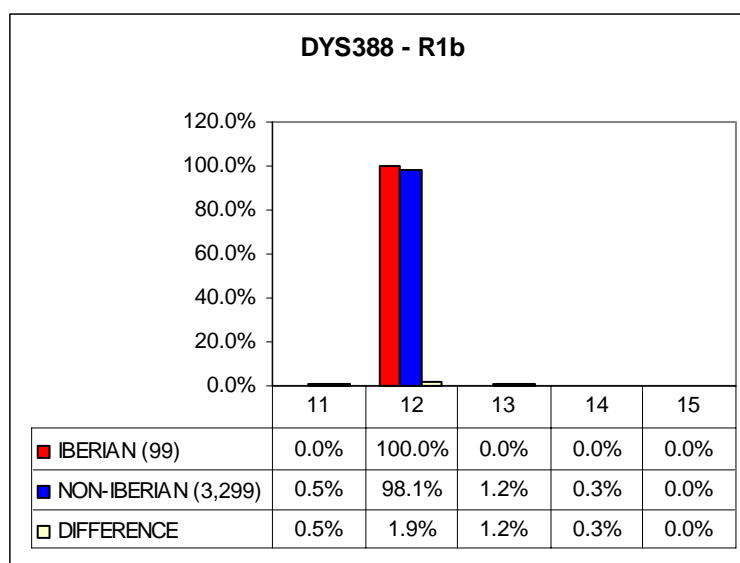
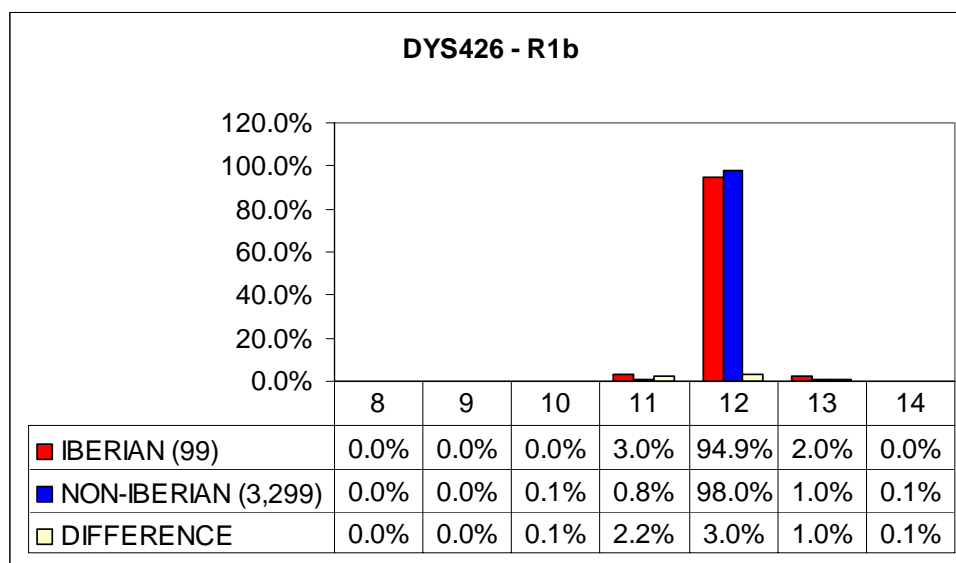
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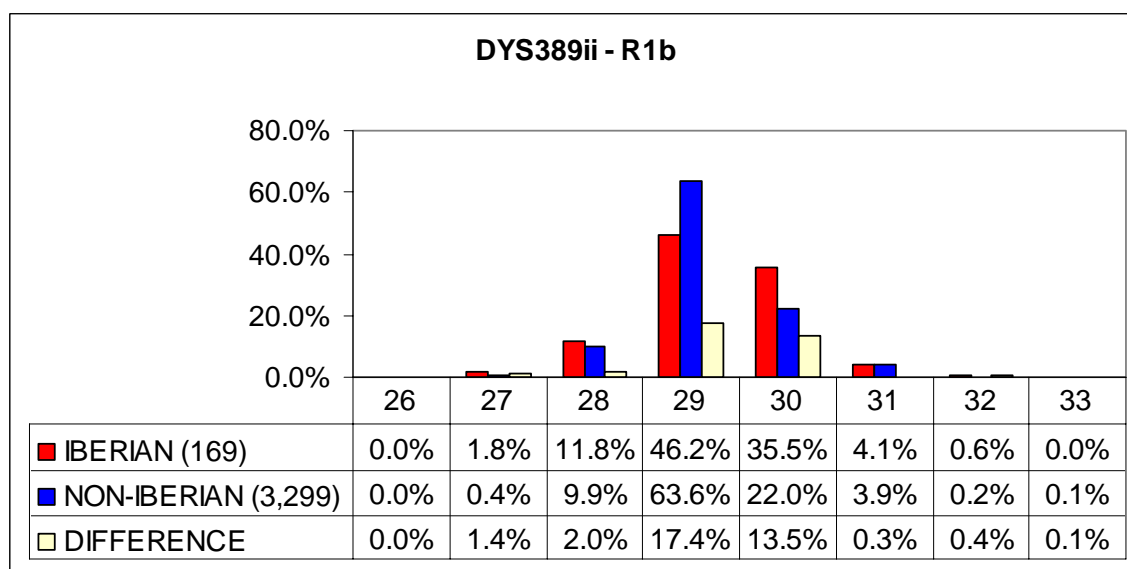
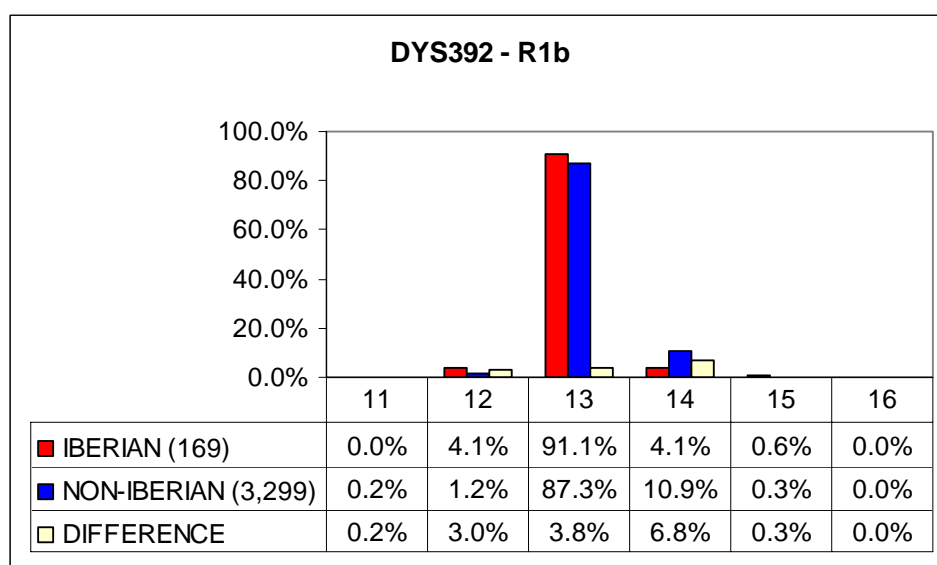
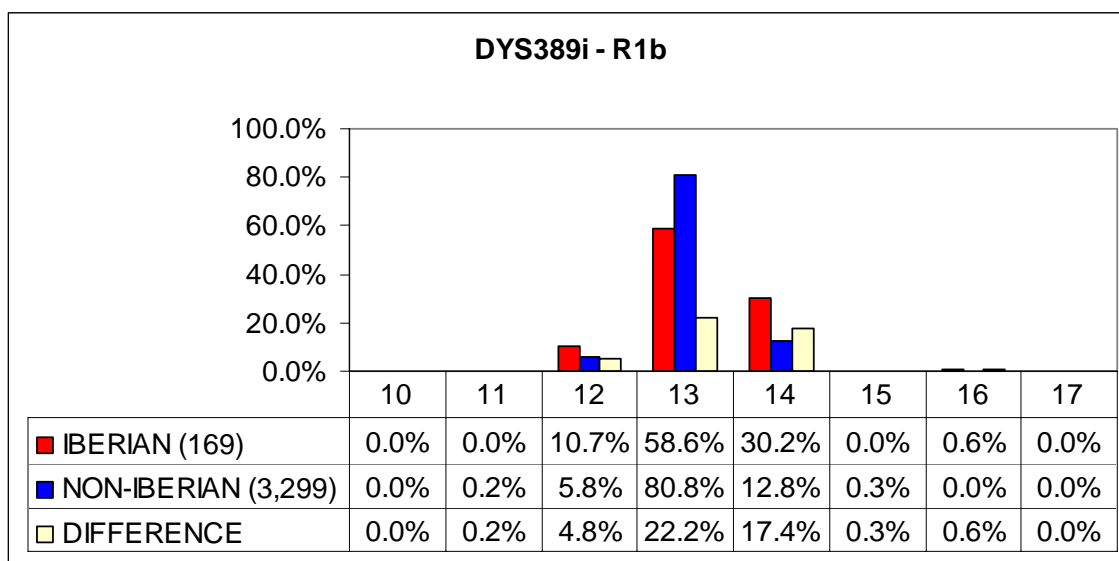
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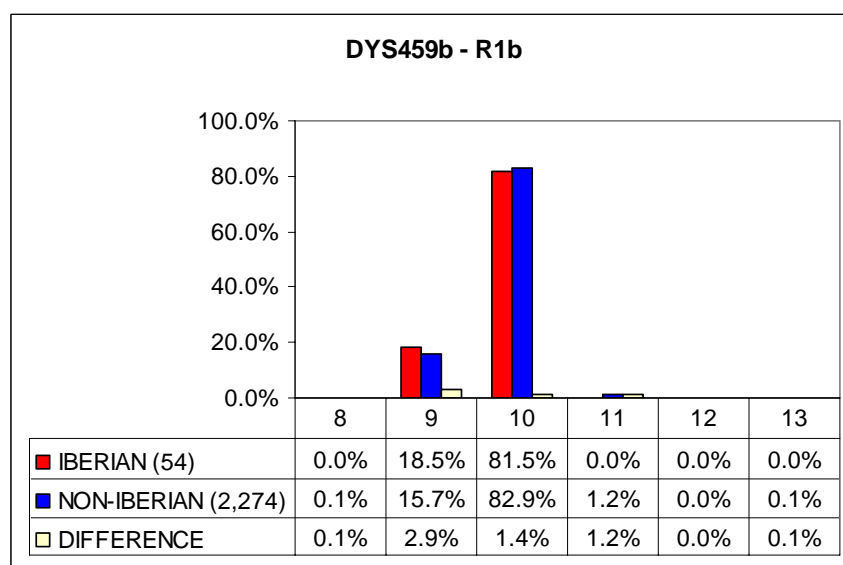
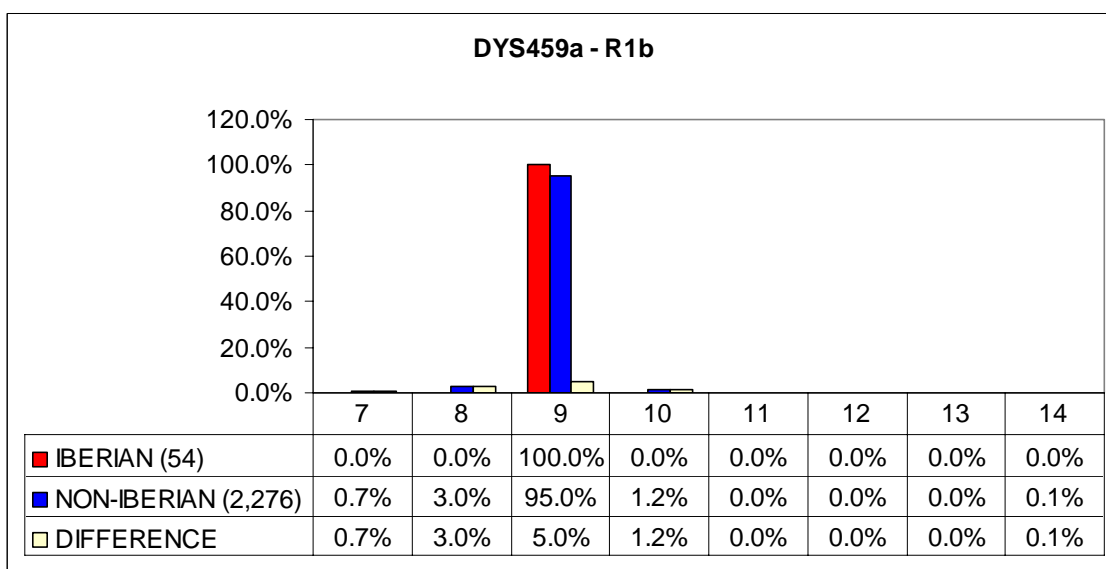
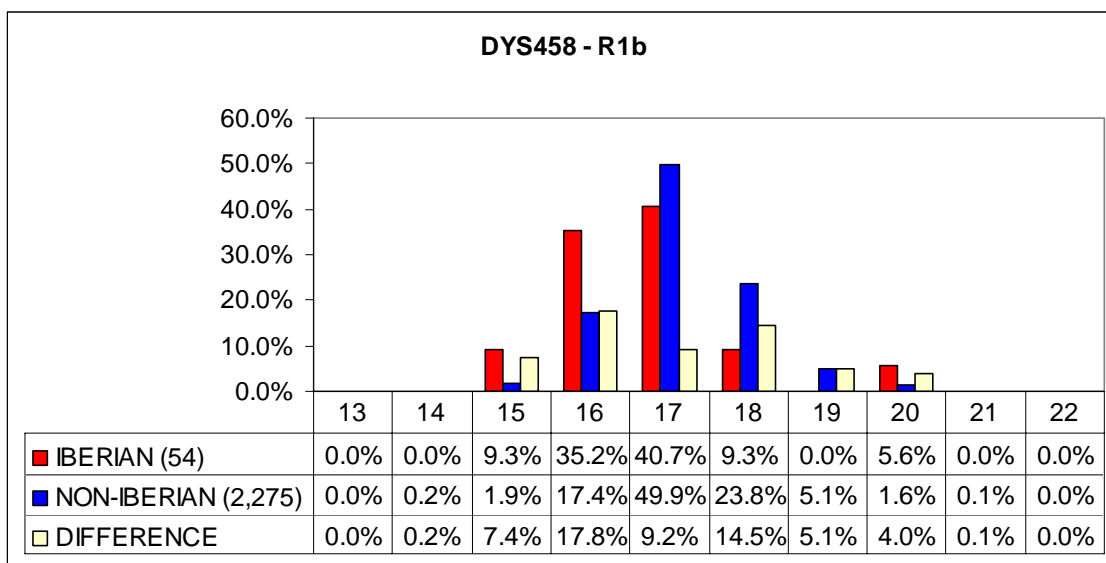
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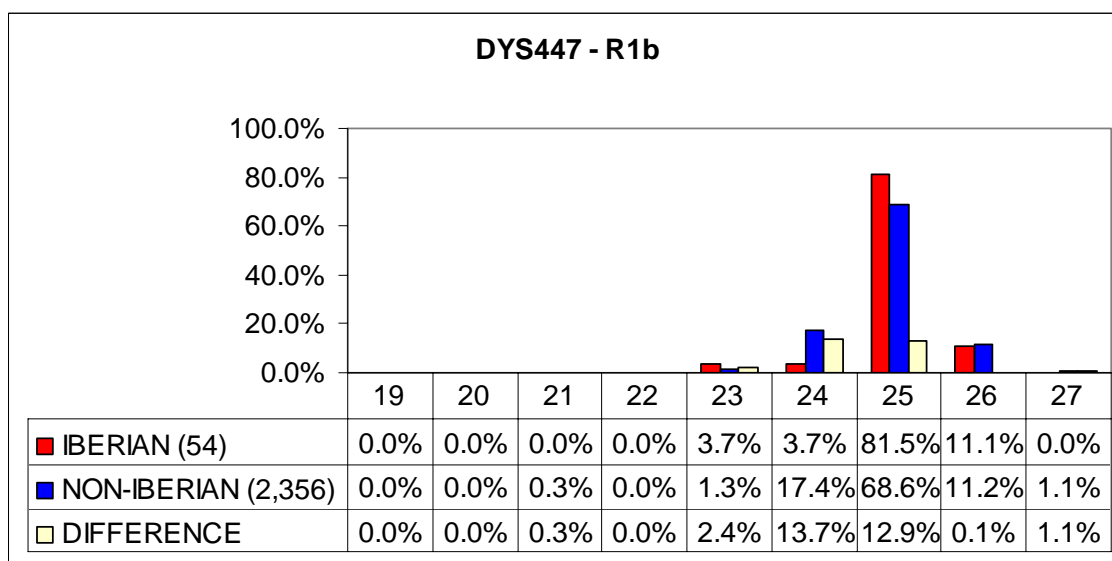
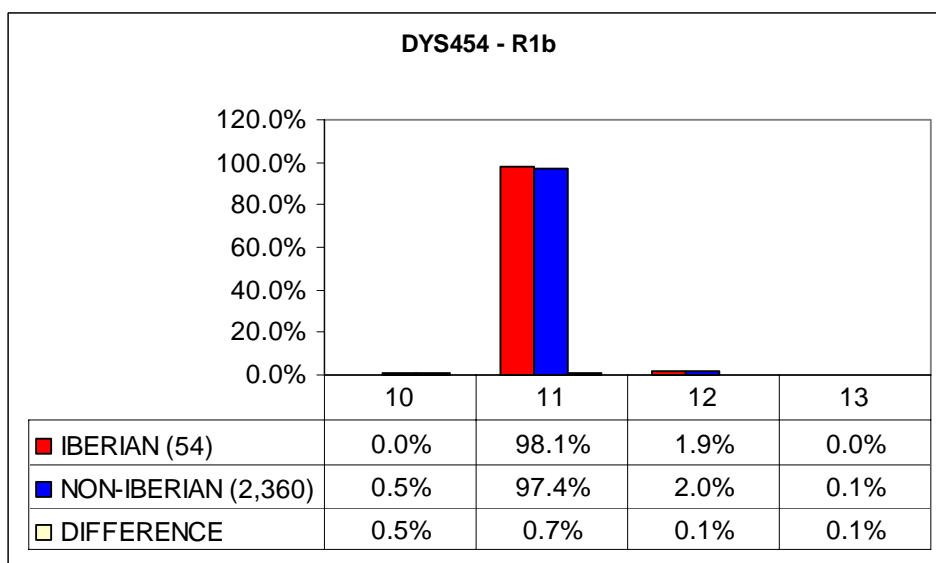
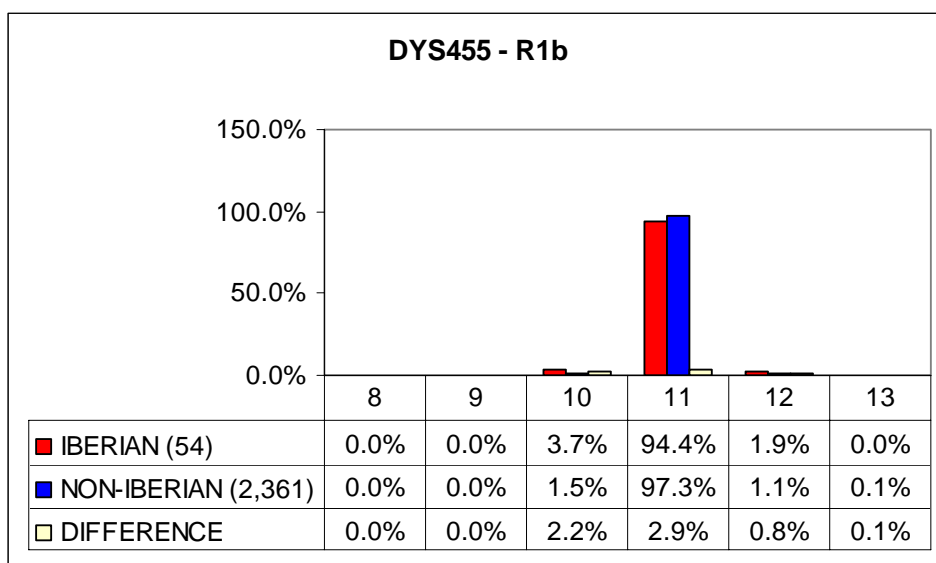
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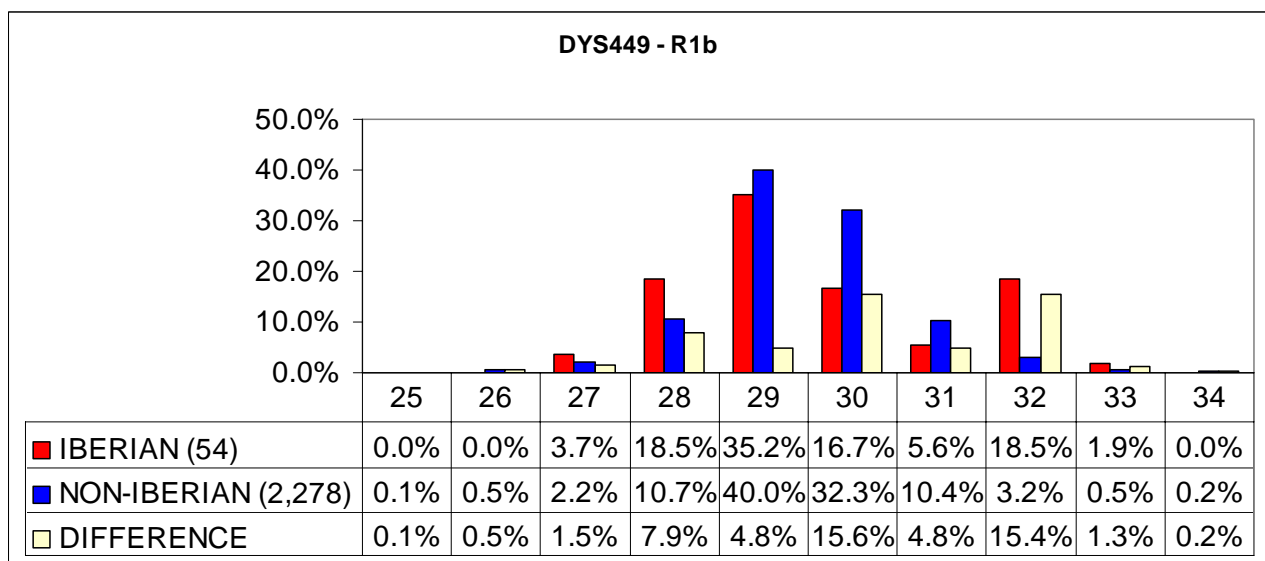
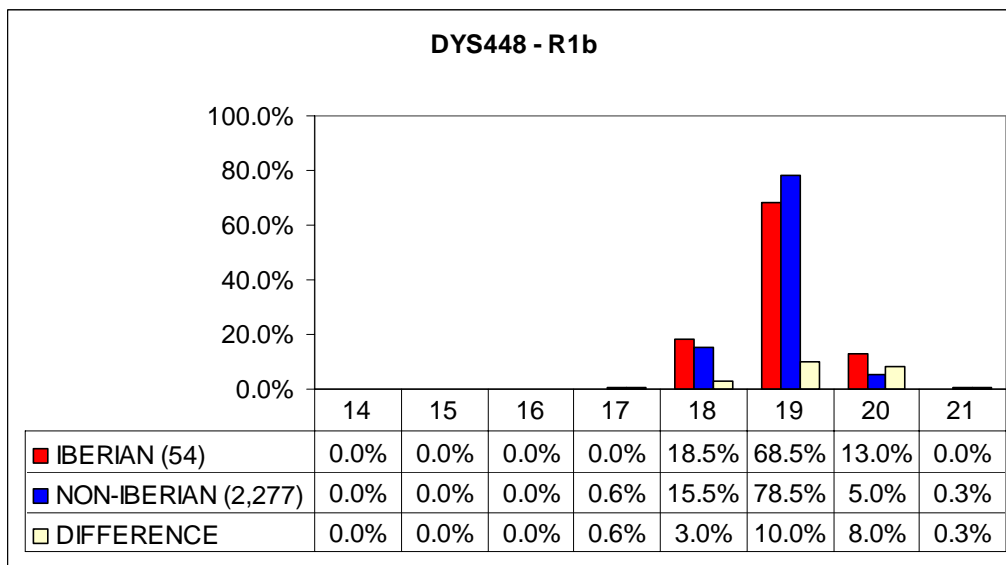
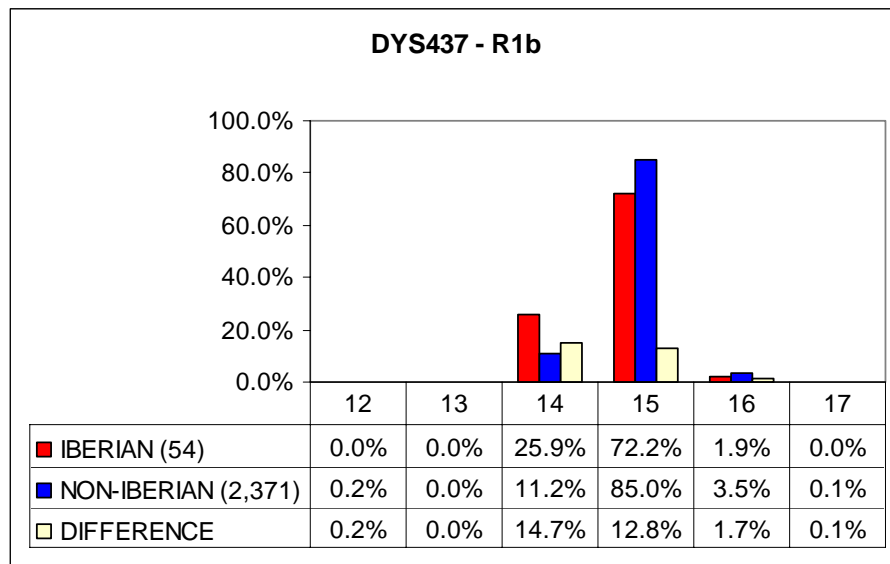
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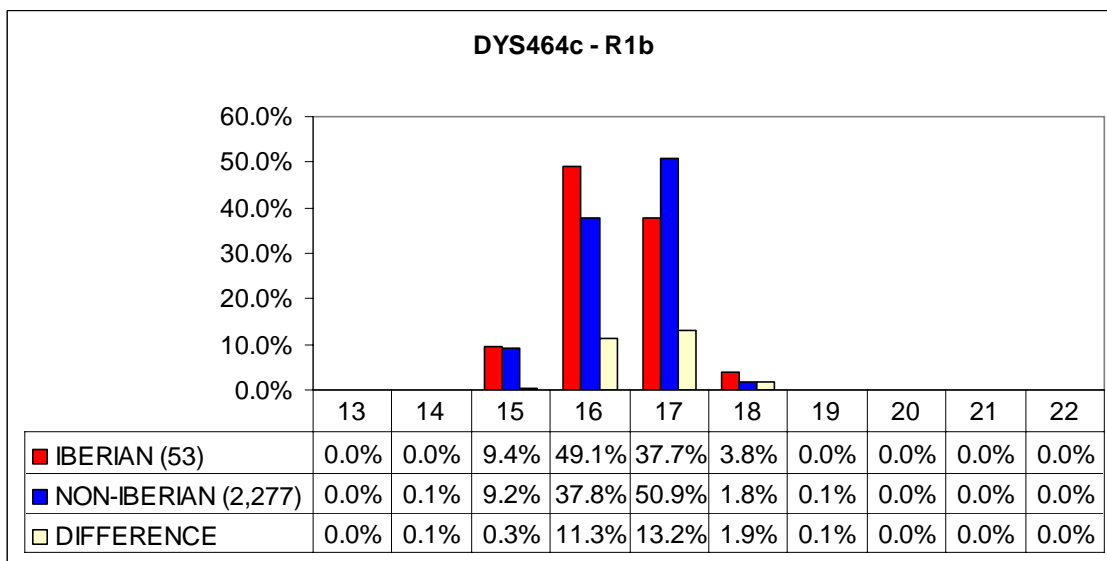
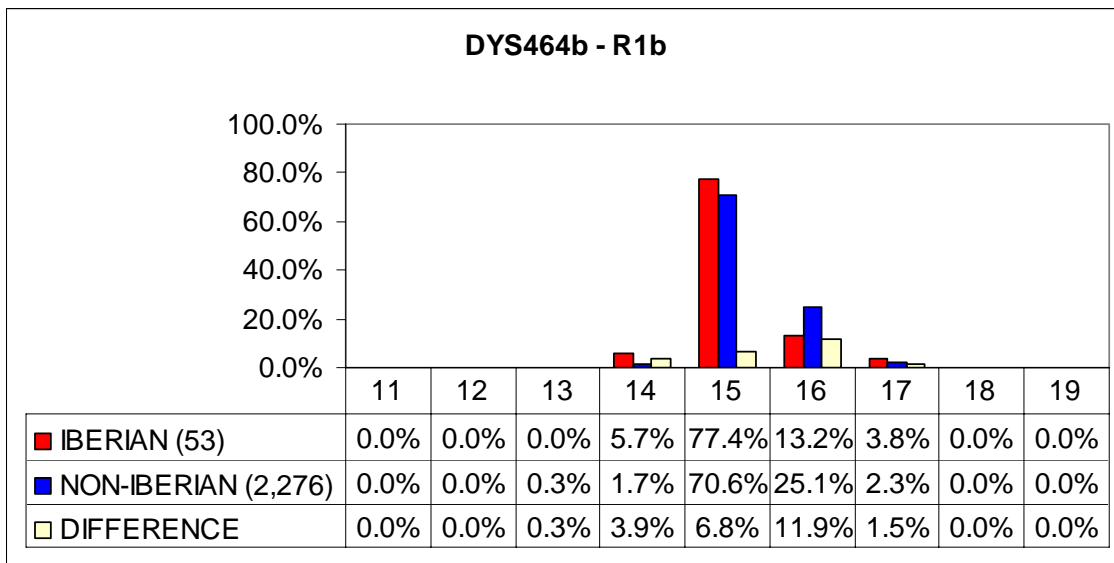
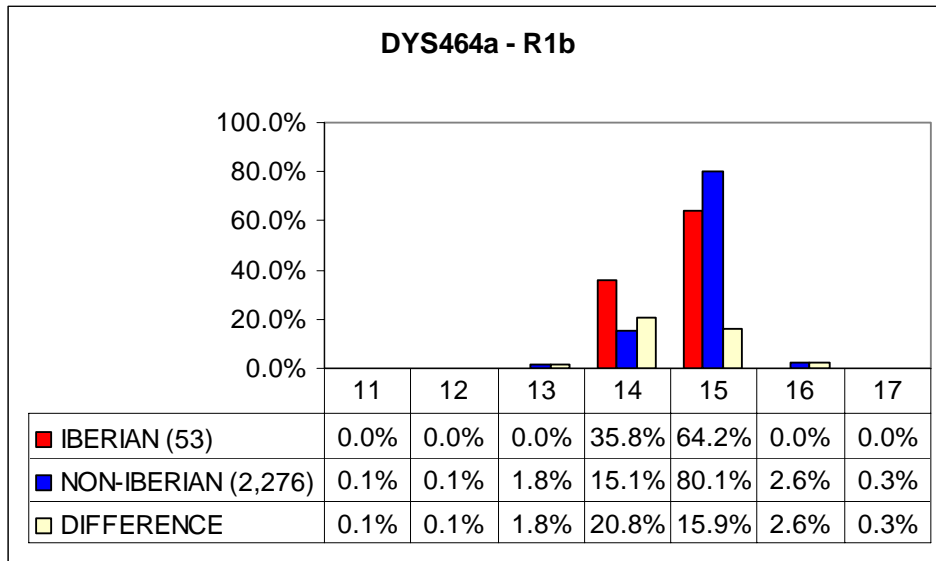
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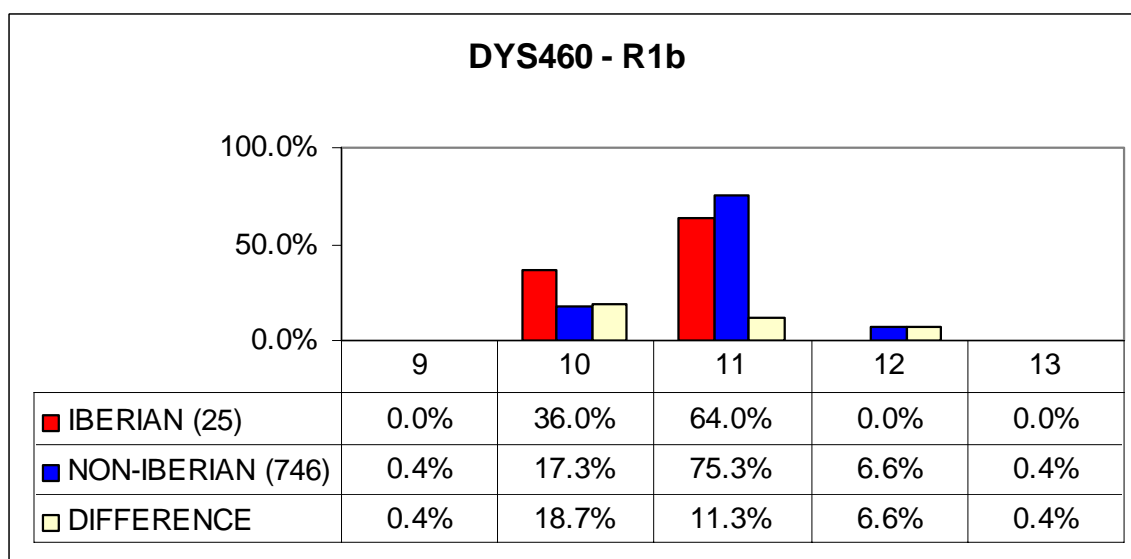
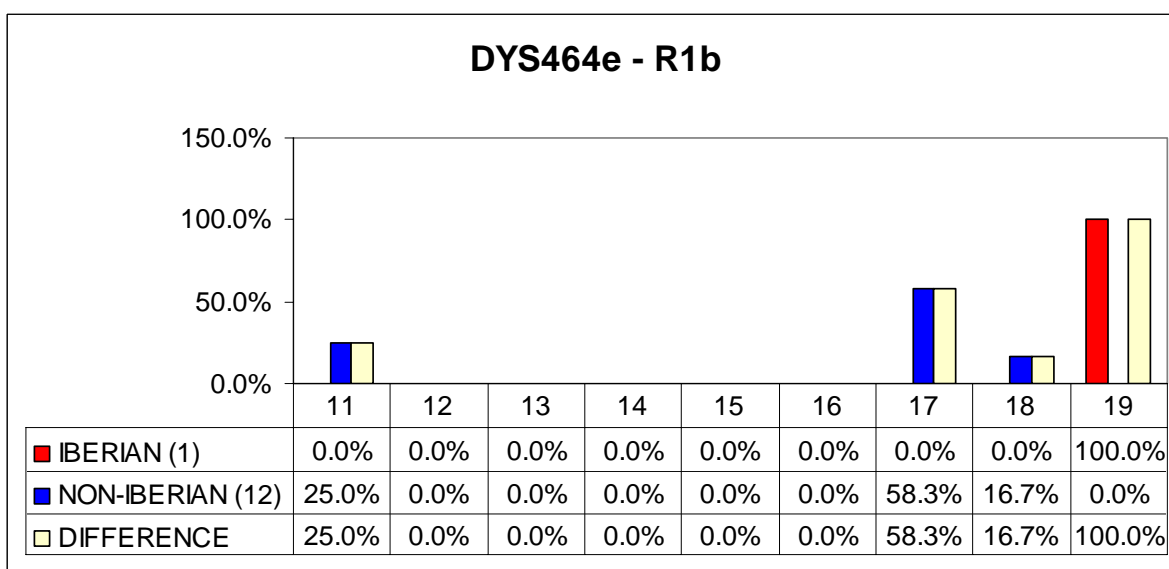
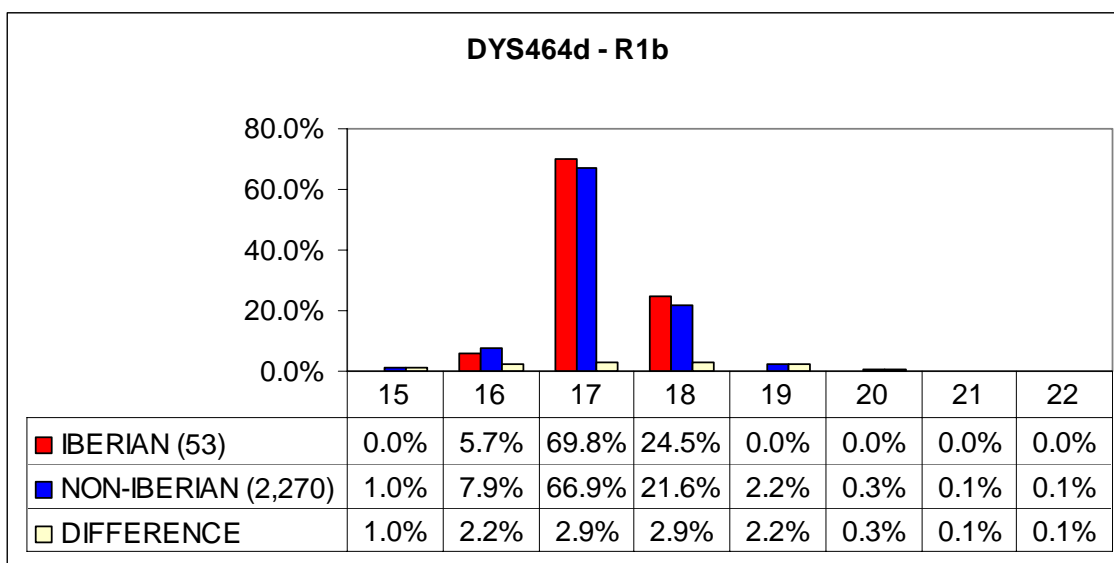
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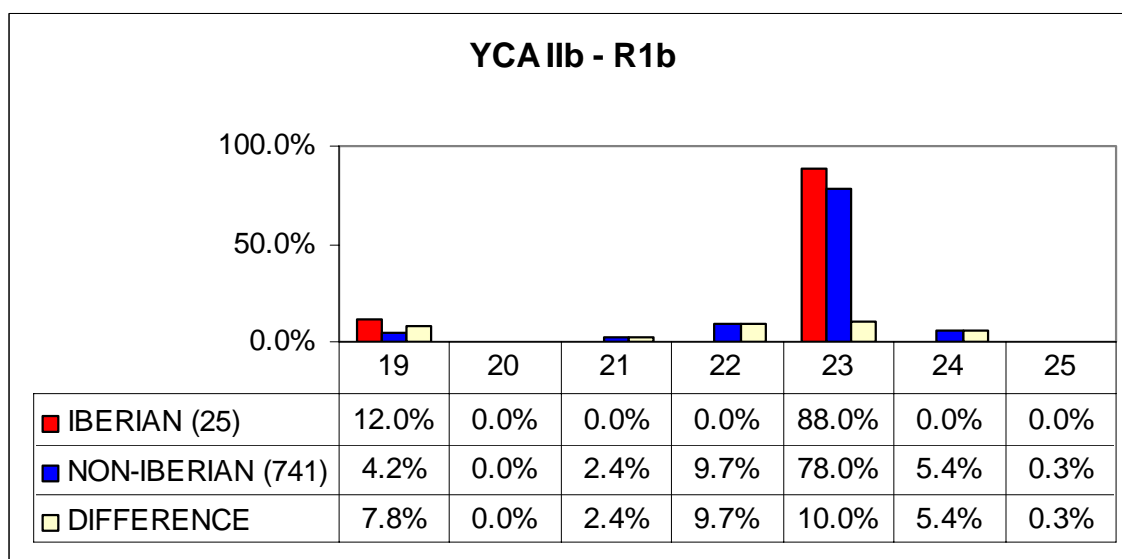
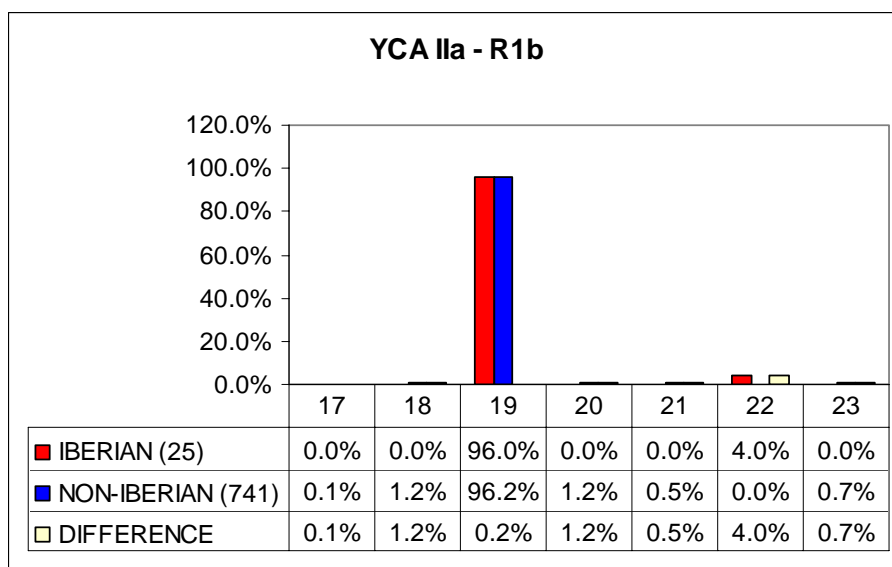
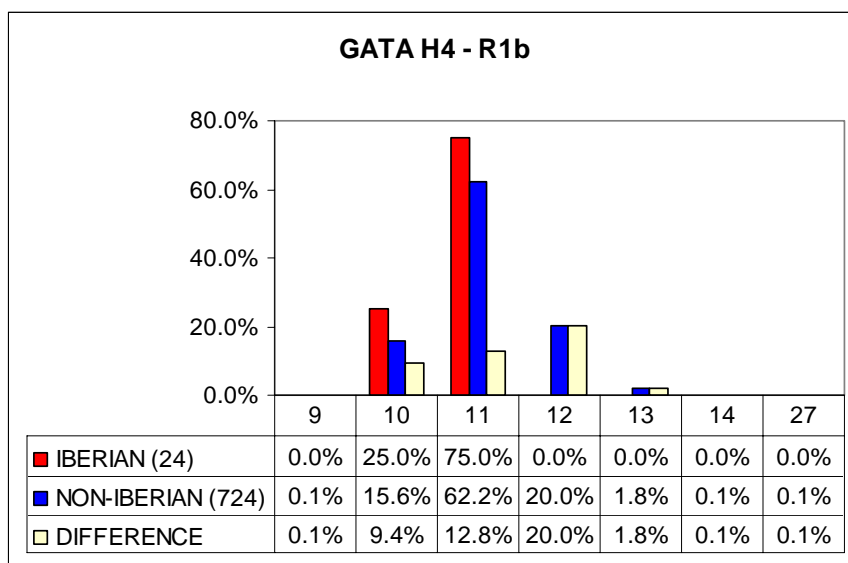
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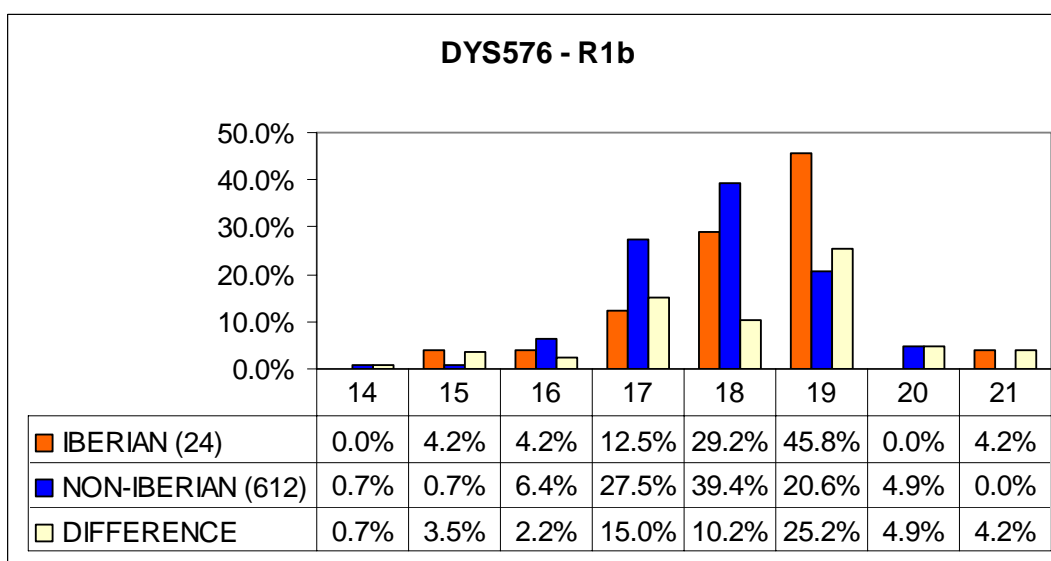
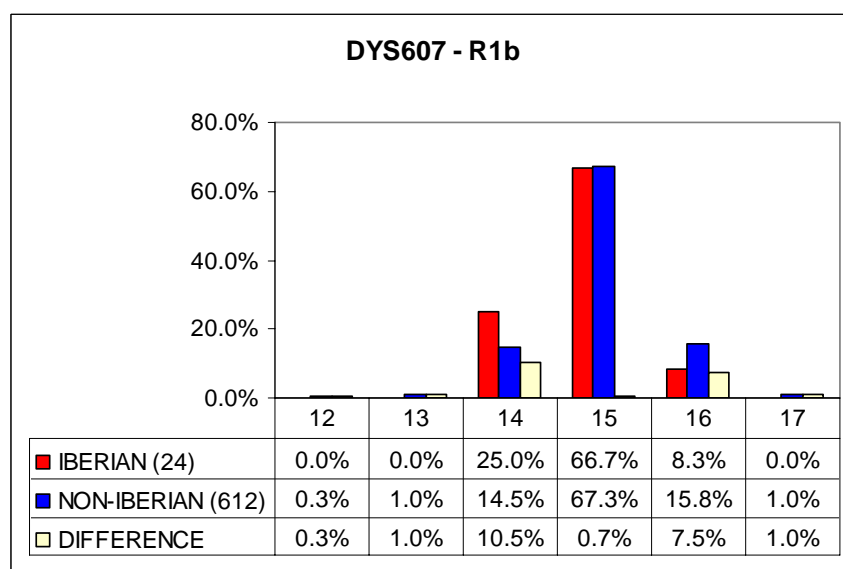
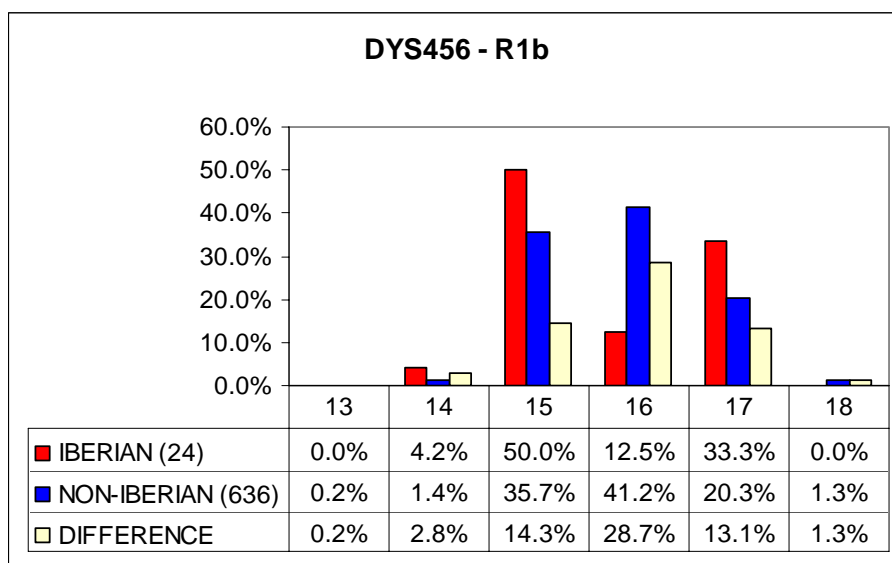
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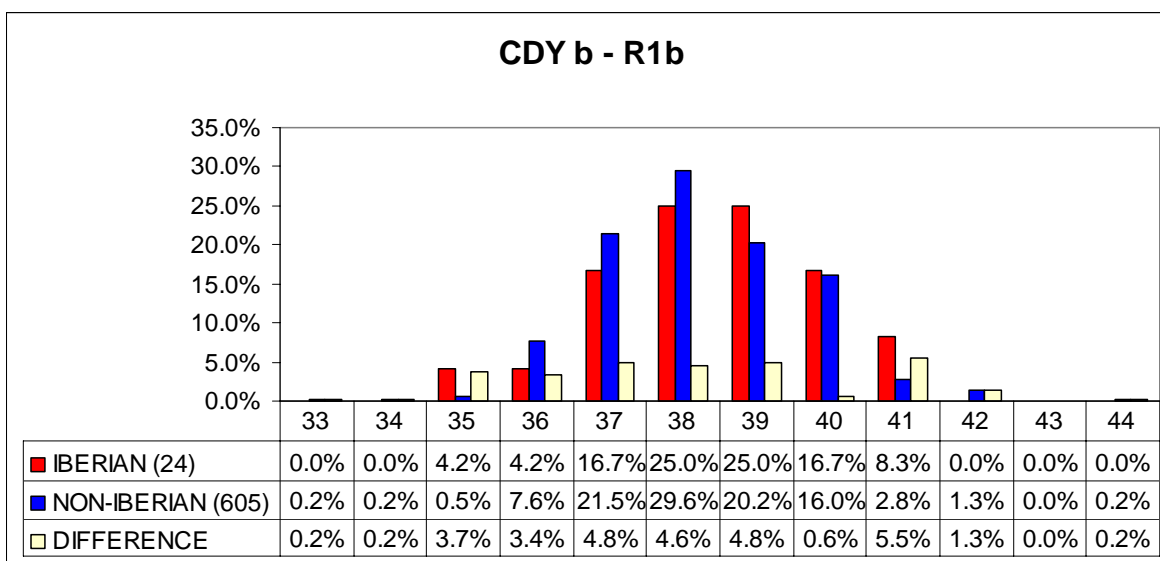
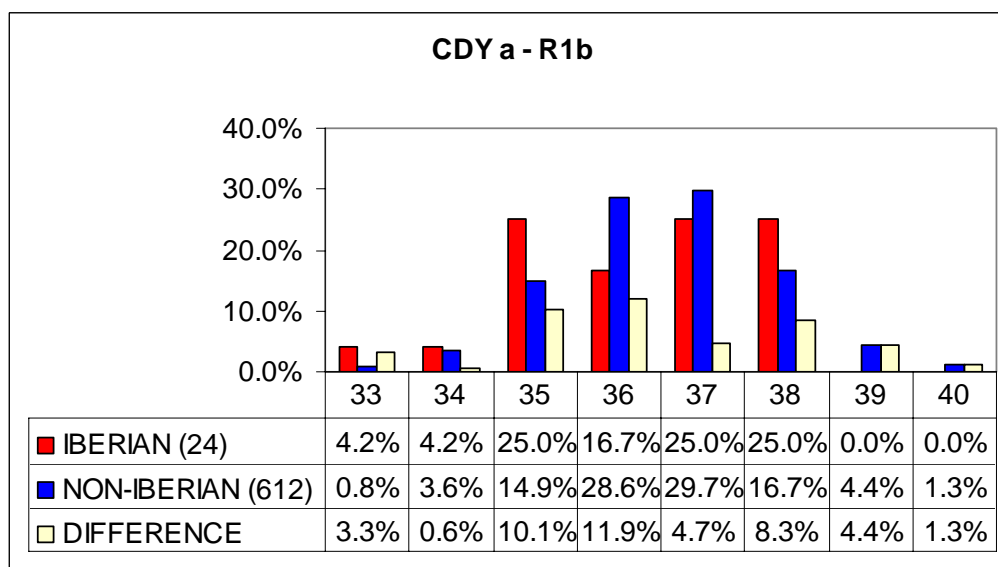
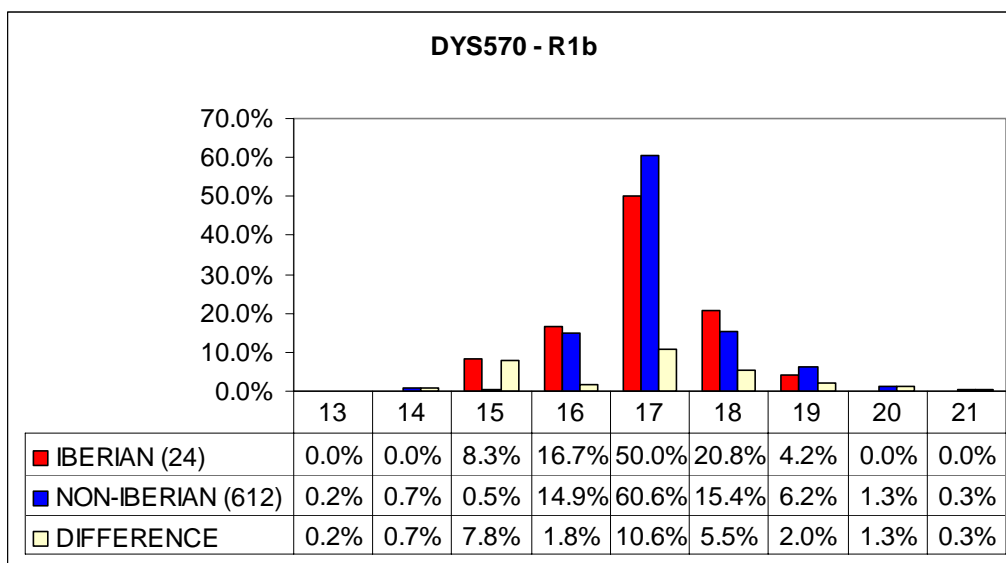
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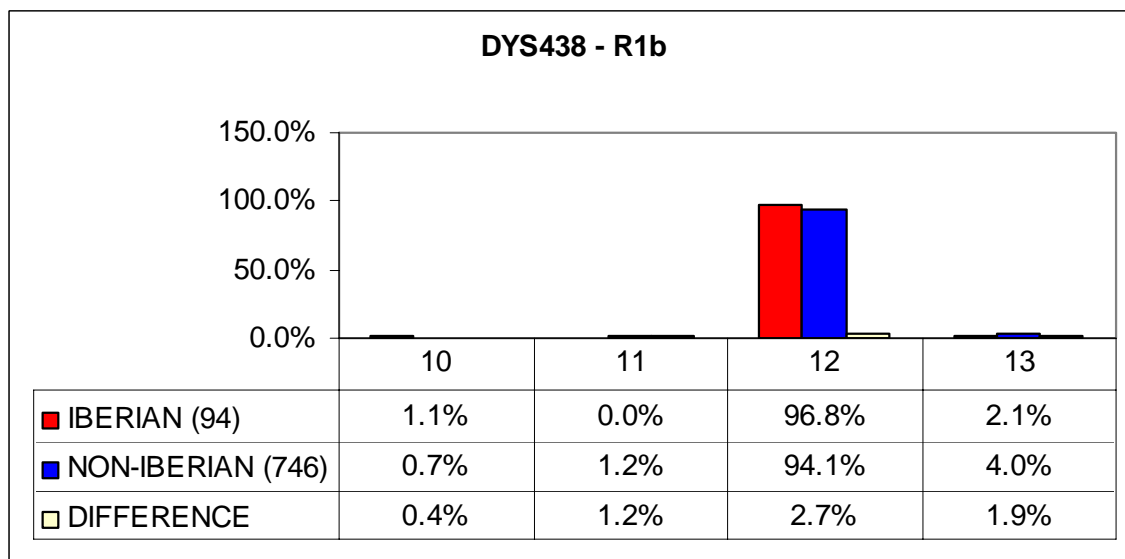
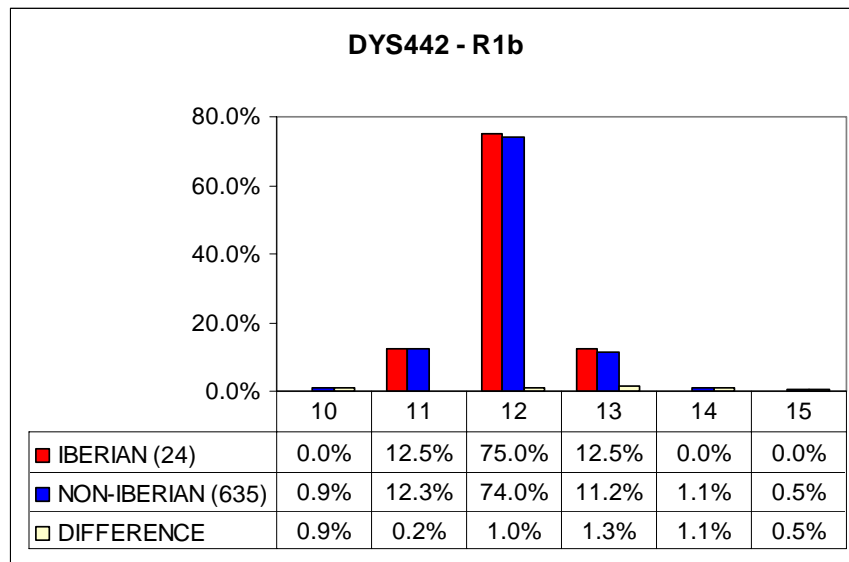
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Results

The allele frequencies observed here may be of some value to other studies of the R1b haplogroup. While the sample size for the Iberian group is small, the resulting comparisons with the larger non-Iberian sample do identify some areas of differences. Of the thirty-eight DYS markers shown, six have an allele frequency with a difference of more than 20%, five others with at least 15%, and ten others with at least 10%. The markers showing the highest aggregate percentages of differences in order are DYS464e, DYS576, DYS456, DYS458, and DYS449, although marker DYS464e is probably not significant in that there was a sample size of 1 in the Iberian group. Besides DYS464e just mentioned, the marker with the highest percentage difference for an allele value is DYS456 at 28%. There may still be more differences noted from a statistical analysis, but that has not been done to this date.

Acknowledgments

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