



S- Fig. 1. Posterior distributions for the time of the most common recent ancestor (MRCA) between two individuals for 16 markers -17 loci- for an infinite alleles model with 1, 2, 3 or 4 differences assuming a $\lambda=1/5000$ prior and a mutation rate of $\mu=0,002458$. Time is measured in generations. Numbers indicate number of marker alleles k that match between the two individuals.

S- Table 1. Summary of the posterior distribution of the most common ancestor for two individuals that match at 12, 13, 14 and 15 of 16 markers. Showing the maximum-likelihood estimate (MLE), mean, standard deviation (SD) and the 0.025, 0.90 and 0.975 cutoff values.

Mismatch	MLE	Mean	SD	$t_{0.025}$	$t_{0.9}$	$t_{0.975}$
1	13.1	26.2	18.5	3.1	50.9	73.0
2	27.1	40.7	23.5	8.3	72.2	98.0
3	42.1	56.3	28.2	15.2	94.0	123.6
4	58.4	64.7	32.9	23.6	117.1	150.4

S-Table 2 Y-chromosome profiles of 1429 individuals from the different regions of North Africa. For all populations (with the haplogroup classification available or not) the haplogroup was inferred using the whit allele/ Haplogroup Predictor

Index	Ethnic/Language	Population	Sample Size	Haplotypes	Haptype frequency	Haplogroup	Haplogroup Predictor	YSTR Haplotypes																Reference
								DYS11	DYS19	DYS385I	DYS385II	DYS390	DYS391	DYS392	DYS393	DYS426	DYS438	DYS439	DYS448	DYS454	DYS455	DYS456		
1	Comorian	Bongoni	228																					
				BEN 1	1	-	J1 (98.2%)	11	13	20	23	11	11	12	13-19	14	10	12	20	15	18	21	11	Elmaghrabi et al., 2012
				BEN 2	1	-	E3b1a1 (100%)	11	13	24	10	12	14	13-14	14	11	12	21	16	18	21	9	Elmaghrabi et al., 2012	
				BEN 3	1	-	J1 (98.2%)	12	10	28	22	12	11	11	14-16	14	11	9	19	14	19	21	10	Elmaghrabi et al., 2012
				BEN 4	1	-	J1 (98.7%)	12	13	29	23	10	11	12	13-19	14	9	12	20	14	18	21	11	Elmaghrabi et al., 2012
				BEN 5	1	-	J1 (83.3%)	12	13	29	23	11	11	10	17-17	14	11	12	19	14	18	21	12	Elmaghrabi et al., 2012
				BEN 6	1	-	E3b1a1 (61.7%)	12	13	30	21	10	11	10	17-17	14	11	12	19	14	18	21	12	Elmaghrabi et al., 2012
				BEN 7	1	-	J2a1 (61.875%)	13	11	29	23	9	11	11	13-19	13	9	11	20	14	16	21	8	Elmaghrabi et al., 2012
				BEN 8	1	-	I (100%)	12	13	29	23	9	11	11	13-15	14	11	11	20	14	18	21	10	Elmaghrabi et al., 2012
				BEN 9	1	-	J1 (98.7%)	13	12	28	23	11	11	12	16-17	14	9	10	20	15	19	20	11	Elmaghrabi et al., 2012
				BEN 10	1	-	G2a1 (4.4%)	13	13	29	23	9	11	12	13-15	14	9	10	20	15	19	20	11	Elmaghrabi et al., 2012
				BEN 11	1	-	E3b1a1 (100%)	13	12	29	22	9	11	13	13-15	14	10	13	23	15	15	23	11	Elmaghrabi et al., 2012
				BEN 12	1	-	E3b1a1 (100%)	13	12	29	23	9	11	13	13-15	14	10	15	20	14	18	21	12	Elmaghrabi et al., 2012
				BEN 13	1	-	E3b1a1 (98%)	13	12	29	24	11	11	16	13-15	14	9	10	20	18	20	21	12	Elmaghrabi et al., 2012
				BEN 14	1	-	J1 (98.2%)	13	13	28	24	9	11	12	13-15	14	9	10	20	14	18	21	10	Elmaghrabi et al., 2012
				BEN 15	1	-	J2a1 (48%)	13	13	28	24	9	11	12	13-15	14	9	10	20	15	17	21	12	Elmaghrabi et al., 2012
				BEN 16	1	-	I (97.2%)	13	13	28	24	9	11	13	13-15	14	9	10	19	16	17	20	12	Elmaghrabi et al., 2012
				BEN 17	1	-	E3b1a1 (86.4%)	13	13	28	24	9	11	13	13-14	14	9	11	20	16	18	20	12	Elmaghrabi et al., 2012
				BEN 18	1	-	E3b1a1 (100%)	13	13	28	24	9	11	13	13-15	14	9	10	20	15	17	21	12	Elmaghrabi et al., 2012
				BEN 19	3	-	E3b1a1 (67.4%)	13	13	28	24	9	11	13	13-15	14	9	10	20	15	17	21	12	Elmaghrabi et al., 2012
				BEN 20	1	-	E3b1a1 (100%)	13	13	28	24	9	11	13	13-15	14	9	10	20	15	17	21	12	Elmaghrabi et al., 2012
				BEN 21	1	-	E3b1a1 (82.4%)	13	13	28	24	9	11	13	13-15	14	9	10	20	17	18	21	12	Elmaghrabi et al., 2012
				BEN 22	1	-	E3b1a1 (100%)	13	13	28	24	9	11	13	13-15	14	9	10	20	17	19	20	12	Elmaghrabi et al., 2012
				BEN 23	1	-	E3b1a1 (97.5%)	13	13	28	24	9	11	13	13-15	14	10	10	21	14	17	21	12	Elmaghrabi et al., 2012
				BEN 24	1	-	J2a1 (61.8617%)	13	13	28	24	10	11	12	14-15	14	9	10	20	16	17	21	12	Elmaghrabi et al., 2012
				BEN 25	1	-	J2a1 (61.8617%)	13	13	29	21	10	11	14	12-13	15	9	11	22	14	18	21	8	Elmaghrabi et al., 2012
				BEN 26	1	-	J1 (62.2%)	13	13	29	22	11	11	12	19-21	14	10	11	20	14	18	20	11	Elmaghrabi et al., 2012
				BEN 27	1	-	J1 (99.9%)	13	13	29	23	9	11	12	13-15	14	10	10	20	15	17	21	12	Elmaghrabi et al., 2012
				BEN 28	1	-	I (78.6%)	13	13	29	23	9	14	13	16-17	14	9	12	19	15	20	23	11	Elmaghrabi et al., 2012
				BEN 29	1	-	J1 (98%)	13	13	29	23	10	11	13	13-19	14	10	12	20	14	18	21	11	Elmaghrabi et al., 2012
				BEN 30	1	-	J1 (98.2%)	13	13	29	23	10	11	13	17-21	14	9	12	20	15	18	21	11	Elmaghrabi et al., 2012
				BEN 31	1	-	J1 (98.2%)	13	13	29	23	11	11	12	13-16	14	11	11	20	14	18	22	11	Elmaghrabi et al., 2012
				BEN 32	1	-	J1 (99.9%)	13	13	29	23	11	11	12	13-15	14	10	11	20	14	19	21	11	Elmaghrabi et al., 2012
				BEN 33	1	-	E3b1a1 (95.2%)	13	13	29	24	9	11	13	14-15	14	10	10	20	14	18	21	12	Elmaghrabi et al., 2012
				BEN 34	1	-	E3b1a1 (97.4%)	13	13	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 35	1	-	E3b1a1 (97.4%)	13	13	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 36	1	-	E3b1a1 (97.4%)	13	13	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 37	1	-	E3b1a1 (100%)	13	13	30	21	10	12	13	16-19	14	10	11	20	15	17	23	12	Elmaghrabi et al., 2012
				BEN 38	1	-	E3b1a1 (97.4%)	13	13	30	21	10	11	13	13-15	14	10	12	20	15	18	24	11	Elmaghrabi et al., 2012
				BEN 39	1	-	E3b1a1 (100%)	13	13	31	23	10	11	13	13-15	14	10	12	20	15	18	24	11	Elmaghrabi et al., 2012
				BEN 40	1	-	E3b1a1 (100%)	13	13	31	23	10	11	13	13-15	14	10	12	20	15	18	24	11	Elmaghrabi et al., 2012
				BEN 41	1	-	I (42.3%)	13	14	28	24	9	11	13	13-15	14	9	10	21	16	16	21	12	Elmaghrabi et al., 2012
				BEN 42	1	-	G2a1 (4.4%)	13	14	29	23	9	11	12	13-15	14	9	10	20	16	17	20	12	Elmaghrabi et al., 2012
				BEN 43	1	-	E3b1a1 (48%)	13	14	29	23	9	11	13	13-15	14	10	10	21	16	17	21	13	Elmaghrabi et al., 2012
				BEN 44	1	-	J2a1 (4.4%)	13	14	29	24	9	11	12	13-14	14	9	12	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 45	1	-	E3b1a1 (98.7%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 46	1	-	E3b1a1 (94.7%)	13	14	29	24	9	11	13	13-14	14	9	10	20	16	17	20	12	Elmaghrabi et al., 2012
				BEN 47	1	-	E3b1a1 (100%)	13	14	29	24	9	11	13	13-14	14	10	10	20	16	19	20	12	Elmaghrabi et al., 2012
				BEN 48	1	-	E3b1a1 (97.2%)	13	14	29	24	9	11	13	13-14	14	9	10	20	16	19	20	12	Elmaghrabi et al., 2012
				BEN 49	1	-	E3b1a1 (98.2%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 50	1	-	E3b1a1 (98.2%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 51	1	-	E3b1a1 (98.2%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 52	1	-	E3b1a1 (98.2%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 53	1	-	E3b1a1 (98.2%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 54	1	-	E3b1a1 (98.2%)	13	14	29	24	9	11	13	13-15	14	10	10	20	16	18	21	12	Elmaghrabi et al., 2012
				BEN 55	1	-	E3b1a1 (98.2%)	13	14															

Ally	Arms	Q2
	Class	
OIRA 1	1	E36C-M79 E36B(M79) 13 11 28 21 10 11 13 17-18 14 10 10 20 15 15 21 11
OIRA 2	1	E36C-M81 E36B(M81) 13 12 28 24 10 11 13 13-14 14 10 11 20 16 16 21 12
OIRA 3	1	E36C-M79 E36B(M79) 13 12 28 24 10 11 13 13-14 14 10 11 20 16 16 21 12
OIRA 4	1	J1-A26T E36B(M79) 13 12 29 24 10 11 12 12-16 14 10 12 20 16 18.2 19 10
OIRA 5	1	E36C-M81 E36B(M81) 13 13 29 24 9 11 13 13-15 14 10 11 20 16 18 21 12
OIRA 6	2	E36C-M81 E36B(M81) 13 13 29 24 9 11 13 13-14 14 10 10 20 16 16 21 12
OIRA 7	1	E36C-M81 E36B(M81) 13 13 29 24 9 11 13 13-14 14 10 10 20 16 16 21 12
OIRA 8	1	E36C-M81 E36B(M81) 13 13 29 24 9 11 13 13-14 14 10 11 20 15 18 21 12
OIRA 9	1	E36C-M81 E36B(M81) 13 13 29 24 9 11 13 13-14 14 10 11 20 15 18 21 12
OIRA 10	1	E36C-M81 E36B(M81) 13 13 29 24 9 11 13 13-15 14 10 10 20 16 18 21 12
OIRA 11	1	R13A-M209 E36B(M79) 13 13 29 24 9 11 13 13-15 14 10 10 20 16 18 21 12
OIRA 12	1	E36C-M81 E36B(M81) 13 13 30 24 9 11 13 13-14 14 10 10 19 16 17 21 12
OIRA 13	1	E36C-M81 E36B(M81) 13 13 30 24 9 11 13 13-14 14 10 10 19 16 17 21 12
OIRA 14	1	E36C-M79 E36B(M79) 13 13 31 23 10 11 13 16-18 14 10 11 20 17 16 21 12
OIRA 15	1	Q1-A22 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 11 19 15 16 21 12
OIRA 16	1	J1-B26T J1-B26T 13 14 30 23 10 11 13 13-15 14 10 11 19 15 18 21 11
OIRA 17	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 11 19 15 18 21 11
OIRA 18	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 20 15 20 21 12
OIRA 19	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 20 16 17 21 12
OIRA 20	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 20 16 17 21 12
OIRA 21	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 20 16 17 21 12
OIRA 22	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 20 16 17 21 12
OIRA 23	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 20 16 17 21 12
OIRA 24	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 21 16 19 21 11
OIRA 25	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 10 21 16 19 21 11
OIRA 26	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-15 14 10 10 20 16 18 21 12
OIRA 27	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-15 14 10 10 20 16 18 21 12
OIRA 28	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 12 20 16 17 21 12
OIRA 29	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 12 20 16 17 21 12
OIRA 30	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 15 17 21 11
OIRA 31	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 15 17 21 11
OIRA 32	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 15 17 21 11
OIRA 33	4	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 15 17 21 11
OIRA 34	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 15 17 21 11
OIRA 35	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 15 17 21 11
OIRA 36	1	J1-A27 E36B(M79) 13 14 30 24 10 11 13 13-15 14 10 11 20 15 17 21 12
OIRA 37	1	E36C-M81 E36B(M79) 13 14 30 24 10 11 13 13-16 14 10 11 20 16 17 21 12
OIRA 38	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-16 14 10 11 20 16 17 21 12
OIRA 39	1	E36C-M81 E36B(M81) 13 14 30 24 10 11 13 13-14 14 10 11 20 16 18 21 12
OIRA 40	1	E36C-M81 E36B(M81) 13 14 30 24 9 11 13 13-14 14 10 11 20 16 18 21 12
OIRA 41	1	E36C-M81 E36B(M81) 13 14 30 25 9 11 13 13-14 14 10 10 20 17 18 21 12
OIRA 42	1	E36C-M81 E36B(M81) 13 14 31 24 9 11 13 13-15 14 10 10 19 16 18 21 12
OIRA 43	1	E36C-M81 E36B(M81) 13 14 31 24 10 11 13 13-14 14 10 11 20 16 18 21 12
OIRA 44	1	E36C-M79 E36B(M79) 13 14 31 24 10 11 13 13-14 14 10 12 20 16 17 21 12
OIRA 45	1	R13A-M209 R13A(M209) 13 14 31 24 11 13 14 11-32.2 15

A	A.RAB.41	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	11	20	16	18	22	12	Abdoulhalil et al., 2010
	A.RAB.42	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	23	12	Abdoulhalil et al., 2010
	A.RAB.43	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	23	12	Abdoulhalil et al., 2010
	A.RAB.44	1	-	-	E13b1 (0.7%)	13	14	30	24	9	11	13	13-15	14	10	11	20	14	18	22	12	Abdoulhalil et al., 2010
	A.RAB.45	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-15	14	10	11	20	14	18	23	12	Abdoulhalil et al., 2010
	A.RAB.46	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-16	14	10	10	20	16	17	21	12	Abdoulhalil et al., 2010
	A.RAB.47	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	17	21	12	Abdoulhalil et al., 2010
	A.RAB.48	1	-	-	E13b1 (0.8%)	13	14	30	24	10	11	13	13-14	14	10	11	20	16	17	20	12	Abdoulhalil et al., 2010
	A.RAB.49	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	17	21	12	Abdoulhalil et al., 2010
	A.RAB.50	1	-	-	E13b1 (0.8%)	13	14	30	25	9	11	13	13-14	14	10	10	20	16	18	21	12	Abdoulhalil et al., 2010
A	A.RAB.51	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	21	12	Abdoulhalil et al., 2010
	A.RAB.52	1	-	-	E13b1 (0.8%)	13	14	31	23	9	11	13	13-14	14	10	10	20	15	16	21	11	Abdoulhalil et al., 2010
	A.RAB.53	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	21	12	Abdoulhalil et al., 2010
	A.RAB.54	1	-	-	E13b1 (0.8%)	13	15	31	24	9	11	13	13-14	14	10	9	20	15	18	21	12	Abdoulhalil et al., 2010
	A.RAB.55	1	-	-	E13b1 (0.8%)	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	21	12	Abdoulhalil et al., 2010
	A.RAB.56	1	-	-	E13b1 (0.8%)	14	10	29	23	9	11	13	13-14	14	10	10	20	15	16	21	8	Abdoulhalil et al., 2010
	A.RAB.57	1	-	-	G2a (0.2%)	14	12	28	22	10	11	13	14-15	15	10	11	21	15	17	21	12	Abdoulhalil et al., 2010
	A.RAB.58	1	-	-	E1 (0.8%)	14	13	29	23	10	11	13	13-14	14	10	10	20	16	17	21	12	Abdoulhalil et al., 2010
	A.RAB.59	1	-	-	J2a1 (0.6%)	14	12	28	26	11	11	12	14-19	14	11	13	20	16	17	24	11	Abdoulhalil et al., 2010
	A.RAB.60	1	-	-	E13b1 (0.7%)	14	13	29	23	10	11	12	13-19	14	10	10	20	16	17	21	12	Abdoulhalil et al., 2010
A	A.RAB.61	1	-	-	E13b1 (0.7%)	14	12	32	24	10	11	12	14-16	15	9	13	19	15	16	20	12	Abdoulhalil et al., 2010
	A.RAB.62	1	-	-	J1 (0.9%)	14	10	29	24	10	11	12	13-19	14	10	10	20	16	17	21	12	Abdoulhalil et al., 2010
	A.RAB.63	1	-	-	J1 (0.9%)	14	13	29	23	11	10	12	13-14	14	10	11	19	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.64	1	-	-	J1 (0.9%)	14	11	31	23	11	11	12	13-19	14	10	10	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.65	1	-	-	J1 (0.9%)	14	13	29	23	11	11	12	13-19	14	10	12	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.66	1	-	-	J1 (0.9%)	14	11	31	23	11	11	12	13-19	14	10	12	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.67	1	-	-	J2 (0.6%)	14	13	29	23	11	11	13	13-14	14	10	13	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.68	1	-	-	J2 (0.6%)	14	13	29	24	10	13	13	12-14	15	12	12	17	17	23	12	12	Abdoulhalil et al., 2010
	A.RAB.69	1	-	-	J2 (0.6%)	14	8	30	23	11	13	12	12	14	15	16	15	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.70	1	-	-	J2a1 (0.6%)	14	13	30	22	9	11	13	12-16	14	10	12	22	15	14	21,23	13	Abdoulhalil et al., 2010
A	A.RAB.71	1	-	-	J1 (0.9%)	14	13	29	23	11	11	8	13-20	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.72	1	-	-	J1 (0.9%)	14	13	30	23	11	11	8	13-20	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.73	1	-	-	J1 (0.9%)	14	13	30	23	11	11	8	13-20	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.74	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-19	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.75	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-20	14	10	11	20	13	19	21	11	Abdoulhalil et al., 2010
	A.RAB.76	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-17	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.77	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-18	14	10	10	20	14	18,20	20	11	Abdoulhalil et al., 2010
	A.RAB.78	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-19	14	10	10	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.79	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-19	14	10	12	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.80	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-19	14	10	12	20	14	18	21	11	Abdoulhalil et al., 2010
A	A.RAB.81	1	-	-	J1 (0.9%)	14	13	30	23	11	11	12	13-19	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.82	1	-	-	J1 (0.9%)	14	13	30	23	12	11	12	13-19	14	10	11	20	13	19	21	11	Abdoulhalil et al., 2010
	A.RAB.83	1	-	-	J1 (0.9%)	14	13	30	23	12	11	12	13-19	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.84	1	-	-	J1 (0.9%)	14	13	30	23	12	11	12	13-19	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.85	1	-	-	J1 (0.9%)	14	13	30	23	12	11	12	13-19	14	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.86	1	-	-	J1 (0.9%)	14	13	30	24	11	13	13	12-15	15	12	11	19	16	17	21	11	Abdoulhalil et al., 2010
	A.RAB.87	1	-	-	J1 (0.9%)	14	13	31	23	11	13	13	12-15	15	12	11	19	16	17	21	11	Abdoulhalil et al., 2010
	A.RAB.88	1	-	-	J1 (0.9%)	14	13	31	23	11	11	12	13-18	14	10	12	20	14	18,21	21	11	Abdoulhalil et al., 2010
	A.RAB.89	1	-	-	E13b1 (0.8%)	14	13	32	24	10	11	13	13-14	15	10	11	20	14	18	21	11	Abdoulhalil et al., 2010
	A.RAB.90	1	-	-	J1 (0.8%)	14	14	29	24	9	11	13	13-15	14	10	10	20	15	18	21	12	Abdoulhalil et al., 2010
A	A.RAB.91	1	-	-	E13b1 (0.7%)	14	14	29	23	9	11	13	13-14	14	10	10	20	16	18	21	13	Abdoulhalil et al., 2010
	A.RAB.92	1	-	-	E13b1 (0.7%)	14	14	30	23	9	11	13	13-14	14	10	10	20	16	18	21	13	Abdoulhalil et al., 2010
	A.RAB.93	1	-	-	J1 (0.9%)	14	11	30	23	10	11	12	13-16	14	10	10	20	15	16	21	8	Abdoulhalil et al., 2010
	A.RAB.94	1	-	-	E13b1 (0.8%)	14	14	30	24	9	11	13	13-13	14	10	10	20	15	15	23	12	Abdoulhalil et al., 2010
	A.RAB.95	1	-	-	E13b1 (0.8%)	14	14	30	24	9	11	13	13-16	14	10	10	20	15	16	21	13	Abdoulhalil et al., 2010
	A.RAB.96	1	-	-	J1 (0.9%)	14	14	30	24	10	13	13	14-17	14	9	12	19	16	15	20	11	Abdoulhalil et al., 2010
	A.RAB.97	1	-	-	J1 (0.9%)	14	11	31	23	10	11	12	13-19	14	10	11	20	14	18,21	21	11	Abdoulhalil et al., 2010
	A.RAB.98	1	-	-	E13b1 (0.7%)	14	14	31	23	12	11	8	12-19	14	10	11	20	9	19	20	11	Abdoulhalil et al., 2010
	A.RAB.99	1	-	-	E13b1 (0.7%)	14	10	31	23	12	11	8	12-19	14	10	11	20	9	19	20	11	Abdoulhalil et al., 2010
	A.RAB.100	1	-	-	E13b1 (0.8%)	14	14	31	24	11	13	14	11-14	15	12	13	19	15	14	23	11	Abdoulhalil et al., 2010
A	A.RAB.101	1	-	-	G2a (0.2%)	15	12	28	22	10	11	13	14-15	15	10	11	20	17	15	16	12	Abdoulhalil et al., 2010
	A.RAB.102	1	-	-	G2a (0.2%)	15	12	29	21	10	11	13	14-15	16	10	11	22	15	17	21	12	Abdoulhalil et al., 2010
	A.RAB.103	1	-	-	E13b1 (0.8%)	15	12	29	22	10	11	13	14-15	16	10	11	22	15	17	21	12	Abdoulhalil et al., 2010
	A.RAB.104	2	-	-	G2a (0.2%)	15	12	29	22	10	11	14	12-16	16	10	11	21	17	17	21	12	Abdoulhalil et al., 2010
	A.RAB.105	1	-	-	E13b1 (0.8%)	15	12	29	23	10	11	13	12-16	16	10	11	21	17	17	21	12	Abdoulhalil et al., 2010
	A.RAB.106	1	-	-	G1b1 (0.4%)	15	12	29	23	10	14	8	12-14	14	10	12	21	17	19	0	0	Abdoulhalil et al., 2010
	A.RAB.107	1	-	-	G2a (0.2%)	15	12	29	23	10	11	13	12-16	16	10	11	21	17	15	20	11	Abdoulhalil et al., 2010
	A.RAB.108	1	-	-	E13b1 (0.8%)	15	12	31	22	11	11	13	15-16	15	8	11	21	15	16	21	12	Abdoulhalil et al., 2010
	A.RAB.109	1	-	-	E13b1 (0.8%)	15	12	31	22	11	11	13	15-16	15	8	11	21	15	16	21	12	Abdoulhalil et al., 2010
	A.RAB.110	1	-	-	E13b1 (0.8%)	15	12	31	22	11	11	13	15-16	15	8	11	21	15	16	21	12	Abdoulhalil et al., 2010
A	A.RAB.111	1	-	-	J2a1 (0.6																	

CAS 10	1	-	E3b6 (57.7%)	13	14	30	24	9	11	12	13--14	14	10	10	21	16	19	20	11	Lavie et al., 2011
CAS 11	1	-	E3b6 (100%)	13	13	31	24	10	11	12	16--18	14	10	13	20	14	14	21	12	Lavie et al., 2011
CAS 12	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 13	1	-	E3b6 (54.1) (64.9%)	17	14	32	23	11	11	13	15--15	17	8	9	20	16	17	21	10	Lavie et al., 2011
CAS 14	1	-	J2a (s-b) (88.7%)	14	14	30	23	10	11	12	14--17	15	9	11	21	15	19	21	11	Lavie et al., 2011
CAS 15	1	-	J2a (s-b) (7%)	14	13	30	24	9	11	12	14--16	14	9	12	19	15	17	20	12	Lavie et al., 2011
CAS 16	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	11	20	16	18	21	12	Lavie et al., 2011
CAS 17	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--15	17	10	11	19	14	17	21	12	Lavie et al., 2011
CAS 18	2	-	E3b6 (95.4%)	13	14	30	24	9	11	13	13--15	14	10	10	20	16	17	21	12	Lavie et al., 2011
CAS 19	1	-	G2a (100%)	15	12	29	22	10	11	13	17--15	14	10	10	19	14	17	21	11	Lavie et al., 2011
CAS 20	2	-	E3b6 (95.4%)	13	14	30	23	10	11	13	13--14	14	10	11	20	16	21	21	12	Lavie et al., 2011
CAS 21	1	-	G2a (97.5%)	13	13	30	23	10	11	12	13--14	14	10	11	19	14	17	19	11	Lavie et al., 2011
CAS 22	1	-	J1 (99.5%)	14	13	30	23	11	11	12	13--18	14	10	11	20	15	18.2	21	11	Lavie et al., 2011
CAS 23	1	-	E3b6 (100%)	13	14	30	23	10	11	12	13--14	14	10	11	19	14	18.2	21	11	Lavie et al., 2011
CAS 24	1	-	G2a (100%)	15	12	30	23	10	11	14	12--16	16	10	12	21	16	17	21	12	Lavie et al., 2011
CAS 25	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 26	1	-	E3b6 (100%)	13	12	29	23	10	11	13	18--18	14	10	10	20	15	14	22	11	Lavie et al., 2011
CAS 27	1	-	J1 (100%)	13	13	29	24	9	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 28	2	-	E3b6 (99%)	13	13	29	25	9	11	13	13--14	14	10	10	21	15	18	21	12	Lavie et al., 2011
CAS 29	1	-	E3b6 (97.2%)	13	13	30	23	10	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 30	1	-	E3b6 (54.1) (79.7%)	13	14	28	24	11	11	14	11--11	14	10	13	20	15	17	24	12	Lavie et al., 2011
CAS 31	1	-	R1b (100%)	14	13	30	23	11	13	13	11--14	15	12	12	19	15	16	23	10	Lavie et al., 2011
CAS 32	1	-	G2a (100%)	15	12	29	22	10	11	14	12--15	16	10	11	20	14	14	21	12	Lavie et al., 2011
CAS 33	1	-	E3b6 (100%)	13	12	29	22	10	11	13	17--18	14	10	11	20	15	14	21	11	Lavie et al., 2011
CAS 34	1	-	E3b6 (99.5%)	13	14	30	24	9	11	13	13--14	14	10	10	20	15	17	21	12	Lavie et al., 2011
CAS 35	1	-	E3b6 (100%)	13	13	29	24	9	11	13	13--14	14	10	11	20	15	18	21	12	Lavie et al., 2011
CAS 36	3	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	10	20	14	14	21	11	Lavie et al., 2011
CAS 37	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	10	20	16	16	21	12	Lavie et al., 2011
CAS 38	1	-	E3b6 (92.2%)	13	14	30	24	9	11	11	14--14	14	10	10	20	15	17	20	12	Lavie et al., 2011
CAS 39	1	-	J2a (s-b) (44.5%)	14	14	30	22	10	11	12	13--19	14	9	13	20	17	16	22	12	Lavie et al., 2011
CAS 40	2	-	E3b6 (100%)	13	13	29	24	9	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 41	1	-	E3b6 (97.2%)	13	14	30	24	9	11	12	14--14	14	10	10	20	15	17	21	12	Lavie et al., 2011
CAS 42	1	-	T (100%)	14	14	31	23	10	13	13	14--16	14	9	11	19	16	17	21	11	Lavie et al., 2011
CAS 43	1	-	J1 (95.4%)	13	14	30	23	9	11	12	14--15	14	10	10	20	16	17	21	12	Lavie et al., 2011
CAS 44	2	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	11	20	16	18	22	12	Lavie et al., 2011
CAS 45	1	-	J1 (100%)	14	13	30	23	10	11	12	12--20	14	10	11	20	14	18	21	11	Lavie et al., 2011
CAS 46	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--15	14	10	10	20	15	18.2	21	12	Lavie et al., 2011
CAS 47	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	10	20	16	18	20	12	Lavie et al., 2011
CAS 48	5	-	J1 (100%)	13	13	29	23	10	11	13	13--19	14	10	11	19	14	18.2	21	11	Lavie et al., 2011
CAS 49	1	-	E3b6 (100%)	13	12	29	24	10	11	13	17--18	14	10	10	20	15	14	21	11	Lavie et al., 2011
CAS 50	1	-	E3b6 (100%)	13	12	29	24	10	11	13	16--17	14	10	10	20	15	14	21	11	Lavie et al., 2011
CAS 51	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	11	19	16	18	21	11	Lavie et al., 2011
CAS 52	1	-	E3b6 (99.5%)	13	14	30	24	9	11	13	13--14	14	10	10	20	15	18.2	21	11	Lavie et al., 2011
CAS 53	1	-	E3b6 (99.5%)	13	14	30	24	9	11	13	13--14	14	10	10	20	16	18	21	11	Lavie et al., 2011
CAS 54	1	-	J1 (95.4%)	13	14	30	23	10	11	13	13--14	14	10	10	20	15	17	21	11	Lavie et al., 2011
CAS 55	1	-	E3b6 (95.4%)	13	14	30	24	9	11	13	13--14	14	10	11	20	15	17	21	12	Lavie et al., 2011
CAS 56	1	-	G2a (100%)	15	12	29	22	10	11	14	12--16	16	10	12	21	16	17	21	12	Lavie et al., 2011
CAS 57	1	-	J1 (99.5%)	14	13	30	23	11	11	12	13--15	16	10	11	20	14	18.2	21	11	Lavie et al., 2011
CAS 58	1	-	E3b6 (97.2%)	16	13	30	21	11	11	14	16--18	14	10	13	20	14	19	23	11	Lavie et al., 2011
CAS 59	1	-	E3b6 (100%)	13	13	29	23	9	11	13	14--14	14	10	10	20	16	19	22	12	Lavie et al., 2011
CAS 60	1	-	J2a (s-b) (88.7%)	14	14	32	24	10	11	12	14--16	14	9	12	20	15	16	20	12	Lavie et al., 2011
CAS 61	1	-	J1 (44.5%)	14	14	30	24	9	11	13	13--15	14	10	10	20	15	18	21	11	Lavie et al., 2011
CAS 62	1	-	E3b6 (100%)	15	13	30	21	10	11	13	17--17	14	11	12	21	15	17	22	12	Lavie et al., 2011
CAS 63	1	-	E3b6 (100%)	13	13	29	23	9	11	13	14--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 64	1	-	E3b6 (100%)	16	13	31	21	10	11	13	18--19	14	11	11	21	15	18	21	11	Lavie et al., 2011
CAS 65	1	-	E3b6 (100%)	13	12	29	23	10	11	10	17--19	14	10	10	20	15	14	21	11	Lavie et al., 2011
CAS 66	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--13	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 67	1	-	E3b6 (100%)	13	15	32	24	10	11	12	14--16	15	10	10	20	17	16	21	12	Lavie et al., 2011
CAS 68	1	-	J1 (99.5%)	13	14	30	23	10	11	12	14--15	14	10	10	20	16	17	21	12	Lavie et al., 2011
CAS 69	1	-	J2a (s-b) (7%)	14	14	32	24	10	11	12	14--16	15	10	10	20	16	18	20	12	Lavie et al., 2011
CAS 70	1	-	C3 (80.2%)	15	13	29	24	9	11	14	13--14	14	10	12	20	16	18	21	12	Lavie et al., 2011
CAS 71	1	-	E3b6 (100%)	13	14	31	24	9	11	14	13--14	14	10	10	20	15	18	21	12	Lavie et al., 2011
CAS 72	1	-	C3 (97.2%)	15,16	14	31	22	11	11	13	13--16	16	10	12	21	16	17	22	12	Lavie et al., 2011
CAS 73	1	-	E3b6 (75.7%)	13	13	30	24	9	11	13	13--16	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 74	1	-	R1b (84.9%)	16	13	29	24	11	14	13	14--15	14	12	13	19	15	17	23	13	Lavie et al., 2011
CAS 75	1	-	E3b6 (100%)	13	13	29	23	9	11	13	12--16	14	11	13	20	16	19	21	12	Lavie et al., 2011
CAS 76	1	-	E3b6 (100%)	17	13	29	21	10	11	14	16--16	14	11	12	20	15	18	21	11	Lavie et al., 2011
CAS 77	1	-	E3b6 (77.7%)	13	13	29	24	10	11	13	13--14	14	10	10	20	15	18.2	21	11	Lavie et al., 2011
CAS 78	2	-	E3b6 (82.2%)	14	14	30	24	9	12	13	14--15	14	10	10	20	15	17	22	11	Lavie et al., 2011
CAS 79	1	-	E3b6 (100%)	13	13	29	24	10	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 80	1	-	E3b6 (100%)	17	14	31	21	10	11	13	16--18	14	11	11	21	14	18	21	12	Lavie et al., 2011
CAS 81	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--14	14	10	10	20	16	18	21	12	Lavie et al., 2011
CAS 82	1	-	E3b6 (95.2%)	13	14	30	24	9	11	13	13--14	14	9	10	20	15	18	21	12	Lavie et al., 2011
CAS 83	1	-	E3b6 (100%)	13	14	30	24	9	11	13	13--15	14</								

S- Table 3. Y-chromosome profiles of 235 individuals from the different regions of the Zamora province

Haplogroup Haplotypes	Y-STR haplotypes																Frequency					
																	AL	BD	BV	CP	SN	SY
E1b1b1a- M78																						
H1	14	13	30	25	10	11	12	17-17	14	10	12	20	17	15	21	12	1					
H2	14	13	30	24	10	11	13	16-18	14	10	11	20	17	15	24	12	1					
H3	14	13	30	24	10	11	13	16-18	14	10	11	20	16	15	24	12	1					
H4	13	14	31	24	10	11	13	16-18	14	10	11	20	15	15	25	12	1					
H5	13	13	30	24	10	11	13	17-18	14	10	11	20	18	15	22	12		1				
H6	13	13	30	23	10	11	13	18-18	14	10	11	20	16	15	22	12					1	
H7	13	13	30	23	10	11	13	17-18	14	10	11	20	16	15	22	12					2	
H8	14	14	31	24	10	11	13	17-19	14	10	11	20	16	15	20	13					1	
H9	13	13	31	24	10	11	13	16-18	14	10	12	20	16	15	21	11						1
H10	13	13	30	24	10	11	13	16-16	14	10	11	20	17	16	22	12						1
E1b1b1b- M81																						
H11	13	14	30	24	9	11	13	13-14	14	10	10	20	15	19	21	11	1					
H12	13	14	30	24	9	11	13	13-14	14	10	10	20	16	19	21	11		1				
H13	13	14	30	25	9	11	13	13-14	14	10	10	20	16	19	22	12		1				
H14	13	14	30	24	9	11	13	14-14	14	10	10	20	16	18	21	12				1		
H15	13	13	29	24	9	11	13	14-14	14	10	10	20	16	17	22	12				1		
H16	13	13	29	24	9	11	13	13-14	14	10	10	19	15	18	21	12				1		
H17	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	20	12				1		
H18	13	13	29	24	9	11	13	13-14	14	10	10	20	16	19	21	12					2	
H19	14	14	30	24	9	11	13	13-14	14	10	10	20	16	19	21	12					1	
H20	13	14	30	24	9	11	13	12-15	14	10	10	20	16	19	22	12						1
H21	13	14	30	24	9	11	13	13-13	14	10	10	20	15	18	21	12						1
H22	13	13	29	25	9	11	13	11-14	14	10	10	20	16	17	22	12						1
E1b1b1c- M123																						
H23	15	13	31	21	10	12	14	16-17	14	11	11	20	15	18	22	11	1					
H24	17	13	28	23	10	11	13	12-12	15	10	11	22	14	16	23	12				1		

H25	13	12	30	24	10	11	13	16-19	14	10	13	20	15	18	20	9		1	
H26	16	14	30	24	10	12	14	12-15	15	10	12	20	15	17	21	10		1	
H27	13	14	32	24	10	11	13	17-17	14	10	12	19	15	18	22	11			1
H28	13	14	32	24	10	11	13	15-17	14	10	12	19	15	17	23	11			1
F*- M213																			
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G- M201																			
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I- M170																			
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II- M253																			
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I2b- M223																				
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H218	15	13	29	24	11	13	13	11-14	15	12	11	19	16	18	23	12	1	
H219	14	13	29	24	10	13	13	11-14	14	12	12	19	15	17	23	12		1

Y-STR order in haplotypes: DYS19, DYS389I, DYS389II, DYS390, DYS391, DYS392, DYS393, DYS385, DYS437, DYS438, DYS439, DYS448, DYS456, DYS458, DYS635 and GATA H4.1.

S- Table 4. Number of mutational steps from the Y-chromosome profiles of the Zamora province to the closest Northwest African haplotype

Ht	Hg	DYS19	DYS389I	DYS389II	DYS390	DYS391	DYS392	DYS393	DYS385	DYS437	DYS438	DYS439	DYS448	DYS456	DYS458	DYS635	GATAH4.1	mutational steps
H11	E1b1b1b-M81	13	14	30	24	9	11	13	13-14	14	10	10	20	15	19	21	11	1
H12	E1b1b1b-M81	13	14	30	24	9	11	13	13-14	14	10	10	20	16	19	21	11	1
H13	E1b1b1b-M81	13	14	30	25	9	11	13	13-14	14	10	10	20	16	19	22	12	2
H14	E1b1b1b-M81	13	14	30	24	9	11	13	14-14	14	10	10	20	16	18	21	12	1
H15	E1b1b1b-M81	13	13	29	24	9	11	13	14-14	14	10	10	20	16	17	22	12	1
H16	E1b1b1b-M81	13	13	29	24	9	11	13	13-14	14	10	10	19	15	18	21	12	1
H17	E1b1b1b-M81	13	14	30	24	9	11	13	13-14	14	10	10	20	16	18	20	12	0
H18	E1b1b1b-M81	13	13	29	24	9	11	13	13-14	14	10	10	20	16	19	21	12	0
H19	E1b1b1b-M81	14	14	30	24	9	11	13	13-14	14	10	10	20	16	19	21	12	2
H20	E1b1b1b-M81	13	14	30	24	9	11	13	12-15	14	10	10	20	16	19	22	12	1
H21	E1b1b1b-M81	13	14	30	24	9	11	13	13-13	14	10	10	20	15	18	21	12	0
H22	E1b1b1b-M81	13	13	29	25	9	11	13	11-14	14	10	10	20	16	17	22	12	3
H63	J1-M267	14	14	30	24	11	11	12	11-15	14	10	12	20	16	20.2	20	11	>3
H64	J1-M267	14	14	30	24	11	11	12	11-15	14	10	12	20	15	20.2	20	11	>3
H65	J1-M267	13	12	28	23	10	11	12	12-17	14	10	12	20	15	18.2	21	10	>3
H66	J1-M267	14	14	30	24	11	11	12	11-15	14	10	12	20	16	19.2	24	11	>3
H67	J1-M267	15	14	30	23	10	11	13	12-17	15	12	11	19	15	18.2	21	12	>3
H68	J1-M267	13	12	28	23	10	11	12	12-17	14	10	12	20	15	19.2	21	10	>3
H69	J1-M267	14	14	30	23	10	11	12	13-13	14	10	12	21	15	19.2	20	11	>3
H70	J1-M267	14	13	30	22	10	11	11	13-15	14	10	11	21	15	18.2	21	11	>3
H71	J1-M267	14	13	29	22	10	11	12	11-18	14	10	12	21	15	18.2	22	11	>3