



AA

Indexing View Papers Aims & Scope Editorial Board Guideline Article Processing Charges

AA > Vol.2 No.2, May 2012

OPEN ACCESS

Ancient History of the Arbins, Bearers of Haplogroup R1b, from Central Asia to Europe, 16,000 to 1500 Years before Present

PDF (Size:1419KB) PP. 87-105 DOI : 10.4236/aa.2012.22010

Author(s)

Anatole A. Klyosov

ABSTRACT

This article aims at reconstructing the history of R1b ancient migrations between 16,000 and 1500 years before present (ybp). Four thousand four hundred eight (4408) haplotypes of haplogroup R1b (with subclades) were considered in terms of base (ancestral) haplotypes of R1b populations and the calculated time to their common ancestors. The regions considered are from South Siberia/Central Asia in the east (where R1b haplogroup arose ~16,000 ybp) via the North Kazakhstan, South Ural to the Russian Plain and further west to Europe (the northern route entering Europe around 4500 ybp); from the Russian Plain south to the Caucasus (6000 ybp), Asia Minor (6000 ybp) and the Middle East (6000 - 5500 ybp) to the Balkans in Europe (the southern route, entering Europe around 4500 ybp); along North Africa and the Mediterranean Sea (5500 - 5000 ybp) via Egypt to the Atlantic, north to Iberia (the North African route with arrival to the Pyrenees 4800 ybp). The Arbines (bearers of R1b haplogroup) along their migration route to the Middle East and South Mesopotamia apparently have established the Sumer culture (and the state), moving westward to Europe (5000 - 4500 ybp) carrying mainly the R-M269 subclade and its downstream L23 subclade. This last subclade was nearly absent along the North African route, and/or did not survive the migration to Iberia or evidenced later. At the arrival to Iberia (4800 ybp) the M269 subclade split off M51 and soon thereafter the L11 downstream subclades. These populations became known as the Bell Beakers and moved north, along with the newly arisen subclades of P312 and L21 (which split off within a few centuries after P312). Those subclades and their downstream clades have effectively, without major interruptions, populated Europe (the smooth haplotype trees demonstrate the near non-stop proliferation of R1b haplotypes in Europe). They are evidenced from the Atlantic eastward to the Balkans, Carpathian Mountains, present day Poland to the western border of the Russian Plain and up to the Baltic Sea. The Isles had a different history of R1b migrations. The bearers of L11, P312 and L21 moved to the Isles by land and sea concurrently with those Arbines who were populating Europe between 4000 and 2500 ybp and formed the respective "local" subclades of P314, M222, L226, which largely populated the Isles. As a result, a significant part of the Isles is populated almost exclusively by the Arbines, whose frequency reaches 85% - 95% among the current population. In general, the frequency of Arbines in Western and Central Europe, reaches—albeit not uniformly—some 60% of the population. This study essentially presents an example of application of DNA genealogy in studying the history of mankind.

KEYWORDS

Y Chromosome; Mutations; Haplotypes; Haplogroups; TMRCA; STR; SNP; Arbines; Aryans; R1b

Cite this paper

Klyosov, A. (2012). Ancient History of the Arbines, Bearers of Haplogroup R1b, from Central Asia to Europe, 16,000 to 1500 Years before Present. *Advances in Anthropology*, 2, 87-105. doi: 10.4236/aa.2012.22010.

References

- [1] Balanovsky, O., Dibirova, K., Dybo, A., Mudrak, O., Frolova, S., Pocheshkhova, E. et al. (2012). Parallel evolution of genes and languages in the Caucasus region. *Molecular Biology and Evolution*, 29, 359-365.
- [2] Balaresque, P., Bowden, G. R., Adams, S. M., Leung, H.-Y., King, T. E., Rosser, Z. H. et al. (2010). A predominantly Neolithic origin for European paternal lineages. *PLoS Biology*, 8, 1000285

• Open Special Issues

• Published Special Issues

• Special Issues Guideline

AA Subscription

Most popular papers in AA

About AA News

Frequently Asked Questions

Recommend to Peers

Recommend to Library

Contact Us

Downloads:	29,496
------------	--------

Visits:	136,930
---------	---------

Sponsors, Associates, all
Links >>

- [3] Barac, L., Pericic, M., Klaric, I. M., Janicijevic, B., Parik, J., Roots, S. et al. (2003a). Y chromosome STRs in Croatians. *Forensic Science International*, 138, 127-133.
- [4] Barac, L., Pericic, M., Klaric, I. M., Roots, S., Janicijevic, B., Kivisild, T. et al. (2003b). Y chromosomal heritage of Croatian population and its island isolates. *European Journal of Human Genetics*, 11, 535- 542. doi:10.1038/sj.ejhg.5200992
- [5] Bengtson, J. D. (1997). The riddle of Sumerian: A Dene-Caucasian language? *Mother Tongue*, 3, 63-74.
- [6] Capelli, C., Brisighelli, F., Scarnicci, F., Arredi, B., Caglia, A., Vetrugno, G. et al. (2007). Y chromosome genetic variation in the Italian pen- insula is clinal and supports an admixture model for the Mesolithic- Neolithic encounter. *Molecular Phylogenetics and Evolution*, 44, 228-239. doi:10.1016/j.ympev.2006.11.030
- [7] Cardoso, J. L. (2001). Le phenomene campaniformedans les basses vallees du Tage et du Sado (Portugal). In F. Nicolis (Ed.), *Bell Beakers Today*, Trento: Ufficio Beni Archeologici.
- [8] Cardoso, J. L., & Soares, A. M. (1990). Chronologia absoluta para o campaniforme da Estremadura e do Sudoeste de Portugal. *O Ar- queologo Portugues*, 8-10, 203-228.
- [9] Cinnioglu, C., King, R., Kivisild, T., Kalfoglu, E., Atasoy, S., Cavalleri, G. L. et al. (2004). Excavating Y-chromosome haplotype strata In Anatolia. *Human Genetics*, 114, 127-148. doi:10.1007/s00439-003-1031-4
- [10] Contu, D., Morelli, L., Santoni, F., Foster, J. W., Francalacci, P., Cucca, F. (2008). Y-Chromosome based evidence for pre-Neolithic origin of the genetically homogeneous but diverse Sardinian population: inference for association scans. *PLoS ONE*, 3. doi:10.1371/journal.pone
- [11] Cruciani, F., Trombetta, B., Sellitto, D., Massaia, A., Destro-Bisol, G., Watson, E. et al. (2010). Human Y chromosome haplogroup R-V88: a paternal genetic record of early mid Holocene trans-Saharan connections and the spread of Chadic languages. *European Journal of Human Genetics*, 18, 800-807. doi:10.1038/ejhg.2009.231
- [12] Di Gaetano, C., Cerutti, N., Crobu, F., Robino, C., Inturri, S., Gino, S. et al. (2009). Differential Greek and northern African migrations to Sicily are supported by genetic evidence from the Y chromosome. *European Journal of Human Genetics*, 17, 91-99. doi:10.1038/ejhg.2008.120
- [13] Hammer, M. F., Behar, D. M., Karafet, T. M., Mendez, F. L., Hallmark, B., Erez, T. et al. (2009). Extended Y chromosome haplotypes resolve multiple and unique lineages of the Jewish priesthood. *Human Genetics*, 126, 707-717. doi:10.1007/s00439-009-0727-5
- [14] Herrera, K. J., Lowery, R. K., Hadden, L., Calderon, S., Chiou, C., Ye- piskoposyan, L. et al. (2011). Neolithic patrilineal signals indicate that the Armenian plateau was repopulated by agriculturalists. *European Journal of Human Genetics*, 20, 313-320. doi:10.1038/ejhg.2011.192
- [15] Kang, L., Lu, Y., Wang, C., Hu, K., Chen, F., Liu, K. et al. (2011). Y- chromosome O3 haplogroup diversity in Sino-Tibetan populations reveals two migration routes into the Eastern Himalayas. *Annals of Human Genetics*, 76, 92-99. doi:10.1111/j.1469-1809.2011.00690
- [16] Klyosov, A. A. (2008a). Mysteries of the " Western European" hap- logroup R1b. *Proceedings of the Russian Academy of DNA Geneal- ogy*, 1, 568-630 (in Russian).
- [17] Klyosov, A. A. (2008b). Origin of the Jews via DNA genealogy. *Pro- ceedings of the Russian Academy of DNA Genealogy*, 1, 54-232.
- [18] Klyosov, A. A. (2009a). A comment on the paper: Extended Y chromo- some haplotypes resolve multiple and unique lineages of the Jewish priesthood. *Human Genetics*, 126, 719-724. doi:10.1007/s00439-009-0739-1
- [19] Klyosov, A. A. (2009b). Once again on the " population mutation rate" of L. Zhivotovsky, or how fables are born. *Proceedings of the Russian Academy of DNA Genealogy*, 2, 1162-1181 (in Russian).
- [20] Klyosov, A. A. (2009c). DNA Genealogy, mutation rates, and some historical evidences written in Y- chromosome. I. Basic principles and the method. *Journal of Genetic Genealogy*, 5, 186-216.
- [21] Klyosov, A. A. (2009d). DNA Genealogy, mutation rates, and some historical evidences written in Y- chromosome. II. Walking the map. *Journal of Genetic Genealogy*, 5, 217-256.
- [22] Klyosov, A. A. (2010a). Haplogroup R1b1 and its subclades in Asia. *Proceedings of the Russian*

- [23] Klyosov, A. A. (2010b). Haplotypes of haplogroup R1b in central Africa. Proceedings of the Russian Academy of DNA Genealogy, 3, 369-378 (in Russian).
- [24] Klyosov, A. A. (2010c). Haplogroup R1b. Part 2. Proceedings of the Russian Academy of DNA Genealogy, 3, 406-475 (in Russian).
- [25] Klyosov, A. A. (2010d). The " age" of subclade R1b1a2-M269 and its subclades (L23, L51, L11). Proceedings of the Russian Academy of DNA Genealogy, 3, 1310-1315 (in Russian).
- [26] Klyosov, A. A. (2010e). Irish haplotypes and haplogroups. Proceedings of the Russian Academy of DNA Genealogy, 3, 1029-1053.
- [27] Klyosov, A. A. (2011a). Origin of ancient subclades of haplogroup R1b—Regions and times. Proceedings of the Russian Academy of DNA Genealogy, 4, 2227-2245 (in Russian).
- [28] Klyosov, A. A. (2011b). Haplotypes of R1b1a2-P312 and related sub- clades: Origin and " ages" of most recent common ancestors. Proceedings of the Russian Academy of DNA Genealogy, 4, 1127-1195.
- [29] Klyosov, A. A. (2011c). Haplogroups and haplotypes in Armenia (hap- logroups J2, R1b-L23, R1b-M269, and T-M184). Proceedings of the Russian Academy of DNA Genealogy, 4, 1985-1993 (in Russian).
- [30] Klyosov, A. A. (2011d). " Out of Africa" theory re-examined. Proceedings of the Russian Academy of DNA Genealogy, 4, 1908-1977 (in Russian).
- [31] Klyosov, A. A., & Rozhanskii, I. L. (2012a). Haplogroup R1a as the Proto-Endo-Europeans and the legendary Aryans as witnessed by the DNA of their current descendants. Advances in Anthropology, 2, 1- 13. doi:10.4236/aa.2012.21001
- [32] Klyosov, A. A., & Rozhanskii, I. L. (2012b). Re-examining the " out of africa" theory and the origin of Europeoids (Caucasoids) in light of DNA genealogy. Advances in Anthropology, 2, in press.
- [33] Kramer, S. N. (1971). The Sumerians: Their history, culture, and character. Chicago, IL: University of Chicago Press.
- [34] Lashgary, Z., Khodadadi, A., Singh, Y., Houshmand, S. M., Mahjoubi, F., Sharma, P. et al. (2011). Y chromosome diversity among the Iranian religious groups: A reservoir of genetic variations. Annals of Human Biology, 38, 364-372.
- [35] Lobov, A. S. (2009). Structure of the gene pool of the Bashkir subpopulations. Ufa. http://ftp.anrb.ru/molgen/Lobov_AS.PDF
- [36] Mallory, J. P. (1989). In search of the indo-Europeans: Language, archaeology and myth. London: Thames and Hudson.
- [37] Malyarchuk, B., Derenko, M., Denisova, G., Maksimov, A., Wozniak, M., Grzybowski, T. et al. (2011). Ancient links between Siberians and native Americans revealed by subtyping the Y chromosome haplogroup Q1a. Journal of Human Genetics, 56, 583-588
- [38] Martinez, P. V., Lull, V., & Mico, R. (1996). El vaso campaniforme, in: Cronologia de la Prehistoria Reciente de la Peninsula Iberica y Baleares (c. 2800-900 cal. A.N.E.). British Archaeological Reports, International Series 652, 105-110.
- [39] Morelli, L., Contu, D., Santoni, F., Whalen, M., Francalacci, P., & Cucca, F. (2010). A comparison of Y- chromosome variation in Sardinia and Anatolia is more consistent with cultural rather than demic diffusion of agriculture. PLoS ONE, 5, e10419, doi:10.1371/journal.pone.0010419
- [40] Muller, J., & Van Willigen, S. (2001). New radiocarbon evidence for European Bell Beakers and the consequences for the diffusion of the Bell Beaker phenomenon. In F. Nicolis (Ed.), Bell Beakers Today, Trento: Ufficio Beni Archeologici.
- [41] Myres, N. M., Roots, S., Lin, A. A., Jarve, M., King, R. J., Kutuev, I. et al. (2010). A major Y- chromosome haplogroup R1b holocene era founder effect in central and western Europe. European Journal of Human Genetics, 19, 95-101.
- [42] Nocete, F. (2006). The first specialized copper industry in the Iberian Peninsula: Cabezo Jure (2900-2200 BC). Antiquity, 80, 646-657.

- [43] Pericic, M., Lauc, L. B., Klaric, A. M. et al. (2005). High-resolution phylogenetic analysis of southeastern Europe traces major episodes of paternal gene flow among Slavic populations. *Molecular Biology and Evolution*, 22, 1964-1975. doi:10.1093/molbev/msi185
- [44] Roewer L., Willuweit S., Kruger C., Nagy M., Rychkov S., Morozowa I. et al. (2008). Analysis of Y chromosome STR haplotypes in the European part of Russia reveals high diversities but non-significant genetic distances between populations. *International Journal of Legal Medicine*, 122, 219-223. doi:10.1007/s00414-007-0222-2
- [45] Rozhanskii, I. L., & Klyosov, A. A. (2011). Mutation rate constants in DNA genealogy (Y chromosome). *Advances in Anthropology*, 1, 26- 34. doi:10.4236/aa.2011.12005