

**Research Article**

## **A GENETIC CHRONOLOGY OF AFRICAN Y-CHROMOSOMES R-V88 AND R-M269 IN AFRICA AND EURASIA**

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### **ABSTRACT**

There is a global distribution of Y-Chromosome R-M343 subclades across the African continent. The major subclades are R-M269 and R-V88. The V88 subclade is the oldest clade to separate from R-M343. The V88 sub-clade, had relatives in Early Neolithic samples from across a wide geographic area from Iberia, eastward to Germany and Samara. This would place carriers of relatives of V88 among the Yamnaya and Bell Beaker people. Given the wide distribution of V88 and M269 in Africa and Neolithic Europe suggest that, the Bell Beaker and Yamnaya people were Africans, not Indo-Europeans, because these cultural complexes and the people who practiced these cultures originated in Africa.

**Keywords:** *Haplogroup (hg), Bell Beaker, Iberia, Yamnaya, Subclades, Megalithic*

### **INTRODUCTION**

The Bell Beaker culture spread from Iberia to the rest of Europe (Haak *et al.*, 2015). The eastern Corded Ware and even earlier Yamnaya ceramic decorations are characteristic of the African “Maritime Beaker complex” that was carried from Morocco to Iberia (Turek, 2012; Winters, 2017). Because the Bell Beaker cultural complex was also present in North Africa, makes it clear Africans took R-V88 and R-M269 to Iberia and across Europe.

Most researchers assume that Y-Chromosome R\*-M173 originated in the Levant or Southern Europe among non-African populations. This theory lacks archaeological support.

Neolithic migrants into Europe from the Levant and Iberia were Sub-Saharan Africans (SSA) (Brace *et al.*, 2006; Boule and Vallois, 1957; Domínguez, 2005; Winters, 2010, 2010b, 2011, 2011b). Holliday (2000), tested the hypothesis that if modern Africans had dispersed into the Levant from Africa, "tropically adapted hominids" would be represented in the archaeological history of the Levant, especially in relation to the Qafzeh-Skhul hominids. This researcher found that the Qafzeh-Skhul hominids (20,000-10,000 BP), were assigned to the Sub-Saharan population, along with the Natufian samples (4000 BP). Holliday (2000) also found African fauna in the area. If they were Sub-Saharan Africans in the Levant the Neolithic Europeans were also SSA. It was between 4.2kya that the Agro-Pastoral people migrated into the Steppe and began to migrate Westward into Western Europe.

There were many Africans in Neolithic Iberia (Dominguez, 2005). African haplogroups have been found at Tres Montes Bronze Age Navarra, they were found in many ancient Iberian skeletons. Tres Montes Navarra was a center of Bell Beaker culture. As late as 2130 BCE we find haplogroup L2 in Iberia (Dominguez, 2005). In addition, as early 10kya we find carriers of M1 in Andalusia (Hernández *et al.*, 2015). Haplogroup M1, is recognized as an African clade (Winters, 2016).

In Iberia, seventy percent of the mtDNA in Tres Montes Navarra was of Sub-Saharan African origin (Dominguez, 2005). The African haplogroups belonged to the L, L2 and L3 clades. Haplogroups L2 and L1b, are concentrated in western-central Africa, particularly along the coastal areas. Dominguez (2005), noted that much of the ancient mtDNA found in Iberia has no relationship to the people presently living in Iberia. Dominguez (2005) found that the lineages recovered from ancient Iberian skeletons are the African lineages L1b, L2 and L3. Almost 50% of the lineages from the Abautz Chalcolithic deposits and Tres Montes, in Navarre are the Sub-Saharan lineages L1b, L2 and L3 dating back to 2130 BCE.

The appearance of phylogenetically related sequences of hg L3 present in many ancient Iberian skeletons suggest that this haplogroup may have a long history in Iberia. This would support the presence of West Africans in Iberia during the Neolithic period.

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**MATERIALS AND METHODS**

**Method**

The research design used in this study is a literature based research methodology. We analyzed the DNA literature relating to the subclades of Y-Chromosome R-M343 found among Africans and Eurasians.

The sample includes genomic data from Haak *et al.*, (2015), Olalde *et al.*, (2017), Kivisild (2017), Mathieson *et al.*, (2017), Wood *et al.*, (2005), Cruciani *et al.*, (2010), and Berniell-Lee *et al.*, (2009). The frequencies of the R1 clades found among Africans and Eurasians in Table 1 and Table 2, are taken from these sources.

An inter-population comparison of African and Eurasian genomes from the R1 clade was conducted to make a database of shared Y-Chromosome R haplogroups and clade frequencies. Data mining of the literature was used to determine haplogroup frequencies presented in this study.

**RESULTS AND DISCUSSION**

**Results**

*Haplogroup R1 in Africa*

R1 originated in Africa and spread into Eurasia (Winters 2010, 2011, 2016). The R-V88 subclade has its highest frequency in West Africa. This view is supported by the presence of V88 in Europe as early as 18kya, and carriers of this clade were among the Beaker pottery tradition (Kivisild, 2017). The Beaker pottery tradition expanded from Africa, to Iberia and thence the rest of Europe.

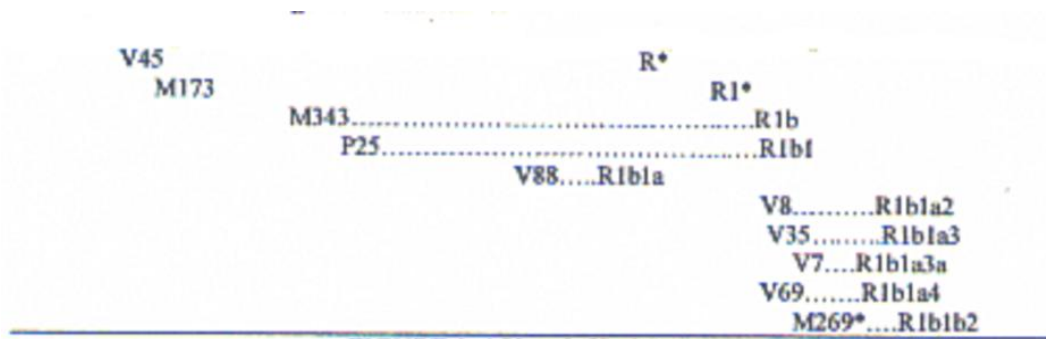
Y-chromosome R1 is found throughout Africa. The pristine form of R1\*-M173 is only found in Africa (Coia *et al.*, 2005; Cruciani *et al.*, 2002; Cruciani *et al.*, 2010; Winters, 2010, 2011). The age of Y-Chromosome R is 27ky (Kivisild, 2017). There is a great diversity of the macrohaplogroup R in Africa as illustrated in Figure 1 and Table 1.

Y-Chromosome R is characterized by M207. The V45 Mutation was recognized as M207 in 2010 (Winters, 2011) (Figure 1).

Haplogroup V88 has the greatest frequency in Africa. It is predominately carried by Chadic speakers, and ranges between 2-60% among Central African Niger-Congo speakers (Cruciani *et al.*, 2010). Researchers have found that the TMRCA of V88 was 18 kya (Kivisild, 2017).

Haplogroup V88 is found among African populations. ISOGG 2010 Y-DNA haplogroup tree made it clear that V45 was phylogenetically equivalent to M207 (Cruciani *et al.*, 2010; Winters, 2011). The most common R haplogroup in Africa is R1 (M173).

The names for African R Y-Chromosome haplogroups in Africa are constantly being changed. In Figure 1, we see that in 2010, a predominant R Y-Chromosome clade in Africa is haplogroup R1b (Cruciani *et al.*, 2002; Cruciani *et al.*, 2010; Berniell-Lee *et al.*, 2009; Winters, 2016; Wood *et al.*, 2005) and R1b1 (Berniell-Lee *et al.*, 2009). Cruciani *et al.*, (2010) discovered new R1b mutations including V7, V8, V45, V69, and V88. Geography appears to play an insignificant role in the distribution of haplogroup R in Africa. Cruciani *et al.*, (2010) has renamed the R\*-M173 (R P-25) in most of Africa V88. The TMRCA of V88 was 18 kya (Kivisild, 2017).



**Figure 1: African Y-Chromosomes 2010**

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Y-chromosome V88 (R1b1a) has its highest frequency among Chadic speakers, while the carriers of V88 among Niger-Congo speakers (predominately Bantu people) range between 2-66%. Haplogroup V88 includes the mutations M18, V35 and V7. Cruciani *et al.*, (2010) revealed that R-V88 is also carried by Eurasians including the distinctive mutations M18, V35 and V7.

Haplogroup R1b1-P25 was originally thought to be found only in Western Eurasia. Haplogroup R1b1\* is found in Africa at various frequencies. Today R1b1 is called R-L278.

The first offshoot of R1b-M343 was V88. The Y-Chromosome V88 is a signature African haplogroup. Kivisild (2017) noted: "Interestingly, the earliest offshoot of extant haplogroup R1b-M343 variation, the V88 sub-clade, which is currently most common in Fulani speaking populations in Africa (Cruciani *et al.*, 2010) has distant relatives in Early Neolithic samples from across wide geographic area from Iberia, Germany to Samara." The relative of V88 in ancient Europe was R1b1.

This makes it clear that the V88 sub-clade, had relatives in Early Neolithic samples from across a wide geographic area from Iberia, Germany to Samara (Haak *et al.*, 2015; Kivisild, 2017). This would place carriers of V88 among the Yamnaya and Bell Beaker people. Given the wide distribution of M269 in Africa, the carriers of this haplogroup in Neolithic Europe were probably also Africans since the Bell Beaker people/culture originated in Morocco as noted by Turek (2012).

Many researchers have commented on the large number of R-V88 carriers who speak Afro-Asiatic languages. But few researchers have noticed that many Niger-Congo speakers and Khoisan carry R-M269 (R1b1b2). Interestingly, R-M269 is spread from North Africa, to Guinea-Bissau in West Africa, down to Namibia and South Africa in Southern Africa.

Many Sub Saharan Africans carry R1b1b2. In Namibia around 8% of the population carry R1-M269. Wood *et al.*, (2009) found that Khoisan (2.2%) and Niger-Congo (0.4%) speakers carried the R-M269 y-chromosome. The frequency of R-M269 among Guinea-Bissau populations was 12% (Carvalho *et al.*, 2010). Gonzalez *et al.*, (2012), found that 53% of the subjects carrying the R1 Y-Chromosome in his study carried subclade R-M269.

The fact that the main European R1 haplogroup M269, is also found throughout Africa; where there is no evidence of admixture with Europeans suggest an African origin for this lineage. Moreover, V88 is older than M269. The dating of V88 and presence of R1b1 among European Hunter-gatherers favors an African origin for Y-Chromosome R1.

Recent research on Y-haplogroups in Africa suggest that R1-M269 is also widespread in Africa (Winters, 2016). Gonzalez *et al.*, (2012) found that 10 out of 19 subjects in the study carried M269. This is highly significant because it indicates that 53% of the carriers of R1 clades in this study were M269 (Gonzalez *et al.*, 2012). This finding is further evidence of the widespread nature of this so-called Eurasian lineage in Africa among populations that have not mated with Europeans. Today R1-M269 is referred to as R1b1a1a2.

The phylogeography of R1 in Africa makes it clear that this Y-chromosome is spread globally across Africa and includes the genetic structure of diverse African populations including Berber, Chadic, Cushitic, Khoisan, Niger-Congo, Nilo-Saharan and Semitic speaking African populations (Berniell-Lee *et al.*, 2009; Cruciani *et al.*, 2010; Winters, 2016; Woods *et al.*, 2005). The fact that Dravidians carry the R haplogroup illustrate the recent introduction of the R1 Y-chromosome to Eurasia.

There have been changes in the names of the African Y-Chromosome R1 over the years. In 2010, R-V88 was originally named R1b1a. It was renamed R1b1a2. Today R1b1a has been renamed R-L754. African R1b1 has been changed into R-L278. These African genomes were found in Neolithic Eurasia (Tables 1-2).

#### ***R1 and Bell Beaker in Iberia***

There were numerous out of Africa exits into Iberia. The African migrants introduced into Europe, the Aurignacian, Solutrean, Bell Beaker/Corded ware and Moorish cultures between 44,000 BC and 1492 AD. These Sub-Saharan populations belonged to the Black Variety.

The African population includes a variety of African/Black populations that range from the Khoisan and Pygmy hunter-gatherer populations, to Blacks with both narrow and broad features. The variety of

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African populations has resulted in the existence of a variety of genomes carried by these populations since the origination of anatomically modern humans in Africa over the past 200,000 years (200ky). Today the Black Variety is referred too, in the archaeogenetics literature as *Sub-Saharan Africans*.

Between 3200-2900 BC, African culture and people began to migrate into Iberia and introduced megaliths and the Bell Beaker culture (Lahovary, 1963). Spanish researchers accepted the reality that the Iberia Peninsula owed the major parts of Neolithic Iberia to African immigrants (Lahovary, 1963; Macwhite, 1947).

MacWhite (1947) claims there was a close relationship between Iberia and Britain. These researchers admit that Portugal and Brittany were settled by Megalithic Africans who founded respectively the Mugem and Teviec sepultures (Lahovary, 1963; MacWhite, 1947).

Olalde *et al.*, (2017) discuss the spread of Bell Beaker culture across Europe 27 kya. These researchers found limited genetic affinity between individuals from Iberian and central Europeans. Olalde *et al.*, (2017) concludes that migration probably played an insignificant mechanism in the spread of R1 within the two areas.

The Neolithic British farmers were genetically similar to Neolithic Iberians dating between 3900–1200 BCE (Olalde *et al.*, 2017; MacWhite, 1947; Mathieson *et al.*, 2017). The British farmers were replaced by farmers of the Beaker culture (Olalde *et al.*, 2017). Eighty-four percent of the Beaker Bell Steppe migrants carried R1b (Olalde *et al.*, 2017).

Bell Beaker appeared in Iberia around 2700 BCE (Cardoso, 2014; Olalde *et al.*, 2017; Müller and van Willigen, 2001). It is interesting to note that while most people in the Iberian Beaker complex carried the G2 and I2a2 haplogroups (Olalde *et al.*, 2017; Mathieson *et al.*, 2017). Iberians during this period also carried R-V88 (Kivisild, 2017; Mathieson *et al.*, 2017).

In summary Late Neolithic Bell Beaker tradition expanded from the Taqua region of TheseIberia to Ireland and Scandinavia between 2800-2700 BC. Haak *et al.*, (2015) reported carriers of R1b1 (R-L278) at Samara and in Spain.

#### *Kushites in Asia*

Haak *et al.*, (2015) suggest that R1b and R1a spread into Europe from the East after 2500BC. Researchers believe that the carriers of Y-Chromosome R1b and R1a came from Anatolia.

Kivisild (2017) made it clear that according to the ancient DNA evidence, the R1b-M269 lineages did not, in fact, become common in Europe before the Late Neolithic/Bronze Age (c.2100-1900BC) (Allentoft *et al.*, 2015; Haak *et al.*, 2015; Mathieson *et al.*, 2015). The Kushites spread Y-Chromosome R1 into Eurasia and the Agro-Pastoral cultural tradition during this period (Winters, 2010).

The Kushites originated in Africa, and established an Empire in Eurasia. The Kushites spoke languages belonging to the Niger-Congo Super-Family of languages. As a result, we find that the Niger-Congo languages are a substratum language of the Indo-European family of languages (Cambell-Dunn, 2006).

To the Greeks and Romans there were two Kush empires, one in Africa and the other in Asia. Homer alluded to the two Kushite empires, when he wrote in the Odyssey, i.23: “a race divided, whom the sloping rays; the rising and the setting sun surveys”. In the Iliad, i. 423, Homer wrote that Zeus went to Kush to banquet with the blameless Ethiopians.

In 64 BC, Strabo the Greek geographer and historian, in Chapter 1, of his Geography stated that there were two Kush empires one in Asia the other in Africa. Strabo claimed in addition to Kush in Nubia and Upper Egypt, some previous Greco-Roman authors considered southern Phoenicia up to Mount Amanus in Syria, the extent of the Asian Kush.

The Kushites when they migrated from Middle Africa to Asia continued to call themselves Kushites. This is most evident in place names and the names of gods. The Kassites, chief rulers of Iran occupied the central part of the Zagros.

The Kassite god was called Kashshu, which was also the name of the people. The K-S-H, name element is also found in India. For example Kishkinthai, was the name applied to an ancient Dravidian kingdom in South India. Also it should be remembered that the Kings of Sumer, were often referred to as the "Kings of Kush".

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Anatolia was occupied by many Kushite groups, including the Kashkas and or Hatti. The Hatti were probably members of the Tehenu tribes of ancient Africa. One of the Tehenu tribes was identified by the Egyptians as the Hatu or Haltiu (the -u, indicates the plural number in ancient Egyptian).

During the Fifth Dynasty of Egypt (2563-2423), namely during the reign of Sahure there is mention of the Tehenu people. Sahure referred to the Tehenu leader as “Hati Tehenu” (El Mosallamy, 1986). These Hatu, correspond to the Hatti speaking people of Anatolia.

The Hatti people often referred to themselves as Kashkas or Kaskas. The C-Group people occupied the Sudan and Fezzan regions between 3700-1300 BC, The C-Group were called Tmhwh (Temehus). The Temehus were organized into two groups the Thnw (Tehenu) in the North and the Nhsj (Nehesy) in the South. A Tehenu personage is depicted on Amratian period pottery. The Tehenu wore pointed beard, phallic-sheath and feathers on their head.



Tehenu depicted on Amratian pottery

**Figure no & title:???**

In Anatolia the Kushites were called Hattians, Khas, and Kaska. In the 3rd-2nd millennium BC, the north and east of Anatolia was inhabited by non I E speakers.

Anatolia was divided into two lands “the land of Kanis” and the “land of Hatti”. The Hatti were related to the Kaska people who lived in the Pontic mountains.

Hattians lived in Anatolia. They worshipped Kasku and Kusuh. They were especially prominent in the Pontic mountains.

Their sister nation in the Halys Basin were the Kaska tribes. The Kaska and Hattians share the same names for gods, along with personal and place names (Steiner, 1981). The Kaska had a strong empire which was never defeated by the Hittites.

Singer (1981) has suggested that the Kaska, are remnants of the indigenous Hattian population which was forced northward by the Hittites. But at least as late as 1800 BC, Anatolia was basically settled by Hattians (Singer, 1981). The Hatti controlled the city state of Kussara. Kussara was situated in southern Anatolia. The earliest known ruler of Kussara was Pitkhanas. It was his son Anitta (c. 1790-1750 BC) who expanded the Kussara empire through much of Anatolia.

The Anatolians took cattle herding into the Steppe region. It was the pastoral Kushites who carried R1-M334 (V88, M269) (Haak *et al.*, 2015) into Europe.

*R1 and the African Bell Beaker and Yamnaya Complexes*

The African Sahara and Morocco was a major source for the Bell Beaker and Corded Ware cultural complex. The Proto-Beaker pottery dates back to 4500 BC in the Sahara (Daugas *et al.*, 1989).

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Agro-Pastoral people cultivated crops and herded cattle. Elements of the Agro-Pastoral members of the Bell Beaker and Corded Ware complexes appear first in the African Sahara. Here, we see rock engravings of cattle herders and hunters using similar bow and arrows. The Yamnaya archers' wrist-guard and bows may have had their origin in the Sahara where we see similar wrist-guards (Le Quellec, 2011).

Daugas *et al.*, (1989) provides a number of radio carbon dates for the Bell Beaker complex in North Africa. We find Beaker Bell ware dating to 3700 BC in Morocco. By 2700 BC we see the expansion of Beaker complex into Iberia (Daugas *et al.*, 1989). The Iberian Bell Beaker complex is associated with the “Maritime tradition” (Mathieson *et al.*, 2017; Turek, 2012).

There are numerous Bell Beaker sites in the Sahara and Morocco. A center of the Moroccan Beaker complex ceramics and arrowheads come from Hassi Ouenzga and in the cave of Ifri Ouberrid. Artifacts found at these sites are similar to Iberian Beaker complex forms (Nekkal and Mikdad, 2014). The interesting fact about the discovery of these artifacts is that they were widespread across the Middle Atlas mountains at sites such as El-Kiffen, Skhirat – de Rouazi, Kehf, That el Gher and Ifri Ouberrid (Guilaine, 1976; Mikdad, 1998; Nekka and Mikdad, 2014). This finding matches Turek (2012); which explains the spread of typically beaker style stamped decoration Bell Beaker culture pottery from Morocco into Iberia, and thence the rest of Europe.

Kivisild (2017) and Mathieson *et al.*, (2017), provides a detailed discussion of R1 in prehistoric Europe. One of the most interesting finding was the presence of V88 in ancient Europe (Haak *et al.*, 2015; Kivisild, 2017; Mathieson *et al.*, 2017). It is also interesting to note that the European Agro-Pastoral populations associated with Bell Beaker and Yamnaya carry the genomes associated with Africans recorded in 2010 as illustrated in Figure 1 and Table 2.

The earliest R1 individual comes from Samara dating back 7kya. The Samara individual carried R1b1. Turek (2012) argues that the “Maritime tradition” of the Beaker culture style of “Copos” site on the River Tajo in Portugal, originated in Morocco. This Beaker decorated pottery was found in the cemeteries of El Keffen (c.3350-2660BC). From Iberia the Beaker tradition migrated to the Lower Rhine, where it evolved into the Corded Ware beakers (Turek, 2012). The estimated age of R1b-M343 is over 20kya. R1a-420 and R1-343 probably date to around 25kya (Kivisild, 2017).

Oldest R1b-M343 clade found among the ancient Europeans dates to 14kya. Lineages belonging to R1 include the 14ky old Villabruna Man from Italy and the 7ky old individual from Spain (Fu *et al.*, 2016).

We find that the earliest offshoot of the R1b-M343 variation, is the V88 sub-clade. This sub-clade has the highest frequency among African populations (Cruciani *et al.*, 2010, Kivisild, 2017). Early Neolithic relatives to the sub-clade V88 samples have been found across Europe from Iberia, to Germany and thence Samara (Haak *et al.*, 2015; Kivisild, 2017; Mathieson *et al.*, 2017).

Kivisild *et al.*, (2017) makes it clear that the V88 sub-clade, had relatives in Early Neolithic samples from across a wide geographic area from Iberia, and Germany to Samara (namely R1b1/RL278). This would place carriers of R1 haplogroups related to V88 among the Yamnaya and Bell Beaker people. Given the wide distribution of M269 in Africa, the carriers of this haplogroup were probably also Africans since the Bell Beaker people/culture, originated in Morocco as noted by Turek (2012).

Recent most common ancestor of R1\*-M173 in Europe is 5-7ky old (Batini *et al.*, 2015; Hallast *et al.*, 2015; Karmin *et al.*, 2015; Poznik *et al.*, 2016). The R1\*-M173 samples from Central and Western Europe were usually R1b-L11, R1a1-Z283 and R1a-M417 (xZ645). In relation to the Eastern samples from the Yamnaya culture and Samara belonged to the R1b11-Z2105, R1b1-RL278 and R1a2-Z93 sub-clades (Allentoft *et al.*, 2015; Cassidy *et al.*, 2016; Haak *et al.*, 2015; Mathieson *et al.*, 2015; Schiffels *et al.*, 2016). R1-M269 became one of the major European genome during the Bronze Age/Neolithic (Allentoft *et al.*, 2015; Haak *et al.*, 2015; Mathieson *et al.*, 2015). Researchers believe the impetus for this migration belonged to the Yamnaya culture (Goldberg *et al.*, 2017; Haak *et al.*, 2015).

The Beaker Complex made a rapid expansion across western Europe into central Europe from Iberia (Bailey and Salanova, 1999; Harrison and Heyd, 2007; Lemercier, 2004). The Beaker Bell cultures overlaps the Corded Ware Complex (Fokker and Nicolis, 2012; Prieto-Martinez, 2011). Olalde *et al.*, (2017) found that the Beaker Bell people in their sample carried R1b-S116/P312.

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**Table 1: Frequencies of R Haplogroups V88 and M269 in Eurasia and Africa**

Country/Region	Population	M343	R1a-M420	R1b1a2 V88	R-M207	R1b1 R-L278	R1b1a1a R-M269
<b>AFRICA</b>							
Khoisan							2.2
Niger-Congo							0.4
Guinea Bissau				8.04			8.93
Baka [Pygmy]						0.03	
Bakala[Pygmy]						0.045	
Akele						0.02	
Benga						0.042	
Eshira						0.048	
Eviya						0.042	
Fang						0.02	
Kata						0.057	
Ndumu						0.11	
Nzebi						0.35	
Obamba						0.106	
Orungu						0.48	
Punu						0.12	
Shake						0.023	
Teke						0.104	
Morocco				3.1			
Algeria				3			
Egypt				4.1		2	
Egypt [Berbers]				23.7		1.1	
Fulbe [Niger]				14.3			
Tuareg				4.5			
Ngamba				9.1			
Hausa				20			
Yoruba				4.8			
Ouldeme				95.5			
Mada				82.4			
Mata				87.5			
Guiziga				77.8			
Daba				42.1			
Guidar				66.7			
Massa				28.6			
Shuwa Arabs				40			
Kanuri				14.3			
Foulbe				11			
Moundang				66.7			
Fali				20.8			
Tali				9.1			
<b>EUROPE/ ASIA</b>							
Jordan				0.137			0.041
Palestine				0.02			0.02
Turkey		0.006					
Iran				0.007			0.08
Kurd		0.13					
Romanians		0.003					
Tatars		0.013		0.063			
Ukraine		0.0064		0.005			0.084
France							0.076
ITALIANS			0.008	0.2			26.4
Corsicans				0.7			48.2
Balkanians				0.2			12.9

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**Table 2: Frequencies of Shared African and Eurasian Y-Chromosome R Haplogroups**

Country/Region	Population	R1b1a	R1a-M420	R1b1a2	R-M207	R1b1	R1b1a1a
		L754		V88		R-L278	R-M269
<b>AFRICA</b>							
Khoisan							2.2
Niger-Congo							0.4
Guinea Bissau				8.04			8.93
Baka [Pygmy]						0.03	
Bakala[Pygmy]						0.045	
Akele						0.02	
Benga						0.042	
Eshira						0.048	
Eviya						0.042	
Fang						0.02	
Kata						0.057	
Ndumu						0.11	
Nzebi						0.35	
Obamba						0.106	
Orungu						0.48	
Punu						0.12	
Shake						0.023	
Teke						0.104	
Morocco				3.1			
Algeria				3			
Egypt				4.1		2	
Egypt [Berbers]				23.7		1.1	
Fulbe [Niger]				14.3			
Tuareg				4.5			
Ngamba				9.1			
Hausa				20			
Yoruba				4.8			
Ouldeme				95.5			
Mada				82.4			
Mata				87.5			
Guiziga				77.8			
Daba				42.1			
Guidar				66.7			
Massa				28.6			
Shuwa Arabs				40			
Kanuri				14.3			
Foulbe				11			
Moundang				66.7			
Fali				20.8			
Tali				9.1			
<b>EUROPE/ ASIA</b>							
Italy						0.25	
Ukraine		0.1		0.02		0.02	
Russia		0.177					
Germany		0.0158				0.0158	
Poland		1					
Spain		0.045				3.29	
Serbia		0.146					
Bulgaria		0.0217					
Romania		0.2					
Samara						0.96	
Sources	Mathieson et al,2017; Berniell-Lee et al,2009			Haak et al,2015			



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### **Discussion**

The vast majority of Africans belong to the Y-chromosome E macrohaplogroup. Phylogenetically haplogroup R1b is found globally in Africa, but, it is mainly found in West, Central and South Africa, and the Sahel (Winters, 2016). Africans introduced the R1 haplogroups to Anatolia, Iberia and the Levant.

The Bell Beaker and Yamnaya populations were Sub-Saharan Africans. Numerous SSA skeletons have been found in Europe dating to the Aurignacian and Neolithic periods (Bordes, 1972; Boule and Vallois, 1957; Diop, 1991; Winters 2010b, 2011b). Boule and Vallois (1957) observed that SSA skeletons have been found in the Ligurian and Lombard tombs, Grotte des Enfants, Chamblandes in Switzerland, caverns of Moniat, near Dinant in Belgium and other sites. This is interesting because Brace *et al.*, (2006) found that the craniofacial features of these early European farmers and the Natufians plotted with Sub-Saharan African groups.

Jones *et al.*, (2015), make it clear that "Given their geographic origin, it seems likely that CHG [Caucasus hunter-gatherers ] and EF [European Farmers] are the descendants of early colonists from Africa who stopped south of the Caucasus, in an area stretching south to the Levant and possibly east towards Central and South Asia". The African origin of these Levantines is supported by the history of Kushites and Holliday (2000). Holliday (2000), tested the hypothesis that if modern Africans had dispersed into the Levant from Africa, "tropically adapted hominids" would be represented in the archaeological history of the Levant, especially in relation to the Qafzeh-Skhul hominids. This researcher found that the Qafzeh-Skhul hominids (20,000-10,000), were assigned to the Sub-Saharan population, along with the Natufians samples (4000 BP). The Natufians and other Levantines carried haplogroup E, which originated in Africa (Lazaridis *et al.*, 2015). Holliday (2000) also found African fauna in the area.

The archaeological and linguistic data indicate the successful colonization of Eurasia by Sub-Saharan Africans from Nubia 5-4kya (Winters, 2008, 2012). These SSA were Kushites belonging to the Khas, Kaska and Hatti tribes. The archaeological evidence makes it clear that around 4kya intercultural style artifacts connected Africa and Eurasia (Winters, 2007, 2010). The Dravidian people of India, and the Niger-Congo speakers originally lived in Middle Africa and belonged to the Proto-Saharan Civilization or Maa Confederation (Winters, 2007, 2016).

The Proto-Saharan civilization was situated in the Green Sahara, before it became a desert. It includes Cameroon. It was here that Niger-Congo and Dravidian speaking populations belonged to the Maa Confederation.

Many ancient Europeans also carried Y-Chromosome R1a. In India the Dravidian people carry the R1a haplogroup.

Africans belonging to various populations also carry R1a. The Khoisan carry RM343 (R1b) and M 198 (R1a1) (Naidoo *et al.*, 2010).

In Cameroon we also find carriers of R1a (Berniell Lee *et al.*, 2009; Winters, 2016, 2017). In addition to carriers of R1a in Cameroon; the Dravidian language is still spoken today in the same country (Cameroonians, 2017).

There is a large body of archaeological literature that situates the origin of the stamp beaker decorations in Morocco, not the Steppes or Central Asia. This would point to Africa as the origin of the people who practiced this cultural tradition.

Kivisild (2017), situates relatives of V88 in ancient Europe during Beaker and Yamnaya times. Haak *et al.*, (2015) illustrated that the oldest R1 clade associated with the European hunter-gatherers in Europe carried R1b1. The discovery of relatives of V88 at Bell Beaker and Yamnaya sites should not be surprising because the Bell Beaker culture began in Morocco, and the Kushites migrated into Europe from the East.

Kivisild (2017) said that V88 was just one sub-clade of the R1b-M343 lineages, M269 is another R1b-M343 sub-clade. Kivisild (2017) noted that "Interestingly, the earliest offshoot of extant haplogroup R1b-M343 variation, the V88 sub-clade, which is currently most common in Fulani speaking populations in Africa has distant relatives in Early Neolithic samples from across wide geographic area from Iberia, Germany to Samara (Figure 7)", this clade was R1b1 (Haak *et al.*, 2015).

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This quote from Kivisild (2017) makes it clear the V88 sub-clade, had relatives in Early Neolithic samples from across a wide geographic area from Iberia, Germany to Samara. This would place relatives of V88 among the Yamnaya and Bell Beaker people. More importantly, the Moroccan antecedents of beaker culture appear first in Iberia and spread into Eastern Europe (Turek, 2012), i.e., the exact same places where African R1 subclades including R-L278, R-L754, and R-V88 has been found.

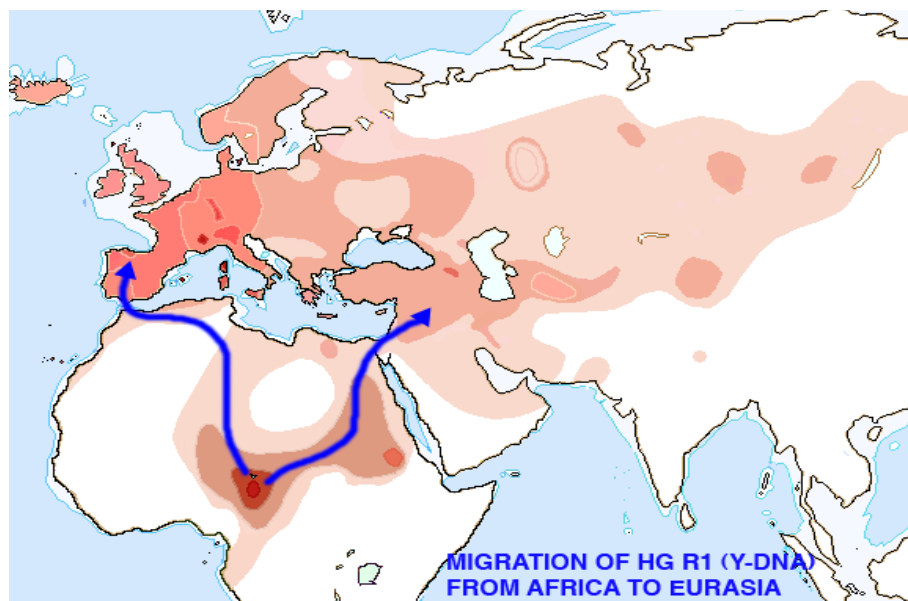


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In Table 2, we see a comparison of African and ancient European Y-Chromosome DNA (aDNA). There have been changes in the nomenclature of African Y-Chromosome since Cruciani (2010). In 2010, R-V88 was originally named R1b1a and. Today R-V88 is named R1b1a2, and R1b1a is renamed R-L754.

The ancient Europeans and Africans share R-L278 and R-L754. The earliest carrier of R-L278 in Europe was the hunter-gatherer Villabruna man in Italy. Villabruna man lived 14kya. We also had hunter-gatherers carrying RL278 (R1b1) in Spain and Samara. This would place Africans carrying R-L278 in Europe long before the origination of the Bell Beaker and Yamnaya cultures.

Given the wide distribution of M269, V88 and R-L278 in Africa and ancient Europe, the carriers of these haplogroup were probably also Africans since the Bell Beaker people/culture originated in Morocco as noted by Turek (2012); and the Kushites in Anatolia introduced the Agro-Pastoral culture to Europe and farming (Winters, 2010b, 2011). The Bell Beaker culture expanded from the Tagua region of Iberia into Ireland and Scandinavia between 2800-2700 BC (Haak *et al.*, 2015). In addition, Jones *et al.*, (2017), make it clear the Steppe population was of African ancestry.

### Conclusion

Some Researchers claim Y-chromosome R1, is the result of a back migration to Africa, from Europe (Cruciani *et al.*, 2002; Cruciani *et al.*, 2010). The researchers never date this alleged back migration, or offer archaeological evidence of a European back migration to Africa. This theory has no support, because the archaeology indicates that people were migrating from Sub-Saharan Africa into Europe not vice versa. The most common ancient haplogroup in Europe among agro-pastoral populations was haplogroups R1. The ancient DNA used to determine the genomes carried by the ancient Europeans, was recovered from the SSA skeletal remains that characterize Bell Beaker and Yamnaya populations. The discovery of R1 haplogroups among the SSA Bell Beaker and Yamnaya skeletons who represented the ancient European phenotype point to the probable African origin of R1, since this region has the highest frequency of V88, the oldest subclade of R-M343, and some of the European hunter-gatherers carried the R1-L278 clade a relative of V88.

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The theory that R1 is the result of a back migration is not supported for several reasons. First, R1, is now known as primarily R-M343, which is predominately found among Africans. Secondly, the Bell Beaker and Yamnaya populations were phenotypically SSA, and practiced the agro-pastoralism and beaker ceramics cultural traditions. Finally, ancient Europeans and Africans share R-L278, R-L754, M269 and V88. The archaeogenetic data falsifies the theory that R1 in Africa is the result of a back migration.

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