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AFRICAN ORIGINS PALEOAMERICAN DNA

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ABSTRACT

We analyzed the literature on ancient DNA of Paleoamericans. It was found that the Paleoamericans carried mtDNA belonging to the M macrohaplogroup and y-chromosome R. The Paleoamericans were Khoisan. The Khoisan was the Cro-Magnon people who introduced the Solutrian cultures into Spain and the North America. These founding amh indigenous Americans came to America in boats from Africa which was the only place Paleoamericans could sail from, to reach the Americas during the last Ice Age.

Keywords: *Ancient DNA, Haplogroup, Cro-Magnon, Khoisan, Paleoamericans*

INTRODUCTION

Geneticists have made advances in the study of ancient DNA (aDNA). Using aDNA we can now determine the genetic make-up of ancient populations around the world including the Neanderthal population.

Identification of the aDNA of the Paleoamericans is an important area of research because the craniometric measurements of the Paleoamericans fail to match the mongoloid phenotype common for contemporary indigenous Americans (Powell, 2005).

The paleoamericans were not mongoloid, the multivariate standard deviations of the paleoamericans are within the phenotypic range of the African, Australian and or Polynesian populations that belong to the Black/Negro Variety (Neaves and Pucciarelli, 1991; Neves, Powell and Ozolins, 1999; Powell and Neves, 1999; Powell, 2005).

The DNA of most ancient populations is corrupted or has been contaminated. Recently, archaeologists have discovered the aDNA of the ancient Europeans. In this paper we will discuss recent advances in the discovery of the DNA of the Paleoamericans (Balter, 2015).

MATERIALS AND METHODS

Method

We studied the genetic data bases for Paleoamericans. This data was compared to African and Eurasian DNA, to determine the possible origin of Paleoamericana DNA.

RESULTS AND DISCUSSION

Results

The genetic profile of the Paleoamericans, fails to correspond to that of contemporary Native Americans in the United States. Interestingly, the North American Paleoamerican DNA profile matches minor haplogroups predominately found in South America (Balter, 2015).

Much of the DNA for Luzia the 12,000 year old skeleton from Brazil is corrupted, but researchers have recovered aDNA from Naia (Chatters *et al.*, 2014) of Mexico, and the Anzick boy (Balter, 2015; Estes, 2015). The Anzick boy skeleton was found in Montana. This Paleoamerican belonged to the Clovis Culture, the same as Kennewick Man (Chatters, 1999; Chatters *et al.*, 2014). The Anzick boy belonged to mtDNA M or D1, and y-chromosome R1 (Estes, 2015).

Scientists have also recovered the DNA from Naia (Chatters *et al.*, 2014; Kumar, 2014). Naia belonged to haplogroup D1, which is a descendant of the M haplogroup (Chatters *et al.*, 2014).

Researchers have also recovered the aDNA of the ancient Europeans (Balter, 2015). The TMRCA of the paleoamericans were the Khoisan people. The Khoisan was the Cro-Magnon people of Europe (Winters, 2008, 2011). They were the first amh to enter western Eurasia (Winters, 2011). The Khoisan introduced haplogroup M to western Eurasia (Winters, 2011, 2014).

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The first Europeans like the paleoamericans were dark skinned (Winters, 2014). The aDNA of the first Europeans comes from the Ust'Ishim skeleton from Siberia (Blater, 2015). Ust'Ishim man carried the male lineage R1 (Balter, 2015; Immanuel, 2014a, 2014b). The mtDNA of Ust'Ishim belonged to haplogroup U (Balter, 2015).

The R1 haplogroup was also carried by the Mal'ta boy in Western Eurasia (Blater, 2015; Immanuel, 2014a, 2014b). The Mal'ta boy also belonged to mtDNA haplogroup U (Balter, 2015; Immanuel, 2014a, 2014b).

The U haplogroup was part of the M macrohaplogroup. The Khoisan carry haplogroups L3(M, N).

Prior to the Khoisan crossing the Straits of Gibraltar to reach Iberia, they probably stopped in West Africa (Winters, 2014). The basal L3(M) motif in West Africa is characterized by the Ddel site np 10,394 and Alul site np 10,397 which is associated with AF-24, a haplotype of haplogroup LOd (Winters, 2010).

Granted L3 and L2 are not as old as LOd, but Gonder *et al.*, (2006), provides an early date for, L3(M, N) 94.3kya. The South African Khoisan (SAK) carry L1c, L1, L2, L3 M, N dates to 142.3 kya; the Hadza are L2a, L2, L3, M, N, dates to 96.7 kya (Gonder *et al.*, 2006).

The origin dates for L1, L2, L3(M, N) make the haplogroups old enough for the Khoisan to have taken haplogroup M to West Africa, where we find L3, L2 and LOd and thence to Iberia (Winters, 2011). It is interesting to note that LO haplogroups are primarily found among Khoisan and West Africans (Winters, 2011). This shows that at some point in prehistory the Khoisan had migrated into West Africa.

The major M haplogroup in Africa is M1 (Winters, 2010). The M1 macrohaplogroup is found throughout Africa and Asia. But the basal M1 lineage has not been found outside Africa (Sun *et al.*, 2006).

However, on the basis of currently available FGS sequences, M1 markers have been found in the D4a branch of Haplogroup D, the most widespread branch of M1 in East Asia (Fucharoen *et al.*, 2001; Yao *et al.*, 2002). These transitions are recurrent in M1 and D4 (Gondor *et al.*, 2006; Winters, 2010).

Gonder *et al.*, (2006), argues that the TMRCA of mtDNA L3(M,N) and their derivatives is around 94.3kya (Sun *et al.*, 2004). It is hypothesized, that it was not until 65kya that the TMRCA of non-African L3(M,N) exited Africa. This was over 30,000 years after the rise of L3 and LOdin Africa and predicts a significant period of time for anatomically modern humans (amh) living in Africa to spread L3(M) haplogroups across the continent. The existence of the basal L3a(M) motif and the LOd haplotype AF-24 among Senegalese supports this view (Winters, 2010).

Gonder *et al.*, (2006), claimed that LOd is exclusive to the southern African Khoisan (SAK) population (Sun *et al.*, 2004). The presence of the ancient AF-24 haplotype among the Senegalese (Chen *et al.*, 2000), that is absent in other parts of Africa, suggest that there was formerly a long-term Khoisan population in the Senegambia that preserved this rare haplotype until —that Niger-Congo speaking populations entered the area.

Wood *et al.*, (2005), found that Khoisan (2.2%) speakers carried the R-M269 y-chromosome. An interesting finding of Henn *et al.*, (2011) was the discovery of the Eurasian clade R1b1b1a1a among the Khomani San of South Africa (Henn *et al.*, 2011).

Henn *et al.*, (2011), was surprised by the revelation of R-M269 among this Khoisan population. Wood *et al.*, (2005) reported Khoisan carriers of R-M269. Bernielle-Lee *et al.*, (2009), in their study of the Baka and Bakola pygmies found the R1b1 haplogroup. These researchers made it clear that the Baka samples clustered closely to Khoisan samples (Bernielle-Lee *et al.*, 2009).

R1 probably spread across Europe from Iberia to the east given the distribution of R1 in Africa (Gonzalez *et al.*, 2012). Gonzalez *et al.*, (2012), confirms the African origin for y-chromosome R1. The researchers found that 10 out of 19 subjects in his study carried R1b1-P25 or M269 as opposed to V88 in Equatorial Guinea (Gonzalez *et al.*, 2012). This is highly significant because it indicates that 53% of the R1 carriers were M269 (Gonzalez *et al.*, 2012) and supports the African character of M269.

Discussion

The Khoisan 47kya had already settled in Europe (Winters, 2008). In Europe the Khoisan represents the Cro-Magnon people (Winters, 2008, 2011; Weber, 2015).

There was only two ways the Khoisan could have reached America. Sail a boat from Europe or Africa.

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The Solutrean culture existed in Spain and North Africa. Researchers have found evidence that Solutrean artifacts have been found on North American sites where Paleoamerican tools have been found. Solutrean tools dating to 20kya have been found in New Mexico (Holden, 1999). The Solutrean people were Khoisan. This has led some researchers to create the so-called Solutrean hypothesis that proposes that ancient America was settled by ancient Europeans. In Figure 1, we can see the proposed Solutrean migration route seems highly unlikely because these early men would have had to brave glaciers and Ice Age temperatures which would have made it impossible to reach North America (Tai-wiki-widbee, 2015).

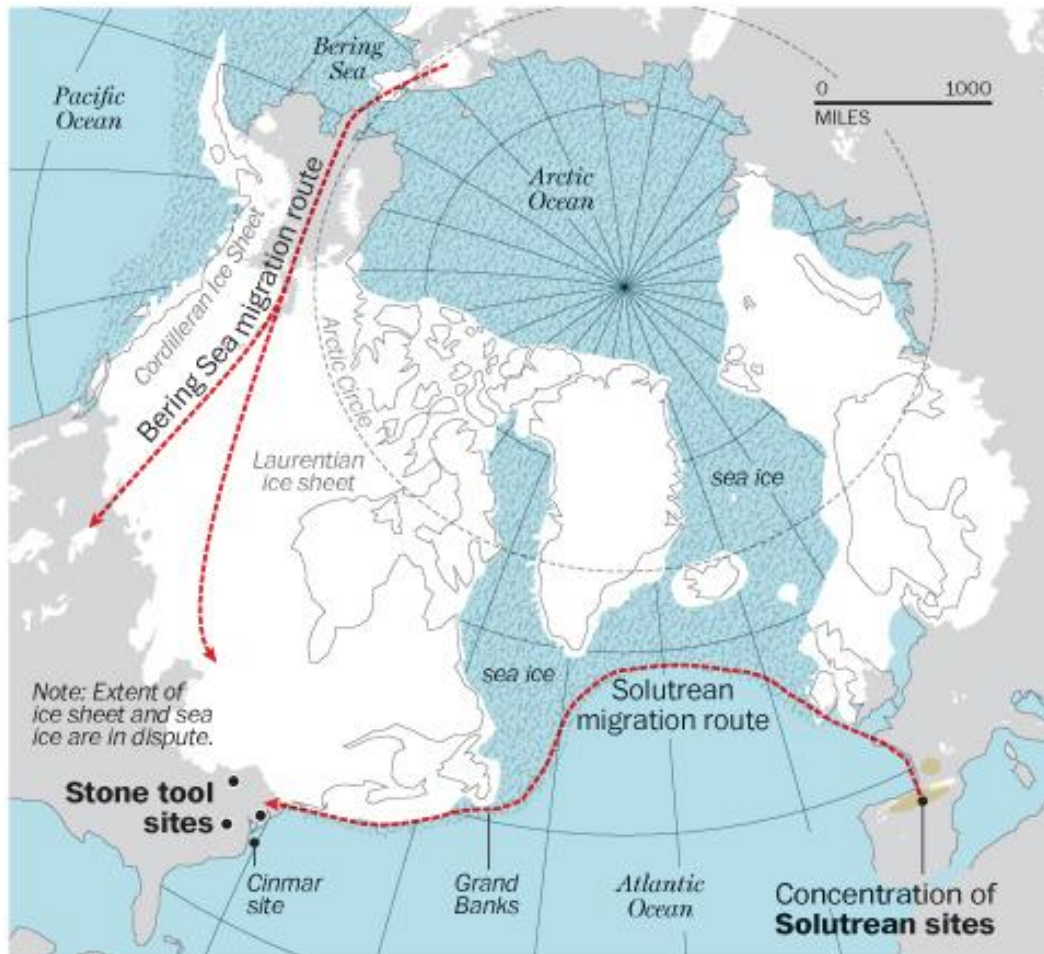


Figure 1: Possible Solutrean Route to America

Although a migration from Europe seems highly unlikely 20-30kya because of the Ice Age. Ancient man could have made their way to the Americas directly from Africa which is a shorter distance to the Americas than Europe, and also ancient sailors could have made their way to the Americas on Currents, especially the Gulf Stream, that regularly flow from Africa, to the Americas. Solutrean tools were also being used in Africa, around the time they were being used in Spain.

Africa is closer to the Americas than Europe. The Currents in the Atlantic Ocean could have easily carried the Khoisan from Africa to the Americas.

This view is supported by the fact that most ancient archaeological sites of paleo-Indian habitation are nearer to the Atlantic Ocean, than the Pacific Ocean.

The Khoisan people probably came to the Americas from Europe. The Dafuna boat shows that the Khoisan had the technology to sail boats and it was probably in West Africa where the paleoamericans originated.

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Figure 2: The Dafuna Boat

In addition to Solutrean tools in Africa we find the Dafuna boat (See: Figure 2). The Dafuna boat dates back to 8000 B.C. The culture associated with the builders of the Dafuna boat existed in Africa as early as 15kya. This would indicate that around the time Kennewick man, Naia and Luzia inhabited the Americas, Khoisan in Africa had the naval technology to have sailed to the Americas.

Conclusion

In summary, the Paleoamericans and Amerindian groups have different craniometric measurements due to separate origins. While Amerindians originated in East Asia, the Paleoamericans came to America in boats from Africa.

The Khoisan took the Aurignacian and Solutrean cultures to Iberia across the Straits of Gibraltar, from here they spread throughout western Eurasia 45kya (Winters, 2011). They probably reached America from Africa carried across the Atlantic by the numerous Atlantic Ocean Currents. The Khoisan origin of Naia, Luzia and Cro-Magnon man explains why paleoamericans and paleowestern Eurasians share the same DNA (Balter, 2015).

Controversy surrounds the identification of Naia's DNA. Prufer and Mayer (2015) believe that due to post mortem damage Naia's DNA was contaminated and does not represent ancient DNA. Given the fact that the other ancient Eurasians and Paleoamericans carried haplogroup M, e.g., the 5000 year old skeletons carrying haplogroup M from China Lake, British Columbia (Malhi *et al.*, 2007), more than likely Naia was D1.

The Khoisan carries the most ancient mtDNA and y-chromosome haplogroups in addition to haplogroups M and R1. This suggests that the paleoamericans were probably Khoisan as suggested by Coon (1962), Howells (1993, 1989, 1995) and Dixon (2001). These Paleoamericans introduced haplogroups M and R into the America.

Abbreviations

DNA deoxyribonucleic, aDNA ancient deoxyribonucleic, mtDNA Mitochondrial DNA that denotes maternal ancestry, Y- chromosome the DNA passed only from father to son, TMRCA the most recent common ancestor, amh anatomically modern humans.

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