Current Research Journal of Biological Sciences 2(5): 294-299, 2010
ISSN: 2041-0778

Submitted Date: April 14, 2010 Accepted Date: April 27, 2010 Published Date: September 15, 2010

The Kushite Spread of Haplogroup R1*-M173 from Africa to Eurasia

Clyde A. Winters
Uthman dan Fodio Institute, Chicago, 60643, United States of America

Abstract: In this paper we discuss the role of the Kushites in the spread of R1*-M173. Human y-chromosome haplogroup R1*-M173 is mainly found in Africa. Haplogroup R1*-M173 is the pristine form of haplogroup R. In Africa researchers have detected frequencies as high as 95% among Sub-Saharan Africans. The phylogenetic, craniometric, textual, historical and linguistic evidence support the demic diffusion of Niger-Congo (Nilo-Saharan) carriers of R1*-M173 from Africa to Eurasia between 4-5kya.

Key words: Agropastoral, archaeogenetics, kushite, mtDNA, Y-chromosome

INTRODUCTION

Archaeogenetics is the use of genetics, archaeology and linguistics to explain and discuss the origin and spread of homo sapien sapiens (Renfrew, 2010). In this paper we will use archaeogenetics to examine and discuss the spread of haplogroup R-M173 by the ancient Kushites.

Researchers have outlined two possible out of Africa events in the past 40 ky. Although these out of Africa events occurred during prehistory the Classical writers of Greece and Rome discussed a recent migration of people from Africa into Eurasia. This African population was called: Kushites.

A review of the archaeological, linguistic, genomic and craniometric literature was used to explore the role of the Kushites in the spread of haplogroup R from Africa to Eurasia. In this analysis of the linguistic, craniometric, and related scientific literatures we will determine if archaeological and genomic evidence can trace a migration event and dispersal of Kushites into Eurasia as maintained by the Classical writers. This study was conducted in Chicago at the Uthman dan Fodio Institute in 2009.

RESULTS AND DISCUSSION

We analyzed the craniometric, linguistic, archaeological and y-chromosome sequences of African and Eurasian populations from the literature relating to these diverse fields.

This literature provides us with a critical examination of the distribution of R1*-M173. It presents a genetic pattern of this haplogroup from Africa to Eurasia, and the dispersal of a significant African male contribution to Eurasia in the past 4ky.

The pristine form of R1*M173 is found only in Africa (Cruciani *et al*., 2002, 2010). Haplogroup R1*-M173 (xSRY 10831, M18, M117, M173, M269). Haplogroup R-M173 is ancestral to R-P25 (xM269) and other Eurasian downstream markers.

The Eurasian R1b y-chromosome has the M269 mutation. The R-P25* haplogroup has been found in Europe, West and East Asia (Cruciani *et al*., 2010).

Figure 1 shows the frequency of R1*-M173 in Africa and Eurasia. InThe frequency of Y-chromosome R1*-M173 in Africa range between 7-95% and averages 39.5% (Coia *et al*., 2005). The R*-M173 (haplotype 117) chromosome is found frequently in Africa, but rare to extremely low frequencies in Eurasia. The Eurasian R haplogroup is characterized by R1b3-M269. The M269 derived allele has a M207/M173 background.

In Fig. 1 we provide the frequencies of y-chromosome M-173 in Africa and Eurasia. Whereas only between 8 and 10% of M-173 is carried by Eurasians, 82% of the carriers of this y-chromosome are found in Africa.

Coia *et al*. (2005) provides substantial data that the presence of R1*-M173 did not follow the spread of the spread of mtDNA haplogroup U6 in Sub-Saharan Africa, which is found in North Africa (Coia *et al*., 2005). This suggest that R1*-M173 may not be the result of back migration from Asia if this theory depends on the spread of haplogroup U6 in areas where R1*-M173 is found.

The majority of West Africans formerly lived just below Egypt in Nubia, before they moved westward into Cameroon, the Niger Valley and Senegambian regions. This part of Africa was inhabited by the Kushite people in ancient times.

The Kushite people are usually associated with the C-Group civilization of Nubia and Egypt. The center of their civilization was situated first in Wawat (Southern Egypt) and later Kerma. The majority of West Africans speak languages that belong to the Niger-Congo group of languages. The Niger-Congo languages originated in Nubia and were probably spoken by some of the Kushites.

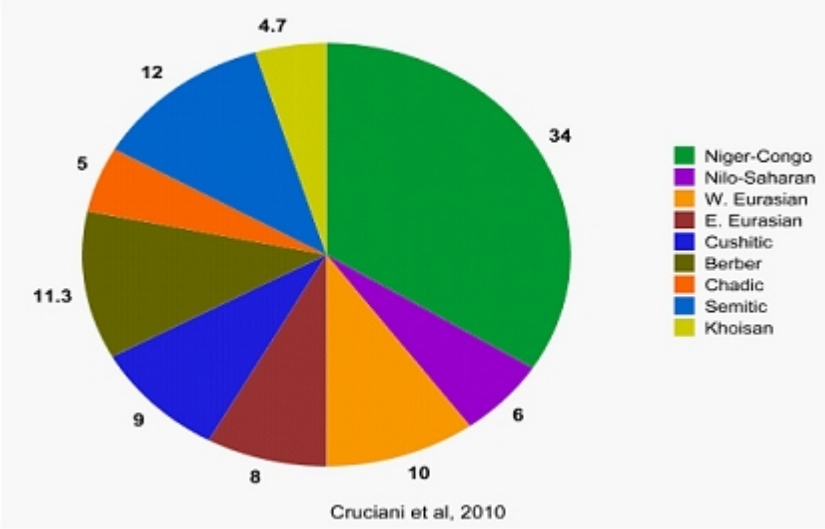


Fig. 1: Frequencies of Y-Chromosome M-173 (R1b*) in Africa and Eurasia

Welmers (1971),explained that the Niger-Congo homeland was in the vicinity of the upper Nile valley. He believes that the Westward migration from Nubia began 5000 years ago. This was the center of the C-Group civilization.

In support of this theory Welmers (1971) discusses the dogs of the Niger-Congo speakers. This is the unique barkless Basenji dogs which live in the Sudan and Uganda today, but were formerly recorded on Egyptian monuments (Welmers, 1971). The Basanji dog is the Egyptian hieroglyphic sign for dog.

According to Welmers (1971) the Basanji, is related to the Liberian Basenji breed of the Kpelle and Loma people of Liberia. Welmers (1971) believes that the Mande took these dogs with them on their migration westward. The Kpelle and Loma speak Mande languages.

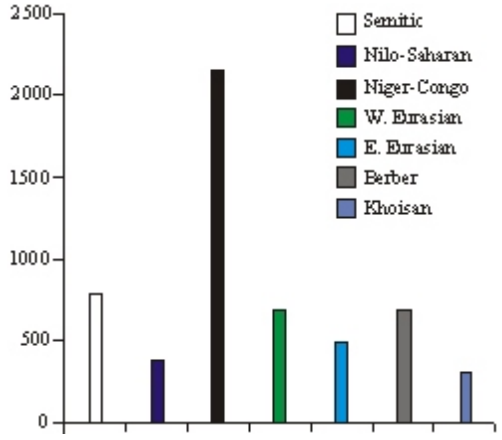
Welmers (1971) believes that the Niger Valley region and other regions of West Africa may have been unoccupied when the Mande migrated westward Nubia. In support of this theory Welmers' notes that the Liberian Banji dogs, show no cross-breeding with dogs kept by other African groups in West Africa, and point to the early introduction of this cannine population after the separation of the Mande from the other Niger-Congo speakers in the original upper Nile homeland for this population. As a result, he claims that the Mande migration occured before these groups entered the region. Linguistic research makes it clear that there is a close relationship between the Niger-Congo Superlanguage family and the Nilo-Saharan languages spoken in the Sudan. Heine and Nurse (2000), discuss the Nilo-Saharan connection. They note that when Westerman described African languages he used lexical evidence to include the Nilo-Saharan and Niger-Congo languages into a Superfamily he called "Sudanic" (Heine and Nurse, 2000). Using Morphological and lexical similarities Gregerson indicated that these languages belonged to a macrophylum he named " Kongo-Saharan" (Heine and Nurse, 2000). Research by Blench reached the same conclusion, and he named this Superfamily: "Niger-Saharan" (Heine and Nurse, 2000). The close relationship between Niger-Congo and Nilo-Saharan suggest an intimate relationship formerly existed between the diverse speakers of these language families, probably in Nubia.

Genetic evidence supports the upper Nile origin for the Niger-Congo speakers. Rosa *et al.* (2007), noted that while most Mande and Balanta carry the E3a-M2 gene, there are a number of Felupe-Djola, Papel, Fulbe and Mande carry the M3b*-M35 gene the same as many people in the Sudan.

In addition to haplogroup E3, we also find some carriers of haplogroup R1*-M173 in Egypt and the Sudan. In Fig. 2 we observe that the majority of the carriers of y-chromosome M173 in Africa speak Niger-Congo languages. This genetic evidence makes it clear that R1*-M173 was probably carried by some C-Group speakers before they migrated out of the Upper Nile Valley region.

Welmers (1971) proposed an Upper Nile homeland for the Niger-Congo speakers. He claims that they remained intact until 5000 years ago. This view is supported by linguistic and genetics evidence.

The Greco-Roman writers made it clear that there were two Kushite empires one in Asia and the other group in the area we call the Sudan (Hansberry, 1981). The Greek writer Homer alluded to the two Kushite empires, when he wrote "a race divided, whom the sloping rays; the rising and the setting sun surveys". The Greek



Frequencies from Cruciani *et al*. (2010)

Fig. 2: Frequencies of Y-Chromosome M-173(R1b*) in Africa and Eurasia

traveler/historian Herodutus claimed that he derived this information from the Egyptians.

The Kushites were also called Ethiopians. The term Ethiopian comes from two Greek terms: Ethios 'burnt' and ops 'face', as a result Ethiopian means the 'burnt faces' (Winters, 2005). Herodutus and Homer, described these Ethiopians as "the most just of men ;the favorites of the gods" (Hansberry, 1981). The classical literature makes it clear that the region from Egypt to India was called by the name Ethiopia.

Hansberry (1981) provides a great discussion of the evidence of African Kushites ruling in Asia and Africa. Some ancient scholars noted that the first rulers of Elam were of Kushite origin. According to Strabo, the first Elamite colony at Susa was founded by Tithnus, a King of Kush. Strabo in Book 15, Chapter 3,728 wrote that in fact it is claimed that Susa was founded by Tithonus Memnon's father, and his citadel bore the name Memnonium. The Susians are also called Cissians. Aeschylus, calls Memnon's mother Cissia.

The Elamite language is closely related to Dravidian (McAlpin, 1974, 1981; Winters, 1989) and Niger-Congo languages (Winters, 1985a, 2005).

There is genetic, linguistic and archaeological evidence pointing to the African origin of the Dravidian speakers in India (Aravanan 1980; Winters 2007). Lal (1963) research suggests that the Dravidian speaking people may have belonged to the C-Group. The C-Group people spread culture from Nubia into Arabia, Iran and India as evidenced by the presence of Black-and-Red Ware (BRW). Although the Egyptians preferred the cultivation of wheat, many ancient C-Group people were agro-pastoral people who cultivated Millet/Sorghum and raised cattle. It was the Dravidians who probably took millet to India (Winters, 2008b).

The C-Group people used a common black and red ware that has been found from the Sudan, across Southwest Asia and the Indian Subcontinent all the way to China (Singh, 1982). The earliest use of this BRW was during the Amratian period (c.4000 3500 BC). The users of the BRW were usually called Kushites. In Fig. 4, we see the Kushite expansion from Africa to Asia.

Controversy surrounds the origin of the Dravidian languages. There is abundant evidence that the Dravidian languages are genetically related to the Niger-Congo group (Aravanan, 1979, 1980; Upadhyaya and Upadhyaya, 1976, 1979; Winters, 1985a, 1988, 1989).

The Proto-Dravidian speakers probably migrated across Arabia to reach India. The first civilization in Arabia was the Tihama culture. The Tihama civilization probably originated in Nubia.

The Armenians made it clear that the ancients called Persia, Media, Elam, Aria and the entire area between the Tigris and Indus river Kush .Bardesones, writing in his Book of the Laws of Countries, in the 2nd Century said that the "Bactrians who we called Qushani (or Kushans)" (Winters, 2000, 2005).The Armenians, called the earlier Parthian: Kushan and acknowledged their connection with them. Homer, Herodotus, and the Roman scholar Strabo called southern Persia AETHIOPIA (Hansberry, 1981). The Greeks and Romans called the country east of Kerma: Kusan.

The Kushites are associated with the C-Group people of Nubia, and the Kerma civilization. The Kushites practiced an agro-pastoral economy and they made a characteristic red-and-black pottery that they spread from Nubia to China.

Archaeologists agree that Black and Red Ware (BRW) indus unearth on many South India sites are related to Dravidian speaking people. The BRW style has been found on the lower levels of Madurai and Tirukkampuliyur. Lal (1963) made it clear that the South Indian BRW was related to Nubian ware dating to the Kerma dynasty. Singh (1982) made it clear that he believes that the BRW radiated from Nubia through Mesopotamia and Iran.

The legacy of the Kushites in Asia is evident in the use of their ethonym as a place-name characterized by the name 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 (Winters, 2005). The Kassite god was called Kashshu, which was also the name of the people (Winters, 2000). 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. Lets not forget that the Kings of Sumer, were often referred to as the " Kings of Kush".

The major Kushite tribe in Central Asia was called Kushana. The Kushan of China were Ta Yueh-ti or "the Great Lunar Race". Along the Salt Swamp, there was a

Fig. 3: The Kushite distribution haplogroup R

Fig. 4: Route of Kushite expansion from Africa to Asia

state called Ku-Shih of Tibet. The city of K-san, was situated in the direction of Kushan, which was located in the Western part of the Gansu Province of China (Winters, 2005).

Anatolia was occupied by many Kushite groups, including the Kashkas and Hatti. The Hatti, like the Dravidian speaking people were probably related . The Hatti were probably members of the Tehenu tribes.

The Tehenu were composed of various ethnic groups. The Tehenu was a major African population associated with the C-Group. One of the Tehenu tribes was identified by the Egyptians as the Hatiu or Haltiu (El-Mosallamy, 1986) .The Hatiu, may represent the Hatti tribe.

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 800 BC, Anatolia was basically settled by Hattians (Steiner, 1981).

We can use craniometric data to understand ancient population history. The craniometric evidence indicates a process of demic diffusion of Kushite people into Mesopotamia and Anatolia between 5-4kya. Craniometric data sets support a continuos dispersal modal of Sub-Saharan Africans from Africa to Eurasia (Ricault and Waelkens, 2008; Tomczyk *et al*., 2010) between 5-4kya.

There is a positive relationship between crania from Africa and Eurasia. The archaeologist Dieulafoy (2004) and Hansberry (1981) maintains that their was a Sub-Saharan strain in Persia. These researchers maintain that it was evident that an Ethiopian dynasty ruled Elam from a perusal of its statuary of the royal family and members of the army (Dieulafoy, 2004; Dieulafoy, 2010; Hansberry, 1981). Dieulafoy (2010) noted that the textual evidence and iconography make it clear that the Elamites were Africans, and part of the Kushite confederation. Dieulafoy (2010) made it clear that the Elamites at Susa were Sub-Saharan Africans.

Dieulafoy (2010) and de Quatrefages observed that the craniometrics of the ancient Elamites of Susa indicate that they were Sub-Saharan Africans or Negroes.

Ancient Sub-Saharan African skeletons have also been found in Mesopotamia (Tomczyk *et al*., 2010). The craniometric data indicates that continuity existed between ancient and medieval Sub-Saharan Africans in Mesopotamia (Ricault and Waelkens, 2008).

There is a genetic linguistic relationship between the Dravidian, Elamite and Niger-Congo languages (McAlpin, 1974, 1981; Winters, 1989). The linguistic evidence makes it clear that a genetic relationship exist between Elamite and the Mande languages (Winters, 1985b, 1989).

The relationship between the Mande and Elamite languages is interesting because the Garama or Garamante people of Crete, probably spoke a Mande language. Graves (1980) claimed that the Garamante formed part of the Mande group that live along the Niger River.

The relationship between the Elamite and Mande languages is interesting because Ricault and Waelkens (2008) noted a relationship between the Anatolia populations and Niger-Congo speakers. The Mande languages belong to the Niger-Congo Superfamily of languages. This suggests that the Garamante spoke a Niger-Congo language.

The founders of civilization on Crete were the Garamante. The Minoans called themselves Keftiu. The Egyptians recorded some Keftiu names in their hieroglyphs. These names are common clan names among the Mande speaking people (Winters, 2010) .

Ricault and Waelkens (2008) provide craniometric and other evidence of a Cretan or Keftiu expansion into Anatolia. They believe that the Cretans colonized Anatolia; and that negro skeletons come from Illion-Troy, which as we discussed earlier was founded by Kushites (Winters, 2005). The research of Ricault and Waelkens (2008) is significant because they noted that the craniometric data set from Anatolia is related to West African (Niger-Congo) and Kerma (Kushite) populations.

CONCLUSION

The phylogenetic profile of R-M173 supports an ancient migration of Kushites from Africa to Eurasia as suggested by the Classical writers. In Fig. 3, we outline the spread of haplogrorp R from Nubia into Asia and West Africa. This expansion of an African Kushite population probably took place Neolithic period.

The accumulated Classical literature, archaeological, craniometric, genetic and linguistic evidence suggest a genetic relationship between the Kushites of Africa and Kushites in Eurasia that cannot be explained by microevolutionary mechanisms. The phylogeographic profile of R1*-M173 supports this ancient migration of Kushites from Africa to Eurasia as suggested by the Classical writers. This expansion of Kushites into Eurasia probably took place over 4kya.

The linguistic evidence makes it clear that the Nilo-Saharan and Niger-Congo languages are related. The genetic evidence indicates that Nilo-Saharan and Niger-Congo speakers carry the y-chromosomes M3b*-M35 and R1*-M173, an indicator for the earlier presence of speakers of this languages in an original Nile Valley homeland.

The distribution of y-chromosome specific haplogroups in areas formerly occupied by the Kushite people of Asia reveal continuity between the ancient inhabitants of Anatolia, Mesopotamia and Persia and Africa. The genetic pattern indicates a significant Sub-Saharan male contribution to the populations presently situated in south-western Eurasia.

The tradition of a Kushite migration from Africa to Asia recorded in the classical literature is supported by the clinal biological pattern of y-chromosome lineages in Africa and Eurasia. The presence of R1*-M173 among Anatolians and Iranians supports a Neolithic demic diffusion of Kushite agropastoral populations into this region. The cranial discrete traits, y-chromosome haplogroups and linguistic affiliations shared between Sub-Saharan Africans, the ancient Mesopotamian, Anatolian and Iranian populations can only be the result of a human migration from Africa to Eurasia in ancient times as noted by the Classical writers of Greece and Rome.

REFERENCES

Aravanan, K.P., 1979. Dravidians and Africans. Paari Nilayam, Madras.

Aravanan, K.P., 1980. Notable Negroid elements in Dravidian India. J. Tam. Stud., 17: 20-45.

Coia, V., G. Destro-Bisol, F. Verginelli, C. Battaggia, I. Boschi, F. Cruciani, G. Spedini, D. Comas and F. Calafell, 2005. Brief communication: mtDNA variation in North Cameroon: Lack of Asian lineages and implications for back migration from Asia to sub-Saharan Africa. Am. J. Phys. Anthropol., 128(3): 678-681.

Cruciani, F., P. Santolamazza, P. Shen, V. Macaulay, P. Moral and A. Olckers, 2002. A back migration from Asia to Sub-Saharan Africa is supported by high-resolution analysis of human y-chromosome haplotypes. Am. J. Hum. Genet., 70: 1197-1214.

Cruciani, F., B. Trombetta, D. Sellitto, A. Massaia, G. Destroy-Bisol, E. Watson and E.B. Colomb, 2010. Eur. J. Hum. Genet., 23(1): 1-8. doi: 10.1038/ejhg.2009.

Dieulafoy, J., 2004. The Project Gutenberg EBook of Perzi. In: Dieulafoy, J. (Ed.), Chaldea en Susiane, Retrieved from: http://www.gutenberg.org/files/13901/13901-h/13901-h.htm. (Accessed date: April 04, 2010).

Dieulafoy, M.A., 2010. The Acropolis of Susa from the Excavations In 1884, 1885, 1886, Under The Auspices Of The Louvre Museum, (In French). Retrieved from: http://www.archive.org/stream/lacropoledesused01dieu#page/2/mode/2up. (Accessed date: April 04, 2010).

Graves, R., 1980. The Greek Myths. Vol. 2, Penguid Book. Ltd., Middlesex.

Hansberry, L., 1981. William Leo Hansberry: African History Notebook. In: Joseph, E.H. (Ed.), Africa and Africans as Seen by Classical Writers. Vol. 2, Howard University Press, Washington, D.C., ISBN: 0-88258-0037.

Heine, B. and D. Nurse, 2002. African languages: An introduction. Cambridge University Press. ISBN: 0-521-666295.

Lal, B.B., 1963. The Only Asian Expedition in Threatened Nubia: Work by an India Mission at Afyeh and Tumas. The Illustrated Times, London, 20 April.

McAlpin, D.W., 1974. Toward Proto Elamo Dravidian. Lang, 50(1): 89-101.

McAlpin, D.W., 1981. Proto elamo dravidian: The evidence and its implications. Trans. Am. Philo. Soc., 71, Part 3: Philadelphia.

El-Mosallamy, A.H.S., 1986. Libyco-Berber Relations with Ancient Egypt: The Tehenu in Egyptian Records. In: Borchardt, L. (Ed.), Das Grabdenkmal des Konigs Sahure. Vol. 2, Table 1, pp: 51-68.

Rosa, A., C. Ornelas, M.A. Jobling, A. Brehm and R. Villems 2007. Y-Chromosome Diversit6y in the Population of Guinea-Bissau: a Multiethnic Perspective. BMC Evol. Biol., 7: 124. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1976131/?tool=pubmed.

Renfrew, C., 2010. Archaeogenetics-towards a ew synthesis. Cur. Biol., 20: R162-R165.

Ricaut, F.X. and Waelkens, 2008. Cranial discrete traits in a byzatine population and eastern mediterranean population movements. Hum. Biol., 80(5): 535-564.

Singh, H.N., 1982. History and Archaeology of Blackand Red Ware. Vedic Books. net: Manchester.

Singer, I., 1981. Hittites and hattians in anatolia at the beginning of the second millennium B.C., J. Indo-Euro Stud., 9 (1-2): 119-149.

Steiner, G., 1981. The role of the hittites in ancient anatolia. J. Indo-Euro Stud., 9(1-2): 150-169.

Tomczyk, J., K. Jedrychowska-Danska, T. Ploszaj and H.W. Witas, 2010. Anthropological analysis of the osteological material from an ancient tomb (Early Bronze Age) from the middle Euphrates valley, Terqa (Syria). Int. J. Osteoarchaeol., DOI: 10.1002/oa.1150.

Upadhyaya, P. and S.P. Upadhyaya, 1979. Links between Kerala and l, Africa as they survivances cultural and linguistic resosortent. Bull. de L'IFAN, 1: 100-132.

Upadhyaya, P. and S.P. Upadhyaya, 1976. Affinites ethnolinguistiques entre Dravidiens et les Negro-Africain. Bull. de L'IFAN, 1: 127-157.

Welmers, W.M.E., 1971. Niger-Congo Mande. Cur. Trends Ling, 7: 113-140.

Winters, C.A., 1985a. The genetic Unity between the ravidian, Elamite, Manding and Sumerian Languages. P Sixth ISAS, 1984, Asian Research Service, Hong Kong, pp: 1413-1425.

Winters, C.A., 1985b. The proto culture of the dravidians, manding and sumerians. Tam. Civ., 3(1): l-9.

Winters, C.A., 1989. Tamil, sumerian and manding and the genetic model. Int. J. Dra Ling, 18(l): 98-127..

Winters, C.A., 2000. Memnonia. In: Brother, G. (Ed.), Shades of Memnon, Book II. SekerNefer Group, Chicago, pp: 13-33. ISBN: 0-9662374-2-0.

Winters, C.A., 2005. Afrocentrism: Myth or Science. Lulu.com. ISBN: 978-1-4116-5276-7.

Winters, C.A., 2007. Did the dravidian speakers originate in Africa? Bio Essays, 27(5): 497-498.

Winters, C.A., 2008a. Can parallel mutation and neutral genome selection explain Eastern African M1 consensus HVS-1 motifs in Indian M Haplogroups. Int. J. Hum. Genet., 13(3): 93-96.

Winters, C.A., 2008b. African millets carried to India by dravidian speakers? Ann. Bot., 100(5): 903-924

Winters, C.A., 2010. The Ancient Minoans: Keftiu were Mande Speakers. Retrieved from: http://bafsudralam.blogspot.com/search?q=Minoans. (Accessed date: December 04, 2010).