

9bp and the Relationship Between African and Dravidian Speakers

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Abstract: It is assumed that the 9bp among Dravidian speakers is the result of genetic drift. There is a strong correlation between genetic, archaeological, cultural and linguistic evidence that suggest historical contact between these populations and reinforces a common descent of Dravidian and African speakers. The significant presence of 9bp between African and Dravidian speaking populations is consistent with a recent Dravidian migration from Africa to India.

Key words: Dravidian, genetic, haplogroup (hg), macrohaplogroup, mtDNA, 9bp deletion

INTRODUCTION

Thangaraj *et al.* (2008) recognizes an independent origin for 9bp in Africa and Asia, and believe its presence among Indian populations is best explained by genetic drift, instead of adaptive selection of the tropical environment. The 9bp deletion is generally low among Indians, but they found it has a high frequency among Dravidian speakers in Andhra Pradesh (Thangaraj *et al.*, 2008). This genetic diversity was interesting because the Dravidian and Indo-Aryan share descent from a common Proto-Dravidian MRCA (Winters, 2007a).

Researchers have found a high frequency of the 9bp deletion in the M macrohaplogroup including unclassified M* (Thangaraj *et al.*, 2008). Thangaraj *et al.* (2008) note that 60% of the Indians carry one of the M Macrogroup lineages including unclassified hg M*. These researchers note that among these Indians the typical transitions of 9bp were 16311.

RESULTS AND DISCUSSION

Studies of 9bp deletions among African and Indian populations were analyzed at the Uthman dan Fodio Institute in Chicago in 2009. The meta-analysis of the 9bp literature was used to investigate the geographic distribution of the 9bp deletion and its possible influence on population structure and gene flow in Africa and India.

In the case of Dravidian speakers carrying 9bp the origin of this polymorphism among this population may be the result of an ethnic relationship between Dravidians and Africans, instead of genetic drift. Researchers have observed the 9bp deletion may be a useful marker to examine migration routes of populations sharing historical, anthropological, archaeological, linguistic and cultural traits (Alves-Silva *et al.*, 1999; Soodyall *et al.*, 1996; Graven *et al.*, 1995; Merriwether *et al.*, 1994).

Dravidian speakers and West Africans share cultural traits (Aravanan, 1976, 1979; Sergent, 1992). The archaeological evidence linking Dravidian speakers and Africans make it clear that both groups originally lived in Nubia in intimate contact (Singh, 1982; Winters, 1985, 2007b). In addition many linguists have found a genetic relationship exist between the speakers of Dravidian languages and languages spoken in the Senegambian region of West Africa (Aravanan, 1980; Upadhyaya and Upadhyaya, 1977, 1979, 1983; Winters, 1980, 1981a, b, 1986, 1999a).

The M haplogroup has a wide geographic distribution and high frequency among African speakers. One of the most widespread African M haplogroup is M1 (Winters, 2008). In the Senegambian area where we find the Mande, Wolof and other West African languages spoken that are genetically related to the Dravidian group we have M1 and M1b (González *et al.*, 2006; Gonder *et al.*, 2006; Rosa *et al.*, 2007; Winters, 2007b, c, 2008). The M1 haplogroup has not been found in Indians, but numerous M1 transitions have been found in the Indian M macrohaplogroup (Winters, 2007c).

The 9bp deletion has been found among West Africans (Alves-Silva *et al.*, 1999; Soodyall *et al.*, 1996; Graven *et al.*, 1995; Merriwether *et al.*, 1994). The West Africans carriers of 9bp speak languages that are genetically related to Dravidian languages (Aravanan, 1980; Upadhyaya and Upadhyaya, 1977, 1979; Winters, 1980, 1981a, b, 1986, 1999a). The typical transitions for African 9bp are 16311, 16223 and 16189. The 9bp transitions at 16311 are congruent among Dravidians and West Africans. The strong correlation between archaeological (Sergent, 1992; Singh, 1982; Winters, 1981a, 2007b, 2008), anthropological (Aravanan, 1976, 1979; Upadhyaya and Upadhyaya, 1977, 1979, 1983) and linguistic (Aravanan, 1976, 1979; Balakrishnan, 2005; Upadhyaya and Upadhyaya, 1977;

Winters, 1999a, b, 1985, 2000) evidence that indicate that many Dravidian speakers originated in Nubia, and are genetically related to Africans culturally and linguistically.

CONCLUSION

Thangaraj *et al.* (2008) illustrate the Dravidian 9bp deletion have mtDNA (M haplogroup) typical transition at 16311. The 16311 transitions that characterize the M haplogroup in Africa have high frequencies among some Indian M haplogroups (Winters, 2007a).

This makes the genetic drift theory for the origin of the 9bp among Dravidian speakers incongruent with the evidence of intimate contact between Africans and Dravidians (Aravanan, 1976, 1979; Sergent, 1992; Winters, 1999b, 2007b, 2008, 2010) in relation to cultural and historical contacts between these populations. This molecular evidence in conjunction with the anthropological, archaeological, linguistic and cultural evidence suggest a recent migration of some Dravidian speakers from Africa to India.

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