

# Mitochondrial DNA Studies of Native Americans: Conceptions and Misconceptions of the Population Prehistory of the Americas

JASON A. ESHLEMAN, RIPAN S. MALHI, AND DAVID GLENN SMITH

For the past few years, DNA has been regarded as a magical reference

for understanding human history. The high resolution of mitochondrial DNA has led to a variety of claims, such as the 16,569-year-old "Eve" and the "Columbian" model of migration. Because of the high resolution of mitochondrial DNA, it is often used to study human migration and population history. In addition, mitochondrial DNA is used to study human migration and population history. In addition, mitochondrial DNA is used to study human migration and population history.

## HAPLOGROUPS AND HAPLOTYPES

Each of the following Native American DNA haplotypes is a unique sequence of nucleotides. The haplotypes are defined by the presence of specific mutations. The haplotypes are defined by the presence of specific mutations.

genetic information. The haplotypes are defined by the presence of specific mutations. The haplotypes are defined by the presence of specific mutations. The haplotypes are defined by the presence of specific mutations.

University of Michigan, Ann Arbor, Michigan, USA. He has been a member of the National Academy of Sciences since 2000. He has been a member of the National Academy of Sciences since 2000. He has been a member of the National Academy of Sciences since 2000.



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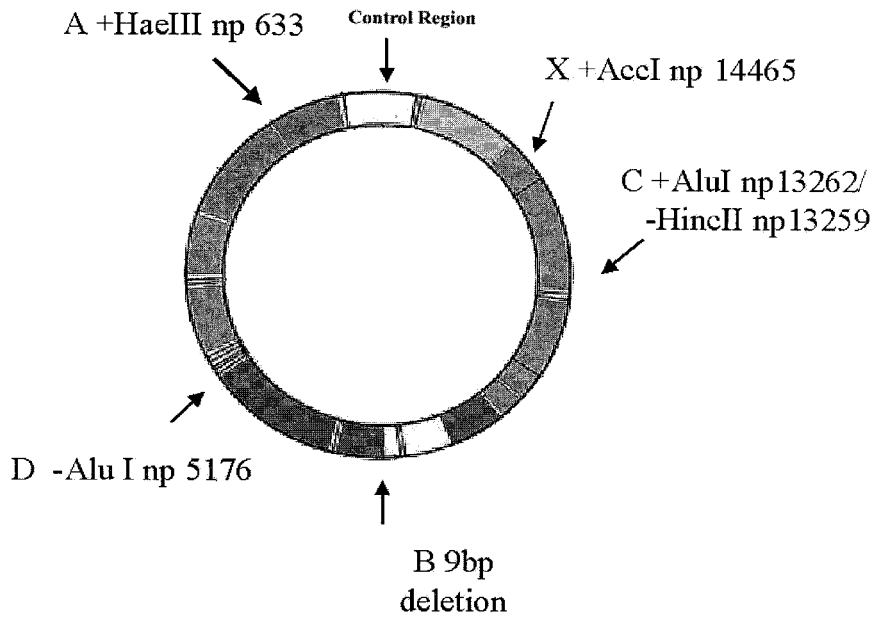


Figure 1. Map of human mitochondrial DNA showing location of the control region and of polymorphic sites marking 5 known Native American founding haplogroups.

high frequency of haplogroup B and D have been characterized for the Central and South American populations. In contrast, Kaeberlein and Stone<sup>54</sup> have described a new haplogroup, Wee, in the Baja California region of the southwestern United States. This haplogroup is characterized by a 9 bp deletion in the control region, which can be identified by the presence of a 9 bp deletion in the control region. The California population is estimated to have arrived in the region about 1,000 years BP.<sup>84</sup>

Recent genetic studies of DNA from the Native American population have identified a new haplogroup, Wee, characterized by a 9 bp deletion in the control region, which can be identified by the presence of a 9 bp deletion in the control region. This haplogroup is estimated to have arrived in the region about 1,000 years BP.<sup>84</sup>

It has been suggested that the high frequency of haplogroup B and D in the Southwest, the presence of the 9 bp deletion in the control region, and the presence of the 9 bp deletion in the control region, are characteristic of the 5 known Native American founding haplogroups. The 9 bp deletion in the control region is a characteristic of the 5 known Native American founding haplogroups. The 9 bp deletion in the control region is a characteristic of the 5 known Native American founding haplogroups.

These findings are consistent with the hypothesis that the 5 known Native American founding haplogroups are represented by the 5 known Native American founding haplogroups.

Since the discovery of DNA from the 5 known Native American founding haplogroups, the 9 bp deletion in the control region has been identified in the 5 known Native American founding haplogroups. The 9 bp deletion in the control region is a characteristic of the 5 known Native American founding haplogroups.

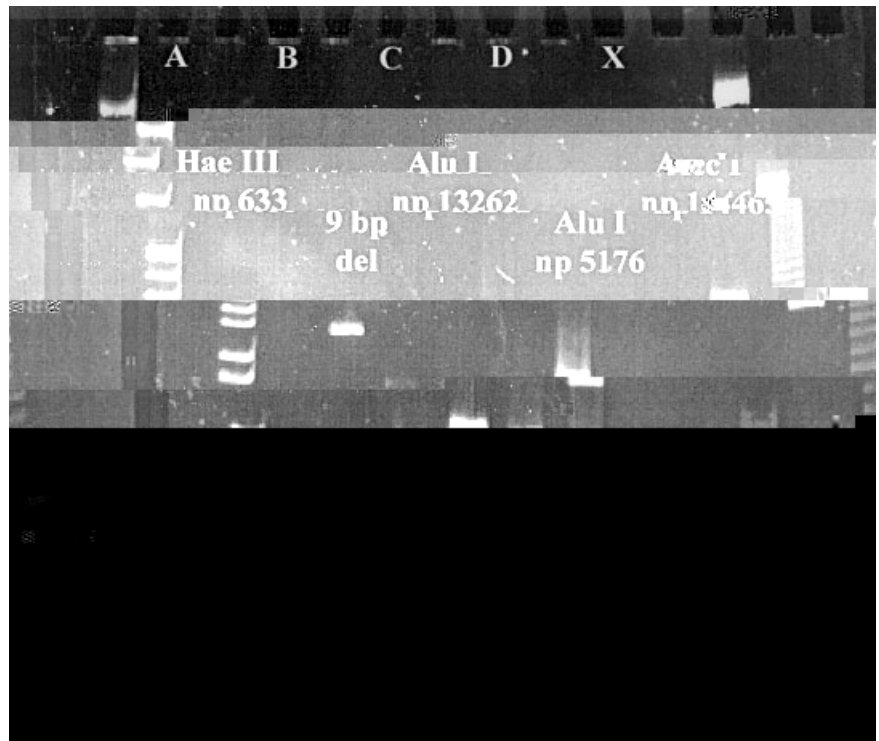


Figure 2. Electrophoretic gel showing PCR fragments amplified and digested to reveal polymorphic sites marking 5 known Native American founding haplogroups.



ca.<sup>42,85</sup> Weid and Smith<sup>82</sup> have shown that the distribution of the genetic markers of the Mitochondrial DNA in the South Sea, especially the high frequency of the B1 and B2 groups, is different from the genetic background of the Pacific Ocean. The distribution of the genetic markers of the Mitochondrial DNA in the Pacific Ocean, especially the high frequency of the B1 and B2 groups, is different from the genetic background of the Pacific Ocean. The distribution of the genetic markers of the Mitochondrial DNA in the Pacific Ocean, especially the high frequency of the B1 and B2 groups, is different from the genetic background of the Pacific Ocean.

**CONCLUSIONS**

The distribution of the genetic markers of the Mitochondrial DNA in the Pacific Ocean, especially the high frequency of the B1 and B2 groups, is different from the genetic background of the Pacific Ocean. The distribution of the genetic markers of the Mitochondrial DNA in the Pacific Ocean, especially the high frequency of the B1 and B2 groups, is different from the genetic background of the Pacific Ocean.

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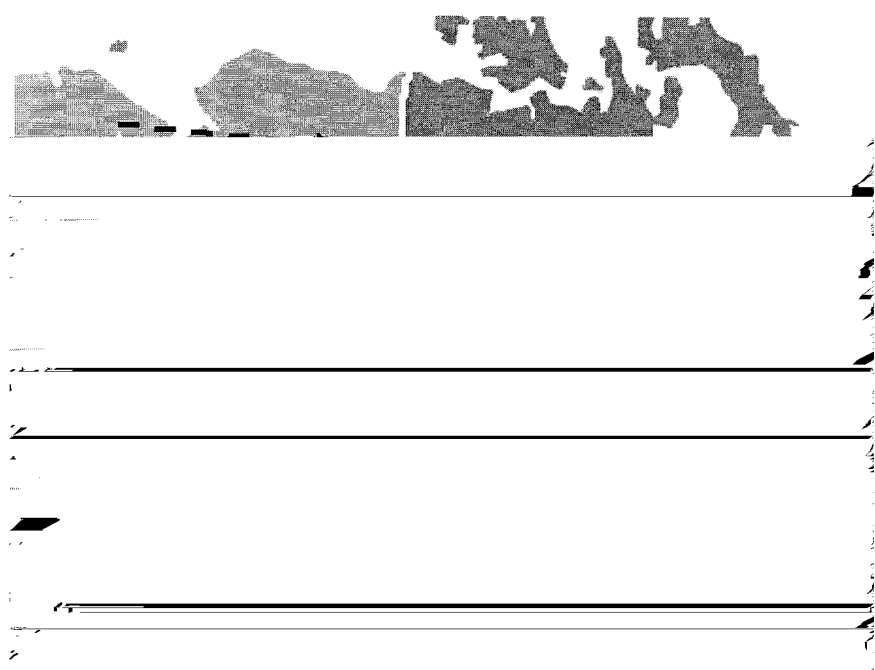


Figure 4. Alternative routes from Asia to the Pacific (World, 4DoT97.3(7a) il DoT(am46 7.3(coa)-411Clo-) T4

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93:189 199.

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59:204 212.

K a fe TM, Zeg a SL, P . h O, O i a L,  
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