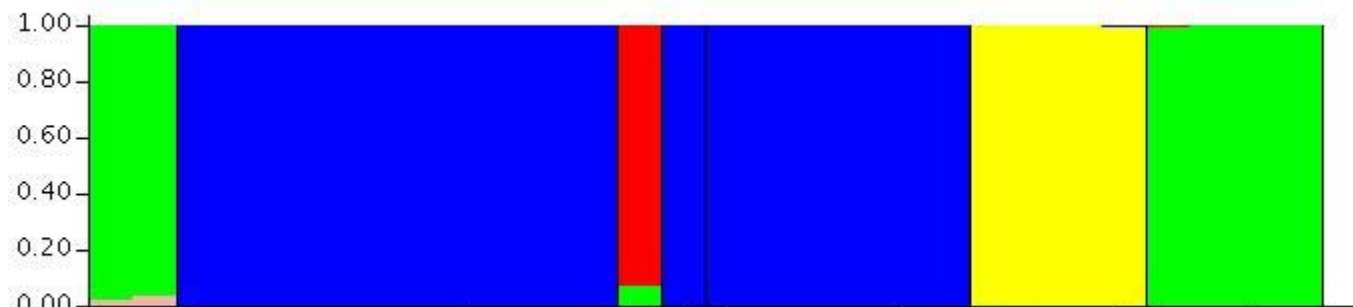


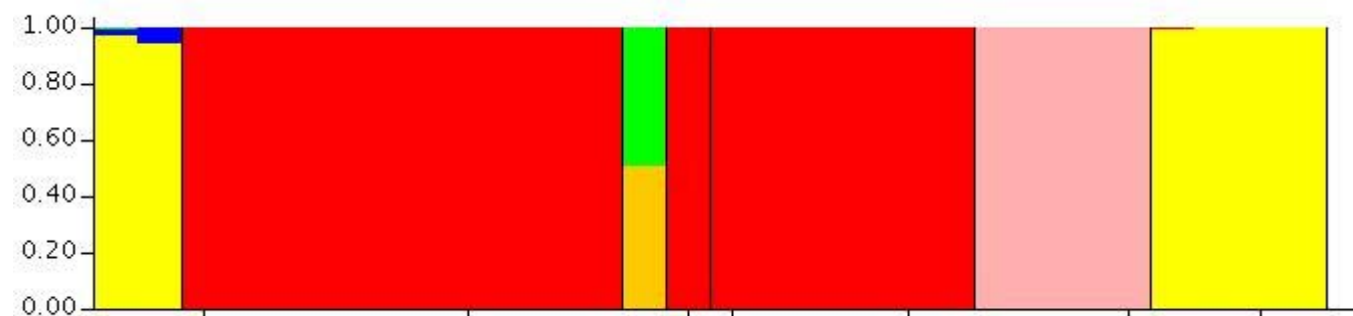
paradoxus populations



K=4



K=5



K=6

South  
Americ  
a

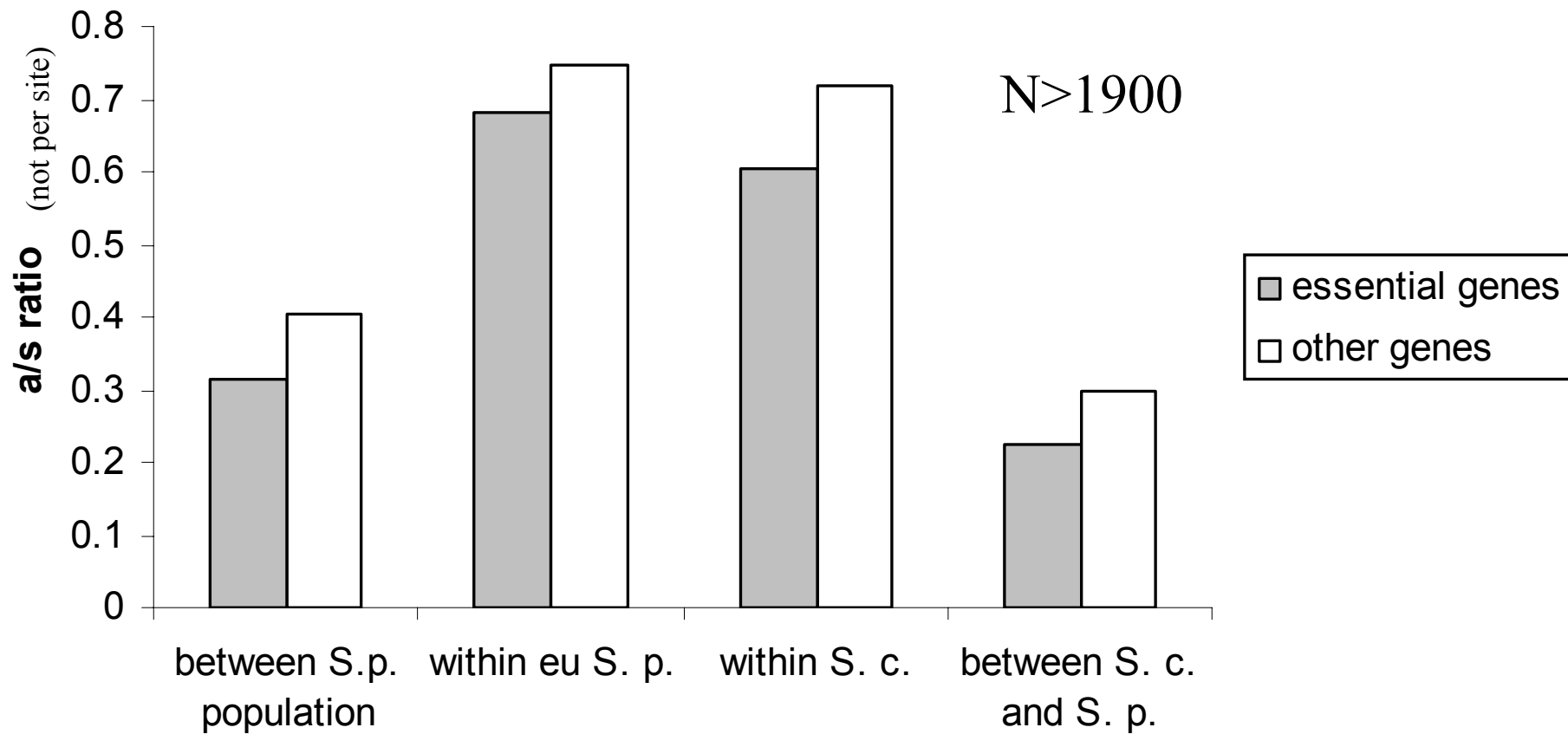
London

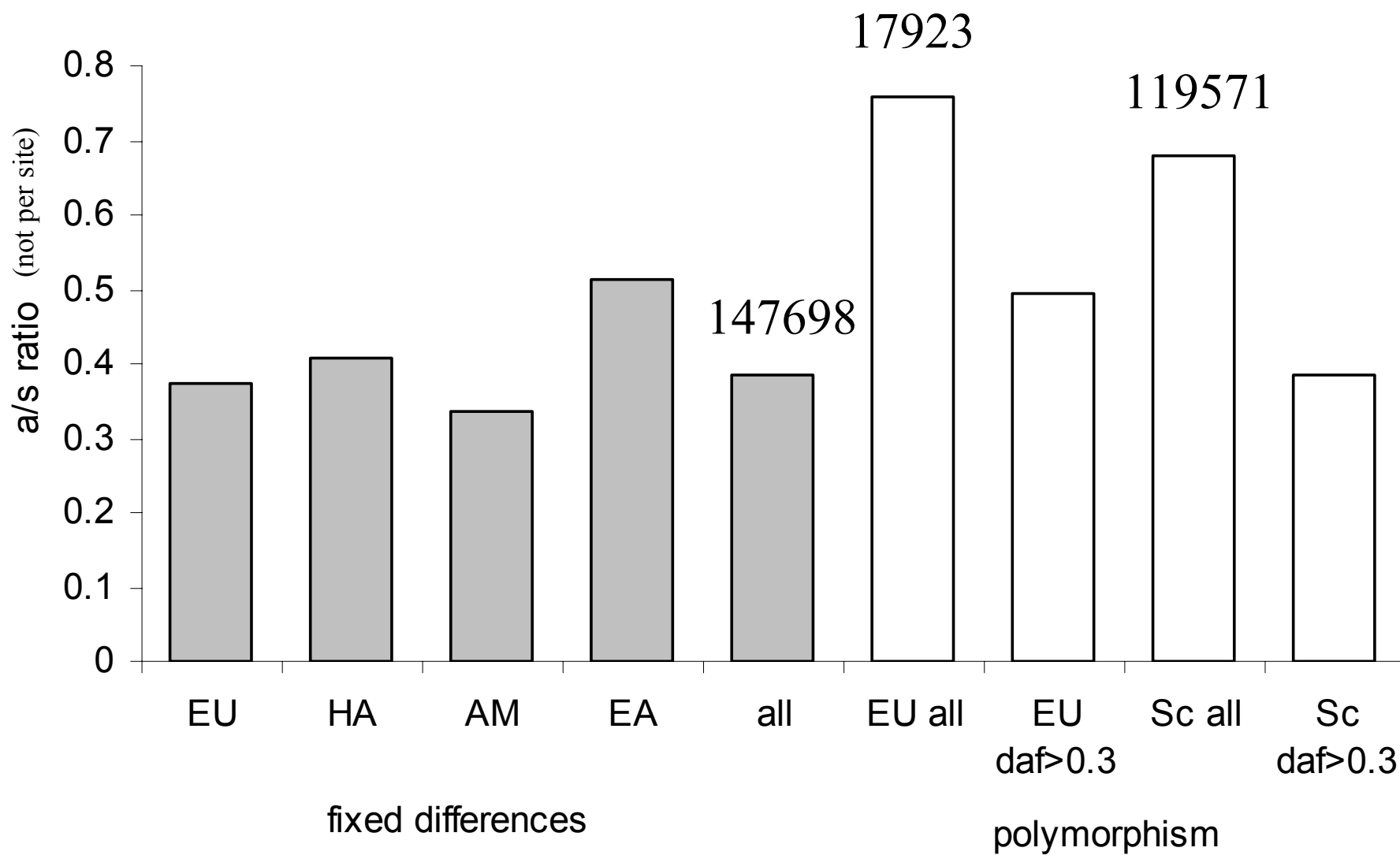
Hawa  
ii

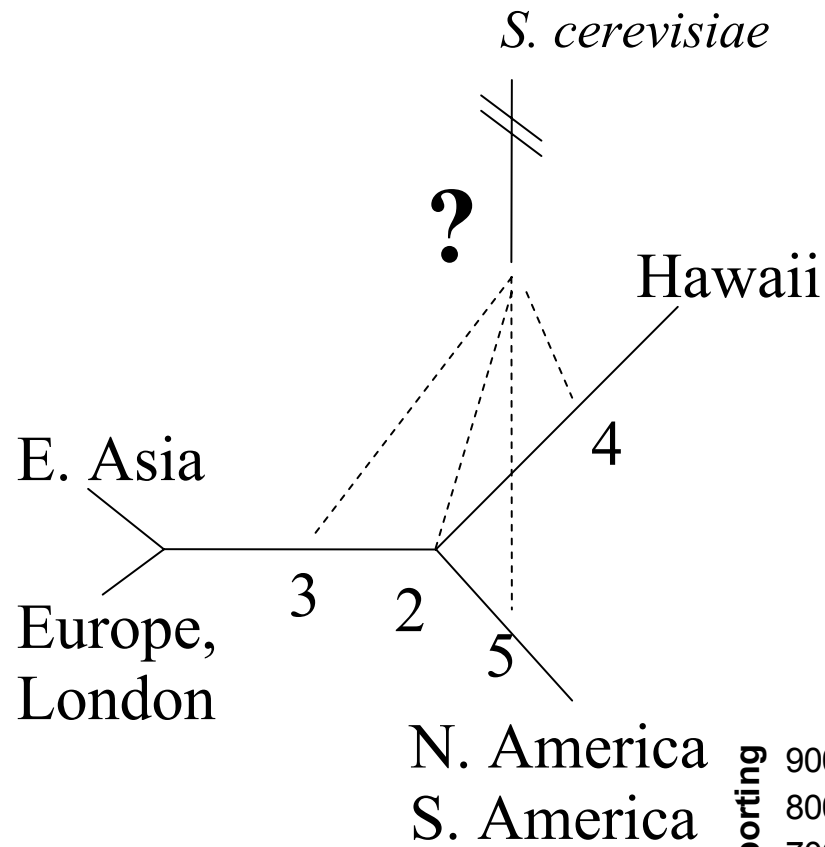
Referenc  
e

Europe East Asia North  
America

1268  
markers  
with at  
least 25



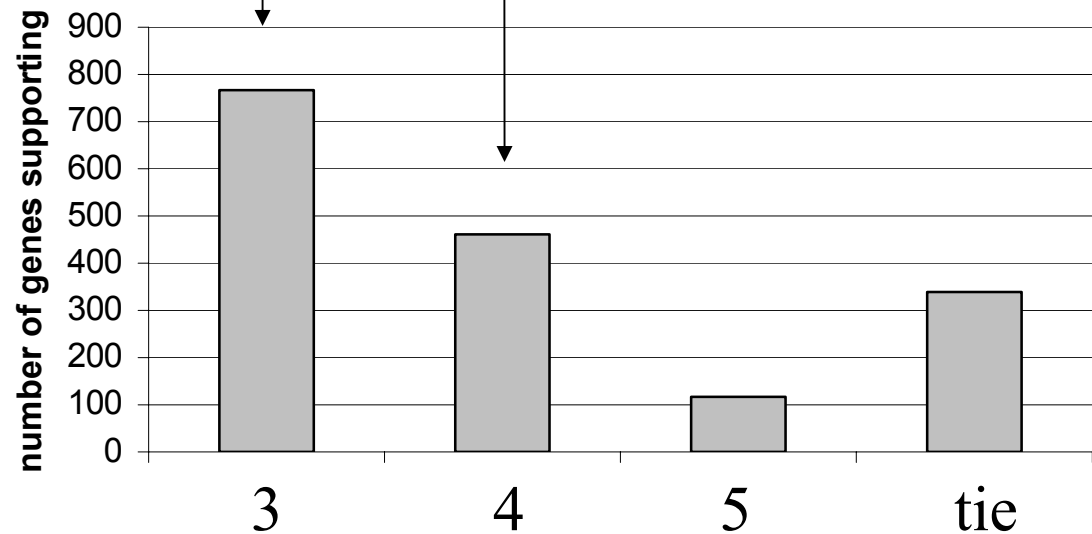




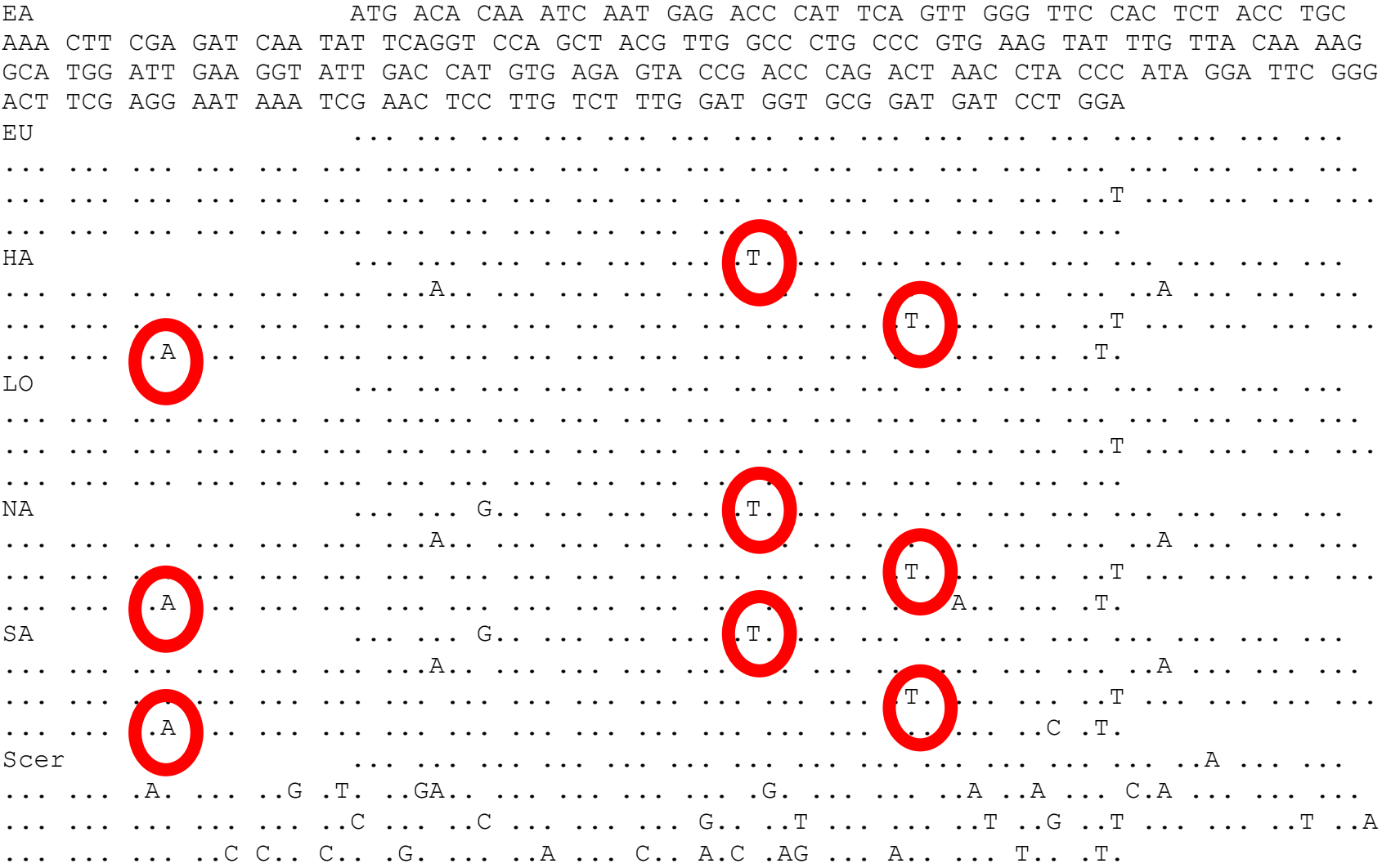
Based on David's  
neighbour joining tree

Most genes support  
Hawaii grouped with  
Americas...

But many genes  
support Hawaii as  
ancestral???



# YAL015C



In most genes, substitutions group Hawaii with Americas

YAL018C

But in some genes, Hawaii has the ancestral state for many positions?!

EA  
ATG AGCCGT ACT AGG GTG CTA AAC TTT AAG GAC GCA ACA GGA GCG CCG GGT TTG GAG ACC AAC AAG TAT TCA ACC ACT TCG  
GGT TAT TTG ATA GTC TAC TGG ACG ATT CCT ATT GGG CTT GCT CAT TCA TTC TTA AGA CTC GAA GGT ATC GTG CCC ATC GCC  
AAA GTC GGC CTA GCATCC GTA CTC TCT TTT CTA GTC GGA CCC ATT TTC CCC ATT ACT GAT GAA ATC CTA CAC GGC GCC TCG  
TTG GCA ATC TCT GTT CCC GCG GGG TCC ACG CAT ATT CCC GAA GTG GTT CCA CAG GAG ACC

EU  
.....C.....  
.....T.....  
...C.....T.....T  
.....C..C..G...C...T...  
C.....

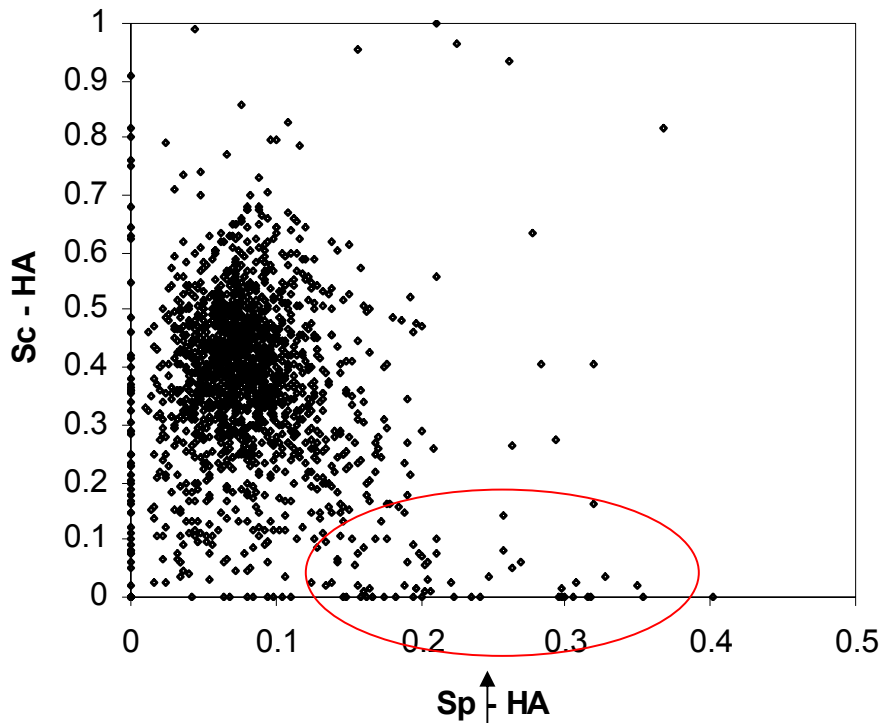
HA  
A...C...T...A...C...A...A...T...C...G...A...  
...T...C...T...A...G...C...T...C...G...  
...T...C...T...A...G...C...T...C...G...  
...T...C...T...A...G...C...T...C...G...

LO  
.....C.....  
...C.....T.....T  
...C..C..G...C...T...  
C.....

NA  
.....G...G...C...C...  
...T...T...G...G...A...T...  
...C...T...G...C...C...  
...A...T...A...T...  
...T...A...C...T...A...T...

SA  
.....G...G...C...C...  
...T...T...G...G...G...A...T...  
...C...T...G...G...C...C...  
...A...T...A...C...T...A...T...

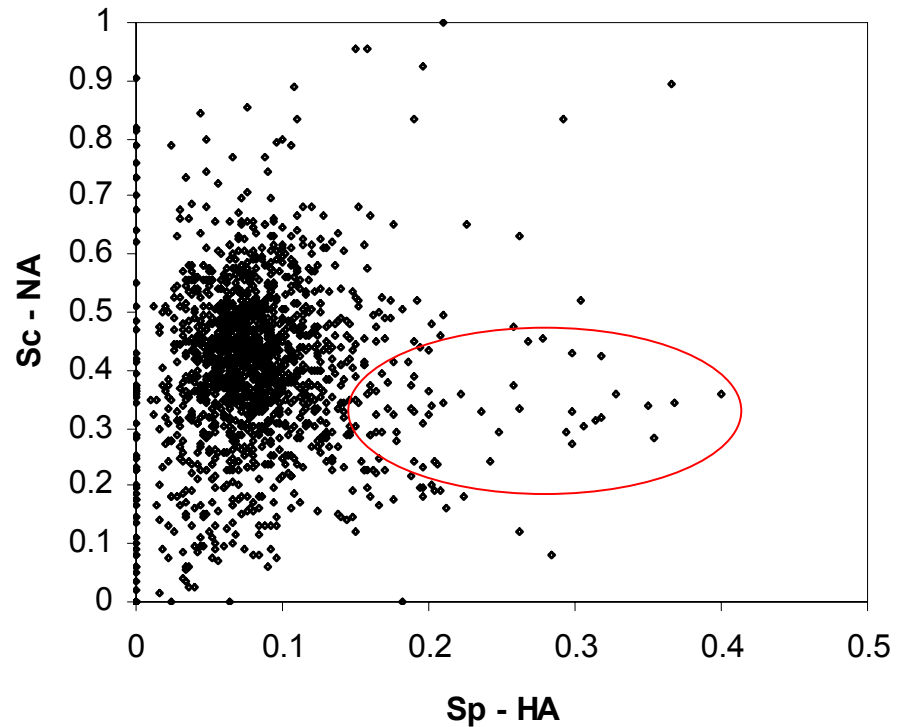
Scer  
...G...C...C...T...G...  
...C...A...T...A...G...A...T...G...C...T...G...  
A...C...G...T...A...C...T...A...C...T...A...T...T...  
...C...T...C...G...C...T...A...C...T...A...T...T...



$Sp - HA$

This material is  
close to Sc and  
far from Sp

Leo has a clearer picture of  
this (?)



But not in the  
North  
American



