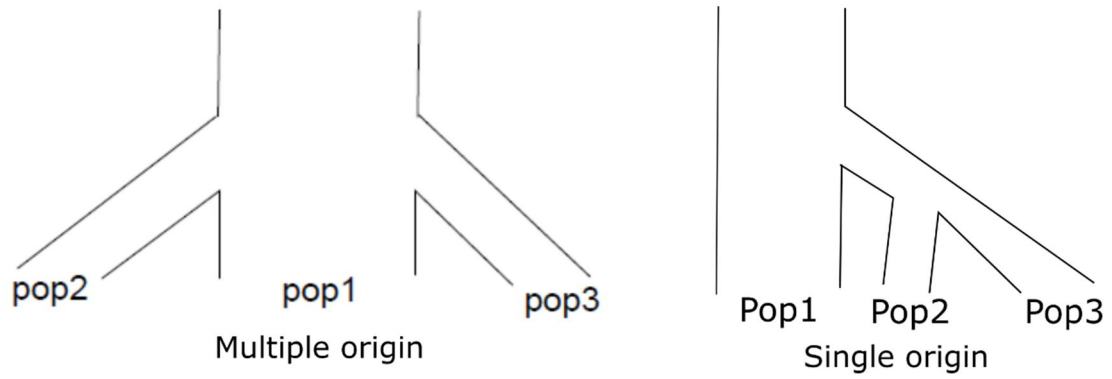
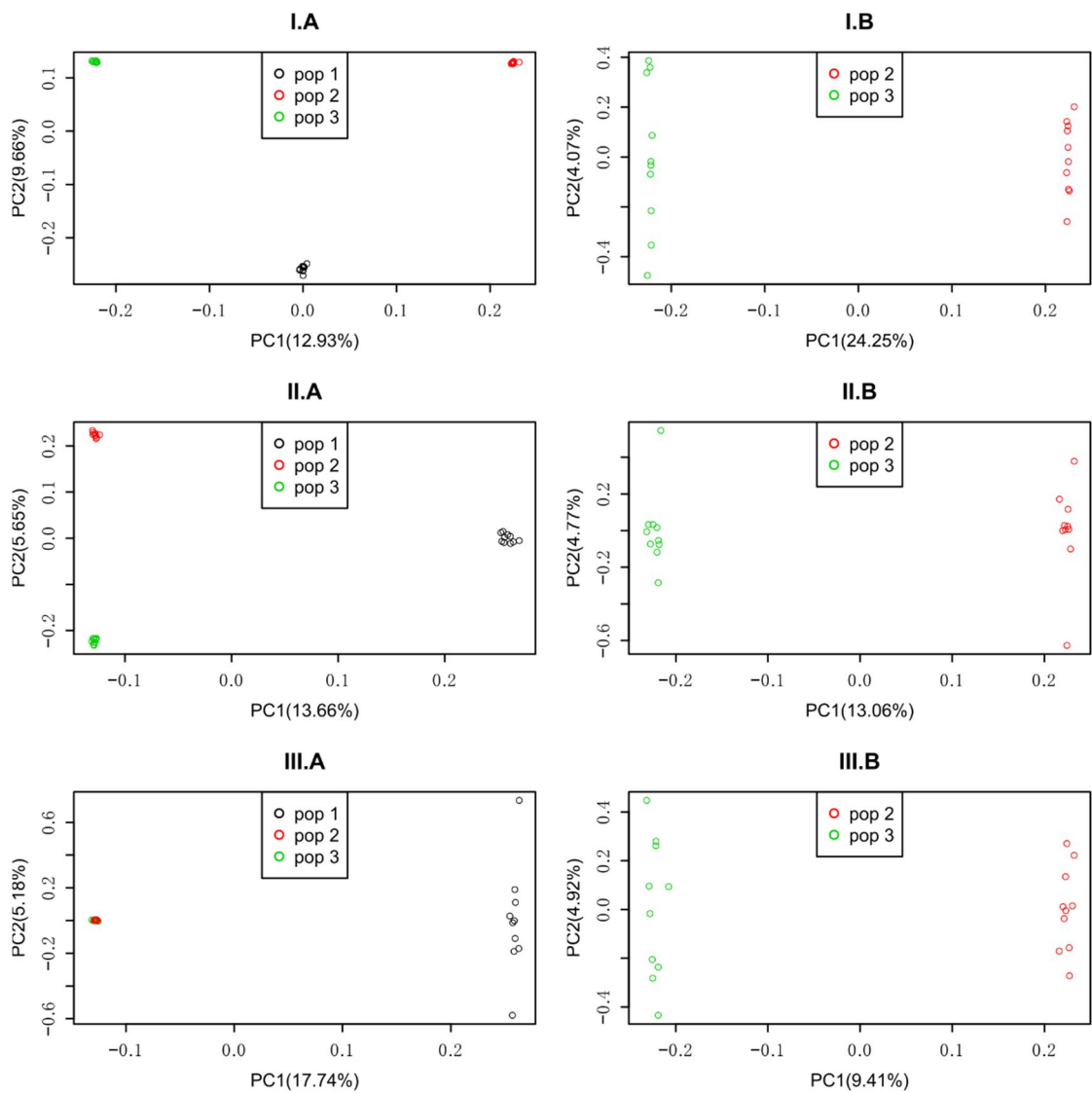


Supplementary Figure S11

A



B



Supplementary Information, Figure S11. Simulation of the independent history and principal component analysis

A) Cartoon illustration of two types of evolutionary histories. The left panel is a multiple-origin model (independent history) and the right panel is a single origin model with subsequent divergence between two descendant populations.

B) PCA plot for the simulation results. The top panel is the PCA analysis under a multiple-origin history. The left panel is the PCA over three populations and the right panel is for the PCA analysis over the two descendant populations. The middle panel has the same layout as the top panel. The demographic history is a single origin with a deep divergence (20,000 years). The bottom panel is for a single origin model, but with a shallow divergence (10,000 years). The ms code for each simulation is

I.A & I.B (Multiple origin).

```
ms 60 100 -s 1 -I 3 20 20 20 -n 1 1 -n 2 0.3333 -n 3 0.3333 -ej 0.034375 2 1 -ej 0.034375
3 1
```

II.A & II.B (Single origin pop2&3 split 20000 years ago)

```
ms 60 50000 -s 1 -I 3 20 20 20 -n 1 1 -n 2 0.3333 -n 3 0.3333 -ej 0.02083 3 2 -en
0.02083 2 0.1 -ej 0.034375 2 1 -en 0.034375 1 1
```

III.A & III.B (Single origin pop2&3 split 10000 years ago)

```
ms 60 50000 -s 1 -I 3 20 20 20 -n 1 1 -n 2 0.3333 -n 3 0.3333 -ej 0.010417 3 2 -en
0.010417 2 0.1 -ej 0.034375 2 1 -en 0.034375 1 1
```