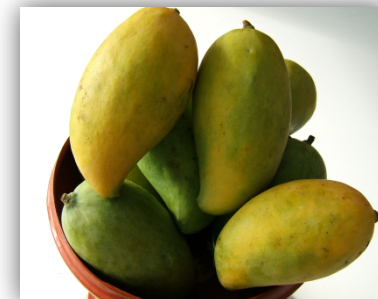


Why mango in Myanmar?

- **Conservation**
 - An example of *ex situ* conservation of tropical fruit
 - A case for vegetative propagated crop
- **Agricultural and cultural importance**
 - Economically important in Myanmar (36.3 Mt, 16.26 million US\$)
 - Long history of cultivation
- **Academic interest**
 - No systematic diversity study on mango in Myanmar



Variation of mango in Myanmar



Objectives

- Study genetic diversity of mango varieties of Myanmar in comparison mango variety from other part of the world
- Hypotheses
 - Unique and broad genetic diversity might exist within Myanmar landraces (proximity to the origin)
 - Myanmar landraces might be genetically close to southeast Asian mango varieties...

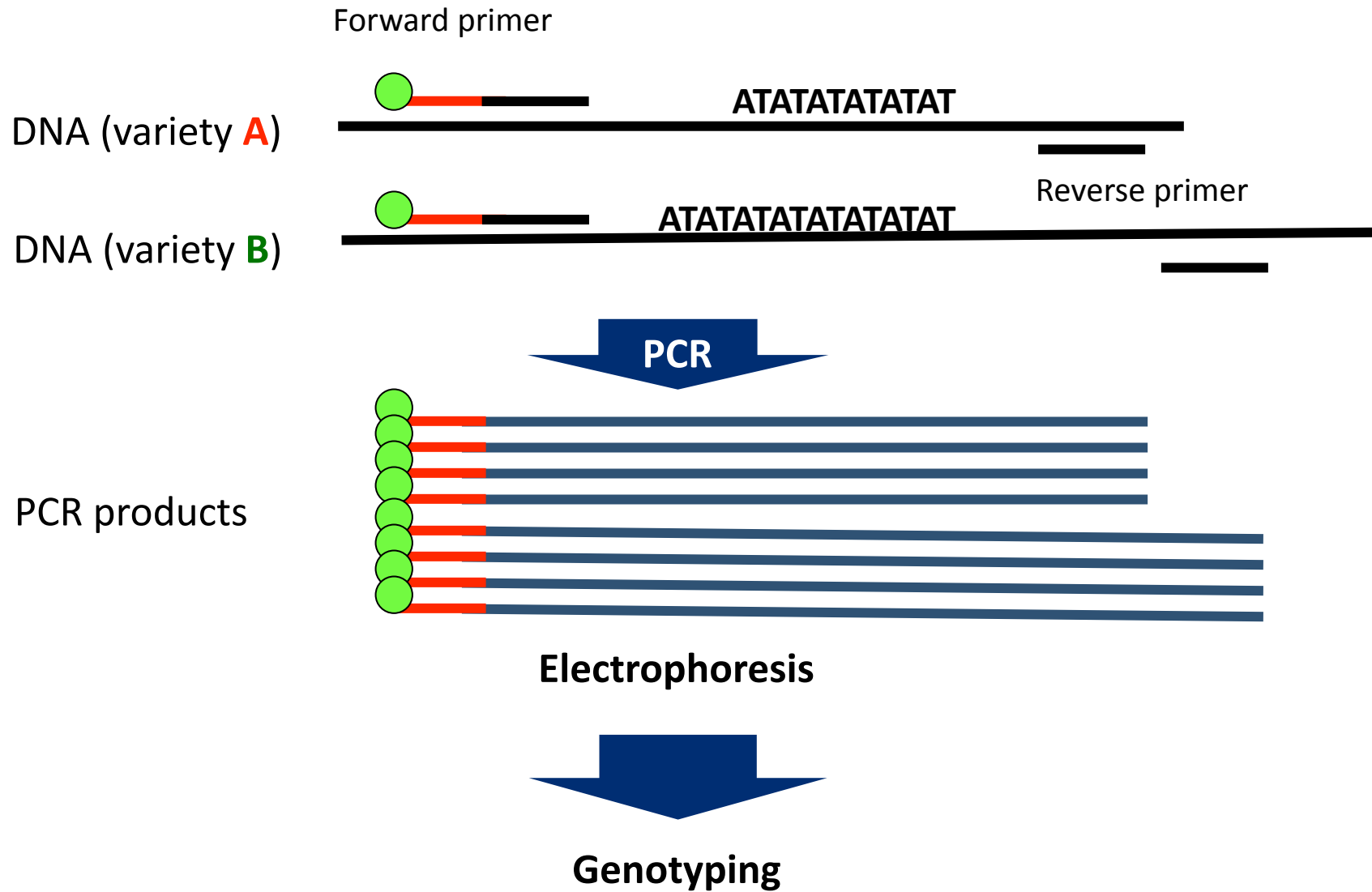
Material and Method

Table List of materials used in this study

Country	Number of samples
Myanmar (MM)	62
Australia (AU)	8
Florida (US)	17
Thailand (TH)	7
Vietnam (VM)	7
India (IN)	4
Others (O)	8
Total	113

- Mango samples
 - Myanmar
 - Southeast Asia
 - Australia
 - USA
 - India
- 17 Simple Sequence Repeat (SSR) marker
 - Codominant
 - Powerful to detect variation within species

SSR (Simple Sequence Repeat)



Results and Discussion

Table Microstellite loci used in the analysis of *Mangifera indica* germplasm collections

Locus	GeneBank Acc. No.	Alleles (no.)	Size range (bp detected)	PIC
<i>MiSHRS-29</i>	AY942822	6	191-204	0.51
<i>MiSHRS-37</i>	AY942828	5	142-149	0.56
<i>LMMA04</i>	AY628376	6	239-263	0.55
<i>LMMA05</i>	AY628377	3	295-299	0.29
<i>LMMA08</i>	AY628380	9	273-288	0.69
<i>LMMA09</i>	AY628381	9	186-208	0.71
<i>LMMA10</i>	AY628382	11	167-197	0.73
<i>LMMA11</i>	AY628383	10	246-266	0.69
<i>LMMA12</i>	AY628384	8	214-226	0.63
<i>LMMA15</i>	AY628387	7	223-237	0.65
<i>mMiCIR014</i>	AJ635176	9	156-184	0.56

PIC (Polymorphic information content): $1 - \sum p_i^2$, where p_i is frequency of i^{th} allele

Myanmar mangoes are genetically highly diverse

Table Diversity indices studied by SSR

Population	N	Ho	UHe
MM	62	0.69	0.69
AU	8	0.64	0.60
US	17	0.67	0.62
TH	7	0.52	0.59
VN	7	0.48	0.38
IN	4	0.48	0.50

N = Number of individual used, Ho = Observed Heterozygosity,
UHe = Unbiased Expected Heterozygosity

Florida had been considered as secondary center of diversity (Mukherjee, 1997).

Myanmar mangoes are genetically distinctive from other cultivars

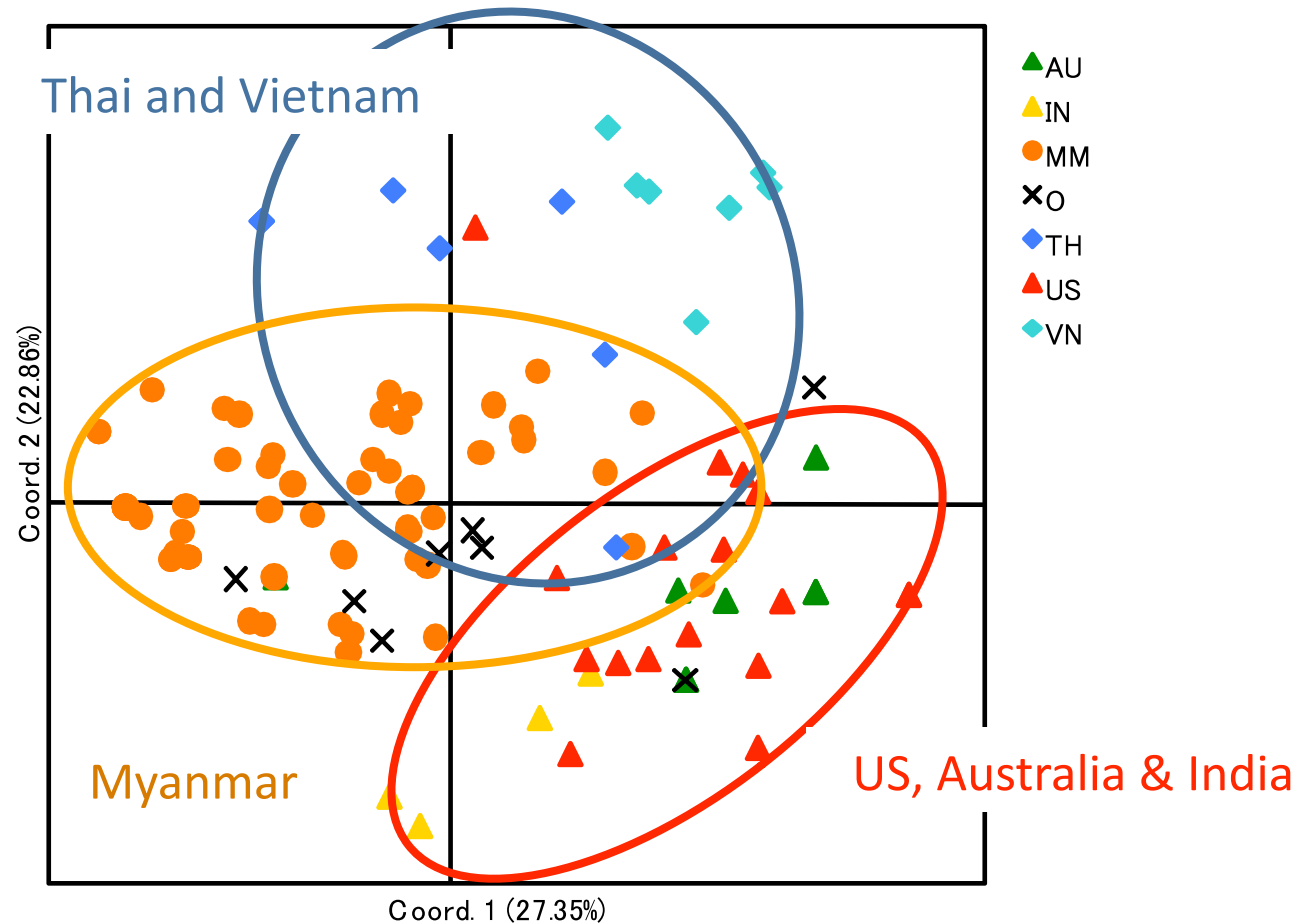


Fig. Principal coordinates plots (Coord.1 vs. Coord. 2)