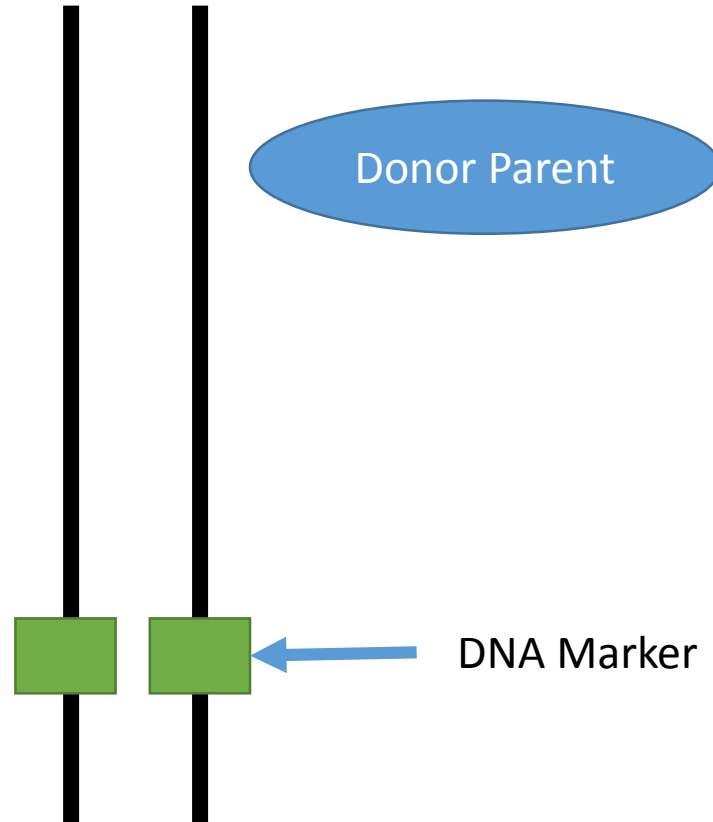


SSR DATA ANALYSIS

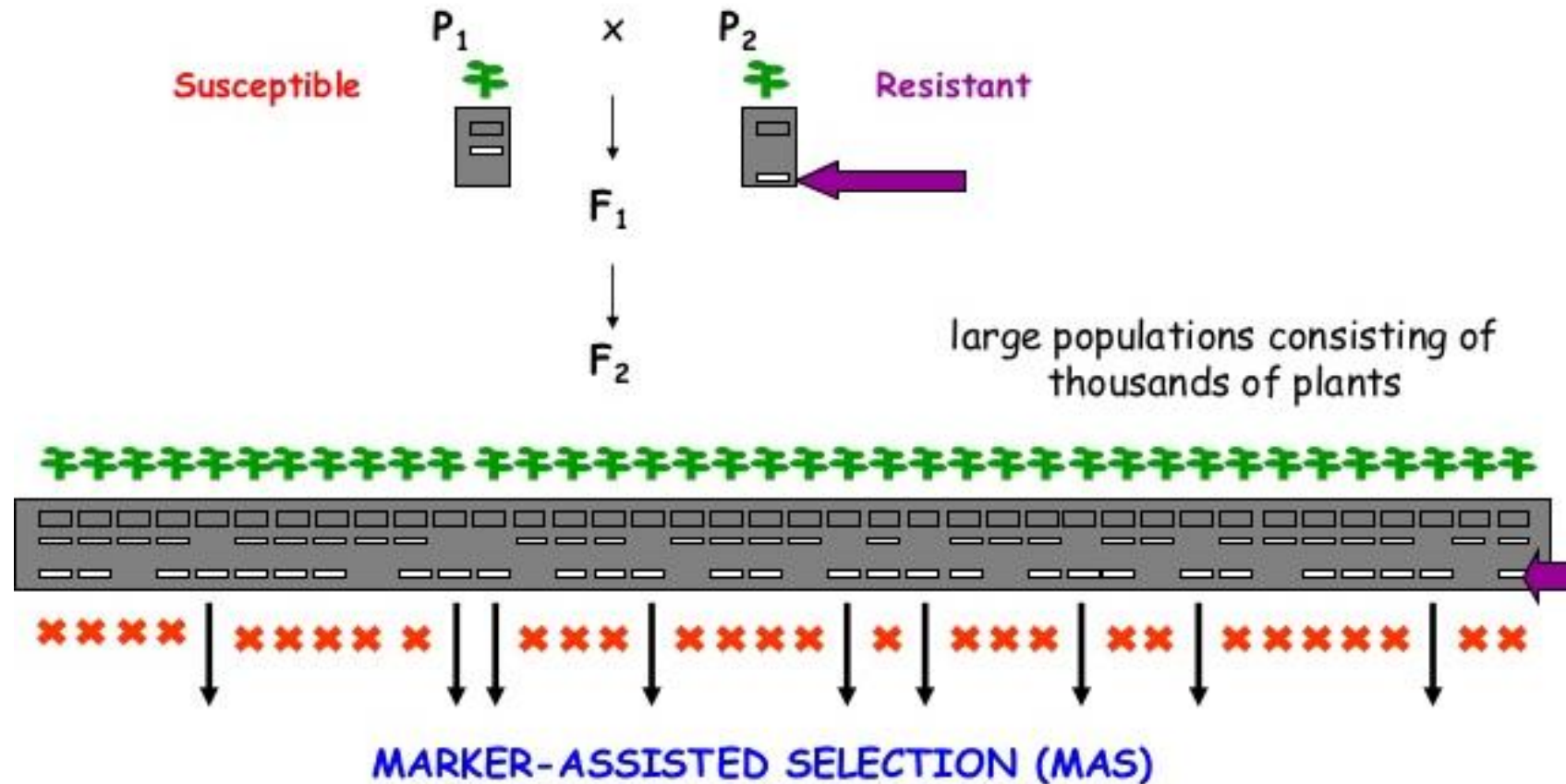
BecA-ILRI Hub, Nairobi
29th September 2016

Vincent Njung'e
Research Associate

1. Trait Association

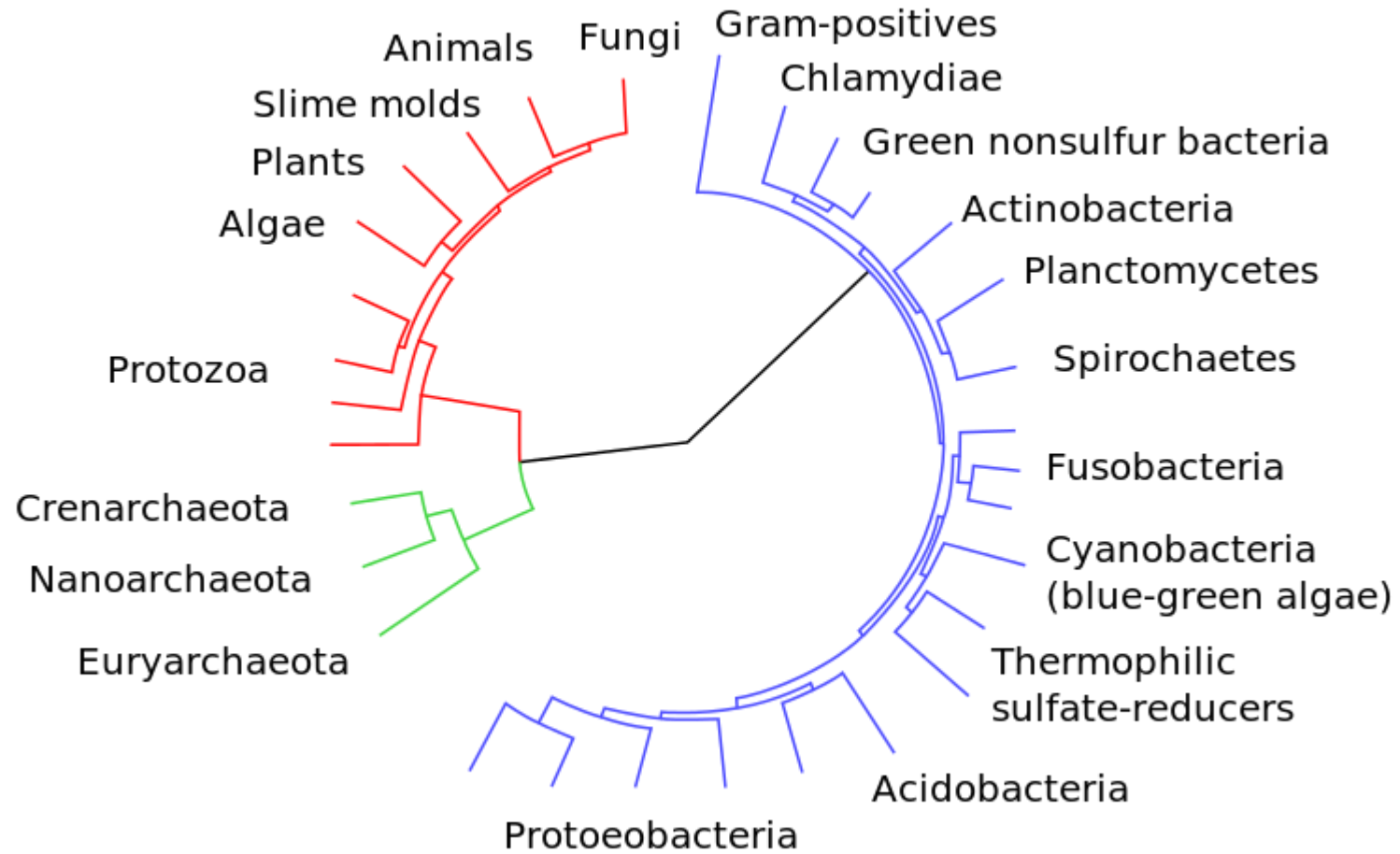


2. Marker Assisted Selection



Method whereby phenotypic selection is based on DNA markers

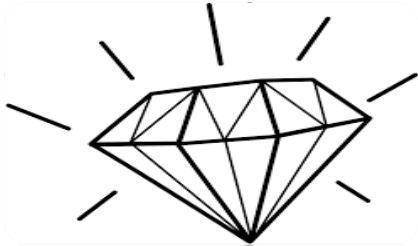
3. Diversity Analysis



Garbage in Garbage out



DATA



MODEL



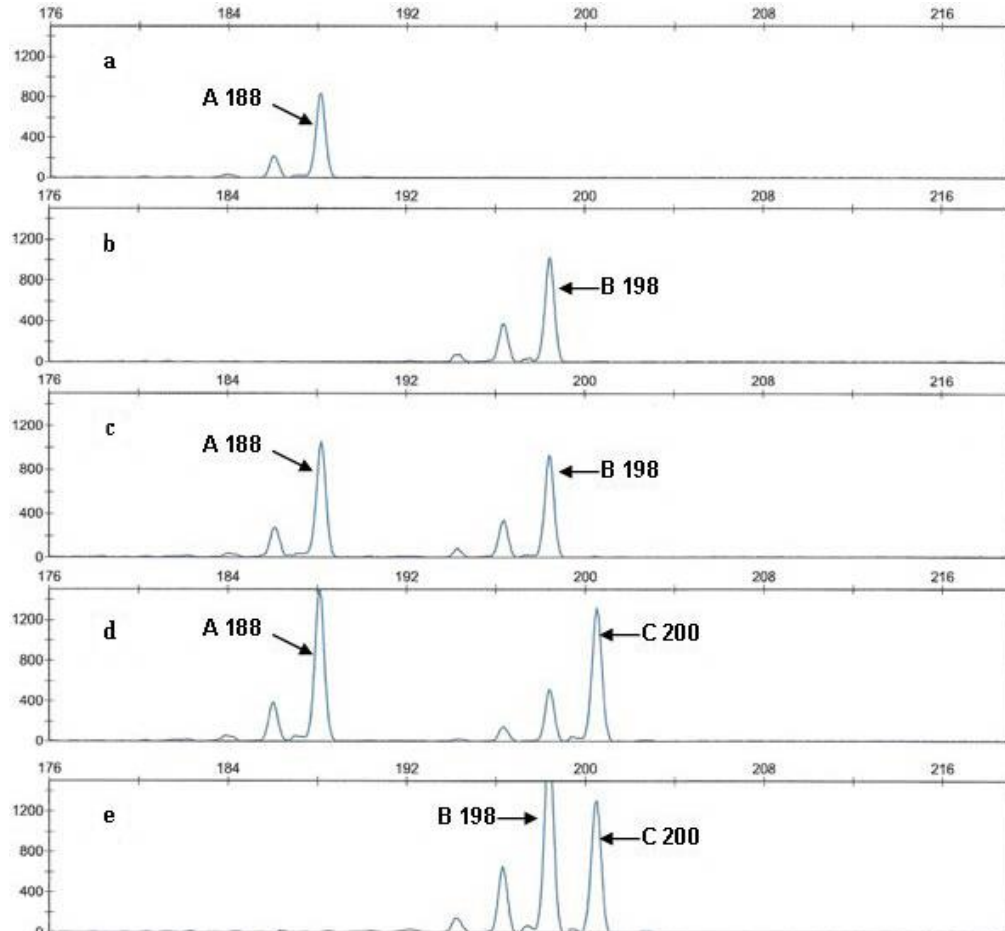
RESULT

SSRs are co-dominant

Ploidy	Alleles per locus
Haploid	One
Diploid	Two
Tetraploid	Four

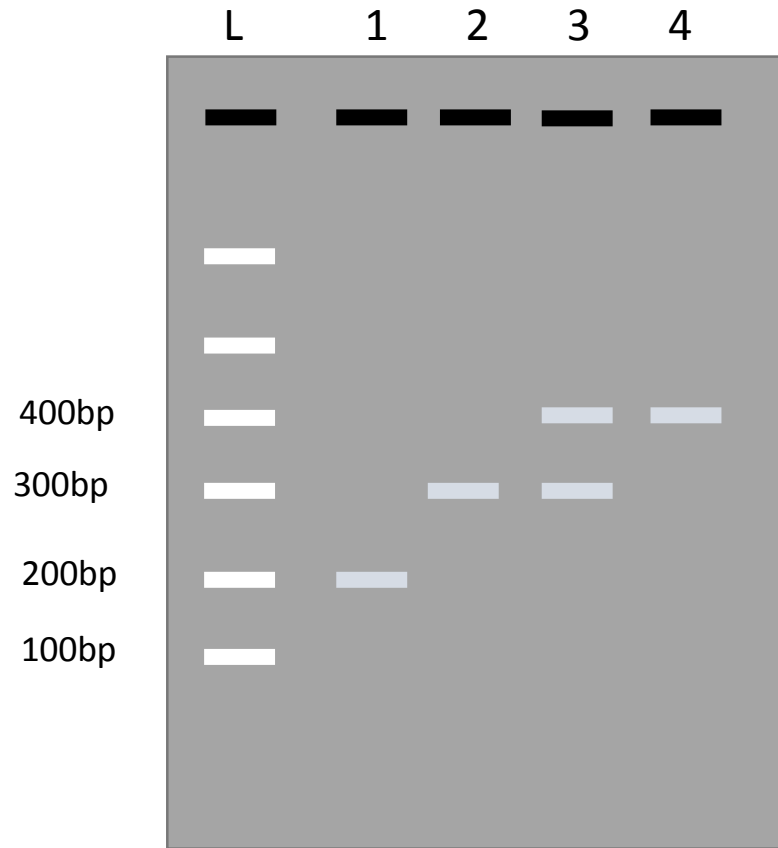
Multi-locus in some instances.....

How to score, GeneMapper



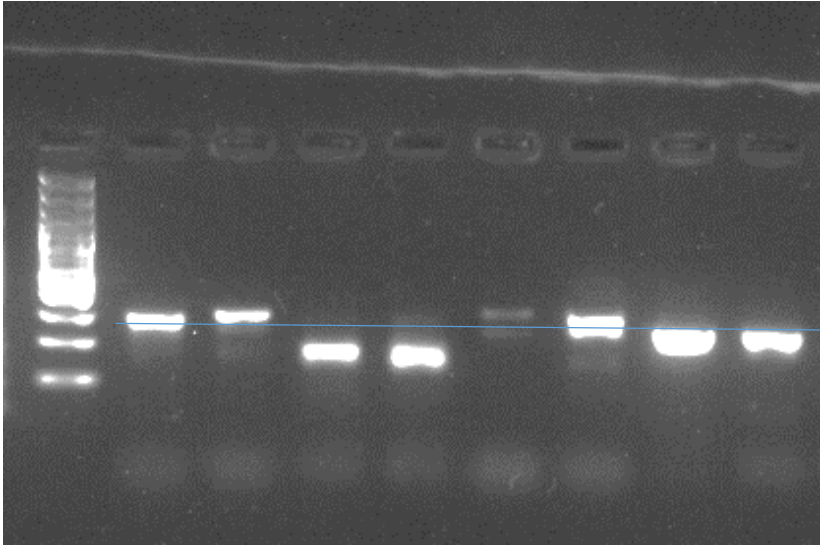
Sample Name	SSR1	SSR1
A	188	
B	198	
C	188	198
D	188	200
E	198	200

How to score, Gel



Sample ID	Marker1_ 200	Marker1_ 300	Marker1_ 400
1	1	0	0
2	0	1	0
3	0	1	1
4	0	0	1

But in practice.....



Sample ID	Marker1_1	Marker1_2	Marker1_3
1	1	0	0
2	0	1	0
3	0	0	1
4	0	0	1
5	0	0	0
6	1	0	0
7	0	0	1
8	0	0	1

Data Curation, especially GeneMapper

Sample Name	SSR1	SSR1
A	188	
B	198	
C	188	198
D	188	200
E	198	200

Sample Name	SSR1	SSR1
A	188	188
B	198	198
C	188	198
D	188	200
E	198	200

In practice.....

Sample Name	Marker	Allele 1	Allele 2
BecA-130	Marker83	273	
BecA-130	Marker5	206	
BecA-130	Marker43	207	211
BecA-20	Marker43	209	
BecA-20	Marker5	208	
BecA-20	Marker83	273	276
BecA-40	Marker5	208	
BecA-40	Marker83		
BecA-40	Marker43	209	
BecA-557	Marker43	205	207
BecA-557	Marker5	204	
BecA-557	Marker83	273	



Sample Name	Marker 5	Marker5	Marker43	Marker43	Marker83	Marker83
BecA130	206	206	207	211	273	273
BecA20	208	208	209	209	273	276
BecA40	208	208	209	209	?	?
BecA557	204	204	205	207	273	273

The Software..



<http://darwin.cirad.fr/product.php>

The logo for PowerMarker software. The text 'PowerMarker' is written in a colorful, stylized font where 'Power' is in blue and red, and 'Marker' is in yellow and green. The logo is framed by a thin blue line above and below.

<http://statgen.ncsu.edu/powermarker/downloads.htm>



<http://biology-assets.anu.edu.au/GenAEx/Welcome.html>

October 2005

Arlequin ver 3.5.2.2

(released on 02.08.2015)

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[Implemented methods](#)

[Downloads](#)

[Screenshots](#)



<http://cmpg.unibe.ch/software/arlequin35/Arl35Downloads.html>

Structure Software

Pritchard Lab, Stanford University

<http://pritchardlab.stanford.edu/structure.html>