Appendices

Appendix A

Table of Raw Data for *A. oniciformis* and *A. mulfordae*

NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
CBS1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
CBS10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
CBS11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	1	0	0
CBS12	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	1	1	0	0	1	0	1
CBS13	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	1	1	1	0	1	0	1
CBS14	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	1	0	0
CBS15	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0
CBS2	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
CBS3	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0
CBS4	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	1	0	0
CBS5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
CBS6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0
CBS7	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1
CBS8	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0
CBS9	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	1	0	1
DS1	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1
DS10	0	0	1	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0
DS11	0	0	1	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	1	0	1	0	1	1	0	1	1	0	1
DS12	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0
DS13	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1
DS14	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	1
DS15	0	0	1	0	1	0	1	0	0	1	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0	1	0	1
DS2	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	1
DS3	0	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	1
DS4	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
DS5	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0
DS6	0	0	1	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1
DS7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0
DS8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0
DS9	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	1	0	1
GR1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1
GR10	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	1	1	0	1	1	1	0
GR11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	1
GR12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	1	0
GR13	0	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
GR14	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	1	1	1	0	1	0	0
GR15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0	1	1	0
GR2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0
GR3	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	1	0
GR4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	0
GR5	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0
GR6	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
GR7	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0
GR8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0
GR9	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
LTR1	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0
LTR10	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	1
LTR11	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	0	1

NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
LTR12	0	0	1	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
LTR13	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0
LTR14	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1
LTR15	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0
LTR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0
LTR3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	0	0
LTR4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1
LTR5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1
LTR6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
LTR7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	1
LTR8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	1
LTR9	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	1
MB1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0
MB10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1
MB11	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	1
MB12	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
MB13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
MB14	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	1	0	0	0	1	0	1
MB15	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	1
MB16	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
MB2	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	1
MB3	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	1
MB4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
MB5	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB6	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
MB8	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
MB9	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1
SB1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
SB10	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0
SB11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0
SB12	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	0
SB13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1
SB14	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0
SB15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	1	1	0
SB2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0
SB3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SB4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
SB5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0
SB6	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0
SB7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0
SB8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SB9	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
SC1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
SC10	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SC11	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0
SC12	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
SC13	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0
SC14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0

NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC
SC15	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0
SC2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0
SC3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
SC4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0
SC5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
SC6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
SC7	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	1	0
SC8	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1
SC9	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
SD1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
SD10	1	0	1	0	1	0	1	0	0	1	0	1	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	1
SD11	0	0	1	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
SD12	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	1
SD13	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1
SD14	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	1
SD15	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
SD2	0	0	1	1	0	0	1	0	0	1	0	1	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0
SD3	0	1	1	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	1	0	0	0	1	1	0
SD4	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	1	1	0	0	1	0	1
SD5	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SD6	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	0	1	0	1
SD7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0
SD8	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	1
SD9	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0	0
SHS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	1	1	0	1	0	1
SHS10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1
SHS11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1
SHS12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
SHS13	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1
SHS14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
SHS15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
SHS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1
SHS3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	1
SHS4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
SHS5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SHS6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SHS7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1
SHS8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	1
SHS9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1

818 Loci

A	818-1800
B	818-1650
C	818-1600
D	818-1550
E	818-1500
F	818-1400
G	818-1300
H	818-1250
I	818-1200
J	818-1150
K	818-1100
L	818-1050
M	818-1000
N	818-975
O	818-950
P	818-850
Q	818-800
R	818-775
S	818-750
T	818-700
U	818-675
V	818-650
W	818-625
X	818-575
Y	818-525
Z	818-500
AA	818-475
BB	818-450
CC	818-400

NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
CBS1	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0
CBS10	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
CBS11	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0
CBS12	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
CBS13	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
CBS14	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0
CBS15	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0
CBS2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
CBS3	0	0	0	0	0	1	0	0	1	0	1	0	1	1	0	1	0	0	0
CBS4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
CBS5	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
CBS6	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
CBS7	0	1	0	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0
CBS8	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0
CBS9	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
DS1	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0
DS10	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
DS11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
DS12	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
DS13	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
DS14	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
DS15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
DS2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
DS3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
DS4	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
DS5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
DS6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
DS7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
DS8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
DS9	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
GR1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
GR10	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
GR11	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
GR12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
GR13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
GR14	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
GR15	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
GR2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
GR3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
GR4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
GR5	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
GR6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
GR7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
GR8	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
GR9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
LTR1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
LTR10	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0
LTR11	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0

NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
LTR12	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
LTR13	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
LTR14	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	1	0	1	0
LTR15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
LTR2	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
LTR3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
LTR4	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0
LTR5	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0
LTR6	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
LTR7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
LTR8	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
LTR9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB10	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
MB11	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
MB12	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0
MB13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB14	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
MB15	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
MB16	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0
MB2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
MB4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
MB6	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
MB8	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
MB9	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
SB1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
SB10	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
SB11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SB12	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
SB13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SB14	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
SB15	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0
SB2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
SB3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
SB4	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
SB5	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
SB6	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
SB7	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
SB8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SB9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SC1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
SC10	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
SC11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SC12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SC13	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
SC14	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0

NAME	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
SC15	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
SC2	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	1	0
SC3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
SC4	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0
SC5	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0
SC6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
SC7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SC8	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0
SC9	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0
SD1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
SD10	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0
SD11	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
SD12	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	0
SD13	0	0	0	0	0	0	1	0	0	1	1	1	0	1	0	0	0	0	0
SD14	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0
SD15	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0
SD2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0
SD3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0
SD4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
SD5	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0
SD6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
SD7	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
SD8	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
SD9	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
SHS1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0
SHS10	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0
SHS11	0	0	0	0	0	1	1	0	0	0	1	0	1	0	1	0	0	0	0
SHS12	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0
SHS13	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
SHS14	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
SHS15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1
SHS2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0
SHS3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1
SHS4	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
SHS5	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0
SHS6	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0
SHS7	0	0	1	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
SHS8	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1
SHS9	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0

841 Loci

A	841-1100
B	841-875
C	841-850
D	841-800
E	841-750
F	841-725
G	841-700
H	841-675
I	841-650
J	841-625
K	841-600
L	841-575
M	841-550
N	841-490
O	841-475
P	841-460
Q	841-450
R	841-400

Appendix B

Allele Frequencies and Genetic Diversity Measures for *A. oniciformis* and *A. mulfordae*

Population Genetic Analysis of *Astragalus oniciformis*

```
Date : 2001/3/3
Time : 9:44:55

Data Description :  PRIMER 818, 841; ASTONI: All Populations [excluding 841-775]; JAA  Mod:    3-3-2001

*******************************************************************************
**                                                                           **
**                     Single-Population Descriptive Statistics              **
**                                                                           **
*******************************************************************************


Population ID :      1
Population name :      CBS

Gene Frequency :
==================================================================================
Allele  818-1800  818-1650 818-1600  818-1550  818-1500  818-1400  818-1300  818-1250
==================================================================================
Allele 0 0.9661   1.0000    0.3651   1.0000    1.0000    1.0000    0.9309    1.0000
Allele 1 0.0339             0.6349                                0.0691
==================================================================================
==================================================================================
Allele   818-1200  818-1150  818-1100  818-1050  818-1000  818-975   818-950   818-850
==================================================================================
Allele 0 1.0000    0.6831    0.8944    0.8944    0.9309    1.0000    1.0000    0.9309
Allele 1 0.3169    0.1056    0.1056    0.0691                          0.0691
==================================================================================
==================================================================================
Allele   818-775   818-750   818-700   818-675   818-650   818-625   818-575   818-525
==================================================================================
Allele 0 0.8944    0.8165    0.9661    0.5164    0.8944    0.5774    0.6325    0.8944
Allele 1 0.1056    0.1835    0.0339    0.4836    0.1056    0.4226    0.3675    0.1056
==================================================================================
==================================================================================
Allele   818-500   818-475   818-450   818-400   841-875   841-750   841-725   841-700
==================================================================================
Allele 0 1.0000    0.4472    1.0000    0.8165    0.9661    0.8944    0.8165    1.0000
Allele 1 0.5528              0.1835    0.0339    0.1056    0.1835
==================================================================================
==================================================================================
Allele   841-675   841-650   841-625   841-600   841-575   841-550   841-475   841-450
==================================================================================
Allele 0 0.9661    0.8165              0.9661    0.9309    0.8563    0.4472    1.0000
Allele 1 0.0339    0.1835    1.0000    0.0339    0.0691    0.1437    0.5528
==================================================================================
Summary Statistics :
   *******************************************************************************
   **                                                                           **
   **              Summary of Genic Variation Statistics for All Loci           **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]    **
   **                                                                           **
   *******************************************************************************
============================================================
Locus     Sample Size  na*       ne*       h*        I*
============================================================
 818-1800          15    2.0000    1.0701    0.0655    0.1481
 818-1650          15    1.0000    1.0000    0.0000    0.0000
 818-1600          15    2.0000    1.8644    0.4636    0.6563
 818-1550          15    1.0000    1.0000    0.0000    0.0000
 818-1500          15    1.0000    1.0000    0.0000    0.0000
 818-1400          15    1.0000    1.0000    0.0000    0.0000
 818-1300          15    2.0000    1.1475    0.1286    0.2512
 818-1250          15    1.0000    1.0000    0.0000    0.0000
 818-1200          15    1.0000    1.0000    0.0000    0.0000
 818-1150          15    2.0000    1.7634    0.4329    0.6245
 818-1100          15    2.0000    1.2328    0.1889    0.3372
 818-1050          15    2.0000    1.2328    0.1889    0.3372
 818-1000          15    2.0000    1.1475    0.1286    0.2512
 818-975           15    1.0000    1.0000    0.0000    0.0000
 818-950           15    1.0000    1.0000    0.0000    0.0000
 818-850           15    2.0000    1.1475    0.1286    0.2512
 818-775           15    2.0000    1.2328    0.1889    0.3372
 818-750           15    2.0000    1.4279    0.2997    0.4767
 818-700           15    2.0000    1.0701    0.0655    0.1481
 818-675           15    2.0000    1.9979    0.4995    0.6926
 818-650           15    2.0000    1.2328    0.1889    0.3372
 818-625           15    2.0000    1.9533    0.4880    0.6811
 818-575           15    2.0000    1.8688    0.4649    0.6576
 818-525           15    2.0000    1.2328    0.1889    0.3372
 818-500           15    1.0000    1.0000    0.0000    0.0000
 818-475           15    2.0000    1.9780    0.4944    0.6876
 818-450           15    1.0000    1.0000    0.0000    0.0000
 818-400           15    2.0000    1.4279    0.2997    0.4767
 841-875           15    2.0000    1.0701    0.0655    0.1481
 841-750           15    2.0000    1.2328    0.1889    0.3372
 841-725           15    2.0000    1.4279    0.2997    0.4767
```

```
(CBS)

841-700          15    1.0000    1.0000    0.0000    0.0000
 841-675          15    2.0000    1.0701    0.0655    0.1481
 841-650          15    2.0000    1.4279    0.2997    0.4767
 841-625          15    1.0000    1.0000    0.0000    0.0000
 841-600          15    2.0000    1.0701    0.0655    0.1481
 841-575          15    2.0000    1.1475    0.1286    0.2512
 841-550          15    2.0000    1.3263    0.2460    0.4115
 841-475          15    2.0000    1.9780    0.4944    0.6876
 841-450          15    1.0000    1.0000    0.0000    0.0000

Mean              15    1.6750    1.2695    0.1689    0.2693
St. Dev                 0.4743    0.3310    0.1736    0.2461
==========================================================
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is :     27
The percentage of polymorphic loci is : 67.50 %
*******************************************************************************************

Population ID :      2
Population name :      DS

Gene Frequency :
==========================================================================================Allele \ 818-1800  818-1650  818-1600  818-1550
818-1500  818-1400  818-1300  818-1250
==========================================================================================
Allele 0 0.9661    1.0000    0.5164    1.0000    0.9309    1.0000    0.6325    0.9309
Allele 1 0.0339              0.4836              0.0691              0.3675    0.0691
==========================================================================================
==========================================================================================
Allele \ 818-1200  818-1150  818-1100  818-1050  818-1000  818-975   818-950   818-850
==========================================================================================
Allele 0 0.8944    0.4472    0.5774    0.8563    0.9661    0.9661    0.7746    0.9309
Allele 1 0.1056    0.5528    0.4226    0.1437    0.0339    0.0339    0.2254    0.0691
==========================================================================================================================================
=====================================
Allele \ 818-775   818-750   818-700   818-675   818-650   818-625   818-575   818-525
==========================================================================================
Allele 0 0.9309    0.8165    0.8563    0.5774    1.0000    0.6325    0.6831    1.0000
Allele 1 0.0691    0.1835    0.1437    0.4226              0.3675    0.3169
==========================================================================================
==========================================================================================
Allele \ 818-500   818-475   818-450   818-400   841-875   841-750   841-725   841-700
==========================================================================================
Allele 0 0.9661    0.4472    0.9309    0.5774    1.0000    1.0000    0.9309    1.0000
Allele 1 0.0339    0.5528    0.0691    0.4226                        0.0691
==========================================================================================
==========================================================================================
Allele \ 841-675   841-650   841-625   841-600   841-575   841-550   841-475   841-450
==========================================================================================
Allele 0 1.0000    0.9661              0.8944    1.0000    1.0000    0.7746    1.0000
Allele 1 0.0339    1.0000    0.1056                        0.2254
==========================================================================================

Summary Statistics :

   ******************************************************************************
   **                                                                          **
   **              Summary of Genic Variation Statistics for All Loci          **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]   **
   **                                                                          **
   ******************************************************************************

==========================================================
Locus     Sample Size  na*       ne*       h*        I*
==========================================================
 818-1800          15    2.0000    1.0701    0.0655    0.1481
 818-1650          15    1.0000    1.0000    0.0000    0.0000
 818-1600          15    2.0000    1.9979    0.4995    0.6926
 818-1550          15    1.0000    1.0000    0.0000    0.0000
 818-1500          15    2.0000    1.1475    0.1286    0.2512
 818-1400          15    1.0000    1.0000    0.0000    0.0000
 818-1300          15    2.0000    1.8688    0.4649    0.6576
 818-1250          15    2.0000    1.1475    0.1286    0.2512
 818-1200          15    2.0000    1.2328    0.1889    0.3372
 818-1150          15    2.0000    1.9780    0.4944    0.6876
 818-1100          15    2.0000    1.9533    0.4880    0.6811
 818-1050          15    2.0000    1.3263    0.2460    0.4115
 818-1000          15    2.0000    1.0701    0.0655    0.1481
 818-975           15    2.0000    1.0701    0.0655    0.1481
 818-950           15    2.0000    1.5366    0.3492    0.5337
 818-850           15    2.0000    1.1475    0.1286    0.2512
 818-775           15    2.0000    1.1475    0.1286    0.2512
 818-750           15    2.0000    1.4279    0.2997    0.4767
 818-700           15    2.0000    1.3263    0.2460    0.4115
 818-675           15    2.0000    1.9533    0.4880    0.6811
```

818-650	15	1.0000	1.0000	0.0000	0.0000
818-625	15	2.0000	1.8688	0.4649	0.6576
818-575	15	2.0000	1.7634	0.4329	0.6245
818-525	15	1.0000	1.0000	0.0000	0.0000
818-500	15	2.0000	1.0701	0.0655	0.1481
818-475	15	2.0000	1.9780	0.4944	0.6876

(DS)

818-450	15	2.0000	1.1475	0.1286	0.2512
818-400	15	2.0000	1.9533	0.4880	0.6811
841-875	15	1.0000	1.0000	0.0000	0.0000
841-750	15	1.0000	1.0000	0.0000	0.0000
841-725	15	2.0000	1.1475	0.1286	0.2512
841-700	15	1.0000	1.0000	0.0000	0.0000
841-675	15	1.0000	1.0000	0.0000	0.0000
841-650	15	2.0000	1.0701	0.0655	0.1481
841-625	15	1.0000	1.0000	0.0000	0.0000
841-600	15	2.0000	1.2328	0.1889	0.3372
841-575	15	1.0000	1.0000	0.0000	0.0000
841-550	15	1.0000	1.0000	0.0000	0.0000
841-475	15	2.0000	1.5366	0.3492	0.5337
841-450	15	1.0000	1.0000	0.0000	0.0000
Mean	15	1.6750	1.3042	0.1820	0.2835
St. Dev		0.4743	0.3673	0.1890	0.2635

```
==========================================================
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is :     27
The percentage of polymorphic loci is : 67.50 %
*****************************************************************************************


Population ID :      3
Population name :      GR2

Gene Frequency :
=========================================================================================
Allele \ 818-1800  818-1650  818-1600  818-1550  818-1500  818-1400  818-1300  818-1250
=========================================================================================
Allele 0 1.0000    1.0000    0.7303    1.0000    1.0000    1.0000    0.8944    1.0000
Allele 1                     0.2697                                   0.1056
=========================================================================================
=========================================================================================
Allele \ 818-1200  818-1150  818-1100  818-1050  818-1000  818-975   818-950   818-850
=========================================================================================
Allele 0 0.8944    0.6325    0.9309    0.9661    0.9661    0.9309    0.8165    1.0000
Allele 1 0.1056    0.3675    0.0691    0.0339    0.0339    0.0691    0.1835
=========================================================================================
=========================================================================================
Allele \ 818-775   818-750   818-700   818-675   818-650   818-625   818-575   818-525
=========================================================================================
Allele 0 0.8944    0.8165    1.0000    0.2582    1.0000    0.3651    0.8563    0.9309
Allele 1 0.1056    0.1835              0.7418              0.6349    0.1437    0.0691
=========================================================================================
=========================================================================================
Allele \ 818-500   818-475   818-450   818-400   841-875   841-750   841-725   841-700
=========================================================================================
Allele 0 0.9661    0.5774    0.8165    0.8944    1.0000    1.0000    1.0000    1.0000
Allele 1 0.0339    0.4226    0.1835    0.1056
=========================================================================================
=========================================================================================
Allele \ 841-675   841-650   841-625   841-600   841-575   841-550   841-475   841-450
=========================================================================================
Allele 0 1.0000    1.0000    0.3651    0.7746    1.0000    1.0000    0.8165    0.9661
Allele 1                     0.6349    0.2254                          0.1835    0.0339
=========================================================================================

Summary Statistics :

   ******************************************************************************
   **                                                                          **
   **              Summary of Genic Variation Statistics for All Loci          **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]   **
   **                                                                          **
   ******************************************************************************

==========================================================
Locus     Sample Size  na*       ne*       h*        I*
==========================================================
 818-1800         15    1.0000    1.0000    0.0000    0.0000
 818-1650         15    1.0000    1.0000    0.0000    0.0000
 818-1600         15    2.0000    1.6500    0.3939    0.5830
 818-1550         15    1.0000    1.0000    0.0000    0.0000
 818-1500         15    1.0000    1.0000    0.0000    0.0000
 818-1400         15    1.0000    1.0000    0.0000    0.0000
 818-1300         15    2.0000    1.2328    0.1889    0.3372
 818-1250         15    1.0000    1.0000    0.0000    0.0000
 818-1200         15    2.0000    1.2328    0.1889    0.3372
 818-1150         15    2.0000    1.8688    0.4649    0.6576
```

```
 818-1100         15    2.0000    1.1475    0.1286    0.2512
 818-1050         15    2.0000    1.0701    0.0655    0.1481
 818-1000         15    2.0000    1.0701    0.0655    0.1481
 818-975          15    2.0000    1.1475    0.1286    0.2512
 818-950          15    2.0000    1.4279    0.2997    0.4767
 818-850          15    1.0000    1.0000    0.0000    0.0000
 818-775          15    2.0000    1.2328    0.1889    0.3372
 818-750          15    2.0000    1.4279    0.2997    0.4767
 818-700          15    1.0000    1.0000    0.0000    0.0000
 818-675          15    2.0000    1.6209    0.3831    0.5712
 818-650          15    1.0000    1.0000    0.0000    0.0000
```



```
(GR2)

818-625          15    2.0000    1.8644    0.4636    0.6563
 818-575          15    2.0000    1.3263    0.2460    0.4115
 818-525          15    2.0000    1.1475    0.1286    0.2512
 818-500          15    2.0000    1.0701    0.0655    0.1481
 818-475          15    2.0000    1.9533    0.4880    0.6811
 818-450          15    2.0000    1.4279    0.2997    0.4767
 818-400          15    2.0000    1.2328    0.1889    0.3372
 841-875          15    1.0000    1.0000    0.0000    0.0000
 841-750          15    1.0000    1.0000    0.0000    0.0000
 841-725          15    1.0000    1.0000    0.0000    0.0000
 841-700          15    1.0000    1.0000    0.0000    0.0000
 841-675          15    1.0000    1.0000    0.0000    0.0000
 841-650          15    1.0000    1.0000    0.0000    0.0000
 841-625          15    2.0000    1.8644    0.4636    0.6563
 841-600          15    2.0000    1.5366    0.3492    0.5337
 841-575          15    1.0000    1.0000    0.0000    0.0000
 841-550          15    1.0000    1.0000    0.0000    0.0000
 841-475          15    2.0000    1.4279    0.2997    0.4767
 841-450          15    2.0000    1.0701    0.0655    0.1481

Mean              15    1.5750    1.2263    0.1464    0.2338
St. Dev                 0.5006    0.2929    0.1664    0.2445
==========================================================
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is :     23
The percentage of polymorphic loci is : 57.50 %
*********************************************************************************************


Population ID :      4
Population name :      LTR

Gene Frequency :
=============================================================================================
Allele \ 818-1800  818-1650  818-1600  818-1550  818-1500  818-1400  818-1300  818-1250
=============================================================================================
Allele 0 1.0000    1.0000    0.6831    1.0000    1.0000    0.9661    0.9309    1.0000
Allele 1                     0.3169                          0.0339    0.0691
=============================================================================================
=============================================================================================
Allele \ 818-1200  818-1150  818-1100  818-1050  818-1000  818-975   818-950   818-850
=============================================================================================
Allele 0 0.9309    0.5774    1.0000    0.9309    1.0000    1.0000    0.8165    0.9309
Allele 1 0.0691    0.4226              0.0691                          0.1835    0.0691
=============================================================================================
=============================================================================================
Allele \ 818-775   818-750   818-700   818-675   818-650   818-625   818-575   818-525
=============================================================================================
Allele 0 0.5164    0.9309    1.0000              1.0000    0.6325    0.8944    1.0000
Allele 1 0.4836    0.0691              1.0000              0.3675    0.1056
=============================================================================================
=============================================================================================
Allele \ 818-500   818-475   818-450   818-400   841-875   841-750   841-725   841-700
=============================================================================================
Allele 0 1.0000    0.7303    1.0000    0.6831    1.0000    1.0000    0.9661    0.9309
Allele 1           0.2697              0.3169                          0.0339    0.0691
=============================================================================================
=============================================================================================
Allele \ 841-675   841-650   841-625   841-600   841-575   841-550   841-475   841-450
=============================================================================================
Allele 0 1.0000    0.9661    0.2582    0.7746    0.9661    0.7303    0.8944    0.9661
Allele 1           0.0339    0.7418    0.2254    0.0339    0.2697    0.1056    0.0339
=============================================================================================
Summary Statistics :
   ******************************************************************************
   **                                                                          **
   **              Summary of Genic Variation Statistics for All Loci          **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]   **
   **                                                                          **
   ******************************************************************************
==========================================================
Locus     Sample Size  na*       ne*       h*        I*
==========================================================
 818-1800         15    1.0000    1.0000    0.0000    0.0000
```

818-1650	15	1.0000	1.0000	0.0000	0.0000
818-1600	15	2.0000	1.7634	0.4329	0.6245
818-1550	15	1.0000	1.0000	0.0000	0.0000
818-1500	15	1.0000	1.0000	0.0000	0.0000
818-1400	15	2.0000	1.0701	0.0655	0.1481
818-1300	15	2.0000	1.1475	0.1286	0.2512
818-1250	15	1.0000	1.0000	0.0000	0.0000
818-1200	15	2.0000	1.1475	0.1286	0.2512
818-1150	15	2.0000	1.9533	0.4880	0.6811
818-1100	15	1.0000	1.0000	0.0000	0.0000
818-1050	15	2.0000	1.1475	0.1286	0.2512
818-1000	15	1.0000	1.0000	0.0000	0.0000
818-975	15	1.0000	1.0000	0.0000	0.0000
818-950	15	2.0000	1.4279	0.2997	0.4767
818-850	15	2.0000	1.1475	0.1286	0.2512
818-775	15	2.0000	1.9979	0.4995	0.6926

(LTR)

818-750	15	2.0000	1.1475	0.1286	0.2512
818-700	15	1.0000	1.0000	0.0000	0.0000
818-675	15	1.0000	1.0000	0.0000	0.0000
818-650	15	1.0000	1.0000	0.0000	0.0000
818-625	15	2.0000	1.8688	0.4649	0.6576
818-575	15	2.0000	1.2328	0.1889	0.3372
818-525	15	1.0000	1.0000	0.0000	0.0000
818-500	15	1.0000	1.0000	0.0000	0.0000
818-475	15	2.0000	1.6500	0.3939	0.5830
818-450	15	1.0000	1.0000	0.0000	0.0000
818-400	15	2.0000	1.7634	0.4329	0.6245
841-875	15	1.0000	1.0000	0.0000	0.0000
841-750	15	1.0000	1.0000	0.0000	0.0000
841-725	15	2.0000	1.0701	0.0655	0.1481
841-700	15	2.0000	1.1475	0.1286	0.2512
841-675	15	1.0000	1.0000	0.0000	0.0000
841-650	15	2.0000	1.0701	0.0655	0.1481
841-625	15	2.0000	1.6209	0.3831	0.5712
841-600	15	2.0000	1.5366	0.3492	0.5337
841-575	15	2.0000	1.0701	0.0655	0.1481
841-550	15	2.0000	1.6500	0.3939	0.5830
841-475	15	2.0000	1.2328	0.1889	0.3372
841-450	15	2.0000	1.0701	0.0655	0.1481
Mean	15	1.5750	1.2233	0.1404	0.2237
St. Dev		0.5006	0.3119	0.1718	0.2474

==========
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]
The number of polymorphic loci is : 23
The percentage of polymorphic loci is : 57.50 %
****

Population ID : 5
Population name : MB

Gene Frequency :

Allele \	818-1800	818-1650	818-1600	818-1550	818-1500	818-1400	818-1300	818-1250
Allele 0	1.0000	1.0000	0.5774	1.0000	1.0000	1.0000	0.5164	1.0000
Allele 1			0.4226				0.4836	

Allele \	818-1200	818-1150	818-1100	818-1050	818-1000	818-975	818-950	818-850
Allele 0	0.8944	0.7746	0.9309	0.7746	1.0000	1.0000	0.8563	0.8944
Allele 1	0.1056	0.2254	0.0691	0.2254			0.1437	0.1056

Allele \	818-775	818-750	818-700	818-675	818-650	818-625	818-575	818-525
Allele 0	0.6831	0.9309	1.0000	0.4472	1.0000	0.7303	0.9309	1.0000
Allele 1	0.3169	0.0691		0.5528		0.2697	0.0691	

Allele \	818-500	818-475	818-450	818-400	841-875	841-750	841-725	841-700
Allele 0	1.0000	0.6831	1.0000	0.6325	1.0000	0.9309	1.0000	1.0000
Allele 1		0.3169		0.3675		0.0691		

Allele \	841-675	841-650	841-625	841-600	841-575	841-550	841-475	841-450
Allele 0	1.0000	1.0000		1.0000	0.8944	0.9661	0.7746	1.0000
Allele 1			1.0000		0.1056	0.0339	0.2254	

Summary Statistics :

```
*****************************************************************************
**                                                                         **
**              Summary of Genic Variation Statistics for All Loci         **
**          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]  **
**                                                                         **
*****************************************************************************

==============================================================
Locus     Sample Size  na*       ne*       h*        I*
==============================================================
 818-1800          15    1.0000    1.0000    0.0000    0.0000
 818-1650          15    1.0000    1.0000    0.0000    0.0000
 818-1600          15    2.0000    1.9533    0.4880    0.6811
 818-1550          15    1.0000    1.0000    0.0000    0.0000
 818-1500          15    1.0000    1.0000    0.0000    0.0000
 818-1400          15    1.0000    1.0000    0.0000    0.0000
 818-1300          15    2.0000    1.9979    0.4995    0.6926
 818-1250          15    1.0000    1.0000    0.0000    0.0000
 818-1200          15    2.0000    1.2328    0.1889    0.3372
 818-1150          15    2.0000    1.5366    0.3492    0.5337
 818-1100          15    2.0000    1.1475    0.1286    0.2512
```



```
(MB)

818-1050          15    2.0000    1.5366    0.3492    0.5337
 818-1000          15    1.0000    1.0000    0.0000    0.0000
 818-975           15    1.0000    1.0000    0.0000    0.0000
 818-950           15    2.0000    1.3263    0.2460    0.4115
 818-850           15    2.0000    1.2328    0.1889    0.3372
 818-775           15    2.0000    1.7634    0.4329    0.6245
 818-750           15    2.0000    1.1475    0.1286    0.2512
 818-700           15    1.0000    1.0000    0.0000    0.0000
 818-675           15    2.0000    1.9780    0.4944    0.6876
 818-650           15    1.0000    1.0000    0.0000    0.0000
 818-625           15    2.0000    1.6500    0.3939    0.5830
 818-575           15    2.0000    1.1475    0.1286    0.2512
 818-525           15    1.0000    1.0000    0.0000    0.0000
 818-500           15    1.0000    1.0000    0.0000    0.0000
 818-475           15    2.0000    1.7634    0.4329    0.6245
 818-450           15    1.0000    1.0000    0.0000    0.0000
 818-400           15    2.0000    1.8688    0.4649    0.6576
 841-875           15    1.0000    1.0000    0.0000    0.0000
 841-750           15    2.0000    1.1475    0.1286    0.2512
 841-725           15    1.0000    1.0000    0.0000    0.0000
 841-700           15    1.0000    1.0000    0.0000    0.0000
 841-675           15    1.0000    1.0000    0.0000    0.0000
 841-650           15    1.0000    1.0000    0.0000    0.0000
 841-625           15    1.0000    1.0000    0.0000    0.0000
 841-600           15    1.0000    1.0000    0.0000    0.0000
 841-575           15    2.0000    1.2328    0.1889    0.3372
 841-550           15    2.0000    1.0701    0.0655    0.1481
 841-475           15    2.0000    1.5366    0.3492    0.5337
 841-450           15    1.0000    1.0000    0.0000    0.0000

Mean               15    1.4750    1.2317    0.1412    0.2182
St. Dev                  0.5057    0.3313    0.1815    0.2633
==============================================================
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is :     19
The percentage of polymorphic loci is : 47.50 %
*******************************************************************************


Population ID :      6
Population name :      SB

Gene Frequency :
===============================================================================
Allele \ 818-1800  818-1650  818-1600  818-1550  818-1500  818-1400  818-1300  818-1250
===============================================================================
Allele 0 1.0000    1.0000    0.9661    1.0000    1.0000    1.0000    1.0000    0.9309
Allele 1                     0.0339                                            0.0691
===============================================================================

===============================================================================
Allele \ 818-1200  818-1150  818-1100  818-1050  818-1000  818-975   818-950   818-850
===============================================================================
Allele 0 1.0000    0.7303    0.9661    0.9309    1.0000    1.0000    0.7746    0.8944
Allele 1           0.2697    0.0339    0.0691                        0.2254    0.1056
===============================================================================
===============================================================================
Allele \ 818-775   818-750   818-700   818-675   818-650   818-625   818-575   818-525
===============================================================================
Allele 0 0.8563    0.8165    0.8563    0.9309    1.0000    0.7746    0.8165    1.0000
Allele 1 0.1437    0.1835    0.1437    0.0691              0.2254    0.1835
===============================================================================
===============================================================================
Allele \ 818-500   818-475   818-450   818-400   841-875   841-750   841-725   841-700
```

```
==========================================================================================
Allele 0 1.0000    0.6325    0.9661    0.9309    1.0000    1.0000    1.0000    1.0000
Allele 1           0.3675    0.0339    0.0691
==========================================================================================
==========================================================================================
Allele \ 841-675   841-650   841-625   841-600   841-575   841-550   841-475   841-450
==========================================================================================
Allele 0 1.0000    1.0000    0.2582    0.8165    0.9661    0.7303    0.9661    1.0000
Allele 1                     0.7418    0.1835    0.0339    0.2697    0.0339
==========================================================================================

Summary Statistics :

   ******************************************************************************
   **                                                                          **
   **              Summary of Genic Variation Statistics for All Loci          **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]   **
   **                                                                          **
   ******************************************************************************

==============================================================
Locus     Sample Size  na*       ne*       h*        I*
==============================================================
 818-1800          15    1.0000    1.0000    0.0000    0.0000
 818-1650          15    1.0000    1.0000    0.0000    0.0000
 818-1600          15    2.0000    1.0701    0.0655    0.1481
```



```
(SB)

818-1550          15    1.0000    1.0000    0.0000    0.0000
 818-1500          15    1.0000    1.0000    0.0000    0.0000
 818-1400          15    1.0000    1.0000    0.0000    0.0000
 818-1300          15    1.0000    1.0000    0.0000    0.0000
 818-1250          15    2.0000    1.1475    0.1286    0.2512
 818-1200          15    1.0000    1.0000    0.0000    0.0000
 818-1150          15    2.0000    1.6500    0.3939    0.5830
 818-1100          15    2.0000    1.0701    0.0655    0.1481
 818-1050          15    2.0000    1.1475    0.1286    0.2512
 818-1000          15    1.0000    1.0000    0.0000    0.0000
 818-975           15    1.0000    1.0000    0.0000    0.0000
 818-950           15    2.0000    1.5366    0.3492    0.5337
 818-850           15    2.0000    1.2328    0.1889    0.3372
 818-775           15    2.0000    1.3263    0.2460    0.4115
 818-750           15    2.0000    1.4279    0.2997    0.4767
 818-700           15    2.0000    1.3263    0.2460    0.4115
 818-675           15    2.0000    1.1475    0.1286    0.2512
 818-650           15    1.0000    1.0000    0.0000    0.0000
 818-625           15    2.0000    1.5366    0.3492    0.5337
 818-575           15    2.0000    1.4279    0.2997    0.4767
 818-525           15    1.0000    1.0000    0.0000    0.0000
 818-500           15    1.0000    1.0000    0.0000    0.0000
 818-475           15    2.0000    1.8688    0.4649    0.6576
 818-450           15    2.0000    1.0701    0.0655    0.1481
 818-400           15    2.0000    1.1475    0.1286    0.2512
 841-875           15    1.0000    1.0000    0.0000    0.0000
 841-750           15    1.0000    1.0000    0.0000    0.0000
 841-725           15    1.0000    1.0000    0.0000    0.0000
 841-700           15    1.0000    1.0000    0.0000    0.0000
 841-675           15    1.0000    1.0000    0.0000    0.0000
 841-650           15    1.0000    1.0000    0.0000    0.0000
 841-625           15    2.0000    1.6209    0.3831    0.5712
 841-600           15    2.0000    1.4279    0.2997    0.4767
 841-575           15    2.0000    1.0701    0.0655    0.1481
 841-550           15    2.0000    1.6500    0.3939    0.5830
 841-475           15    2.0000    1.0701    0.0655    0.1481
 841-450           15    1.0000    1.0000    0.0000    0.0000

Mean               15    1.5250    1.1743    0.1189    0.1949
St. Dev                  0.5057    0.2415    0.1490    0.2256
==============================================================
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is :     21
The percentage of polymorphic loci is : 52.50 %
******************************************************************************************

Population ID :      7
Population name :      SC

Gene Frequency :
==========================================================================================
Allele \ 818-1800  818-1650  818-1600  818-1550  818-1500  818-1400  818-1300  818-1250
==========================================================================================
Allele 0 0.9661    1.0000    0.7746    1.0000    1.0000    1.0000    0.9309    1.0000
Allele 1 0.0339              0.2254                                    0.0691
==========================================================================================
==========================================================================================
Allele \ 818-1200  818-1150  818-1100  818-1050  818-1000  818-975   818-950   818-850
==========================================================================================
Allele 0 1.0000    0.6831    0.8563    1.0000    1.0000    1.0000    0.8563    0.8563
```

Allele 1	0.3169	0.1437					0.1437	0.1437

Allele \ 818-775	818-750	818-700	818-675	818-650	818-625	818-575	818-525
Allele 0 0.6325	1.0000	0.9661	0.6831	1.0000	0.5774	0.9309	1.0000
Allele 1 0.3675		0.0339	0.3169		0.4226	0.0691	

Allele \ 818-500	818-475	818-450	818-400	841-875	841-750	841-725	841-700
Allele 0 1.0000	0.9661	0.9661	0.9661	1.0000	0.9661	0.8944	0.9661
Allele 1	0.0339	0.0339	0.0339		0.0339	0.1056	0.0339

Allele \ 841-675	841-650	841-625	841-600	841-575	841-550	841-475	841-450
Allele 0 1.0000	1.0000		0.8165	0.9309	0.9309	0.7303	0.9309
Allele 1		1.0000	0.1835	0.0691	0.0691	0.2697	0.0691

Summary Statistics :

```
  ******************************************************************************
   **                                                                          **
   **              Summary of Genic Variation Statistics for All Loci          **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]   **
   **                                                                          **
   ******************************************************************************
```


(SC)

Locus	Sample Size	na*	ne*	h*	I*
818-1800	15	2.0000	1.0701	0.0655	0.1481
818-1650	15	1.0000	1.0000	0.0000	0.0000
818-1600	15	2.0000	1.5366	0.3492	0.5337
818-1550	15	1.0000	1.0000	0.0000	0.0000
818-1500	15	1.0000	1.0000	0.0000	0.0000
818-1400	15	1.0000	1.0000	0.0000	0.0000
818-1300	15	2.0000	1.1475	0.1286	0.2512
818-1250	15	1.0000	1.0000	0.0000	0.0000
818-1200	15	1.0000	1.0000	0.0000	0.0000
818-1150	15	2.0000	1.7634	0.4329	0.6245
818-1100	15	2.0000	1.3263	0.2460	0.4115
818-1050	15	1.0000	1.0000	0.0000	0.0000
818-1000	15	1.0000	1.0000	0.0000	0.0000
818-975	15	1.0000	1.0000	0.0000	0.0000
818-950	15	2.0000	1.3263	0.2460	0.4115
818-850	15	2.0000	1.3263	0.2460	0.4115
818-775	15	2.0000	1.8688	0.4649	0.6576
818-750	15	1.0000	1.0000	0.0000	0.0000
818-700	15	2.0000	1.0701	0.0655	0.1481
818-675	15	2.0000	1.7634	0.4329	0.6245
818-650	15	1.0000	1.0000	0.0000	0.0000
818-625	15	2.0000	1.9533	0.4880	0.6811
818-575	15	2.0000	1.1475	0.1286	0.2512
818-525	15	1.0000	1.0000	0.0000	0.0000
818-500	15	1.0000	1.0000	0.0000	0.0000
818-475	15	2.0000	1.0701	0.0655	0.1481
818-450	15	2.0000	1.0701	0.0655	0.1481
818-400	15	2.0000	1.0701	0.0655	0.1481
841-875	15	1.0000	1.0000	0.0000	0.0000
841-750	15	2.0000	1.0701	0.0655	0.1481
841-725	15	2.0000	1.2328	0.1889	0.3372
841-700	15	2.0000	1.0701	0.0655	0.1481
841-675	15	1.0000	1.0000	0.0000	0.0000
841-650	15	1.0000	1.0000	0.0000	0.0000
841-625	15	1.0000	1.0000	0.0000	0.0000
841-600	15	2.0000	1.4279	0.2997	0.4767
841-575	15	2.0000	1.1475	0.1286	0.2512
841-550	15	2.0000	1.1475	0.1286	0.2512
841-475	15	2.0000	1.6500	0.3939	0.5830
841-450	15	2.0000	1.1475	0.1286	0.2512
Mean	15	1.5750	1.1851	0.1222	0.2011
St. Dev		0.5006	0.2712	0.1543	0.2265

* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is : 23
The percentage of polymorphic loci is : 57.50 %
****

Population ID : 8
Population name : SD

Gene Frequency :

Allele \	818-1800	818-1650	818-1600	818-1550	818-1500	818-1400	818-1300	818-1250
Allele 0	0.9661	0.9661	0.4472	0.9661	0.9309	1.0000	0.5774	1.0000
Allele 1	0.0339	0.0339	0.5528	0.0339	0.0691		0.4226	

Allele \	818-1200	818-1150	818-1100	818-1050	818-1000	818-975	818-950	818-850
Allele 0	0.8944	0.4472	1.0000	0.6325	0.8944	0.9661	0.9661	0.8563
Allele 1	0.1056	0.5528		0.3675	0.1056	0.0339	0.0339	0.1437

Allele \	818-775	818-750	818-700	818-675	818-650	818-625	818-575	818-525
Allele 0	0.5774	1.0000	0.9661	0.3651	1.0000	0.6831	0.9309	1.0000
Allele 1	0.4226		0.0339	0.6349		0.3169	0.0691	

Allele \	818-500	818-475	818-450	818-400	841-875	841-750	841-725	841-700
Allele 0	1.0000	0.5164	0.8944	0.6831	1.0000	1.0000	0.8165	1.0000
Allele 1		0.4836	0.1056	0.3169			0.1835	

Allele \	841-675	841-650	841-625	841-600	841-575	841-550	841-475	841-450
Allele 0	1.0000	0.6831		0.7303	0.9309	0.9309	0.8944	0.9309
Allele 1		0.3169	1.0000	0.2697	0.0691	0.0691	0.1056	0.0691

(SD)

Summary Statistics :

```
**********************************************************************************
**                                                                              **
**              Summary of Genic Variation Statistics for All Loci              **
**          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]       **
**                                                                              **
**********************************************************************************
```

Locus	Sample Size	na*	ne*	h*	I*
818-1800	15	2.0000	1.0701	0.0655	0.1481
818-1650	15	2.0000	1.0701	0.0655	0.1481
818-1600	15	2.0000	1.9780	0.4944	0.6876
818-1550	15	2.0000	1.0701	0.0655	0.1481
818-1500	15	2.0000	1.1475	0.1286	0.2512
818-1400	15	1.0000	1.0000	0.0000	0.0000
818-1300	15	2.0000	1.9533	0.4880	0.6811
818-1250	15	1.0000	1.0000	0.0000	0.0000
818-1200	15	2.0000	1.2328	0.1889	0.3372
818-1150	15	2.0000	1.9780	0.4944	0.6876
818-1100	15	1.0000	1.0000	0.0000	0.0000
818-1050	15	2.0000	1.8688	0.4649	0.6576
818-1000	15	2.0000	1.2328	0.1889	0.3372
818-975	15	2.0000	1.0701	0.0655	0.1481
818-950	15	2.0000	1.0701	0.0655	0.1481
818-850	15	2.0000	1.3263	0.2460	0.4115
818-775	15	2.0000	1.9533	0.4880	0.6811
818-750	15	1.0000	1.0000	0.0000	0.0000
818-700	15	2.0000	1.0701	0.0655	0.1481
818-675	15	2.0000	1.8644	0.4636	0.6563
818-650	15	1.0000	1.0000	0.0000	0.0000
818-625	15	2.0000	1.7634	0.4329	0.6245
818-575	15	2.0000	1.1475	0.1286	0.2512
818-525	15	1.0000	1.0000	0.0000	0.0000
818-500	15	1.0000	1.0000	0.0000	0.0000
818-475	15	2.0000	1.9979	0.4995	0.6926
818-450	15	2.0000	1.2328	0.1889	0.3372
818-400	15	2.0000	1.7634	0.4329	0.6245
841-875	15	1.0000	1.0000	0.0000	0.0000
841-750	15	1.0000	1.0000	0.0000	0.0000
841-725	15	2.0000	1.4279	0.2997	0.4767
841-700	15	1.0000	1.0000	0.0000	0.0000
841-675	15	1.0000	1.0000	0.0000	0.0000
841-650	15	2.0000	1.7634	0.4329	0.6245
841-625	15	1.0000	1.0000	0.0000	0.0000
841-600	15	2.0000	1.6500	0.3939	0.5830
841-575	15	2.0000	1.1475	0.1286	0.2512
841-550	15	2.0000	1.1475	0.1286	0.2512
841-475	15	2.0000	1.2328	0.1889	0.3372
841-450	15	2.0000	1.1475	0.1286	0.2512

Mean	15	1.7000	1.3094	0.1856	0.2895
St. Dev		0.4641	0.3656	0.1886	0.2617

* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

The number of polymorphic loci is : 28
The percentage of polymorphic loci is : 70.00 %

****

**
**
** Multi-Populations Descriptive Statistics **
**
**

Overall Gene Frequency :

Allele \	818-1800	818-1650	818-1600	818-1550	818-1500	818-1400	818-1300	818-1250
Allele 0	0.9830	0.9958	0.6325	0.9958	0.9827	0.9958	0.8017	0.9827
Allele 1	0.0170	0.0042	0.3675	0.0042	0.0173	0.0042	0.1983	0.0173

Allele \	818-1200	818-1150	818-1100	818-1050	818-1000	818-975	818-950	818-850
Allele 0	0.9386	0.6219	0.8945	0.8732	0.9697	0.9829	0.8576	0.9118
Allele 1	0.0614	0.3781	0.1055	0.1268	0.0303	0.0171	0.1424	0.0882

Allele \	818-775	818-750	818-700	818-675	818-650	818-625	818-575	818-525
Allele 0	0.7482	0.8910	0.9514	0.4723	0.9868	0.6216	0.8345	0.9782
Allele 1	0.2518	0.1090	0.0486	0.5277	0.0132	0.3784	0.1655	0.0218

Allele \	818-500	818-475	818-450	818-400	841-875	841-750	841-725	841-700
Allele 0	0.9915	0.6250	0.9468	0.7730	0.9958	0.9739	0.9281	0.9871
Allele 1	0.0085	0.3750	0.0532	0.2270	0.0042	0.0261	0.0719	0.0129

Allele \	841-675	841-650	841-625	841-600	841-575	841-550	841-475	841-450
Allele 0	0.9958	0.9290	0.1102	0.8466	0.9524	0.8931	0.7873	0.9743
Allele 1	0.0042	0.0710	0.8898	0.1534	0.0476	0.1069	0.2127	0.0257

Summary Statistics :

****

**
**
** Summary of Genic Variation Statistics for All Loci **
** [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)] **
**
**

Locus	Sample Size	na*	ne*	h*	I*
818-1800	120	2.0000	1.0345	0.0333	0.0859
818-1650	120	2.0000	1.0085	0.0084	0.0274
818-1600	120	2.0000	1.8687	0.4649	0.6576
818-1550	120	2.0000	1.0085	0.0084	0.0274
818-1500	120	2.0000	1.0351	0.0339	0.0872
818-1400	120	2.0000	1.0085	0.0084	0.0274
818-1300	120	2.0000	1.4662	0.3180	0.4981
818-1250	120	2.0000	1.0351	0.0339	0.0872
818-1200	120	2.0000	1.1303	0.1153	0.2309
818-1150	120	2.0000	1.8878	0.4703	0.6631
818-1100	120	2.0000	1.2326	0.1887	0.3370
818-1050	120	2.0000	1.2844	0.2214	0.3802
818-1000	120	2.0000	1.0624	0.0588	0.1358
818-975	120	2.0000	1.0348	0.0336	0.0866
818-950	120	2.0000	1.3231	0.2442	0.4093
818-850	120	2.0000	1.1917	0.1608	0.2984
818-775	120	2.0000	1.6046	0.3768	0.5643
818-750	120	2.0000	1.2411	0.1943	0.3444
818-700	120	2.0000	1.1020	0.0925	0.1945
818-675	120	2.0000	1.9939	0.4985	0.6916
818-650	120	2.0000	1.0267	0.0260	0.0702
818-625	120	2.0000	1.8883	0.4704	0.6633
818-575	120	2.0000	1.3817	0.2763	0.4487

818-525	120	2.0000	1.0446	0.0427	0.1051
818-500	120	2.0000	1.0171	0.0168	0.0489
818-475	120	2.0000	1.8823	0.4687	0.6616
818-450	120	2.0000	1.1121	0.1008	0.2080
818-400	120	2.0000	1.5407	0.3509	0.5356
841-875	120	2.0000	1.0085	0.0084	0.0274
841-750	120	2.0000	1.0535	0.0508	0.1208
841-725	120	2.0000	1.1541	0.1335	0.2586
841-700	120	2.0000	1.0261	0.0254	0.0688
841-675	120	2.0000	1.0085	0.0084	0.0274
841-650	120	2.0000	1.1520	0.1320	0.2563
841-625	120	2.0000	1.2439	0.1961	0.3469
841-600	120	2.0000	1.3508	0.2597	0.4285
841-575	120	2.0000	1.0996	0.0906	0.1913
841-550	120	2.0000	1.2360	0.1909	0.3399
841-475	120	2.0000	1.5037	0.3350	0.5176
841-450	120	2.0000	1.0528	0.0502	0.1196
Mean	120	2.0000	1.2584	0.1700	0.2820
St. Dev		0.0000	0.2948	0.1576	0.2167

* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]

```
*****************************************************************************
**                                                                         **
**          Nei's Analysis of Gene Diversity in Subdivided Populations     **
**         [See Nei (1987) Molecular Evolutionary Genetics (p. 187-192)]   **
**                                                                         **
*****************************************************************************
```

Locus	Sample Size	Ht	Hs	Gst	Nm*
818-1800	120	0.0333	0.0328	0.0172	28.4914
818-1650	120	0.0084	0.0082	0.0298	16.2808
818-1600	120	0.4649	0.3984	0.1430	2.9962
818-1550	120	0.0084	0.0082	0.0298	16.2808
818-1500	120	0.0339	0.0321	0.0527	8.9881
818-1400	120	0.0084	0.0082	0.0298	16.2808
818-1300	120	0.3180	0.2534	0.2032	1.9610
818-1250	120	0.0339	0.0321	0.0527	8.9881
818-1200	120	0.1153	0.1105	0.0416	11.5262
818-1150	120	0.4703	0.4438	0.0562	8.3989

818-1100	120	0.1887	0.1557	0.1750	2.3576
818-1050	120	0.2214	0.1965	0.1127	3.9373
818-1000	120	0.0588	0.0561	0.0462	10.3178
818-975	120	0.0336	0.0324	0.0351	13.7326
818-950	120	0.2442	0.2319	0.0504	9.4255
818-850	120	0.1608	0.1569	0.0243	20.0777
818-775	120	0.3768	0.3297	0.1250	3.4998
818-750	120	0.1943	0.1820	0.0633	7.4037
818-700	120	0.0925	0.0861	0.0697	6.6719
818-675	120	0.4985	0.3613	0.2752	1.3165
818-650	120	0.0260	0.0236	0.0936	4.8412
818-625	120	0.4704	0.4432	0.0579	8.1374
818-575	120	0.2763	0.2523	0.0869	5.2535
818-525	120	0.0427	0.0397	0.0708	6.5572
818-500	120	0.0168	0.0164	0.0256	18.9943
818-475	120	0.4687	0.4167	0.1110	4.0039
818-450	120	0.1008	0.0935	0.0724	6.4033
818-400	120	0.3509	0.3127	0.1090	4.0858
841-875	120	0.0084	0.0082	0.0298	16.2808
841-750	120	0.0508	0.0479	0.0573	8.2333
841-725	120	0.1335	0.1228	0.0805	5.7102
841-700	120	0.0254	0.0243	0.0452	10.5647
841-675	120	0.0084	0.0082	0.0298	16.2808
841-650	120	0.1320	0.1080	0.1819	2.2484
841-625	120	0.1961	0.1537	0.2161	1.8135
841-600	120	0.2597	0.2433	0.0633	7.3931
841-575	120	0.0906	0.0882	0.0266	18.2838
841-550	120	0.1909	0.1696	0.1118	3.9707
841-475	120	0.3350	0.2912	0.1306	3.3280
841-450	120	0.0502	0.0485	0.0326	14.8489
Mean	120	0.1700	0.1507	0.1133	3.9124
St. Dev		0.0248	0.0187		

* Nm = estimate of gene flow from Gst or Gcs. E.g., Nm = 0.5(1 - Gst)/Gst;
  See McDermott and McDonald, Ann. Rev. Phytopathol. 31:353-373 (1993).

The number of polymorphic loci is : 40
The percentage of polymorphic loci is : 100.00

Population Genetic Analysis of *Astragalus mulfordae*

Population ID : 1
Population name : SHS
Gene Frequency :

Allele \	818-1800	818-1650	818-1600	818-1550	818-1500	818-1400	818-1300	818-1250
Allele 0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Allele 1								

Allele \	818-1200	818-1150	818-1100	818-1050	818-1000	818-975	818-950	818-850
Allele 0	1.0000	0.9661	1.0000	1.0000	1.0000	1.0000	0.9309	1.0000
Allele 1		0.0339					0.0691	

Allele \	818-800	818-775	818-750	818-700	818-675	818-650	818-625	818-575
Allele 0	0.9661	1.0000	0.8563	1.0000	0.9661	1.0000	0.8944	0.5774
Allele 1	0.0339		0.1437		0.0339		0.1056	0.4226

Allele \	818-525	818-500	818-475	818-450	818-400	841-1100	841-875	841-850
Allele 0	0.6325	1.0000	0.5164	0.8944		0.9661	1.0000	0.8944
Allele 1	0.3675		0.4836	0.1056	1.0000	0.0339		0.1056

Allele \	841-800	841-750	841-725	841-700	841-675	841-650	841-625	841-600
Allele 0	0.8563	0.8944	0.9309	1.0000	1.0000	1.0000	0.2582	0.8563
Allele 1	0.1437	0.1056	0.0691				0.7418	0.1437

Allele \	841-575	841-550	841-490	841-475	841-460	841-450	841-400
Allele 0	0.8563	0.9661	0.7303	0.7746	0.9661	1.0000	0.8944
Allele 1	0.1437	0.0339	0.2697	0.2254	0.0339		0.1056

Summary Statistics :

```
   ******************************************************************************
   **                                                                          **
   **              Summary of Genic Variation Statistics for All Loci          **
   **          [See Nei (1987) Molecular Evolutionary Genetics (p. 176-187)]   **
   **                                                                          **
   ******************************************************************************
```

Locus	Sample Size	na*	ne*	h*	I*
818-1800	15	1.0000	1.0000	0.0000	0.0000
818-1650	15	1.0000	1.0000	0.0000	0.0000
818-1600	15	1.0000	1.0000	0.0000	0.0000
818-1550	15	1.0000	1.0000	0.0000	0.0000
818-1500	15	1.0000	1.0000	0.0000	0.0000
818-1400	15	1.0000	1.0000	0.0000	0.0000
818-1300	15	1.0000	1.0000	0.0000	0.0000
818-1250	15	1.0000	1.0000	0.0000	0.0000
818-1200	15	1.0000	1.0000	0.0000	0.0000
818-1150	15	2.0000	1.0701	0.0655	0.1481
818-1100	15	1.0000	1.0000	0.0000	0.0000
818-1050	15	1.0000	1.0000	0.0000	0.0000
818-1000	15	1.0000	1.0000	0.0000	0.0000
818-975	15	1.0000	1.0000	0.0000	0.0000
818-950	15	2.0000	1.1475	0.1286	0.2512
818-850	15	1.0000	1.0000	0.0000	0.0000
818-800	15	2.0000	1.0701	0.0655	0.1481
818-775	15	1.0000	1.0000	0.0000	0.0000
818-750	15	2.0000	1.3263	0.2460	0.4115
818-700	15	1.0000	1.0000	0.0000	0.0000
818-675	15	2.0000	1.0701	0.0655	0.1481
818-650	15	1.0000	1.0000	0.0000	0.0000
818-625	15	2.0000	1.2328	0.1889	0.3372
818-575	15	2.0000	1.9533	0.4880	0.6811
818-525	15	2.0000	1.8688	0.4649	0.6576
818-500	15	1.0000	1.0000	0.0000	0.0000
818-475	15	2.0000	1.9979	0.4995	0.6926
818-450	15	2.0000	1.2328	0.1889	0.3372
818-400	15	1.0000	1.0000	0.0000	0.0000
841-1100	15	2.0000	1.0701	0.0655	0.1481
841-875	15	1.0000	1.0000	0.0000	0.0000
841-850	15	2.0000	1.2328	0.1889	0.3372
841-800	15	2.0000	1.3263	0.2460	0.4115
841-750	15	2.0000	1.2328	0.1889	0.3372
841-725	15	2.0000	1.1475	0.1286	0.2512
841-700	15	1.0000	1.0000	0.0000	0.0000
841-675	15	1.0000	1.0000	0.0000	0.0000
841-650	15	1.0000	1.0000	0.0000	0.0000
841-625	15	2.0000	1.6209	0.3831	0.5712
841-600	15	2.0000	1.3263	0.2460	0.4115
841-575	15	2.0000	1.3263	0.2460	0.4115
841-550	15	2.0000	1.0701	0.0655	0.1481

841-490	15	2.0000	1.6500	0.3939	0.5830
841-475	15	2.0000	1.5366	0.3492	0.5337
841-460	15	2.0000	1.0701	0.0655	0.1481
841-450	15	1.0000	1.0000	0.0000	0.0000
841-400	15	2.0000	1.2328	0.1889	0.3372
Mean	15	1.4894	1.1662	0.1097	0.1796
St. Dev		0.5053	0.2648	0.1504	0.2243

```
==============================================================
* na = Observed number of alleles
* ne = Effective number of alleles [Kimura and Crow (1964)]
* h = Nei's (1973) gene diversity
* I = Shannon's Information index [Lewontin (1972)]
The number of polymorphic loci is :     23
The percentage of polymorphic loci is : 48.94 %
*********************************************************************************************
```