

P.infestans New Data Set

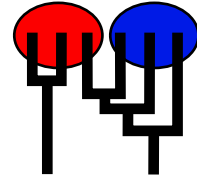
MIGRATION RATE AND POPULATION SIZE ESTIMATION

using the coalescent and maximum likelihood or Bayesian inference

Migrate-n version 3.3.0 []

Program started at Tue Jul 14 15:19:53 2015

Program finished at Tue Jul 21 11:23:17 2015



Options

Datatype:

Microsatellite data [Brownian motion]

Missing data:

not included

Inheritance scalers in use for Thetas:

1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

[The locus with a scaler of 1.0 used as reference]

Random number seed:

(with internal timer)

1245233599

Start parameters:

Theta values were generated

from the FST-calculation

M values were generated

from the FST-calculation

Connection type matrix:

where m = average (average over a group of Thetas or M,

s = symmetric M, S = symmetric 4Nm, 0 = zero, and not estimated,

* = free to vary, Thetas are on diagonal

Population	1	2	3
1 Fake__diploid_M	*	*	*
2 Fake__diploid_T	*	*	*
3 Fake__diploid_T	*	*	*

Order of parameters:

1	Θ_1	<displayed>
2	Θ_2	<displayed>
3	Θ_3	<displayed>

4	M	2->1	<displayed>
5	M	3->1	<displayed>
6	M	1->2	<displayed>
7	M	3->2	<displayed>
8	M	1->3	<displayed>
9	M	2->3	<displayed>

Mutation rate among loci:

Varying ([crudely] estimated from data)

Rates per locus:	2.74576,	2.03390,	0.40678,	0.91525,	0.40678,	
	0.30508,	0.71186,	0.40678,	0.91525,	1.62712,	1.01695,
	0.50847					

Analysis strategy:

Bayesian inference

Proposal distributions for parameter

Parameter	Proposal
Theta	Metropolis sampling
M	Metropolis sampling

Prior distribution for parameter

Parameter	Prior	Minimum	Mean*	Maximum	Delta	Bins
Theta	Uniform	0.000000	75.000000	150.000000	15.000000	1500
M	Uniform	0.000000	250.000000	500.000000	50.000000	1500

Markov chain settings:

Long chain

Number of chains	1
Recorded steps [a]	5000
Increment (record every x step [b])	100
Number of concurrent chains (replicates) [c]	20
Visited (sampled) parameter values [a*b*c]	10000000
Number of discard trees per chain (burn-in)	2000

Multiple Markov chains:

Static heating scheme

	4 chains with temperatures
1000000.00	3.00 1.50 1.00
	Swapping interval is 1

Print options:

Data file:	P.infestans_newdata_for_Migrate.txt
Output file:	inf_150_500_mhvlong_out
Posterior distribution raw histogram file:	bayesfile
Print data:	Yes
Print genealogies [only some for some data type]:	None

Data summary

Datatype: Microsatellite data
[Fragment length is translated to repeats]
 Number of loci: 12

Population	Locus	Gene copies data	(missing)
1 Fake__diploid_Michoacan_population	1	149	(79)
	2	120	(108)
	3	152	(76)
	4	152	(76)
	5	152	(76)
	6	152	(76)
	7	152	(76)
	8	152	(76)
	9	152	(76)
	10	152	(76)
	11	152	(76)
	12	152	(76)
2 Fake__diploid_Tlaxcala_population	1	71	(93)
	2	90	(74)
	3	110	(54)
	4	112	(52)
	5	110	(54)
	6	110	(54)
	7	110	(54)
	8	110	(54)
	9	110	(54)
	10	110	(54)
	11	110	(54)
	12	110	(54)
3 Fake__diploid_Toluca_population	1	60	(32)
	2	64	(28)
	3	62	(30)
	4	62	(30)
	5	62	(30)
	6	62	(30)
	7	63	(29)
	8	63	(29)
	9	62	(30)
	10	64	(28)

Total of all populations	11	62	(30)
	12	63	(29)
	1	280	(204)
	2	274	(210)
	3	324	(160)
	4	326	(158)
	5	324	(160)
	6	324	(160)
	7	325	(159)
	8	325	(159)
	9	324	(160)
	10	326	(158)
	11	324	(160)
	12	325	(159)

Allelic data

Fake__diploid_Michoacan_population

Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind----01	?.?	13.24	11.13	15.15	14.14	12.12	10.23	11.11	12.16	14.14	11.15	11.14
Ind---010	2?.12	?.13	?.11	?.15	?.12	?.12	?.10	?.11	?.12	?.12	?.14	?.13
Ind----02	12.?	13.?	13.?	15.?	12.?	12.?	23.?	11.?	16.?	15.?	15.?	13.?
Ind----03	11.11	24.24	11.13	15.15	12.12	12.12	23.23	11.11	16.16	12.23	14.14	13.13
Ind---030	4?.12	?.13	?.11	?.15	?.12	?.12	?.10	?.11	?.12	?.12	?.14	?.13
Ind----04	12.?	13.?	13.?	15.?	12.?	12.?	23.?	11.?	16.?	15.?	15.?	13.?
Ind----05	?.?	13.24	11.13	15.15	14.14	12.12	11.23	11.11	12.16	14.14	11.15	11.14
Ind---050	6?.12	?.13	?.11	?.15	?.12	?.12	?.11	?.11	?.12	?.12	?.14	?.13
Ind----06	12.?	13.?	13.?	15.?	12.?	12.?	23.?	11.?	16.?	15.?	15.?	13.?
Ind----07	12.12	13.13	11.11	13.15	15.12	12.12	12.10	23.11	11.12	16.12	15.14	15.13
Ind---070	8?.11	?.24	?.12	?.15	?.12	?.12	?.23	?.11	?.16	?.22	?.14	?.13
Ind----08	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	16.?	22.?	14.?	13.?
Ind----09	11.11	24.24	11.13	15.15	12.12	12.12	23.23	11.11	16.16	11.21	14.14	13.13
Ind---091	0?.11	?.24	?.11	?.15	?.12	?.12	?.23	?.11	?.16	?.11	?.14	?.13
Ind----10	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	16.?	21.?	14.?	13.?
Ind----11	11.11	13.24	11.13	15.15	12.12	12.12	15.23	11.11	15.17	14.15	11.11	11.13
Ind---111	2?.11	?.13	?.11	?.15	?.12	?.12	?.16	?.11	?.15	?.14	?.11	?.11
Ind----12	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----13	11.11	13.24	11.13	15.15	12.12	12.12	16.23	11.11	15.17	15.15	11.11	11.13
Ind---131	4?.11	?.13	?.11	?.15	?.12	?.12	?.16	?.11	?.15	?.14	?.11	?.11
Ind----14	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----15	11.11	13.24	11.13	15.15	12.12	12.12	15.23	11.11	15.17	14.15	11.11	11.13
Ind---151	6?.11	?.13	?.11	?.15	?.12	?.12	?.16	?.11	?.15	?.14	?.11	?.11
Ind----16	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----17	11.11	13.24	11.13	15.15	12.12	12.12	15.23	11.11	15.17	14.15	11.11	11.13
Ind---171	8?.11	?.13	?.11	?.15	?.12	?.12	?.15	?.11	?.15	?.14	?.11	?.11
Ind----18	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----19	11.11	13.24	11.13	15.15	12.12	12.12	15.23	11.11	15.17	14.15	11.11	11.13
Ind---192	0?.11	?.13	?.11	?.15	?.12	?.12	?.16	?.11	?.15	?.14	?.11	?.11
Ind----20	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----21	11.11	13.24	11.13	15.15	12.12	12.12	16.23	11.11	15.17	14.15	11.11	11.13
Ind---212	2?.11	?.13	?.11	?.15	?.12	?.12	?.16	?.11	?.15	?.14	?.11	?.11
Ind----22	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----23	11.11	13.24	11.13	15.15	12.12	12.12	16.23	11.11	15.17	14.15	11.11	11.13
Ind---232	4?.11	?.13	?.11	?.15	?.12	?.12	?.16	?.11	?.15	?.14	?.11	?.11
Ind----24	11.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	17.?	15.?	11.?	13.?
Ind----25	12.12	?.?	11.13	15.17	14.14	11.12	23.23	11.12	17.18	12.22	14.15	13.13

Fake__diploid_Michoacan_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind---25267.29	? .20	? .12	? .15	? .12	? .12	? .15	? .11	? .17	? .12	? .15	? .13	
Ind----26	71.7220.?	12.?	15.?	14.?	12.?	23.?	12.?	17.?	15.?	15.?	14.?	
Ind----27	11.2524.2411.1311.1714.1412.1216.2311.1216.1812.1814.1411.13											
Ind---27287.11	? .24	? .11	? .11	? .14	? .12	? .10	? .11	? .16	? .12	? .11	? .11	
Ind----28	28.?	24.?	13.?	11.?	14.?	12.?	23.?	11.?	16.?	18.?	15.?	11.?
Ind----29	11.7124.2811.1315.1512.1212.1215.2311.1216.1712.1214.1513.13											
Ind---293072.127.24	? .12	? .15	? .12	? .12	? .23	? .11	? .16	? .17	? .11	? .14		
Ind----30	12.?	24.?	12.?	17.?	14.?	12.?	23.?	12.?	17.?	18.?	15.?	14.?
Ind----31	30.3047.4712.1215.1512.1412.1215.2311.1215.1715.1714.1411.14											
Ind---31327.11	? .?	? .11	? .17	? .12	? .12	? .15	? .11	? .16	? .16	? .15	? .11	
Ind----32	12.?	? .?	13.?	21.?	14.?	12.?	15.?	12.?	17.?	16.?	15.?	14.?
Ind----33	12.1231.3111.1315.1714.1411.1223.2311.1218.1822.2214.1513.13											
Ind---33347.12	? .?	? .11	? .15	? .14	? .11	? .23	? .11	? .17	? .12	? .14	? .13	
Ind----34	12.?	? .?	13.?	17.?	14.?	12.?	23.?	12.?	18.?	22.?	15.?	13.?
Ind----35	12.127.?	11.1315.1714.1411.1223.2311.1217.1812.2214.1513.13										
Ind---35367.12	? .?	? .11	? .15	? .14	? .11	? .23	? .11	? .17	? .12	? .14	? .13	
Ind----36	12.?	? .?	13.?	17.?	14.?	12.?	23.?	12.?	18.?	22.?	15.?	13.?
Ind----37	12.127.?	11.1315.1714.1411.1223.2311.1217.1812.2214.1513.13										
Ind---37387.12	? .?	? .11	? .15	? .14	? .11	? .23	? .11	? .17	? .12	? .14	? .13	
Ind----38	12.?	? .?	13.?	17.?	14.?	12.?	23.?	12.?	18.?	22.?	15.?	13.?
Ind----39	11.127.?	11.1115.1514.1411.1223.2311.1116.1612.1714.1511.14										
Ind---39407.11	? .28	? .12	? .15	? .12	? .12	? .23	? .11	? .15	? .15	? .15	? .11	
Ind----40	11.?	28.?	12.?	15.?	12.?	12.?	23.?	11.?	16.?	15.?	15.?	14.?
Ind----41	11.1123.2311.1311.1714.1412.1223.2311.1112.1612.1514.1411.13											
Ind---41427.12	? .?	? .11	? .15	? .14	? .11	? .23	? .11	? .17	? .12	? .14	? .13	
Ind----42	12.?	? .?	13.?	17.?	14.?	12.?	23.?	12.?	18.?	12.?	15.?	13.?
Ind----43	25.7123.2811.1311.1114.1411.1216.2311.1116.1712.2114.1511.11											
Ind---434472.117.24	? .11	? .17	? .14	? .12	? .16	? .11	? .16	? .15	? .15	? .11		
Ind----44	11.?	24.?	13.?	21.?	14.?	12.?	23.?	11.?	16.?	20.?	15.?	11.?
Ind----45	? .?	24.2412.1215.1712.1411.1215.2312.1217.1712.1514.1511.14										
Ind---45467.29	? .28	? .11	? .15	? .14	? .12	? .23	? .11	? .12	? .12	? .14	? .11	
Ind----46	29.?	28.?	13.?	15.?	14.?	12.?	23.?	11.?	12.?	15.?	14.?	14.?
Ind----47	12.1224.2812.1216.1612.1212.1211.2311.1115.1514.2214.1411.13											
Ind---47487.71	? .28	? .11	? .15	? .14	? .12	? .23	? .11	? .17	? .12	? .16	? .11	
Ind----48	72.?	47.?	13.?	17.?	14.?	12.?	23.?	11.?	17.?	12.?	16.?	13.?
Ind----49	12.1224.2411.1317.1712.1412.1223.2311.1116.1712.2015.1513.13											
Ind---49507.71	? .24	? .11	? .15	? .14	? .12	? .15	? .11	? .17	? .12	? .14	? .13	
Ind----50	72.?	24.?	11.?	17.?	14.?	12.?	15.?	11.?	17.?	22.?	14.?	14.?
Ind----51	? .?	? .?	11.1311.1512.1412.1223.2311.1116.1716.1611.1413.14									

Fake__diploid_Michoacan_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind---5152	7.12	7.24	7.11	7.15	7.14	7.12	7.23	7.11	7.16	7.12	7.11	7.13
Ind----52	12.?	24.?	13.?	17.?	14.?	12.?	23.?	12.?	17.?	23.?	15.?	13.?
Ind----53	11.7126.2811.1315.1512.1212.1216.2311.1117.1712.1514.1413.13											
Ind---5354	7.2117.24	7.11	7.17	7.14	7.11	7.23	7.11	7.12	7.12	7.15	7.11	
Ind----54	12.?	28.?	11.?	17.?	14.?	12.?	23.?	11.?	16.?	15.?	15.?	11.?
Ind----55	11.1224.2711.1117.1714.1411.1223.2311.1112.1612.1515.1511.11											
Ind---5556	7.12	7.24	7.11	7.11	7.14	7.12	7.15	7.11	7.17	7.12	7.15	7.11
Ind----56	12.?	28.?	13.?	15.?	14.?	12.?	23.?	11.?	18.?	15.?	15.?	13.?
Ind----57	11.2723.2412.1211.1612.1412.1223.2311.1112.1512.1215.1513.13											
Ind---5758	7.11	7.28	7.11	7.15	7.12	7.12	7.23	7.11	7.16	7.12	7.14	7.13
Ind----58	71.7228.?	13.?	17.?	14.?	12.?	23.?	12.?	17.?	12.?	15.?	14.?	
Ind----59	11.1124.2412.1217.1714.1412.1223.2311.1116.1615.1515.1513.13											
Ind---5960	7.11	7.24	7.12	7.17	7.14	7.12	7.23	7.11	7.16	7.15	7.15	7.13
Ind----60	11.?	24.?	12.?	17.?	14.?	12.?	23.?	11.?	16.?	15.?	15.?	13.?
Ind----61	12.1224.2411.1311.1512.1412.1223.2311.1217.1712.1615.1511.13											
Ind---6162	7.12	7.24	7.11	7.11	7.12	7.12	7.23	7.11	7.17	7.12	7.15	7.11
Ind----62	12.?	24.?	13.?	15.?	14.?	12.?	23.?	12.?	17.?	16.?	15.?	13.?
Ind----63	11.1247.4711.1315.1712.1212.1223.2311.1215.1715.1711.1511.13											
Ind---6364	7.12	7.24	7.11	7.11	7.12	7.12	7.23	7.11	7.17	7.12	7.15	7.11
Ind----64	12.?	24.?	13.?	15.?	14.?	12.?	23.?	12.?	17.?	16.?	15.?	13.?
Ind----65	12.1227.2712.1215.1712.1412.1223.2311.1117.1712.1514.1511.14											
Ind---6566	7.12	7.?	7.11	7.15	7.12	7.12	7.23	7.12	7.17	7.12	7.11	7.11
Ind----66	28.?	7.?	13.?	15.?	14.?	12.?	23.?	12.?	17.?	12.?	11.?	11.?
Ind----67	28.297.?		11.1313.1712.1412.1223.2311.1215.1612.2014.1511.13									
Ind---6768	7.11	7.?	7.12	7.11	7.12	7.11	7.23	7.11	7.17	7.14	7.11	7.14
Ind----68	11.?	7.?	12.?	15.?	14.?	12.?	23.?	12.?	17.?	17.?	14.?	14.?
Ind----69	12.1224.2411.1311.1512.1412.1223.2311.1217.1712.1615.1511.13											
Ind---6970	7.12	7.27	7.12	7.15	7.12	7.12	7.23	7.11	7.17	7.12	7.14	7.11
Ind----70	12.?	27.?	12.?	17.?	14.?	12.?	23.?	11.?	17.?	15.?	15.?	14.?
Ind----71	11.127.?		11.1315.1514.1412.1223.2311.1116.1712.1514.1513.14									
Ind---7172	7.11	7.13	7.11	7.15	7.14	7.12	7.16	7.11	7.16	7.12	7.11	7.11
Ind----72	11.?	13.?	13.?	17.?	14.?	12.?	23.?	11.?	16.?	12.?	14.?	13.?
Ind----73	28.297.?		11.1313.1712.1412.1223.2311.1215.1612.2014.1511.13									
Ind---7374	7.71	7.23	7.11	7.15	7.12	7.12	7.15	7.11	7.17	7.15	7.14	7.11
Ind----74	72.?	47.?	13.?	15.?	14.?	12.?	23.?	12.?	17.?	18.?	15.?	13.?
Ind----75	11.117.?		11.1315.1512.1212.1216.1611.1217.1714.2415.1511.13									
Ind---7576	7.71	7.24	7.11	7.11	7.14	7.12	7.23	7.11	7.16	7.14	7.15	7.11
Ind----76	72.?	28.?	13.?	11.?	14.?	12.?	23.?	11.?	18.?	25.?	15.?	14.?

Fake__diploid_Tlaxcala_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind-----77	41.4124.4913.1315.1711.1411.1223.2311.1211.1614.1715.1511.11											
Ind---7778?	?	2.27	?	1.1	?	1.3	?	1.1	?	1.1	?	1.6
Ind-----78	?	?	54.?	11.?	15.1714.?	12.?	16.?	13.?	17.?	15.?	15.?	13.?
Ind-----79	52.5227.2713.1315.1514.1412.1215.2311.1117.1815.1815.1811.11											
Ind---7980?	18	?	?	?	1.1	?	1.3	?	1.4	?	1.2	?
Ind-----80	18.?	?	?	13.?	15.?	14.?	12.?	23.?	11.?	17.?	15.?	15.?
Ind-----81	47.4823.2713.1315.1712.1412.1215.1611.1316.1614.1415.1511.14											
Ind---8182?	52	?	?	2.27	?	1.3	?	1.5	?	1.4	?	1.2
Ind-----82	52.?	27.?	13.?	15.?	14.?	12.?	23.?	11.?	18.?	18.?	18.?	11.?
Ind-----83	13.2549.4913.1315.1714.1412.1215.2311.1114.1715.1515.1514.14											
Ind---8384?	18	?	?	?	1.1	20.13?	14	?	1.2	?	1.5	?
Ind-----84	18.?	?	?	13.?	15.?	14.?	12.?	23.?	11.?	17.?	15.?	15.?
Ind-----85	18.18?	?	?	11.1313.1514.1412.1216.2311.1112.1714.1515.1513.13								
Ind---8586?	?	?	2.23	?	1.3	?	1.3	?	1.2	?	1.2	?
Ind-----86	?	?	29.?	13.?	20.?	14.?	12.?	23.?	12.?	17.?	17.?	18.?
Ind-----87	52.5227.2713.1315.1514.1412.1215.2311.1117.1815.1815.1811.11											
Ind---8788?	43	?	?	2.27	?	1.3	?	1.5	?	1.2	?	1.1
Ind-----88	43.?	27.?	13.?	15.?	14.?	12.?	23.?	13.?	18.?	14.?	15.?	17.?
Ind-----89	52.5227.2713.1315.1514.1412.1215.2311.1118.1815.1815.1811.11											
Ind---8990?	25	?	?	2.27	?	1.1	?	1.5	?	1.4	?	1.2
Ind-----90	25.?	27.?	13.?	15.?	14.?	12.?	16.?	12.?	16.?	15.?	15.?	14.?
Ind-----91	47.4823.2713.1315.1712.1412.1215.1511.1311.1614.1415.1511.14											
Ind---9192?	?	?	2.26	?	1.3	?	1.5	?	1.4	?	1.1	?
Ind-----92	?	?	26.?	13.?	15.?	14.?	12.?	16.?	11.?	18.?	16.?	15.?
Ind-----93	?	?	24.2411.1315.1512.1411.1223.2311.1314.1815.1515.1514.17									
Ind---9394?	?	?	2.23	?	1.1	?	1.5	?	1.4	?	1.2	?
Ind-----94	?	?	23.?	13.?	17.?	14.?	12.?	23.?	11.?	17.?	17.?	15.?
Ind-----95	29.2924.2713.1313.1311.1411.1216.1611.1117.1714.1615.1511.13											
Ind---9596?	?	?	2.23	?	1.1	?	1.5	?	1.4	?	1.2	?
Ind-----96	?	?	23.?	13.?	17.?	14.?	12.?	23.?	11.?	17.?	17.?	15.?
Ind-----97	27.2724.2413.1313.1311.1412.1216.1511.1112.1719.1915.1811.13											
Ind---9798?	45	?	?	2.49	?	1.3	?	1.5	?	1.1	?	1.1
Ind-----98	46.?	49.?	13.?	15.?	11.?	12.?	18.?	13.?	14.?	15.?	15.?	11.?
Ind-----99	45.4624.2413.1313.1511.1412.1215.2311.1116.1615.1515.1513.14											
Ind---99100?	52.29?	27	?	?	1.1	?	1.5	?	1.1	?	1.2	?
Ind---10029?	52.?	11.?	15.?	12.?	12.?	23.?	13.?	18.?	15.?	15.?	14.?	
Ind---10118.18?	?	?	11.1313.1514.1412.1215.2311.1112.1714.1515.1513.13									
Ind-101102.27	?	?	2.28	?	1.1	?	1.5	?	1.4	?	1.2	?
Ind---10227.?	28.?	13.?	17.?	14.?	12.?	15.?	13.?	17.?	15.?	15.?	14.?	
Ind---10345.4627.2711.1313.1512.1412.1215.1811.1117.1814.1715.1514.14												

Fake__diploid_Tlaxcala_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind-103104.?	?	2.24	?	1.11	?	1.15	?	1.11	?	1.11	?	1.16
Ind-104.?	?	57.?	?	13.?	?	15.?	?	14.?	?	12.?	?	23.?
Ind-10529.2924.2412.1213.1512.1211.1218.2311.1117.1816.1614.1514.17	?	?	?	?	?	?	?	?	?	?	?	?
Ind-105108.25	?	2.26	?	1.11	?	1.15	?	1.12	?	1.11	?	1.16
Ind-10644.4526.?	?	?	13.?	?	15.?	?	14.?	?	11.?	?	15.?	?
Ind-107.?	?	23.2613.1313.1714.1412.1215.1811.1116.1714.1515.1511.14	?	?	?	?	?	?	?	?	?	?
Ind-107108.?	?	2.23	?	1.11	?	1.13	?	1.11	?	1.11	?	1.16
Ind-108.?	?	49.?	?	13.?	?	15.?	?	14.?	?	12.?	?	16.?
Ind-109.?	?	23.2613.1313.1714.1412.1216.1811.1116.1714.1515.1511.14	?	?	?	?	?	?	?	?	?	?
Ind-109110.45	?	2.24	?	1.11	?	1.15	?	1.12	?	1.12	?	1.16
Ind-11046.?	?	26.?	?	13.?	?	15.?	?	14.?	?	12.?	?	23.?
Ind-11125.4624.2411.1313.1314.1412.1216.1611.1112.1514.1614.1811.14	?	?	?	?	?	?	?	?	?	?	?	?
Ind-111112.27	?	2.23	?	1.12	?	1.15	?	1.11	?	1.12	?	1.15
Ind-11227.?	?	23.?	?	12.?	?	17.?	?	14.?	?	12.?	?	16.?
Ind-11325.4523.2712.1213.1511.1411.1215.2311.1214.1715.1715.1514.14	?	?	?	?	?	?	?	?	?	?	?	?
Ind-1131146.29.?	?	?	1.13	?	1.13	?	1.11	?	1.12	?	1.23	?
Ind-11429.?	?	?	?	13.?	?	15.?	?	14.?	?	12.?	?	23.?
Ind-115.?	?	23.2313.1313.1511.1412.1223.2311.1218.1815.1515.1511.14	?	?	?	?	?	?	?	?	?	?
Ind-115118.?	?	2.24	?	1.11	?	1.13	?	1.14	?	1.12	?	1.15
Ind-116.?	?	27.?	?	13.?	?	13.?	?	14.?	?	12.?	?	16.?
Ind-117.?	?	26.2712.1213.1711.1411.1216.1812.1317.1715.1715.1511.11	?	?	?	?	?	?	?	?	?	?
Ind-117118.25	?	?	?	1.13	?	1.15	?	1.14	?	1.12	?	1.16
Ind-11827.?	?	?	?	13.?	?	17.?	?	14.?	?	12.?	?	23.?
Ind-119.?	?	26.2712.1213.1711.1411.1216.1812.1212.1715.1715.1511.11	?	?	?	?	?	?	?	?	?	?
Ind-119120.?	?	2.27	?	1.11	?	1.13	?	1.11	?	1.12	?	1.10
Ind-120.?	?	49.?	?	11.?	?	15.?	?	14.?	?	12.?	?	23.?
Ind-12127.2924.2413.1313.1312.1412.1215.1512.1216.1714.2615.1514.14	?	?	?	?	?	?	?	?	?	?	?	?
Ind-121122.45	?	2.23	?	1.13	?	1.15	?	1.14	?	1.12	?	1.16
Ind-12246.?	?	23.?	?	13.?	?	17.?	?	14.?	?	12.?	?	23.?
Ind-123.?	?	11.4911.1313.1714.1411.1216.1811.1211.1714.1515.1814.14	?	?	?	?	?	?	?	?	?	?
Ind-123124.43	?	?	?	1.11	?	1.13	?	1.14	?	1.12	?	1.18
Ind-12444.?	?	?	?	13.?	?	20.?	?	14.?	?	12.?	?	23.?
Ind-125.?	?	?	?	13.1313.1711.1112.1215.1511.1116.1614.1915.1511.13	?	?	?	?	?	?	?	?
Ind-125128.?	?	?	?	1.13	?	1.13	?	1.11	?	1.12	?	1.15
Ind-126.?	?	?	?	13.?	?	17.?	?	11.?	?	12.?	?	15.?
Ind-127.?	?	?	?	13.1313.1711.1112.1216.1511.1116.1714.1915.1511.13	?	?	?	?	?	?	?	?
Ind-127128.?	?	2.26	?	1.13	?	1.15	?	1.12	?	1.11	?	1.16
Ind-128.?	?	26.?	?	13.?	?	15.?	?	14.?	?	12.?	?	23.?
Ind-129.?	?	26.2712.1213.1711.1411.1216.1812.1312.1715.1715.1511.11	?	?	?	?	?	?	?	?	?	?

Fake__diploid_Tlaxcala_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind-129130.25	?.24	?.13	?.13	?.11	?.11	?.15	?.11	?.17	?.15	?.15	?.11	
Ind----13025.?	24.?	13.?	15.?	14.?	12.?	15.?	12.?	18.?	15.?	15.?	14.?	
Ind----13145.45	24.49	11.13	15.15	14.14	11.12	15.15	11.11	12.16	15.19	15.15	13.14	
Fake__diploid_Toluca_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind----13213.13	29.46	11.13	15.21	14.14	12.12	15.23	11.11	16.17	14.14	15.15	11.14	
Ind-132133.?	?.24	?.11	?.15	?.14	?.12	?.16	?.11	?.16	?.15	?.11	?.11	
Ind----133?.	25.?	13.?	17.?	14.?	12.?	23.?	11.?	17.?	15.?	15.?	11.?	
Ind----13430.31	28.28	11.13	17.17	14.14	12.12	15.23	11.11	16.17	14.17	15.15	11.14	
Ind-134133.25	?.24	?.11	?.15	?.14	?.12	?.15	?.11	?.17	?.14	?.15	?.14	
Ind----13525.?	49.?	13.?	15.?	14.?	12.?	23.?	11.?	17.?	15.?	15.?	14.?	
Ind----13631.31	24.24	11.13	15.17	14.14	12.12	15.16	11.11	16.16	14.15	15.15	14.14	
Ind-136137.29	?.24	?.11	?.15	?.12	?.11	?.16	?.11	?.16	?.15	?.15	?.11	
Ind----13729.?	28.?	13.?	15.?	12.?	11.?	23.?	11.?	16.?	16.?	19.?	14.?	
Ind----13816.16	48.50	13.13	15.15	14.14	12.12	16.16	11.11	16.16	14.14	15.15	11.13	
Ind-138139.27	?.24	?.11	?.13	?.12	?.12	?.15	?.11	?.16	?.14	?.15	?.11	
Ind----13927.?	49.?	13.?	15.?	14.?	12.?	16.?	11.?	17.?	14.?	15.?	13.?	
Ind----14029.29	29.49	11.13	17.17	14.14	12.12	16.23	11.11	16.16	14.14	15.15	14.14	
Ind-140141.27	?.28	?.11	?.17	?.14	?.11	?.16	?.11	?.16	?.14	?.13	?.11	
Ind----14127.?	48.?	13.?	17.?	14.?	12.?	23.?	11.?	17.?	14.?	15.?	11.?	
Ind----14213.26	24.49	11.13	17.17	12.14	12.12	15.23	12.12	16.21	14.14	15.15	14.14	
Ind-142143.25	?.23	?.11	?.13	?.14	?.11	?.16	?.11	?.12	?.15	?.15	?.11	
Ind----14329.?	26.27	13.?	15.?	14.?	12.?	18.23	12.13	17.?	16.19	15.?	13.14	
Ind----14445.46	24.26	11.13	13.15	12.14	12.12	15.23	11.11	16.16	12.12	15.15	14.17	
Ind-144148.13	?.26	?.12	?.13	?.14	?.12	?.16	?.11	?.16	?.14	?.15	?.11	
Ind----14524.?	49.?	12.?	15.?	14.?	12.?	23.?	11.?	17.?	17.?	15.?	14.?	
Ind----14625.25	24.49	11.13	13.15	14.14	12.12	15.23	11.11	16.17	14.17	14.15	11.14	
Ind-146147.?	?.23	?.11	?.13	?.11	?.12	?.23	?.11	?.16	?.12	?.15	?.11	
Ind----147?.	49.?	13.?	15.?	14.?	12.?	23.?	11.?	17.?	14.?	22.?	14.?	
Ind----14824.27	24.25	11.13	15.15	14.14	12.12	16.16	11.11	16.16	14.16	14.15	11.14	
Ind-148149.25	49.24	?.11	?.15	?.12	?.12	?.15	?.11	?.16	17.14	?.15	?.11	
Ind----14925.?	24.?	13.?	15.?	12.?	12.?	23.?	11.?	16.?	14.?	15.?	11.?	
Ind----15012.40	24.50	12.12	17.19	12.14	11.12	16.23	11.11	16.17	15.15	15.15	11.14	
Ind-150151.?	?.24	?.11	?.15	?.14	?.12	?.16	?.11	?.16	?.14	?.15	?.11	
Ind----151?.	27.?	13.?	21.?	14.?	12.?	23.?	11.?	16.?	14.?	15.?	14.?	

Fake__diploid_Toluca_population												
Indiv.	1	2	3	4	5	6	7	8	9	10	11	12
Ind-152	13.29	24.24	11.13	13.15	14.14	12.12	16.23	11.12	15.16	14.16	15.20	11.14
Ind-152	153.?	? .24	? .11	? .15	? .14	? .11	? .16	? .11	? .16	? .14	? .15	? .14
Ind-153	?.?	52.?	13.?	15.?	14.?	11.?	23.?	11.?	16.?	14.?	15.?	14.?
Ind-154	25.25	24.26	12.12	15.15	14.14	12.12	15.23	11.11	17.17	14.14	15.19	11.11
Ind-154	158.25	? .49	? .11	? .15	? .14	? .12	? .23	? .11	? .15	? .14	? .14	? .11
Ind-155	39.40	49.?	13.?	15.?	14.?	12.?	23.?	11.?	16.?	14.?	15.?	11.?
Ind-156	25.39	24.49	11.13	15.15	14.14	12.12	23.23	11.11	15.16	14.14	14.15	11.11
Ind-156	157.20	25.?	? .24	? .11	? .15	? .14	? .12	? .23	? .11	? .15	? .14	? .11
Ind-157	39.40	49.?	13.?	15.?	14.?	12.?	23.?	11.?	16.?	14.?	15.?	11.?
Ind-158	25.39	24.49	11.13	15.15	14.14	12.12	23.23	11.11	15.16	14.14	14.15	11.11
Ind-158	159.20	25.?	? .24	? .11	? .15	? .14	? .12	? .23	? .11	? .15	? .14	? .11
Ind-159	39.40	49.?	13.?	15.?	14.?	12.?	23.?	11.?	16.?	14.?	15.?	11.?
Ind-160	25.28	24.29	13.13	15.15	14.14	12.12	23.23	11.11	16.18	14.14	15.15	11.14
Ind-160	161.25	? .24	? .13	? .15	? .14	? .12	? .23	? .11	? .16	? .14	? .15	? .11
Ind-161	28.?	29.?	13.?	15.?	14.?	12.?	23.?	11.?	18.?	14.?	15.?	14.?
Ind-162	25.28	24.29	13.13	15.15	14.14	12.12	23.23	11.11	16.18	14.14	15.15	11.14

Allele frequency spectra

Locus 1

Allele	Pop1	Pop2	Pop3	All
12	0.356	-	0.017	0.193
11	0.430	-	-	0.229
29	0.034	0.127	0.100	0.071
71	0.060	-	-	0.032
72	0.060	-	-	0.032
25	0.013	0.127	0.283	0.100
28	0.027	-	0.050	0.025
30	0.013	-	0.017	0.011
27	0.007	0.113	0.083	0.050
41	-	0.028	-	0.007
52	-	0.127	-	0.032
18	-	0.113	-	0.029
47	-	0.028	-	0.007
48	-	0.028	-	0.007
13	-	0.014	0.083	0.021
43	-	0.042	-	0.011
45	-	0.127	0.017	0.036
46	-	0.099	0.017	0.029
44	-	0.028	-	0.007
31	-	-	0.050	0.011
16	-	-	0.033	0.007
26	-	-	0.017	0.004
24	-	-	0.033	0.007
32	-	-	0.017	0.004
40	-	-	0.100	0.021
39	-	-	0.083	0.018
Total	9	13	16	26
H _{exp}	0.679	0.895	0.870	0.884

Locus 2

Allele	Pop1	Pop2	Pop3	All
13	0.217	-	-	0.095
24	0.492	0.222	0.391	0.380
20	0.017	-	-	0.007
28	0.117	0.022	0.062	0.073
47	0.050	-	-	0.022

Allele	Pop1	Pop2	Pop3	All
31	0.017	-	-	0.007
23	0.042	0.189	0.031	0.088
26	0.008	0.133	0.062	0.062
27	0.042	0.278	0.031	0.117
49	-	0.100	0.219	0.084
54	-	0.011	-	0.004
29	-	0.011	0.078	0.022
52	-	0.011	0.016	0.007
57	-	0.011	-	0.004
11	-	0.011	-	0.004
46	-	-	0.016	0.004
25	-	-	0.031	0.007
48	-	-	0.031	0.007
50	-	-	0.031	0.007
Total	9	11	12	19
H _{exp}	0.691	0.809	0.780	0.692
Locus 3				
Allele	Pop1	Pop2	Pop3	All
11	0.441	0.227	0.387	0.358
13	0.395	0.664	0.516	0.509
12	0.164	0.109	0.097	0.133
Total	3	3	3	3
H _{exp}	0.623	0.496	0.574	0.287
Locus 4				
Allele	Pop1	Pop2	Pop3	All
15	0.625	0.482	0.661	0.583
17	0.224	0.179	0.177	0.199
11	0.105	-	-	0.049
21	0.013	-	0.032	0.012
16	0.020	-	-	0.009
13	0.013	0.312	0.113	0.135
20	-	0.027	-	0.009
19	-	-	0.016	0.003
Total	6	4	5	8
H _{exp}	0.548	0.637	0.517	-0.113
Locus 5				
Allele	Pop1	Pop2	Pop3	All

Allele	Pop1	Pop2	Pop3	All
14	0.500	0.655	0.855	0.620
12	0.500	0.118	0.129	0.299
11	-	0.227	0.016	0.080
Total	2	3	3	3
H _{exp}	0.500	0.506	0.252	-0.594
Locus 6				
Allele	Pop1	Pop2	Pop3	All
12	0.908	0.818	0.887	0.873
11	0.092	0.182	0.113	0.127
Total	2	2	2	2
H _{exp}	0.167	0.298	0.200	-1.373
Locus 7				
Allele	Pop1	Pop2	Pop3	All
10	0.033	0.009	-	0.018
23	0.743	0.300	0.571	0.560
11	0.020	-	-	0.009
15	0.099	0.309	0.159	0.182
16	0.105	0.291	0.254	0.197
18	-	0.091	0.016	0.034
Total	5	5	4	6
H _{exp}	0.425	0.721	0.584	-1.760
Locus 8				
Allele	Pop1	Pop2	Pop3	All
11	0.803	0.673	0.921	0.782
12	0.197	0.209	0.063	0.175
13	-	0.118	0.016	0.043
Total	2	3	3	3
H _{exp}	0.317	0.490	0.148	-2.403
Locus 9				
Allele	Pop1	Pop2	Pop3	All
12	0.079	0.118	0.016	0.080
16	0.283	0.182	0.597	0.309
15	0.145	0.018	0.097	0.093
17	0.414	0.373	0.226	0.364
18	0.079	0.182	0.048	0.108

Allele	Pop1	Pop2	Pop3	All
11	-	0.055	-	0.019
14	-	0.073	-	0.025
21	-	-	0.016	0.003
Total	5	7	6	8
H _{exp}	0.715	0.772	0.581	-2.659
Locus 10				
Allele	Pop1	Pop2	Pop3	All
14	0.138	0.255	0.688	0.285
12	0.322	-	0.047	0.160
15	0.263	0.427	0.125	0.291
23	0.013	-	-	0.006
22	0.079	-	-	0.037
11	0.013	-	-	0.006
21	0.020	-	-	0.009
18	0.026	0.055	-	0.031
17	0.033	0.127	0.062	0.071
16	0.053	0.064	0.062	0.058
20	0.026	-	-	0.012
24	0.007	0.009	-	0.006
25	0.007	-	-	0.003
19	-	0.055	0.016	0.021
26	-	0.009	-	0.003
Total	13	8	6	15
H _{exp}	0.795	0.726	0.501	-2.862
Locus 11				
Allele	Pop1	Pop2	Pop3	All
11	0.257	-	0.016	0.123
15	0.414	0.864	0.790	0.639
14	0.316	0.045	0.113	0.185
16	0.013	-	-	0.006
18	-	0.082	-	0.028
13	-	0.009	0.016	0.006
19	-	-	0.032	0.006
22	-	-	0.016	0.003
20	-	-	0.016	0.003
Total	4	4	7	9
H _{exp}	0.662	0.245	0.361	-3.321
Locus 12				

Allele	Pop1	Pop2	Pop3	All
11	0.342	0.400	0.540	0.400
14	0.132	0.336	0.397	0.252
13	0.526	0.236	0.048	0.335
17	-	0.027	0.016	0.012
Total	3	4	4	4
H _{exp}	0.589	0.670	0.549	-3.657
Average expected heterozygosity				
	Pop1	Pop2	Pop3	All
H _{exp}	1.119	1.211	0.986	-0.154

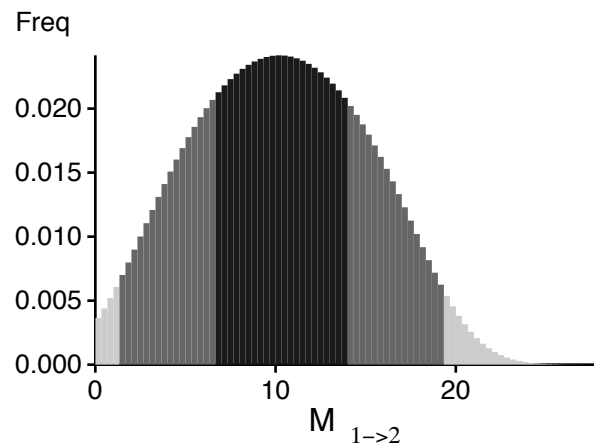
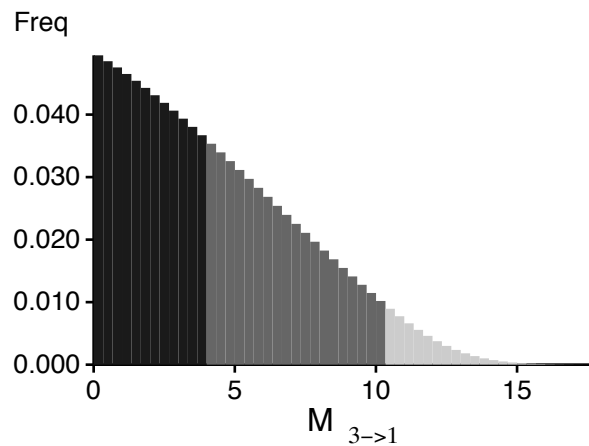
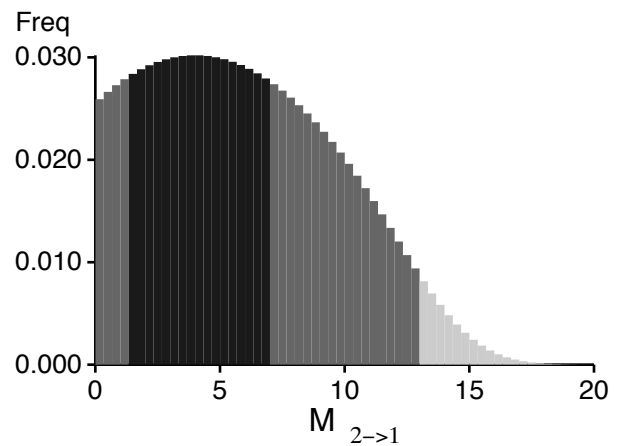
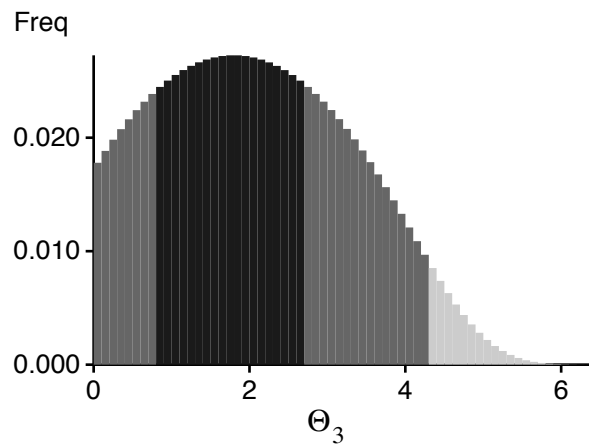
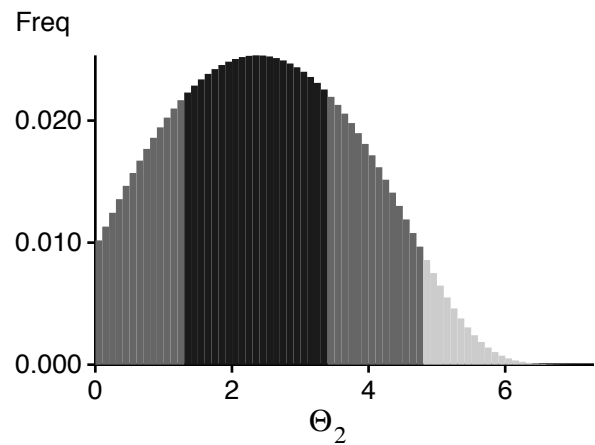
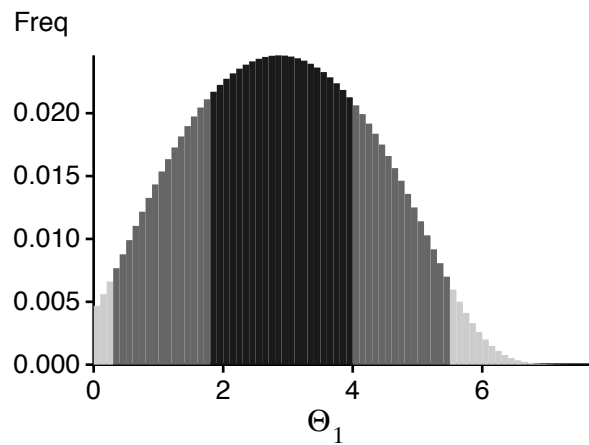
Bayesian Analysis: Posterior distribution table

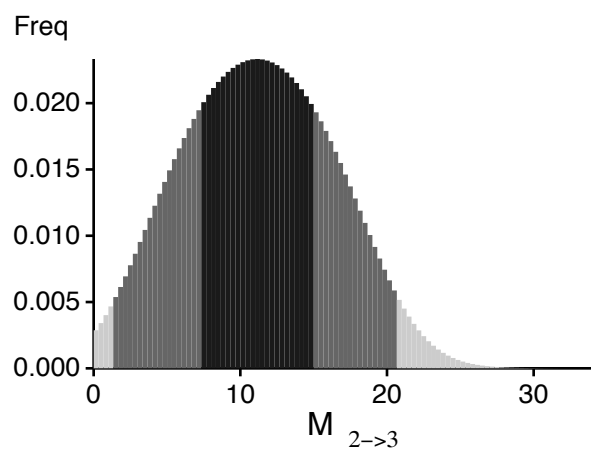
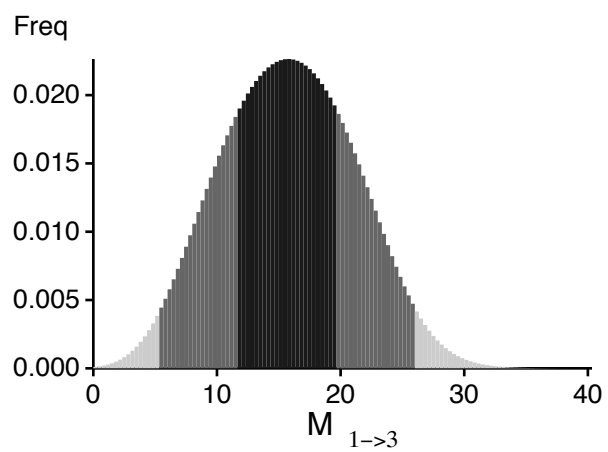
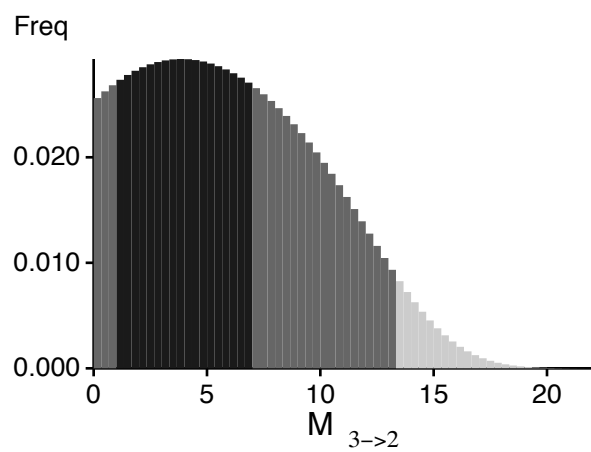
Locus	Parameter	2.5%	25.0%	Mode	75.0%	97.5%	Median	Mean
1	Θ_1	0.00000	0.20000	1.05000	1.90000	3.70000	1.75000	1.09850
1	Θ_2	0.00000	0.50000	1.95000	3.10000	8.70000	2.65000	3.26858
1	Θ_3	0.00000	0.30000	1.95000	3.30000	22.60000	2.95000	5.53060
1	$M_{2 \rightarrow 1}$	0.000	6.000	11.167	15.667	26.000	12.500	12.586
1	$M_{3 \rightarrow 1}$	0.000	5.000	9.167	13.000	18.667	9.833	9.342
1	$M_{1 \rightarrow 2}$	0.000	8.333	14.167	22.333	40.667	18.167	19.358
1	$M_{3 \rightarrow 2}$	0.000	4.333	10.167	19.000	38.000	15.833	16.119
1	$M_{1 \rightarrow 3}$	0.667	7.667	15.500	24.000	46.000	20.167	21.752
1	$M_{2 \rightarrow 3}$	0.000	8.667	14.833	20.667	36.667	16.500	17.303
2	Θ_1	0.00000	1.50000	2.75000	3.90000	5.50000	2.95000	2.74085
2	Θ_2	0.00000	1.10000	2.45000	3.60000	6.70000	2.85000	2.73722
2	Θ_3	0.00000	0.10000	2.65000	5.30000	103.90000	5.15000	20.32829
2	$M_{2 \rightarrow 1}$	0.000	4.667	9.167	13.333	21.000	10.500	9.960
2	$M_{3 \rightarrow 1}$	0.000	2.667	6.167	9.667	15.333	7.500	6.303
2	$M_{1 \rightarrow 2}$	2.000	10.000	16.167	21.667	33.667	17.500	17.499
2	$M_{3 \rightarrow 2}$	0.000	5.333	10.167	14.333	22.333	10.833	10.646
2	$M_{1 \rightarrow 3}$	2.000	12.000	18.833	25.000	35.000	19.167	18.950
2	$M_{2 \rightarrow 3}$	0.000	8.333	13.500	21.000	32.333	16.500	16.398
3	Θ_1	0.00000	1.40000	3.35000	5.40000	33.20000	4.55000	9.30708
3	Θ_2	0.00000	0.60000	2.65000	5.10000	99.10000	4.55000	15.31330
3	Θ_3	0.00000	0.00000	3.15000	47.50000	92.70000	67.95000	69.41544
3	$M_{2 \rightarrow 1}$	0.000	0.000	0.167	5.000	13.667	5.167	4.123
3	$M_{3 \rightarrow 1}$	0.000	0.000	0.167	4.000	13.333	4.167	3.527
3	$M_{1 \rightarrow 2}$	0.000	0.000	0.167	10.667	65.667	10.833	18.584
3	$M_{3 \rightarrow 2}$	0.000	0.000	0.167	7.667	37.000	7.833	11.196
3	$M_{1 \rightarrow 3}$	0.000	0.000	12.833	26.333	194.333	26.500	53.008
3	$M_{2 \rightarrow 3}$	0.000	2.667	11.500	28.000	165.667	25.833	44.483
4	Θ_1	0.00000	1.70000	3.15000	4.40000	6.70000	3.45000	3.35471
4	Θ_2	0.00000	0.40000	1.45000	2.40000	4.50000	1.95000	1.54352
4	Θ_3	0.00000	0.00000	2.25000	47.10000	93.80000	57.95000	61.64141
4	$M_{2 \rightarrow 1}$	0.000	2.333	5.833	9.333	15.000	7.167	5.978
4	$M_{3 \rightarrow 1}$	0.000	0.000	2.167	5.333	12.333	5.500	3.443
4	$M_{1 \rightarrow 2}$	0.000	5.333	10.167	14.667	22.667	11.167	10.739

Locus	Parameter	2.5%	25.0%	Mode	75.0%	97.5%	Median	Mean
4	$M_{3 \rightarrow 2}$	0.000	1.333	4.833	8.333	15.667	7.167	6.113
4	$M_{1 \rightarrow 3}$	0.000	13.333	22.167	34.333	77.333	29.167	34.355
4	$M_{2 \rightarrow 3}$	0.000	11.667	21.833	33.667	72.667	27.833	32.171
5	Θ_1	0.00000	0.80000	2.25000	3.50000	8.40000	2.85000	3.16637
5	Θ_2	0.00000	0.20000	2.15000	3.80000	58.00000	3.55000	9.54822
5	Θ_3	0.00000	0.00000	2.05000	37.80000	126.80000	39.05000	48.88254
5	$M_{2 \rightarrow 1}$	0.000	0.000	0.167	4.667	12.000	4.833	3.057
5	$M_{3 \rightarrow 1}$	0.000	0.000	1.500	5.000	12.333	5.167	3.294
5	$M_{1 \rightarrow 2}$	0.000	2.333	6.167	10.000	18.667	7.833	6.991
5	$M_{3 \rightarrow 2}$	0.000	2.000	6.167	10.000	21.000	8.167	7.497
5	$M_{1 \rightarrow 3}$	0.000	5.000	13.500	25.333	73.000	22.167	28.426
5	$M_{2 \rightarrow 3}$	0.000	0.000	7.500	22.667	148.667	22.833	41.758
6	Θ_1	0.00000	1.90000	3.55000	5.30000	11.60000	4.25000	6.24853
6	Θ_2	0.00000	0.00000	4.45000	49.40000	121.50000	49.35000	57.96955
6	Θ_3	0.40000	0.40000	3.55000	36.20000	42.50000	69.45000	70.29311
6	$M_{2 \rightarrow 1}$	0.000	0.000	0.167	4.000	14.333	4.167	3.836
6	$M_{3 \rightarrow 1}$	0.000	0.000	0.167	3.667	15.000	3.833	3.419
6	$M_{1 \rightarrow 2}$	0.000	1.667	9.833	20.667	151.667	19.167	38.394
6	$M_{3 \rightarrow 2}$	0.000	0.000	0.167	13.000	66.333	13.167	25.788
6	$M_{1 \rightarrow 3}$	0.000	2.000	13.167	37.333	224.333	35.833	69.290
6	$M_{2 \rightarrow 3}$	0.000	0.000	2.833	19.333	219.000	19.500	49.621
7	Θ_1	0.20000	2.10000	3.45000	4.70000	6.70000	3.65000	3.49975
7	Θ_2	0.00000	0.80000	2.25000	3.50000	7.90000	2.85000	2.91916
7	Θ_3	0.00000	0.00000	2.15000	40.40000	76.80000	53.75000	58.05224
7	$M_{2 \rightarrow 1}$	0.000	1.333	4.833	7.667	13.667	6.500	4.722
7	$M_{3 \rightarrow 1}$	0.000	0.000	0.167	4.000	10.667	4.167	2.374
7	$M_{1 \rightarrow 2}$	0.000	6.333	11.167	15.667	24.667	12.167	12.090
7	$M_{3 \rightarrow 2}$	0.000	1.000	4.500	8.000	18.000	6.833	6.018
7	$M_{1 \rightarrow 3}$	3.000	12.333	20.167	30.667	68.000	26.833	32.747
7	$M_{2 \rightarrow 3}$	0.000	5.333	11.500	17.333	47.000	14.500	18.591
8	Θ_1	0.00000	0.90000	2.35000	3.70000	7.80000	3.05000	3.03940
8	Θ_2	0.00000	0.10000	4.15000	32.70000	117.90000	46.35000	55.14229
8	Θ_3	0.00000	0.00000	1.45000	32.40000	64.00000	37.45000	47.58237
8	$M_{2 \rightarrow 1}$	0.000	0.000	0.167	3.667	11.000	3.833	2.798
8	$M_{3 \rightarrow 1}$	0.000	0.000	0.167	4.000	15.667	4.167	4.034
8	$M_{1 \rightarrow 2}$	0.000	2.333	7.833	12.333	39.667	10.500	13.878
8	$M_{3 \rightarrow 2}$	0.000	0.000	0.833	7.667	43.333	7.833	11.815

Locus	Parameter	2.5%	25.0%	Mode	75.0%	97.5%	Median	Mean
8	$M_{1 \rightarrow 3}$	0.000	1.333	11.167	35.667	339.333	34.500	74.427
8	$M_{2 \rightarrow 3}$	0.000	0.000	0.167	10.333	140.000	10.500	32.412
9	Θ_1	0.00000	2.80000	5.35000	8.60000	57.00000	7.55000	13.47330
9	Θ_2	0.00000	0.60000	2.75000	4.70000	23.00000	4.25000	7.18413
9	Θ_3	0.00000	0.00000	1.35000	3.30000	84.80000	3.35000	20.42064
9	$M_{2 \rightarrow 1}$	0.000	2.667	6.500	10.333	17.667	8.167	6.950
9	$M_{3 \rightarrow 1}$	0.000	1.000	4.500	7.333	15.000	6.500	4.919
9	$M_{1 \rightarrow 2}$	0.000	7.000	12.167	19.333	31.667	15.167	14.915
9	$M_{3 \rightarrow 2}$	0.000	0.000	0.167	6.000	18.000	6.167	6.383
9	$M_{1 \rightarrow 3}$	0.000	10.333	19.500	29.000	59.000	23.167	25.456
9	$M_{2 \rightarrow 3}$	0.000	0.333	8.500	14.000	47.667	13.500	16.730
10	Θ_1	0.00000	2.40000	4.15000	5.90000	13.70000	4.85000	6.20885
10	Θ_2	0.00000	0.60000	2.15000	3.60000	32.00000	3.05000	8.89487
10	Θ_3	0.00000	0.00000	0.05000	1.20000	2.90000	1.25000	0.49404
10	$M_{2 \rightarrow 1}$	0.000	5.333	10.500	14.667	22.667	11.500	10.842
10	$M_{3 \rightarrow 1}$	0.000	2.000	5.500	9.000	15.667	7.167	5.825
10	$M_{1 \rightarrow 2}$	0.000	8.333	14.500	21.000	33.667	16.500	16.916
10	$M_{3 \rightarrow 2}$	0.000	3.000	8.167	12.667	27.333	10.500	10.459
10	$M_{1 \rightarrow 3}$	1.000	10.000	16.500	24.333	38.333	19.500	19.597
10	$M_{2 \rightarrow 3}$	0.000	7.000	14.167	21.333	52.333	17.500	20.023
11	Θ_1	0.00000	1.10000	2.55000	3.80000	6.70000	2.95000	2.81986
11	Θ_2	0.00000	0.30000	1.25000	2.20000	4.40000	1.85000	1.39433
11	Θ_3	0.00000	0.00000	2.35000	37.20000	108.40000	65.65000	67.11383
11	$M_{2 \rightarrow 1}$	0.000	1.333	4.833	8.333	15.667	7.167	6.068
11	$M_{3 \rightarrow 1}$	0.000	0.333	3.500	6.333	13.333	5.833	4.244
11	$M_{1 \rightarrow 2}$	0.000	3.333	7.833	11.667	19.667	9.167	8.353
11	$M_{3 \rightarrow 2}$	0.000	0.000	0.167	7.000	22.000	7.167	7.682
11	$M_{1 \rightarrow 3}$	0.000	6.667	13.833	20.667	38.333	16.500	17.009
11	$M_{2 \rightarrow 3}$	3.333	17.667	32.500	43.333	74.000	35.167	36.803
12	Θ_1	0.00000	1.20000	2.85000	4.30000	7.90000	3.45000	3.43452
12	Θ_2	0.00000	0.00000	3.25000	19.40000	131.89999	19.45000	42.33831
12	Θ_3	0.00000	0.10000	1.05000	2.00000	5.00000	1.85000	2.75231
12	$M_{2 \rightarrow 1}$	0.000	1.000	4.167	7.333	14.000	6.167	4.412
12	$M_{3 \rightarrow 1}$	0.000	0.000	0.167	4.000	10.333	4.167	2.301
12	$M_{1 \rightarrow 2}$	0.000	5.333	10.833	16.000	32.000	12.833	13.768
12	$M_{3 \rightarrow 2}$	0.000	0.333	5.500	9.667	30.667	9.167	10.202
12	$M_{1 \rightarrow 3}$	0.000	1.333	7.167	12.000	30.000	10.500	11.217

Locus	Parameter	2.5%	25.0%	Mode	75.0%	97.5%	Median	Mean
12	$M_{2 \rightarrow 3}$	0.000	0.000	0.167	7.333	27.333	7.500	9.750
All	Θ_1	0.20000	1.70000	2.85000	4.00000	5.50000	2.95000	2.86284
All	Θ_2	0.00000	1.20000	2.35000	3.40000	4.80000	2.55000	2.37186
All	Θ_3	0.00000	0.70000	1.75000	2.70000	4.30000	2.15000	1.81863
All	$M_{2 \rightarrow 1}$	0.000	1.000	4.167	7.000	13.000	6.167	4.525
All	$M_{3 \rightarrow 1}$	0.000	0.000	0.167	4.000	10.333	4.167	2.549
All	$M_{1 \rightarrow 2}$	1.000	6.333	10.167	14.000	19.333	10.500	10.211
All	$M_{3 \rightarrow 2}$	0.000	0.667	3.833	7.000	13.333	6.167	4.881
All	$M_{1 \rightarrow 3}$	5.000	11.333	15.833	19.667	26.000	16.167	15.794
All	$M_{2 \rightarrow 3}$	1.000	7.000	11.167	15.000	20.667	11.500	11.156

Bayesian Analysis: Posterior distribution over all loci



Log-Probability of the data given the model (marginal likelihood)

Use this value for Bayes factor calculations:

$BF = \text{Exp}[\ln(\text{Prob}(D \mid \text{thisModel}) - \ln(\text{Prob}(D \mid \text{otherModel}))]$

or as $LBF = 2 (\ln(\text{Prob}(D \mid \text{thisModel}) - \ln(\text{Prob}(D \mid \text{otherModel})))$

shows the support for thisModel]

Locus	Raw thermodynamic score(1a)	Bezier approximation score(1b)	Harmonic mean(2)
1	-354091.03	-58798.34	-800431.45
2	-196577.35	-32173.14	-224187.97
3	-5046.27	-1013.63	-4285.19
4	-22495.86	-3868.84	-14127.59
5	-6970.22	-1249.03	-4360.28
6	-805.16	-219.82	-425.02
7	-73234.89	-11981.38	-52867.14
8	-2448.89	-538.26	-1040.45
9	-18915.84	-3390.11	-11427.98
10	-59356.97	-9949.90	-34466.42
11	-17890.12	-3071.53	-9807.64
12	-17909.60	-3087.78	-6980.20
All	-775608.52	-129208.08	-1164273.66

(1a, 1b and 2) is an approximation to the marginal likelihood, make sure the program run long enough!

(1a, 1b) and (2) should give a similar result, (2) is considered more crude than (1), but (1) needs heating with several well-spaced chains,

(1b) is using a Bezier-curve to get better approximations for runs with low number of heated chains

[Scaling factor = 133.672152

Acceptance ratios for all parameters and the genealogies

Parameter	Accepted changes	Ratio
Θ_1	647375/6691465	0.09675
Θ_2	1791238/6692994	0.26763
Θ_3	3618766/6694040	0.54060
$M_{2 \rightarrow 1}$	377546/6696583	0.05638
$M_{3 \rightarrow 1}$	334114/6697519	0.04989
$M_{1 \rightarrow 2}$	675977/6698067	0.10092
$M_{3 \rightarrow 2}$	607558/6690630	0.09081
$M_{1 \rightarrow 3}$	1236152/6691072	0.18475
$M_{2 \rightarrow 3}$	1199155/6693572	0.17915
Genealogies	24578962/60017878	0.40953

MCMC-Autocorrelation and Effective MCMC Sample Size

Parameter	Autocorrelation	Effective Sampe Size
Θ_1	0.97921	24959.19
Θ_2	0.99030	29183.73
Θ_3	0.94545	24191.41
$M_{2 \rightarrow 1}$	0.95876	33699.99
$M_{3 \rightarrow 1}$	0.97243	30672.33
$M_{1 \rightarrow 2}$	0.96682	32818.61
$M_{3 \rightarrow 2}$	0.98107	33284.17
$M_{1 \rightarrow 3}$	0.91835	38761.67
$M_{2 \rightarrow 3}$	0.95866	40203.80
$\text{Ln}[\text{Prob(DIG)}]$	0.93155	46314.61

Potential Problems

This section reports potential problems with your run, but such reporting is often not very accurate. With many parameters in a multilocus analysis, it is very common that some parameters for some loci will not be very informative, triggering suggestions (for example to increase the prior range) that are not sensible. This suggestion tool will improve with time, therefore do not blindly follow its suggestions. If some parameters are flagged, inspect the tables carefully and judge whether an action is required. For example, if you run a Bayesian inference with sequence data, for macroscopic species there is rarely the need to increase the prior for Theta beyond 0.1; but if you use microsatellites it is rather common that your prior distribution for Theta should have a range from 0.0 to 100 or more. With many populations (>3) it is also very common that some migration routes are estimated poorly because the data contains little or no information for that route. Increasing the range will not help in such situations, reducing number of parameters may help in such situations.

No warning was recorded during the run