

Piñeiro et al. Population fragmentation of two African trees during the Ice Ages

Table S2B.
BROAD TIME MODELS –
Scorodophloeus zenkeri

		NORTH WEST					WEST					SOUTH WEST					EAST				
PARAMETER	PRIOR DISTRIBUTION	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2
N_e	Uniform (1,000-50,000)	2.45E+04	3.36E+03	4.86E+04	0.123	1.000	2.17E+04	2.81E+03	4.77E+04	0.758	0.748	1.85E+04	3.97E+03	4.70E+04	0.936	0.698	1.83E+04	1.94E+03	4.70E+04	0.961	0.716
N_f	Uniform (10-500)	1.86E+02	2.40E+01	4.40E+02	0.284	1.000	2.94E+02	5.82E+01	4.90E+02	0.431	0.798	3.23E+02	4.45E+01	4.94E+02	0.847	0.756	2.79E+02	4.74E+01	4.88E+02	0.594	0.814
t_1	Uniform (0-1900)	1.46E+03	7.33E+02	1.88E+03	0.367	1.000	1.43E+03	6.17E+02	1.89E+03	0.167	0.912						1.45E+03	6.51E+02	1.88E+03	0.209	0.922
t_0	Uniform (0-1900)	6.54E+02	1.71E+02	1.41E+03	0.274	1.000	8.93E+02	2.04E+02	1.64E+03	1.624	0.646	9.88E+02	1.79E+02	1.85E+03	0.865	0.742	8.66E+02	1.57E+02	1.65E+03	1.319	0.682
Mean μ	Logit (1E-05-1E-03)	5.97E-04	2.16E-04	9.76E-04	0.417	1.000	4.50E-04	8.56E-05	9.49E-04	0.704	0.586	5.15E-04	2.13E-04	9.42E-04	0.468	0.672	4.42E-04	8.41E-05	9.49E-04	0.728	0.578
Mean P	Uniform (0.1-0.5)	3.83E-01	2.02E-01	5.00E-01	0.106	0.998	3.25E-01	1.22E-01	4.85E-01	0.117	0.930	4.43E-01	3.31E-01	5.00E-01	0.060	0.972	3.99E-01	1.57E-01	4.97E-01	0.143	0.946
N_e *Mean μ		1.44E+01	2.04E+00	3.89E+01	0.554	0.954	8.86E+00	1.41E+00	3.16E+01	1.258	0.506	9.42E+00	1.93E+00	3.18E+01	1.464	0.564	7.05E+00	1.10E+00	2.79E+01	1.281	0.504
N_f *Mean μ		1.10E-01	1.11E-02	3.00E-01	0.812	0.962	1.31E-01	1.38E-02	3.65E-01	1.208	0.508	1.62E-01	2.26E-02	3.69E-01	0.991	0.676	1.23E-01	1.07E-02	3.53E-01	1.379	0.502
t_1 *Mean μ		8.57E-01	3.12E-01	1.61E+00	0.952	0.6	6.33E-01	1.10E-01	1.51E+00	0.763	0.588	4.49E-01	1.22E-01	9.63E-01	0.346	0.834	6.26E-01	1.11E-01	1.53E+00	0.857	0.576
t_0 *Mean μ		3.44E-01	1.25E-01	7.07E-01	0.798	0.838	3.48E-01	7.50E-02	8.45E-01	0.678	0.752						3.27E-01	6.20E-02	8.19E-01	0.823	0.726

Mean mean posterior distribution; q0.25 quantile 2.5%; q9.75 quantile 97.5%

N_e , N_f effective population sizes; t_1 start of PGM; t_0 end of PGM.

Time priors and posterior probabilities are given in generations

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Greenwayodendron suaveolens

		NORTH WEST					SOUTH WEST					NORTH EAST					SOUTH EAST				
PARAMETER	PRIOR DISTRIBUTION	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2
N_e	Uniform (1,000-50,000)	35800.00	1.32E+04	4.94E+04	0.951	0.72	3.23E+04	1.16E+04	4.92E+04	0.657	0.696	2.72E+04	9.10E+03	4.85E+04	0.602	0.726	3.04E+04	8.32E+03	4.91E+04	0.734	0.746
N_f	Uniform (10-500)	2.50E+02	3.67E+01	4.85E+02	0.63	0.782	3.63E+02	7.60E+01	4.96E+02	0.896	0.756	3.64E+02	7.66E+01	4.96E+02	0.692	0.78	2.16E+02	2.74E+01	4.76E+02	0.546	0.786
t_1	Uniform (0-1900)	1.58E+03	7.89E+02	1.89E+03	0.164	0.92											1.56E+03	7.82E+02	1.89E+03	0.185	0.928
t_0	Uniform (0-1900)	1.00E+03	2.39E+02	1.71E+03	1.017	0.688	1.51E+03	7.45E+02	1.89E+03	1.709	0.726	1.54E+03	8.06E+02	1.89E+03	1.298	0.744	1.02E+03	2.83E+02	1.70E+03	1.792	0.656
Mean μ	Logit (1E-05-1E-03)	7.79E-04	3.92E-04	9.93E-04	0.907	0.544	8.63E-04	6.13E-04	9.95E-04	0.583	0.686	8.61E-04	6.10E-04	9.95E-04	0.489	0.698	7.32E-04	2.99E-04	9.91E-04	0.788	0.588
Mean P	Uniform (0.1-0.5)	4.94E-01	4.74E-01	5.00E-01	0.161	0.922	4.93E-01	4.67E-01	5.00E-01	0.09	0.962	4.72E-01	3.82E-01	5.00E-01	0.082	0.978	4.83E-01	4.17E-01	5.00E-01	0.141	0.932
$N_e * \text{Mean } \mu$		2.74E+01	1.08E+01	4.53E+01	1.764	0.476	2.78E+01	1.02E+01	4.60E+01	1.472	0.544	2.33E+01	7.97E+00	4.42E+01	1.126	0.532	2.15E+01	6.86E+00	4.31E+01	1.034	0.562
$N_f * \text{Mean } \mu$		1.94E-01	2.65E-02	4.26E-01	1.829	0.498	3.11E-01	6.72E-02	4.68E-01	1.354	0.614	3.12E-01	6.66E-02	4.68E-01	1.044	0.62	1.57E-01	1.81E-02	4.04E-01	1.389	0.52
$t_1 * \text{Mean } \mu$		1.23E+00	4.92E-01	1.79E+00	1.009	0.57	1.29E+00	6.69E-01	1.78E+00	0.934	0.776	1.32E+00	7.08E-01	1.78E+00	0.503	0.78	1.14E+00	3.90E-01	1.77E+00	0.92	0.566
$t_0 * \text{Mean } \mu$		7.66E-01	1.76E-01	1.40E+00	0.64	0.706											7.25E-01	1.84E-01	1.32E+00	0.958	0.676

mean mean posterior distribution; q0.25 quantile 2.5%; q9.75 quantile 97.5%

e, N_1 effective population sizes; t_1 start of PGM; t_0 end of PGM.

time priors and posterior probabilities are given in generations

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Table S2C.
NARROW TIME MODELS -
Scorodophloeus zenkeri

		NW					WEST					SOUTH WEST					EAST				
PARAMETER	PRIOR DISTRIBUTION	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2
N_e	Uniform (1,000-50,000)	2.59E+0	4.22E+03	4.86E+04	0.827	0.746	2.21E+04	3.11E	4.78E+04	0.521	0.776	1.55E+04	3.32E+03	4.38E+04	0.355	0.82	1.72E+04	1.84E+03	4.60E+04	0.638	0.750
t_0'	Uniform (1200-1300)	1.25E+0	1.20E+03	1.30E+03	0.001	1.000	1.25E+03	1.20E	1.30E+03	-0.002	1.000	1.25E+03	1.20E+03	1.30E+03	0.002	1.000	1.25E+03	1.20E+03	1.30E+03	0.001	1.000
N_1	Uniform (10-500)	1.46E+0	2.44E+01	4.05E+02	0.244	0.86	2.79E+02	7.08E	4.86E+02	0.343	0.828	3.05E+02	3.86E+01	4.93E+02	1.307	0.734	2.56E+02	5.61E+01	4.82E+02	0.333	0.822
t_1'	Uniform (1400-1900)	1.69E+0	1.43E+03	1.89E+03	0.002	1.000	1.66E+03	1.42E	1.89E+03	0.006	1.000						1.66E+03	1.42E+03	1.89E+03	0.003	1.000
Mean μ	Logit (1E-05-1E-03)	3.12E-04	1.24E-04	6.52E-04	0.242	0.834	3.44E-04	1.20E	7.91E-04	0.156	0.904	4.35E-04	2.08E-04	8.18E-04	0.225	0.912	3.48E-04	1.01E-04	8.07E-04	0.355	0.770
Mean P	Uniform (0.1-0.5)	3.80E-01	1.84E-01	4.95E-01	0.151	0.944	3.17E-01	1.20E	4.82E-01	0.107	0.948	4.47E-01	3.37E-01	5.00E-01	0.053	0.982	4.02E-01	1.58E-01	4.99E-01	0.103	0.958
$N_e * \text{Mean } \mu$		7.61E+0	1.60E+00	2.04E+01	0.485	0.698	6.94E+00	1.44E	2.18E+01	0.453	0.684	6.34E+00	1.48E+00	1.89E+01	0.445	0.762	5.10E+00	1.04E+00	1.79E+01	0.394	0.772
$t_0' * \text{Mean } \mu$		3.90E-01	1.55E-01	8.07E-01	0.242	0.834	4.29E-01	1.50E	9.88E-01	0.152	0.904	5.43E-01	2.59E-01	1.03E+00	0.227	0.91	4.35E-01	1.26E-01	1.01E+00	0.353	0.766
$N_1 * \text{Mean } \mu$		4.10E-02	8.00E-03	1.14E-01	0.341	0.76	8.74E-02	2.47E	2.12E-01	0.318	0.802	1.24E-01	2.05E-02	2.65E-01	1.372	0.71	8.09E-02	1.88E-02	2.11E-01	0.487	0.710
$t_1' * \text{Mean } \mu$		5.29E-01	2.04E-01	1.11E+00	0.258	0.816	5.75E-01	1.87E	1.36E+00	0.173	0.894						5.83E-01	1.56E-01	1.38E+00	0.375	0.746

Mean mean posterior distribution; q0.25 quantile 2.5%; q9.75 quantile 97.5%

N_e , N_1 effective population sizes; t_1' start of PGM; t_0' end of PGM.

Time priors and posterior probabilities are given in generations

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Greenwayodendron suaveolens

		NORTH WEST					SOUTH WEST					NORTH EAST					SOUTH EAST				
PARAMETER	PRIOR DISTRIBUTION	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2	mean	q025	q975	Mean	Factor 2
N_e	Uniform (1,000-50,000)	3.88E+04	1.81E+0	4.97E+0	0.761	0.734	3.28E+04	1.25E+04	4.93E+04	0.415	0.808	2.81E+04	9.92E+03	4.84E+04	0.289	0.84	3.19E+04	1.03E+04	4.93E+04	0.517	0.8
t_0'	Uniform (1200-1300)	1.25E+03	1.20E+0	1.30E+0	-0.001	1	1.25E+03	1.20E+03	1.30E+03	-0.001	1	1.25E+03	1.20E+03	1.30E+03	0.001	1	1.25E+03	1.20E+03	1.30E+03	-0.001	1
N_f	Uniform (10-500)	2.25E+02	4.89E+0	4.75E+0	0.358	0.84	3.75E+02	1.04E+02	4.97E+02	0.948	0.736	3.82E+02	1.17E+02	4.97E+02	0.798	0.728	1.74E+02	3.02E+01	4.54E+02	0.297	0.852
t_1'	Uniform (1400-1900)	1.71E+03	1.43E+0	1.89E+0	0.01	1											1.69E+03	1.42E+03	1.89E+03	0.007	1
Mean μ	Logit (1E-05-1E-03)	6.14E-04	2.52E-04	9.69E-04	0.339	0.772	8.74E-04	6.42E-04	9.95E-04	0.119	0.928	8.73E-04	6.41E-04	9.95E-04	0.149	0.946	7.24E-04	3.61E-04	9.81E-04	0.552	0.688
Mean P	Uniform (0.1-0.5)	4.95E-01	4.78E-01	5.00E-01	0.095	0.948	4.93E-01	4.68E-01	5.00E-01	0.084	0.982	4.74E-01	3.85E-01	5.00E-01	0.087	0.978	4.84E-01	4.25E-01	5.00E-01	0.082	0.974
$N_e * \text{Mean } \mu$		2.35E+01	9.18E+0	4.30E+0	0.431	0.758	2.85E+01	1.10E+01	4.58E+01	0.37	0.772	2.43E+01	8.73E+00	4.41E+01	0.297	0.822	2.27E+01	7.89E+00	4.27E+01	0.384	0.774
$t_0' * \text{Mean } \mu$		7.64E-01	3.14E-01	1.21E+0	0.338	0.772	1.09E+00	8.07E-01	1.27E+00	0.118	0.928	1.09E+00	7.97E-01	1.27E+00	0.149	0.95	9.04E-01	4.49E-01	1.23E+00	0.548	0.688
$N_1 * \text{Mean } \mu$		1.31E-01	3.04E-02	3.33E-01	0.537	0.688	3.26E-01	9.49E-02	4.69E-01	0.875	0.686	3.31E-01	1.05E-01	4.70E-01	0.746	0.7	1.19E-01	2.42E-02	3.21E-01	0.672	0.638
$t_1' * \text{Mean } \mu$		1.06E+00	4.00E-01	1.75E+0	0.371	0.762											1.23E+00	5.62E-01	1.77E+00	0.579	0.684

Mean mean posterior distribution; q0.25 quantile 2.5%; q9.75 quantile 97.5%

N_e , N_1 effective population sizes; t_1' start of PGM; t_0' end of PGM.

Time priors and posterior probabilities are given in generations

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Table S3. Pairwise genetic differentiation between intraspecific nSSR genetic clusters of *Scorodophloeus zenkeri* and *Greenwayodendron suaveolens*.

<i>G. suaveolens</i>				
NORTH EAST				
SOUTH EAST	0.0387			
NORTH WEST	0.1370	0.1504		
SOUTH WEST	0.0472	0.0879	0.1214	
<i>S. zenkeri</i>				
SOUTH WEST				
WEST	0.0731			
CONGO	0.2268	0.2146		
EAST	0.1272	0.0877	0.1865	
NORTH WEST	0.1588	0.1646	0.2264	0.1347

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Table S4 Allelic patterns across individuals

<i>Greenwayodendron suaveolens</i>	NORTH WEST	WEST	NORTH EAST	SOUTH EAST
Na	16.4	17.1	18.6	17.4
Na Freq. >= 5%	3.9	6.1	5.6	5.4
Ne	6.4	6.8	7.1	5.3
I	1.9	2.1	2.3	1.9
No. Private Alleles	2.1	2.1	1.6	1.4
No. LComm Alleles (<=25%)	0.0	0.0	0.0	0.0
No. LComm Alleles (<=50%)	2.0	2.0	2.0	2.3
He	0.7	0.8	0.8	0.8
uHe	0.7	0.8	0.8	0.8
% Private Alleles	13.0	12.4	8.7	7.9

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<i>Scorodophloeus</i>					
<i>zenkeri</i>	NORTH WEST	WEST	SOUTH WEST	EAST	CONGO
Na	6.5	8.3	8.3	8.7	5.4
Na Freq. >= 5%	3.5	3.8	3.7	4.3	3.6
Ne	2.7	3.3	2.9	3.8	2.7
I	1.1	1.4	1.3	1.4	1.1
No. Private Alleles	0.5	0.5	1.0	1.1	0.5
No. LComm Alleles (<=25%)	0.0	0.0	0.0	0.0	0.0
No. LComm Alleles (<=50%)	1.0	0.9	0.9	0.9	0.7
He	0.5	0.6	0.6	0.6	0.5
uHe	0.5	0.6	0.6	0.6	0.5
% Private Alleles	7.7	6.0	12.1	12.6	9.3

I = Shannon's Information Index = $-1 * \sum (p_i * \ln (p_i))$; No. Private Alleles = No. of Alleles Unique to a Single Population;
uHe = Unbiased Expected Heterozygosity = $(2N / (2N-1)) * He$

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Table S5. Posterior probability distributions of demographic parameters for the most likely scenario implemented with DIYABC. Time parameters are given in Kyr BP (1 generation= 100 years). (A) BROAD TIME MODELS: bottleneck and/or expansion from the beginning of the Penultimate Glacial Maxima (PGM, 190 Kyr-0 yr BP) to the present; (B) NARROW TIME MODELS: bottleneck and/or expansion during/after the PGM (190-120 Kyr BP).

	A. BROAD TIME MODELS				B. NARROW TIME MODELS			
	N_e	N_1	Bottleneck	Expansion	N_e'	N_1'	Bottleneck'	Expansion'
<i>Scorodophoeus zenkeri</i>								
NORTH WEST	24500 [3360,48600]	186 [24,440]	146 [73,188]	65.4 [17.1,141]	25900 [4220,48600]	146 [24.4,405]	169 [143,189]	125 [120,130]
WEST	21700 [2810,47700]	294 [58.2,490]	143 [62,189]	89.3 [20.4,164]	22100 [3110,47800]	279 [70.8,486]	166 [142,189]	125 [120,130]
SOUTH WEST	18500 [3970,47000]	323 [44.5,494]		98.8 [17.9,185.0]	15500 [3320,43800]	305 [38.6,493]		125 [120,130]
EAST	18300 [1940,47000]	279 [47.4,488]	145 [65,188]	86.6 [15.7,165.0]	17200 [1840,46000]	256 [56.1,482]	166 [142,189]	125 [120,130]
<i>Greenwayodendron suaveolens</i>								
NORTH WEST	35800 [13200,49400]	250 [3.67,485]	158 [78.9,189]	100 [23.9, 171]	38800 [18100, 49700]	225 [48.9,475]	171 [143,189]	125 [120,130]
SOUTH WEST	32300 [11600, 49200]	363 [7.60,496]		151 [74.5,189]	32800 [12500,49300]	375 [104,497]		125 [120,130]
NORTH EAST	27200 [9100, 48500]	364 [7.66,496]		154 [80.6,189]	28100 [9900,248400]	382 [11.7,497]		125 [120,130]
SOUTH EAST	30400 [8320, 49100]	216 [2.74,476]	156 [78.2, 189]	102 [28.3,170]	31900 [10300,49300]	174 [30.2,454]	169 [142,189]	125 [120,130]

Posterior distribution: Mean (Quantile 2.5%-Quantile 97.5%)

N_e N_1 -effective population sizes; Bottleneck-start time of bottleneck in Kyr BP; Expansion-start time of expansion event in Kyr BP

Prior distributions for Broad Time Models: N_e Uniform (1,000-50,000); N_1 Uniform (10-500); $t_1=t_0$ uniform (0-1900) , t_0 (0-1900), $t_0<t_1$, from the start of the PGM to the present.

Prior distributions for Narrow Time Models: N_e Uniform (1,000-50,000); N_1 Uniform (10-500); t_1' (1400-1900); t_0' (1200-1300), time priors given in generations, t_1' corresponds to the start of PGM; t_0' corresponds to the end of PGM

Time priors are given in generations; time posterior probabilities are given in Kyr BP (generation= 100 years)