

Appendix S12: BioGeoBEARS dispersal sinks and sources

Number of dispersal (range expansion, *e*; jump dispersal, *j*) events for the three time slices (see [Figure 3](#); ~80 Ma, 40 Ma, 20 Ma and 0 Ma) from the DEC+TS+j model (see [Table 3](#)).

Counts of events were averaged across the 100 biogeographic stochastic mappings (BSMs) with standard deviations in parentheses. Rows represent source ranges; columns represent dispersal sinks. Darker shades indicate a higher frequency of dispersal events. The sum and percent of events in each row and column are given on the margins. Regions are abbreviated as follows: A = Andean-Argentinian, B = Neotropical, C = Southern Africa, D = African, E = Madagascan, F = Northern Australia, G = Malesian, H = Indian-Indochinese, I = Neozealandic-Patagonian and J = Eurasiatic.

0-0.20	Mean - All dispersal events (HUE)									
0.21-0.49										
0.5-0.79										
0.8-0.99										
1 +										

TS1 ~80-40 Ma - ALL dispersal (mean of all observed anagenetic 'a', 'd' and cladogenetic 'j' dispersals):

	A	B	C	D	E	F	G	H	I	J	
A	-	0.01 (0.1)	0 (0)	0.02 (0.14)	0 (0)	0.02 (0.14)	0.10 (0.3)	0 (0)	0.05 (0.22)	0 (0)	0.2 4.8%
B	0.02 (0.14)	-	0 (0)	0.02 (0.14)	0.01 (0.1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.05 1.2%
C	0 (0)	0.04 (0.2)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.04 1.0%
D	0 (0)	0.09 (0.29)	0.02 (0.14)	-	0.03 (0.17)	0.03 (0.17)	0.13 (0.37)	0 (0)	0.04 (0.2)	0 (0)	0.34 8.2%
E	0 (0)	0 (0)	0 (0)	0.01 (0.1)	-	0 (0)	0.19 (0.39)	0 (0)	0.02 (0.14)	0 (0)	0.22 5.3%
F	0.09 (0.29)	0 (0)	0 (0)	0.02 (0.14)	0.03 (0.17)	-	0.38 (0.58)	0 (0)	0.27 (0.45)	0 (0)	0.79 19.0%
G	0.76 (0.47)	0.01 (0.1)	0.08 (0.27)	0.27 (0.47)	0.32 (0.47)	0.83 (0.59)	-	0.04 (0.2)	0 (0)	0 (0)	2.31 55.5%
H	0 (0)	0 (0)	0 (0)	0.01 (0.1)	0.02 (0.14)	0 (0)	0 (0)	-	0.01 (0.1)	0 (0)	0.04 1.0%
I	0.03 (0.17)	0 (0)	0 (0)	0.01 (0.1)	0.01 (0.1)	0.12 (0.33)	0 (0)	0 (0)	-	0 (0)	0.17 4.1%
J	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	-	0 0%
	0.9 21.6%	0.15 3.6%	0.1 2.4%	0.36 8.7%	0.42 10.1%	1.0 24.0%	0.8 19.2%	0.04 1.0%	0.39 9.4%	0 0%	4.16 100%

TS2 40-20 Ma: ALL dispersal (mean of all observed anagenetic 'a', 'd' and cladogenetic 'j' dispersals):

	A	B	C	D	E	F	G	H	I	J	
A	-	0.56 (0.54)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.14 (0.35)	0.07 (0.26)	0 (0)	0.77 8.3%
B	0.09 (0.29)	-	0.01 (0.1)	0.02 (0.14)	0.01 (0.1)	0 (0)	0.09 (0.29)	0.74 (0.44)	0 (0)	0 (0)	0.96 10.3%
C	0 (0)	0 (0)	-	0.05 (0.22)	0.1 (0.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.15 1.6%
D	0.02 (0.14)	0.02 (0.14)	0.25 (0.44)	-	0.87 (0.68)	0.06 (0.24)	0 (0)	0.01 (0.1)	0.03 (0.17)	0 (0)	1.26 13.6%
E	0 (0)	0 (0)	0.08 (0.27)	0.84 (0.69)	-	0.02 (0.14)	0 (0)	0 (0)	0.04 (0.2)	0 (0)	0.98 10.5%
F	0.03 (0.17)	0.02 (0.14)	0 (0)	0.27 (0.45)	0.19 (0.39)	-	0.76 (0.43)	0 (0)	0.61 (0.75)	0 (0)	1.88 20.2%
G	0.01 (0.1)	0.74 (0.44)	0 (0)	0.02 (0.14)	0.4 (0.49)	0.27 (0.58)	-	0.44 (0.54)	0.02 (0.14)	0.02 (0.14)	1.92 20.7%
H	0 (0)	0.06 (0.24)	0 (0)	0 (0)	0.02 (0.14)	0 (0)	0.01 (0.1)	-	0 (0)	0 (0)	0.09 1.0%
I	0.57 (0.5)	0.28 (0.45)	0 (0)	0.07 (0.26)	0.09 (0.29)	0.22 (0.42)	0.02 (0.14)	0.02 (0.14)	-	0 (0)	1.27 13.7%
J	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.01 (0.1)	0 (0)	-	0.01 0.1%
	0.72 7.8%	1.68 18.1%	0.34 3.7%	1.27 13.7%	1.68 18.1%	0.57 6.1%	0.88 9.5%	1.36 14.6%	0.77 8.3%	0.02 0.2%	9.29 100%

TS3 20-0 Ma: ALL dispersal (mean of all observed anagenetic 'a', 'd' and cladogenetic 'j' dispersals):

	A	B	C	D	E	F	G	H	I	J	
A	-	0.72 (0.73)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.01 (0.1)	0 (0)	0 (0)	0.73 3.4%
B	4.39 (0.76)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.07 (0.26)	0 (0)	0 (0)	4.46 20.6%
C	0 (0)	0 (0)	-	0.51 (0.83)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.51 2.4%
D	0 (0)	0 (0)	2.26 (0.88)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2.26 10.4%
E	0 (0)	0 (0)	0 (0)	0 (0)	-	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 0%
F	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	-	1 (0.43)	0.08 (0.27)	0.85 (0.66)	0 (0)	1.93 8.9%
G	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1.23 (0.74)	-	5.92 (1.42)	0 (0)	0.02 (0.14)	7.17 33.1%
H	0 (0)	0.16 (0.39)	0 (0)	0 (0)	0 (0)	0.18 (0.39)	2.87 (1.24)	-	0 (0)	0.96 (0.20)	4.17 19.3%
I	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.36 (0.54)	0 (0)	0 (0)	-	0 (0)	0.36 1.7%
J	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.07 (0.29)	0 (0)	-	0.07 0.3%
	4.39 20.3%	0.88 4.1%	2.26 10.4%	0.51 2.4%	0 0%	1.77 8.2%	3.87 17.9%	6.15 28.4%	0.85 3.9%	0.98 4.5%	21.66 100%