

Table S2–1: Number of species-level tetrapod occurrences by bin.*Terrestrial*

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Total
Middle Triassic	Ladinian			54	1		76	21	3		155
	Anisian	11	150	7	2	35	74	86			365
Early Triassic	Olenekian	6	35	13		6	48	95	1		204
	Induan	21	76	1			2	38			138
Late Permian	Changhsingian		37		6		30	79			152
	Wuchiapingian		497			3	32	55			587

Marine

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Total
Middle Triassic	Ladinian	1			4	4	108	1			118
	Anisian				7	24	93	2			126
Early Triassic	Olenekian				1		25	9			35
	Induan										0

Footprints

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Total
Middle Triassic	Ladinian			1			19				20
	Anisian		5			22	13				40
Early Triassic	Olenekian			1		12	13				26
	Induan		1			1					2
Late Permian	Changhsingian						1				1
	Wuchiapingian										0

Table S2–2: Mean number of species-level tetrapod occurrences per collection by bin, as a measure of alpha diversity.*Terrestrial*

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Mean
Middle Triassic	Ladinian			1.77	1		2.25	3.13	3		2.23
	Anisian	3	2.04	1.43	1	1.61	1.49	2.69			1.89
Early Triassic	Olenekian	1.5	1.6	1.27		1.17	1.96	1.83	1		1.48
	Induan	2.09	2.87	1			1	1.35			1.66
Late Permian	Changhsingian		2.5		2.67		5	3.16			3.33
	Wuchiapingian		3.17			2	1.79	3.24			2.55

Marine

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Mean
Middle Triassic	Ladinian	1			2.67	2	2.67	1			1.87
	Anisian				2.75	1.14	1.68	1			1.64
Early Triassic	Olenekian				1		1.35	1.13			1.16
	Induan										

Footprints

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Mean
Middle Triassic	Ladinian			1			1.17				1.09
	Anisian		2.5			1.95	2.83				2.43
Early Triassic	Olenekian			1		3	2.67				2.22
	Induan		1			1					1.00
Late Permian	Changhsingian						1				1.00
	Wuchiapingian										

Table S2–3: Number of occupied one-degree latitude-longitude grid cells per bin.*Terrestrial*

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Total
Middle Triassic	Ladinian			5	1		15	5	1		27
	Anisian	3	22	3	3	11	20	14			76
Early Triassic	Olenekian	4	11	5		3	15	29	1		68
	Induan	7	17	1			2	18			45
Late Permian	Changhsingian		9		2		6	17			34
	Wuchiapingian		32			1	5	11			49

Marine

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Total
Middle Triassic	Ladinian	1			2	3	30	2			38
	Anisian				1	12	26	2			41
Early Triassic	Olenekian				1		12	4			17
	Induan										

Footprints

		80°S	60°S	40°S	20°S	0°	20°N	40°N	60°N	80°N	Total
Middle Triassic	Ladinian			2			6				8
	Anisian		1			9	5				15
Early Triassic	Olenekian			1		5	5				11
	Induan		1			1					2
Late Permian	Changhsingian						1				1
	Wuchiapingian										

Table S4–1: Statistics describing the difference between “true” and estimated proportions of origination and extinction following sampling across all spatial bins (n = 60,000) produced in the main simulation (see Figure 4–3). All values given to three decimal places.

	Raw origination	Raw extinction	BC origination	BC extinction	TT origination	TT extinction
Median	0.136	0.199	0.131	0.192	0.017	-0.016
Inter-quartile range	0.213	0.118	0.234	0.146	0.202	0.107