

Supplementary Information for “Craniodental Morphology and Phylogeny of Marsupials” (Beck et al., 2022 - Bulletin of the American Museum of Natural History)

Supplementary File S3: Unambiguous craniodental synapomorphies for dated total-evidence analysis

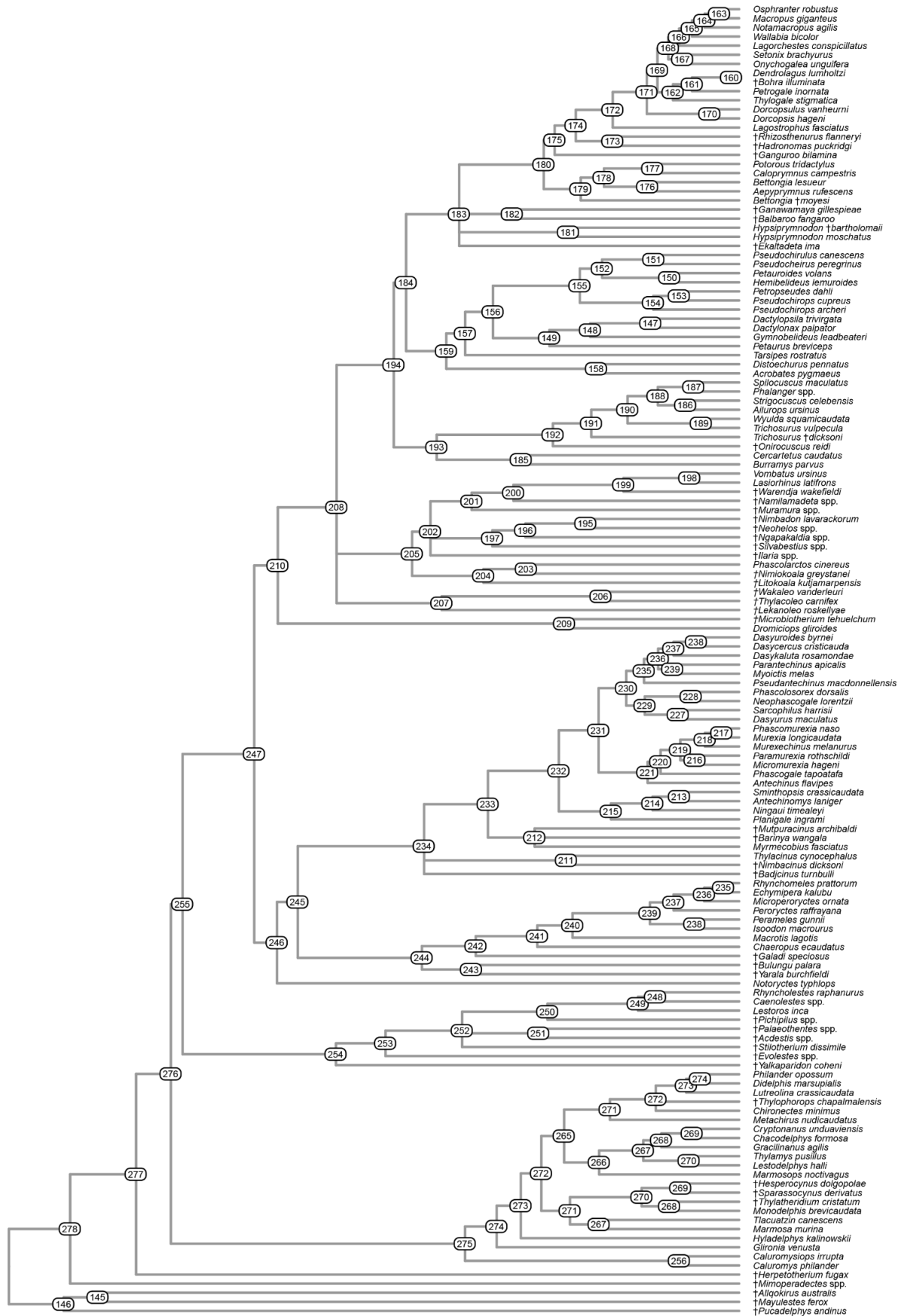


Fig. S4. 50% majority rule consensus of post-burn-in trees that results from dated Bayesian analysis (using combined tip-and-node dating and separate Independent Gamma Rates [IGR] clock models for the molecular and morphological partitions) of our total evidence dataset using MrBayes. For ease of viewing, branch lengths are arbitrary here (see fig. 33 for same topology with branch lengths proportional to time). Node numbers correspond to table S5 below.

Table S5. Summary of unambiguous (i.e. present under both Accelerated and Delayed Transformation) craniodental synapomorphies for all nodes in the topology shown in fig. S4 above (see also fig. 33), calculated using the “DESCRIBE TREES” command in PAUP* 4.0a169. For character and character state descriptions, see main text.

Branch	character number	change	consistency index
node_145 → † <i>Allqokirus australis</i>	40	0 → 1	0.2
node_146 → † <i>Pucadelphys andinus</i>		(none)	
node_146 → node_145	2	1 → 0	0.667
	140	2 → 1	0.333
node_147 → <i>Dactylonax palpator</i>	13	0 → 1	0.143
node_147 → <i>Dactylopsila trivirgata</i>	65	0 → 1	0.143
	168	0 → 1	0.333
	176	0 → 1	0.077
node_148 → <i>Gymnobelideus leadbeateri</i>		(none)	
node_148 → node_147	2	1 → 2	0.667
	14	0 → 1	0.2
	31	0 → 1	0.5
	36	1 → 0	0.111
	78	1 → 0	1
	102	0 → 1	0.25
	110	0 → 1	0.167
	123	0 → 1	0.385
	144	1 → 0	0.2
	163	0 → 1	0.25
node_149 → node_148	50	0 → 1	1

	55	3 → 2	0.3
node_149 → <i>Petaurus breviceps</i>		(none)	
node_150 → <i>Hemibelideus lemuroides</i>	24	0 → 1	0.143
	163	0 → 1	0.25
	171	0 → 1	0.167
node_150 → <i>Petauroides volans</i>	11	0 → 1	0.286
node_151 → <i>Pseudocheirus peregrinus</i>		(none)	
node_151 → <i>Pseudochirulus canescens</i>	18	0 → 1	0.042
	169	0 → 1	0.25
node_152 → node_150	81	0 → 1	0.25
node_152 → node_151		(none)	
node_153 → <i>Petropseudes dahli</i>	37	0 → 1	0.091
node_153 → <i>Pseudochirops cupreus</i>	81	0 → 1	0.25
	110	0 → 1	0.167
node_154 → node_153	171	0 → 1	0.167
node_154 → <i>Pseudochirops archeri</i>		(none)	
node_155 → node_152		(none)	
node_155 → node_154	16	0 → 1	0.25
node_156 → node_149		(none)	
node_156 → node_155	93	1 → 2	0.1
	98	0 → 1	0.063
	118	0 → 1	0.444
	123	0 → 1	0.385
	136	2 → 0	0.25
	144	1 → 0	0.2
	165	0 → 1	0.286
	177	0 → 1	0.25
	178	1 → 0	0.333
node_157 → node_156	45	0 → 1	0.125
node_157 → <i>Tarsipes rostratus</i>	2	1 → 0	0.667
	10	0 → 1	0.063
	21	0 → 1	1
	51	1 → 0	0.2

	55	$3 \rightarrow 2$	0.3
	58	$0 \rightarrow 1$	0.167
	59	$2 \rightarrow 1$	0.214
	70	$0 \rightarrow 1$	1
	75	$0 \rightarrow 1$	0.2
	77	$1 \rightarrow 0$	0.25
	85	$1 \rightarrow 0$	0.5
	92	$0 \rightarrow 1$	0.5
	96	$0 \rightarrow 1$	1
	99	$1 \rightarrow 3$	0.333
	113	$0 \rightarrow 1$	1
node_158 $\rightarrow$ <i>Acrobates pygmaeus</i>	144	$1 \rightarrow 0$	0.2
	161	$0 \rightarrow 1$	0.667
		$4 \rightarrow$	
node_158 $\rightarrow$ <i>Distoechurus pennatus</i>	130	{012}	0.089
	175	$0 \rightarrow 1$	0.083
node_159 $\rightarrow$ node_157		(none)	
node_159 $\rightarrow$ node_158	53	$0 \rightarrow 1$	1
	56	$0 \rightarrow 2$	0.667
	62	$0 \rightarrow 1$	1
	63	$0 \rightarrow 1$	1
	66	$1 \rightarrow 2$	0.286
	80	$0 \rightarrow 1$	0.5
	88	$0 \rightarrow 1$	1
	110	$0 \rightarrow 1$	0.167
	119	$2 \rightarrow 0$	0.118
	129	$0 \rightarrow 1$	0.667
	133	$0 \rightarrow 1$	0.2
node_160 $\rightarrow$ † <i>Bohra illuminata</i>	18	$0 \rightarrow 1$	0.042
node_160 $\rightarrow$ <i>Dendrolagus lumholtzi</i>	23	$1 \rightarrow 0$	0.125
node_161 $\rightarrow$ node_160	44	$0 \rightarrow 1$	0.25
node_161 $\rightarrow$ <i>Petrogale inornata</i>	22	$1 \rightarrow 2$	0.167
	58	$0 \rightarrow 1$	0.167

	86	1 → 0	0.333
	87	0 → 1	0.25
	130	2 → 3	0.089
node_162 → node_161	126	1 → 0	0.154
node_162 → <i>Thylogale stigmatica</i>	84	1 → 0	0.067
node_163 → <i>Macropus giganteus</i>	118	2 → 3	0.444
	123	2 → 1	0.385
node_164 → node_163	36	1 → 0	0.111
	130	2 → 3	0.089
	131	0 → 1	1
node_164 → <i>Notamacropus agilis</i>	71	0 → 1	0.2
node_165 → node_164	22	1 → 2	0.167
node_166 → <i>Lagorchestes conspicillatus</i>	126	1 → 2	0.154
	173	0 → 1	0.045
node_166 → node_165	58	0 → 1	0.167
node_167 → <i>Onychogalea unguifera</i>	22	1 → 2	0.167
	47	1 → 2	0.333
	118	2 → 3	0.444
	126	1 → 0	0.154
	173	0 → 1	0.045
node_167 → <i>Setonix brachyurus</i>	29	0 → 1	1
	84	1 → 0	0.067
	91	0 → 1	0.2
	130	2 → 0	0.089
node_168 → node_166		(none)	
node_169 → node_162		(none)	
node_169 → node_168		(none)	
node_170 → <i>Dorcopsis hageni</i>	43	0 → 1	0.091
	45	0 → 1	0.125
	176	1 → 0	0.077
node_170 → <i>Dorcopsulus vanheurni</i>	6	1 → 0	0.125
	130	2 → 0	0.089
	173	0 → 1	0.045

node_171 → node_170	22	1 → 2	0.167
	84	1 → 0	0.067
node_172 → <i>Lagostrophus fasciatus</i>	28	0 → 1	0.2
	146	0 → 1	1
	176	1 → 0	0.077
node_172 → node_171		(none)	
node_173 → † <i>Hadronomas puckridgi</i>	73	0 → 1	0.5
node_174 → node_172	6	0 → 1	0.125
	106	0 → 1	1
node_174 → node_173		(none)	
node_175 → † <i>Ganguroo bilamina</i>	19	1 → 0	0.4
	84	1 → 0	0.067
	98	0 → 1	0.063
	130	2 → 0	0.089
node_175 → node_174	22	2 → 1	0.167
node_176 → <i>Aepyprymnus rufescens</i>	93	1 → 2	0.1
	176	0 → 1	0.077
node_176 → <i>Bettongia lesueur</i>	110	0 → 1	0.167
node_177 → <i>Caloprymnus campestris</i>	6	0 → 1	0.125
	59	1 → 2	0.214
	126	1 → 0	0.154
node_177 → <i>Potorous tridactylus</i>	3	0 → 1	0.333
	13	1 → 0	0.143
	14	1 → 0	0.2
	18	0 → 1	0.042
	36	1 → 0	0.111
	75	0 → 1	0.2
	125	1 → 0	0.2
node_178 → node_176		(none)	
node_178 → node_177	54	2 → 1	0.182
	126	2 → 1	0.154
node_179 → node_178	27	1 → 0	0.059
node_180 → node_175	26	1 → 0	0.071

	144	$1 \rightarrow 2$	0.2
	145	$0 \rightarrow 1$	0.5
	176	$0 \rightarrow 1$	0.077
node_181 $\rightarrow$ <i>Hypsiprymnodon</i> † <i>bartholomaii</i>	26	$1 \rightarrow 0$	0.071
node_181 $\rightarrow$ <i>Hypsiprymnodon moschatus</i>	27	$1 \rightarrow 0$	0.059
	75	$0 \rightarrow 1$	0.2
node_182 $\rightarrow$ † <i>Balbaroo fangaroo</i>	180	$0 \rightarrow 1$	0.333
node_182 $\rightarrow$ † <i>Ganawamaya gillespieae</i>	17	$1 \rightarrow 0$	0.286
	84	$1 \rightarrow 0$	0.067
node_183 $\rightarrow$ † <i>Ekaltadeta ima</i>	17	$1 \rightarrow 0$	0.286
	22	$2 \rightarrow 1$	0.167
	27	$1 \rightarrow 2$	0.059
	60	$1 \rightarrow 2$	0.333
	169	$1 \rightarrow 2$	0.25
node_183 $\rightarrow$ node_180	43	$1 \rightarrow 0$	0.091
	59	$2 \rightarrow 1$	0.214
	117	$1 \rightarrow 2$	0.667
	125	$0 \rightarrow 1$	0.2
	127	$0 \rightarrow 1$	0.4
node_183 $\rightarrow$ node_181	168	$0 \rightarrow 1$	0.333
node_183 $\rightarrow$ node_182	98	$0 \rightarrow 1$	0.063
	125	$0 \rightarrow 1$	0.2
	144	$1 \rightarrow 2$	0.2
	145	$0 \rightarrow 1$	0.5
node_184 $\rightarrow$ node_159	14	$1 \rightarrow 0$	0.2
	19	$1 \rightarrow 0$	0.4
	27	$1 \rightarrow 0$	0.059
	120	$0 \rightarrow 2$	0.118
	123	$2 \rightarrow 0$	0.385
node_184 $\rightarrow$ node_183	8	$0 \rightarrow 1$	0.118
	13	$0 \rightarrow 1$	0.143
	16	$0 \rightarrow 1$	0.25
	26	$0 \rightarrow 1$	0.071

	38	$0 \rightarrow 1$	0.071
	49	$0 \rightarrow 1$	0.143
	99	$1 \rightarrow 2$	0.333
	114	$0 \rightarrow 1$	0.2
	126	$1 \rightarrow 2$	0.154
	127	$1 \rightarrow 0$	0.4
	130	$4 \rightarrow 2$	0.089
node_185 $\rightarrow$ <i>Burramys parvus</i>	12	$0 \rightarrow 1$	1
	49	$0 \rightarrow 1$	0.143
	65	$0 \rightarrow 1$	0.143
	114	$0 \rightarrow 1$	0.2
	126	$1 \rightarrow 2$	0.154
	159	$0 \rightarrow 1$	0.4
	164	$0 \rightarrow 2$	0.667
	169	$1 \rightarrow 0$	0.25
node_185 $\rightarrow$ <i>Cercartetus caudatus</i>	52	$1 \rightarrow 0$	0.231
	58	$0 \rightarrow 1$	0.167
	133	$0 \rightarrow 1$	0.2
	177	$0 \rightarrow 1$	0.25
	46	$3 \rightarrow \{02\}$	0.111
node_186 $\rightarrow$ <i>Ailurops ursinus</i>	125	$0 \rightarrow 1$	0.2
node_186 $\rightarrow$ <i>Strigocuscus celebensis</i>	98	$1 \rightarrow 0$	0.063
node_187 $\rightarrow$ <i>Phalanger</i> spp.	67	$1 \rightarrow 0$	0.2
	116	$1 \rightarrow 0$	0.333
	130	$3 \rightarrow 2$	0.089
node_187 $\rightarrow$ <i>Spilocuscus maculatus</i>	127	$0 \rightarrow 1$	0.4
node_188 $\rightarrow$ node_186		(none)	
node_188 $\rightarrow$ node_187	110	$0 \rightarrow 1$	0.167
node_189 $\rightarrow$ <i>Trichosurus vulpecula</i>	8	$0 \rightarrow 1$	0.118
node_189 $\rightarrow$ <i>Wyulda squamicaudata</i>	98	$1 \rightarrow 0$	0.063
node_190 $\rightarrow$ node_188	25	$0 \rightarrow 1$	0.143
	170	$0 \rightarrow 2$	0.5

node_190 → node_189	130	3 → 2	0.089
node_191 → node_190		(none)	
node_192 → † <i>Onirocuscus reidi</i>	170	0 → 2	0.5
node_192 → node_191		(none)	
node_193 → node_185	27	1 → 0	0.059
	43	1 → 0	0.091
node_193 → node_192	10	0 → 1	0.063
	87	0 → 1	0.25
	90	0 → 1	1
	127	1 → 0	0.4
	168	0 → 1	0.333
	177	0 → 2	0.25
node_194 → node_184		(none)	
node_194 → node_193		(none)	
node_196 → † <i>Ngapakaldia</i> spp.	7	0 → 1	1
	98	1 → 0	0.063
node_196 → node_195		(none)	
node_197 → node_196	10	0 → 1	0.063
node_198 → <i>Lasiorhinus latifrons</i>	9	0 → 1	1
	93	2 → 1	0.1
	159	0 → 1	0.4
node_198 → <i>Vombatus ursinus</i>	178	1 → 0	0.333
node_199 → † <i>Warendja wakefieldi</i>	26	1 → 0	0.071
node_199 → node_198	22	2 → 0	0.167
	24	0 → 1	0.143
	27	1 → 0	0.059
	74	0 → 1	1
	97	0 → 1	0.333
node_200 → † <i>Namilamadeta</i> spp.	8	1 → 2	0.118
	130	4 → 0	0.089
node_200 → node_199	6	1 → 0	0.125
	56	0 → 1	0.667
	75	0 → 1	0.2

	123	1 → 3	0.385
	128	0 → 1	1
		2 →	
node_201 → † <i>Muramura</i> spp.	22	{01}	0.167
	173	0 → 1	0.045
node_201 → node_200	67	1 → 0	0.2
node_202 → † <i>Ilaria</i> spp.	97	0 → 1	0.333
	99	1 → 0	0.333
	137	0 → 1	0.4
node_202 → node_197	33	0 → 1	0.5
	144	1 → 2	0.2
	161	0 → 1	0.667
	167	0 → 1	0.5
	173	0 → 1	0.045
node_202 → node_201	98	1 → 0	0.063
	132	0 → 1	0.333
node_203 → † <i>Nimiokoala greystanei</i>	170	0 → 1	0.5
	173	0 → 1	0.045
node_203 → <i>Phascolarctos cinereus</i>	23	0 → 1	0.125
	97	0 → 1	0.333
	171	0 → 1	0.167
node_204 → † <i>Litokoala kutjamarpens</i>		(none)	
node_204 → node_203	13	0 → 1	0.143
node_205 → node_202	26	0 → 1	0.071
	32	0 → 1	0.083
	73	0 → 1	0.5
	79	0 → 5	0.625
	86	1 → 2	0.333
	101	0 → 1	0.333
node_205 → node_204	52	1 → 2	0.231
	77	0 → 1	0.25
	165	0 → 1	0.286
node_206 → † <i>Thylacoleo carnifex</i>	26	0 → 1	0.071

	56	$0 \rightarrow 1$	0.667
	93	$1 \rightarrow 2$	0.1
	98	$1 \rightarrow 0$	0.063
	110	$0 \rightarrow 1$	0.167
	129	$1 \rightarrow 2$	0.667
node_206 $\rightarrow$ † <i>Wakaleo vanderleuri</i>	46	$0 \rightarrow 1$	0.111
node_207 $\rightarrow$ † <i>Lekanoleo roskellyae</i>	51	$1 \rightarrow 0$	0.2
	52	$1 \rightarrow 0$	0.231
	86	$1 \rightarrow 2$	0.333
node_207 $\rightarrow$ node_206	8	$0 \rightarrow 2$	0.118
	129	$0 \rightarrow 1$	0.667
	172	$0 \rightarrow 1$	0.333
	175	$0 \rightarrow 1$	0.083
node_208 $\rightarrow$ node_194	55	$1 \rightarrow 3$	0.3
	59	$1 \rightarrow 2$	0.214
	68	$0 \rightarrow 1$	0.154
	77	$0 \rightarrow 1$	0.25
	79	$0 \rightarrow 4$	0.625
node_208 $\rightarrow$ node_205	8	$0 \rightarrow 1$	0.118
	93	$1 \rightarrow 2$	0.1
	114	$0 \rightarrow 1$	0.2
	116	$0 \rightarrow 1$	0.333
	125	$0 \rightarrow 1$	0.2
	154	$0 \rightarrow 1$	1
	174	$0 \rightarrow 1$	0.333
node_208 $\rightarrow$ node_207	43	$1 \rightarrow 0$	0.091
	133	$0 \rightarrow 1$	0.2
	163	$0 \rightarrow 1$	0.25
	165	$0 \rightarrow 2$	0.286
node_209 $\rightarrow$ † <i>Microbiotherium tehuelchum</i>	34	$1 \rightarrow 0$	0.143
node_209 $\rightarrow$ <i>Dromiciops gliroides</i>	98	$1 \rightarrow 0$	0.063
node_210 $\rightarrow$ node_208	14	$0 \rightarrow 1$	0.2
	23	$1 \rightarrow 0$	0.125

	27	$0 \rightarrow 1$	0.059
	47	$0 \rightarrow 1$	0.333
	54	$0 \rightarrow 2$	0.182
	84	$0 \rightarrow 1$	0.067
	85	$0 \rightarrow 1$	0.5
	123	$0 \rightarrow 1$	0.385
	130	$2 \rightarrow 4$	0.089
	132	$1 \rightarrow 0$	0.333
	143	$0 \rightarrow 1$	0.4
	147	$0 \rightarrow 1$	0.5
	148	$1 \rightarrow 3$	0.75
	152	$0 \rightarrow 1$	1
	160	$0 \rightarrow 1$	0.125
	178	$0 \rightarrow 1$	0.333
node_210 $\rightarrow$ node_209	48	$0 \rightarrow 1$	1
	55	$1 \rightarrow 2$	0.3
	68	$0 \rightarrow 2$	0.154
	103	$2 \rightarrow 0$	0.333
node_211 $\rightarrow$ <i>Thylacinus cynocephalus</i>	5	$0 \rightarrow 1$	1
	24	$0 \rightarrow 1$	0.143
	151	$0 \rightarrow 1$	1
	163	$0 \rightarrow 2$	0.25
	175	$0 \rightarrow 1$	0.083
	179	$0 \rightarrow 1$	0.333
node_212 $\rightarrow$ † <i>Barinya wangala</i>	95	$0 \rightarrow 1$	0.2
node_212 $\rightarrow$ <i>Myrmecobius fasciatus</i>	6	$0 \rightarrow 1$	0.125
	22	$0 \rightarrow 1$	0.167
	23	$1 \rightarrow 0$	0.125
	27	$1 \rightarrow 0$	0.059
	36	$1 \rightarrow 0$	0.111
	40	$1 \rightarrow 0$	0.2
	42	$0 \rightarrow 1$	1
	46	$0 \rightarrow 1$	0.111

	47	$0 \rightarrow 1$	0.333
	99	$0 \rightarrow 1$	0.333
	102	$0 \rightarrow 1$	0.25
	119	$2 \rightarrow 0$	0.118
	149	$0 \rightarrow 1$	0.25
	159	$0 \rightarrow 2$	0.4
	161	$0 \rightarrow 2$	0.667
	167	$0 \rightarrow 1$	0.5
	172	$0 \rightarrow 1$	0.333
	176	$0 \rightarrow 1$	0.077
node_213 $\rightarrow$ <i>Sminthopsis crassicaudata</i>	175	$1 \rightarrow 0$	0.083
	176	$0 \rightarrow 1$	0.077
node_214 $\rightarrow$ node_213	26	$0 \rightarrow 1$	0.071
	157	$1 \rightarrow 0$	0.111
node_215 $\rightarrow$ node_214	38	$0 \rightarrow 1$	0.071
node_215 $\rightarrow$ <i>Planigale ingrami</i>	51	$1 \rightarrow 0$	0.2
	142	$1 \rightarrow 0$	0.071
node_217 $\rightarrow$ <i>Phascomurexia naso</i>	120	$1 \rightarrow 2$	0.118
node_218 $\rightarrow$ <i>Murexechinus melanurus</i>		(none)	
node_219 $\rightarrow$ node_216		(none)	
node_220 $\rightarrow$ node_219		(none)	
node_220 $\rightarrow$ <i>Phascogale tapoatafa</i>	34	$0 \rightarrow 1$	0.143
	150	$1 \rightarrow 0$	0.167
node_221 $\rightarrow$ node_220		(none)	
		$0 \rightarrow$	
node_222 $\rightarrow$ <i>Dasycercus cristicauda</i>	46	{12}	0.111
node_222 $\rightarrow$ <i>Dasyuroides byrnei</i>	130	$0 \rightarrow 1$	0.089
node_223 $\rightarrow$ <i>Dasykaluta rosamondae</i>	18	$0 \rightarrow 1$	0.042
	122	$0 \rightarrow 1$	0.5
node_223 $\rightarrow$ node_222	136	$0 \rightarrow 1$	0.25
node_224 $\rightarrow$ <i>Myoictis melas</i>	18	$0 \rightarrow 1$	0.042
	27	$0 \rightarrow 1$	0.059
	142	$1 \rightarrow 0$	0.071

	175	1 → 0	0.083
node_224 → <i>Parantechinus apicalis</i>	10	0 → 1	0.063
	45	1 → 0	0.125
	46	0 → 1	0.111
node_225 → node_223	94	0 → 1	1
node_225 → node_224		(none)	
node_226 → node_225		(none)	
node_226 → <i>Pseudantechinus macdonnellensis</i>		(none)	
node_227 → <i>Dasyurus maculatus</i>	38	0 → 1	0.071
node_227 → <i>Sarcophilus harrisii</i>	158	0 → 1	0.5
	163	0 → 1	0.25
	175	0 → 1	0.083
node_228 → <i>Neophascogale lorentzii</i>	40	1 → 0	0.2
	130	0 → 2	0.089
	139	0 → 1	0.333
node_229 → node_227	18	0 → 1	0.042
	27	0 → 2	0.059
	95	0 → 1	0.2
	122	0 → 1	0.5
	136	0 → 1	0.25
node_229 → node_228	142	1 → 0	0.071
node_230 → node_226	175	0 → 1	0.083
node_230 → node_229		(none)	
node_231 → node_221	142	1 → 0	0.071
node_231 → node_230		(none)	
node_232 → node_215	175	0 → 1	0.083
node_232 → node_231		(none)	
node_233 → node_212	124	1 → 2	0.667
node_233 → node_232	18	1 → 0	0.042
	27	1 → 0	0.059
	30	1 → 0	0.25
	45	0 → 1	0.125
	68	0 → 2	0.154

	79	$0 \rightarrow 3$	0.625
	130	$4 \rightarrow 0$	0.089
node_234 $\rightarrow$ † <i>Badjcinus turnbulli</i>	67	$1 \rightarrow 0$	0.2
	136	$0 \rightarrow 1$	0.25
	163	$0 \rightarrow 1$	0.25
node_234 $\rightarrow$ node_211	43	$1 \rightarrow 0$	0.091
	156	$0 \rightarrow 2$	0.118
node_234 $\rightarrow$ node_233	25	$1 \rightarrow 0$	0.143
	52	$1 \rightarrow 0$	0.231
	55	$1 \rightarrow 2$	0.3
node_235 $\rightarrow$ <i>Echymipera kalubu</i>	142	$1 \rightarrow 0$	0.071
	171	$0 \rightarrow 1$	0.167
node_236 $\rightarrow$ <i>Microperoryctes ornata</i>	35	$0 \rightarrow 1$	0.25
	45	$1 \rightarrow 0$	0.125
	93	$1 \rightarrow 0$	0.1
node_236 $\rightarrow$ node_235	103	$0 \rightarrow 1$	0.333
node_237 $\rightarrow$ node_236	112	$0 \rightarrow 3$	0.375
node_237 $\rightarrow$ <i>Peroryctes raffrayana</i>	11	$0 \rightarrow 1$	0.286
	111	$1 \rightarrow 0$	0.143
node_238 $\rightarrow$ <i>Isoodon macrourus</i>	27	$0 \rightarrow 1$	0.059
	46	$0 \rightarrow 3$	0.111
	171	$0 \rightarrow 1$	0.167
node_238 $\rightarrow$ <i>Perameles gunnii</i>	35	$0 \rightarrow 1$	0.25
node_239 $\rightarrow$ node_237	8	$2 \rightarrow 0$	0.118
	38	$1 \rightarrow 0$	0.071
	84	$1 \rightarrow 0$	0.067
	130	$2 \rightarrow 0$	0.089
	142	$0 \rightarrow 1$	0.071
	176	$1 \rightarrow 0$	0.077
node_239 $\rightarrow$ node_238		(none)	
node_240 $\rightarrow$ <i>Macrotis lagotis</i>	10	$1 \rightarrow 0$	0.063
	11	$0 \rightarrow 1$	0.286
	46	$0 \rightarrow 3$	0.111

	93	$1 \rightarrow 2$	0.1
	119	$2 \rightarrow 1$	0.118
	139	$1 \rightarrow 0$	0.333
	143	$1 \rightarrow 2$	0.4
	159	$0 \rightarrow 1$	0.4
	171	$0 \rightarrow 1$	0.167
	173	$0 \rightarrow 1$	0.045
node_240 $\rightarrow$ node_239	15	$0 \rightarrow 1$	1
	120	$1 \rightarrow 2$	0.118
node_241 $\rightarrow$ <i>Chaeropus ecaudatus</i>	35	$0 \rightarrow 1$	0.25
	55	$1 \rightarrow 2$	0.3
	112	$0 \rightarrow 3$	0.375
	137	$1 \rightarrow 0$	0.4
	138	$1 \rightarrow 0$	0.333
	156	$1 \rightarrow 0$	0.118
	169	$1 \rightarrow 0$	0.25
	170	$0 \rightarrow 1$	0.5
node_241 $\rightarrow$ node_240		(none)	
node_242 $\rightarrow$ † <i>Galadi speciosus</i>	93	$1 \rightarrow 2$	0.1
node_242 $\rightarrow$ node_241	3	$0 \rightarrow 1$	0.333
	8	$0 \rightarrow 2$	0.118
	26	$0 \rightarrow 1$	0.071
	38	$0 \rightarrow 1$	0.071
	84	$0 \rightarrow 1$	0.067
	176	$0 \rightarrow 1$	0.077
node_243 $\rightarrow$ † <i>Bulungu palara</i>		(none)	
node_243 $\rightarrow$ † <i>Yarala burchfieldi</i>	134	$0 \rightarrow 1$	0.25
	173	$0 \rightarrow 1$	0.045
	176	$0 \rightarrow 1$	0.077
node_244 $\rightarrow$ node_242	143	$0 \rightarrow 1$	0.4
node_244 $\rightarrow$ node_243	35	$0 \rightarrow 1$	0.25
node_245 $\rightarrow$ node_234	1	$0 \rightarrow 1$	1
	18	$0 \rightarrow 1$	0.042

	40	$0 \rightarrow 1$	0.2
	134	$0 \rightarrow 1$	0.25
	173	$0 \rightarrow 1$	0.045
	180	$0 \rightarrow 1$	0.333
node_245 $\rightarrow$ node_244	20	$0 \rightarrow 1$	1
	89	$0 \rightarrow 1$	1
	138	$0 \rightarrow 1$	0.333
	139	$0 \rightarrow 1$	0.333
	158	$0 \rightarrow 1$	0.5
node_246 $\rightarrow$ node_245	149	$1 \rightarrow 0$	0.25
node_246 $\rightarrow$ <i>Notoryctes typhlops</i>	3	$0 \rightarrow 1$	0.333
	12	$0 \rightarrow 2$	1
	17	$0 \rightarrow 2$	0.286
	24	$0 \rightarrow 1$	0.143
	26	$0 \rightarrow 1$	0.071
	55	$1 \rightarrow$ $\{23\}$	0.3
	57	$0 \rightarrow 1$	0.5
	59	$1 \rightarrow 2$	0.214
	64	$0 \rightarrow 2$	0.5
	68	$0 \rightarrow 2$	0.154
	77	$0 \rightarrow 1$	0.25
	78	$1 \rightarrow 2$	1
	79	$0 \rightarrow 4$	0.625
	92	$0 \rightarrow 1$	0.5
	93	$1 \rightarrow 0$	0.1
	114	$0 \rightarrow 1$	0.2
	118	$0 \rightarrow 4$	0.444
	137	$1 \rightarrow 2$	0.4
	166	$0 \rightarrow 1$	0.5
node_247 $\rightarrow$ node_210	137	$1 \rightarrow 0$	0.4
node_247 $\rightarrow$ node_246	25	$0 \rightarrow 1$	0.143
node_248 $\rightarrow$ <i>Rhyncholestes raphanurus</i>	11	$0 \rightarrow 2$	0.286

	37	0 → 1	0.091
	54	0 → 1	0.182
node_249 → <i>Lestoros inca</i>	79	0 → 2	0.625
node_249 → node_248	133	0 → 1	0.2
node_250 → † <i>Pichipilus</i> spp.	136	2 → 0	0.25
node_251 → † <i>Acdestis</i> spp.	164	0 → 1	0.667
	179	0 → 1	0.333
node_251 → † <i>Palaeothentes</i> spp.	38	0 → 1	0.071
node_252 → † <i>Stilotherium dissimile</i>	133	0 → 1	0.2
	134	0 → 1	0.25
	149	1 → 0	0.25
node_252 → node_250	4	0 → 1	1
node_252 → node_251	169	1 → 0	0.25
node_253 → † <i>Evolestes</i> spp.	138	0 → 1	0.333
node_253 → node_252	135	0 → 1	0.5
	136	0 → 2	0.25
node_254 → † <i>Yalkaparidon coheni</i>	75	0 → 1	0.2
	98	1 → 0	0.063
	105	0 → 1	1
	114	0 → 1	0.2
	141	0 → 1	1
	166	0 → 1	0.5
node_254 → node_253		(none)	
node_255 → node_247		(none)	
node_255 → node_254	147	0 → 1	0.5
node_256 → <i>Caluromys philander</i>	137	1 → 0	0.4
node_256 → <i>Caluromysiops irrupta</i>	27	1 → 2	0.059
	45	0 → 1	0.125
	52	0 → 1	0.231
	79	0 → 1	0.625
	84	0 → 1	0.067
	115	0 → 1	0.2
	140	2 → 0	0.333

	179	0 → 1	0.333
node_257 → <i>Chacodelphys formosa</i>	173	0 → 1	0.045
	175	0 → 1	0.083
node_257 → <i>Cryptonanus unduaviensis</i>	112	0 → 2	0.375
	119	1 → 2	0.118
	142	1 → 0	0.071
node_258 → node_257	52	1 → 0	0.231
node_259 → <i>Lestodelphys halli</i>	65	0 → 1	0.143
	156	1 → 2	0.118
	173	0 → 1	0.045
node_260 → node_259	41	0 → 1	0.5
	68	0 → 1	0.154
	119	1 → 2	0.118
	156	0 → 1	0.118
node_261 → node_260		(none)	
node_262 → <i>Didelphis marsupialis</i>		(none)	
node_263 → <i>Lutreolina crassicaudata</i>	16	0 → 1	0.25
node_264 → † <i>Thylophorops chapalmalensis</i>	130	2 → 3	0.089
node_264 → <i>Chironectes minimus</i>	10	0 → 1	0.063
	46	0 → 1	0.111
	95	1 → 0	0.2
	98	1 → 0	0.063
node_264 → node_263	38	0 → 1	0.071
node_265 → <i>Metachirus nudicaudatus</i>	26	0 → 1	0.071
node_265 → node_264	24	0 → 1	0.143
	27	0 → 2	0.059
	32	0 → 1	0.083
	59	1 → 0	0.214
	119	1 → 2	0.118
	130	1 → 2	0.089
	140	3 → 2	0.333
node_266 → node_261	38	0 → 1	0.071
node_266 → node_265	91	1 → 0	0.2

	93	1 $\rightarrow$ 2	0.1
	95	0 $\rightarrow$ 1	0.2
	130	0 $\rightarrow$ 1	0.089
node_267 $\rightarrow$ <i>Marmosa murina</i>	71	0 $\rightarrow$ 1	0.2
node_267 $\rightarrow$ <i>Tlacuatzin canescens</i>	39	0 $\rightarrow$ 1	0.25
node_268 $\rightarrow$ † <i>Thylatheridium cristatum</i>	27	1 $\rightarrow$ 2	0.059
	156	1 $\rightarrow$ 2	0.118
node_268 $\rightarrow$ <i>Monodelphis brevicaudata</i>		(none)	
node_269 $\rightarrow$ † <i>Sparassocynus derivatus</i>	8	0 $\rightarrow$ 1	0.118
	68	0 $\rightarrow$ 1	0.154
	172	0 $\rightarrow$ 1	0.333
node_270 $\rightarrow$ node_268		(none)	
node_270 $\rightarrow$ node_269	52	0 $\rightarrow$ 3	0.231
	91	1 $\rightarrow$ 0	0.2
	140	3 $\rightarrow$ 2	0.333
node_271 $\rightarrow$ node_267		(none)	
node_271 $\rightarrow$ node_270	16	0 $\rightarrow$ 1	0.25
	27	0 $\rightarrow$ 1	0.059
	119	1 $\rightarrow$ 2	0.118
	156	0 $\rightarrow$ 1	0.118
	173	0 $\rightarrow$ 1	0.045
	175	0 $\rightarrow$ 1	0.083
node_272 $\rightarrow$ node_266	52	0 $\rightarrow$ 1	0.231
node_272 $\rightarrow$ node_271		(none)	
node_273 $\rightarrow$ <i>Hyladelphys kalinowskii</i>	10	0 $\rightarrow$ 1	0.063
	68	0 $\rightarrow$ 1	0.154
	71	0 $\rightarrow$ 1	0.2
	119	1 $\rightarrow$ 0	0.118
	120	0 $\rightarrow$ 2	0.118
	157	0 $\rightarrow$ 1	0.111
node_273 $\rightarrow$ node_272	124	0 $\rightarrow$ 1	0.667
	140	2 $\rightarrow$ 3	0.333
node_274 $\rightarrow$ <i>Glironia venusta</i>	19	1 $\rightarrow$ 0	0.4

	45	0 → 1	0.125
node_274 → node_273		(none)	
node_275 → node_256	36	1 → 0	0.111
	51	1 → 0	0.2
	59	1 → 0	0.214
	102	0 → 1	0.25
	119	1 → 0	0.118
	132	1 → 0	0.333
node_275 → node_274	91	0 → 1	0.2
node_276 → node_255	34	0 → 1	0.143
	103	0 → 2	0.333
	149	0 → 1	0.25
node_276 → node_275	119	2 → 1	0.118
	124	1 → 0	0.667
	130	2 → 0	0.089
	156	2 → 0	0.118
node_277 → † <i>Herpetotherium fugax</i>	8	0 → 2	0.118
	41	0 → 1	0.5
	134	0 → 1	0.25
	140	2 → 3	0.333
node_277 → node_276	180	1 → 0	0.333
node_278 → † <i>Mimoperadectes</i> spp.	27	1 → 2	0.059
	84	0 → 1	0.067
	140	2 → 0	0.333
node_278 → node_277	27	1 → 0	0.059
	55	0 → 1	0.3
	173	1 → 0	0.045
node_279 → node_146		(none)	
node_279 → node_278		(none)	