Table S1: Sampling ratio of all included genera of Ceutorhynchinae. Total number of described species (Total), number of species included in our dataset (Dataset), sampling ratio (Ratio), and missing species numbers (Missing) are provided.

Genus	Total	Dataset	Ratio	Missing
Amalorrhynchus	2	1	0.50	1
Amalus	1	1	1.00	0
Aphytobius	7	2	0.29	5
Auleutes	8	1	0.13	7
Brachiodontus	6	1	0.17	5
Ceutorhynchoides	9	1	0.11	8
Ceutorhynchus	407	69	0.17	338
Cnemogonus	1	1	1.00	0
Coeliastes	3	1	0.33	2
Coelioderes	26	2	0.08	24
Coeliodes	34	6	0.18	28
Coeliodinus	7	1	0.14	6
Cyphosenus	10	1	0.10	9
Datonychidius	2	1	0.50	1
Datonychus	20	4	0.20	16
Drupenatus	1	1	1.00	0
Eubrychius	1	1	1.00	0
Euhrychiopsis	1	1	1.00	0
Glocianus	28	4	0.14	24
Hadroplontus	3	3	1.00	0
Hainokisaruzo	10	1	0.10	9
Hesperorrhynchus	5	3	0.60	2
Homorosoma	8	1	0.13	7
Marmaropus	1	1	1.00	0
Mesoxyonyx	5	1	0.20	4
Micrelus	20	2	0.10	18
Microplontus	18	4	0.22	14
Mogulones	67	18	0.27	49
Mogulonoides	1	1	1.00	0
Mononychus	3	1	0.33	2
Nedyus	3	1	0.33	2
Neoglocianus	6	2	0.33	4
Neophytobius	10	1	0.10	9
Oprohinus	9	2	0.22	7
Parauleutes	8	1	0.13	7
Parethelcus	2	2	1.00	0
Paroxyonyx	8	7	0.88	1
Pelenomus	24	4	0.17	20
Phrydiuchus	5	4	0.80	1
Phytobius	4	1	0.25	3
Poophagus	3	1	0.33	2
Ranunculiphilus	6	1	0.17	5
Rhinoncus	36	7	0.19	29
Rutidosoma	2	1	0.50	1
Scleropteridius	3	1	0.33	2
Scleropteroides	1	1	1.00	0
Scleropterus	6	1	0.17	5
Sirocalodes	19	4	0.21	15
Stenocarus	3	2	0.67	1
Tapeinotus	1	1	1.00	0
Thamiocolus	40	9	0.23	31
Trichocoeliodes	2	1	0.50	1
Trichosirocalus	17	6	0.35	11
Wagnerinus	4	3	0.75	1
Xenysmoderes	26	2	0.08	24
Zacladus	7	2	0.29	5

Table S2: Taxon sampling including NCBI genbank accession numbers. Tissue and DNA samples of included specimens (except for GenBank-derived sequences) are available from the biobank of the Zoologisches Forschungsmuseum A. Koenig (ZFMK) Bonn, Germany and the Department of Botany and Biodiversity Research, University of Vienna, Austria. Accession numbers with (*) refer to the 3' end fragment of the non-barcoding region of the COI. Barcode fragments of these sequences are to be released soon to GenBank within the Molecular Weevil Identification project. They are currently available upon request from the ZFMK biobank.

Subfamily	Tribus	Species	COI	EF1	16S	28S
Nemonychidae						
Rhinorhynchinae	Mecomacerini	*Rhynchitomacerinus kuscheli*	FJ867805	FJ867890	-	FJ867708
Cimberidinae	Cimberidini	*Cimberis pilosa*	FJ867848	FJ867860	-	FJ867673
Anthribidae						
Anthribinae	Platystomini	*Phloeobius gigas*	KF016204	-	KF016340	-
	Sintorini	*Telala* sp	KF016238	-	KF016371	KF016510
		Eupanteos ornatus	KF016230	-	KF016366	KF016502
	Ecelonerini	*Dendropemon albopictus*	KF016203	-	KF016339	KF016472
Urodontinae		*Urodontus mesemoides*	FJ867818	FJ867897	-	FJ867725
		Urodontellus sp	KF016202	-	KF016338	KF016471
Attelabidae						
Attelabinae	Attelabini	*Attelabus nitens*	KM452306/ HQ164855	-	-	-
Rhynchitinae	Deporaini	*Deporaus betulae*	KM452447/ HQ165347	-	-	AB970607
Apoderinae	Apoderini	*Apoderus jekelii*	HQ883611	HQ883697	-	HQ883529
Belidae						
Belinae		*Cyrotyphus* sp	KF016233	-	KF016367	KF016505
Brentidae						
Brentinae	Arrhenodini	*Ectocemus decemmaculatus*	KF016163	-	KF016289	KF016425
	Eremoxenini	*Kleineella barbata*	KF016164	-	KF016290	KF016426
	Cyladini	*Cylas formicarius*	FJ867849/E U522676	FJ867862	AJ495572	FJ867676
Eurhynchinae	Eurhynchini	*Aporhina australis*	FJ867840	-	-	FJ867657
Nanophyinae	Nanophyini	*Nanodiscus transversus*	KY084067	KY083826	KY084219	KY084006
		Hypophyes pallidulus	KY084057	KY083818	KY084204	-
Antliarhininae	Antliarhinini	*Antliarhis zamiae*	FJ867838	FJ867853	-	FJ867656
Apioninae	Rhinorhynchidiini	*Rhinorhynchidius australasiae*	KF016159	-	KF016286	KF016421
	Apionini	*Perapion neofallax*	KY084071	KY083833	KY084228	KY084014
		Protapion dissimile	KY084075	KY083832	KY084227	KY084013
		Rhopalapion longirostre	KY084115	KY083777	KY084149	KY083943
Curculionidae						
Dryophthorinae	Rhynchophorini	*Dynamis borassi*	AY131106	AY131134	-	AY131076
Brachycerinae	Himasthlophallini	*Himasthlophallus flagellifer*	HQ883655	HQ883730	-	HQ883569
Molytinae	Amorphocerini	*Amorphocerus rufipes*	HQ883665	HQ883736	-	HQ883575
Hylobiinae	Hyperini	*Hypera meles*	MH458432	-	-	-
		Hypera postica	MH458433	-	-	-
Entiminae	Otiorhynchini	*Otiorhynchus ligustici*	MH458434	-	-	-
		Otiorhynchus pinastri	MH458435	-	-	-
Curculioninae	Curculionini	*Curculio camelliae*	AB573507	AY327652	-	AB573470
Ceutorhynchinae	Mononychini	*Mononychus punctumalbum*	MH433523*	MH433392	MH433106	MH433256
	Amalini	*Amalus scortillum*	MH433452*	MH433339	MH433034	MH433190
	Hypurini	*Aphytobius sphaerion*	-	-	MH433035	MH433191
		Aphytobius veronicae	MH433453*	MH433340	MH433036	MH433192
	Phytobiini	*Eubrychius velutus*	MH433519*	MH433390	MH433102	MH433253
		Euhrychiopsis lecontei	KJ203066*	-	-	-
		Pelenomus canaliculatus	MH433569*	MH433423	MH433152	MH433302
		Pelenomus commari	MH433570*	-	MH433153	MH433303
		Pelenomus quadrituberculatus	KJ963126	-	-	-
		Pelenomus velaris	MH433580*	-	MH433163	MH433313
		Phytobius leucogaster	MH433574*	-	MH433157	MH433307
		Neophytobius granatus	MH433563*	-	MH433146	MH433296
		Rhinoncus albicinctus	MH433581*	MH433429	MH433164	MH433314
		Rhinoncus bruchoides	MH433532*	-	MH433115	MH433264
		Rhinoncus castor	MH433582*	MH433430	MH433165	MH433315
		Rhinoncus henningsi	MH433584*	MH433432	MH433167	MH433317

Subfamily	Tribus	Species	COI	EF1	16S	28S
		Rhinoncus inconspectus	MH433585*	MH433433	MH433168	MH433318
		Rhinoncus pericarpius	MH458431	MH433398	MH433112	-
		Rhinoncus perpendiculatus	MH433529*	MH433399	MH433113	MH433262
		Marmaropus besseri	MH433540*	-	-	MH433272
	Scleropterini	*Rutidosoma globulus*	-	MH433400	-	-
		Scleropteridius fallax	-	MH433435	-	MH433320
		Scleropterus serratus	-	MH433438	AB232979	MH433323
		Scleropterides hypocrita	MH458423	-	AB232980	-
		Tapeinotus sellatus	MH433594*	-	AB232981	MH433330
		Brachiodontus reitteri	MH433454*	-	MH433038	MH433193
		Homorosoma validirostre	MH433535*	MH433405	MH433118	MH433267
	Mecysmoderini	*Xenysmoderes consularis*	MH458422	-	MH433188	-
		Coelioderes nigrinus	MH458425	-	AB232978	-
	Egriini	*Cyphosenus grouvellei*	-	-	AB232977	-
	Cnemogonini	*Cnemogonus* sp	JF888214	-	-	-
		Auleutes epilobii	JF888244	-	-	-
		Parauleutes nebulosus	HQ989957	-	-	-
	Coeliodini	*Coeliodes dryados*	GU981474	-	-	-
		Coeliodes nakanoensis	-	-	AB232961	-
		Coeliodes rana	MH433493*	-	MH433079	MH433231
		Coeliodes ruber	MH433497*	-	-	MH433235
		Coeliodes transversealbofasciatus	MH433508*	-	MH433093	MH433246
		Coeliodinus rubicundus	MH433498*	MH433382	MH433083	MH433236
		Trichocoeliodes excavatus	-	-	AB232970	-
	Oxyonychini	*Barioxyonyx kerzhneri*	MH458427	-	MH433037	-
		Barioxyonyx retectus	MH433455*	-	MH433039	MH433194
		Barioxyonyx tournieri	MH433455*	-	MH433039	MH433194
		Mesoxyonyx sicardi	MH433456*	-	MH433040	MH433195
		Paroxyonyx audisioi	MH433567*	MH433421	-	MH433300
		Paroxyonyx cinctus	MH433573*	-	MH433156	MH433306
		Paroxyonyx fallaciosus	MH433571*	-	MH433154	MH433304
		Paroxyonyx imitator	MH433572*	-	MH433155	MH433305
		Paroxyonyx petrae	MH458429	-	-	-
		Paroxyonyx sp	MH458430	-	MH433150	-
	Ceutorhynchini	*Amalorrhynchus melanarius*	HQ164845	EU111040	-	-
		Ceutorhynchoides styracis	-	-	AB232958	-
		Ceutorhynchus aeneicollis	MH433457*	MH433341	MH433041	MH433196
		Ceutorhynchus alliariae	MH433458*	MH433342	MH433042	MH433197
		Ceutorhynchus alyssi	MH433459*	MH433343	MH433043	MH433198
		Ceutorhynchus arator	MH433460*	MH433344	MH433044	MH433199
		Ceutorhynchus assimilis	MH433461*	MH433345	MH433045	MH433200
		Ceutorhynchus atomus	MH433462*	MH433346	MH433046	MH433201
		Ceutorhynchus barbarae	KJ964086	-	-	-
		Ceutorhynchus canariensis	MH433463*	MH433347	MH433047	MH433202
		Ceutorhynchus carinatus	MH433464*	MH433348	MH433048	MH433203
		Ceutorhynchus chalybaeus	MH433465*	MH433349	MH433049	MH433204
		Ceutorhynchus chlorophanus	MH433466*	MH433350	MH433050	MH433205
		Ceutorhynchus cochleriae	KU917063	MH433402	-	-
		Ceutorhynchus coerulescens	MH433467*	MH433351	MH433051	MH433206
		Ceutorhynchus constrictus	EU110955	MH433352		
		Ceutorhynchus contractus	MH433468*	MH433353	MH433052	MH433207
		Ceutorhynchus dubius	MH433469*	MH433354	MH433053	MH433208
		Ceutorhynchus erysimi	MH433525*	-	-	-
		Ceutorhynchus fallax	DQ058699	-	-	-
		Ceutorhynchus filirostris	DQ058701	DQ058709	-	-
		Ceutorhynchus gallorhenanus	DQ058700	-	-	-
		Ceutorhynchus granulicollis	MH433470*	MH433355	MH433054	MH433209
		Ceutorhynchus hampei	MH433471*	MH433356	MH433055	MH433210
		Ceutorhynchus hirtulus	MH433472*	MH433357	MH433056	MH433211
		Ceutorhynchus ignitus	MH433473*	MH433358	MH433057	MH433212
		Ceutorhynchus inaffectatus	KJ966958	-	-	-
		Ceutorhynchus intersetosus	MH433474*	MH433359	MH433058	MH433213
		Ceutorhynchus jucundus	KC783783	MH433360	MH433059	MH433214
		Ceutorhynchus leprieuri	MH433476*	MH433362	MH433061	MH433216
		Ceutorhynchus leucorrhama	MH433477*	MH433363	MH433062	MH433217

Subfamily	Tribus	Species	COI	EF1	16S	28S
		Ceutorhynchus libertorum	MH433478*	MH433364	MH433063	MH433218
		Ceutorhynchus liliputanus	MH433479*	MH433365	MH433064	-
		Ceutorhynchus lukesi	-	MH433366	MH433065	-
		Ceutorhynchus merkli	MH433480*	MH433367	MH433066	MH433219
		Ceutorhynchus moraviensis	MH433481*	MH433368	MH433067	MH433220
		Ceutorhynchus napi	MH433482*	MH433369	MH433068	MH433221
		Ceutorhynchus neglectus	DQ058697	DQ058707	-	-
		Ceutorhynchus nevadensis	MH433483*	MH433370	MH433069	MH433222
		Ceutorhynchus niyazii	MH433484*	MH433371	MH433070	MH433223
		Ceutorhynchus obstrictus	MH433524*	MH433394	MH433108	MH433258
		Ceutorhynchus pallidactylus	MH433536*	MH433406	MH433119	MH433268
		Ceutorhynchus paroliniae	KU366275	-	-	-
		Ceutorhynchus parvulus	MH433485*	MH433372	MH433071	MH433224
		Ceutorhynchus pectoralis	MH433486*	MH433373	MH433072	MH433225
		Ceutorhynchus pervicax	MH433487*	MH433374	MH433073	MH433226
		Ceutorhynchus picitarsis	MH433488*	MH433375	MH433074	MH433227
		Ceutorhynchus pulvinatus	MH433489*	MH433376	MH433075	MH433228
		Ceutorhynchus pumilio	MH433490*	MH433377	MH433076	-
		Ceutorhynchus puncticollis	MH433491*	MH433378	MH433077	MH433229
		Ceutorhynchus pyrrhorhynchus	MH433492*	MH433379	MH433078	MH433230
		Ceutorhynchus querceti	DQ058704	-	-	-
		Ceutorhynchus rapae	MH433494*	MH433380	MH433080	MH433232
		Ceutorhynchus resedae	MH433495*	-	MH433081	MH433233
		Ceutorhynchus rhenanus	KU932046*	-	-	-
		Ceutorhynchus roberti	MH433496*	MH433381	MH433082	MH433234
		Ceutorhynchus sardeanensis	MH433499*	MH433383	MH433084	MH433237
		Ceutorhynchus scrobicollis	MH433500*	MH433384	MH433085	MH433238
		Ceutorhynchus sisymbrii	MH433501*	MH433385	MH433086	MH433239
		Ceutorhynchus squamulosus	MH433502*	-	MH433087	MH433240
		Ceutorhynchus striatellus	MH433503*	MH433386	MH433088	MH433241
		Ceutorhynchus subpubescens	DQ058696	-	-	-
		Ceutorhynchus sulcatus	KU932047	-	-	-
		Ceutorhynchus sulcicollis	MH433504*	MH433387	MH433089	MH433242
		Ceutorhynchus syrites	MH433505*	MH433388	MH433090	MH433243
		Ceutorhynchus tangerianus	MH433506*	MH433389	MH433091	MH433244
		Ceutorhynchus thomsoni	KJ963985	-	-	-
		Ceutorhynchus tibialis	MH433507*	-	MH433092	MH433245
		Ceutorhynchus turbatus	MH433509*	-	MH433094	MH433247
		Ceutorhynchus typhae	MH433526*	MH433395	MH433109	MH433259
		Ceutorhynchus varius	MH433510*	-	-	MH433248
		Ceutorhynchus wagneri	MH433511*	-	MH433095	MH433249
		Coeliastes lamii	MH433475*	MH433361	MH433060	MH433215
		Datonychidius tener	MH433518*	-	MH433101	MH433252
		Datonychus delicatulus	MH433513*	-	MH433096	-
		Datonychus maurus	MH433514*	-	MH433097	-
		Datonychus melanostictus	MH433515*	-	MH433098	MH433250
`		*Datonychus paszlavszkyi*	MH433517*	-	MH433100	MH433251
		Drupenatus nasturtii	MH433516*	-	MH433099	-
		Glocianus distinctus	MH433520*	-	MH433103	MH433254
		Glocianus fennicus	KJ963154	-	-	-
		Glocianus granulithorax	MH433521*	-	MH433104	-
		Glocianus punctiger	MH433531*	MH433401	MH433114	MH433263
		Hadroplontus ancora	-	-	AB232964	-
		Hadroplontus litura	MH433533*	MH433533	MH433533	MH433533
		Hadroplontus trimaculatus	HQ164961	-	-	-
		Hainokisaruzo japonicus	-	-	AB232965	-
		Hesperorrhynchus hesperus	MH433533*	-	-	-
		Hesperorrhynchus incautus	KT823495	-	-	-
		Hesperorrhynchus phytobioides	MH433534*	MH433404	MH433117	MH433266
		Micrelus ericae	MH433546*	MH433414	MH433129	MH433279
		Micrelus ferrugatus	MH433547*	-	MH433130	MH433280
		Microplontus campestris	MH433541*	-	MH433124	MH433274
		Microplontus melanostigma	MH433552*	-	MH433135	MH433285
		Microplontus millefolii	MH433553*	-	MH433136	MH433286
		Microplontus rugulosus	MH433558*	-	MH433142	MH433291

Subfamily	Tribus	Species	COI	EF1	16S	28S
		Mogulones abbreviatulus	MH433537*	MH433407	MH433120	MH433269
		Mogulones asperifoliarum	MH433538*	MH433408	MH433121	MH433270
		Mogulones austriacus	MH433539*	MH433409	MH433122	MH433271
		Mogulones biondii	KC783733	-	MH433123	MH433273
		Mogulones cingulatus	MH433542*	MH433410	MH433125	MH433275
		Mogulones crucifer	MH433543*	MH433411	MH433126	MH433276
		Mogulones cynoglossi	MH433544*	MH433412	MH433127	MH433277
		Mogulones dimidiatus	MH433545*	MH433413	MH433128	MH433278
		Mogulones geographicus	MH433548*	MH433415	MH433131	MH433281
		Mogulones gratiosus	MH433549*		MH433132	MH433282
		Mogulones grisescens	MH433550*		MH433133	MH433283
		Mogulones larvatus	MH433551*	MH433416	MH433134	MH433284
		Mogulones pallidicornis	MH433554*	MH433417	MH433137	MH433287
		Mogulones peregrinus	MH433555*		MH433138	MH433288
		Mogulones pseudopollinarius	KM433740		MH433139	MH433289
		Mogulones raphani	MH433557*		MH433141	MH433290
		Mogulones soricinus	MH433560*		MH433144	MH433293
		Mogulones uncipes	MH433561*	MH433418	MH433145	MH433294
		Mogulonoides radula	MH433556*	-	MH433140	-
		Nedyus quadrimaculatus	KU919480	MH433393	MH433107	MH433257
		Neoglocianus albovittatus	MH433562*	MH433419	-	MH433295
		Neoglocianus maculaalba	MH433564*	-	MH433147	MH433297
		Oprohinus consputus	MH433565*	-	MH433148	MH433298
		Oprohinus suturalis	MH433566*	MH433420	MH433149	MH433299
		Parethelcus nesicola	MH433575*	MH433424	MH433158	MH433308
		Parethelcus pollinarius	MH433522*	MH433391	MH433105	MH433255
		Phrydiuchus augusti	MH433568*	MH433422	MH433151	MH433301
		Phrydiuchus quijote	MH433576*	MH433425	MH433159	MH433309
		Phrydiuchus tau	KP306843	-	-	-
		Phrydiuchus topiarius	MH433579*	MH433428	MH433162	MH433312
		Poophagus sisymbrii	MH433577*	MH433426	MH433160	MH433310
		Ranunculiphilus faeculentus	MH433583*	MH433431	MH433166	MH433316
		Sirocalodes depressicollis	MH433587*	MH433434	MH433169	MH433319
		Sirocalodes mixtus	MH433588*	MH433436	MH433170	MH433321
		Sirocalodes nigroterminatus	MH433589*	-	MH433171	-
		Sirocalodes umbrinus	-	-	AB232968	-
		Stenocarus cardui	MH433528*	MH433397	MH433111	MH433261
		Stenocarus ruficornis	MH433590*	MH433437	MH433172	MH433322
		Thamiocolus garajonay	MH433591*	MH433440	MH433174	MH433325
		Thamiocolus grancanariensis	MH433592*	-	MH433175	MH433326
		Thamiocolus kraatzi	-	-	AB232969	-
		Thamiocolus niveus	MH433593*	MH433442	MH433178	MH433329
		Thamiocolus signatus	MH433595*	MH433443	MH433179	MH433331
		Thamiocolus sinapis	KC783848	MH433444	MH433180	MH433332
		Thamiocolus viduatus	MH433597*	MH433448	MH433184	MH433335
		Thamiocolus virgatus	KM433745	MH433449	MH433185	MH433336
		Thamiocolus wollastoni	KM433748	MH433450	MH433186	MH433337
		Trichosirocalus barnevillei	-	MH433439	MH433173	MH433324
		Trichosirocalus histrix	-	-	MH433176	MH433327
		Trichosirocalus horridus	KU919126	MH433441	MH433177	MH433328
		Trichosirocalus spurnyi	-	MH433445	MH433181	MH433333
		Trichosirocalus thalhammeri	-	MH433446	MH433182	MH433334
		Trichosirocalus troglodytes	MH433596*	MH433447	MH433183	-
		Zacladus exiguus	KM442028	MH433403	MH433116	MH433265
		Zacladus geranii	MH433598*	MH433451	MH433189	MH433338
		Wagnerinus costatus	-	-	AB232971	-
		Wagnerinus frugivorus	AB250208	-	-	-
`		*Wagnerinus harmandi*	MH458421	-	MH433187	-

Table S2.1: Voucher IDs of all specimens provided by the Molecular Weevil Identification project.

Species	Tissue ID	DNA Sample ID
Amalus scortillum	ZFMK-TIS-20134	ZFMK-DNA-0100438735
Aphytobius sphaerion	ZFMK-TIS-3442	ZFMK-DNA-0100449591
Aphytobius veronicae	ZFMK-TIS-3486	ZFMK-DNA-0100449558
Barioxyonyx retectus	ZFMK-TIS-3436	ZFMK-DNA-0100449608
Barioxyonyx tournieri	ZFMK-TIS-3624	ZFMK-DNA-0155635653
Brachiodontus reitteri	ZFMK-TIS-3553	ZFMK-DNA-0100426067
Ceutorhynchus aeneicollis	ZFMK-TIS-4135	ZFMK-DNA-0100426157
Ceutorhynchus alliariae	ZFMK-TIS-2D100438525	ZFMK-DNA-0100439821
Ceutorhynchus alyssi	ZFMK-TIS-3633	ZFMK-DNA-0155635644
Ceutorhynchus arator	ZFMK-TIS-20126	ZFMK-DNA-0100438754
Ceutorhynchus assimilis	ZFMK-TIS-3414	ZFMK-DNA-0100449630
Ceutorhynchus atomus	ZFMK-TIS-3131	ZFMK-DNA-0100426947
Ceutorhynchus canariensis	ZFMK-TIS-23883	ZFMK-DNA-0100448123
Ceutorhynchus carinatus	ZFMK-TIS-20124	ZFMK-DNA-0100438752
Ceutorhynchus chalybaeus	ZFMK-TIS-2D100446111	ZFMK-DNA-0100437874
Ceutorhynchus chlorophanus	ZFMK-TIS-20130	ZFMK-DNA-0100438739
Ceutorhynchus coerulescens	ZFMK-TIS-3686	ZFMK-DNA-0155635588
Ceutorhynchus contractus	ZFMK-TIS-4195	ZFMK-DNA-0155628512
Ceutorhynchus dubius	ZFMK-TIS-20178	ZFMK-DNA-0100449039
Ceutorhynchus granulicollis	ZFMK-TIS-3489	ZFMK-DNA-0100449107
Ceutorhynchus hampei	ZFMK-TIS-20135	ZFMK-DNA-0100438734
Ceutorhynchus hirtulus	ZFMK-TIS-3476	ZFMK-DNA-0100449577
Ceutorhynchus ignitus	ZFMK-TIS-20093	ZFMK-DNA-0100438769
Ceutorhynchus inaffectatus	ZFMK-TIS-2531152	ZFMK-DNA-0171676603
Ceutorhynchus intersetosus	ZFMK-TIS-3425	ZFMK-DNA-0100449622
Ceutorhynchus jucundus	ZFMK-TIS-2D100446904	ZFMK-DNA-0100438046
Ceutorhynchus leprieuri	-	ZFMK-DNA-0100437869
Ceutorhynchus leucorrhama	ZFMK-TIS-3422	ZFMK-DNA-0100449619
Ceutorhynchus libertorum	ZFMK-TIS-20142	ZFMK-DNA-0100438936
Ceutorhynchus liliputanus	ZFMK-TIS-3492	ZFMK-DNA-0100449108
Ceutorhynchus lukesi	ZFMK-TIS-20286	ZFMK-DNA-0100448478
Ceutorhynchus merkli	ZFMK-TIS-3459	ZFMK-DNA-0100449585
Ceutorhynchus moraviensis	ZFMK-TIS-4196	ZFMK-DNA-0155628513
Ceutorhynchus napi	ZFMK-TIS-3643	ZFMK-DNA-0155635641
Ceutorhynchus nevadensis	ZFMK-TIS-3516	ZFMK-DNA-0100426097
Ceutorhynchus niyazii	ZFMK-TIS-3466	ZFMK-DNA-0100449567
Ceutorhynchus parvulus	ZFMK-TIS-3684	ZFMK-DNA-0155635586
Ceutorhynchus pectoralis	ZFMK-TIS-4231	ZFMK-DNA-0155630487
Ceutorhynchus pervicax	ZFMK-TIS-3141	ZFMK-DNA-0100426874
Ceutorhynchus picitarsis	ZFMK-TIS-3467	ZFMK-DNA-0100449568
Ceutorhynchus pulvinatus	ZFMK-TIS-20096	ZFMK-DNA-0100438772
Ceutorhynchus pumilio	ZFMK-TIS-3158	ZFMK-DNA-0100426843
Ceutorhynchus puncticollis	ZFMK-TIS-20094	ZFMK-DNA-0100438770
Ceutorhynchus pyrrhorhynchus	ZFMK-TIS-3195	ZFMK-DNA-0100426928
Ceutorhynchus rapae	ZFMK-TIS-3641	ZFMK-DNA-0155635639
Ceutorhynchus resedae	ZFMK-TIS-3167	ZFMK-DNA-0100426837
Ceutorhynchus roberti	ZFMK-TIS-20089	ZFMK-DNA-0100438966
Ceutorhynchus sardeanensis	ZFMK-TIS-3574	ZFMK-DNA-0100426046
Ceutorhynchus scrobicollis	ZFMK-TIS-3153	ZFMK-DNA-0100426851
Ceutorhynchus sisymbrii	ZFMK-TIS-3687	ZFMK-DNA-0155635589
Ceutorhynchus squamulosus	ZFMK-TIS-4113	ZFMK-DNA-0100426300
Ceutorhynchus striatellus	ZFMK-TIS-20141	ZFMK-DNA-0100438721
Ceutorhynchus sulcicollis	ZFMK-TIS-3515	ZFMK-DNA-0100426096

Ceutorhynchus syrites	ZFMK-TIS-3642	ZFMK-DNA-0155635640
Ceutorhynchus tangerianus	ZFMK-TIS-3417	ZFMK-DNA-0100449627
Ceutorhynchus tibialis	ZFMK-TIS-3419	ZFMK-DNA-0100449616
Ceutorhynchus turbatus	ZFMK-TIS-2D100439107	ZFMK-DNA-0100439779
Ceutorhynchus typhae	ZFMK-TIS-3202	ZFMK-DNA-0100426791
Ceutorhynchus varius	ZFMK-TIS-20118	ZFMK-DNA-0100438746
Ceutorhynchus wagneri	ZFMK-TIS-20127	ZFMK-DNA-0100438742
Ceutorhynchus wellschmiedi	ZFMK-TIS-3656	ZFMK-DNA-0155635621
Coeliastes lamii	ZFMK-TIS-20087	ZFMK-DNA-0100438919
Coeliodes rana	ZFMK-TIS-3127	ZFMK-DNA-0100426282
Coeliodes ruber	ZFMK-TIS-3126	ZFMK-DNA-0100426878
Coeliodes transversealbofasciatus	ZFMK-TIS-4668	ZFMK-DNA-0155628554
Coeliodinus rubicundus	ZFMK-TIS-3292	ZFMK-DNA-0155633297
Datonychidius tener	ZFMK-TIS-3583	ZFMK-DNA-0100426037
Datonychus delicatulus	ZFMK-TIS-2D100440235	ZFMK-DNA-0100438123
Datonychus maurus	ZFMK-TIS-3571	ZFMK-DNA-0100426056
Datonychus melanostictus	ZFMK-TIS-3871	ZFMK-DNA-0100449653
Datonychus paszlavszkyi	ZFMK-TIS-3462	ZFMK-DNA-0100449582
Drupenatus nasturtii	ZFMK-TIS-3569	ZFMK-DNA-0100426243
Eubrychius velutus	ZFMK-TIS-20154	ZFMK-DNA-0100438715
Glocianus distinctus	ZFMK-TIS-3534	ZFMK-DNA-0100426086
Glocianus granulithorax	ZFMK-TIS-3570	ZFMK-DNA-0100426055
Hesperorrhynchus hesperus	ZFMK-TIS-2D100446954	ZFMK-DNA-0100438026
Hesperorrhynchus phytobioides	ZFMK-TIS-3577	ZFMK-DNA-0100426043
Homorosoma validirostre	ZFMK-TIS-3460	ZFMK-DNA-0100449584
Marmaropus besseri	ZFMK-TIS-2529969	-
Mesoxyonyx sicardi	ZFMK-TIS-3693	ZFMK-DNA-0155628538
Micrelus ericae	ZFMK-TIS-3219	ZFMK-DNA-0155633370
Micrelus ferrugatus	ZFMK-TIS-3089	ZFMK-DNA-0100448130
Microplontus campestris	ZFMK-TIS-2D100439095	ZFMK-DNA-0100439767
Microplontus melanostigma	ZFMK-TIS-3164	ZFMK-DNA-0100426246
Microplontus millefolii	ZFMK-TIS-3711	ZFMK-DNA-0100414292
Microplontus rugulosus	ZFMK-TIS-20146	ZFMK-DNA-0100438726
Mogulones abbreviatulus	ZFMK-TIS-3683	ZFMK-DNA-0155635585
Mogulones asperifoliarum	ZFMK-TIS-2D100439096	ZFMK-DNA-0100439768
Mogulones austriacus	ZFMK-TIS-3481	ZFMK-DNA-0100449563
Mogulones biondii	ZFMK-TIS-2D100447042	ZFMK-DNA-0100437932
Mogulones cingulatus	ZFMK-TIS-2D100440315	ZFMK-DNA-0100438390
Mogulones crucifer	ZFMK-TIS-20128	ZFMK-DNA-0100438741
Mogulones cynoglossi	ZFMK-TIS-3471	ZFMK-DNA-0100449572
Mogulones dimidiatus	ZFMK-TIS-3644	ZFMK-DNA-0155635642
Mogulones geographicus	ZFMK-TIS-3564	ZFMK-DNA-0100426049
Mogulones gratiosus	ZFMK-TIS-2D100438691	ZFMK-DNA-0100438366
Mogulones grisescens	ZFMK-TIS-2D100438640	ZFMK-DNA-0100438197
Mogulones larvatus	ZFMK-TIS-3408	ZFMK-DNA-0100449636
Mogulones pallidicornis	ZFMK-TIS-3138	ZFMK-DNA-0100426871
Mogulones peregrinus	ZFMK-TIS-3433	ZFMK-DNA-0100449611
Mogulones pseudopollinarius	ZFMK-TIS-3060	ZFMK-DNA-0100448164
Mogulones raphani	ZFMK-TIS-20374	ZFMK-DNA-0100448284
Mogulones soricinus	ZFMK-TIS-3423	ZFMK-DNA-0100449620
Mogulones uncipes	ZFMK-TIS-3566	ZFMK-DNA-0100426051
Mogulonoides radula	ZFMK-TIS-26016	ZFMK-DNA-0171600661
Neoglocianus albovittatus	ZFMK-TIS-20449	ZFMK-DNA-0100448599
Neoglocianus maculaalba	ZFMK-TIS-4083	ZFMK-DNA-0100426435
Oprohinus consputus	ZFMK-TIS-3464	ZFMK-DNA-0100449580
Oprohinus suturalis	ZFMK-TIS-3647	ZFMK-DNA-0155635630
Parethelcus nesicola	ZFMK-TIS-3043	ZFMK-DNA-0155630431
Paroxyonyx audisioi	ZFMK-TIS-3521	ZFMK-DNA-0100426102

Paroxyonyx cinctus	ZFMK-TIS-3437	ZFMK-DNA-0100449607
Paroxyonyx fallaciosus	ZFMK-TIS-3626	ZFMK-DNA-0155635651
Paroxyonyx imitator	ZFMK-TIS-3438	ZFMK-DNA-0100449606
Pelenomus canaliculatus	ZFMK-TIS-20344	ZFMK-DNA-0100448421
Pelenomus commari	ZFMK-TIS-2D100438519	ZFMK-DNA-0100439798
Pelenomus velaris	ZFMK-TIS-3811	ZFMK-DNA-0100449720
Perioxyonyx splendidus	ZFMK-TIS-3625	ZFMK-DNA-0155635652
Phrydiuchus quijote	ZFMK-TIS-3518	ZFMK-DNA-0100426236
Phrydiuchus topiarius	ZFMK-TIS-20148	ZFMK-DNA-0100438728
Phytobius leucogaster	ZFMK-TIS-20155	ZFMK-DNA-0100438937
Poophagus sisymbrii	ZFMK-TIS-3807	ZFMK-DNA-0100449716
Ranunculiphilus faeculentus	ZFMK-TIS-3472	ZFMK-DNA-0100449573
Rhinoncus albicinctus	ZFMK-TIS-3501	ZFMK-DNA-0155630467
Rhinoncus castor	ZFMK-TIS-3169	ZFMK-DNA-0100426948
Rhinoncus henningsi	ZFMK-TIS-2D100439099	ZFMK-DNA-0100439771
Rhinoncus inconspectus	ZFMK-TIS-20159	ZFMK-DNA-0100438710
Rhinoncus smreczynskii	ZFMK-TIS-20113	ZFMK-DNA-0100438933
Scleropterus serratus	ZFMK-TIS-20145	ZFMK-DNA-0155630446
Sirocalodes depressicollis	ZFMK-TIS-20129	ZFMK-DNA-0100438958
Sirocalodes mixtus	ZFMK-TIS-4672	ZFMK-DNA-0155628558
Sirocalodes nigroterminatus	ZFMK-TIS-3034	ZFMK-DNA-0100448190
Stenocarus ruficornis	ZFMK-TIS-3722	ZFMK-DNA-0100413827
Tapeinotus sellatus	ZFMK-TIS-20160	ZFMK-DNA-0100438909
Thamiocolus garajonay	ZFMK-TIS-4077	ZFMK-DNA-0171624053
Thamiocolus grancanariensis	ZFMK-TIS-2D100447002	ZFMK-DNA-0100437934
Thamiocolus niveus	ZFMK-TIS-4145	ZFMK-DNA-0100426150
Thamiocolus sinapis	ZFMK-TIS-2D100440252	ZFMK-DNA-0100438140
Thamiocolus viduatus	ZFMK-TIS-20170	ZFMK-DNA-0100438702
Thamiocolus virgatus	ZFMK-TIS-3648	ZFMK-DNA-0155635629
Thamiocolus wollastoni	ZFMK-TIS-3022	ZFMK-DNA-0155630428
Trichosirocalus barnevillei	ZFMK-TIS-4181	ZFMK-DNA-0155628521
Trichosirocalus histrix	ZFMK-TIS-3416	ZFMK-DNA-0100449113
Trichosirocalus horridus	ZFMK-TIS-20151	ZFMK-DNA-0100438718
Trichosirocalus spurnyi	ZFMK-TIS-20166	ZFMK-DNA-0100438698
Trichosirocalus thalhammeri	ZFMK-TIS-3454	ZFMK-DNA-0100449590
Trichosirocalus troglodytes	ZFMK-TIS-3710	ZFMK-DNA-0100413785
Zacladus exiguus	ZFMK-TIS-3853	ZFMK-DNA-0100449666
Zacladus geranii	ZFMK-TIS-20326	ZFMK-DNA-0100448438

Table S3: Host plant associations of all included ceutorhynchine weevils.

Tribus/Species	Host plant	Order	Reference
Mononychini			
Mononychus punctumalbum	*Iris* spp	Iridaceae	Rheinheimer & Hassler, 2010
Amalini			
Amalus scortillum	*Polygonum aviculare*	Polygonaceae	Rheinheimer & Hassler, 2010
Hypurini			
Aphytobius sphaerion	*Silene alba, Arenaria spp*	Caryophyllaceae	Colonnelli, 2004
Aphytobius veronicae	*Silene latifolia*	Caryophyllaceae	Krátký, 2015
Phytobiini			
Eubrychius velutus	*Myriophyllum* spp	Haloragaceae	Colonnelli, 2004
Euhrychiopsis lecontei	*Myriophyllum* spp	Haloragaceae	Colonnelli, 2004
Pelenomus canaliculatus	*Myriophyllum* spp	Haloragaceae	Rheinheimer & Hassler, 2010
Pelenomus commari	*Sanguisorba officinalis, Potentilla* sp*, Alchemilla* sp	Rosaceae	Rheinheimer & Hassler, 2010
Pelenomus quadrituberculatus	*Persicaria* spp, *Fallopia convolvulus, Polygonum* spp	Polygonaceae	Rheinheimer & Hassler, 2010
Pelenomus velaris	*Persicaria amphibia*	Polygonaceae	Rheinheimer & Hassler, 2010
Phytobius leucogaster	*Myriophyllum* spp	Haloragaceae	Rheinheimer & Hassler, 2010
Neophytobius granatus	*Persicaria lapathifolia*	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus albicinctus	*Persicaria amphibia*	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus bruchoides	*Persicaria* spp	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus castor	*Rumex acetosella*	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus henningsi	*Persicaria bistorta*	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus inconspectus	*Persicaria amphibia*	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus pericarpius	*Rumex* spp	Polygonaceae	Rheinheimer & Hassler, 2010
Rhinoncus perpendiculatus	*Persicaria* spp	Polygonaceae	Rheinheimer & Hassler, 2010
Marmaropus besseri	*Rumex thyrsiflorus*	Polygonaceae	Rheinheimer & Hassler, 2010
Scleropterini			
Rutidosoma globulus	*Populus* spp	Salicaceae	Rheinheimer & Hassler, 2010
Scleropteridius cf *globolus*	*Oxalis acetosella*	Oxalidaceae	Rheinheimer & Hassler, 2010
Scleropterus serratus	*Geum rivale*	Rosaceae	Rheinheimer & Hassler, 2010
Scleropterides hypocrita	*Rubus matsumuranus*	Rosaceae	Rheinheimer & Hassler, 2010
Tapeinotus sellatus	*Lysimachia vulgaris, L. thyrsiflora*	Myrsinaceae	Colonnelli, 2004
Brachiodontus reitteri	host unknown	Primulaceae?	Colonnelli, 2004
Homorosoma validirostre	*Polygonum* spp	Polygonaceae	Colonnelli, 2004
Mecysmoderini			
Xenysmoderes consularis	*Alpinia* sp	Zingiberaceae	Colonnelli, 2004
Coeliodes nigrinus	*Rhododendron mucronulatum*	Ericaceae	Colonnelli, 2004
Egriini			
Cyphosenus grouvellei	*Rhododendron* sp	Ericaceae	Hong et al., 2011
Ceutorhynchoides styracis	*Styrax japonica*	Styracaceae	Hong et al., 2011
Cnemogonini			
Cnemogonus sp	host unknown	Onagraceae?	Korotyaev & Anderson, 2002
Auleutes epilobii	*Epilobium angustiolium*	Onagraceae	Rheinheimer & Hassler, 2010
Parauleutes nebulosus	host unknown, occasionally on *Polygonum* spp	Polygonaceae	Colonnelli, 2004
Coeliodini			
Coeliodes dryados	*Quercus* spp	Fagaceae	Colonnelli, 2004
Coeliodes nakanoensis	*Quercus dentata*	Fagaceae	Colonnelli, 2004
Coeliodes rana	*Quercus* spp	Fagaceae	Rheinheimer & Hassler, 2010
Coeliodes ruber	*Quercus* spp	Fagaceae	Rheinheimer & Hassler, 2010
Coeliodes transversealbofasciatus	*Quercus* spp	Fagaceae	Rheinheimer & Hassler, 2010
Coeliodinus rubicundus	*Betula* spp	Betulaceae	Rheinheimer & Hassler, 2010
Trichocoeliodes excavatus	*Hydrangea serrata*	Fagaceae	Hong et al., 2011
Oxyonychini			
Barioxyonyx kerzhneri	*Ephedra foemina*	Ephedraceae	Colonnelli, 2004
Barioxyonyx tournieri	*Ephedra altissima, E. major*	Ephedraceae	Colonnelli, 2004
Mesoxyonyx sicardi	*Ephedra distachya, E.fragilis*	Ephedraceae	Colonnelli, 2004
Paroxyonyx audisioi	*Ephedra* sp	Ephedraceae	Colonnelli, 2004
Paroxyonyx cinctus	*Ephedra alata, E. altissima, E. fragilis*	Ephedraceae	Colonnelli, 2004
Paroxyonyx fallaciosus	*Ephedra fragilis*	Ephedraceae	Colonnelli, 2004
Paroxyonyx imitator	*Ephedra major, E. vulgaris*	Ephedraceae	Colonnelli, 2004

Tribus/Species	Host plant	Order	Reference
Paroxyonyx petrae	*Ephedra alata, E. foemina*	Ephedraceae	Colonnelli, 2004
Paroxyonyx retectus	*Ephedra* sp	Ephedraceae	Colonnelli, 2004
Paroxyonyx sp	*Ephedra* sp	Ephedraceae	Colonnelli, 2004
Ceutorhynchini			
Amalorrhynchus melanarius	*Nasturtium officiniale*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus aeneicollis	*Lepidium* spp, *Descurainia sophia, Sysimbrium altissimum*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus alliariae	*Alliaria petiolata*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus alyssi	*Alyssum spinosum*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus arator	*Crambe tataria*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus assimilis	various crucifers	Brassicaceae, Resedaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus atomus	*Arabidopsis thaliana, Teesdalia nudicaulis, Draba muralis*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus barbarae	*Barbarea* ssp, *Rorippa palustris, Cardamine enneaphyllos*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus canariensis	*Erucastrum cardaminoides, Descurainia millefolia*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus carinatus	*Lepidium campestre, Thlaspi* spp, *Berteroa incana, Isatis tinctoria. Erysimum*	Brassicaceae, Resedaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus chalybaeus	*Thlaspi arvense, Capsella bursa-pastoris, Reseda luteola*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus chlorophanus	*Erysimum, occasionally on Syrenia siliculata*	Brassicaceae,	Colonnelli, 2004
Ceutorhynchus cochleriae	*Cardamine pratense, C. amara, Dentaria enneaphyllos*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus coerulescens	*Lepidium campestre*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus constrictus	*Alliaria petiolata*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus contractus	various crucifers	Brassicaceae, Resedaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus dubius	*Berteroa incana*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus erysimi	*Capsella bursa-pastoris*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus fallax	various crucifers	Brassicaceae	Colonnelli, 2004
Ceutorhynchus filirostris	*Cardamine* spp	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus gallorhenanus	various crucifers	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus granulicollis	*Thlaspi arvense*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus hampei	*Berteroa incana*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus hirtulus	*Arabidopsis thaliana, Erophila verna*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus ignitus	*Berteroa incana*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus inaffectatus	*Hesperis matronalis, H. tristis*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus intersetosus	*Diplotaxis, Raphanus rostratus, Sisymbrium irio*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus jucundus	*Erysimum bicolor?*	Brassicaceae	Stüben, 2017
Ceutorhynchus leprieuri	*Brassica, Alyssum, Rapsitrum, Sinapis*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus leucorrhama	*Diplotaxis erucoides*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus libertorum	*Alyssum* ssp	Brassicaceae	Colonnelli, 2005
Ceutorhynchus liliputanus	*Alyssum lenense*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus lukesi	*Alyssum* ssp	Brassicaceae	Colonnelli, 2004
Ceutorhynchus merkli	*Cardaria alba*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus moraviensis	*Sisymbrium strictissimum*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus napi	*Brassica, Sisymbrium, Cardaria, Descurainia, Alliaria, Rorippa, Capsella, Erysium, Nasturtium, Sinapsis*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus neglectus	*Descurainia sophia, u.a. Brassicaceae*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus nevadensis	*Reseda* spp	Resedaceae	Colonnelli, 2004
Ceutorhynchus niyazii	*Sisymbrium altissimum*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus obstrictus	various crucifers	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus pallidactylus	various crucifers	Brassicaceae, Resedaceae	Rheinheimer & Hassler, 2010

Tribus/Species	Host plant	Order	Reference
Ceutorhynchus paroliniae	*Parolinia platypetala*	Brassicaceae	Krátký, 2016
Ceutorhynchus parvulus	*Lepidium campestre, L. heterophyllum*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus pectoralis	*Cardamine* spp, *Barbarea vulgaris, Rorippa* spp, *Nasturtium officinale*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus pervicax	*Cardamine* spp, *Nasturtium officiniale*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus picitarsis	*Sisymbrium* spp, *Brassica* spp, *Erysimum*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus pulvinatus	*Descurainia sophia, Sisymbrium spp*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus pumilio	*Teesdalia nudicaulis*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus puncticollis	*Berteroa incana, Erysimum* spp	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus pyrrhorhynchus	*Sisymbrium* spp	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus querceti	*Rorippa palustris*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus rapae	*Descurainia sophia, Brassica oleracea, Erysium cheiranthoides, Cardamine armara*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus resedae	*Reseda luteola*	Resedaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus rhenanus	*Erysimum* spp	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus roberti	*Alliaria petiolata*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus sardeanensis	various crucifers	Brassicaceae	Colonnelli, 2004
Ceutorhynchus scrobicollis	*Alliaria petiolata*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus sisymbrii	*Sisymbrium loeselii*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus squamulosus	*Brassica barrelieri, Rhynchospinapis hispida*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus striatellus	*Alyssum montanum, A. alpestre, A. alyssoides*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus subpubescens	*Descurainia sophia*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus sulcatus	*Berteroa, Cardamine, Nasturium, Sinapis*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus sulcicollis	various crucifers	Brassicaceae	Colonnelli, 2004
Ceutorhynchus syrites	*Camelina sativa, C. microcarpa*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus tangerianus	*Sinapis alba*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus thomsoni	*Alliaria petiolata, Berteroa incana, Brassica campestris*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus tibialis	*Diplotaxis, occasionally on Hirschfeldia and Sinapis*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus turbatus	*Cardaria draba*	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus typhae	various crucifers	Brassicaceae	Rheinheimer & Hassler, 2010
Ceutorhynchus varius	*Arabidopsis thaliana*	Brassicaceae	Colonnelli, 2004
Ceutorhynchus wagneri	*Alyssum calycinum*	Brassicaceae	Colonnelli, 2004
Coeliastes lamii	*Lamium* spp, *Galeopsis tetrahit*	Lamiaceae	Rheinheimer & Hassler, 2010
Datonychidius tener	*Marrubium cylleneum*	Lamiaceae	Colonnelli, 2004
Datonychus delicatulus	host unknown	Lamiaceae?	Colonnelli, 2004
Datonychus maurus	*Mentha* spp	Lamiaceae	Colonnelli, 2004
Datonychus melanostictus	*Mentha* spp, *Lycopus europeus*	Lamiaceae	Colonnelli, 2004
Datonychus paszlavszkyi	*Salvia nemorosa, S. pratensis*	Lamiaceae	Colonnelli, 2004
Drupenatus nasturtii	*Nasturtium officiniale*	Brassicaceae	Rheinheimer & Hassler, 2010
Glocianus distinctus	*Hypochaeris, Crepis, Lactua, Hieracium*	Asteraceae	Rheinheimer & Hassler, 2010
Glocianus fennicus	*Taraxacum officinale, Leontodon autumnale, Senecio integrifolius*	Asteraceae	Colonnelli, 2004
Glocianus granulithorax	host unknown	Asteraceae?	Colonnelli, 2004
Glocianus punctiger	*Taraxacum* spp	Asteraceae	Rheinheimer & Hassler, 2010
Hadroplontus ancora	host unknown	Asteraceae?	Colonnelli, 2004
Hadroplontus litura	*Cirsium* spp, *Carduus* spp	Asteraceae	Rheinheimer & Hassler, 2010
Hadroplontus trimaculatus	*Cirsium arvense, Cirsium* spp, *Carduus defloratus*	Asteraceae	Rheinheimer & Hassler, 2010
Hainokisaruzo japonicus	*Symplocos glauca*	Symplocaceae	Yoshitake & Colonnelli, 2005
Hesperorrhynchus hesperus	*Aichryson laxum, A. parlatorei, A. punctatum*	Crassulaceae	Colonnelli, 2004

Tribus/Species	Host plant	Order	Reference
Hesperorrhynchus phytobioides	*Aichryson laxum, A. punctatum*	Crassulaceae	Colonnelli, 2004
Hesperorrhynchus incautus	*Monanthes laxiflora*	Crassulaceae	Colonnelli, 2004
Micrelus ericae	*Calluna vulgaris*	Ericaceae	Rheinheimer & Hassler, 2010
Micrelus ferrugatus	*Erica arborea, E. scoparia*	Ericaceae	Colonnelli, 2004
Microplontus campestris	*Leucantheum spp*	Asteraceae	Rheinheimer & Hassler, 2010
Microplontus melanostigma	*Tripleurospermum perforatum, Matricaria* spp, *Anthemis* spp	Asteraceae	Rheinheimer & Hassler, 2010
Microplontus millefolii	*Tanacetum vulgare*	Asteraceae	Rheinheimer & Hassler, 2010
Microplontus rugulosus	*Artemisia* spp, *Tripleurospermum perforatum*	Asteraceae	Rheinheimer & Hassler, 2010
Mogulones abbreviatulus	*Symphytum officinale*	Boraginaceae	Rheinheimer & Hassler, 2010
Mogulones asperifoliarum	various Boraginaceae	Boraginaceae	Colonnelli, 2004
Mogulones austriacus	*Nonea lutea, N. pulla*	Boraginaceae	Colonnelli, 2004
Mogulones biondii	*Echium* spp	Boraginaceae	Colonnelli, 2004
Mogulones cingulatus	*Cynoglossum pictum, Nonea, Onosma stellutatum*	Boraginaceae	Colonnelli, 2004
Mogulones crucifer	*Cynoglossum officinale, Anchusa arvensis*	Boraginaceae	Rheinheimer & Hassler, 2010
Mogulones cynoglossi	*Cynoglossum officinale*	Boraginaceae	Colonnelli, 2004
Mogulones dimidiatus	*Nonea pulla*	Boraginaceae	Colonnelli, 2004
Mogulones geographicus	*Echium* spp	Boraginaceae	Rheinheimer & Hassler, 2010
Mogulones gratiosus	*Anchusa italica*	Boraginaceae	Colonnelli, 2004
Mogulones grisescens	*Echium arenarium, E. creticum*	Boraginaceae	Colonnelli, 2004
Mogulones larvatus	*Pulmonaria* spp, *Echinum* spp	Boraginaceae	Rheinheimer & Hassler, 2010
Mogulones pallidicornis	*Pulmonaria* spp	Boraginaceae	Rheinheimer & Hassler, 2010
Mogulones peregrinus	*Borago officinalis,* occasionally on *Cerinthe major*	Boraginaceae	Colonnelli, 2004
Mogulones pseudopollinarius	*Echium plantgineum*	Boraginaceae	Colonnelli, 2004
Mogulones raphani	*Symphytum officinale*	Boraginaceae	Rheinheimer & Hassler, 2010
Mogulones soricinus	*Nonea nigricans*	Boraginaceae	Colonnelli, 2004
Mogulones uncipes	*host unknown*	Boraginaceae?	Colonnelli, 2004
Mogulonoides radula	*Anchusa officinalis*	Boraginaceae	Colonnelli, 2004
Nedyus quadrimaculatus	*Urtica dioica*	Urticaceae	Rheinheimer & Hassler, 2010
Neoglocianus albovittatus	*Papaver* spp	Papaveraceae	Rheinheimer & Hassler, 2010
Neoglocianus maculaalba	*Papaver* spp	Papaveraceae	Rheinheimer & Hassler, 2010
Oprohinus consputus	*Allium* spp	Alliaceae	Rheinheimer & Hassler, 2010
Oprohinus suturalis	*Allium* spp	Alliaceae	Rheinheimer & Hassler, 2010
Parethelcus nesicola	*Urtica urens*	Urticaceae	Colonnelli, 2004
Parethelcus pollinarius	*Urtica dioica, U. pilulifera*	Urticaceae	Colonnelli, 2004
Phrydiuchus augusti	*Salvia nemorosa*	Lamiaceae	Colonnelli, 2004
Phrydiuchus quijote	*Salvia* spp	Lamiaceae	San Vicente & Salgueira Cerezo, 2010
Phrydiuchus tau	*Salvia aethiopis, S. verticillata*	Lamiaceae	Colonnelli, 2004
Phrydiuchus topiarius	*Salvia pratensis*	Lamiaceae	Rheinheimer & Hassler, 2010
Poophagus sisymbrii	*Nasturtium officiniale, Rorippa* spp	Brassicaceae	Rheinheimer & Hassler, 2010
Ranunculiphilus faeculentus	*Consolida arvensis, C. orientalis, C.regalis*	Ranunculaceae	Rheinheimer & Hassler, 2011
Sirocalodes depressicollis	*Fumaria officinalis, F. vaillantii, Pseudofumaria lutea*	Fumariaceae	Rheinheimer & Hassler, 2012
Sirocalodes mixtus	*Fumaria* spp	Fumariaceae	Colonnelli, 2004
Sirocalodes nigroterminatus	*Ceratocapnos claviculata*	Fumariaceae	Rheinheimer & Hassler, 2010
Sirocalodes umbrinus	*Corydalis speciosa*	Fumariaceae	Colonnelli, 2004
Stenocarus cardui	*Papaver* spp	Papaveraceae	Rheinheimer & Hassler, 2010
Stenocarus ruficornis	*Papaver* spp	Papaveraceae	Rheinheimer & Hassler, 2010
Thamiocolus garajonay	*Sideritis* spp	Lamiaceae	Stüben & Schütte, 2014
Thamiocolus grancanariensis	*Sideritis dasygnaphala*	Lamiaceae	Stüben & Schütte, 2014
Thamiocolus kraatzi	*Stachys palustris, S. sylvatica*	Lamiaceae	Colonnelli, 2004
Thamiocolus niveus	*Ballota nigra*	Lamiaceae	Colonnelli, 2004
Thamiocolus signatus	*Stachys recta, S. atherocalyx*	Lamiaceae	Colonnelli, 2004
Thamiocolus sinapis	*Lamium album, Stachys mialhesi, S. recta, S. atherocalyx*	Lamiaceae	Colonnelli, 2004
Thamiocolus viduatus	*Stachys palustris*	Lamiaceae	Rheinheimer & Hassler, 2010
Thamiocolus virgatus	*Phlomis tuberosa*	Lamiaceae	Colonnelli, 2004

Tribus/Species	Host plant	Order	Reference
Thamiocolus wollastoni	*Sideritis*	Lamiaceae	Colonnelli, 2004
Trichosirocalus barnevillei	*Anthemis millefolium*	Asteraceae	Rheinheimer & Hassler, 2010
Trichosirocalus histrix	*Anthemis mixta*	Asteraceae	Colonnelli, 2004
Trichosirocalus horridus	*Cirsium* spp, *Carduus* spp	Asteraceae	Rheinheimer & Hassler, 2010
Trichosirocalus spurnyi	*Anthemis millefolium*	Asteraceae	Rheinheimer & Hassler, 2010
Trichosirocalus thalhammeri	*Plantago coronopus, P. maritima*	Asteraceae	Colonnelli, 2004
Trichosirocalus troglodytes	*Plantago lanceolata*	Plantaginaceae	Rheinheimer & Hassler, 2010
Zacladus exiguus	*Geranium* spp	Geranicaceae	Rheinheimer & Hassler, 2010
Zacladus geranii	*Geranium* spp	Geranicaceae	Rheinheimer & Hassler, 2010
Wagnerinus costatus	*Weigela hortensis*	Caprifoliaceae	Yoshitake et al., 2008
Wagnerinus frugivorus	*Weigela middendorffiana*	Caprifoliaceae	Yoshitake et al., 2008
Wagnerinus harmandi	*Abelia spathulata*	Caprifoliaceae	Yoshitake & Ito, 2011

Table S4A: Results of the character-dependent diversification analysis in HiSSe, based on the BEAST-I analysis. The Akaike Information Criterion corrected for sample size (AICc) was used to estimate differences among all 44 models. Instead of speciation and extinction rate parameters, HiSSE optimizes transformations of these variables: Turnover rate (τ; speciation rate λ + extinction rate μ) and extinction fraction (ε = μ/λ). Number of free parameters (df), log likelihood (LnL), Akaike weights (AICw).

#	Model	Parameter	df	LnL	AICc	ΔAICc	AICw
1	BiSSE	All	6	-824.4	1661.3	18.7	0.0
2	BiSSE	ε0=ε1	5	-829.9	1670.0	27.4	0.0
3	BiSSE	q's equal	5	-839.5	1689.2	46.6	0.0
4	BiSSE	ε0=ε1, q's equal	4	-839.4	1687.1	44.5	0.0
5	Null-2	q's equal	5	-824.6	1659.5	16.9	0.0
6	Null-2	ε's, q's equal	3	-830.1	1666.4	23.8	0.0
7	Null-2	q's diff	8	-816.6	1717.8	75.2	0.0
8	Null-2	ε's, q's diff	5	-815.4	1696.5	53.9	0.0
9	Null-4	q's equal	8	-816.6	1652.2	9.6	0.0
10	Null-4	ε's equal, q's equal	5	-815.4	1643.2	0.7	0.3
11	Null-4	q's diff	16	-811.5	1660.3	17.7	0.0
12	Null-4	ε's equal, q's diff	13	-812.6	1655.5	12.9	0.0
13	HiSSE	q's equal	9	-821.4	1661.8	19.2	0.0
14	HiSSE	ε's equal, q's equal	6	-817.2	1646.8	4.2	0.1
15	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q's equal	5	-817.5	1645.2	2.7	0.1
16	HiSSE	τ0A=τ1A=τ0B, ε's equal, q's equal	4	-824.5	1657.3	14.7	0.0
17	HiSSE	q0B1B=0, q1B0B=0, all other q's equal	9	-814.5	1647.8	5.2	0.0
18	HiSSE	ε's equal, q0B1B=0, q1B0B=0, all other q's equal	6	-833.8	1680.0	37.4	0.0
19	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q0B1B=0, q1B0B=0, all other q's equal	5	-822.9	1656.0	13.5	0.0
20	HiSSE	τ0A=τ1A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's equal	4	-845.3	1698.8	56.2	0.0
21	HiSSE	τ0A=τ1A, ε0A=ε1A, q's equal	7	-817.4	1649.3	6.8	0.0
22	**HiSSE**	**τ0A=τ1A, ε's equal, q's equal**	**5**	**-816.1**	**1642.6**	**0.0**	**0.4**
23	HiSSE	τ0A=τ1A, ε0A=ε1A, q0B1B=0, q1B0B=0, all other q's equal	7	-828.9	1672.4	29.8	0.0
24	HiSSE	τ0A=τ1A, ε's equal, q0B1B=0, q1B0B=0, all other q's equal	5	-820.3	1650.9	8.3	0.0
25	HiSSE	τ0A=τ0B, ε0A=ε0B, q's equal	7	-817.6	1649.8	7.2	0.0
26	HiSSE	τ0A=τ0B, ε's equal, q's equal	5	-825.1	1660.5	17.9	0.0
27	HiSSE	τ0A=τ0B, ε0A=ε0B, q0B1B=0, q1B0B=0, all other q's equal	7	-821.5	1657.6	15.0	0.0
28	HiSSE	τ0A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's equal	5	-831.6	1673.5	30.9	0.0
29	HiSSE	q's diff	16	-822.7	1680.3	37.7	0.0
30	HiSSE	ε's equal, q's diff	13	-821.4	1670.6	28.0	0.0
31	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q's diff	12	-817.9	1661.5	18.9	0.0
32	HiSSE	τ0A=τ1A=τ0B, ε's equal, q's diff	11	-839.2	1701.8	59.2	0.0
33	HiSSE	q0B1B=0, q1B0B=0, all other q's diff	14	-811.9	1654.1	11.5	0.0
34	HiSSE	ε's equal, q0B1B=0, q1B0B=0, all other q's diff	11	-815.0	1653.4	10.8	0.0
35	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q0B1B=0, q1B0B=0, all other q's diff	10	-842.3	1705.8	63.2	0.0
36	HiSSE	τ0A=τ1A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's diff	9	-837.4	1693.8	51.2	0.0
37	HiSSE	τ0A=τ1A, ε0A=ε1A, q's diff	14	-824.4	1679.0	36.4	0.0
38	HiSSE	τ0A=τ1A, ε's equal, q's diff	12	-832.1	1689.8	47.2	0.0
39	HiSSE	τ0A=τ1A, ε0A=ε1A, q0B1B=0, q1B0B=0, all other q's diff	12	-818.6	1662.9	20.3	0.0
40	HiSSE	τ0A=τ1A, ε's equal, q0B1B=0, q1B0B=0, all other q's diff	10	-814.2	1649.6	7.0	0.0
41	HiSSE	τ0A=τ0B, ε0A=ε0B, q's diff	14	-821.8	1673.8	31.2	0.0
42	HiSSE	τ0A=τ0B, ε's equal, q's diff	12	-841.0	1707.7	65.1	0.0
43	HiSSE	τ0A=τ0B, ε0A=ε0B, q0B1B=0, q1B0B=0, all other q's diff	12	-822.9	1671.4	28.8	0.0
44	HiSSE	τ0A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's diff	10	-836.4	1694.0	51.4	0.0

Table S4B: Results of the character-dependent diversification analysis in HiSSe, based on the BEAST-III analysis. The Akaike Information Criterion corrected for sample size (AICc) was used to estimate differences among all 44 models. Instead of speciation and extinction rate parameters, HiSSE optimizes transformations of these variables: Turnover rate (τ; speciation rate λ + extinction rate μ) and extinction fraction (ε = μ/λ). Number of free parameters (df), log likelihood (LnL), Akaike weights (AICw).

#	Model	Parameter	df	LnL	AICc	ΔAICc	AICw
1	BiSSE	All	6	-820.8	1653.6	16.5	0.0
2	BiSSE	ε0=ε1	5	-825.9	1661.9	24.9	0.0
3	BiSSE	q's equal	5	-823.3	1656.7	19.7	0.0
4	BiSSE	ε0=ε1, q's equal	4	-839.7	1687.3	50.3	0.0
5	**Null-2**	**q's equal**	**5**	**-813.5**	**1637.0**	**0.0**	**0.4**
6	Null-2	ε's, q's equal	3	-827.3	1660.7	23.6	0.0
7	Null-2	q's diff	8	-840.5	1705.0	68.0	0.0
8	Null-2	ε's, q's diff	5	-831.0	1684.0	47.0	0.0
9	Null-4	q's equal	8	-812.5	1643.0	6.0	0.0
10	Null-4	ε's equal, q's equal	5	-814.5	1641.0	4.0	0.1
11	Null-4	q's diff	16	-809.1	1652.2	15.1	0.0
12	Null-4	ε's equal, q's diff	13	-809.6	1647.1	10.1	0.0
13	HiSSE	q's equal	9	-815.8	1649.5	12.5	0.0
14	HiSSE	ε's equal, q's equal	6	-822.1	1656.3	19.2	0.0
15	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q's equal	5	-823.5	1656.9	19.9	0.0
16	HiSSE	τ0A=τ1A=τ0B, ε's equal, q's equal	4	-815.2	1638.5	1.5	0.2
17	HiSSE	q0B1B=0, q1B0B=0, all other q's equal	9	-811.2	1640.4	3.4	0.1
18	HiSSE	ε's equal, q0B1B=0, q1B0B=0, all other q's equal	6	-827.9	1667.7	30.7	0.0
19	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q0B1B=0, q1B0B=0, all other q's equal	5	-835.9	1681.9	44.9	0.0
20	HiSSE	τ0A=τ1A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's equal	4	-841.4	1690.8	53.8	0.0
21	HiSSE	τ0A=τ1A, ε0A=ε1A, q's equal	7	-812.9	1639.7	2.7	0.1
22	HiSSE	τ0A=τ1A, ε's equal, q's equal	5	-816.0	1642.1	5.0	0.0
23	HiSSE	τ0A=τ1A, ε0A=ε1A, q0B1B=0, q1B0B=0, all other q's equal	7	-825.5	1665.0	28.0	0.0
24	HiSSE	τ0A=τ1A, ε's equal, q0B1B=0, q1B0B=0, all other q's equal	5	-825.5	1661.0	24.0	0.0
25	HiSSE	τ0A=τ0B, ε0A=ε0B, q's equal	7	-814.3	1642.5	5.5	0.0
26	HiSSE	τ0A=τ0B, ε's equal, q's equal	5	-821.2	1652.4	15.4	0.0
27	HiSSE	τ0A=τ0B, ε0A=ε0B, q0B1B=0, q1B0B=0, all other q's equal	7	-816.4	1646.8	9.7	0.0
28	HiSSE	τ0A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's equal	5	-825.1	1660.2	23.2	0.0
29	HiSSE	q's diff	16	-812.6	1657.3	20.3	0.0
30	HiSSE	ε's equal, q's diff	13	-822.2	1670.4	33.4	0.0
31	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q's diff	12	-842.1	1708.3	71.2	0.0
32	HiSSE	τ0A=τ1A=τ0B, ε's equal, q's diff	11	-822.1	1666.2	29.2	0.0
33	HiSSE	q0B1B=0, q1B0B=0, all other q's diff	14	-816.8	1661.6	24.6	0.0
34	HiSSE	ε's equal, q0B1B=0, q1B0B=0, all other q's diff	11	-820.4	1662.7	25.7	0.0
35	HiSSE	τ0A=τ1A=τ0B, ε0A=ε1A=ε0B, q0B1B=0, q1B0B=0, all other q's diff	10	-818.7	1657.4	20.4	0.0
36	HiSSE	τ0A=τ1A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's diff	9	-833.2	1684.3	47.3	0.0
37	HiSSE	τ0A=τ1A, ε0A=ε1A, q's diff	14	-808.8	1645.6	8.6	0.0
38	HiSSE	τ0A=τ1A, ε's equal, q's diff	12	-826.0	1675.9	38.9	0.0
39	HiSSE	τ0A=τ1A, ε0A=ε1A, q0B1B=0, q1B0B=0, all other q's diff	12	-815.1	1654.2	17.1	0.0
40	HiSSE	τ0A=τ1A, ε's equal, q0B1B=0, q1B0B=0, all other q's diff	10	-816.3	1652.5	15.5	0.0
41	HiSSE	τ0A=τ0B, ε0A=ε0B, q's diff	14	-822.3	1672.7	35.6	0.0
42	HiSSE	τ0A=τ0B, ε's equal, q's diff	12	-830.0	1684.0	47.0	0.0
43	HiSSE	τ0A=τ0B, ε0A=ε0B, q0B1B=0, q1B0B=0, all other q's diff	12	-832.6	1689.2	52.1	0.0
44	HiSSE	τ0A=τ0B, ε's equal, q0B1B=0, q1B0B=0, all other q's diff	10	-824.7	1669.4	32.3	0.0

Figure legends S1-S5

Figure S1. Results of the maximum likelihood phylogenetic tree reconstruction in IQ-Tree. Numbers at the internal nodes represent bootstrap support values of the Ultrafast bootstrap approximation approach.

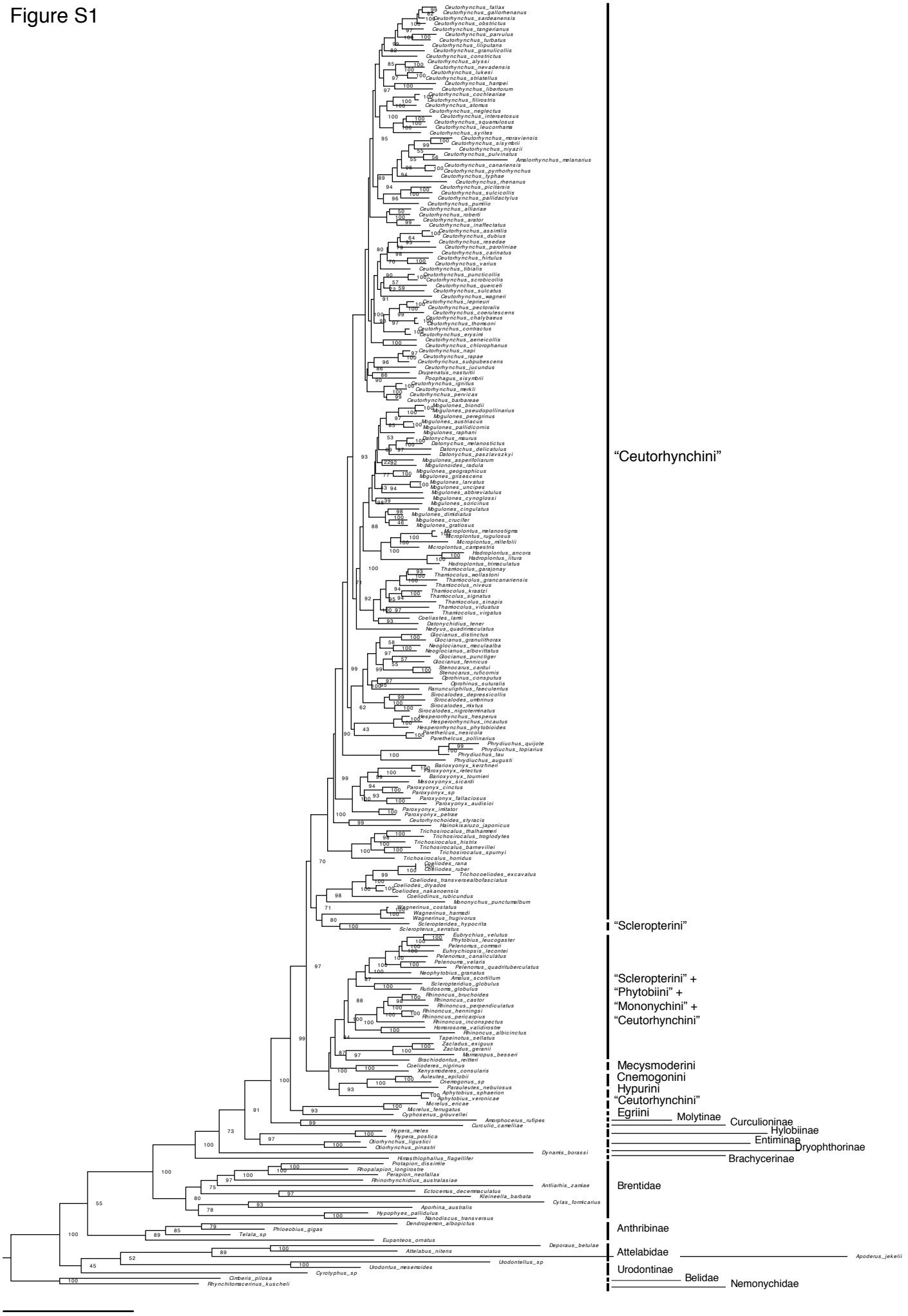
Figures S2. Results from the divergence time analyses in BEAST. Trees represent the maximum credibility tree with median ages. Numbers at the internal nodes represent node age and node bars represent the 95% HPD values on node height (age). A) Results of the BEAST-I analysis with a Yule branching prior and a fixed tree topology. Blue squares indicate position of calibration fossils. B) Results of the BEAST-II analysis with a Birth-Death branching prior and a fixed tree topology. C) Results of the BEAST-III analysis, based on a constrained tree search.

Figures S3. Results of the diversification rate through time analyses in RevBayes. A-C: Diversification rate analyses based on BEAST-I tree. A) Incomplete taxon sampling covered by a uniform sampling strategy. B) Incomplete taxon sampling covered by an empirical sampling strategy considering the sampling fraction of Ceutorhyninae, “core Ceutorhynchini”, and the genus *Ceutorhynchus*. C) Incomplete taxon sampling covered by an empirical sampling strategy considering the sampling fraction of each genus. D) Diversification rate analyses based on BEAST-III tree and incomplete taxon sampling covered by a uniform sampling strategy. Ages provided in million years (Ma). Net diversification rate r = speciation rate λ – extinction rate μ. Relative extinction rate ($\varepsilon = \mu/\lambda$).

Figure S4: Results of the diversification rate through time analyses with TESS. Plots of speciation, extinction, net diversification, and relative extinction rates through time. Plots of the statistical support for rate shifts illustrate both the posterior probability and the Bayes Factor comparison to models with no rate shift. A+B: Diversification rate analyses based on BEAST-I tree and incomplete taxon sampling covered by a uniform sampling strategy. C+D: Diversification rate analyses based on BEAST-III and incomplete taxon sampling covered by a uniform sampling strategy.

Figures S5: Results of the clade-specific divergence time analyses in BAMM. Phylorate plots indicating the results of the evolutionary rate analyses. A-C: Diversification rate analyses based on BEAST-I tree. A) Incomplete taxon sampling covered by a uniform sampling strategy. B) Incomplete taxon sampling covered by an empirical sampling strategy considering the sampling fraction of Ceutorhyninae, “core Ceutorhynchini”, and the genus *Ceutorhynchus*. C) Incomplete taxon sampling covered by an empirical sampling strategy considering the sampling fraction of each genus. D) Diversification rate analyses based on BEAST-III tree and incomplete taxon sampling covered by a uniform sampling strategy. Colors indicate relative speciation rates along branches. Red circle indicates the position of a regime shift in the maximum shift credibility (MSC) configuration.

Figure S1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Ceutorhynchus_panvulus
Ceutorhynchus_turbatus
Ceutorhynchus_liliputans
Ceutorhynchus_granulicollis
Ceutorhynchus_constrictus
Ceutorhynchus_alyssi
Ceutorhynchus_nevadensis
Ceutorhynchus_lukesi
Ceutorhynchus_striatellus
Ceutorhynchus_hampei
Ceutorhynchus_libertorum
Ceutorhynchus_cochleariae
Ceutorhynchus_filirostris
Ceutorhynchus_atomus
Ceutorhynchus_neglectus
Ceutorhynchus_intersetosus
Ceutorhynchus_squamulosus
Ceutorhynchus_leuconhami
Ceutorhynchus_syrites
Ceutorhynchus_moraviensis
Ceutorhynchus_sisymbrii
Ceutorhynchus_niyazii
Ceutorhynchus_pulvinatus
Amalorhynchus_melanarius
Ceutorhynchus_canariensis
Ceutorhynchus_pyrrhorhynchus
Ceutorhynchus_typhae
Ceutorhynchus_rhenanus
Ceutorhynchus_picitarsis
Ceutorhynchus_sulcicollis
Ceutorhynchus_pallidactylus
Ceutorhynchus_pumilio
Ceutorhynchus_alliariae
Ceutorhynchus_roberti
Ceutorhynchus_arator
Ceutorhynchus_inaffectatus
Ceutorhynchus_assimilis
Ceutorhynchus_dubius
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Ceutorhynchus_leprieuri
Ceutorhynchus_pectoralis
Ceutorhynchus_coerulescens
Ceutorhynchus_chalybaeus
Ceutorhynchus_thomsoni
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Ceutorhynchus_pervicax
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Mogulones_uncipes
Mogulones_abbreviatulus
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Microplontus_millefolii
Microplontus_campestris
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Hadroplontus_litura
Hadroplontus_trimaculatus
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Thamiocolus_wollastoni
Thamiocolus_grancanariensis
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Glocianus_granulithorax
Neoglocianus_maculaalba
Neoglocianus_albovittatus
Glocianus_punctiger
Glocianus_fennicus
Stenocarus_cardui
Stenocarus_ruficornis
Ceutorhynchus_conspurcatus
Ceutorhynchus_sutturalis
Ranunculiphilus_faeculentus
Sirocalodes_depressicollis
Sirocalodes_umbrinus
Sirocalodes_mixtus
Sirocalodes_nigroterminatus
Hesperomorphynchus_hesperus
Hesperomorphynchus_incautus
Hesperomorphynchus_phytobioides
Parethelcus_nesicola
Parethelcus_pollinarius
Phrydiuchus_quijote
Phrydiuchus_topiarius
Phrydiuchus_tau
Phrydiuchus_augusti
Barioxyonyx_kerzhneri
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Mononychus_punctumalbum
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Wagnerinus_hannadi
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Scleropterus_serratus
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Phytobius_leucogaster
Pelenomus_commari
Euhrychiopsis_lecontei
Pelenomus_canaliculatus
Pelenomus_velaris
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Amalus_scortillum
Scleropteridius_globulus
Rutidosoma_globulus
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Rhinoncus_castor
Rhinoncus_perpendiculatus
Rhinoncus_henningsi
Rhinoncus_pericarpius
Rhinoncus_inconspectus
Homorosoma_validirostre
Rhinoncus_albicinctus
Tapeinotus_sellatus
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Zacladus_geranii
Mammaropus_besseri
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Xenysmoderes_consularis
Auleutes_epilobii
Cnemogonus_sp
Parauleutes_nebulosus
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Aphytobius_veronicae
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Micrelus_ferrugatus
Cyphosenus_grouvellei
Amphocerus_rufipes
Curculio_camelliae
Hypera_meles
Hypera_postica
Otiorhynchus_ligustici
Otiorhynchus_pinastri
Dynamis_borassi
Himasthlophallus_flagellifer
Protapion_dissimile
Rhopalapion_longirostre
Perapion_neofallax
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Antliarhis_zamiae
Ectocemus_decemmaculatus
Kleineella_barbata
Cylas_formicarius
Apothina_australis
Hypophyes_pallidulus
Nanodiscus_transversus
Dendropemon_albopictus
Phloeobius_gigas
Telala_sp
Eupanteos_ornatus
Deporaus_betulae
Attelabus_nitens
Urodontellus_sp
Apoderus_jekelii
Urodontus_mesembides
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Cimberis_pilosa
Rhynchitomacerinus_kuscheli
“Ceutorhynchini”
“Scleropterini”
“Scleropterini” +
“Phytobiini” +
“Mononychini” +
“Ceutorhynchini”
Mecysmoderini
Cnemogonini
Hypurini
“Ceutorhynchini”
Egriini
Molytinae
Curculioninae
Hylobiinae
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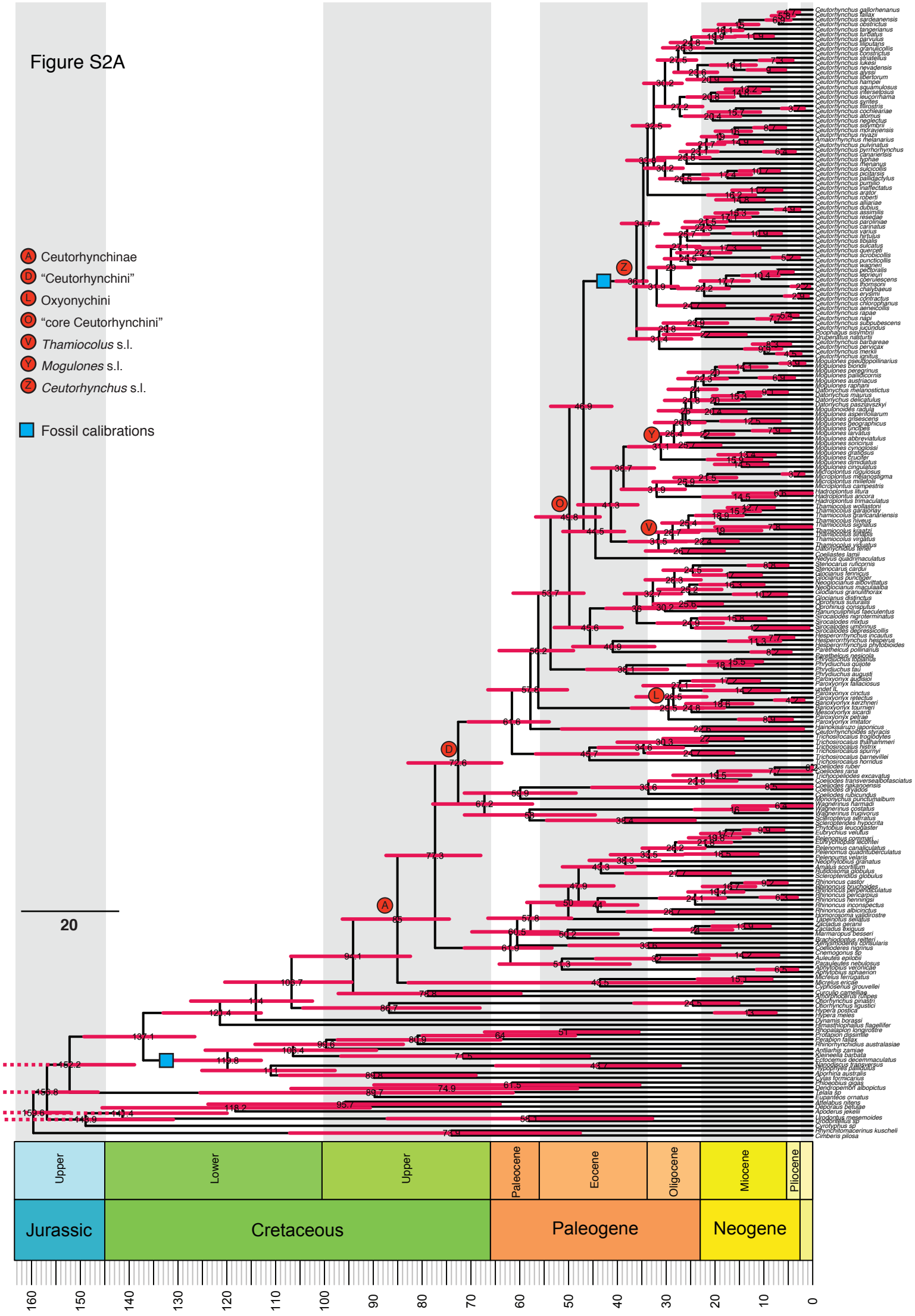
Figure S2A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L Oxyonychini
O "core Ceutorhynchini"
V Thamiocolus s.l.
Y Mogulones s.l.
Z Ceutorhynchus s.l.
Fossil calibrations
20
Upper
Lower
Upper
Paleocene
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Oligocene
Miocene
Pliocene
Jurassic
Cretaceous
Paleogene
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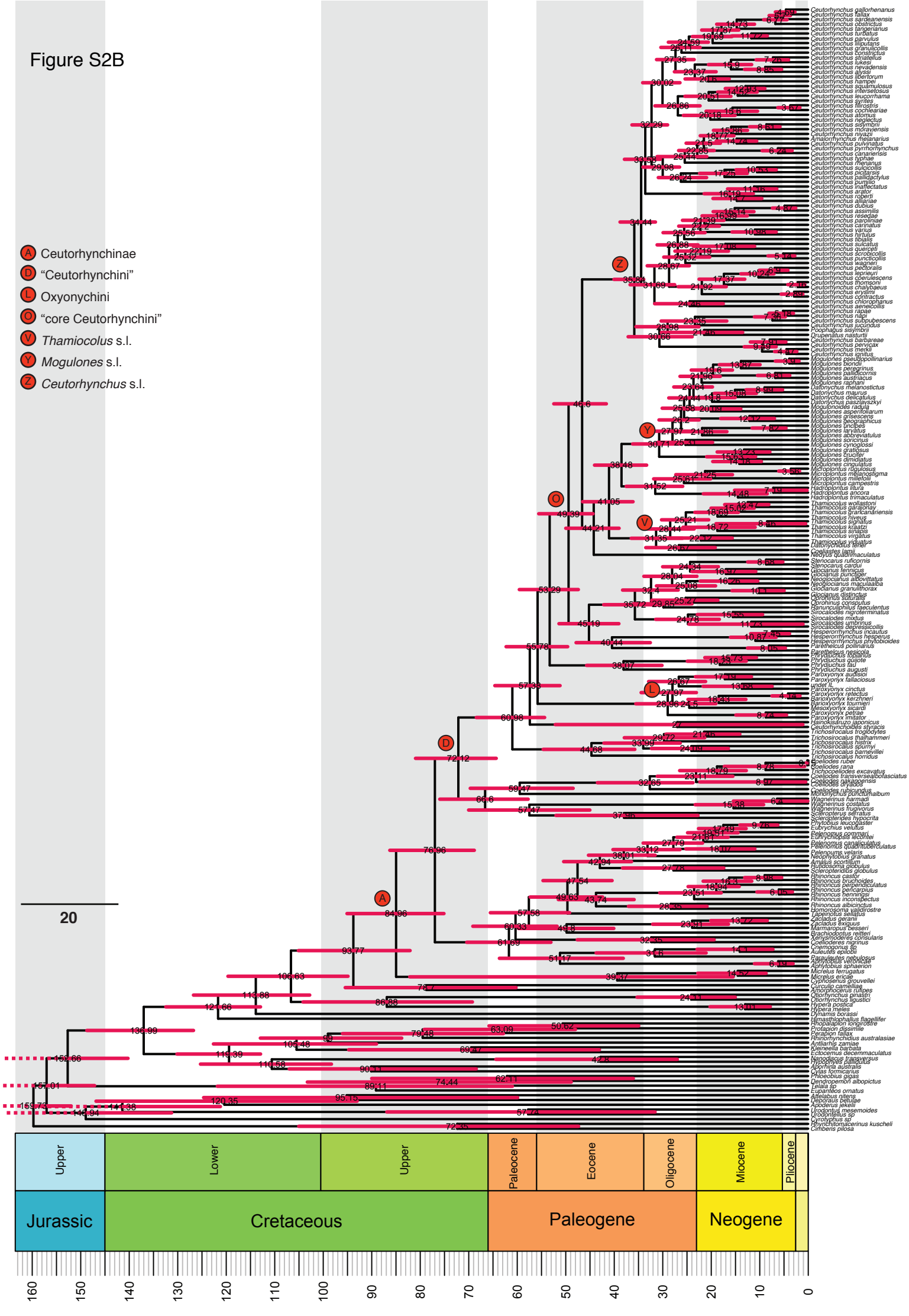
Figure S2B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Z Ceutorhynchus s.l.
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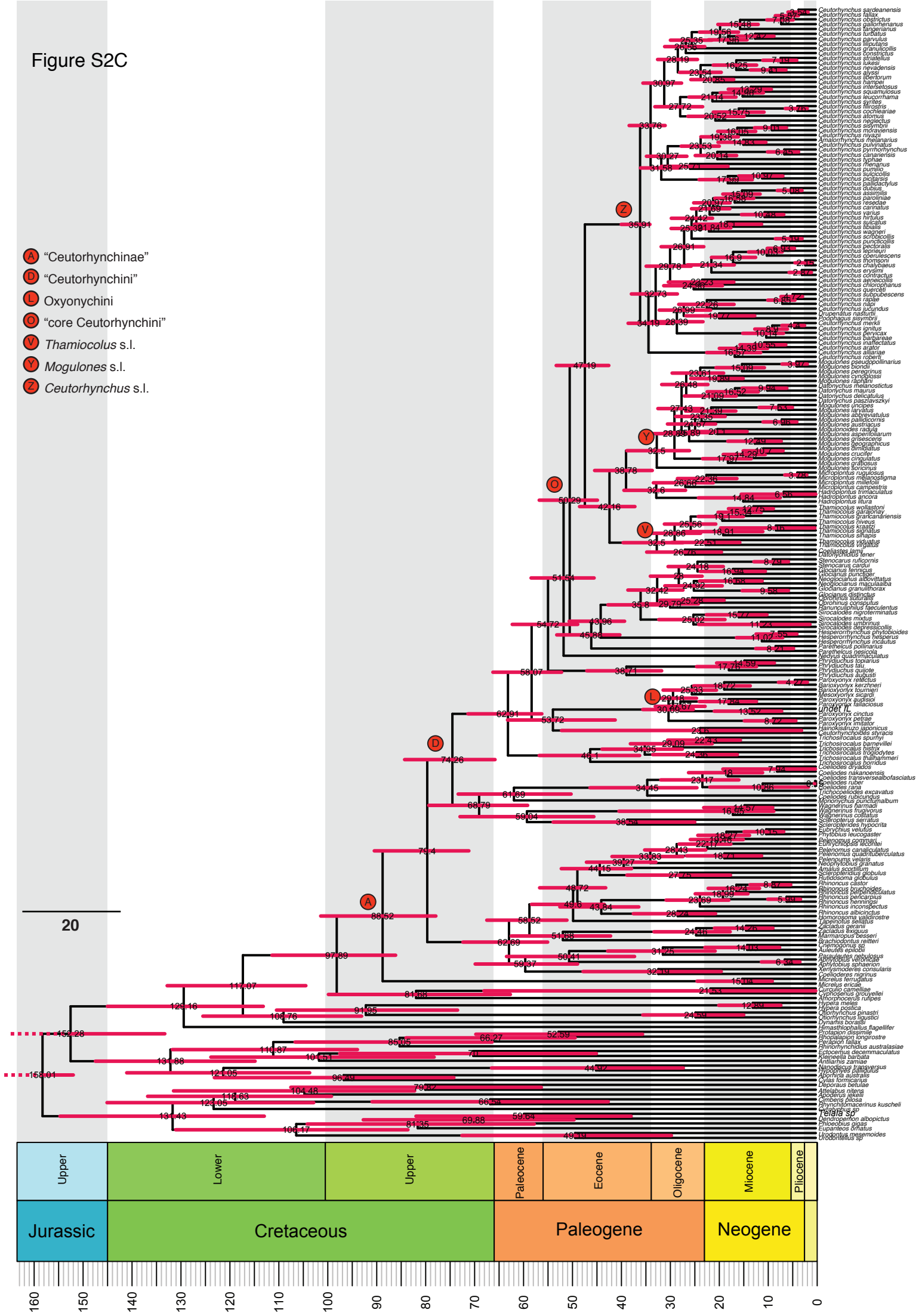
Figure S2C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V *Thamiocolus* s.l.
Y *Mogulones* s.l.
Z *Ceutorhynchus* s.l.
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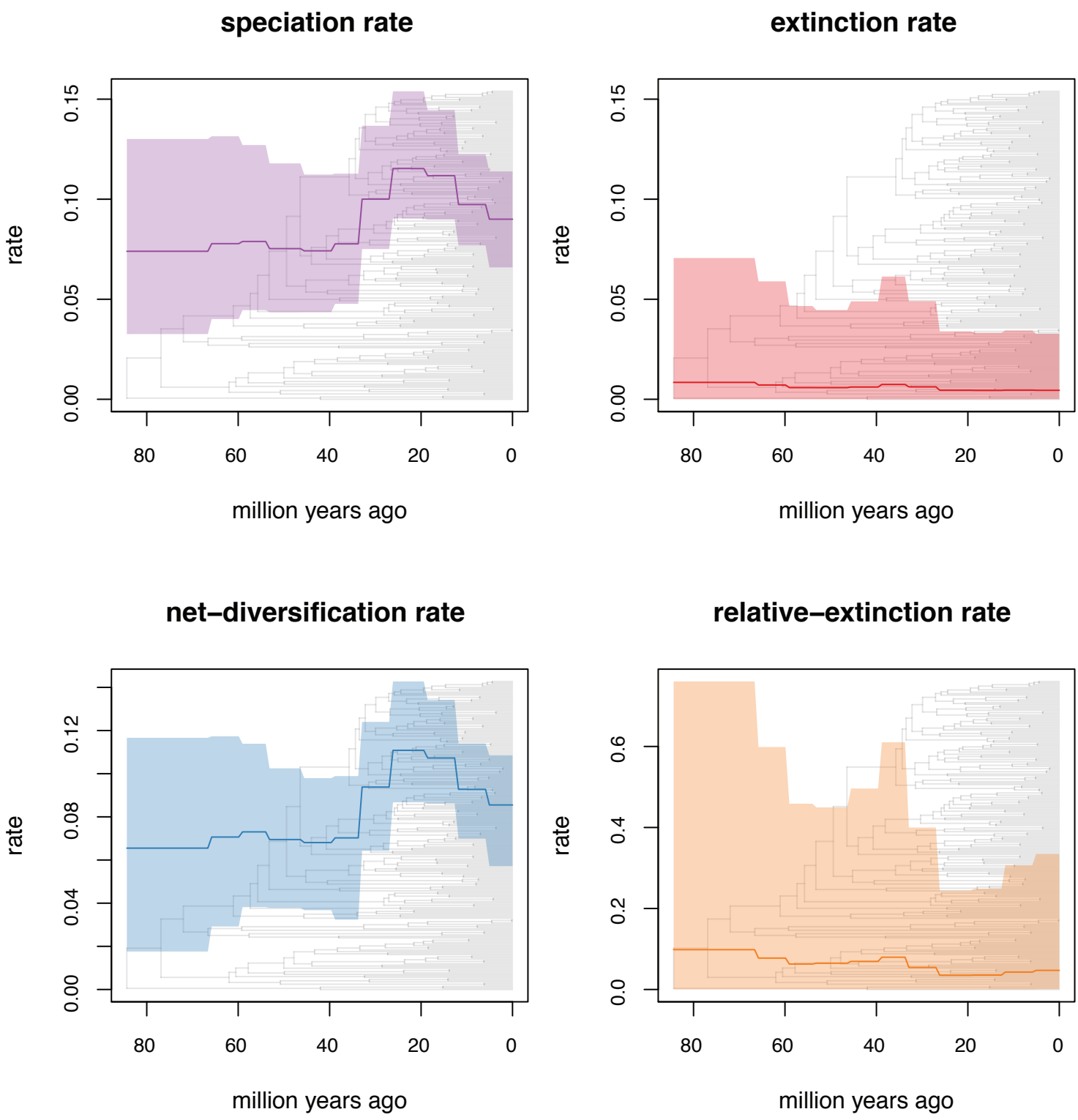
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Figure S3B

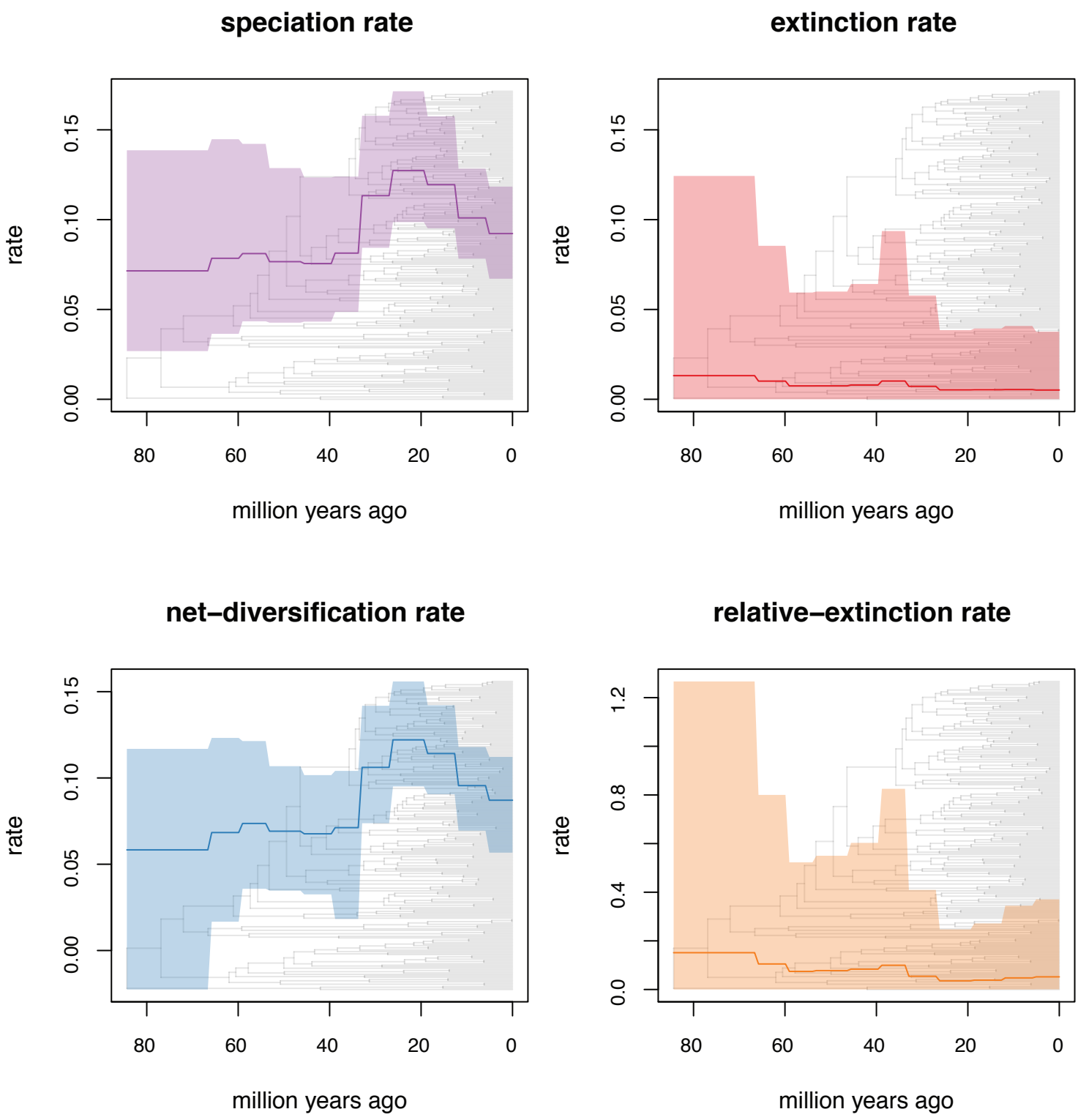
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Figure S3C

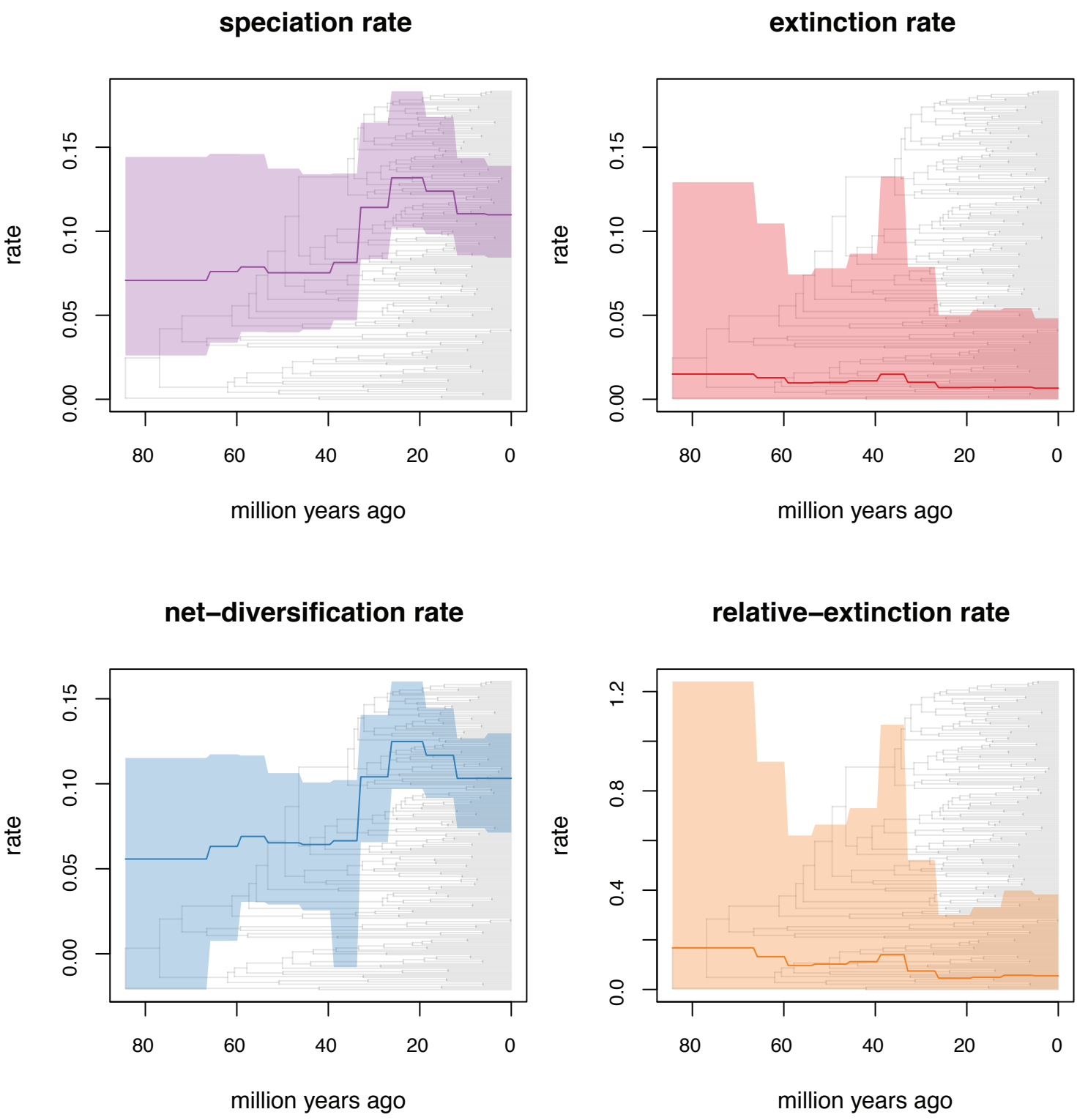
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Figure S3D

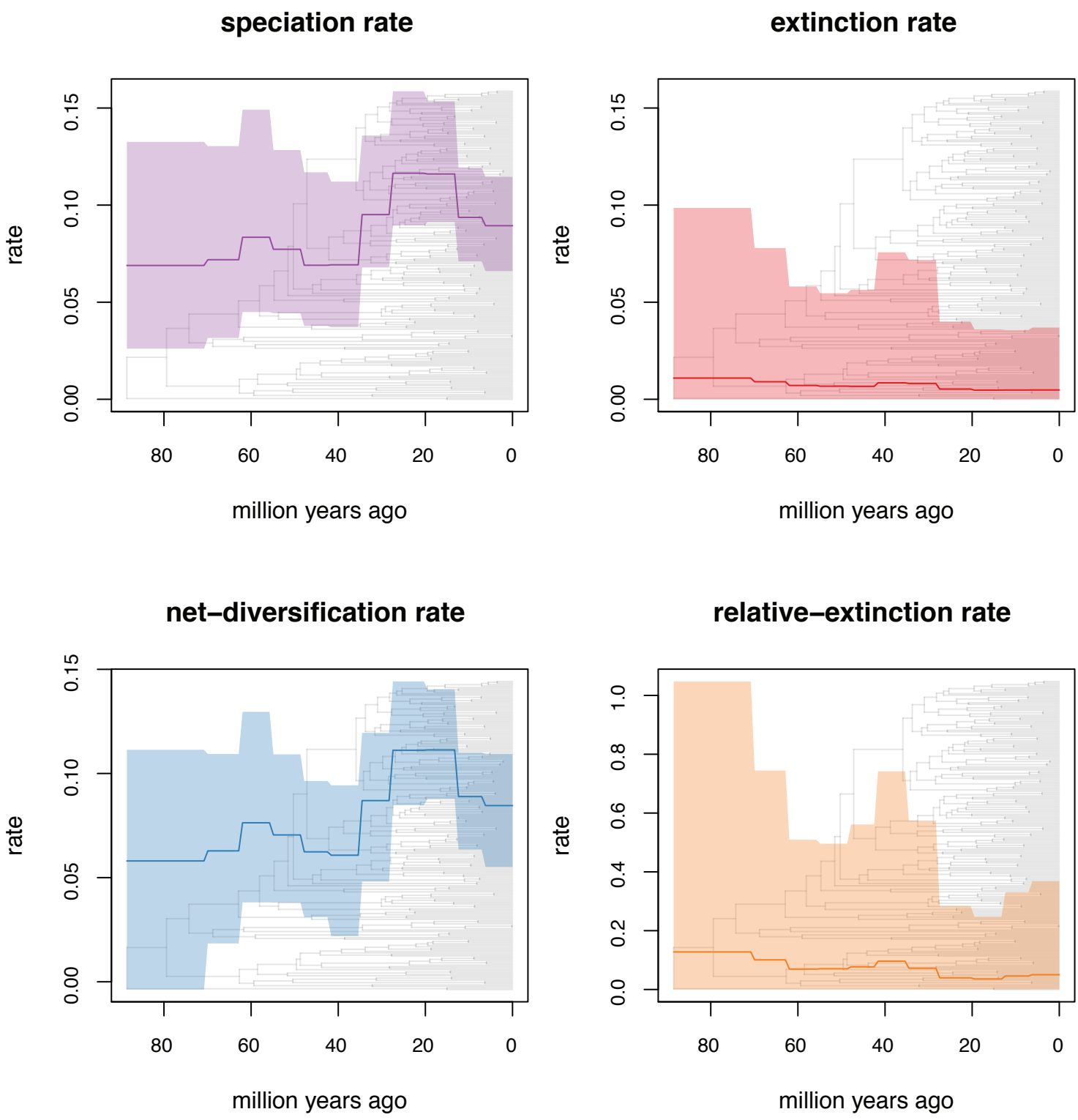
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Figure S4A

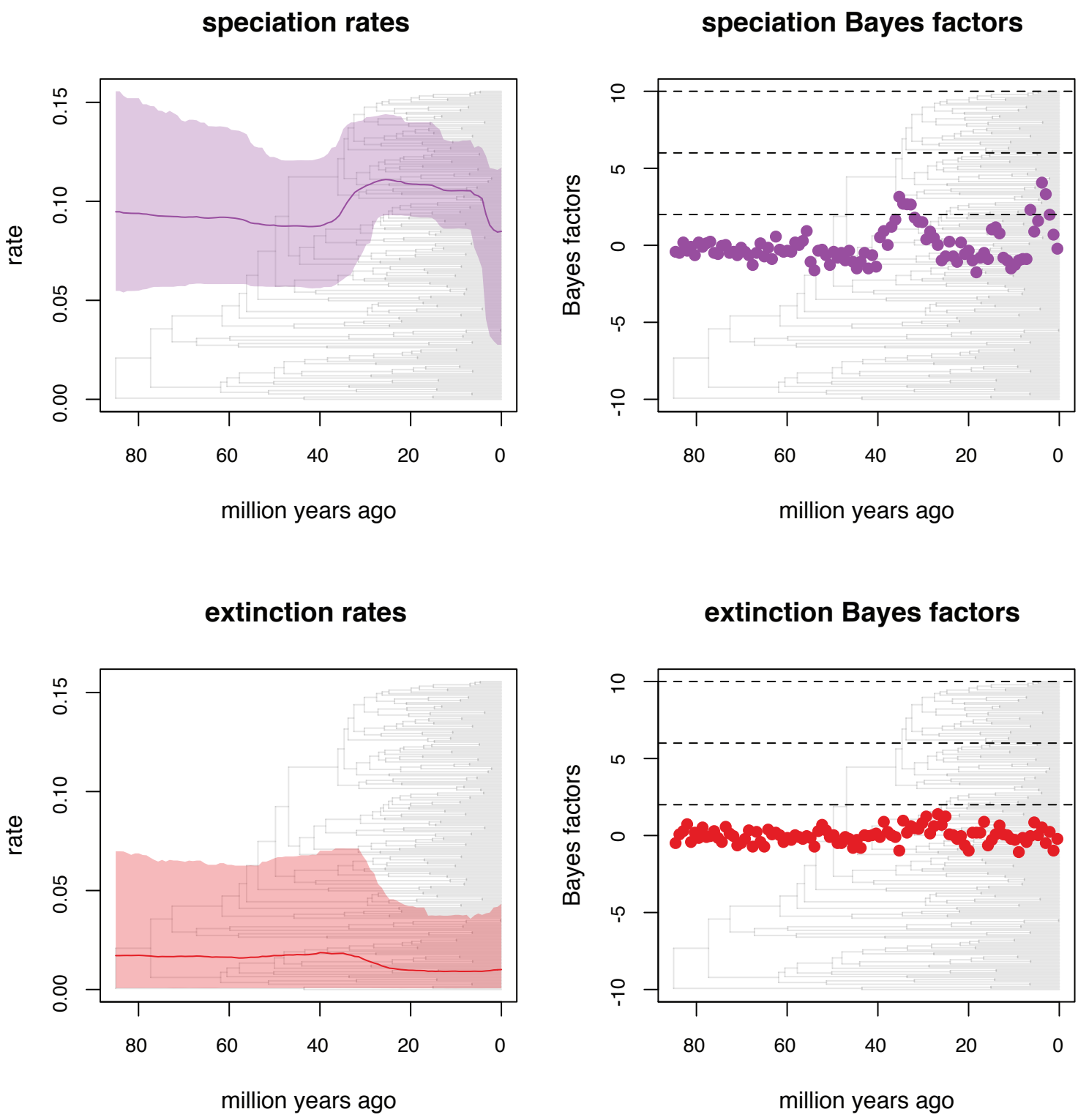
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Figure S4B

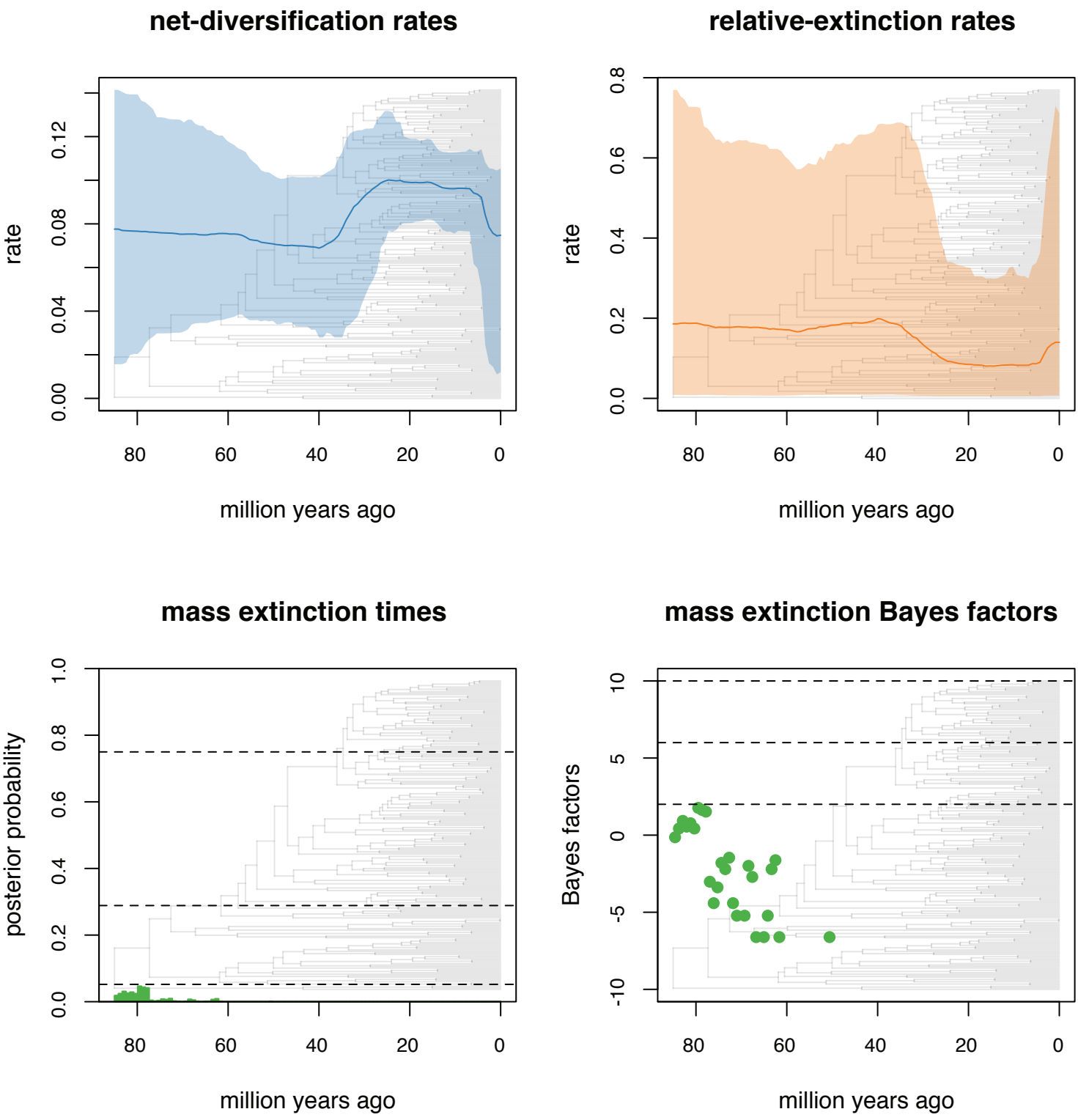
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Figure S4C

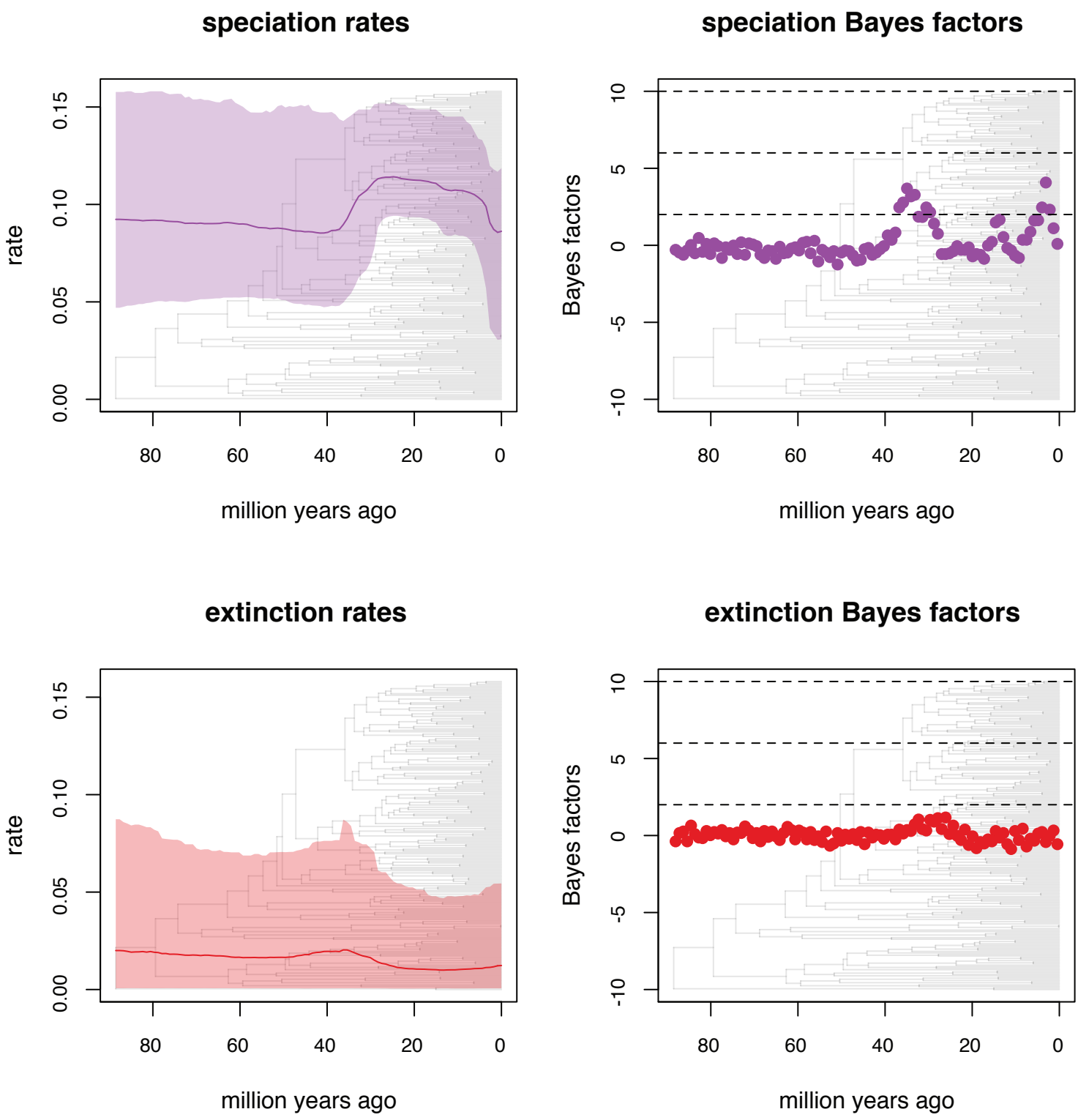
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Fig. S4D

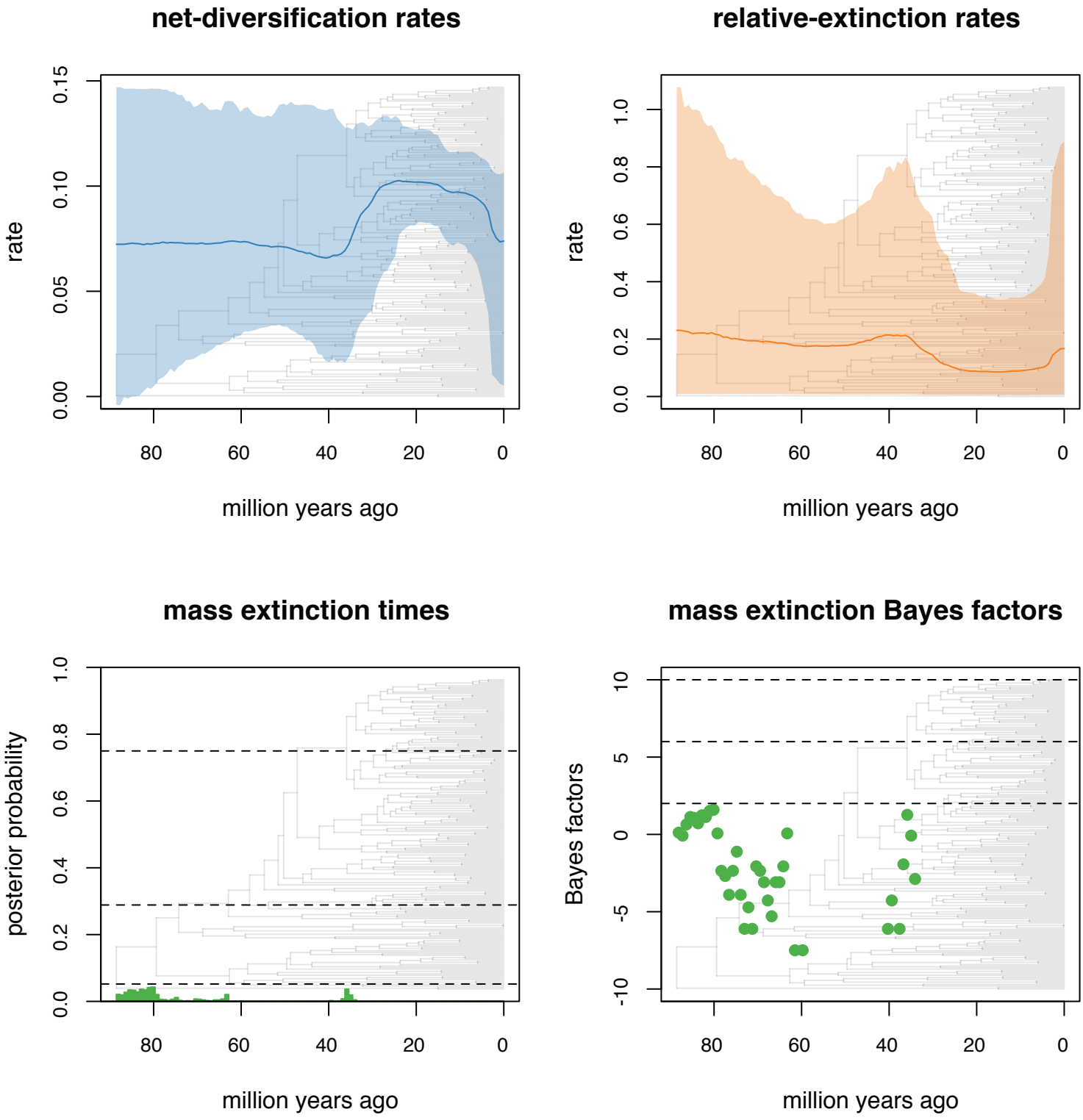
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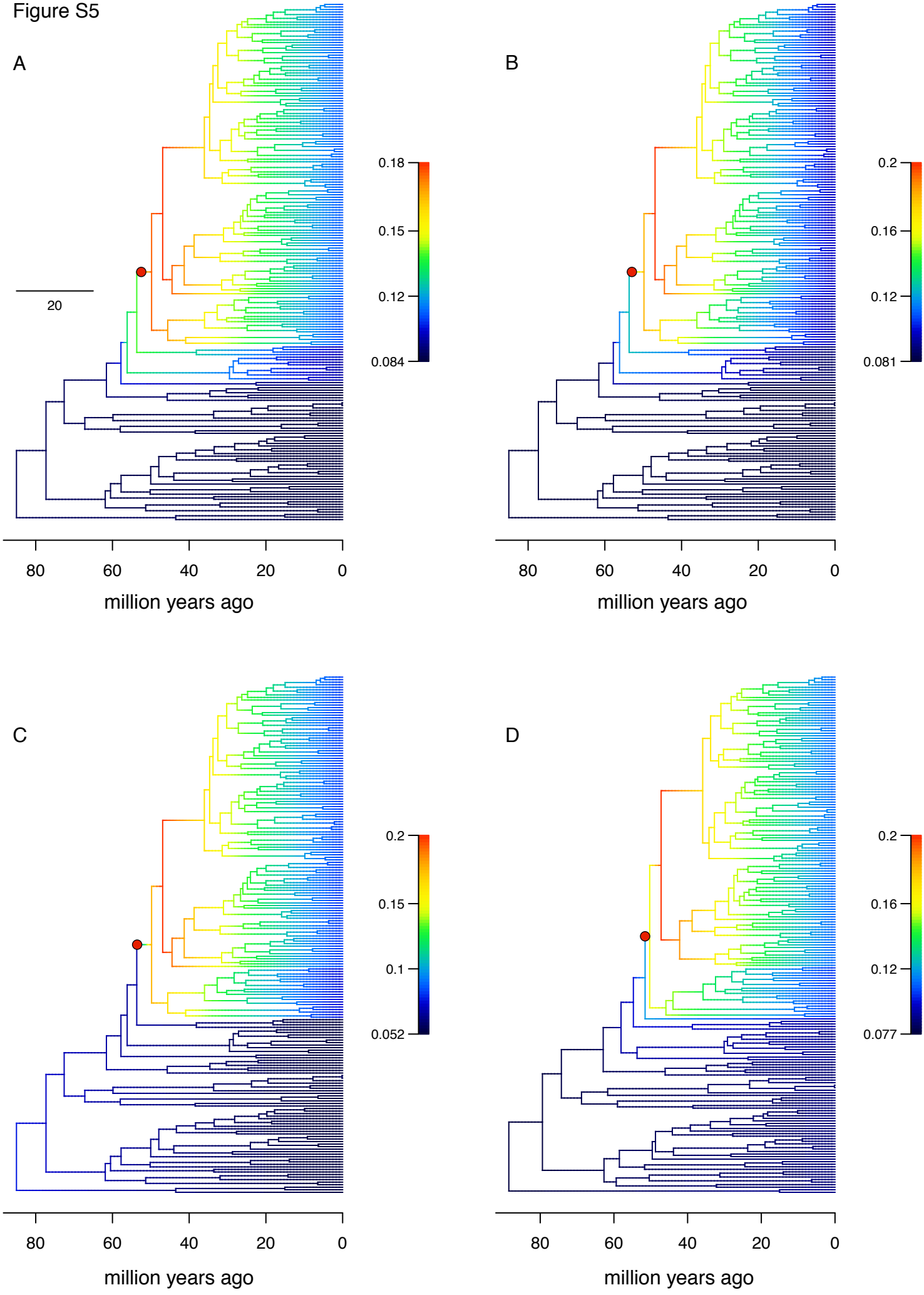
Figure S5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