

**Table S2. Regression outputs from linear regression for each of the study units described in Table S1.** Regressions take the form of  $RI = b_0 + b_1 \log_{10}(PD + 1)$ . Phylogenetic distance (PD) is the estimated time of independent evolution from the most affected species in the study unit (in Ma, millions of years);  $b_0$  is the slope and  $b_1$  is the intercept. P-values in bold indicate slopes significantly different from zero (alpha = 0.05). Confidence intervals (95%) are given for the slope of each model. The type of interaction and which partner was impacted are used for meta-analysis grouping in Table 1 and Figure 1 in the main text.

Unit	Intercept	SE int	Slope	SE slope	t-value	P-value	df	adjR <sup>2</sup>	CI025	CI975	Interaction	Impacted
24a	1.0000	0.1835	-0.3748	0.0984	-3.8108	<b>0.00885</b>	6	0.6589	-0.6155	-0.1341	disease	plant
24b	1.0119	0.2132	-0.3561	0.1166	-3.0550	<b>0.02236</b>	6	0.5435	-0.6414	-0.0709	disease	plant
32a	0.9945	0.0744	-0.3817	0.0307	-12.4214	<b>3.93E-15</b>	39	0.7931	-0.4439	-0.3196	disease	plant
32b	1.0573	0.1793	-0.3758	0.0742	-5.0656	<b>3.92E-06</b>	62	0.2813	-0.5241	-0.2275	disease	plant
32c	0.9359	0.1723	-0.3322	0.0777	-4.2761	<b>0.00006</b>	62	0.2153	-0.4875	-0.1769	disease	plant
32d	0.7726	0.2795	-0.0095	0.1195	-0.0795	0.93699	40	-0.0248	-0.2510	0.2320	disease	plant
32e	1.2158	0.2809	-0.2016	0.1214	-1.6615	0.10157	63	0.0268	-0.4442	0.0409	disease	plant
32f	1.0412	0.2022	-0.0651	0.0875	-0.7440	0.45965	63	-0.0070	-0.2400	0.1098	disease	plant
32g	0.8616	0.1616	-0.2162	0.0744	-2.9068	<b>0.00503</b>	63	0.1043	-0.3649	-0.0676	disease	plant
32i	0.9909	0.0596	-0.3997	0.0252	-15.8305	<b>3.93E-15</b>	26	0.9024	-0.4516	-0.3478	disease	plant
34a	0.9620	0.1127	-0.3637	0.0472	-7.7020	<b>3.92E-06</b>	61	0.4847	-0.4581	-0.2693	disease	plant

<b>4a</b>	1.2513	0.3031	-0.4508	0.1373	-3.2824	<b>0.00730</b>	11	0.4489	-0.7531	-0.1485	disease	plant
<b>4b</b>	1.1304	0.3180	-0.4117	0.1441	-2.8575	<b>0.01558</b>	11	0.3739	-0.7289	-0.0946	disease	plant
<b>4c</b>	0.9595	0.0415	-0.3955	0.0188	-21.0900	<b>3.93E-15</b>	11	0.9737	-0.4368	-0.3542	disease	plant
<b>4d</b>	0.9595	0.0415	-0.3955	0.0188	-21.0900	<b>3.92E-06</b>	11	0.9737	-0.4368	-0.3542	disease	plant
<b>18a</b>	0.9271	0.2392	-0.1648	0.1087	-1.5160	0.15344	13	0.0849	-0.3996	0.0700	herbivory	plant
<b>22a</b>	0.8737	0.3156	-0.1704	0.1361	-1.2516	0.22674	18	0.0290	-0.4564	0.1156	herbivory	plant
<b>22b</b>	0.8396	0.1732	-0.1809	0.0758	-2.3871	<b>0.02816</b>	18	0.1983	-0.3402	-0.0217	herbivory	plant
<b>23b</b>	1.0383	0.1732	-0.4981	0.1162	-4.2881	<b>0.00202</b>	9	0.6349	-0.7609	-0.2353	herbivory	plant
<b>23c</b>	0.5241	0.2332	-0.2683	0.1564	-1.7160	0.12030	9	0.1628	-0.6221	0.0854	herbivory	plant
<b>23d</b>	1.1577	0.2152	-0.5863	0.1427	-4.1086	<b>0.00264</b>	9	0.6136	-0.9091	-0.2635	herbivory	plant
<b>25a</b>	0.8917	0.1268	-0.4078	0.0642	-6.3549	<b>1.75E-06</b>	23	0.6214	-0.5405	-0.2750	herbivory	plant
<b>25b</b>	0.9509	0.2452	-0.3867	0.1231	-3.1422	<b>0.00393</b>	28	0.2343	-0.6388	-0.1346	herbivory	plant
<b>31a</b>	1.0673	0.3282	-0.4497	0.1721	-2.6135	<b>0.04746</b>	5	0.4928	-0.8920	-0.0074	herbivory	plant
<b>31c</b>	1.0415	0.2490	-0.4516	0.1306	-3.4592	<b>0.01805</b>	5	0.6464	-0.7872	-0.1160	herbivory	plant
<b>31d</b>	0.9957	0.1194	-0.4551	0.0626	-7.2710	<b>0.00076</b>	5	0.8963	-0.6159	-0.2942	herbivory	plant
<b>31e</b>	1.0783	0.2123	-0.4489	0.1113	-4.0324	<b>0.00999</b>	5	0.7178	-0.7350	-0.1627	herbivory	plant
<b>32h</b>	0.9965	0.1140	-0.4042	0.0483	-8.3759	<b>7.39E-09</b>	26	0.7192	-0.5034	-0.3050	disease	enemy development

<b>12c</b>	0.9728	0.1567	-0.1663	0.0689	-2.4136	<b>0.03439</b>	11	0.2868	-0.3179	-0.0146	herbivory	enemy development
<b>12d</b>	0.7731	0.3524	-0.1135	0.1611	-0.7046	0.49573	11	-0.0438	-0.4680	0.2410	herbivory	enemy development
<b>12e</b>	0.9983	0.1783	-0.2369	0.0784	-3.0205	<b>0.01164</b>	11	0.4037	-0.4095	-0.0643	herbivory	enemy development
<b>12f</b>	0.9990	0.1754	-0.2655	0.0771	-3.4413	<b>0.00551</b>	11	0.4747	-0.4353	-0.0957	herbivory	enemy development
<b>35a</b>	0.9983	0.0697	-0.0781	0.0361	-2.1637	0.08279	5	0.3803	-0.1710	0.0147	herbivory	enemy development
<b>35b</b>	0.9983	0.0368	-0.0629	0.0172	-3.6542	<b>0.01468</b>	5	0.6731	-0.1071	-0.0187	herbivory	enemy development
<b>35e</b>	1.0514	0.3257	-0.2953	0.1653	-1.7864	0.13408	5	0.2675	-0.7201	0.1296	herbivory	enemy development
<b>9a</b>	0.9888	0.0542	-0.0995	0.0495	-2.0110	0.11467	4	0.3784	-0.2369	0.0379	herbivory	enemy development
<b>9b</b>	0.9016	0.0718	-0.0300	0.0656	-0.4566	0.67167	4	-0.1881	-0.2121	0.1522	herbivory	enemy development
<b>12a</b>	1.2038	0.3521	-0.3916	0.1685	-2.3238	<b>0.04030</b>	11	0.2683	-0.7624	-0.0207	herbivory	enemy behavior
<b>12b</b>	1.0660	0.2286	-0.4119	0.1094	-3.7655	<b>0.00312</b>	11	0.5234	-0.6527	-0.1712	herbivory	enemy behavior
<b>25c</b>	0.8061	0.1127	-0.3768	0.0566	-6.6602	<b>3.15E-07</b>	28	0.5992	-0.4926	-0.2609	herbivory	enemy behavior
<b>26a</b>	0.7867	0.1166	-0.4439	0.0709	-6.2567	<b>0.00004</b>	12	0.7458	-0.5985	-0.2893	herbivory	enemy behavior
<b>26b</b>	0.8379	0.1148	-0.4817	0.0710	-6.7813	<b>0.00003</b>	11	0.7894	-0.6381	-0.3254	herbivory	enemy behavior
<b>27a</b>	1.1011	0.1785	-0.4031	0.0829	-4.8620	<b>0.00017</b>	16	0.5711	-0.5788	-0.2273	herbivory	enemy behavior
<b>28a</b>	1.0459	0.1185	-0.4596	0.0838	-5.4824	<b>0.01193</b>	3	0.8790	-0.7264	-0.1928	herbivory	enemy behavior
<b>35c</b>	1.0231	0.0603	-0.0879	0.0312	-2.8125	<b>0.03743</b>	5	0.5353	-0.1682	-0.0076	herbivory	enemy behavior

<b>35d</b>	0.9973	0.0974	-0.4063	0.0494	-8.2173	<b>0.00043</b>	5	0.9173	-0.5335	-0.2792	herbivory	enemy behavior
<b>35f</b>	0.9560	0.3470	-0.2026	0.1761	-1.1507	0.30189	5	0.0512	-0.6554	0.2501	herbivory	enemy behavior
<b>35g</b>	1.0926	0.2173	-0.1799	0.1085	-1.6589	0.12535	11	0.1274	-0.4187	0.0588	herbivory	enemy behavior