Appendix S2. Summary of the results of Linear Mixed-effects Models (LMM).

Table S2.1. Summary of model coefficient parameter estimates (i.e., effect sizes), degrees of freedom (df), log-likelihood, AICc, ΔAICc, AICc weight (w_i) and the variance explained by fixed (*R2m*) and fixed plus random factors (*R2c*) of the different climatic models. The gradient of colours from red to green corresponds to the effect size, from large negative (red) to large positive (green) effect sizes. The set of models competing with the best model within 2 units of ΔAICc is highlighted in bold font. *Partner type* is the effect of partner type (the estimate for schoolchildren being compared with the estimate for professional scientists that was included in the intercept) and *Year* is the effect of each year (2019 contrasted with 2018).

Geographic and climatic models

Herbivory

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	Year	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
1.728				**+**				**+**	**5**	**-83.120**	**176.571**	**0.000**	**0.679**	**0.29 (0.7)**
1.704	0.068			+				+	6	-83.778	180.019	3.449	0.121	0.29 (0.7)
1.728		0.047		+				+	6	-84.762	181.988	5.418	0.045	0.28 (0.7)
1.722				+			-0.031	+	6	-85.039	182.542	5.972	0.034	0.28 (0.7)
1.716				+		0.031		+	6	-85.119	182.702	6.131	0.032	0.18 (0.7)
1.730				+	-0.015			+	6	-85.392	183.248	6.678	0.024	0.28 (0.7)
1.712			0.014	+				+	6	-85.599	183.662	7.092	0.020	0.19 (0.7)
1.823	0.105							+	5	-86.768	183.866	7.296	0.018	0.28 (0.7)
1.906								+	4	-88.375	184.969	8.399	0.010	0.18 (0.7)
1.705	0.063	0.015		+				+	7	-85.825	186.272	9.701	0.005	0.18 (0.7)
1.850						0.072		+	5	-89.128	188.587	12.016	0.002	0.29 (0.7)
1.709				+		0.033	-0.034	+	7	-86.998	188.618	12.047	0.002	0.3 (0.7)
1.724				+	-0.008		-0.029	+	7	-87.324	189.269	12.699	0.001	0.29 (0.7)
1.718				+	-0.013	0.030		+	7	-87.407	189.437	12.866	0.001	0.24 (0.7)
1.715			0.006	+			-0.027	+	7	-87.502	189.627	13.056	0.001	0.18 (0.7)
1.703			0.025	+	-0.030			+	7	-87.585	189.793	13.222	0.001	0.28 (0.7)
1.702			0.012	+		0.029		+	7	-87.624	189.871	13.300	0.001	0.2 (0.7)
1.822	0.106	-0.004						+	6	-88.804	190.072	13.501	0.001	0.29 (0.7)
1.904		0.051						+	5	-89.937	190.204	13.633	0.001	0.18 (0.7)
1.904					-0.035			+	5	-90.283	190.896	14.325	0.001	0.28 (0.7)

Gall-inducers incidence

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	Year	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
-2.596			**-0.386**		**0.289**		**0.383**	**+**	**6**	**-284.918**	**582.301**	**0.000**	**0.237**	**0.6 (0.91)**
-2.582			-0.422		0.315	0.059	0.343	+	7	-284.784	584.190	1.889	0.092	0.6 (0.91)
-2.687	-0.419	-0.417						+	5	-287.042	584.413	2.112	0.083	0.61 (0.9)
-2.616			-0.387	+	0.292		0.382	+	7	-284.906	584.435	2.134	0.082	0.6 (0.91)

-2.875	-0.485	-0.412		+				+	6	-286.062	584.588	2.287	0.076	0.63 (0.9)
-2.562							0.589	+	4	-288.416	585.051	2.750	0.060	0.57 (0.9)
-2.567			-0.198				0.506	+	5	-287.367	585.064	2.763	0.060	0.58 (0.9)
-2.569			-0.641		0.442	0.167		+	6	-286.687	585.838	3.537	0.041	0.57 (0.91)
-2.574					0.124		0.571	+	5	-287.777	585.883	3.583	0.040	0.58 (0.9)
-2.588			-0.421	+	0.315	0.058	0.343	+	8	-284.783	586.370	4.069	0.031	0.6 (0.91)
-2.612			-0.601		0.407			+	5	-288.038	586.406	4.105	0.030	0.57 (0.9)
-2.578						-0.056	0.610	+	5	-288.266	586.862	4.561	0.024	0.58 (0.9)
-2.574			-0.190			-0.027	0.519	+	6	-287.334	587.131	4.831	0.021	0.59 (0.9)
-2.546				+			0.590	+	5	-288.407	587.144	4.844	0.021	0.57 (0.9)
-2.544			-0.199	+			0.506	+	6	-287.350	587.163	4.863	0.021	0.58 (0.9)
-2.584					0.116	-0.036	0.586	+	6	-287.716	587.897	5.596	0.014	0.58 (0.9)
-2.565			-0.641	+	0.442	0.168		+	7	-286.686	587.995	5.694	0.014	0.57 (0.91)
-2.581				+	0.124		0.571	+	6	-287.776	588.015	5.715	0.014	0.58 (0.9)
-2.657			-0.601	+	0.412			+	6	-287.977	588.419	6.118	0.011	0.47 (0.89)
-2.578				+		-0.056	0.610	+	6	-288.266	588.997	6.696	0.008	0.47 (0.89)

Leaf-miners incidence

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	Year	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
-2.230				**+**	**-0.324**	**-0.371**	**0.276**	**+**	**7**	**-285.174**	**584.970**	**0.000**	**0.300**	**0.47 (0.94)**
-2.219			-0.222	+	-0.196	-0.287		+	7	-285.698	586.018	1.048	0.177	0.46 (0.95)
-2.247			-0.298	+		-0.269		+	6	-286.994	586.452	1.482	0.143	0.45 (0.95)
-2.219				+	-0.265	-0.300		+	6	-287.025	586.515	1.545	0.138	0.45 (0.94)
-2.228			-0.108	+	-0.276	-0.348	0.212	+	8	-284.954	586.712	1.742	0.125	0.47 (0.95)
-2.252			-0.280	+		-0.281	0.048	+	7	-286.946	588.515	3.545	0.051	0.45 (0.95)
-2.265				+		-0.279		+	5	-289.765	589.859	4.888	0.026	0.42 (0.94)
-2.279				+		-0.323	0.177	+	6	-288.967	590.397	5.427	0.020	0.43 (0.94)
-2.081			-0.313	+				+	5	-291.825	593.979	9.009	0.003	0.45 (0.94)
-1.752					-0.368	-0.324	0.267	+	6	-291.061	594.585	9.615	0.002	0.39 (0.94)
-2.053			-0.257	+	-0.143			+	6	-291.112	594.688	9.718	0.002	0.46 (0.94)
-2.091			-0.367	+			-0.143	+	6	-291.298	595.060	10.090	0.002	0.45 (0.94)
-1.745			-0.233		-0.243	-0.244		+	6	-291.313	595.091	10.121	0.002	0.39 (0.95)
-1.746					-0.316	-0.257		+	5	-292.626	595.581	10.611	0.001	0.38 (0.95)
-1.750			-0.133		-0.311	-0.298	0.190	+	7	-290.758	596.139	11.169	0.001	0.4 (0.95)
-2.045				+	-0.222			+	5	-292.966	596.262	11.291	0.001	0.44 (0.94)
-2.066			-0.305	+	-0.113		-0.093	+	7	-290.919	596.461	11.491	0.001	0.45 (0.94)
-1.751			-0.332			-0.221		+	5	-293.128	596.586	11.616	0.001	0.38 (0.95)
-2.095				+				+	4	-294.956	598.130	13.160	0.000	0.42 (0.94)
-2.038				+	-0.231		0.051	+	6	-292.891	598.245	13.275	0.000	0.45 (0.94)

Bird attack rate

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Survey	Temperature²	Temperature	Year	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)

0.112										***4***	***752.026***	***-1495.969***	***0.000***	***0.813***	***0 (0.4)***
0.122									+	5	751.264	-1492.404	3.564	0.137	0.03 (0.4)
0.117								-0.006		5	748.605	-1487.085	8.883	0.010	0.01 (0.41)
0.112		0.006								5	748.357	-1486.591	9.378	0.007	0.01 (0.41)
0.111									-0.006	5	748.297	-1486.470	9.499	0.007	0.01 (0.4)
0.111				+						5	748.236	-1486.348	9.621	0.007	0.01 (0.41)
0.108			0.003							5	747.702	-1485.279	10.689	0.004	0 (0.41)
0.114	-0.003									5	747.668	-1485.212	10.757	0.004	0 (0.41)
0.112					-0.003					5	747.647	-1485.169	10.799	0.004	0 (0.41)
0.126				+					+	6	747.963	-1483.753	12.216	0.002	0.03 (0.4)
0.127								-0.006	+	6	747.904	-1483.634	12.335	0.002	0.04 (0.41)
0.122		0.006							+	6	747.713	-1483.252	12.717	0.001	0.04 (0.41)
0.121									-0.006 +	6	747.614	-1483.055	12.914	0.001	0.04 (0.41)
0.118			0.003						+	6	746.970	-1481.766	14.203	0.001	0.04 (0.41)
0.123	-0.002								+	6	746.777	-1481.381	14.587	0.001	0.01 (0.41)
0.121					-0.002				+	6	746.719	-1481.264	14.705	0.001	0.02 (0.41)
0.115				+				-0.007		6	745.057	-1477.941	18.027	0.000	0.03 (0.41)
0.116								-0.005	-0.004	6	744.561	-1476.949	19.019	0.000	0.03 (0.41)
0.111		0.006		+						6	744.560	-1476.947	19.022	0.000	0.02 (0.41)

Soluble sugar

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
1.521								***3***	***-31.291***	***68.800***	***0.000***	***0.535***	***0 (0.44)***
1.529					-0.083			4	-31.061	70.488	1.688	0.230	0.07 (0.46)
1.549				+				4	-32.671	73.709	4.909	0.046	0.07 (0.46)
1.582				+	-0.092			5	-31.927	74.410	5.610	0.032	0.07 (0.47)
1.520		0.041						4	-33.058	74.483	5.683	0.031	0.09 (0.45)
1.559			-0.032					4	-33.327	75.020	6.220	0.024	0 (0.44)
1.519							-0.020	4	-33.371	75.109	6.309	0.023	0.08 (0.45)
1.503						0.025		4	-33.464	75.296	6.496	0.021	0.02 (0.45)
1.510	0.013							4	-33.857	76.080	7.280	0.014	0.02 (0.45)
1.532					-0.090		0.020	5	-33.111	76.778	7.978	0.010	0 (0.44)
1.522					-0.082	0.010		5	-33.411	77.378	8.578	0.007	0 (0.44)
1.525			0.005		-0.086			5	-33.486	77.527	8.727	0.007	0.02 (0.46)
1.553		0.044		+				5	-34.375	79.306	10.505	0.003	0.07 (0.47)
1.595			-0.035	+				5	-34.611	79.778	10.978	0.002	0.07 (0.47)
1.533				+		0.032		5	-34.701	79.957	11.157	0.002	0.02 (0.48)
1.547				+			-0.020	5	-34.759	80.073	11.273	0.002	0.06 (0.47)
1.588				+	-0.101		0.026	6	-33.931	80.647	11.847	0.001	0.06 (0.47)
1.541	0.019			+				5	-35.072	80.699	11.899	0.001	0.09 (0.46)
1.566			-0.041				-0.040	5	-35.100	80.755	11.955	0.001	0.07 (0.49)

1.572				+	-0.091	0.019		6	-34.185	81.156	12.355	0.001	0.08 (0.48)

Cellulose

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
0.110								***3***	***190.603***	***-374.988***	***0.000***	***0.504***	***0 (0.4)***
0.126				+				4	191.570	-374.772	0.216	0.453	0.12 (0.35)
0.116						-0.009		4	187.583	-366.799	8.190	0.008	0.03 (0.43)
0.115	-0.006							4	187.096	-365.825	9.163	0.005	0.02 (0.43)
0.110		-0.007						4	187.074	-365.782	9.207	0.005	0.01 (0.41)
0.109					0.006			4	186.854	-365.341	9.648	0.004	0.01 (0.41)
0.110							0.004	4	186.670	-364.972	10.016	0.003	0.01 (0.42)
0.126		-0.005		+				5	187.642	-364.727	10.261	0.003	0 (0.42)
0.126				+			0.004	5	187.600	-364.644	10.344	0.003	0.12 (0.38)
0.128				+		-0.004		5	187.515	-364.475	10.514	0.003	0.12 (0.38)
0.106			0.003					4	186.384	-364.401	10.588	0.003	0.12 (0.37)
0.125				+	0.003			5	187.306	-364.057	10.932	0.002	0.12 (0.36)
0.127	-0.003			+				5	187.104	-363.651	11.337	0.002	0.12 (0.36)
0.124			0.002	+				5	187.068	-363.581	11.407	0.002	0.12 (0.35)
0.117						-0.009	0.005	5	183.724	-356.893	18.095	0.000	0.04 (0.46)
0.115					0.005	-0.008		5	183.629	-356.703	18.286	0.000	0.04 (0.43)
0.112			0.004			-0.009		5	183.410	-356.264	18.725	0.000	0.13 (0.4)
0.114	-0.005	-0.004						5	183.150	-355.745	19.244	0.000	0.12 (0.39)
0.109					0.005		0.002	5	182.819	-355.082	19.906	0.000	0.01 (0.42)
0.104			0.005				0.006	5	182.764	-354.972	20.016	0.000	0.12 (0.37)

N:P ratio

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
2.799								***3***	***8.083***	***-9.949***	***0.000***	***0.686***	***0 (0.52)***
2.756				+				4	7.103	-5.840	4.109	0.088	0.03 (0.52)
2.804							0.056	4	6.946	-5.524	4.424	0.075	0.05 (0.56)
2.773						0.034		4	6.157	-3.946	6.002	0.034	0.05 (0.55)
2.799		-0.029						4	5.987	-3.607	6.341	0.029	0.05 (0.54)
2.779	0.023							4	5.731	-3.096	6.852	0.022	0.06 (0.56)
2.799					-0.002			4	5.437	-2.508	7.441	0.017	0.01 (0.53)
2.803			-0.003					4	5.274	-2.182	7.767	0.014	0.01 (0.53)
2.763				+			0.054	5	5.883	-1.211	8.737	0.009	0 (0.53)
2.754		-0.033		+				5	5.106	0.343	10.291	0.004	0 (0.53)
2.743				+		0.027		5	4.899	0.757	10.705	0.003	0.07 (0.56)
2.780						0.031	0.054	5	4.889	0.777	10.725	0.003	0.07 (0.55)
2.807					-0.020		0.066	5	4.592	1.372	11.320	0.002	0.04 (0.53)
2.754				+	0.006			5	4.488	1.580	11.529	0.002	0.08 (0.57)
2.750	0.016			+				5	4.473	1.610	11.559	0.002	0.07 (0.54)

2.766	0.038	-0.055						5	4.465	1.625	11.574	0.002	0.04 (0.53)
2.755			0.001	+				5	4.283	1.989	11.938	0.002	0 (0.53)
2.791			0.011				0.062	5	4.274	2.008	11.956	0.002	0.06 (0.56)
2.772					0.003	0.034		5	3.526	3.503	13.452	0.001	0.05 (0.56)
2.778			-0.004			0.034		5	3.357	3.842	13.790	0.001	0.05 (0.56)

N:C ratio

Intercept	Latitude²	Latitude	Precipitation²	Partner type	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
18.608	**1.070**	**-0.876**						**5**	**-258.275**	**527.095**	**0.000**	**0.201**	**0.16 (0.42)**
18.241	0.954	-0.856		+				6	-257.236	527.243	0.147	0.186	0.17 (0.44)
18.175				+		0.534	0.631	6	-258.576	529.923	2.827	0.049	0.16 (0.48)
17.964				+			0.658	5	-259.880	530.306	3.211	0.040	0.17 (0.5)
18.141				+	-0.493		0.869	6	-258.807	530.385	3.290	0.039	0.16 (0.49)
18.683					-0.499	0.558	0.848	6	-258.824	530.419	3.324	0.038	0.16 (0.47)
18.629						0.640	0.632	5	-259.980	530.505	3.410	0.036	0.13 (0.46)
18.313				+	-0.438	0.483	0.822	7	-257.785	530.608	3.512	0.035	0.16 (0.47)
18.229			-0.464	+		0.595		6	-259.244	531.259	4.163	0.025	0.17 (0.49)
18.622					-0.592		0.921	5	-260.357	531.260	4.165	0.025	0.17 (0.49)
18.115				+		0.556		5	-260.374	531.292	4.197	0.025	0.15 (0.49)
18.627			-0.499			0.689		5	-260.394	531.334	4.238	0.024	0.12 (0.46)
18.129	0.569			+				5	-260.414	531.374	4.278	0.024	0.14 (0.48)
18.240			-0.316	+		0.566	0.502	7	-258.297	531.631	4.536	0.021	0.11 (0.46)
18.557	0.693							4	-261.681	531.722	4.627	0.020	0.15 (0.48)
18.654			-0.358			0.665	0.485	6	-259.517	531.805	4.710	0.019	0.12 (0.47)
18.575						0.664		4	-261.792	531.944	4.848	0.018	0.15 (0.48)
17.894				+				4	-261.810	531.981	4.885	0.017	0.12 (0.45)
18.007			-0.264	+			0.553	6	-259.789	532.348	5.253	0.015	0.11 (0.46)
17.983			-0.423	+				5	-260.948	532.442	5.347	0.014	0.14 (0.47)

Lignins

Intercept	Latitude²	Latitude	Precipitation²	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
0.565							**3**	**-55.379**	**117.065**	**0.000**	**0.740**	**0 (0.25)**
0.532			0.031				4	-57.014	122.548	5.483	0.048	0 (0.27)
0.561						-0.034	4	-57.047	122.614	5.549	0.046	0.01 (0.28)
0.566				0.007			4	-57.066	122.651	5.586	0.045	0.01 (0.28)
0.565		-0.003					4	-57.255	123.029	5.964	0.037	0 (0.27)
0.578					-0.011		4	-57.295	123.109	6.044	0.036	0 (0.27)
0.568	-0.002						4	-57.562	123.643	6.578	0.028	0 (0.27)
0.570				0.072		-0.081	5	-58.151	127.092	10.027	0.005	0 (0.28)
0.540			0.021			-0.028	5	-58.641	128.072	11.008	0.003	0.01 (0.31)
0.532			0.032	0.006			5	-58.678	128.145	11.080	0.003	0 (0.29)
0.552			0.037		-0.022		5	-58.862	128.513	11.448	0.002	0.02 (0.31)

0.584					-0.020	-0.038	5	-58.908	128.605	11.540	0.002	0.02 (0.31)
0.583				0.004	-0.016		5	-58.929	128.647	11.582	0.002	0.02 (0.31)
0.565	-0.001	-0.003					5	-59.279	129.348	12.283	0.002	0.02 (0.3)
0.576			-0.006	0.079		-0.090	6	-59.619	132.359	15.294	0.000	0.02 (0.34)
0.588				0.070	-0.016	-0.084	6	-59.979	133.079	16.014	0.000	0.02 (0.34)
0.567			0.027		-0.029	-0.031	6	-60.433	133.986	16.921	0.000	0.02 (0.33)
0.556			0.039	-0.001	-0.028		6	-60.458	134.035	16.971	0.000	0.02 (0.33)
0.592			0.001	0.071	-0.022	-0.086	7	-61.364	138.241	21.176	0.000	0.02 (0.36)

Condensed tannins

Intercept	Latitude²	Latitude	Precipitation²	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
0.751							***3***	***-29.214***	***64.736***	***0.000***	***0.699***	***0 (0.48)***
0.675			0.074				4	-30.385	69.289	4.553	0.072	0.04 (0.5)
0.764				0.070			4	-30.458	69.436	4.701	0.067	0.03 (0.49)
0.758		-0.042					4	-30.889	70.296	5.561	0.043	0.05 (0.52)
0.753						0.018	4	-31.035	70.589	5.854	0.037	0.02 (0.49)
0.762					-0.009		4	-31.275	71.069	6.334	0.029	0.02 (0.49)
0.771	-0.014						4	-31.422	71.364	6.628	0.025	0 (0.49)
0.692			0.069	0.064			5	-31.716	74.222	9.486	0.006	0 (0.49)
0.766				0.105		-0.046	5	-31.859	74.507	9.772	0.005	0.02 (0.51)
0.661			0.093			0.050	5	-31.895	74.579	9.843	0.005	0 (0.5)
0.692			0.077		-0.017		5	-32.392	75.573	10.838	0.003	0.04 (0.51)
0.763				0.070	0.001		5	-32.515	75.820	11.085	0.003	0.04 (0.5)
0.755	0.002	-0.043					5	-33.002	76.793	12.057	0.002	0.03 (0.5)
0.764					-0.009	0.018	5	-33.080	76.949	12.213	0.002	0.03 (0.5)
0.687			0.073	0.057		0.008	6	-33.055	79.230	14.494	0.000	0.05 (0.53)
0.699			0.071	0.061	-0.008		6	-33.743	80.607	15.871	0.000	0.05 (0.53)
0.679			0.098		-0.019	0.051	6	-33.880	80.881	16.145	0.000	0.04 (0.52)
0.760				0.107	0.005	-0.048	6	-33.884	80.889	16.153	0.000	0.03 (0.52)
0.693			0.080	0.048	-0.010	0.016	7	-35.003	85.519	20.784	0.000	0.05 (0.54)

Hydrolysable tannins

Intercept	Latitude²	Latitude	Precipitation²	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
0.307							***3***	***-12.083***	***30.473***	***0.000***	***0.814***	***0 (0.32)***
0.300				-0.033			4	-13.990	36.500	6.026	0.040	0.01 (0.33)
0.304						-0.027	4	-14.134	36.787	6.314	0.035	0.01 (0.34)
0.321			-0.014				4	-14.228	36.976	6.503	0.032	0 (0.33)
0.305		0.009					4	-14.393	37.304	6.831	0.027	0 (0.33)
0.316					-0.008		4	-14.470	37.459	6.986	0.025	0 (0.34)
0.307	-0.001						4	-14.729	37.977	7.504	0.019	0 (0.33)
0.300				-0.022		-0.014	5	-15.876	42.541	12.068	0.002	0.01 (0.35)
0.332			-0.029			-0.037	5	-16.066	42.921	12.448	0.002	0.02 (0.36)

0.313			-0.012	-0.032			5	-16.138	43.066	12.593	0.001	0.01 (0.34)
0.318				-0.036	-0.016		5	-16.295	43.380	12.907	0.001	0.02 (0.37)
0.318					-0.013	-0.029	5	-16.471	43.732	13.259	0.001	0.01 (0.37)
0.329			-0.012		-0.009		5	-16.588	43.965	13.491	0.001	0 (0.36)
0.311	-0.005	0.012					5	-16.873	44.535	14.062	0.001	0 (0.35)
0.330			-0.028	-0.002		-0.036	6	-17.714	48.548	18.075	0.000	0.02 (0.37)
0.321				-0.026	-0.018	-0.013	6	-18.132	49.384	18.911	0.000	0.02 (0.39)
0.342			-0.026		-0.012	-0.039	6	-18.394	49.907	19.434	0.000	0.02 (0.39)
0.328			-0.008	-0.036	-0.017		6	-18.407	49.935	19.462	0.000	0.02 (0.38)
0.342			-0.022	-0.010	-0.016	-0.032	7	-19.933	55.379	24.906	0.000	0.02 (0.41)

Flavonoids

Intercept	Latitude²	Latitude	Precipitation²	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
0.939							***3***	***-64.789***	***135.887***	***0.000***	***0.663***	***0 (0.48)***
0.947		-0.055					4	-66.103	140.726	4.839	0.059	0.02 (0.52)
0.939				0.003			4	-66.112	140.743	4.857	0.058	0 (0.49)
0.930			0.009				4	-66.161	140.841	4.954	0.056	0.01 (0.5)
0.939						0.006	4	-66.209	140.938	5.051	0.053	0 (0.49)
0.946					-0.006		4	-66.424	141.368	5.482	0.043	0.01 (0.5)
0.929	0.007						4	-66.603	141.725	5.838	0.036	0 (0.49)
0.939				-0.001		0.006	5	-67.197	145.183	9.297	0.006	0 (0.49)
0.928			0.011	0.003			5	-67.453	145.695	9.808	0.005	0 (0.51)
0.925			0.014			0.010	5	-67.485	145.759	9.872	0.005	0 (0.51)
0.901	0.035	-0.078					5	-67.665	146.120	10.233	0.004	0 (0.51)
0.949				0.001	-0.009		5	-67.706	146.202	10.315	0.004	0 (0.51)
0.938			0.012		-0.010		5	-67.764	146.318	10.431	0.004	0 (0.51)
0.950					-0.009	0.005	5	-67.823	146.436	10.549	0.003	0 (0.51)
0.918			0.020	-0.011		0.018	6	-68.313	149.747	13.860	0.001	0 (0.52)
0.953				-0.005	-0.012	0.007	6	-68.753	150.626	14.739	0.000	0 (0.53)
0.939			0.015	-0.001	-0.014		6	-69.010	151.140	15.253	0.000	0 (0.53)
0.937			0.019		-0.014	0.010	6	-69.064	151.247	15.360	0.000	0 (0.53)
0.930			0.032	-0.027	-0.022	0.030	7	-69.780	155.075	19.188	0.000	0 (0.55)

Total defences

Intercept	Latitude²	Latitude	Precipitation²	Precipitation	Temperature²	Temperature	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
1.522							***3***	***-77.769***	***161.846***	***0.000***	***0.626***	***0 (0.42)***
1.463			0.058				4	-78.919	166.358	4.512	0.066	0.01 (0.46)
1.530				0.042			4	-78.937	166.394	4.548	0.064	0 (0.44)
1.530		-0.054					4	-79.030	166.580	4.734	0.059	0 (0.43)
1.521						-0.015	4	-79.091	166.701	4.855	0.055	0.01 (0.44)
1.566					-0.037		4	-79.213	166.946	5.100	0.049	0.01 (0.43)
1.524	-0.001						4	-79.497	167.514	5.668	0.037	0.01 (0.47)

1.533				0.107		-0.084	5	-79.771	170.332	8.485	0.009	0 (0.44)
1.471			0.056	0.038			5	-80.072	170.934	9.087	0.007	0 (0.44)
1.460			0.061			0.003	5	-80.156	171.101	9.254	0.006	0.01 (0.46)
1.510			0.070		-0.050		5	-80.277	171.344	9.498	0.005	0.01 (0.49)
1.570				0.034	-0.036		5	-80.352	171.494	9.647	0.005	0.01 (0.46)
1.570					-0.042	-0.020	5	-80.492	171.774	9.927	0.004	0.01 (0.47)
1.497	0.024	-0.071					5	-80.561	171.912	10.065	0.004	0.01 (0.49)
1.502			0.029	0.092		-0.067	6	-80.776	174.672	12.826	0.001	0.01 (0.46)
1.571				0.097	-0.034	-0.081	6	-81.161	175.442	13.596	0.001	0.01 (0.47)
1.515			0.070	0.025	-0.051		6	-81.396	175.912	14.066	0.001	0.02 (0.51)
1.511			0.074		-0.055	0.003	6	-81.471	176.062	14.216	0.001	0.01 (0.48)
1.532			0.053	0.060	-0.050	-0.043	7	-82.048	179.609	17.762	0.000	0.01 (0.48)

Table S2.2. Summary of model coefficient parameter estimates (i.e., effect sizes), degrees of freedom (df), log-likelihood, AICc, ΔAICc, AICc weight (w_i) and the variance explained by fixed (*R2m*) and fixed plus random factors (*R2c*) of the different climatic models. The gradient of colours from red to green corresponds to the effect size, from large negative (red) to large positive (green) effect sizes. The set of models competing with the best model within 2 units of ΔAICc is highlighted in bold font.

Biotic models																					
Herbivory																					
Interc.	C:N	Cellulose	C. tannins	Flavonoids	H. tannins	Latitu.²	Latitu.	Lignin	N:P	Precip ²	Precip.	Bird attack rate	Soluble sugars	Temp.²	Temp.	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
2.093																**3**	**-25.286**	**56.966**	**0.000**	**0.345**	**0 (0.59)**
2.075													-0.090			4	-26.042	60.750	3.784	0.052	0.02 (0.59)
2.079									0.079							4	-26.242	61.151	4.186	0.043	0.07 (0.62)
2.083							0.087									4	-26.264	61.196	4.230	0.042	0.06 (0.61)
2.088															-0.087	4	-26.304	61.274	4.309	0.040	0.03 (0.55)
2.079											-0.073					4	-26.454	61.575	4.609	0.034	0.06 (0.61)
2.153										-0.063						4	-26.574	61.815	4.849	0.031	0.05 (0.61)
2.011						0.058										4	-26.664	61.994	5.028	0.028	0.03 (0.6)
2.107					0.047											4	-26.904	62.474	5.508	0.022	0.04 (0.61)
2.111		0.044														4	-26.982	62.631	5.666	0.020	0.02 (0.6)
2.064														0.027		4	-27.108	62.883	5.917	0.018	0.06 (0.61)
2.096												0.013				4	-27.162	62.990	6.024	0.017	0.01 (0.6)
2.090			-0.031													4	-27.207	63.081	6.115	0.016	0.03 (0.61)
2.092				-0.005												4	-27.396	63.458	6.492	0.013	0.01 (0.6)
2.090								-0.018								4	-27.408	63.482	6.516	0.013	0 (0.58)
2.093	-0.001															4	-27.456	63.578	6.613	0.013	0.01 (0.56)
2.058									0.085				-0.098			5	-26.816	64.650	7.684	0.007	0 (0.58)
2.063							0.093						-0.095			5	-26.892	64.800	7.834	0.007	0 (0.58)
2.199										-0.117					-0.132	5	-26.935	64.888	7.922	0.007	0 (0.58)

2.057											-0.087		-0.096			5	-27.068	65.153	8.187	0.006	0.06 (0.54)
2.071													-0.089		-0.084	5	-27.088	65.194	8.228	0.006	0.08 (0.6)
2.075									0.080						-0.087	5	-27.233	65.483	8.518	0.005	0.09 (0.62)
2.070							0.083		0.078							5	-27.253	65.524	8.558	0.005	0.08 (0.6)
2.134										-0.061			-0.089			5	-27.353	65.722	8.756	0.004	0.05 (0.59)
1.994						0.058							-0.090			5	-27.426	65.869	8.903	0.004	0.04 (0.59)
2.114					0.146			-0.105								5	-27.460	65.937	8.971	0.004	0.06 (0.6)
2.067									0.075		-0.064					5	-27.513	66.043	9.077	0.004	0.05 (0.6)
2.085											-0.019				-0.077	5	-27.537	66.090	9.125	0.004	0.09 (0.56)
2.133									0.075	-0.056						5	-27.624	66.264	9.299	0.003	0.08 (0.57)
2.002						0.055			0.076							5	-27.674	66.365	9.399	0.003	0.09 (0.64)
2.137										-0.059	-0.069					5	-27.768	66.553	9.588	0.003	0.09 (0.59)
2.094					0.053				0.081							5	-27.774	66.564	9.598	0.003	0.09 (0.56)
2.035													-0.093	0.036		5	-27.791	66.599	9.633	0.003	0.12 (0.63)
2.097					0.051		0.092									5	-27.818	66.653	9.687	0.003	0.07 (0.57)
2.070			-0.041										-0.096			5	-27.840	66.696	9.730	0.003	0.07 (0.6)
2.080												0.023	-0.092			5	-27.873	66.764	9.798	0.003	0.06 (0.56)
2.084					0.025								-0.082			5	-27.896	66.809	9.844	0.003	0.03 (0.6)
2.101		0.045					0.089									5	-27.941	66.899	9.933	0.002	0.08 (0.63)
2.101					0.045										-0.084	5	-27.961	66.939	9.973	0.002	0.05 (0.56)
2.032						0.038	0.056									5	-27.984	66.984	10.019	0.002	0.05 (0.62)

Gall-inducers incidence

Interc.	C:N	Cellulose	C. tannins	Flavonoids	H. tannins	Latitu.²	Latitu.	Lignin	N:P	Precip.²	Precip.	Bird attack rate	Soluble sugars	Temp.²	Temp.	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
-2.333	**-0.238**			**0.222**		**-0.368**		**-0.234**	**-0.210**				**0.277**			**8**	**-95.085**	**208.742**	**0.000**	**0.026**	**0.5 (0.82)**
-2.336	-0.318		0.232			-0.345		-0.174					0.236			7	-96.424	208.812	0.070	0.025	0.49 (0.81)
-2.346	-0.264		0.196			-0.357		-0.172	-0.177				0.243			8	-95.218	209.007	0.265	0.023	0.51 (0.82)
-2.315	-0.299			0.233		-0.355		-0.228					0.272			7	-96.862	209.689	0.947	0.016	0.48 (0.81)
-2.306	-0.202					-0.371		-0.120	-0.230				0.246			7	-97.151	210.266	1.524	0.012	0.51 (0.81)
-2.303	-0.186					-0.380			-0.212			-0.141	0.249			7	-97.169	210.302	1.560	0.012	0.49 (0.83)
-2.285	-0.182					-0.381			-0.208				0.264			6	-98.464	210.377	1.635	0.011	0.52 (0.81)
-2.338	-0.321		0.164	0.121		-0.347		-0.219					0.255			8	-96.039	210.649	1.907	0.010	0.49 (0.81)
-2.347	-0.262		0.114	0.144		-0.360		-0.225	-0.187				0.265			9	-94.692	210.657	1.915	0.010	0.51 (0.82)
-2.336	-0.235			0.204		-0.368		-0.206	-0.211			-0.070	0.271			9	-94.808	210.890	2.147	0.009	0.49 (0.83)
-2.338	-0.314		0.218			-0.345		-0.155				-0.059	0.233			8	-96.227	211.026	2.283	0.008	0.48 (0.81)
-2.368	-0.323		0.225			-0.316	-0.093	-0.176					0.240			8	-96.274	211.120	2.378	0.008	0.51 (0.81)
-2.296	-0.271		0.157			-0.362							0.262			6	-98.847	211.143	2.400	0.008	0.51 (0.8)
-2.365	-0.244			0.219		-0.337	-0.096	-0.236	-0.205				0.279			9	-94.936	211.145	2.402	0.008	0.52 (0.82)
-2.304	-0.213		0.125			-0.375			-0.175				0.268			7	-97.610	211.185	2.442	0.008	0.53 (0.81)
-2.348	-0.257		0.180			-0.358		-0.151	-0.181			-0.066	0.239			9	-94.971	211.216	2.473	0.008	0.5 (0.82)
-2.264						-0.404			-0.275			-0.138	0.224			6	-98.898	211.244	2.501	0.007	0.49 (0.82)
-2.336	-0.317	-0.029	0.229			-0.343		-0.173					0.224			8	-96.345	211.261	2.519	0.007	0.49 (0.81)

-2.247						-0.405			-0.269				0.239			5	-100.141	211.300	2.557	0.007	0.52 (0.81)
-2.336	-0.316		0.231		0.035	-0.344		-0.203					0.243			8	-96.375	211.321	2.578	0.007	0.49 (0.81)
-2.285	-0.251					-0.366						-0.138	0.241			6	-98.952	211.352	2.609	0.007	0.47 (0.81)
-2.333	-0.238	-0.021		0.218		-0.366		-0.231	-0.209				0.268			9	-95.048	211.368	2.626	0.007	0.51 (0.82)
-2.333	-0.237			0.221	0.006	-0.368		-0.238	-0.210				0.278			9	-95.084	211.441	2.699	0.007	0.51 (0.82)
-2.277				0.179		-0.398		-0.194	-0.281				0.242			7	-97.752	211.469	2.727	0.007	0.5 (0.81)
-2.267	-0.245					-0.367							0.255			5	-100.229	211.475	2.732	0.007	0.5 (0.8)
-2.315	-0.201					-0.372		-0.092	-0.227			-0.108	0.239			8	-96.462	211.496	2.753	0.007	0.49 (0.82)
-2.371	-0.269		0.191			-0.333	-0.076	-0.174	-0.173				0.246			9	-95.121	211.515	2.773	0.006	0.52 (0.82)
-2.318	-0.298		0.200		-0.105	-0.356							0.228			7	-97.805	211.575	2.833	0.006	0.5 (0.81)
-2.347	-0.264	-0.026	0.193			-0.354		-0.171	-0.176				0.233			9	-95.158	211.589	2.846	0.006	0.51 (0.82)
-2.345	-0.262		0.194		0.036	-0.356		-0.202	-0.177				0.250			9	-95.167	211.607	2.864	0.006	0.51 (0.82)
-2.318	-0.212		0.109			-0.375			-0.183			-0.127	0.253			8	-96.557	211.685	2.943	0.006	0.5 (0.83)
-2.328	-0.242		0.167		-0.105	-0.368			-0.176				0.234			8	-96.582	211.735	2.993	0.006	0.52 (0.82)
-2.308	-0.273		0.142			-0.361						-0.120	0.248			7	-97.886	211.736	2.994	0.006	0.48 (0.82)
-2.318	-0.296			0.214		-0.355		-0.200				-0.069	0.266			8	-96.585	211.742	3.000	0.006	0.47 (0.82)
-2.262						-0.398		-0.103	-0.288				0.220			6	-99.162	211.773	3.030	0.006	0.5 (0.81)
-2.282	-0.264					-0.358		-0.106					0.237			6	-99.188	211.825	3.083	0.006	0.49 (0.8)
-2.355	-0.305			0.229		-0.318	-0.118	-0.231					0.275			8	-96.628	211.827	3.085	0.006	0.5 (0.81)
-2.296	-0.195				-0.069	-0.377			-0.218				0.242			7	-97.975	211.914	3.172	0.005	0.52 (0.81)
-2.786	-0.368		0.222					-0.164					0.227		0.458	7	-98.018	212.002	3.259	0.005	0.34 (0.8)
-2.314	-0.298	-0.030		0.228		-0.353		-0.225					0.259			8	-96.780	212.131	3.389	0.005	0.48 (0.81)

Leaf-miners incidence

Interc.	C:N	Cellulose	C. tannins	Flavonoids	H. tannins	Latitu.²	Latitu.	Lignin	N:P	Precip.²	Precip.	Bird attack rate	Soluble sugars	Temp.²	Temp.	df	logLik	AICc	ΔAICc	w_i	R^2m (R^2c)
-1.510			**-0.161**		**0.117**									**-0.276**		**5**	**-96.322**	**203.660**	**0.000**	**0.012**	**0.1 (0.9)**
-1.528			-0.188		0.140							-0.115		-0.356		6	-95.249	203.947	0.287	0.011	0.13 (0.91)
-1.518	-0.073		-0.135		0.105									-0.275		6	-95.528	204.504	0.843	0.008	0.1 (0.9)
-1.511				-0.165	0.159									-0.268		5	-96.784	204.584	0.924	0.008	0.09 (0.9)
-1.530				-0.197	0.192							-0.118		-0.346		6	-95.656	204.759	1.099	0.007	0.12 (0.91)
-1.519	-0.083			-0.140	0.141									-0.266		6	-95.698	204.844	1.184	0.007	0.1 (0.9)
-1.517			-0.158		0.114				-0.055					-0.269		6	-95.913	205.275	1.614	0.006	0.09 (0.9)
-1.525			-0.127	-0.110	0.180							-0.128		-0.349		7	-94.682	205.329	1.669	0.005	0.13 (0.91)
-1.506			-0.113	-0.085	0.146									-0.265		6	-95.974	205.397	1.737	0.005	0.1 (0.9)
-1.532	-0.060		-0.163		0.128							-0.101		-0.345		7	-94.728	205.420	1.760	0.005	0.12 (0.91)
-1.552	-0.112													-0.360		4	-98.400	205.466	1.806	0.005	0.13 (0.91)
-1.537	-0.105				0.073									-0.298		5	-97.226	205.469	1.809	0.005	0.1 (0.91)
-1.533	-0.071			-0.171	0.171							-0.102		-0.334		7	-94.883	205.730	2.070	0.004	0.12 (0.91)
-1.534			-0.184		0.137				-0.051			-0.112		-0.348		7	-94.894	205.753	2.093	0.004	0.12 (0.91)
-1.513			-0.163		0.118						0.105			-0.266		6	-96.184	205.816	2.156	0.004	0.1 (0.9)
-1.511		-0.018	-0.163		0.118									-0.285		6	-96.241	205.929	2.269	0.004	0.1 (0.9)
-1.510			-0.157		0.131			-0.021						-0.281		6	-96.282	206.013	2.353	0.004	0.1 (0.9)

-1.517			-0.160		0.115							-0.263	-0.061	6	-96.284	206.017	2.357	0.004	0.1 (0.9)
-1.507			-0.160		0.117			-0.035				-0.276		6	-96.306	206.061	2.400	0.004	0.1 (0.9)
-1.510			-0.161		0.117						0.004	-0.277		6	-96.320	206.087	2.427	0.004	0.1 (0.9)
-1.541			-0.187		0.139					-0.121		-0.333	-0.115	7	-95.130	206.226	2.566	0.003	0.13 (0.91)
-1.530			-0.189		0.140				0.094	-0.114		-0.346		7	-95.149	206.263	2.602	0.003	0.13 (0.91)
-1.531			-0.191		0.147					-0.124	0.025	-0.367		7	-95.153	206.271	2.611	0.003	0.13 (0.91)
-1.529		-0.019	-0.190		0.141					-0.116		-0.365		7	-95.164	206.293	2.633	0.003	0.13 (0.91)
-1.544	-0.094		-0.083									-0.362		5	-97.656	206.329	2.668	0.003	0.14 (0.91)
-1.514	-0.071		-0.090	-0.080	0.133							-0.265		7	-95.217	206.399	2.738	0.003	0.1 (0.9)
-1.528			-0.183		0.152	-0.018				-0.115		-0.359		7	-95.219	206.403	2.742	0.003	0.13 (0.91)
-1.528			-0.188		0.140			0.004		-0.115		-0.356		7	-95.249	206.463	2.803	0.003	0.13 (0.91)
-1.517				-0.158	0.155		-0.043					-0.264		6	-96.536	206.520	2.860	0.003	0.09 (0.9)
-1.530					0.082							-0.307		4	-99.008	206.682	3.022	0.003	0.1 (0.9)
-1.537			-0.111									-0.377		4	-99.021	206.708	3.048	0.003	0.14 (0.91)
-1.520	-0.072		-0.137		0.106				0.093			-0.266		7	-95.421	206.806	3.146	0.003	0.1 (0.9)
-1.520	-0.062		-0.138		0.106		-0.030					-0.271		7	-95.429	206.824	3.163	0.003	0.1 (0.9)
-1.520	-0.079		-0.134		0.109						0.023	-0.279		7	-95.448	206.862	3.201	0.003	0.1 (0.9)
-1.514				-0.165	0.159				0.071			-0.261		6	-96.717	206.882	3.221	0.002	0.09 (0.9)
-1.520				-0.164	0.157							-0.252	-0.074	6	-96.724	206.897	3.236	0.002	0.09 (0.89)
-1.518	-0.074		-0.129		0.122	-0.026						-0.280		7	-95.469	206.902	3.242	0.002	0.1 (0.9)
-1.534				-0.190	0.187		-0.037			-0.115		-0.341		7	-95.470	206.905	3.245	0.002	0.12 (0.91)
-1.518	-0.072	-0.015	-0.137		0.106							-0.282		7	-95.476	206.916	3.256	0.002	0.1 (0.9)
-1.525	-0.073		-0.134		0.104							-0.260	-0.066	7	-95.484	206.932	3.272	0.002	0.1 (0.9)