

Ecography

ECOG-00706

Romo, H., García-Barros, E., Márquez, A. L., Moreno, J. C. and Real, R. 2014. Effects of climate change on the distribution of ecologically interacting species: butterflies and their main food plants in Spain. – Ecography doi: 10.1111/ecog.00706

Supplementary material

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Supplementary material

Appendix 1. Akaike Information Criterion (AIC) values of the climatic and 'global' models performed. The lowest values were those corresponding to the global models in all instances except for *Z. lotus* (marked with *) where the penultimate step was more parsimonious than the last one and was subsequently selected. Number of steps and variables included in that step, and minimum AIC value in each step are shown. In bold is highlighted the minimum AIC value for each species considered as best model.

Appendix 2. AUC values, typical errors and asymptotic significances for the models obtained for each species according to A2 scenarios of CGCM2 circulation model from IPCC for the period 1961-1990.

Appendix 3. Mean contribution of the variables to the global models of any of the considered species performed with circulation model CGCM2 for the period between 1961-1990. Mean \pm typical error of Wald test statistic is shown. Abbreviation of the variables as specified in Tables 1 and 2.

Appendix 4. Relative contribution (in percentage) of each variable in all models performed with circulation model CGCM2 for the period between 1961-1990. The variables with highest values were selected in a higher number of models. Abbreviation of the variables as specified in Tables 1 and 2.

Appendix 5. Variables selected in each favourability climatic model for each species. Abbreviation of the variables is specified in Table 2.

Appendix 6. Variables selected for the species in global favourability models fitted under the A2 scenario of CGCM2 circulation model from IPCC grouped in different factors (climatic,

56 topographic, spatial, human activity and geological) for better visualization. For the
57 abbreviations of the variable names see Tables 1 and 2.
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Species	Factor	Step	-2 log likelihood	No. Variables	Akaike
<i>C. Evagore</i>	Climatic	1	561.723	2	565.723
		2	485.288	3	491.288
		3	459.359	4	467.359
	Global	1	502.177	2	506.177
		2	446.623	3	452.623
		3	433.814	4	441.814
		4	426.040	5	436.040
<i>C. spinosa</i>	Climatic	1	1355.593	2	1359.593
		2	1205.454	3	1211.454
		3	1199.655	4	1207.655
	Global	1	1354.438	2	1358.438
		2	1266.164	3	1272.164
		3	1143.519	4	1151.519
		4	1099.818	5	1109.818
		5	1101.815	4	1109.815
		6	1077.962	5	1087.962
		7	1053.433	6	1065.433
		8	1031.566	7	1045.566
		9	980.448	8	996.448
		10	965.172	9	983.172
		11	960.373	10	980.373
		12	955.138	11	977.138
<i>C. jasius</i>	Climatic	1	2146.743	2	2150.743
		2	2130.867	3	2136.867
		3	2105.304	4	2113.304
		4	2105.936	3	2111.936
	Global	1	1988.203	2	1992.203
		2	1800.726	3	1806.726
		3	1737.115	4	1745.115
		4	1679.171	5	1689.171
		5	1637.860	6	1649.860
		6	1639.143	5	1649.143
		7	1608.519	6	1620.519
		8	1579.372	7	1593.372
		9	1564.595	8	1580.595
		10	1533.482	9	1551.482
		11	1496.170	10	1516.170
		12	1484.094	11	1506.094
		13	1477.560	12	1501.560
		14	1472.496	13	1498.496
		15	1431.367	14	1459.367
16	1426.582	15	1456.582		
<i>A. unedo</i>	Climatic	1	5124.786	2	5128.786
		2	4960.596	3	4966.596
		3	4945.877	4	4953.877
		4	4935.884	5	4945.884
		5	4936.011	4	4944.011
		6	4925.888	5	4935.888
		7	4921.730	6	4933.730
	Global	1	5013.869	2	5017.869
		2	4722.427	3	4728.427
		3	4573.940	4	4581.940
		4	4537.664	5	4547.664
		5	4447.212	6	4459.212

		6	4432.000	7	4446.000	
		7	4425.188	8	4441.188	
		8	4349.442	9	4367.442	
		9	4287.757	10	4307.757	
		10	4263.730	11	4285.730	
		11	4266.004	10	4286.004	
		12	4259.373	11	4281.373	
		13	4255.109	12	4279.109	
<i>L. celtis</i>	Climatic	1	1663.861	2	1667.861	
		2	1622.492	3	1628.492	
		3	1612.115	4	1620.115	
		4	1597.418	5	1607.418	
		5	1593.362	6	1605.362	
	Global	1	1539.653	2	1543.653	
		2	1446.069	3	1452.069	
		3	1421.394	4	1429.394	
		4	1378.001	5	1388.001	
		5	1327.006	6	1339.006	
		6	1300.926	7	1314.926	
		7	1258.097	8	1274.097	
		8	1247.525	9	1265.525	
	<i>C. australis</i>	Climatic	1	3705.621	2	3709.621
			2	3594.952	3	3600.952
			3	3466.147	4	3474.147
4			3428.058	5	3438.058	
Global		1	3199.571	2	3203.571	
		2	3091.371	3	3097.371	
		3	2979.687	4	2987.687	
		4	2893.425	5	2903.425	
		5	2845.428	6	2857.428	
		6	2779.106	7	2793.106	
		7	2765.851	8	2781.851	
		8	2741.231	9	2759.231	
		9	2735.543	10	2755.543	
		10	2736.301	9	2754.301	
		11	2737.168	8	2753.168	
		12	2730.184	9	2748.184	
		13	2725.617	10	2745.617	
		14	2720.413	11	2742.413	
		15	2721.137	10	2741.137	
<i>S. abencerragus</i>		Climatic	1	641.320	2	645.320
			2	615.685	3	621.685
			3	606.538	4	614.538
			4	607.280	3	613.280
		Global	1	604.704	2	608.704
			2	584.166	3	590.166
	3		566.512	4	574.512	
	4		550.567	5	560.567	
	5		538.592	6	550.592	
	6		526.562	7	540.562	
	7		522.398	8	538.398	
	<i>C. lusitanica</i>	Climatic	1	1594.069	2	1598.069
			2	1564.609	3	1570.609
			3	1554.436	4	1562.436
4			1555.524	3	1561.524	
5			1551.372	4	1559.372	
6			1543.019	5	1553.019	
Global		1	1576.733	2	1580.733	

		2	1539.698	3	1545.698
		3	1480.397	4	1488.397
		4	1480.416	3	1486.416
		5	1439.854	4	1447.854
		6	1418.853	5	1428.853
		7	1401.936	6	1413.936
		8	1387.782	7	1401.782
		9	1379.800	8	1395.800
		10	1370.494	9	1388.494
		11	1365.139	10	1385.139
<i>P. nausithous</i>	Climatic	1	181.409	2	185.409
	Global	1	212.567	2	216.567
		2	175.864	3	181.864
		3	139.112	4	147.112
		4	122.596	5	132.596
<i>S. officinalis</i>	Climatic	1	1246.447	2	1250.447
		2	1058.890	3	1064.890
		3	1050.713	4	1058.713
	Global	1	1170.838	2	1174.838
		2	1041.781	3	1047.781
		3	1011.801	4	1019.801
		4	999.994	5	1009.994
		5	988.063	6	1000.063
		6	983.477	7	997.477
<i>T. theophrastus</i>	Climatic	1	186.406	2	190.406
		2	141.420	3	147.420
	Global	1	186.406	2	190.406
		2	149.004	3	155.004
		3	135.155	4	143.155
		4	125.653	5	135.653
		5	119.737	6	131.737
<i>Z. lotus</i>	Climatic	1	559.048	2	563.048
		2	330.145	3	336.145
		3	322.130	4	330.130
	Global	1	558.284	2	562.284
		2	441.696	3	447.696
		3	357.180	4	365.180
		4	314.062	5	324.062
		5	295.488	6	307.488
		6	297.753	5	307.753

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4 **Appendix 1**

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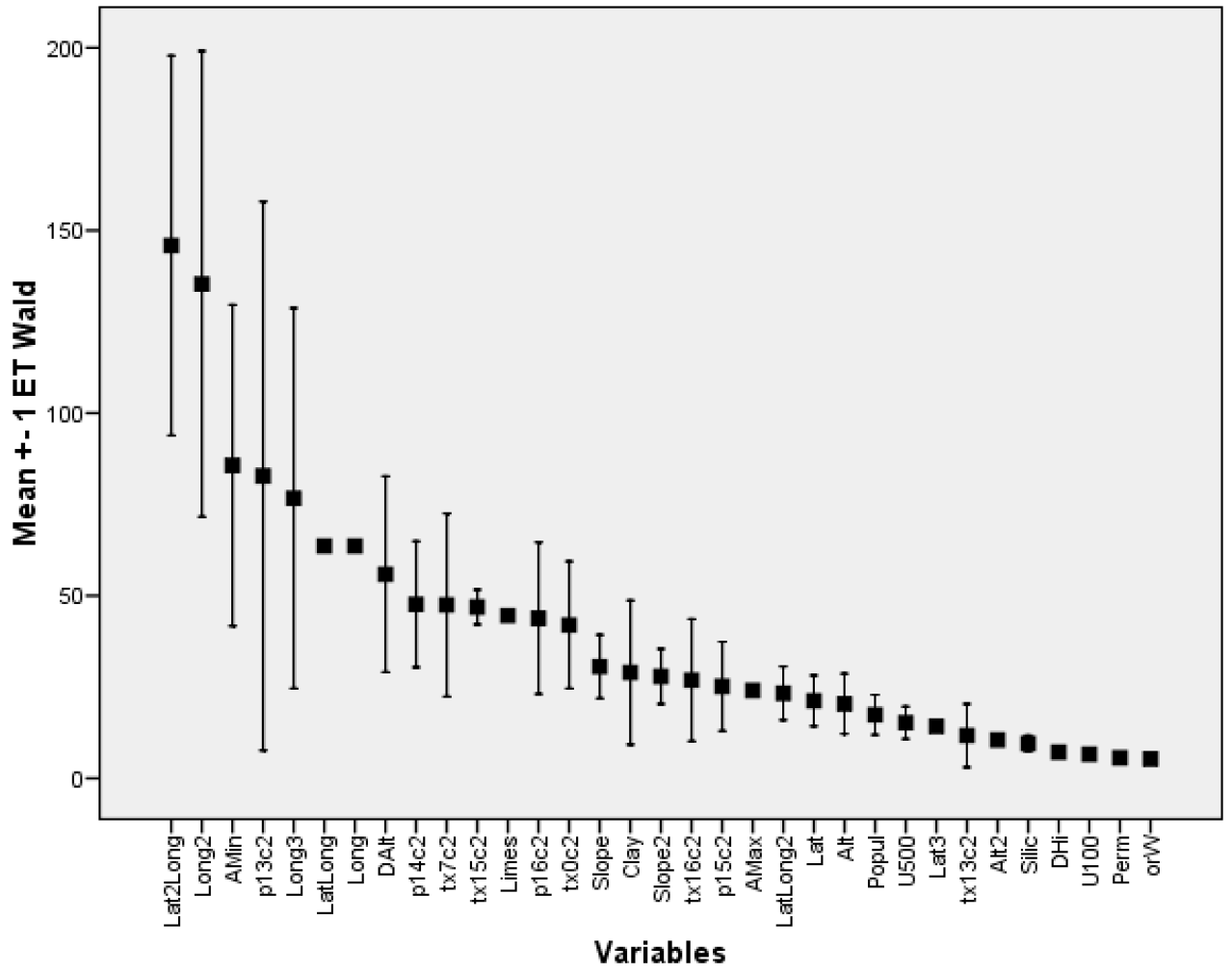
Species	Period	AUC	Typ. Error	Asympt. Sign
<i>C. evagore</i>	1961-1990	0.954	0.0056	p< 0.0001
<i>C. spinosa</i>	1961-1990	0.942	0.0060	p< 0.0001
<i>C. jasius</i>	1961-1990	0.897	0.0091	p< 0.0001
<i>A. unedo</i>	1961-1990	0.804	0.0072	p< 0.0001
<i>L. celtis</i>	1961-1990	0.886	0.0111	p< 0.0001
<i>C. australis</i>	1961-1990	0.866	0.0072	p< 0.0001
<i>S. abencerragus</i>	1961-1990	0.889	0.0179	p< 0.0001
<i>C. lusitanica</i>	1961-1990	0.837	0.0123	p< 0.0001
<i>P. nausithous</i>	1961-1990	0.987	0.0035	p< 0.0001
<i>S. officinalis</i>	1961-1990	0.920	0.0083	p< 0.0001
<i>T. theophrastus</i>	1961-1990	0.993	0.0018	p< 0.0001
<i>Z. lotus</i>	1961-1990	0.985	0.0042	p< 0.0001

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10 Appendix 2.

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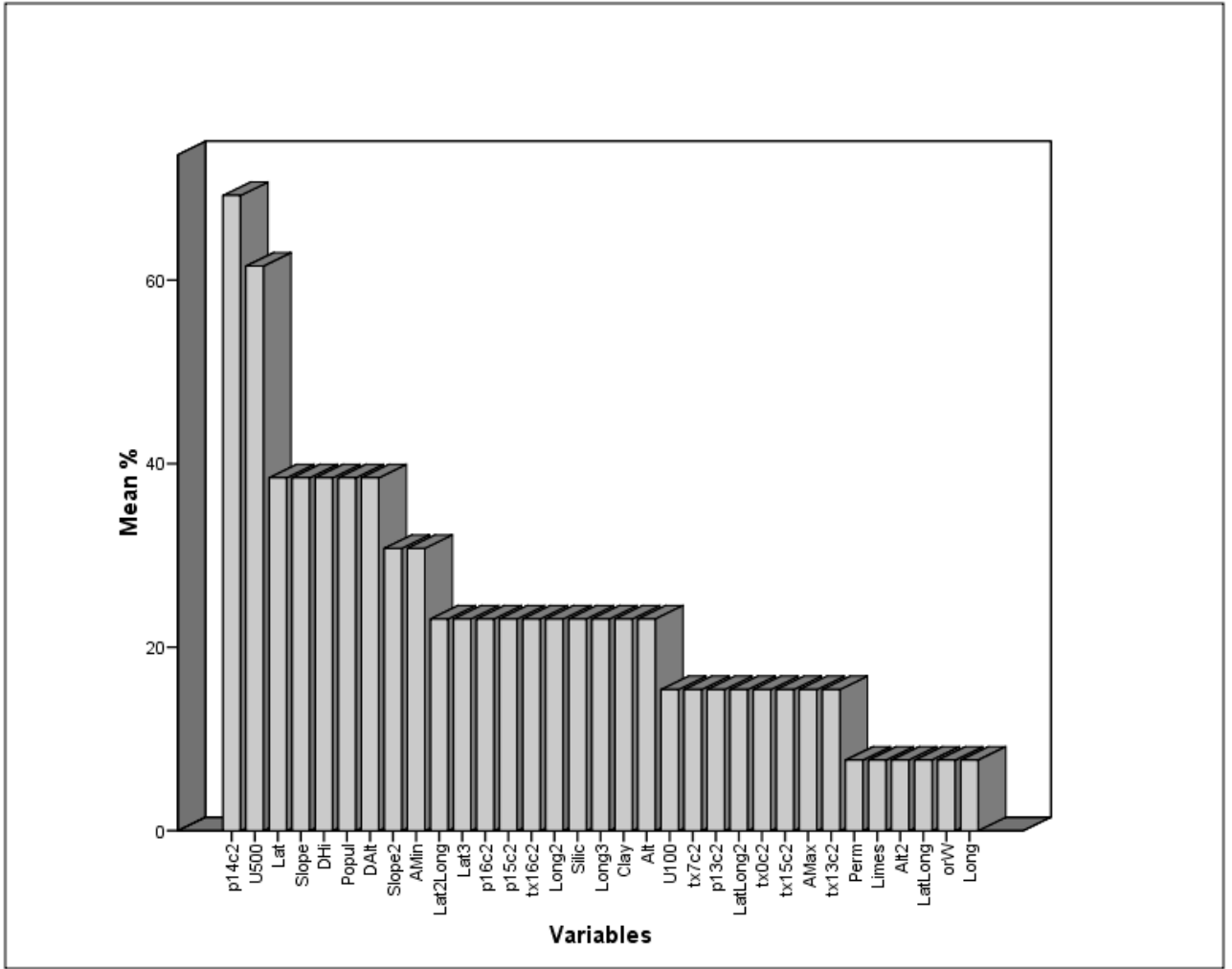


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Appendix 3.

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Appendix 4.

Species	Climatic (CGCM2 A2)
<i>P. nausithous</i>	Tx13C2
<i>S. officinalis</i>	P13C2, P14C2, Tx0C2
<i>C. evagore</i>	P14C2, P15C2, Tx16C2
<i>C. spinosa</i>	P14X2, P16C2, Tx16C2
<i>C. jasius</i>	Tx13C2, P14C2
<i>A. unedo</i>	P13C2, P14C2, Tx1C2, Tx7C2, Tx13X2
<i>L. celtis</i>	P16C2, P14C2, Tx15C2, Tx1C2, Tx7C2
<i>C. australis</i>	P14C2, P16C2, Tx13C2, Tx16C2
<i>S. abencerragus</i>	P14C2, P15C2
<i>C. lusitanica</i>	P14C2, P15C2, Tx15C2, Tx7C2
<i>T. theophrastus</i>	P15C2, Tx16C2
<i>Z. lotus</i>	P14C2, P15C2, Tx16C2

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19 **Appendix 5**

Species	Factors				
	Climatic (CGCM2 A2)	Topographic	Spatial	Human activity	Geological
<i>P. nausithous</i>	Tx13C2	Alt, Alt2	Lat3	-	-
<i>S. officinalis</i>	P14C2, Tx0C2	AMax, Slope2	-	DHi	Clay
<i>C. evagore</i>	P15C2	-	Lat	U100	Clay
<i>C. spinosa</i>	P14x2, P16C2, Tx16C2	Alt, DAlt	Long3, LatLong2, Lat	DHi, Popul	-
<i>C. jasius</i>	P14C2	AMin, DAlt, Slope, Slope2	Long, Long2, Long3, LatLong2, Lat2Long, LatLong	U500, Popul	Silic
<i>A. unedo</i>	P13C2, P14C2	AMin, DAlt, Slope, Slope2	Lat2Long	DHi, U500, Popul	Clay
<i>L. celtis</i>	P16C2, P14C2, Tx15C2, Tx7C2	DAlt	Long3	U500, Popul	-
<i>C. australis</i>	P14C2, P16C2, Tx13C2, Tx16C2	AMin, DAlt, Slope	Long2	U500	-
<i>S. abencerragus</i>	P14C2, P15C2	Slope	Lat3, Lat	U500	Silic
<i>C. lusitanica</i>	P14C2, Tx15C2, Tx7C2	OrW	Lat3	U500, Popul	Limes, Silic
<i>T.theophrastus</i>	Tx16C2	-	Lat	DHi, U100, U500	-
<i>Z.lotus</i>	P15C2	AMin	Lat	U500	-

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21 **Appendix 6**

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