Ecography

ECOG-02426
Arjona, Y., Nogales, M., Heleno, R. and Vargas, P. 2017. Long-distance dispersal syndromes matter: diaspore–trait effect on shaping plant distribution across the Canary Islands. – Ecography doi: 10.1111/ecog.02426

Supplementary material

Appendix 1.

Table A1. Lowland species with divergence age (Ma) extracted from the literature.

Species	Endemic status	Age (Ma)	LDD syndrome	Islands	Palaeo-islands	Reference
Anagyris latifolia	Endemic	8.20 [3.70-12.70]	Unspecialized	4	4	Ortega-Olivencia and Catalán (2009)
Androcymbium psammophilum	Endemic	5.80 [5.60-6.00]	Unspecialized	2	1	Caujapé-Castells et al. (2001)
Androcymbium hierrense	Endemic	5.80 [5.60-6.00]	Unspecialized	3	3	
Bryonia verrucosa	Endemic	7.00 [4-10]	Endozoochorous	6	6	Schaefer et al. (2009)
Campylanthus salsoloides	Endemic	1.16 [0.16-2.61]	Anemochorous	6	5	Thiv et al. (2010)
Cistus horrens	Endemic	0.29 [0.05-0.65]	Unspecialized	1	1	Guzmán and Vargas (2010)
Echium bethencourtii	Endemic	0.5 [0-1.09]	Unspecialized	1	1	García-Maroto et al. (2009)
Echium bonnetii	Endemic	4.00 [1.51-6.49]	Unspecialized	4	3	
Echium lacerottense	Endemic	4.00 [1.51-6.49]	Unspecialized	3	1	
Echium simplex	Endemic	1.75 [0.37-3.13]	Unspecialized	1	1	
Echium webbii	Endemic	0.5 [0-1.09]	Unspecialized	1	1	
Euphorbia aphylla	Endemic	3.05 [1.34-4.76]	Unspecialized	4	4	Sun et al. (2016)
Euphorbia atropurpurea	Endemic	2.26 [0.76-3.76]	Unspecialized	1	1	
Euphorbia berthelotii	Endemic	6.62 [4.63-8.61]	Unspecialized	1	1	
Euphorbia lamarckii	Endemic	2.26 [0.76-3.76]	Unspecialized	4	4	
Gymnocarpos decandrus	Non-endemic	0.68 [0.32-1.15]	Thalassochorous	5	4	Jia et al. (2016)
Lolium canariense	Non-endemic	3.10 [1.90-4.90]	Epizoochorous	7	6	Inda et al. (2014)
Lotus arinagensis	Endemic	0.70 [0-0.99]	Unspecialized	1	1	Ojeda et al. (2014)
Lotus callis-viridis	Endemic	0.94 [0.03-2.2]	Unspecialized	1	1	
Lotus eremiticus	Endemic	0.10 [0-0.73]	Unspecialized	1	1	
Lotus kunkelii	Endemic	0.70 [0-0.99]	Unspecialized	1	1	
Lotus lancerottensis	Non-endemic	0.90 [0-1.18]	Unspecialized	3	1	
Lotus sessilifolius	Endemic	0.65 [0.08-2.31]	Unspecialized	3	3	
Pericallis lanata	Endemic	0.99 [0.11-1.23]	Anemochorous	1	1	Jones et al. (2014)
Ruta oreojasme	Endemic	8.14 [2.62-14.94]	Unspecialized	1	1	Salvo et al. (2010)
Scrophularia arguta	Non-endemic	0.90 [0.23-1.57]	Unspecialized	4	1	Valtueña et al. (2016)
Scrophularia arguta	Non-endemic	0.77 [0.16-1.38]	Unspecialized	4	4	Valtueña et al. (2016)

Table A1. Continued.

Species	Endemic status	Age (Ma)	LDD syndrome	Islands	Palaeo-islands	Reference
Scrophullaria arguta	Non-endemic	-	Unspecialized	1	1	Valtueña et al. (2016)
Scrophullaria smithii	Endemic	5.84 [1.30-3.37]	Unspecialized	5	5	Navarro-Pérez et al. (2015)

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Appendix 2.

Table A1. Summary information of the multiple-comparison Tukey's tests exploring the differences in plant distribution according to LDD syndromes obtained from different models and certain-native and likely-native datasets separately. *P* values were recalculated using a randomization method.

Model: **number of current islands~syndrome**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain-native species N=372	**END - ANE**	0.536	0.147	3.644	**<0.001**
	EPI - ANE	0.859	0.201	4.280	**<0.001**
	THA - ANE	0.647	0.141	4.582	**<0.001**
	UNS - ANE	-0.001	0.091	-0.006	0.464
	EPI - END	0.324	0.225	1.438	0.081
	THA - END	0.111	0.174	0.639	0.265
	UNS - END	-0.536	0.137	-3.933	**<0.001**
	THA - EPI	-0.213	0.221	-0.960	0.173
	UNS - EPI	-0.860	0.193	-4.453	**<0.001**
	UNS - THA	-0.647	0.130	-4.980	**<0.001**
Certain- and likely-native species N=506	**END - ANE**	0.386	0.140	2.756	**0.004**
	EPI - ANE	0.532	0.143	3.726	**<0.001**
	THA - ANE	0.413	0.123	3.368	**<0.001**
	UNS - ANE	0.052	0.077	0.679	0.252
	EPI - END	0.145	0.178	0.819	0.204
	THA - END	0.026	0.162	0.163	0.436
	UNS - END	-0.334	0.130	-2.564	**0.006**
	THA - EPI	-0.119	0.164	-0.725	0.233
	UNS - EPI	-0.480	0.133	-3.602	**<0.001**
	UNS - THA	-0.361	0.111	-3.241	**0.001**
Model: **number of palaeo-islands~syndrome**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain-native species N=372	**END - ANE**	0.582	0.136	4.266	**<0.001**
	EPI - ANE	0.781	0.196	3.981	**<0.001**
	THA - ANE	0.490	0.141	3.472	**<0.001**
	UNS - ANE	-0.004	0.086	-0.047	0.4785
	EPI - END	0.199	0.217	0.916	0.182
	THA - END	-0.092	0.169	-0.545	0.294
	UNS - END	-0.586	0.126	-4.645	**<0.001**
	THA - EPI	-0.291	0.220	-1.322	0.098
	UNS - EPI	-0.785	0.189	-4.150	**<0.001**
	UNS - THA	-0.494	0.131	-3.764	**<0.001**
Certain- and likely-native species N=506	**END - ANE**	0.468	0.128	3.656	**<0.001**
	EPI - ANE	0.520	0.135	3.845	**<0.001**
	THA - ANE	0.294	0.121	2.443	**0.007**
	UNS - ANE	0.045	0.072	0.630	0.266
	EPI - END	0.052	0.165	0.315	0.376
	THA - END	-0.173	0.153	-1.133	0.130
	UNS - END	-0.422	0.119	-3.563	**<0.001**
	THA - EPI	-0.225	0.159	-1.416	0.079
	UNS - EPI	-0.474	0.126	-3.756	**<0.001**
	UNS - THA	-0.249	0.111	-2.254	**0.012**

Table A2. Summary information of the multiple comparison Tukey post-hoc tests exploring the differences in plant distribution considering the presence/absence of particular LDD syndromes and the endemicity status of the species. The results shown were obtained from models differing in the response variable (number of current islands or number of palaeo-islands) and with certain-native and likely-native datasets separately. *P* values were recalculated using a randomization method. END = endozoochorous, EPI = epizoochorous, ANE = anemochorous, THA = thalassochorous syndrome, UNS = unspecialized.

Model: **number of current islands~syndrome + endemic status**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain-native species N=372	**END – ANE**	0.326	0.138	2.361	**0.011**
	EPI – ANE	0.492	0.190	2.593	**0.007**
	THA - ANE	0.304	0.136	2.240	**0.014**
	UNS - ANE	0.031	0.084	0.371	0.355
	EPI - END	0.166	0.209	0.796	0.212
	THA - END	-0.022	0.161	-0.135	0.445
	UNS - END	-0.295	0.129	-2.282	**0.014**
	THA - EPI	-0.188	0.205	-0.919	0.180
	UNS - EPI	-0.461	0.184	-2.508	**0.008**
	UNS - THA	-0.273	0.127	-2.147	**0.018**
	Non-endemic-endemic	0.646	0.075	8.574	**<0.001**
Certain- and likely-native species N=506	**END - ANE**	0.231	0.125	1.848	**0.033**
	EPI - ANE	0.181	0.129	1.405	0.083
	THA - ANE	0.101	0.111	0.909	0.183
	UNS - ANE	0.006	0.068	0.082	0.467
	EPI - END	-0.050	0.158	-0.314	0.376
	THA - END	-0.130	0.144	-0.902	0.182
	UNS - END	-0.225	0.116	-1.941	**0.028**
	THA - EPI	-0.080	0.146	-0.552	0.291
	UNS - EPI	-0.176	0.120	-1.463	0.075
	UNS - THA	-0.095	0.101	-0.948	0.172
	Non-endemic-endemic	0.711	0.059	12.012	**<0.001**
Model: **number of palaeo-islands~syndrome + endemic status**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain-native species N=372	**END - ANE**	0.433	0.125	3.468	**0.002**
	EPI - ANE	0.514	0.181	2.844	**0.009**
	THA - ANE	0.242	0.132	1.829	0.059
	UNS - ANE	0.018	0.077	0.229	0.422
	EPI - END	0.081	0.195	0.413	0.355
	THA - END	-0.191	0.152	-1.255	0.139
	UNS - END	-0.415	0.117	-3.562	**0.001**
	THA - EPI	-0.272	0.198	-1.376	0.122
	UNS - EPI	-0.496	0.175	-2.829	**0.009**
	UNS - THA	-0.224	0.125	-1.796	0.063
	Non-endemic-endemic	0.460	0.071	6.512	**<0.001**

Table A2. Continued.

Model: **number of palaeo-islands~syndrome + endemic status**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain- and likely-native species N=506	**END - ANE**	0.348	0.115	3.037	**0.004**
	EPI - ANE	0.244	0.123	1.984	**0.044**
	THA – ANE	0.050	0.110	0.457	0.344
	UNS – ANE	0.009	0.064	0.134	0.452
	EPI – END	-0.104	0.147	-0.707	0.266
	THA – END	-0.298	0.137	-2.180	**0.027**
	UNS – END	-0.339	0.106	-3.204	**0.003**
	THA – EPI	-0.194	0.142	-1.368	0.117
	UNS – EPI	-0.235	0.115	-2.053	**0.038**
	UNS – THA	-0.041	0.100	-0.414	0.357
	Non-endemic-endemic	0.539	0.055	9.781	**<0.001**

Table A3. Summary information of the multiple comparison Tukey post-hoc tests using a subset of single-species lineages. The two models (with number of current islands and palaeo-islands as the response variable in each of the models) were run with a subset of lineages from the certain-native and likely-native datasets. *P* values were recalculated using a randomization method. END = endozoochorous, EPI = epizoochorous, ANE = anemochorous, THA = thalassochorous syndrome, UNS = unspecialized.

Model: **number of current islands~syndrome**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain-native species N=132	**END – ANE**	0.248	0.173	1.437	0.076
	EPI – ANE	0.510	0.190	2.680	**0.004**
	THA - ANE	0.322	0.154	2.092	**0.019**
	UNS - ANE	-0.020	0.121	-0.163	0.436
	EPI - END	0.262	0.216	1.213	0.115
	THA - END	0.074	0.185	0.399	0.347
	UNS - END	-0.268	0.159	-1.690	**0.046**
	THA - EPI	-0.188	0.201	-0.934	0.176
	UNS - EPI	-0.530	0.178	-2.983	**0.001**
	UNS - THA	-0.342	0.138	-2.477	**0.008**
Certain- and likely-native species N=249	**END - ANE**	0.144	0.152	0.953	0.171
	EPI - ANE	0.256	0.128	1.997	**0.023**
	THA - ANE	0.149	0.125	1.192	0.117
	UNS - ANE	0.029	0.087	0.329	0.374
	EPI - END	0.112	0.168	0.663	0.257
	THA - END	0.005	0.166	0.028	0.489
	UNS - END	-0.116	0.139	-0.832	0.204
	THA - EPI	-0.107	0.145	-0.737	0.234
	UNS - EPI	-0.228	0.114	-2.003	**0.023**
	UNS - THA	-0.121	0.110	-1.096	0.134

Table A3. Continued.

Model: **number of palaeo-islands~syndrome**					
		Estimate	**SE**	***Z* value**	***P* value**
Certain-native species N=132	**END - ANE**	0.453	0.164	2.761	**0.002**
	EPI - ANE	0.526	0.192	2.731	**0.002**
	THA - ANE	0.247	0.160	1.542	0.061
	UNS - ANE	0.031	0.122	0.251	0.410
	EPI - END	0.072	0.210	0.345	0.365
	THA - END	-0.206	0.180	-1.143	0.128
	UNS - END	-0.423	0.148	-2.857	**0.002**
	THA - EPI	-0.279	0.207	-1.350	0.093
	UNS - EPI	-0.495	0.179	-2.769	**0.001**
	UNS - THA	-0.216	0.143	-1.508	0.065
Certain- and likely-native species N=249	**END - ANE**	0.359	0.143	2.508	**0.004**
	EPI - ANE	0.315	0.129	2.453	**0.005**
	THA – ANE	0.100	0.130	0.772	0.220
	UNS – ANE	0.062	0.088	0.701	0.236
	EPI – END	-0.044	0.159	-0.273	0.392
	THA – END	-0.259	0.161	-1.610	**0.050**
	UNS – END	-0.297	0.129	-2.298	**0.007**
	THA – EPI	-0.215	0.148	-1.455	0.068
	UNS – EPI	-0.254	0.113	-2.244	**0.009**
	UNS – THA	-0.038	0.115	-0.335	0.370