
Supplementary Appendix 6.1a. Species Incidences on Offshore Islands: Logit Regression Analyses

The analytic models and predictions for each butterfly species over all islands ($n = 910$ islands) are based on logistic regression analysis (forwards, stepwise entry) parameters for geographical and source-influence variables determined for a subset of 191 islands that have records for two or more of three long-distance migrants (variable *migmark3* > 1: *Colias croceus*, *Vanessa cardui*, *Vanessa atalanta*). Predictions for two sets of logistic regressions per species are compared.

The first is based on five factors (principal components, varimax rotated, normalized) extracted from the following seven geographical variables:

- F1: island isolation (I1) and satellites (SAT);
- F2: island area (A) and maximum elevation (ELEV);
- F3: longitude (LONG);
- F4: island isolation (I2);
- F5: latitude (LAT).

The second is based on one of two contributory source variables:

- FS1: number of 10 km square records within 50 km of the nearest mainland source;
- FS2: number of 10 km square records within 50 km of the nearest larger source, island or mainland).

These variables are highly correlated for individual species across 191 islands ($r^2 > 0.7$). For any species the source selected is that producing the higher Z value from a Mann–Whitney for the 191 islands.

A. Factor Analysis of Geographical Variables

Factor extraction for geographical variables was undertaken using PCA (varimax, normalized) of seven geographical variables (excludes mainland and island source mass measures).

All analyses from file MAINISLANDDATA20March2017

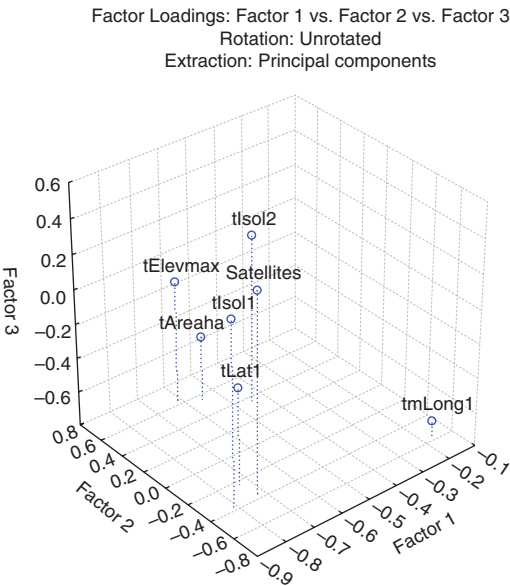
Eigenvalues

Factor extracted	Eigenvalue	% Total variance	Cumulative eigenvalue	Cumulative %
1	2.619	37.42	2.619	37.42
2	1.494	21.34	4.113	58.76
3	0.974	13.92	5.088	72.68
4	0.823	11.76	5.911	84.44
5	0.540	7.72	6.451	92.16

Factor loadings (varimax normalized)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality 5 factors
LAT	0.3087	0.1760	0.1682	0.0261	0.8891	0.9458
LONG	0.0600	-0.0407	0.9700	-0.0187	0.1343	0.9645
A	0.0835	0.9439	0.1143	0.0686	0.0010	0.9157
ELEV	0.0720	0.7697	-0.2910	0.1942	0.3223	0.8240
I1	0.8378	0.0421	0.0807	0.1994	0.3582	0.8783
I2	0.1019	0.1599	-0.0231	0.9759	0.0343	0.9900
SAT	0.9571	0.1035	0.0122	-0.0102	0.0768	0.9329
Explained variance	1.7394	1.5541	1.0741	1.0357	1.0479	
Proportion of total variance	0.2485	0.2220	0.1534	0.1480	0.1497	

All variables but satellites are log transformed. Bold loadings indicate focus of each factor.



B. Detailed Results of Species Logit Analyses

In the following pages of Supplementary Appendix 6.1a are the Mann–Whitney U tests and logistic regression equation parameters for each species, all those with at least ten incidences (or absences) from a selection of islands with at least two of the three migrant species. For each species, statistics are first provided for the five geographical factors; then for the best of the two source variables.

At the end of the species assessments, a set of summary statistics is provided on the findings, comparing the two sets of analyses based on geographical factors and source variables.

Supplementary Appendix 6.2 shows the predictions for species across the entire file of 910 islands. Three columns are provided for each species, in order: the observed incidence (coded: 0 absent, 1 present), the prediction based on geography factors (G Pred), and then the prediction based on the best of the two source variables (S Pred). Each species is prefixed by a code comprising the first generic letter followed by the first three species letters (e.g. *Maniola jurtina* is Mjur).

Great caution is required when interpreting these predictions. Firstly, they are *not* based on all possible variables (i.e. a selection of geography and source variables separately, *not* together). Secondly, note the odds ratio table and the level of correct predictions for the islands analysed to provide the predictions; predictions are rarely anywhere near 100% correct for known incidences. Bear in mind what has been said throughout this book: we can be more certain about the known knowns (records for islands) than the known unknowns (absences from islands). The table in Supplementary Appendix 6.2 (part 2) is mainly of value for comparing the equations for geography and source variables.

Species analyses

Thymelicus sylvestris

Include condition: migmark3 > 1

Mann–Whitney U Test

Variable	U	Z	P
F1	1433	−2.93	0.003
F2	1990	0.84	0.40
F3	619	5.99	<0.0001
F4	1253	−3.61	0.0003
F5	643	−5.90	<0.0001
Tsyl FS1	340	7.04	<0.0001
Tsyl FS2	325	7.10	<0.0001

$N = 27$ and 164 (presence first)

Logistic regression on geographical factors

	DF	Wald stat	P
Intercept	1	49.895	0.0000
F1	1	7.446	0.0064
F3	1	9.118	0.0025
F5	1	14.012	0.0002

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-4.144	0.586626	49.895	-5.293	-2.994	0.0000
F1	-1.286	0.471130	7.446	-2.209	-0.362	0.0064
F3	1.242	0.411483	9.118	0.436	2.049	0.0025
F5	-1.404	0.375184	14.012	-2.140	-0.669	0.0002
Scale	1.000	0.000000		1.000	1.000	

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	76.43	0.4087
Scaled Deviance	187	76.43	0.4087
Pearson Chi ²	187	106.80	0.5711
Scaled P. Chi ²	187	106.80	0.5711
AIC		84.43	
BIC		97.44	
Cox-Snell R ²		0.34	
Nagelkerke R ²		0.61	
Loglikelihood		-38.21	

Odds ratio: 58.18, Log odds ratio: 4.064

Observed	Predicted 1	Predicted 0	% correct
1	16	11	59.3
0	4	160	97.6

Maximum Likelihood Quasi-Newton
Final loss: 38.214674775 Chi²(3)=79.208 p=.00000

When just applied to islands off the British mainland, exactly the same number of islands are predicted for the whole file:

Tsyl - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: prov = 2 (British mainland island group) and migmark3 > 1 (more than 1 of three migrants)

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.862	0.6043	40.84	-5.046	-2.677	0.0000
"F1"	-1.442	0.4934	8.54	-2.409	-0.475	0.0035
"F3"	0.920	0.4679	3.87	0.003	1.837	0.0492
"F5"	-1.508	0.3934	14.70	-2.279	-0.737	0.0001
Scale	1.000	0.0000		1.000	1.000	

Logistic regression of faunal source

	DF	Wald stat	P
Intercept	1	64.873	0.0000
Tsyl FS2	1	41.172	0.0000

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.2603	0.4048	64.873	-4.0537	-2.4669	0.0000
Tsyl FS2	0.0799	0.0125	41.172	0.0555	0.1044	0.0000
Scale	1.0000	0.0000		1.0000	1.0000	

	Df	Stat.	Stat/Df
Deviance	189	95.5281	0.505440
Scaled Deviance	189	95.5281	0.505440
Pearson Chi ²	189	145.5634	0.770177
Scaled P. Chi ²	189	145.5634	0.770177
AIC		99.5281	
BIC		106.0326	
Cox-Snell R ²		0.2700	
Nagelkerke R ²		0.4845	
Loglikelihood		-47.7640	

Classification of cases

Odds ratio: 13.78, Log odds ratio: 2.623

	Predicted 1	Predicted 0	% correct
1	12	15	44.44
0	9	155	94.51

Final loss: 47.764036420 Chi²(1)=60.109 p=.00000

Thymelicus lineola

Mann–Whitney U Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	908	−2.32	0.0202
F2	1317	0.39	0.6967
F3	42	6.41	0.0000
F4	363	−4.90	0.0000
F5	209	−5.62	0.0000
Tlin FS1	28	6.48	0.0000
Tlin Fs2	28	6.48	0.0000

N = 16 and 175

Logistic regression on geographical factors

Tlin – Test of all effects. Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	19.086	0.0000
“F3”	1	11.769	0.0006
“F5”	1	4.414	0.0356

Tlin – Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−9.091	2.081	19.09	−13.17	−5.01	0.0000
“F3”	3.967	1.156	11.77	1.70	6.23	0.0006
“F5”	−1.336	0.636	4.41	−2.58	−0.09	0.0356
Scale	1.000	0.000		1.00	1.00	

Tlin – Test of all effects. Include condition: migmark3 > 1

Tlin – Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	188	20.621	0.1097
Scaled Deviance	188	20.621	0.1097
Pearson Chi²	188	53.988	0.2872
Scaled P. Chi²	188	53.988	0.2872
AIC		26.621	
BIC		36.378	
Cox-Snell R²		0.374	
Nagelkerke R²		0.854	
Loglikelihood		−10.310	

Classification of cases

Odds ratio: 1218.0, Log odds ratio: 7.105

Observed	Predicted 1	Predicted 0	% correct
1	14	2	87.50
0	1	174	99.43

Final loss: 10.310437817 $\text{Chi}^2(2)=89.350$ $p=0.0000$

When analysis is restricted to British mainland islands, the result is very similar with the same classification:

Tlin - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: prov = 2 and migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-9.056	2.0893	18.79	-13.151	-4.961	0.0000
"F3"	3.950	1.1595	11.60	1.677	6.222	0.0007
"F5"	-1.336	0.6332	4.45	-2.577	-0.094	0.0349
Scale	1.000	0.0000		1.000	1.000	

Back to original analysis

Logistic regression of faunal source

Tlin - Test of all effects

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	36.14	0.0000
"Tlins1"	1	30.33	0.0000

Tlin - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-4.734	0.7875	36.14	-6.278	-3.191	0.0000
Tlin FS1	0.151	0.0275	30.33	0.097	0.205	0.0000
Scale	1.000	0.0000		1.000	1.000	

Tlin - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	189	31.732	0.1679
Scaled Deviance	189	31.732	0.1679
Pearson Chi ²	189	109.631	0.5801
Scaled P. Chi ²	189	109.631	0.5801
AIC		35.732	
BIC		42.237	
Cox-Snell R ²		0.336	
Nagelkerke R ²		0.768	
Loglikelihood		-15.866	

Odds ratio: 401.33, Log odds ratio: 5.995

Classification of cases

	Predicted 1	Predicted 0	% correct
1	14	2	87.50
0	3	172	98.29

Final loss: 15.866226669 Chi²(1)=78.238 p=.00000

Ochloides sylvanus

Mann–Whitney *U* Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	1533	-2.97	0.0029
F2	1991	1.30	0.1923
F3	852	5.46	0.0000
F4	1335	-3.70	0.0002
F5	620	-6.30	0.0000
Osyl FS1	336	7.34	0.0000
Osyl FS2	335	7.35	0.0000

N = 29 and 162

Logistic regression on geographical factors

Osyl - Test of all effects

	DF	Wald stat	P
Intercept	1	36.68	0.0000
"F1"	1	10.54	0.0012
"F2"	1	6.04	0.0140
"F3"	1	6.54	0.0106
"F5"	1	16.90	0.0000

Osyl - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-5.1154	0.845	36.68	-6.771	-3.460	0.0000
"F1"	-1.7380	0.535	10.54	-2.787	-0.689	0.0012
"F2"	0.6555	0.267	6.04	0.133	1.178	0.0140
"F3"	0.9830	0.385	6.54	0.229	1.737	0.0106
"F5"	-1.9740	0.480	16.90	-2.915	-1.033	0.0000
Scale	1.0000	0.000		1.000	1.000	

Osyl - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	186	71.27	0.383
Scaled Deviance	186	71.27	0.383
Pearson Chi ²	186	102.95	0.554
Scaled P. Chi ²	186	102.95	0.554
AIC		81.27	
BIC		97.53	
Cox-Snell R ²		0.38	
Nagelkerke R ²		0.66	
Loglikelihood		-35.64	

Odds ratio: 55.958, Log odds ratio: 4.025

Classification of cases

	Predicted 1	Predicted 2	% correct
1	17	12	58.62
0	4	158	97.53

Final loss: 35.636467918 Chi²(4)=91.411 p=.00000

When analysis is restricted to British mainland islands, F3 is removed but R2 is larger. But predicted 10 Irish islands, so model is very poor:

Osyl - Test of all effects (MAINISLANDDATA20March2017)

Include condition: prov = 2 and migmark3 > 1

	DF	Wald stat	P
Intercept	1	28.46	0.0000
"F1"	1	17.94	0.0000
"F2"	1	5.01	0.0253
"F5"	1	25.98	0.0000

Osyl - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: prov = 2 and migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-4.699	0.8808	28.46	-6.425	-2.973	0.0000
"F1"	-2.277	0.5375	17.94	-3.330	-1.223	0.0000
"F2"	0.591	0.2642	5.01	0.073	1.109	0.0253
"F5"	-2.465	0.4836	25.98	-3.412	-1.517	0.0000
Scale	1.000	0.0000		1.000	1.000	

Osyl - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: prov = 2 and migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	157	65.5745	0.417672
Scaled Deviance	157	65.5745	0.417672
Pearson Chi ²	157	80.2566	0.511189
Scaled P. Chi ²	157	80.2566	0.511189
AIC		73.5745	
BIC		85.9001	
Cox-Snell R ²		0.4148	
Nagelkerke R ²		0.6794	
Loglikelihood		-32.7873	

Odds ratio: 39.682540, Log odds ratio: 3.680911

Classification of cases (MAINISLANDDATA20March2017)

Include condition: prov = 2 and migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	20	9	68.97
0	7	125	94.70

Logistic regression of faunal source

Osyl - Test of all effects

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	55.32	0.0000
"Osylys2"	1	41.49	0.0000

Osyl - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 9%	P
Intercept	-3.769	0.5068	55.32	-4.763	-2.776	0.0000
"Osylfs2"	0.094	0.0146	41.49	0.066	0.123	0.0000
Scale	1.000	0.0000		1.000	1.000	

Osyl - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	189	87.43	0.463
Scaled Deviance	189	87.43	0.463
Pearson Chi ²	189	155.59	0.823
Scaled P. Chi ²	189	155.59	0.823
AIC		91.43	
BIC		97.93	
Cox-Snell R ²		0.33	
Nagelkerke R ²		0.57	
Loglikelihood		-43.71	

Odds ratio: 32.00, Log odds ratio: 3.466

Classification of cases

	Predicted 1	Predicted 0	% correct
1	16	13	55.17
0	6	156	96.30

Final loss: 43.713840994 Chi²(1)=75.256 p=.00000

Erynnis tages**Mann-Whitney *U* Test**

Include condition: migmark3 > 1

	U	Z	P
F1	815	-0.53	0.5989
F2	641	1.55	0.1215
F3	850	0.32	0.7488
F4	775	-0.76	0.4467
F5	395	-2.99	0.0028
Etag FS1	168	4.33	0.0000
Etag FS2	176	4.28	0.0000

N = 10 and 181

Logistic regression on geographical factors

Etag - Test of all effects

	DF	Wald stat	P
Intercept	1	52.64	0.000
"F5"	1	8.07	0.005

Etag - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.482	0.4799	52.64	-4.422	-2.541	0.0000
"F5"	-0.854	0.3008	8.07	-1.444	-0.265	0.0045
Scale	1.000	0.0000		1.000	1.000	

Etag - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	189	69.77	0.3692
Scaled Deviance	189	69.77	0.3692
Pearson Chi ²	189	167.90	0.8884
Scaled P. Chi ²	189	167.90	0.8884
AIC		73.77	
BIC		80.28	
Cox-Snell R ²		0.04	
Nagelkerke R ²		0.13	
Loglikelihood		-34.89	

Odds ratio: infinity, Log odds ratio: infinity

Classification of cases

Observed	Predicted 1	Predicted 0	% correct
1	0	10	0.00
0	0	181	100.00

Final loss: 34.886964531 Chi²(1)=8.6869 p=.00321

Logistic regression of faunal source

Etag - Test of all effects

	DF	Wald stat	P
Intercept	1	48.67	0.0000
"Etagfs1"	1	17.30	0.0000

Etag - Parameter estimates (MAINISLANDDATA20March2017)

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-4.216	0.6044	48.67	-5.401	-3.032	0.0000
"Etagfs1"	0.087	0.0209	17.30	0.046	0.128	0.0000
Scale	1.000	0.0000		1.000	1.000	

Etag - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	189	59.97	0.3173
Scaled Deviance	189	59.97	0.3173
Pearson Chi ²	189	97.71	0.5170
Scaled P. Chi ²	189	97.71	0.5170
AIC		63.97	
BIC		70.48	
Cox-Snell R ²		0.09	
Nagelkerke R ²		0.27	
Loglikelihood		-29.99	

Classification of cases

Odds ratio: 0.00, Log odds ratio: infinity

	Predicted 1	Predicted 0	% correct
1	0	10	0.00
0	1	180	99.45

Final loss: 29.987032082 Chi²(1)=18.487 p=.00002**Both geography and faunal source:**

F5 is not significant in the presence of a source variable. Equations not secure and results not reliable.

Gonepteryx rhamni**Mann-Whitney U Test** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	2490	-1.366	0.1721
F2	2596	1.018	0.3087
F3	2198	2.323	0.0202
F4	2536	-1.215	0.2245
F5	690	-7.267	0.0000
Grha FS1	902	6.572	0.0000
Grha FS2	959	6.387	0.0000

N = 38 and 153

Logistic regression on geographical factors

Grha - Test of all effects

	DF	Wald stat	P
Intercept	1	46.49	0.0000
"F1"	1	9.31	0.0023
"F5"	1	36.71	0.0000

Grha - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.860	0.4195	46.49	-3.683	-2.0382	0.0000
"F1"	-0.917	0.3006	9.31	-1.506	-0.3280	0.0023
"F5"	-1.855	0.3062	36.71	-2.456	-1.2552	0.0000
Scale	1.000	0.0000		1.000	1.0000	

Grha - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	188	119.03	0.633
Scaled Deviance	188	119.03	0.633
Pearson Chi ²	188	168.68	0.897
Scaled P. Chi ²	188	168.68	0.897
AIC		125.03	
BIC		134.79	
Cox-Snell R ²		0.31	
Nagelkerke R ²		0.49	
Loglikelihood		-59.52	

Odds ratio: 22.00, Log odds ratio: 3.091.

Classification of cases

	Predicted 1	Predicted 0	% correct
1	22	16	57.89
0	9	144	94.12

Final loss: 59.515564317 Chi²(2)=71.567 p=.00000

Logistic regression of faunal source

Grha - Test of all effects

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	70.95	0.0000
"Grhafs1"	1	35.14	0.0000

Grha - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.355	0.2795	70.95	-2.903	-1.807	0.0000
"Grhafs1"	0.071	0.0120	35.14	0.048	0.095	0.0000
Scale	1.000	0.0000		1.000	1.000	

Grha - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	189	143.13	0.757
Scaled Deviance	189	143.13	0.757
Pearson Chi ²	189	179.07	0.947
Scaled P. Chi ²	189	179.07	0.947
AIC		147.13	
BIC		153.64	
Cox-Snell R ²		0.22	
Nagelkerke R ²		0.35	
Loglikelihood		-71.57	

Odds ratio: 17.818, Log odds ratio: 2.880

Classification of cases

Observed	Predicted 1	Predicted 0	% correct
1	16	22	42.11
0	6	147	96.08

Final loss: 71.567211833 Chi²(1)=47.463 p=.00000

Pieris brassicae**Mann-Whitney U Test** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	2747	0.14	0.8869
F2	1226	5.23	0.0000
F3	2048	2.48	0.0131
F4	2760	-0.10	0.9214
F5	2311	-1.60	0.1093
Pbra FS1	2373	1.39	0.1633
Pbra FS2	2343	1.49	0.1351

N = 155 and 36

Logistic regression on geographical factors

Pbra - Test of all effects (MAINISLANDDATA20March2017)

	DF	Wald stat	P
Intercept	1	0.34	0.5623
"F1"	1	4.11	0.0427
"F2"	1	25.86	0.0000
"F3"	1	13.41	0.0003
"F5"	1	5.05	0.0247

Pbra - Parameter estimates (MAINISLANDDATA20March2017)
 Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.1552	0.2678	0.34	-0.370	0.680	0.5623
"F1"	-0.5061	0.2497	4.11	-0.995	-0.017	0.0427
"F2"	1.4560	0.2863	25.86	0.895	2.017	0.0000
"F3"	1.1718	0.3200	13.41	0.545	1.799	0.0003
"F5"	-0.5914	0.2633	5.05	-1.107	-0.075	0.0247
Scale	1.0000	0.0000		1.000	1.000	

Pbra - Statistics of goodness of fit (MAINISLANDDATA20March2017)

	Df	Stat.	Stat/Df
Deviance	186	132.75	0.714
Scaled Deviance	186	132.75	0.714
Pearson Chi ²	186	157.64	0.848
Scaled P. Chi ²	186	157.64	0.848
AIC		142.75	
BIC		159.01	
Cox-Snell R ²		0.24	
Nagelkerke R ²		0.39	
Loglikelihood		-66.37	

Odds ratio: 7.138, Log odds ratio: 1.965

Classification of cases (MAINISLANDDATA20March2017)

	Predicted 1	Predicted 0	% correct
1	146	9	94.19
0	25	11	30.56

Final loss: 66.374860277 Chi²(4)=52.144 p=.00000

Logistic regression of faunal source

Pbra - Test of all effects (MAINISLANDDATA20March2017)

	DF	Wald stat	P
Intercept	1	3.70	0.0545
"Pbrafs2"	1	3.28	0.0703

Pbra - Parameter estimates (MAINISLANDDATA20March2017)

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.775	0.403	3.70	-0.0148	1.5640	0.0545
"Pbrafs2"	0.024	0.013	3.28	-0.0020	0.0497	0.0703
Scale	1.000	0.000		1.0000	1.0000	

Pbra - Statistics of goodness of fit (MAINISLANDDATA20March2017)

	Df	Stat.	Stat/Df
Deviance	189	181.37	0.960
Scaled Deviance	189	181.37	0.960
Pearson Chi ²	189	190.43	1.008
Scaled P. Chi ²	189	190.43	1.008
AIC		185.37	
BIC		191.87	
Cox-Snell R ²		0.02	
Nagelkerke R ²		0.03	
Loglikelihood		-90.68	

Classification of cases (MAINISLANDDATA20March2017)

Odds ratio: infinity, Log odds ratio: infinity

Observed	Predicted 1	Predicted 0	% correct
1	155	0	100.00
0	36	0	0.00

Final loss: 90.683195106 Chi²(1)=3.5269 p=.06039

Pieris rapae

Mann–Whitney U Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

Variables	U	Z	P
F1	2861	−3.10	0.0019
F2	3206	2.13	0.0332
F3	3796	−0.47	0.6362
F4	3695	0.76	0.4493
F5	1510	−6.89	0.0000
Prapfs1	1961	5.62	0.0000
Prapfs2	1999	5.52	0.0000

N = 130 and 61

Logistic regression on geographical factors

Prap - Test of all effects

	DF	Wald stat	P
Intercept	1	1.37	0.2421
“F1”	1	20.32	0.0000
“F2”	1	14.55	0.0001
“F3”	1	7.43	0.0064
“F3”	1	5.49	0.0192
“F5”	1	33.65	0.0000

Prap - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−0.375	0.3208	1.37	−1.004	0.254	0.2421
“F1”	−1.151	0.2554	20.32	−1.652	−0.651	0.0000
“F2”	0.837	0.2193	14.55	0.407	1.267	0.0001
“F3”	0.875	0.3211	7.43	0.246	1.505	0.0064
“F3”	0.400	0.1709	5.49	0.065	0.735	0.0192
“F5”	−2.058	0.3548	33.65	−2.753	−1.363	0.0000
Scale	1.000	0.0000		1.000	1.000	

Prap - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	185	144.96	0.7836
Scaled Deviance	185	144.96	0.7836
Pearson Chi ²	185	173.84	0.9397
Scaled P. Chi ²	185	173.84	0.9397
AIC		156.96	
BIC		176.48	
Cox-Snell R ²		0.39	
Nagelkerke R ²		0.55	
Loglikelihood		−72.48	

Odds ratio: 19.794, Log odds ratio: 2.985

Classification of cases

Observed	Predicted 1	Predicted 0	% correct
1	116	14	89.23
0	18	43	70.49

Final loss: 72.481672441 $\chi^2(5)=94.320$ $p=.00000$

Logistic regression of faunal source

Prap - Test of all effects (MAINISLANDDATA20March2017)

	DF	Wald stat	P
Intercept	1	5.23	0.0222
"Prapfs1"	1	23.49	0.0000

Prap - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-0.700	0.3061	5.23	-1.300	-0.100	0.0222
"Prapfs1"	0.066	0.0136	23.49	0.039	0.092	0.0000
Scale	1.000	0.0000		1.000	1.000	

Prap - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	189	205.80	1.089
Scaled Deviance	189	205.80	1.089
Pearson χ^2	189	204.39	1.081
Scaled P. χ^2	189	204.39	1.081
AIC		209.80	
BIC		216.30	
Cox-Snell R^2		0.16	
Nagelkerke R^2		0.23	
Loglikelihood		-102.90	

Classification of cases (MAINISLANDDATA20March2017)

Odds ratio: 7.864, Log odds ratio: 2.062

Observed	Predicted 1	Predicted 0	% correct
1	111	19	85.38
0	26	35	57.38

Final loss: 102.89773557 $\chi^2(1)=33.487$ $p=.00000$

Pieris napi

Mann–Whitney U Test (MAINISLANDDATA20March2017)

Include condition: migmark3 >1

	U	Z	P
F1	1940	−3.62	0.0003
F2	2026	3.34	0.0008
F3	2890	−0.59	0.5564
F4	2687	−1.24	0.2167
F5	2131	−3.01	0.0026
Pnapfs1	1781	4.12	0.0000
Pnapfs2	1250	5.79	0.0000

N = 150 and 41

Logistic regression on geographical factors

Pnap - Test of all effects

	DF	Wald stat	P
Intercept	1	9.96	0.0016
“F1”	1	22.22	0.0000
“F2”	1	17.66	0.0000
“F5”	1	9.61	0.0019

Pnap - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.735	0.2330	9.96	0.279	1.192	0.0016
“F1”	−1.118	0.2372	22.22	−1.583	−0.653	0.0000
“F2”	0.930	0.2213	17.66	0.496	1.363	0.0000
“F5”	−0.628	0.2027	9.61	−1.025	−0.231	0.0019
Scale	1.000	0.0000		1.000	1.000	

Pnap - Statistics of goodness of fit

	Df	Stat.	Stat/Df
Deviance	187	151.97	0.8127
Scaled Deviance	187	151.97	0.8127
Pearson Chi²	187	197.38	1.0555
Scaled P. Chi²	187	197.38	1.0555
AIC		159.97	
BIC		172.98	
Cox-Snell R²		0.22	
Nagelkerke R²		0.34	
Loglikelihood		−75.99	

Odds ratio: 9.039, Log odds ratio: 2.2015

Classification of cases

	Predicted 1	Predicted 0	% correct
1	141	9	94.00
0	26	15	36.59

Final loss: 75.986933975 $\chi^2(3)=46.691$ $p=.00000$

Logistic regression of faunal source

Pnap - Test of all effects

	DF	Wald stat	P
Intercept	1	3.27	0.0705
"Pnapfs2"	1	29.75	0.0000

Pnap - Parameter estimates

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-0.654	0.3617	3.27	-1.363	0.0547	0.0705
"Pnapfs2"	0.066	0.0121	29.75	0.042	0.0895	0.0000
Scale	1.000	0.0000		1.000	1.0000	

Pnap - Statistics of goodness of fit

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	158.47	0.8385
Scaled Deviance	189	158.47	0.8385
Pearson χ^2	189	235.18	1.2443
Scaled P. χ^2	189	235.18	1.2443
AIC		162.47	
BIC		168.97	
Cox-Snell R^2		0.19	
Nagelkerke R^2		0.29	
Loglikelihood		-79.23	

Odds ratio: 15.987, Log odds ratio: 2.7718

Classification of cases

	Predicted 1	Predicted 0	% correct
1	143	7	95.33
0	23	18	43.90

Final loss: 79.234826988 $\chi^2(1)=40.195$ $p=.00000$

Anthocharis cardamines

Mann–Whitney *U* Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	3204	−3.20	0.0014
F2	2849	4.15	0.0000
F3	4366	0.11	0.9141
F4	4005	−1.07	0.2850
F5	2681	−4.59	0.0000
Acarfs1	2553	4.94	0.0000
Acarfs2	2467	5.17	0.0000

N = 78 and 113

Logistic regression on geographical factors

Acar - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	30.49	0.0000
“F1”	1	19.86	0.0000
“F2”	1	21.50	0.0000
“F5”	1	20.33	0.0000

Acar - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper C 95%	P
Intercept	−1.544	0.2797	30.49	−2.093	−0.996	0.0000
“F1”	−0.915	0.2054	19.86	−1.318	−0.513	0.0000
“F2”	0.814	0.1755	21.50	0.470	1.158	0.0000
“F5”	−0.821	0.1821	20.33	−1.178	−0.464	0.0000
Scale	1.000	0.0000		1.000	1.000	

Acar - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	195.53	1.046
Scaled Deviance	187	195.53	1.046
Pearson Chi ²	187	185.43	0.992
Scaled P. Chi ²	187	185.43	0.992
AIC		203.53	
BIC		216.54	
Cox-Snell R ²		0.28	
Nagelkerke R ²		0.38	
Loglikelihood		-97.77	

Odds ratio: 9.287619, Log odds ratio: 2.228682

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	53	25	67.95
0	21	92	81.42

Final loss: 97.766600284 Chi²(3)=62.799 p=.00000

Logistic regression of faunal source

Acar - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	23.05	0.0000
"Acarfs2"	1	19.32	0.0000

Acar - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.12746	0.234830	23.05123	-1.58772	-0.667200	0.000002
"Acarfs2"	0.03459	0.007869	19.31612	0.01916	0.050009	0.000011
Scale	1.00000	0.000000		1.00000	1.000000	

Acar - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	236.836	1.253099
Scaled Deviance	189	236.836	1.253099
Pearson Chi ²	189	188.837	0.999138
Scaled P. Chi ²	189	188.837	0.999138
AIC		240.836	
BIC		247.340	
Cox-Snell R ²		0.106	
Nagelkerke R ²		0.144	
Loglikelihood		-118.418	

Odds ratio: 2.730159, Log odds ratio: 1.004360

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	36	42	46.15
0	27	86	76.11

Final loss: 118.41787569 Chi²(1)=21.496 p=.00000

Callophrys rubi

Mann–Whitney *U* Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	2533	-1.7262	0.084305
F2	1167	6.0809	0.000000
F3	2733	-1.0887	0.276304
F4	2316	-2.4180	0.015606
F5	2235	-2.6762	0.007446
Crubfs1	1582	4.7595	0.000002
Crubfs2	1393	5.3620	0.000000

N = 41 and 150

Logistic regression on geographical factors

Crub - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	52.60	0.0000
"F1"	1	6.70	0.0096
"F2"	1	29.64	0.0000
"F5"	1	7.72	0.0055

Crub - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.3124	0.4567	52.60	-4.208	-2.417	0.0000
"F1"	-0.6401	0.2472	6.70	-1.125	-0.156	0.0096
"F2"	1.2805	0.2352	29.64	0.820	1.742	0.0000
"F5"	-0.5842	0.2102	7.72	-0.996	-0.172	0.0055
Scale	1.0000	0.0000		1.000	1.000	

Crub - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	141.14	0.755
Scaled Deviance	187	141.14	0.755
Pearson Chi ²	187	159.88	0.855
Scaled P. Chi ²	187	159.88	0.855
AIC		149.14	
BIC		162.15	
Cox-Snell R ²		0.26	
Nagelkerke R ²		0.40	
Loglikelihood		-70.57	

Odds ratio: 9.484694, Log odds ratio: 2.249679

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
Observed 1	13	28	31.71
0	7	143	95.33

Final loss: 70.568035113 Chi²(3)=57.529 p=.00000

Logistic regression of faunal source

Crub - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	52.44	0.0000
"Crubfs2"	1	22.81	0.0000

Crub - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.4793	0.342372	52.43884	-3.15031	-1.80824	0.000000
"Crubfs2"	0.0654	0.013700	22.80869	0.03858	0.09228	0.000002
Scale	1.0000	0.000000		1.00000	1.00000	

Crub - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	172.42	0.912
Scaled Deviance	189	172.42	0.912
Pearson Chi ²	189	165.34	0.875
Scaled P. Chi ²	189	165.34	0.875
AIC		176.42	
BIC		182.92	
Cox-Snell R ²		0.13	
Nagelkerke R ²		0.20	
Loglikelihood		-86.21	

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	7	34	17.07
0	10	140	93.33

Final loss: 86.209191340 Chi²(1)=26.247 p=.00000

Lycaena phlaeas**Mann–Whitney *U* Test** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	2282	−5.873	0.0000
F2	4242	0.717	0.4734
F3	4437	0.204	0.8384
F4	4169	−0.909	0.3634
F5	2018	−6.568	0.0000
Lphlfs1	1454	8.052	0.0000
Lphlfs2	1470	8.010	0.0000

N = 105 and 86**Logistic regression on geographical factors**

Lphl - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	5.80	0.0161
“F1”	1	38.09	0.0000
“F2”	1	7.96	0.0048
“F5”	1	39.27	0.0000

Lphl - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−0.6661	0.2766	5.80	−1.208	−0.124	0.0161
“F1”	−1.7924	0.2904	38.09	−2.362	−1.223	0.0000
“F2”	0.5085	0.1802	7.96	0.155	0.862	0.0048
“F5”	−1.7510	0.2794	39.27	−2.299	−1.203	0.0000
Scale	1.0000	0.0000		1.000	1.000	

Lphl - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	149.2714	0.798243
Scaled Deviance	187	149.2714	0.798243
Pearson Chi ²	187	186.3556	0.996554
Scaled P. Chi ²	187	186.3556	0.996554
AIC		157.2714	
BIC		170.2805	
Cox-Snell R ²		0.4484	
Nagelkerke R ²		0.5998	
Loglikelihood		−74.6357	

Odds ratio: 17.804348, Log odds ratio: 2.879443
Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	91	14	86.67
0	23	63	73.26

Final loss: 74.635718608 Chi²(3)=113.62 p=0.0000

Logistic regression of faunal source

Lphl - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	29.99	0.0000
“Lphlfs1”	1	46.51	0.0000

Lphl - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.6528	0.3018	29.99	-2.2444	-1.0613	0.0000
“Lphlfs1”	0.0889	0.0130	46.51	0.0633	0.1144	0.0000
Scale	1.0000	0.0000		1.0000	1.0000	

Lphl - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	189.4702	1.002488
Scaled Deviance	189	189.4702	1.002488
Pearson Chi²	189	220.9557	1.169078
Scaled P. Chi²	189	220.9557	1.169078
AIC		193.4702	
BIC		199.9747	
Cox-Snell R²		0.3191	
Nagelkerke R²		0.4269	
Loglikelihood		-94.7351	

Odds ratio: 10.446429, Log odds ratio: 2.346260
Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	81	24	77.14
0	21	65	75.58

Final loss: 94.735085328 Chi²(1)=73.419 p=.00000***Cupido minimus*****Mann–Whitney U Test** (MAINISLANDDATA20March2017)

Include condition: migmark3 >1

	U	Z	P
F1	1071	−2.175	0.0296
F2	966	2.645	0.0082
F3	1189	−1.646	0.0997
F4	1418	0.620	0.5349
F5	807	−3.358	0.0008
Cminfs1	865	3.098	0.0019
Cminfs2	699	3.844	0.0001

N = 18 and 173

Logistic regression on geographical factors**Cmin - Test of all effects** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	34.19	0.0000
"F1"	1	9.75	0.0018
"F2"	1	6.65	0.0099
"F3"	1	9.86	0.0017
"F5"	1	13.44	0.0002

Cmin - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−4.48157	0.766492	34.18573	−5.98387	−2.97927	0.000000
"F1"	−1.65038	0.528568	9.74915	−2.68635	−0.61441	0.001794
"F2"	0.65027	0.252187	6.64885	0.15600	1.14455	0.009922
"F3"	−0.88882	0.283099	9.85712	−1.44368	−0.33396	0.001692
"F5"	−1.57803	0.430478	13.43773	−2.42175	−0.73430	0.000247
Scale	1.00000	0.000000		1.00000	1.00000	

Cmin - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	186	80.5563	0.433098
Scaled Deviance	186	80.5563	0.433098
Pearson Chi ²	186	88.4187	0.475369
Scaled P. Chi ²	186	88.4187	0.475369
AIC		90.5563	
BIC		106.8176	
Cox-Snell R ²		0.1835	
Nagelkerke R ²		0.3951	
Loglikelihood		-40.2781	

Odds ratio: 8.450000, Log odds ratio: 2.134166

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	3	15	16.66667
0	4	169	97.68786

Final loss: 40.278126597 Chi²(4)=38.720 p=.00000**Logistic regression of faunal source**

Cmin - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	71.42	0.000000
"Cminfs2"	1	17.28	0.000032

Cmin - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 05%	P
Intercept	-3.04542	0.360353	71.42293	-3.75170	-2.33914	0.000000
"Cminfs2"	0.10251	0.024657	17.28412	0.05418	0.15084	0.000032
Scale	1.00000	0.000000		1.00000	1.00000	

Cmin - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	100.4642	0.531557
Scaled Deviance	189	100.4642	0.531557
Pearson Chi ²	189	181.3861	0.959715
Scaled P. Chi ²	189	181.3861	0.959715
AIC		104.4642	
BIC		110.9688	
Cox-Snell R ²		0.0938	
Nagelkerke R ²		0.2019	
Loglikelihood		-50.2321	

Odds ratio: 24.428571, Log odds ratio: 3.195753

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	4	14	22.22
0	2	171	98.84

Final loss: 50.232114672 Chi²(1)=18.812 p=.00001

Aricia agestis

Mann-Whitney U Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	1144	-2.41746	0.015630
F2	1553	0.66902	0.503481
F3	305	6.00411	0.000000
F4	879	-3.55031	0.000385
F5	288	-6.07678	0.000000
Agefs1	100	6.88047	0.000000
Agefs2	90	6.92322	0.000000

N = 20 and 171

Logistic regression on geographical factors

Age - Test of all effects (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	DF	Wald stat	P
Intercept	1	23.18702	0.000001
"F1"	1	5.35580	0.020653
"F3"	1	4.00149	0.045460
"F5"	1	9.38199	0.002191

Aage - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-6.48718	1.347203	23.18702	-9.12764	-3.84671	0.000001
"F1"	-2.12510	0.918262	5.35580	-3.92486	-0.32534	0.020653
"F3"	1.07378	0.536793	4.00149	0.02169	2.12588	0.045460
"F5"	-2.51128	0.819877	9.38199	-4.11821	-0.90436	0.002191
Scale	1.00000	0.000000		1.00000	1.00000	

Aage - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	42.6978	0.228330
Scaled Deviance	187	42.6978	0.228330
Pearson Chi ²	187	67.9478	0.363357
Scaled P. Chi ²	187	67.9478	0.363357
AIC		50.6978	
BIC		63.7069	
Cox-Snell R ²		0.3605	
Nagelkerke R ²		0.7378	
Loglikelihood		-21.3489	

Odds ratio: 224.000000, Log odds ratio: 5.411646

Classification of cases (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	16	4	80.00
0	3	168	98.25

Final loss: 21.348884762 Chi²(3)=85.392 p=.00000

Logistic regression of faunal source

Aage - Test of all effects (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	DF	Wald stat	P
Intercept	1	54.25	0.000000
"Agefs2"	1	35.49	0.000000

Age - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-4.05599	0.550660	54.25338	-5.13526	-2.97672	0.000000
"Aagefs2"	0.12361	0.020750	35.48693	0.08294	0.16428	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Age - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	54.0563	0.286012
Scaled Deviance	189	54.0563	0.286012
Pearson Chi ²	189	98.5901	0.521641
Scaled P. Chi ²	189	98.5901	0.521641
AIC		58.0563	
BIC		64.5608	
Cox-Snell R ²		0.3213	
Nagelkerke R ²		0.6576	
Loglikelihood		-27.0281	

Odds ratio: 77.535714, Log odds ratio: 4.350739

Classification of cases (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	13	7	65.00
0	4	167	97.66

Final loss: 27.028125324 Chi²(1)=74.034 p=.00000

Polyommatus icarus

Mann-Whitney U Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	2278	-3.23405	0.001221
F2	2065	3.88606	0.000102
F3	3071	-0.80660	0.419898
F4	2987	-1.06373	0.287451
F5	2186	-3.51567	0.000439
Picafs1	2305	3.15140	0.001625
Picafs2	1821	4.63297	0.000004

N = 145 and 46

Logistic regression on geographical factors

Pica - Test of all effects (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	DF	Wald stat	P
Intercept	1	3.89	0.048690
"F1"	1	19.54	0.000010
"F2"	1	21.54	0.000003
"F5"	1	14.29	0.000157

Pica - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.45093	0.228748	3.88599	0.00259	0.899268	0.048690
"F1"	-1.01370	0.229341	19.53673	-1.46319	-0.564195	0.000010
"F2"	1.04311	0.224735	21.54371	0.60264	1.483584	0.000003
"F5"	-0.79354	0.209910	14.29115	-1.20495	-0.382120	0.000157
Scale	1.00000	0.000000		1.00000	1.000000	

Pica - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Df	Stat.
Deviance	187	156.5336
Scaled Deviance	187	156.5336
Pearson Chi²	187	197.7951
Scaled P. Chi²	187	197.7951
AIC		164.5336
BIC		177.5427
Cox-Snell R²		0.2476
Nagelkerke R²		0.3704
Loglikelihood		-78.2668

Odds ratio: 7.831169, Log odds ratio: 2.058112

Classification of cases (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	134	11	92.41
0	28	18	39.13

Final loss: 78.266788524 Chi²(3)=54.347 p=.00000

Logistic regression of faunal source

Pica - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Wald stat	P
Intercept	1.49	0.221811
"Picafs2"	21.00	0.000005

Pica - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-0.436773	0.357505	1.49261	-1.13747	0.263924	0.221811
"Picafs2"	0.054349	0.011859	21.00369	0.03111	0.077592	0.000005
Scale	1.000000	0.000000		1.00000	1.000000	

Pica - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	185.2433	0.980123
Scaled Deviance	189	185.2433	0.980123
Pearson Chi ²	189	189.6760	1.003576
Scaled P. Chi ²	189	189.6760	1.003576
AIC		189.2433	
BIC		195.7478	
Cox-Snell R ²		0.1256	
Nagelkerke R ²		0.1879	
Loglikelihood		-92.6216	

Odds ratio: 7.311828, Log odds ratio: 1.989493

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	136	9	93.79
0	31	15	32.61

Final loss: 92.621644012 Chi²(1)=25.637 p=.00000

Celastrina argiolus**Mann–Whitney *U* Test** (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	U	Z	P
F1	2350	−1.47090	0.141320
F2	2438	1.17638	0.239443
F3	1959	2.77947	0.005445
F4	1914	−2.93008	0.003389
F5	450	−7.82972	0.000000
Cargfs1	559	7.46659	0.000000
Cargfs2	626	7.24069	0.000000

N = 36 and 155**Logistic regression on geographical factors****Carg - Test of all effects** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	34.42	0.000000
“F1”	1	12.94	0.000322
“F2”	1	3.99	0.045708
“F5”	1	32.31	0.000000

Carg - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−4.455	0.7593	34.42	−5.943	−2.966	0.0000
“F1”	−1.390	0.3864	12.94	−2.147	−0.632	0.0003
“F2”	0.497	0.2488	3.99	0.009	0.985	0.0457
“F5”	−2.689	0.4731	32.31	−3.616	−1.762	0.0000
Scale	1.000	0.0000		1.000	1.000	

Carg - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	89.7710	0.480059
Scaled Deviance	187	89.7710	0.480059
Pearson Chi ²	187	146.7375	0.784693
Scaled P. Chi ²	187	146.7375	0.784693
AIC		97.7710	
BIC		110.7801	
Cox-Snell R ²		0.3923	
Nagelkerke R ²		0.6325	
Loglikelihood		-44.8855	

Odds ratio: 42.285714, Log odds ratio: 3.744449

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	24	12	66.67
0	7	148	95.48

Final loss: 44.885479157 Chi²(3)=95.122 p=0.0000

Logistic regression of faunal source

Carg - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	68.41	0.000000
"Cargfs1"	1	40.39	0.000000

Carg - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.839	0.3433	68.411	-3.512	-2.167	0.0000
"Cargfs1"	0.079	0.0125	40.390	0.055	0.104	0.0000
Scale	1.000	0.0000		1.000	1.000	

Carg - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	126.1843	0.667642
Scaled Deviance	189	126.1843	0.667642
Pearson Chi ²	189	151.4625	0.801389
Scaled P. Chi ²	189	151.4625	0.801389
AIC		130.1843	
BIC		136.6888	
Cox-Snell R ²		0.2646	
Nagelkerke R ²		0.4267	
Loglikelihood		-63.0921	

Odds ratio: 8.511905, Log odds ratio: 2.141466

Classification of cases (MAINISLANDDATA20March2017)

Include condition: Migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	15	21	41.67
0	12	143	92.26

Final loss: 63.092142110 Chi²(1)=58.709 p=.00000

Aglais urticae

Mann–Whitney *U* Test (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	1852	-2.02343	0.043029
F2	1288	4.05226	0.000051
F3	2229	-0.66728	0.504592
F4	1987	1.53781	0.124096
F5	2033	-1.37234	0.169959
Aurtfs1	1793	2.23567	0.025374
Aurtfs2	1532	3.17454	0.001501

N = 161 and 30

Logistic regression on geographical factors

Aurt - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	21.77	0.000003
"F1"	1	10.43	0.001243
"F2"	1	19.51	0.000010

Aurt - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	1.0846	0.23246	21.77	0.6289	1.54017	0.00000
"F1"	-0.7746	0.23989	10.43	-1.2448	-0.30441	0.00124
"F2"	1.0710	0.24246	19.51	0.5958	1.54625	0.00001
Scale	1.0000	0.00000		1.0000	1.00000	

Aurt - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	188	136.3354	0.725188
Scaled Deviance	188	136.3354	0.725188
Pearson Chi ²	188	185.1249	0.984707
Scaled P. Chi ²	188	185.1249	0.984707
AIC		142.3354	
BIC		152.0922	
Cox-Snell R ²		0.1442	
Nagelkerke R ²		0.2483	
Loglikelihood		-68.1677	

Odds ratio: 15.900000, Log odds ratio: 2.766319

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	159	2	98.76
0	25	5	16.67

Final loss: 68.167693160 Chi²(2)=29.749 p=.00000

Logistic regression of faunal source

Aurt - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	0.88	0.348208
"Aurtfs2"	1	11.07	0.000880

Aurt - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.374	0.3990	0.880	-0.4077	1.1563	0.3482
"Aurtfs2"	0.044	0.0132	11.065	0.0180	0.0698	0.0009
Scale	1.000	0.0000		1.0000	1.0000	

Aurt - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	153.4293	0.811795
Scaled Deviance	189	153.4293	0.811795
Pearson Chi ²	189	198.9548	1.052671
Scaled P. Chi ²	189	198.9548	1.052671
AIC		157.4293	
BIC		163.9338	
Cox-Snell R ²		0.0641	
Nagelkerke R ²		0.1104	
Loglikelihood		-76.7146	

Odds ratio: infinity, Log odds ratio: infinity

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	161	0	100.00
0	30	0	0.00

Final loss: 76.714649348 Chi²(1)=12.655 p=.00038

Aglais io**Mann–Whitney *U* Test** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	U	Z	P
F1	3089	−1.54	0.1230
F2	2161	4.27	0.0000
F3	3348	0.78	0.4350
F4	3438	−0.52	0.6058
F5	2589	−3.01	0.0026
Aiofs1	2461	3.39	0.0007
Aiofs2	2580	3.04	0.0024

N = 139 and 52**Logistic regression on geographical factors****Aio - Test of all effects** (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	1.66	0.197605
"F1"	1	8.47	0.003601
"F2"	1	19.45	0.000010
"F5"	1	9.55	0.002002

Aio - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.2774	0.2153	1.66	−0.1446	0.6995	0.1976
"F1"	−0.5662	0.1945	8.47	−0.9475	−0.1850	0.0036
"F2"	0.8454	0.1917	19.45	0.4696	1.2211	0.0000
"F5"	−0.5626	0.1821	9.55	−0.9195	−0.2058	0.0020
Scale	1.0000	0.0000		1.0000	1.0000	

Aio - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	185.7407	0.993266
Scaled Deviance	187	185.7407	0.993266
Pearson Chi ²	187	174.8876	0.935228
Scaled P. Chi ²	187	174.8876	0.935228
AIC		193.7407	
BIC		206.7498	
Cox-Snell R ²		0.1800	
Nagelkerke R ²		0.2610	
Loglikelihood		-92.8704	

Odds ratio: 3.929314, Log odds ratio: 1.368465

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	126	13	90.65
0	37	15	28.85

Final loss: 92.870356916 Chi²(3)=37.915 p=.00000**Logistic regression of faunal source**

Aio - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	1.88	0.170155
"Aiofs1"	1	10.30	0.001332

Aio - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	0.3356	0.2447	1.882	-0.1439	0.8152	0.1702
"Aiofs1"	0.0298	0.0093	10.298	0.0116	0.0480	0.0013
Scale	1.0000	0.0000		1.0000	1.0000	

Aio - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	212.289	1.123222
Scaled Deviance	189	212.289	1.123222
Pearson Chi ²	189	192.675	1.019445
Scaled P. Chi ²	189	192.675	1.019445
AIC		216.289	
BIC		222.794	
Cox-Snell R ²		0.058	
Nagelkerke R ²		0.084	
Loglikelihood		-106.144	

Odds ratio: infinity, Log odds ratio: infinity

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	139	0	100.00
0	52	0	0.00

Final loss: 106.14449049 Chi²(1)=11.366 p=.00075

Polygona c-album

Mann–Whitney U Test (MAINISLANDDATA20March2017)

Include condition: migmark3 >1

	U	Z	P
F1	2418	-2.09	0.03636
F2	2740	-1.07	0.28627
F3	1316	5.61	0.00000
F4	2448	-2.00	0.04580
F5	778	-7.32	0.00000
Pcalfs1	445	8.38	0.00000
Pcalfs2	461	8.33	0.00000

N = 41 and 150

Logistic regression on geographical factors

Pcal - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	50.16	0.000000
"F1"	1	7.82	0.005170
"F3"	1	12.24	0.000468
"F5"	1	31.23	0.000000

Pcal - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.436	0.4851	50.16	-4.386	-2.485	0.0000
"F1"	-0.901	0.3224	7.82	-1.533	-0.270	0.0052
"F3"	1.465	0.4189	12.24	0.644	2.286	0.0005
"F5"	-1.924	0.3442	31.23	-2.598	-1.249	0.0000
Scale	1.000	0.0000		1.000	1.000	

Pcal - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	94.5272	0.505493
Scaled Deviance	187	94.5272	0.505493
Pearson Chi ²	187	567.7792	3.036252
Scaled P. Chi ²	187	567.7792	3.036252
AIC		102.5272	
BIC		115.5363	
Cox-Snell R ²		0.4203	
Nagelkerke R ²		0.6500	
Loglikelihood		-47.2636	

Odds ratio: 113.150000, Log odds ratio: 4.728714

Classification of cases (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	31	10	75.61
0	4	146	97.33

Final loss: 47.263608646 Chi²(3)=104.14 p=0.0000**Logistic regression of faunal source**

Pcal - Test of all effects (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	69.26	0.000000
"Pcalfs2"	1	44.90	0.000000

Pcal - Parameter estimates (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.573	0.3092	69.26	-3.179	-1.967	0.0000
"Pcalfs2"	0.087	0.0129	44.90	0.061	0.112	0.0000
Scale	1.000	0.0000		1.000	1.000	

Pcal - Statistics of goodness of fit (MAINISLANDDATA20March2017)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	126.1725	0.667579
Scaled Deviance	189	126.1725	0.667579
Pearson Chi ²	189	180.5096	0.955077
Scaled P. Chi ²	189	180.5096	0.955077
AIC		130.1725	
BIC		136.6771	
Cox-Snell R ²		0.3158	
Nagelkerke R ²		0.4884	
Loglikelihood		-63.0863	

Classification of cases (MAINISLANDDATA20March2017)

Odds ratio: 22.117647, Log odds ratio: 3.096376

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	24	17	58.54
0	9	141	94.00

Final loss: 63.086257409 Chi²(1)=72.492 p=.00000***Boloria selene*****Mann-Whitney U Test** (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	2531	1.40	0.1602
F2	1148	-5.89	0.0000
F3	2657	1.00	0.3196
F4	2603	1.17	0.2418
F5	2929	0.11	0.9108
Bselfs1	875	-6.78	0.0000
Bselfs2	870	-6.80	0.0000

N = 39 and 152

Logistic regression on geographical factors

Bsel - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	54.81	0.000000
"F1"	1	5.45	0.019581
"F2"	1	29.30	0.000000

Bsel - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.007	0.406	54.81	-3.803	-2.211	0.00
"F1"	-0.546	0.234	5.45	-1.005	-0.088	0.02
"F2"	1.171	0.216	29.30	0.747	1.596	0.00000
Scale	1.000	0.000		1.000	1.000	

Bsel - Statistics of goodness of fit (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	188	147.9495	0.786965
Scaled Deviance	188	147.9495	0.786965
Pearson Chi ²	188	170.7375	0.908178
Scaled P. Chi ²	188	170.7375	0.908178
AIC		153.9495	
BIC		163.7063	
Cox-Snell R ²		0.2116	
Nagelkerke R ²		0.3323	
Loglikelihood		-73.9747	

Odds ratio: 12.946429, Log odds ratio: 2.560820

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	15	24	38.46
0	7	145	95.39

Final loss: 73.974732629 Chi²(2)=45.401 p=.00000

Logistic regression of faunal source

Bsel - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat.	P
Intercept	1	56.70	0.000000
"Bselfs2"	1	37.16	0.000000

Bsel - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.059	0.4062	56.698	-3.855	-2.263	0.0000
"Bselfs2"	0.087	0.0142	37.165	0.059	0.115	0.0000
Scale	1.000	0.0000		1.000	1.000	

Bsel - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	141.9694	0.751161
Scaled Deviance	189	141.9694	0.751161
Pearson Chi2	189	154.6060	0.818021
Scaled P. Chi ²	189	154.6060	0.818021
AIC		145.9694	
BIC		152.4739	
Cox-Snell R ²		0.2359	
Nagelkerke R ²		0.3705	
Loglikelihood		-70.9847	

Odds ratio: 6.409091, Log odds ratio: 1.857717

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	13	26	33.33
0	11	141	92.76

Final loss: 70.984680930 Chi²(1)=51.382 p=.00000

Boloria euphrosyne

Mann–Whitney *U* Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	967	1.36	0.17272
F2	221	−5.11	0.00000
F3	1092	0.74	0.46189
F4	1101	−0.69	0.48985
F5	995	1.22	0.22137
Beupfs1	725	−2.58	0.00984
Beupfs2	561	−3.41	0.00066

N = 14 and 177

Logistic regression on geographical factors

Beup - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	35.26	0.000000
“F2”	1	21.83	0.000003

Beup - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−5.88368	0.990917	35.25523	−7.82584	−3.94152	0.000000
“Bselfs2”	1.78454	0.381947	21.82973	1.03594	2.53315	0.000003
Scale	1.00000	0.000000		1.00000	1.00000	

Beup - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	62.5085	0.330733
Scaled Deviance	189	62.5085	0.330733
Pearson Chi ²	189	125.7662	0.665429
Scaled P. Chi ²	189	125.7662	0.665429
AIC		66.5085	
BIC		73.0130	
Cox-Snell R ²		0.1787	
Nagelkerke R ²		0.4381	
Loglikelihood		−31.2543	

Odds ratio: 23.200000, Log odds ratio: 3.144152

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	4	10	28.57
0	3	174	98.31

Final loss: 31.254251194 Chi²(1)=37.609 p=.00000

Logistic regression of faunal source

Beup - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	59.30	0.000000
"Beupfs2"	1	7.47	0.006276

Beup - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.14441	0.408316	59.30424	-3.94470	-2.34413	0.000000
"Beupfs2"	0.06762	0.024743	7.46918	0.01913	0.11612	0.006276
Scale	1.00000	0.000000		1.00000	1.00000	

Beup - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	93.3281	0.493799
Scaled Deviance	189	93.3281	0.493799
Pearson Chi ²	189	167.4718	0.886094
Scaled P. Chi ²	189	167.4718	0.886094
AIC		97.3281	
BIC		103.8326	
Cox-Snell R ²		0.0349	
Nagelkerke R ²		0.0856	
Loglikelihood		-46.6640	

Odds ratio: infinity, Log odds ratio: infinity

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	0	14	0.00
0	0	177	100.00

Final loss: 46.664034531 Chi²(1)=6.7898 p=.00917 but Failed model in terms of predictions

Argyannis aglaja

Mann–Whitney U Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	3582	−2.106	0.03522
F2	1774	6.941	0.00000
F3	3356	−2.710	0.00672
F4	3965	−1.082	0.27939
F5	3723	−1.729	0.08384
Aaglfs1	2664	4.562	0.00001
Aaglfs2	2300	5.535	0.00000

N = 76 and 115

Logistic regression on geographical factors

Aagl - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	28.91152	0.000000
“F1”	1	13.03972	0.000305
“F2”	1	37.43670	0.000000
“F3”	1	4.25944	0.039033

Aagl - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−1.72072	0.320018	28.91152	−2.34794	−1.09349	0.000000
“F1”	−0.76516	0.211893	13.03972	−1.18046	−0.34985	0.000305
“F2”	1.32700	0.216881	37.43670	0.90192	1.75208	0.000000
“F3”	−0.38936	0.188656	4.25944	−0.75911	−0.01960	0.039033
Scale	1.00000	0.000000		1.00000	1.00000	

Aagl - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	184.1863	0.984953
Scaled Deviance	187	184.1863	0.984953
Pearson Chi ²	187	227.5719	1.216962
Scaled P. Chi ²	187	227.5719	1.216962
AIC		192.1863	
BIC		205.1954	
Cox-Snell R ²		0.3161	
Nagelkerke R ²		0.4276	
Loglikelihood		-92.0931	

Odds ratio: 10.993333, Log odds ratio: 2.397289

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	51	25	67.11
0	18	97	84.35

Final loss: 92.093137804 Chi²(3)=72.576 p=.00000

Logistic regression of faunal source

Aagl - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	32.32	0.0000
"Aagls2"	1	27.09	0.0000

Aagl - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.77234	0.311766	32.31731	-2.38339	-1.16129	0.000000
"Aagls2"	0.06769	0.013004	27.09347	0.04220	0.09318	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Aagl - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	223.587	1.183000
Scaled Deviance	189	223.587	1.183000
Pearson Chi ²	189	184.365	0.975477
Scaled P. Chi ²	189	184.365	0.975477
AIC		227.587	
BIC		234.092	
Cox-Snell R ²		0.159	
Nagelkerke R ²		0.216	
Loglikelihood		-111.794	

Odds ratio: 4.424077, Log odds ratio: 1.487062
Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	33	43	43.42
0	17	98	85.22

Final loss: 111.79352482 Chi²(1)=33.176 p=.00000

Argyannis paphia

Mann–Whitney U Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 >1

	U	Z	P
F1	1096	−1.43390	0.151601
F2	1061	1.59926	0.109763
F3	1344	−0.26221	0.793158
F4	1225	−0.82444	0.409693
F5	543	−4.04658	0.000052
Apapfs1	459	4.44581	0.000009
Apapfs2	500	4.25210	0.000021

N = 17 and 175

Logistic regression on geographical factors

Apap - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	28.93663	0.000000
"F1"	1	8.45688	0.003637
"F3"	1	6.78019	0.009217
"F5"	1	14.35515	0.000151

Apap - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-4.26576	0.792999	28.93663	-5.82001	-2.71151	0.000000
"F1"	-1.50396	0.517168	8.45688	-2.51759	-0.49033	0.003637
"F3"	-0.76813	0.294995	6.78019	-1.34631	-0.18995	0.009217
"F5"	-2.02740	0.535102	14.35515	-3.07618	-0.97862	0.000151
Scale	1.00000	0.000000		1.00000	1.00000	

Apap - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	78.5358	0.419977
Scaled Deviance	187	78.5358	0.419977
Pearson Chi ²	187	125.3166	0.670142
Scaled P. Chi ²	187	125.3166	0.670142
AIC		86.5358	
BIC		99.5449	
Cox-Snell R ²		0.1517	
Nagelkerke R ²		0.3467	
Loglikelihood		-39.2679	

Odds ratio: infinity, Log odds ratio: infinity

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	1	15	6.25
0	0	175	100.00

Final loss: 39.267896066 Chi²(3)=31.435 p=.00000

Logistic regression of faunal source

Apap - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	63.54	0.000000
“Apapfs1”	1	16.58	0.000047

Apap - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.28599	0.412232	63.54015	-4.09395	-2.47803	0.000000
“Apapfs1”	0.06763	0.016611	16.57617	0.03507	0.10019	0.000047
Scale	1.00000	0.000000		1.00000	1.00000	

Apap - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	93.7081	0.495810
Scaled Deviance	189	93.7081	0.495810
Pearson Chi ²	189	158.3151	0.837646
Scaled P. Chi ²	189	158.3151	0.837646
AIC		97.7081	
BIC		104.2127	
Cox-Snell R ²		0.0816	
Nagelkerke R ²		0.1865	
Loglikelihood		-46.8541	

Odds ratio: 0.000000, Log odds ratio: infinity
Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	0	16	0.00
0	2	173	98.86

Final loss: 46.854053436 Chi²(1)=16.262 p=.00006

Euphydryas aurinia**Mann–Whitney *U* Test** (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	1983	−0.86598	0.386503
F2	849	5.12637	0.000000
F3	1483	−2.74446	0.006061
F4	1764	−1.68875	0.091268
F5	1717	−1.86533	0.062136
Eaurfs1	1146	4.01055	0.000061
Eaurfs2	987	4.60791	0.000004

N = 27 and 164**Logistic regression on geographical factors****Eaur - Test of all effects** (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	44.20525	0.000000
"F2"	1	21.66658	0.000003
"F3"	1	7.60273	0.005828

Eaur - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−3.23261	0.486202	44.20525	−4.18555	−2.27967	0.000000
"F2"	1.11345	0.239208	21.66658	0.64461	1.58229	0.000003
"F3"	−0.68525	0.248523	7.60273	−1.17235	−0.19816	0.005828
Scale	1.00000	0.000000		1.00000	1.00000	

Eaur - Statistics of goodness of fit (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	188	119.0251	0.633112
Scaled Deviance	188	119.0251	0.633112
Pearson Chi ²	188	155.4707	0.826972
Scaled P. Chi ²	188	155.4707	0.826972
AIC		125.0251	
BIC		134.7819	
Cox-Snell R ²		0.1744	
Nagelkerke R ²		0.3130	
Loglikelihood		−59.5126	

Odds ratio: 3.291667, Log odds ratio: 1.191394

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	3	24	11.11
0	6	158	96.34

Final loss: 59.512555358 Chi²(2)=36.612 p=.00000

Logistic regression of faunal source

Eaur - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	60.78143	0.000000
"Eaurfs2"	1	16.20474	0.000057

Eaur - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 05%	P
Intercept	-2.65959	0.341137	60.78143	-3.32821	-1.99097	0.000000
"Eaurfs2"	0.07011	0.017417	16.20474	0.03598	0.10425	0.000057
Scale	1.00000	0.000000		1.00000	1.00000	

Eaur - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	139.0168	0.735539
Scaled Deviance	189	139.0168	0.735539
Pearson Chi ²	189	171.1731	0.905678
Scaled P. Chi ²	189	171.1731	0.905678
AIC		143.0168	
BIC		149.5213	
Cox-Snell R ²		0.0833	
Nagelkerke R ²		0.1495	
Loglikelihood		-69.5084	

Odds ratio: 3.200000, Log odds ratio: 1.163151

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	2	25	7.41
0	4	160	97.56

Final loss: 69.508394997 $\chi^2(1)=16.620$ $p=.00005$

Pararge aegeria

Mann–Whitney U Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 >1

	U	Z	P
F1	3490	−2.695	0.007033
F2	3399	2.935	0.003339
F3	4185	−0.867	0.386017
F4	3741	−2.035	0.041855
F5	1599	−7.670	0.000000
Paegfs1	1772	7.216	0.000000
Paegfs2	1704	7.395	0.000000

$N = 86$ and 105

Logistic regression on geographical factors

Paeg - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	24.42342	0.000001
"F1"	1	19.18772	0.000012
"F2"	1	17.37653	0.000031
"F5"	1	44.64227	0.000000

Paeg - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−1.54176	0.311970	24.42342	−2.15320	−0.93031	0.000001
"F1"	−1.05581	0.241032	19.18772	−1.52823	−0.58340	0.000012
"F2"	0.77781	0.186592	17.37653	0.41210	1.14352	0.000031
"F5"	−1.71984	0.257404	44.64227	−2.22435	−1.21534	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Paeg - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	160.6991	0.859354
Scaled Deviance	187	160.6991	0.859354
Pearson Chi ²	187	179.5747	0.960293
Scaled P. Chi ²	187	179.5747	0.960293
AIC		168.6991	
BIC		181.7082	
Cox-Snell R ²		0.4143	
Nagelkerke R ²		0.5543	
Loglikelihood		-80.3496	

Odds ratio: 18.253870, Log odds ratio: 2.904377

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	67	19	77.91
0	17	88	83.81

Final loss: 80.349557920 Chi²(3)=102.19 p=0.0000

Logistic regression of faunal source

Paeg - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	31.24	0.000000
"Paegfs2"	1	36.57	0.000000

Paeg - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.45898	0.261048	31.23646	-1.97063	-0.947340	0.000000
"Paegfs2"	0.06414	0.010605	36.57330	0.04335	0.084923	0.000000
Scale	1.00000	0.000000		1.00000	1.000000	

Paeg - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	213.357	1.128873
Scaled Deviance	189	213.357	1.128873
Pearson Chi ²	189	197.125	1.042987
Scaled P. Chi ²	189	197.125	1.042987
AIC		217.357	
BIC		223.861	
Cox-Snell R ²		0.228	
Nagelkerke R ²		0.306	
Loglikelihood		-106.678	

Odds ratio: 6.655072, Log odds ratio: 1.895379

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	56	30	65.12
0	23	82	78.10

Final loss: 106.67846280 Chi²(1)=49.532 p=.00000

Lasiommata megera

Mann–Whitney *U* Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	2783	-3.75899	0.000171
F2	3921	0.63770	0.523671
F3	3837	0.86809	0.385345
F4	3911	-0.66513	0.505971
F5	1221	-8.04322	0.000000
Lmegfs1	1170	8.18310	0.000000
Pmegfs2	1190	8.12961	0.000000

N = 67 and 124

Logistic regression on geographical factors

Lmeg - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	32.64	0.000000
"F1"	1	26.93	0.000000
"F2"	1	4.30	0.038069
"F5"	1	42.69	0.000000

Lmeg - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.16269	0.378532	32.64257	-2.90460	-1.42078	0.000000
"F1"	-1.62615	0.313356	26.93074	-2.24032	-1.01199	0.000000
"F2"	0.35866	0.172922	4.30192	0.01974	0.69758	0.038069
"F5"	-2.03266	0.311117	42.68563	-2.64243	-1.42288	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Lmeg - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	140.1175	0.749291
Scaled Deviance	187	140.1175	0.749291
Pearson Chi ²	187	174.0350	0.930669
Scaled P. Chi ²	187	174.0350	0.930669
AIC		148.1175	
BIC		161.1266	
Cox-Snell R ²		0.4301	
Nagelkerke R ²		0.5921	
Loglikelihood		-70.0587	

Odds ratio: 29.750000, Log odds ratio: 3.392829

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	51	16	76.12
0	12	112	90.32

Final loss: 70.058740077 Chi²(3)=107.39 p=0.0000

Logistic regression of faunal source

Lmeg - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	51.92	0.000000
"Lmegfs1"	1	46.61	0.000000

Lmeg - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.08103	0.288813	51.91854	-2.64709	-1.51497	0.000000
"Lmegfs1"	0.08049	0.011791	46.60544	0.05738	0.10360	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Lmeg - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	177.3630	0.938429
Scaled Deviance	189	177.3630	0.938429
Pearson Chi ²	189	192.4283	1.018139
Scaled P. Chi ²	189	192.4283	1.018139
AIC		181.3630	
BIC		187.8676	
Cox-Snell R ²		0.3074	
Nagelkerke R ²		0.4232	
Loglikelihood		-88.6815	

Odds ratio: 11.340000, Log odds ratio: 2.428336

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	42	25	62.69
0	16	108	87.10

Final loss: 88.681501714 Chi²(1)=70.147 p=.00000

Erebia aethiops**Mann–Whitney *U* Test** (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	1170	−3.92038	0.000088
F2	1010	4.52150	0.000006
F3	1719	−1.85782	0.063196
F4	1981	−0.87349	0.382395
F5	1484	2.74070	0.006131
Eaetfs1	285	7.24529	0.000000
Eaetfs2	204	7.55148	0.000000

N = 27 and 164**Logistic regression on geographical factors**

Eaet - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	43.55	0.000000
“F1”	1	18.03	0.000022
“F2”	1	23.81	0.000001
“F5”	1	11.65	0.000642

Eaet - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−4.46657	0.676835	43.54949	−5.79314	−3.14000	0.000000
“F1”	−1.49332	0.351641	18.03451	−2.18252	−0.80411	0.000022
“F2”	1.49647	0.306656	23.81393	0.89543	2.09750	0.000001
“F5”	1.38167	0.404811	11.64939	0.58825	2.17508	0.000642
Scale	1.00000	0.000000		1.00000	1.00000	

Eaet - Statistics of goodness of fit (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	91.4391	0.488979
Scaled Deviance	187	91.4391	0.488979
Pearson Chi ²	187	143.0068	0.764742
Scaled P. Chi ²	187	143.0068	0.764742
AIC		99.4391	
BIC		112.4482	
Cox-Snell R ²		0.2855	

	Df	Stat.	Stat/Df
Nagelkerke R ²		0.5122	
Loglikelihood		-45.7195	

Odds ratio: 25.440000, Log odds ratio: 3.236323

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	12	15	44.44
0	5	159	96.95

Final loss: 45.719546921 Chi²(3)=64.198 p=.00000

Logistic regression of faunal source

Eaet - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	61.37	0.000000
"Eaetfs2"	1	41.56	0.000000

Eaet - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.57979	0.456958	61.37093	-4.47542	-2.68417	0.000000
"Eaetfs2"	0.10650	0.016520	41.56013	0.07412	0.13888	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Eaet - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	83.0204	0.439261
Scaled Deviance	189	83.0204	0.439261
Pearson Chi ²	189	105.9353	0.560504
Scaled P. Chi ²	189	105.9353	0.560504
AIC		87.0204	
BIC		93.5249	
Cox-Snell R ²		0.3163	
Nagelkerke R ²		0.5675	
Loglikelihood		-41.5102	

Odds ratio: 32.623377, Log odds ratio: 3.485029

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted	Predicted	Percent
1	16	11	59.26
0	7	157	95.73

Final loss: 41.510193822 Chi²(1)=72.617 p=.00000

Melanargia galathea

Mann–Whitney *U* Test (MAINISLANDDATA20March2017workcopy)

Include condition: Migmark3 > 1

	U	Z	P
F1	779	−2.30768	0.021018
F2	985	1.27311	0.202978
F3	464	3.88965	0.000100
F4	716	−2.62407	0.008689
F5	235	−5.03972	0.000000
Mgalfs1	175	5.34356	0.000000
Mgalfs2	167	5.38123	0.000000

N = 14 and 177

Logistic regression on geographical factors

Mgal - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	21.75	0.000003
“F1”	1	10.22	0.001390
“F5”	1	18.15	0.000020

Mgal - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−7.56583	1.622432	21.74602	−10.7457	−4.38592	0.000003
“F1”	−3.11809	0.975382	10.21946	−5.0298	−1.20638	0.001390
“F5”	−3.13744	0.736452	18.14943	−4.5809	−1.69402	0.000020
Scale	1.00000	0.000000		1.0000	1.00000	

Mgal - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	188	43.7802	0.232874
Scaled Deviance	188	43.7802	0.232874
Pearson Chi ²	188	51.8953	0.276039
Scaled P. Chi ²	188	51.8953	0.276039
AIC		49.7802	
BIC		59.5371	
Cox-Snell R ²		0.2554	
Nagelkerke R ²		0.6261	
Loglikelihood		-21.8901	

Odds ratio: 58.000000, Log odds ratio: 4.060443

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	7	7	50.00
0	3	174	98.31

Final loss: 21.890122882 Chi²(2)=56.338 p=.00000

Logistic regression of faunal source

Mgal - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	54.69	0.000000
"Mgalfs2"	1	33.14	0.000000

Mgal - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.90915	0.528595	54.69142	-4.94518	-2.87312	0.000000
"Mgalfs2"	0.09852	0.017113	33.13913	0.06497	0.13206	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Mgal - Statistics of goodness of fit (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	55.2064	0.292098
Scaled Deviance	189	55.2064	0.292098
Pearson Chi ²	189	139.9543	0.740499
Scaled P. Chi ²	189	139.9543	0.740499
AIC		59.2064	
BIC		65.7110	
Cox-Snell R ²		0.2095	
Nagelkerke R ²		0.5136	
Loglikelihood		-27.6032	

Odds ratio: 45.866667, Log odds ratio: 3.825739

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	8	6	57.14
0	5	172	97.18

Final loss: 27.603221967 Chi²(1)=44.911 p=.00000

Hipparchia semele

Mann-Whitney U Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	2868	-4.38320	0.000012
F2	3003	4.02898	0.000056
F3	3455	-2.84298	0.004470
F4	4242	-0.77798	0.436580
F5	3748	-2.07418	0.038063
Hsemfs1	2071	6.47575	0.000000
Hsemfs2	1588	7.74177	0.000000

N = 89 and 102

Logistic regression on geographical factors

Hsem - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	9.63	0.001911
"F1"	1	26.89	0.000000
"F2"	1	21.57	0.000003
"F3"	1	4.45	0.034898

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-0.80865	0.260542	9.63320	-1.31931	-0.298001	0.001911
"F1"	-1.07902	0.208097	26.88612	-1.48688	-0.671157	0.000000
"F2"	0.79176	0.170473	21.57135	0.45764	1.125882	0.000003
"F3"	-0.37575	0.178119	4.45015	-0.72486	-0.026642	0.034898
Scale	1.00000	0.000000		1.00000	1.000000	

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	207.667	1.110519
Scaled Deviance	187	207.667	1.110519
Pearson Chi ²	187	190.562	1.019047
Scaled P. Chi ²	187	190.562	1.019047
AIC		215.667	
BIC		228.676	
Cox-Snell R ²		0.255	
Nagelkerke R ²		0.341	
Loglikelihood		-103.834	

Odds ratio: 5.462963, Log odds ratio: 1.697991

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	59	30	66.29
0	27	75	73.53

Final loss: 103.83351984 Chi²(3)=56.230 p=.00000

Logistic regression of faunal source

Hsem - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	35.31	0.000000
"Hsemfs2"	1	44.93	0.000000

Hsem - Parameter estimates (MAINISLANDDATA20March2017workcopy)
Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.89083	0.318220	35.30629	-2.51453	-1.26713	0.000000
"Hsemfs2"	0.09940	0.014829	44.93217	0.07034	0.12847	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Hsem - Statistics of goodness of fit (MAINISLANDDATA20March2017workcopy)
Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	201.712	1.067259
Scaled Deviance	189	201.712	1.067259
Pearson Chi ²	189	200.364	1.060125
Scaled P. Chi ²	189	200.364	1.060125
AIC		205.712	
BIC		212.217	
Cox-Snell R ²		0.278	
Nagelkerke R ²		0.371	
Loglikelihood		-100.856	

Odds ratio: 9.848485, Log odds ratio: 2.287318
Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	65	24	73.03
0	22	80	78.43

Final loss: 100.85601933 Chi²(1)=62.185 p=.00000

Pyronia tithonus

Mann–Whitney *U* Test (MAINISLANDDATA20March2017workcopy)
Include condition: migmark3 > 1

	U	Z	P
F1	2628	-1.88221	0.059808
F2	2988	-0.76314	0.445378
F3	1770	4.54933	0.000005
F4	2386	-2.63448	0.008427
F5	388	-8.84532	0.000000
Ptiffs1	199	9.43439	0.000000
Ptiffs2	431	8.71321	0.000000

N = 44 and 147

Logistic regression on geographical factors

Ptit - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	30.15	0.000000
"F1"	1	13.02	0.000307
"F3"	1	7.21	0.007237
"F5"	1	26.50	0.000000

Ptit - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: Migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-5.05948	0.921470	30.14732	-6.86553	-3.25343	0.000000
"F1"	-2.09527	0.580578	13.02444	-3.23318	-0.95736	0.000307
"F3"	1.27645	0.475273	7.21310	0.34493	2.20797	0.007237
"F5"	-3.86438	0.750646	26.50260	-5.33562	-2.39314	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

	Df	Stat.	Stat/Df
Deviance	187	62.0548	0.331844
Scaled Deviance	187	62.0548	0.331844
Pearson Chi ²	187	63.9595	0.342030
Scaled P. Chi ²	187	63.9595	0.342030
AIC		70.0548	
BIC		83.0639	
Cox-Snell R ²		0.5298	
Nagelkerke R ²		0.8024	
Loglikelihood		-31.0274	

Odds ratio: 67.569444, Log odds ratio: 4.213156

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	35	9	79.55
0	8	139	94.56

Final loss: 31.027405323 Chi²(3)=144.12 p=0.0000

Logistic regression of faunal source

Ptit - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: Migmark3 > 1

	DF	Wald stat	P
Intercept	1	50.22	0.000000
"Ptittfs1"	1	46.29	0.000000

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-3.96068	0.558920	50.21582	-5.05615	-2.86522	0.000000
"Ptittfs1"	0.15328	0.022529	46.28938	0.10912	0.19744	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Ptit - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	76.8560	0.406646
Scaled Deviance	189	76.8560	0.406646
Pearson Chi ²	189	133.2533	0.705044
Scaled P. Chi ²	189	133.2533	0.705044
AIC		80.8560	
BIC		87.3606	
Cox-Snell R ²		0.4919	
Nagelkerke R ²		0.7450	
Loglikelihood		-38.4280	

Odds ratio: 81.047619, Log odds ratio: 4.395037
Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	37	7	84.09
0	9	138	93.88

Final loss: 38.428022039 Chi²(1)=129.32 p=0.0000

Maniola jurtina**Mann–Whitney U Test** (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 >1

	U	Z	P
F1	1850	−3.90356	0.000095
F2	2054	3.25324	0.001141
F3	2062	−3.22773	0.001248
F4	2575	−1.59235	0.111308
F5	1457	−5.15640	0.000000
Mjurfs1	1569	4.80095	0.000002
Mjurfs2	1339	5.53417	0.000000

N = 150 and 41

Logistic regression on geographical factors**Mjur - Test of all effects** (MAINISLANDDATA20March2017workcopy)

Include condition: Migmark3 > 1

	DF	Wald stat	P
Intercept	1	8.75	0.003104
"F1"	1	25.08	0.000001
"F2"	1	20.10	0.000007
"F5"	1	22.81	0.000002

Mjur - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper C 95%	P
Intercept	0.77031	0.260486	8.74502	0.25977	1.280852	0.003104
"F1"	−1.46951	0.293407	25.08426	−2.04458	−0.894439	0.000001
"F2"	1.24385	0.277456	20.09770	0.70004	1.787651	0.000007
"F5"	−1.34760	0.282149	22.81225	−1.90061	−0.794603	0.000002
Scale	1.00000	0.000000		1.00000	1.000000	

Mjur - Statistics of goodness of fit (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	123.1390	0.658497
Scaled Deviance	187	123.1390	0.658497
Pearson Chi ²	187	330.1712	1.765621
Scaled P. Chi ²	187	330.1712	1.765621
AIC		131.1390	
BIC		144.1481	
Cox-Snell R ²		0.3266	

	Df	Stat.	Stat/Df
Nagelkerke R ²		0.5051	
Loglikelihood		-61.5695	

Odds ratio: 16.146465, Log odds ratio: 2.781701

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	139	11	92.67
0	18	23	56.10

Final loss: 61.569489657 Chi²(3)=75.526 p=.00000

Logistic regression of faunal source

Mjur - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	1.70	0.192136
"Mjurfs2"	1	26.40	0.000000

Mjur - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-0.454322	0.348330	1.70116	-1.13704	0.228393	0.192136
"Mjurfs2"	0.059786	0.011636	26.39691	0.03698	0.082593	0.000000
Scale	1.000000	0.000000		1.00000	1.000000	

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	164.7877	0.871893
Scaled Deviance	189	164.7877	0.871893
Pearson Chi ²	189	239.2241	1.265736
Scaled P. Chi ²	189	239.2241	1.265736
AIC		168.7877	
BIC		175.2923	
Cox-Snell R ²		0.1625	
Nagelkerke R ²		0.2514	
Loglikelihood		-82.3939	

Odds ratio: 8.076923, Log odds ratio: 2.089011

Include condition: Migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	140	10	93.33
0	26	15	36.59

Final loss: 82.393871512 $\chi^2(1)=33.877$ $p=.00000$

Aphantopus hyperantus

Mann–Whitney U Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 >1

	U	Z	P
F1	2601	−4.19330	0.000028
F2	3153	2.67397	0.007496
F3	3790	−0.92068	0.357218
F4	4110	0.03991	0.968165
F5	2237	−5.19517	0.000000
Ahypfs1	1860	6.23421	0.000000
Ahypfs2	1704	6.66358	0.000000

$N = 66$ and 125

Logistic regression on geographical factors

Ahyp - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	36.31	0.000000
"F1"	1	26.22	0.000000
"F2"	1	14.29	0.000157
"F4"	1	4.50	0.033977
"F5"	1	26.91	0.000000

Ahyp - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−2.19315	0.363937	36.31485	−2.90645	−1.47985	0.000000
"F1"	−1.36859	0.267274	26.22017	−1.89244	−0.84475	0.000000
"F2"	0.65157	0.172386	14.28614	0.31370	0.98944	0.000157
"F4"	0.31777	0.149869	4.49588	0.02404	0.61151	0.033977
"F5"	−1.13222	0.218265	26.90853	−1.56001	−0.70443	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Ahyp - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

	Df	Stat.	Stat/Df
Deviance	186	172.4858	0.927343
Scaled Deviance	186	172.4858	0.927343
Pearson Chi ²	186	195.8502	1.052958
Scaled P. Chi ²	186	195.8502	1.052958
AIC		182.4858	
BIC		198.7472	
Cox-Snell R ²		0.3204	
Nagelkerke R ²		0.4422	
Loglikelihood		-86.2429	

Odds ratio: 18.140351, Log odds ratio: 2.898139

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	47	19	71.21
0	15	110	88.00

Final loss: 86.242892487 Chi²(4)=73.770 p=.00000

Logistic regression of faunal source

Ahyp - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	42.41	0.000000
"Ahypts2"	1	32.33	0.000000

Ahyp - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.75993	0.270243	42.41106	-2.28959	-1.23026	0.000000
"Ahypts2"	0.05458	0.009599	32.33448	0.03577	0.07340	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Ahyp - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	206.598	1.093109
Scaled Deviance	189	206.598	1.093109
Pearson Chi ²	189	182.162	0.963818
Scaled P. Chi ²	189	182.162	0.963818
AIC		210.598	
BIC		217.102	
Cox-Snell R ²		0.187	
Nagelkerke R ²		0.259	
Loglikelihood		-103.299	

Odds ratio: 4.681115, Log odds ratio: 1.543536

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	28	38	42.42
0	17	108	86.40

Final loss: 103.29880677 Chi²(1)=39.658 p=.00000

Coenonympha pamphilus

Mann–Whitney *U* Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 >1

	U	Z	P
F1	3084	-3.84944	0.000118
F2	2648	4.99157	0.000001
F3	4228	-0.85267	0.393845
F4	3909	-1.68831	0.091353
F5	3131	-3.72633	0.000194
Cpamfs1	1885	6.99030	0.000000
Cpamfs2	1629	7.66091	0.000000

N = 99 and 92

Logistic regression on geographical factors

Cpam - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	18.27	0.000019
"F1"	1	27.82	0.000000
"F2"	1	29.27	0.000000
"F5"	1	14.13	0.000170

Cpam - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.11793	0.261524	18.27279	-1.63051	-0.605352	0.000019
"F1"	-1.11527	0.211461	27.81646	-1.52973	-0.700818	0.000000
"F2"	1.06474	0.196812	29.26760	0.67900	1.450489	0.000000
"F5"	-0.67803	0.180351	14.13390	-1.03151	-0.324550	0.000170
Scale	1.00000	0.000000		1.00000	1.000000	

Cpam - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	187	190.3373	1.017847
Scaled Deviance	187	190.3373	1.017847
Pearson Chi ²	187	185.6764	0.992922
Scaled P. Chi ²	187	185.6764	0.992922
AIC		198.3373	
BIC		211.3464	
Cox-Snell R ²		0.3219	
Nagelkerke R ²		0.4294	
Loglikelihood		-95.1687	

Odds ratio: 11.833333, Log odds ratio: 2.470920
Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	77	22	77.78
0	21	71	77.17

Final loss: 95.168655511 Chi²(3)=74.188 p=.00000

Logistic regression of faunal source

Cpam - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	32.18	0.000000
"Cpamfs2"	1	44.79	0.000000

Cpam - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-1.90120	0.335133	32.18245	-2.55805	-1.24435	0.000000
"Cpamfs2"	0.07002	0.010462	44.79211	0.04951	0.09052	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Cpam - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	198.5940	1.050762
Scaled Deviance	189	198.5940	1.050762
Pearson Chi ²	189	200.1719	1.059110
Scaled P. Chi ²	189	200.1719	1.059110
AIC		202.5940	
BIC		209.0985	
Cox-Snell R ²		0.2919	
Nagelkerke R ²		0.3894	
Loglikelihood		-99.2970	

Odds ratio: 9.380000, Log odds ratio: 2.238580

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	77	22	77.78
0	25	67	72.83

Final loss: 99.296975120 Chi²(1)=65.932 p=.00000

Coenonympha tullia

Mann–Whitney U Test (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	U	Z	P
F1	3062	0.03985	0.968214
F2	611	7.85335	0.000000
F3	2354	−2.29687	0.021627
F4	2751	1.03128	0.302410
F5	2373	2.23630	0.025333
Ctulfs1	1458	5.15481	0.000000
Ctulfs2	1006	6.59573	0.000000

N = 41 and 150

Logistic regression on geographical factors

Ctul - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	40.00	0.000000
“F2”	1	34.41	0.000000
“F3”	1	4.86	0.027482
“F5”	1	11.17	0.000831

Ctul - Parameter estimates (MAINISLANDDATA20March2017workcopy)

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	−4.89572	0.774070	40.00106	−6.41287	−3.37857	0.000000
“F2”	2.48600	0.423795	34.41048	1.65538	3.31663	0.000000
“F3”	−0.69908	0.317097	4.86029	−1.32057	−0.07758	0.027482
“F5”	1.28900	0.385684	11.16970	0.53307	2.04493	0.000831
Scale	1.00000	0.000000		1.00000	1.00000	

Ctul - Statistics of goodness of fit
(MAINISLANDDATA20March2017workcopy)

	Df	Stat.	Stat/Df
Deviance	187	98.2074	0.525174
Scaled Deviance	187	98.2074	0.525174
Pearson Chi ²	187	97.6814	0.522360
Scaled P. Chi ²	187	97.6814	0.522360
AIC		106.2074	
BIC		119.2165	
Cox-Snell R ²		0.4090	
Nagelkerke R ²		0.6326	
Loglikelihood		−49.1037	

Odds ratio: 19.764706, Log odds ratio: 2.983898

Classification of cases (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	24	17	58.54
0	10	140	93.33

Final loss: 49.103724112 $\chi^2(3)=100.46$ $p=0.0000$

Logistic regression of faunal source

Ctul - Test of all effects (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	DF	Wald stat	P
Intercept	1	57.82	0.000000
"Ctuls2"	1	34.28	0.000000

Ctul - Parameter estimates (MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Estimate	SE	Wald stat	Lower CL 95%	Upper CL 95%	P
Intercept	-2.93557	0.386050	57.82284	-3.69222	-2.17893	0.000000
"Ctuls2"	0.10848	0.018529	34.27621	0.07217	0.14480	0.000000
Scale	1.00000	0.000000		1.00000	1.00000	

Ctul - Statistics of goodness of fit

(MAINISLANDDATA20March2017workcopy)

Include condition: migmark3 > 1

	Df	Stat.	Stat/Df
Deviance	189	153.1587	0.810363
Scaled Deviance	189	153.1587	0.810363
Pearson χ^2	189	160.7995	0.850791
Scaled P. χ^2	189	160.7995	0.850791
AIC		157.1587	
BIC		163.6632	
Cox-Snell R^2		0.2120	
Nagelkerke R^2		0.3279	
Loglikelihood		-76.5793	

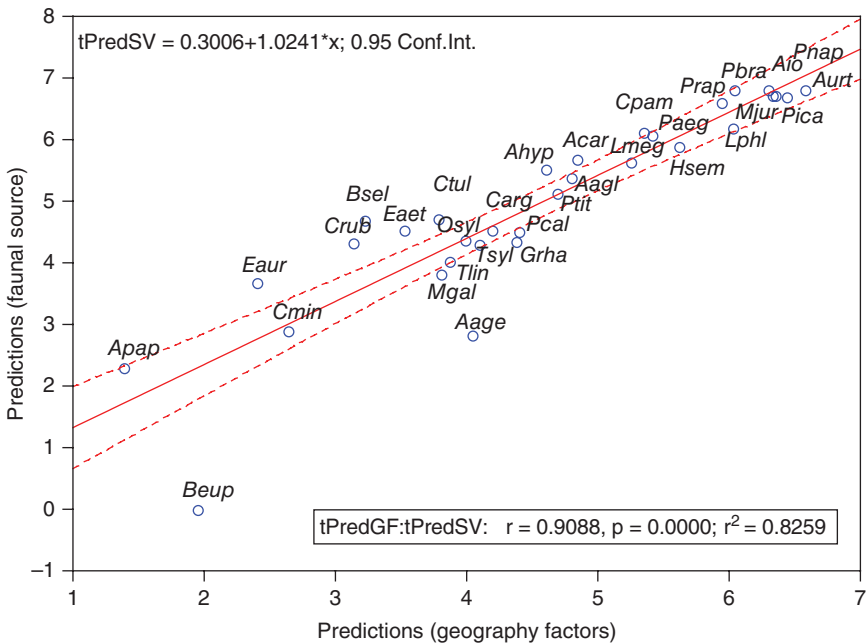
Odds ratio: 9.203704, Log odds ratio: 2.219606
Classification of cases (MAINISLANDDATA20March2017workcopy)
Include condition: migmark3 > 1

	Predicted 1	Predicted 0	% correct
1	14	27	34.15
0	8	142	94.67

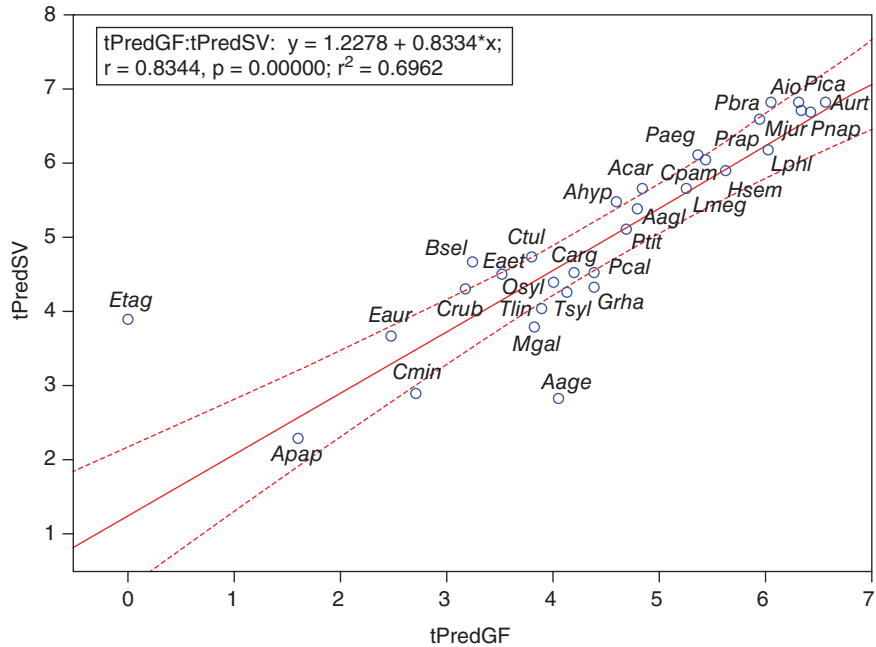
Final loss: 76.579335009 Chi²(1)=45.506 p=0.00000

C. Relationship and Comparison of Predictions Based on Geography Factors (7 variables in 5 factors) and the Best of Two Highly Correlated Source Variables

Relationship between predictions for species over 910 islands based on the best source variable (SV) and geography factors (GF). Both variables have been log transformed.



Including *E. tages* (with a very weak model), the correlation is substantially reduced but still highly significant: see below.



Comparison of the predictions using a simple paired *t*-test

T-test for Dependent Samples (PredictionSummary)

Marked differences are significant at $p < .05000$

	Mean	Std. Dv.	N	Diff.	Std.Dv. Diff.	t	df	p	Confidence -95.000%	Confidence +95.000%
tPredGF	4.543	1.381								
tPredSV	4.953	1.557	32	-0.4099	0.6504	-3.57	31	0.0012	-0.6444	-0.1754

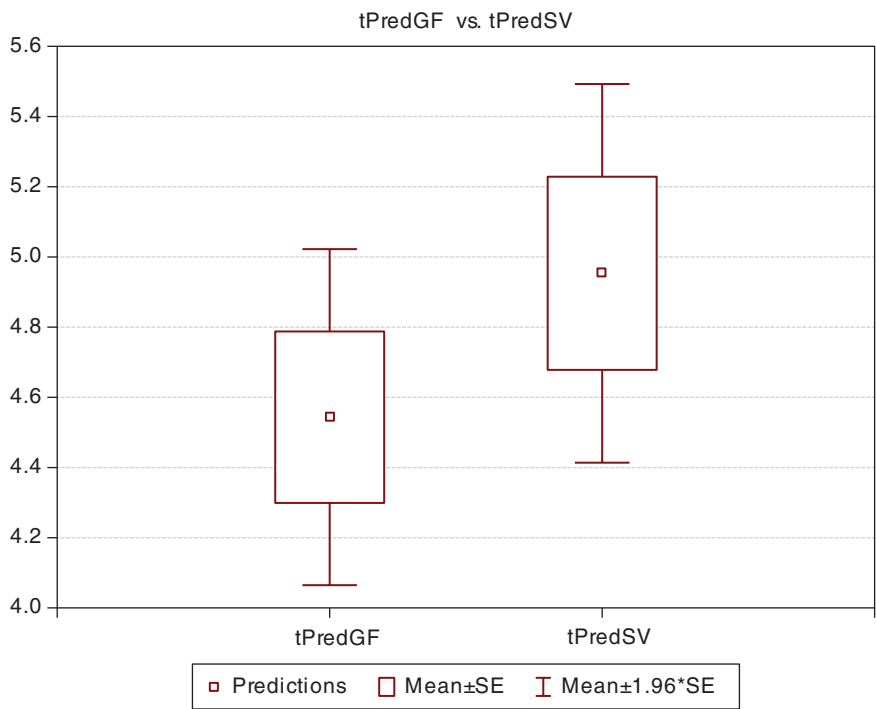
t, transformed (log); Pred, predictions (number of islands); GF, geography factors; SV, source variable. Generally, using a source variable predicts species to occur on more islands than using geography factors.

Including *E. tages* in the *t*-test:

T-test for Dependent Samples (PredictionSummary)

Marked differences are significant at $p < .05000$

	Mean	Std. Dv.	N	Diff.	Std.Dv. Diff.	t	df	p	Confidence -95.000%	Confidence +95.000%
tPredGF	4.432	1.5450								
tPredSV	4.921	1.5433	33	-0.4897	0.8887	-3.17	32	0.003	-0.8048	-0.1746



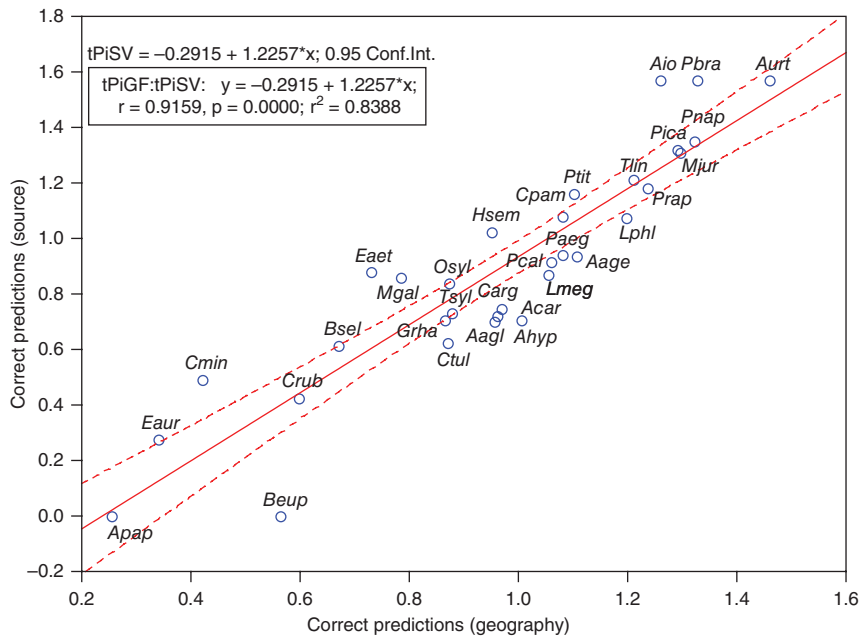
D. Relationship and Comparison of Correct Predictions of Island Incidences for 191 Islands with at least two of three migrant markers (Ccro, Vata, Vcar)

Relationship between correct predictions of recorded incidences on 191 islands with at least two of three migrant markers.

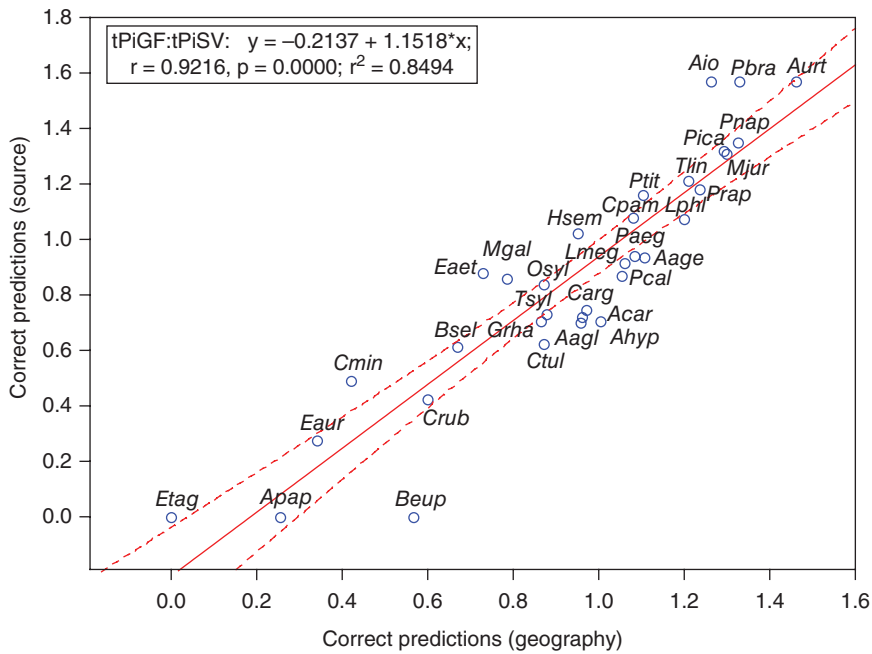
Both variables have been Arcsin(Sqrt) transformed.

tPiGF, correct predictions for incidences on geography variables;

tPiSV, correct predictions for incidence on the best source variable.



Including *E. tages*:

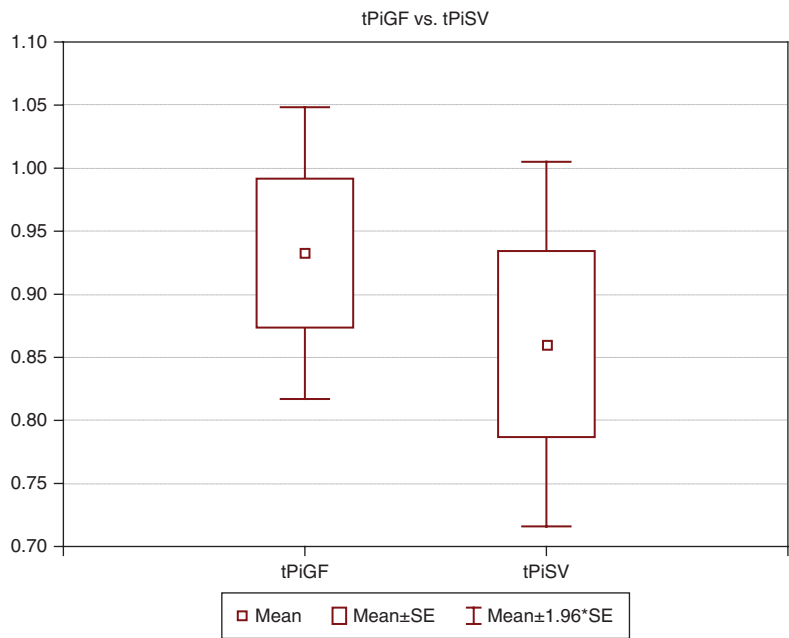


Comparison of the same predictions using a simple paired t-test

T-test for Dependent Samples (PredictionSummary)

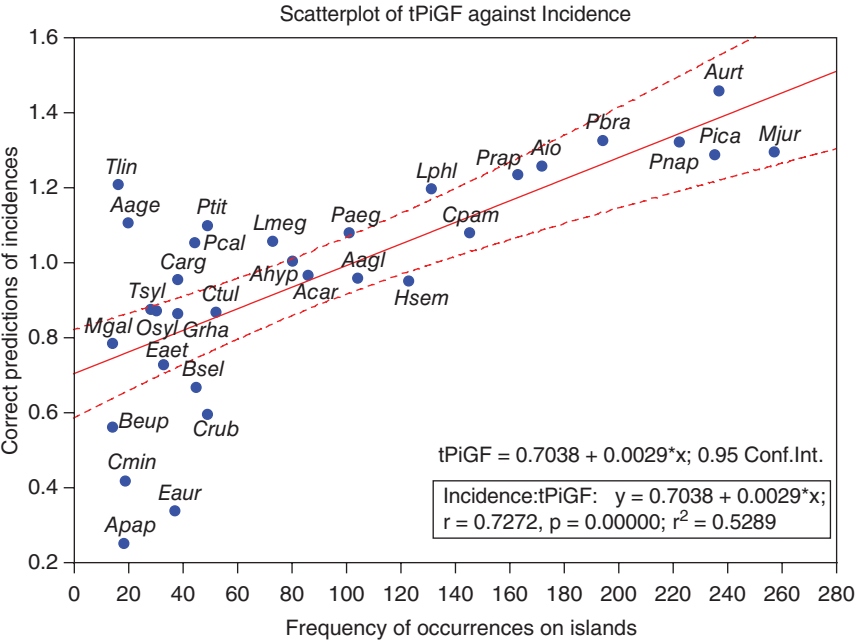
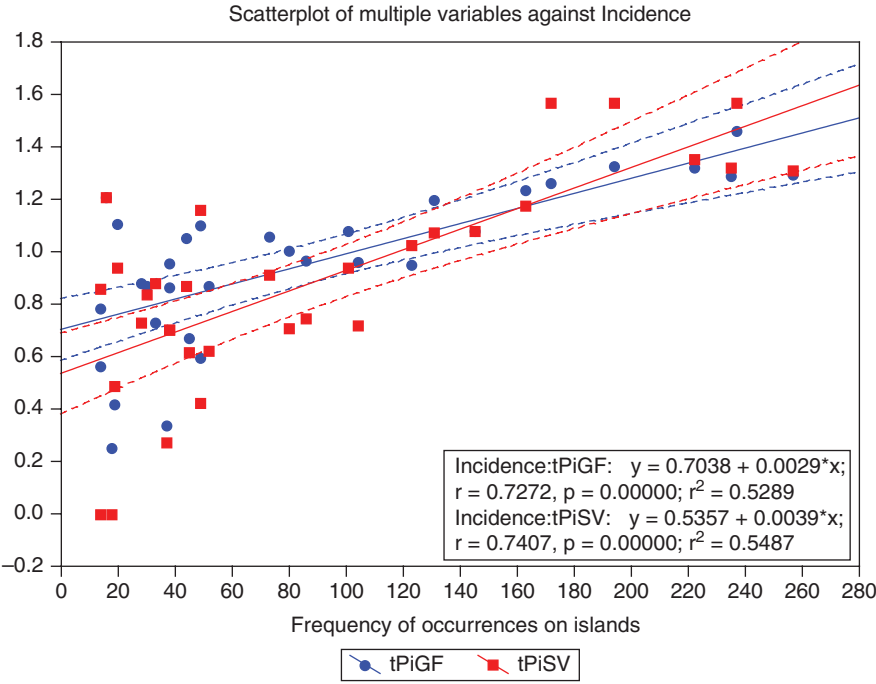
Marked differences are significant at $p < .05000$

	Mean	Std. Dv.	N	Diff.	Std.Dv. Diff.	t	df	p	Confidence -95.000%	Confidence +95.000%
tPiGF	0.933	0.3390								
tPiSV	0.861	0.4237	33	0.0721	0.1723	2.405	32	0.022	0.0110	0.1332

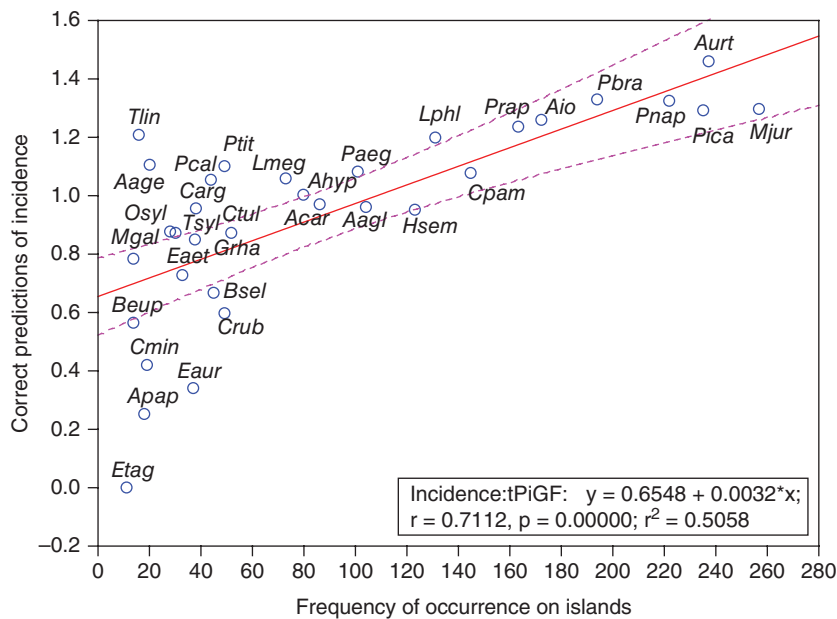


E. Relationship of Correct Predictions of Island Incidences for 191 Islands (with at least two of three migrant markers: Ccro, Vata, Vcar) from Geography and Potential Sources with the Frequency of Occurrences of Species over 910 Islands.

Predictions of correct incidences (from geography and potential source influence) are closely related to the incidences (frequency of occurrences) of species over all 910 islands in the file. The greater the incidence, the greater is the power of logistic equations to correctly predict recorded incidences in the model file of 191 islands. At the lower end, however, there is a wider scatter of species about the regression line, indicative of poorer predictive ability for these species. Those below the regression line are not well predicted at all and as neither geography nor source influences are very successful (fail to correctly predict more than 50% of incidences) then other factors are involved, particularly habitat components or sampling issues.



With *E. tages*:



When the residuals from the above graph are dichotomized (above and below the regression line) they differ significantly with regard to changes in distribution cover between 1976 and 2014; those below the line are losing out faster than those above the line.

Mann–Whitney *U* Test (PredictionversusLoss)

Marked tests are significant at $p < .05000$

	Rank Sum Group 1	Rank Sum Group 2	U	Z	P-value	Valid N Group 1	Valid N Group 2
Loss	149.5000	411.5000	44.50000	−3.21	0.0013	14	19

