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# Supplementary Appendix 6.1b. Species Incidences on Offshore Islands: Discriminant Function Analyses

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## Basic Results

Discriminant function analysis of butterfly species for 191 islands having two or more of three migrant species (*Colias croceus*, *Vanessa cardui*, *V. atalanta*).

Equal *a priori* classification applied as there is no inherent reason why inclusion should be affected by the balance of incidences on or absences from islands.

Variables entered in forwards stepwise mode include:

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).

Variables not in tables were eliminated.

***See Supplementary Appendix 6.2 (part 3) for discriminant function predictions of species for islands.***

*Thymelicus sylvestris*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 5, N of vars in model: 5; Grouping: Tsyl (2 grps)

Wilks' lambda: 0.49377 approx.  $F_{(5,185)} = 37.934$   $p < 0.0000$

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,185)	P-value	Toler.	1-Toler. (R-sqr.)
TsylFS2	0.540	0.915	17.25	0.0001	0.564	0.436
F2	0.517	0.955	8.69	0.0036	0.885	0.115
F3	0.542	0.910	18.24	0.0000	0.739	0.261
F5	0.524	0.942	11.37	0.0009	0.637	0.363
F1	0.514	0.961	7.58	0.0065	0.806	0.194

Pred →			
Obs↓	% correct	G_1:0	G_2:1
G_1:0	93.90	154	10
G_2:1	81.48	5	22
Total	92.15	159	32

*Thymelicus lineola*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Tlin (2 grps)

Wilks' lambda: .26977 approx.  $F_{(2,188)} = 254.45$   $p < 0.0000$

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
Tlinsf1	0.6931	0.3892	295.00	0.0000	0.9431	0.0569
F3	0.2759	0.9777	4.28	0.0399	0.9431	0.0569

	% correct	G_1:0	G_2:1
G_1:0	98.29	172	3
G_2:1	93.75	1	15
Total	97.91	173	18

*Ochlodes sylvanus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 5, N of vars in model: 5; Grouping: Oysl (2 grps)

Wilks' lambda: .42414 approx.  $F_{(5,185)} = 50.235$   $p < 0.0000$

Include condition: migmark3 > 1

Species Incidences on Offshore Islands: Discriminant Function Analyses

	Wilks' lambda	Partial lambda	F-remove (1,185)	P-value	Toler.	1-Toler. (R-Sqr.)
Osylys2	0.5159	0.8222	40.005	0.0000	0.4998	0.5002
F2	0.4873	0.8703	27.563	0.0000	0.7826	0.2174
F5	0.4411	0.9616	7.385	0.0072	0.6573	0.3427
F3	0.4383	0.9677	6.168	0.0139	0.7015	0.2985
F1	0.4339	0.9776	4.236	0.0410	0.7712	0.2288

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	93.83	152	10
G_2:1	89.66	3	26
Total	93.19	155	36

*Erynnis tages*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 1, N of vars in model: 1; Grouping: Etag (2 grps)

Wilks' lambda: .85320 approx. F (1,189) = 32.519 p < 0.0000

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,189)	P-value	Toler.	1-Toler. (R-Sqr.)
Etagfs1	1.0000	0.8532	32.519	0.0000	1.0000	0.00

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	82.32	149	32
G_2:1	90.00	1	9
Total	82.72	150	41

*Gonepteryx rhamni*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Grha (2 grps)

Wilks' lambda: .63172 approx. F (2,188) = 54.801 p < 0.0000

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
F5	0.7040	0.8974	21.505	0.0000	0.7701	0.2299
Grhafs1	0.6936	0.9108	18.416	0.0000	0.7701	0.2299

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	85.62	131	22
G_2:1	73.68	10	28
Total	83.25	141	50

*Pieris brassicae*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Pbra (2 grps)

Wilks' lambda: .76751 approx.  $F(3,187) = 18.881$   $p < 0.0000$

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.9562	0.8027	45.964	0.0000	0.8598	0.1402
Pbrafs1	0.8096	0.9480	10.250	0.0016	0.8236	0.1764
F3	0.7912	0.9700	5.779	0.0172	0.9318	0.0682

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	77.78	28	8
G_2:1	74.84	39	116
Total	75.39	67	124

*Pieris rapae*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 5, N of vars in model: 5; Grouping: Prap (2 grps)

Wilks' lambda: .61598 approx.  $F(5,185) = 23.067$   $p < 0.0000$

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,185)	P-value	Toler.	1-Toler. (R-Sqr.)
F5	0.7239	0.8509	32.420	0.0000	0.7153	0.2847
F1	0.6387	0.9645	6.809	0.0098	0.6146	0.3854
F2	0.6780	0.9085	18.641	0.0000	0.8085	0.1915
F4	0.6445	0.9558	8.559	0.0039	0.9222	0.0778
Prapfs1	0.6347	0.9705	5.629	0.0187	0.4871	0.5129

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	81.97	50	11
G_2:1	81.54	24	106
Total	81.68	74	117

*Pieris napi*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Pnap (2 grps)

Wilks' lambda: .68631 approx. F (4,185) = 21.139 p < 0.0000

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,185)	P-value	Toler.	1-Toler. (R-Sqr.)
Pnapfs2	0.8263	0.8306	37.735	0.0000	0.2977	0.7023
F2	0.7332	0.9360	12.643	0.0005	0.9535	0.0465
F5	0.7190	0.9545	8.820	0.0034	0.9321	0.0679
Pnapfs1	0.7138	0.9615	7.402	0.0071	0.2854	0.7146

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	78.05	32	9
G_2:1	79.19	31	118
Total	78.95	63	127

*Anthocharis cardamines*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Acar (2 grps)

Wilks' lambda: .70325 approx. F (2,188) = 39.665 p < 0.0000

Include condition: migmark3 > 1

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
Acarfs2	0.9033	0.7785	53.479	0.0000	0.7952	0.2048
F2	0.8895	0.7906	49.801	0.0000	0.7952	0.2048

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	72.57	82	31
G_2:1	73.08	21	57
Total	72.77	103	88

*Callophrys rubi*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Crub (2 grps)

Wilks' lambda: .66946 approx. F (2,188) = 46.411 p < 0.0000

Include condition: migmark3 > 1

Species Incidences on Offshore Islands: Discriminant Function Analyses

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.8580	0.7803	52.947	0.0000	0.9745	0.0255
Crubfs2	0.7996	0.8372	36.552	0.0000	0.9745	0.0255

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	79.33	119	31
G_2:1	80.49	8	33
Total	79.58	127	64

*Lycaena phlaeas*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Lphl (2 grps)

Wilks' lambda: .50664 approx. F (4,186) = 45.280 p < 0.0000

Include condition: migmark3 > 1

	Wilks lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Lphfs2	0.5409	0.9367	12.566	0.0005	0.6023	0.3977
F5	0.6051	0.8372	36.157	0.0000	0.7527	0.2473
F1	0.5605	0.9039	19.774	0.0000	0.6001	0.3999
F2	0.5404	0.9375	12.401	0.0005	0.8665	0.1335

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	81.40	70	16
G_2:1	82.86	18	87
Total	82.20	88	103

*Cupido minimus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Cmin (2 grps)

Wilks' lambda: .75266 approx. F (3,187) = 20.484 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
Cminfs1	0.9462	0.7955	48.083	0.0000	0.8662	0.1338
F3	0.8068	0.9329	13.457	0.0003	0.8835	0.1165
F2	0.7950	0.9467	10.531	0.0014	0.9787	0.0213

Species Incidences on Offshore Islands: Discriminant Function Analyses

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	88.44	153	20
G_2:1	55.56	8	10
Total	85.34	161	30

*Aricia agestis*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Aage (2 grps)

Wilks' lambda: .36636 approx. F (4,186) = 80.424 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Agefs1	0.7108	0.5154	174.86	0.0000	0.8979	0.1021
F2	0.3869	0.9468	10.45	0.0015	0.9248	0.0752
F3	0.3776	0.9702	5.71	0.0179	0.9102	0.0898
F1	0.3753	0.9763	4.52	0.0348	0.9563	0.0437

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	97.66	167	4
G_2:1	80.00	4	16
Total	95.81	171	20

*Polyommatus icarus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Pica (2 grps)

Wilks' lambda: .70322 approx. F (4,186) = 19.624 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Picafs2	0.8053	0.8733	26.996	0.0000	0.2844	0.7156
F2	0.7718	0.9112	18.126	0.0000	0.9127	0.0873
F5	0.7613	0.9237	15.368	0.0001	0.8413	0.1587
Picafs1	0.7271	0.9672	6.306	0.0129	0.2560	0.7440

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	76.09	35	11
G_2:1	77.24	33	112
Total	76.96	68	123

*Celastrina argiolus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Carg (2 grps)

Wilks' lambda: .54957 approx. F (3,187) = 51.089 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F5	0.5934	0.9261	14.918	0.0002	0.6958	0.3042
Cargfs1	0.6305	0.8716	27.536	0.0000	0.6185	0.3815
F2	0.5754	0.9550	8.803	0.0034	0.8523	0.1477

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	88.39	137	18
G_2:1	88.89	4	32
Total	88.48	141	50

*Aglais urticae*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Aurt (2 grps)

Wilks' lambda: .80578 approx. F (3,187) = 15.025 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.9175	0.8782	25.924	0.0000	0.9510	0.0490
Aurfts2	0.8997	0.8956	21.796	0.0000	0.9148	0.0852
F4	0.8308	0.9698	5.814	0.0169	0.9478	0.0522

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	80.00	24	6
G_2:1	73.29	43	118
Total	74.35	67	124



*Aglais io*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Aio (2 grps)

Wilks' lambda: .79552 approx. F (2,188) = 24.162 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.9434	0.8433	34.938	0.0000	0.8753	0.1247
Aiofs1	0.9025	0.8815	25.279	0.0000	0.8753	0.1247

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	76.92	40	12
G_2:1	69.06	43	96
Total	71.20	83	108

*Polygonia c-album*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Pcal (2 grps)

Wilks' lambda: .45947 approx. F (4,186) = 54.704 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Pcalfs1	0.4856	0.9461	10.590	0.0014	0.5620	0.4380
F5	0.5292	0.8682	28.226	0.0000	0.6020	0.3980
F3	0.4966	0.9252	15.045	0.0001	0.6583	0.3417
F1	0.4691	0.9795	3.895	0.0499	0.8134	0.1866

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	90.67	136	14
G_2:1	87.80	5	36
Total	90.05	141	50

*Boloria selene*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Bsel (2 grps)

Wilks' lambda: .55042 approx. F (2,188) = 76.780 p < 0.0000

Include condition: migmark3 >1

Species Incidences on Offshore Islands: Discriminant Function Analyses

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
Bselfs2	0.8096	0.6799	88.519	0.0000	0.9367	0.0633
F2	0.7249	0.7593	59.580	0.0000	0.9367	0.0633

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	85.53	130	22
G_2:1	84.62	6	33
Total	85.34	136	55

*Boloria euphrosyne*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Beup (2 grps)

Wilks' lambda: .75452 approx. F (3,187) = 20.279 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.9360	0.8061	44.978	0.0000	0.9819	0.0181
Beupfs2	0.8095	0.9321	13.632	0.0003	0.9344	0.0656
F4	0.7770	0.9711	5.559	0.0194	0.9369	0.0631

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	85.88	152	25
G_2:1	92.86	1	13
Total	86.39	153	38

*Argynnis aglaja*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Aagl (2 grps)

Wilks' lambda: .58798 approx. F (3,187) = 43.679 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.8066	0.7290	69.527	0.0000	0.9545	0.0455
Aagfs2	0.7394	0.7952	48.165	0.0000	0.9518	0.0482
F3	0.6064	0.9697	5.853	0.0165	0.9954	0.0046

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	84.35	97	18
G_2:1	76.32	18	58
Total	81.15	115	76

*Argynnis paphia*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 2, N of vars in model: 2; Grouping: Apap (2 grps)

Wilks' lambda: .85534 approx. F (2,188) = 15.898 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
Apapfs1	0.9873	0.8664	29.000	0.0000	0.9611	0.0389
F2	0.8824	0.9694	5.942	0.0157	0.9611	0.0389

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	86.29	151	24
G_2:1	62.50	6	10
Total	84.29	157	34

*Euphydryas aurinia*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Eaur (2 grps)

Wilks' lambda: .74264 approx. F (3,187) = 21.602 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.8761	0.8476	33.610	0.0000	0.9835	0.0165
Eaurfs2	0.8268	0.8982	21.198	0.0000	0.9724	0.0276
F3	0.7588	0.9787	4.075	0.0449	0.9886	0.0114

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	78.05	128	36
G_2:1	88.89	3	24
Total	79.58	131	60

*Pararge aegeria*

## Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Paeg (2 grps)

Wilks' lambda: .56412 approx.  $F(4,186) = 35.929$   $p < 0.0000$ 

Include condition: migmark3 &gt; 1

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
F5	0.6818	0.8274	38.805	0.0000	0.6821	0.3179
F1	0.5921	0.9527	9.228	0.0027	0.6653	0.3347
F2	0.6328	0.8915	22.637	0.0000	0.9198	0.0802
Paegfs2	0.5776	0.9766	4.448	0.0363	0.5999	0.4001

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	81.90	86	19
G_2:1	84.88	13	73
Total	83.25	99	92

*Lasiommata megera*

## Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Lmeg (2 grps)

Wilks' lambda: .54222 approx.  $F(4,186) = 39.258$   $p < 0.0000$ 

Include condition: migmark3 &gt; 1

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Lmegfs1	0.5707	0.9500	9.785	0.0020	0.4271	0.5729
F2	0.5699	0.9515	9.483	0.0024	0.7774	0.2226
F5	0.5840	0.9284	14.336	0.0002	0.4745	0.5255
F1	0.5803	0.9343	13.070	0.0004	0.7083	0.2917

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	85.48	106	18
G_2:1	83.58	11	56
Total	84.82	117	74

*Erebia aethiops*

## Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Eact (2 grps)  
 Wilks' lambda: .44244 approx. F (3,187) = 78.551 p < 0.0000  
 Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
Eactfs2	0.7709	0.5739	138.83	0.0000	0.9964	0.0036
F1	0.4835	0.9152	17.34	0.0000	0.9220	0.0780
F2	0.4834	0.9153	17.30	0.0000	0.9226	0.0774

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	93.90	154	10
G_2:1	88.89	3	24
Total	93.19	157	34

*Melanargia galathea*

Discriminant Function Analysis Summary  
 (MAINISLANDDATA6May2017DFAwork)  
 Step 2, N of vars in model: 2; Grouping: Mgal (2 grps)  
 Wilks' lambda: .52041 approx. F (2,188) = 86.626 p < 0.0000  
 Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,188)	P-value	Toler.	1-Toler. (R-Sqr.)
Mgalfs1	0.9871	0.5272	168.61	0.0000	0.9880	0.0120
F2	0.5336	0.9753	4.75	0.0305	0.9880	0.0120

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	96.61	171	6
G_2:1	78.57	3	11
Total	95.29	174	17

*Hipparchia semele*

Discriminant Function Analysis Summary  
 (MAINISLANDDATA6May2017DFAwork)  
 Step 4, N of vars in model: 4; Grouping: Hsem (2 grps)  
 Wilks' lambda: .57979 approx. F (4,186) = 33.701 p < 0.0000  
 Include condition: migmark3 >1

Species Incidences on Offshore Islands: Discriminant Function Analyses

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Hsemfs2	0.7422	0.7812	52.100	0.0000	0.8409	0.1591
F2	0.6736	0.8607	30.106	0.0000	0.9092	0.0908
F1	0.5994	0.9673	6.289	0.0130	0.8087	0.1913
F3	0.5989	0.9681	6.135	0.0141	0.9907	0.0093

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	80.39	82	20
G_2:1	79.78	18	71
Total	80.10	100	91

*Pyronia tithonus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Ptit (2 grps)

Wilks' lambda: .30724 approx. F (3,187) = 140.55 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
Ptitfs1	0.4261	0.7210	72.362	0.0000	0.8283	0.1717
F5	0.3479	0.8832	24.733	0.0000	0.7724	0.2276
F3	0.3271	0.9393	12.084	0.0006	0.8641	0.1359

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	91.84	135	12
G_2:1	93.18	3	41
Total	92.15	138	53

*Maniola jurtina*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 6, N of vars in model: 6; Grouping: Mjur (2 grps)

Wilks' lambda: .60340 approx. F (6,184) = 20.157 p < 0.0000

Include condition: migmark3 >1

Species Incidences on Offshore Islands: Discriminant Function Analyses

	Wilks' lambda	Partial lambda	F-remove (1,184)	P-value	Toler.	1-Toler. (R-Sqr.)
Mjurfs2	0.6632	0.9098	18.250	0.0000	0.2337	0.7663
F5	0.7270	0.8300	37.689	0.0000	0.7691	0.2309
F2	0.6556	0.9204	15.924	0.0001	0.9087	0.0913
Mjurfs1	0.6311	0.9560	8.463	0.0041	0.2206	0.7794
F1	0.6320	0.9548	8.719	0.0036	0.5785	0.4215
F3	0.6236	0.9675	6.174	0.0139	0.9702	0.0298

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	85.37	35	6
G_2:1	83.33	25	125
Total	83.77	60	131

*Coenonympha pamphilus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Cpam (2 grps)

Wilks' lambda: .52617 approx. F (3,187) = 56.133 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
Cpamfs2	0.8155	0.6452	102.82	0.0000	0.8926	0.1074
F2	0.6727	0.7821	52.08	0.0000	0.8939	0.1061
F5	0.5423	0.9703	5.72	0.0178	0.9959	0.0041

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	85.87	79	13
G_2:1	76.77	23	76
Total	81.15	102	89

*Coenonympha tullia*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 3, N of vars in model: 3; Grouping: Ctul (2 grps)

Wilks' lambda: .48679 approx. F (3,187) = 65.717 p < 0.0000

Include condition: migmark3 >1

Species Incidences on Offshore Islands: Discriminant Function Analyses

	Wilks' lambda	Partial lambda	F-remove (1,187)	P-value	Toler.	1-Toler. (R-Sqr.)
F2	0.7481	0.6507	100.39	0.0000	0.9604	0.0396
Ctulfs2	0.6449	0.7548	60.75	0.0000	0.9676	0.0324
F4	0.4984	0.9767	4.47	0.0359	0.9841	0.0159

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	87.33	131	19
G_2:1	95.12	2	39
Total	89.01	133	58

*Aphantopus hyperantus*

Discriminant Function Analysis Summary

(MAINISLANDDATA6May2017DFAwork)

Step 4, N of vars in model: 4; Grouping: Ahyp (2 grps)

Wilks' lambda: .64464 approx. F (4,186) = 25.633 p < 0.0000

Include condition: migmark3 >1

	Wilks' lambda	Partial lambda	F-remove (1,186)	P-value	Toler.	1-Toler. (R-Sqr.)
Ahypfs2	0.6942	0.9287	14.286	0.0002	0.4857	0.5143
F2	0.7438	0.8667	28.612	0.0000	0.8165	0.1835
F5	0.6658	0.9682	6.109	0.0143	0.6793	0.3207
F1	0.6656	0.9685	6.042	0.0149	0.6186	0.3814

	% correct	G_1:0 p=.50000	G_2:1 p=.50000
G_1:0	79.20	99	26
G_2:1	86.36	9	57
Total	81.68	108	83