

Supplemental Table S3

Results of Variation Partitioning tests.

Variation partitioning using *Cerdocyon LnCS* as Y

Explanatory tables:

X1: *Cerdocyon* sympatric populations

X2: sampling locality latitude

X3: 19 bioclimatic variables

X4: *Lycalopex* species LnCS

	Df	R.square	Adj.R.square	Testable	p-value
[aeghklno]=X1	1	0.00133	-0.02189	TRUE	0.819
[befiklmo]=X2	1	0.12552	0.10518	TRUE	0.023
[cfgilmno]=X3	18	0.64273	0.39539	TRUE	0.016
[dhijklmno]=X4	1	0.07322	0.05167	TRUE	0.049
[abefghijklmno]=X1+X2	3	0.3895	0.36043	TRUE	0.001
[acefghijklmno]=X1+X3	20	0.68955	0.45361	TRUE	0.006
[adefghijklmno]=X1+X4	3	0.37655	0.34686	TRUE	0.001
[bcefgijklmno]=X2+X3	19	0.66592	0.41202	TRUE	0.017
[bdefhijklmno]=X2+X4	2	0.13569	0.09453	TRUE	0.046
[cdfghijklmno]=X3+X4	19	0.64275	0.37124	TRUE	0.024
[abcefgijklmno]=X1+X2+X3	21	0.69215	0.4356	TRUE	0.012
[abdefghijklmno]=X1+X2+X4	4	0.45584	0.41603	TRUE	0.001
[acdefghijklmno]=X1+X3+X4	21	0.69807	0.44647	TRUE	0.012
[bcdefghijklmno]=X2+X3+X4	20	0.6685	0.39224	TRUE	0.014
[abcdefghijklmno]=All	22	0.70272	0.43129	TRUE	0.019
Individual fractions					
[a]=X1 X2+X3+X4	2		0.03905	TRUE	0.117
[b]=X2 X1+X3+X4	1		-0.01517	TRUE	0.535
[c]=X3 X1+X2+X4	18		0.01527	TRUE	0.452
[d]=X4 X1+X2+X3	1		-0.00431	TRUE	0.377
[e]	0		0.03617	FALSE	
[f]	0		0.08434	FALSE	
[g]	0		0.28245	FALSE	
[h]	0		-0.01547	FALSE	
[i]	0		-0.00283	FALSE	
[j]	0		0.05991	FALSE	
[k]	0		-0.00154	FALSE	
[l]	0		-0.06248	FALSE	
[m]	0		0.31599	FALSE	
[n]	0		-0.05079	FALSE	
[o]	0		-0.24929	FALSE	
[p]=Residuals	0		0.03617	FALSE	

Controlling table X				
[ae]=X1 X3+X4	2	0.07522	TRUE	0.059
[ag]=X1 X2+X4	2	0.3215	TRUE	0.001
[ah]=X1 X2+X3	2	0.02358	TRUE	0.165
[be]=X2 X3+X4	1	0.021	TRUE	0.169
[bf]=X2 X1+X4	1	0.06916	TRUE	0.017
[bi]=X2 X1+X3	1	-0.018	TRUE	0.631
[cf]=X3 X1+X4	18	0.0996	TRUE	0.215
[cg]=X3 X2+X4	18	0.29772	TRUE	0.047
[cj]=X3 X1+X2	18	0.07517	TRUE	0.265
[dh]=X4 X2+X3	1	-0.01978	TRUE	0.664
[di]=X4 X1+X3	1	-0.00714	TRUE	0.442
[dj]=X4 X1+X2	1	0.0556	TRUE	0.043

Controlling table X				
[aghn]=X1 X2	2	0.07522	TRUE	0.001
[aehk]=X1 X3	2	0.3215	TRUE	0.072
[aegl]=X1 X4	2	0.02358	TRUE	0.001
[bfim]=X2 X1	1	0.021	TRUE	0.001
[beik]=X2 X3	1	0.06916	TRUE	0.191
[befl]=X2 X4	1	-0.018	TRUE	0.081
[cfjm]=X3 X1	18	0.0996	TRUE	0.006
[cgjn]=X3 X2	18	0.29772	TRUE	0.021
[cfgl]=X3 X4	18	0.07517	TRUE	0.031
[dijm]=X4 X1	1	-0.01978	TRUE	0.001
[dhjn]=X4 X2	1	-0.00714	TRUE	0.45
[dhik]=X4 X3	1	0.0556	TRUE	0.972

Variation partitioning using *Cerdocyon* shape variables as Y

Explanatory tables:

X1: *Cerdocyon* sympatric populations

X2: sampling locality latitude

X3: 19 bioclimatic variables

X4: *Lycalopex* species LnCS

	Df	R.square	Adj.R.square	Testable	p-value
[aeghklno]=X1	2	0.04225	0.01997	TRUE	0.046
[befiklmo]=X2	1	0.11962	0.09915	TRUE	0.001
[cfgilmno]=X3	18	0.50376	0.16021	TRUE	0.008
[dhijkmno]=X4	1	0.07131	0.04971	TRUE	0.001

[abefghijklmno]=X1+X2	3	0.17432	0.135	TRUE	0.001
[acefghijklmno]=X1+X3	20	0.52825	0.16972	TRUE	0.002
[adefghijklmno]=X1+X4	3	0.11912	0.07718	TRUE	0.002
[bcefgijklmno]=X2+X3	19	0.52361	0.16155	TRUE	0.006
[bdefhijklmno]=X2+X4	2	0.15623	0.11605	TRUE	0.001
[cdfghijklmno]=X3+X4	19	0.53393	0.17971	TRUE	0.001
[abcefgijklmno]=X1+X2+X3	21	0.54414	0.16425	TRUE	0.004
[abdefghijklmno]=X1+X2+X4	4	0.20688	0.14884	TRUE	0.001
[acdefghijklmno]=X1+X3+X4	21	0.54832	0.17192	TRUE	0.004
[bcdefghijklmno]=X2+X3+X4	20	0.54841	0.17209	TRUE	0.006
[abcdefghijklmno]=All	22	0.56351	0.16497	TRUE	0.01

Individual fractions

[a]=X1 X2+X3+X4	1		-0.00712	TRUE	0.619
[b]=X2 X1+X3+X4	1		-0.00695	TRUE	0.612
[c]=X3 X1+X2+X4	18		0.01613	TRUE	0.379
[d]=X4 X1+X2+X3	1		0.00072	TRUE	0.373
[e]	0		-0.00068	FALSE	
[f]	0		0.07861	FALSE	
[g]	0		0.03991	FALSE	
[h]	0		0.00982	FALSE	
[i]	0		0.00148	FALSE	
[j]	0		0.01312	FALSE	
[k]	0		0.00748	FALSE	
[l]	0		-0.00465	FALSE	
[m]	0		0.04189	FALSE	
[n]	0		-0.00676	FALSE	
[o]	0		-0.01804	FALSE	
[p]=Residuals	0		0.83503	FALSE	

Controlling table X

[ae]=X1 X3+X4	2		-0.00779	TRUE	0.654
[ag]=X1 X2+X4	2		0.03279	TRUE	0.01
[ah]=X1 X2+X3	2		0.0027	TRUE	0.373
[be]=X2 X3+X4	1		-0.00762	TRUE	0.656
[bf]=X2 X1+X4	1		0.07167	TRUE	0.001
[bi]=X2 X1+X3	1		-0.00547	TRUE	0.565
[cf]=X3 X1+X4	18		0.09474	TRUE	0.045
[cg]=X3 X2+X4	18		0.05604	TRUE	0.141
[cj]=X3 X1+X2	18		0.02925	TRUE	0.27
[dh]=X4 X2+X3	1		0.01054	TRUE	0.216
[di]=X4 X1+X3	1		0.00219	TRUE	0.358
[dj]=X4 X1+X2	1		0.01384	TRUE	0.082

Controlling table X

[aghn]=X1 X2	2		0.03586	TRUE	0.011
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[aehk]=X1 X3	2	0.00951	TRUE	0.216
[aegl]=X1 X4	2	0.02746	TRUE	0.025
[bfim]=X2 X1	1	0.11503	TRUE	0.001
[beik]=X2 X3	1	0.00134	TRUE	0.378
[befl]=X2 X4	1	0.06634	TRUE	0.002
[cfjm]=X3 X1	18	0.14975	TRUE	0.008
[cgjn]=X3 X2	18	0.0624	TRUE	0.118
[cfgl]=X3 X4	18	0.13	TRUE	0.01
[dijm]=X4 X1	1	0.0572	TRUE	0.001
[dhjn]=X4 X2	1	0.0169	TRUE	0.051
[dhik]=X4 X3	1	0.0195	TRUE	0.11

Variation partitioning using shape variables of only "gymnocercus" group as Y

Explanatory tables:

X1: Sampling locality latitude

X2: 19 bioclimatic variables

X3: Lycalopex species LnCS

	Df	R.square	Adj.R.square	Testable	p-value
[a+d+f+g]=X1	1	0.16399	0.13866	TRUE	0.001
[b+d+e+g]=X2	18	0.61789	0.18802	TRUE	0.01
[c+e+f+g]=X3	1	0.12119	0.09456	TRUE	0.002
[a+b+d+e+f+g]=X1+X2	19	0.6462	0.19804	TRUE	0.013
[a+c+d+e+f+g]=X1+X3	2	0.19059	0.14	TRUE	0.001
[b+c+d+e+f+g]=X2+X3	19	0.63521	0.17315	TRUE	0.026
[a+b+c+d+e+f+g]=All	20	0.66494	0.18628	TRUE	0.027

Individual fractions

[a]=X1° °X2+X3	1		0.01313	TRUE	0.264
[b]=X2° °X1+X3	18		0.04628	TRUE	0.27
[c]=X3° °X1+X2	1		-0.01176	TRUE	0.604
[d]	0		0.03232	FALSE	
[e]	0		0.01311	FALSE	
[f]	0		-0.0031	FALSE	
[g]	0		0.09632	FALSE	
[h]=Residuals			0.81372	FALSE	

Controlling table X

[a+d]=X1° °X3	1		0.04544	TRUE	0.009
[a+f]=X1° °X2	1		0.01002	TRUE	0.284

[b+d]=X2° °X3	18	0.07859	TRUE	0.153
[b+e]=X2° °X1	18	0.05939	TRUE	0.216
[c+e]=X3° °X1	1	0.00135	TRUE	0.351
[c+f]=X3° °X2	1	-0.01487	TRUE	0.703
