

Table S4. Minimum, mean and maximum variation in DNA barcodes between allopatric species, which morphologically are considered distinct taxa, but which genetically are closely similar. NA refers to North America, AL to Alps and FE to Fennoscandia. Superscript numbers after the species refer to the areas of occurrence as follows: 1=Alps, 2=Fennoscandia, 3=North America

Gnorimoschema valesiella^{1,2}, G. alaskense³						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	0.338	0	0.76	0.746	2.138	2.076
min	0	0	0.32	0.62	1.621	1.869
max	1.08	0	0.98	0.98	2.829	2.505
Stenoptilia alpinalis¹, S. buvati¹, S. brigantiensis¹, S. mercantourica¹, S. islandica²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	N/A	0	0.211	0.26	N/A	N/A
min	N/A	0	0	0.15	N/A	N/A
max	N/A	0	0.467	0.47	N/A	N/A
Erebia medusa¹, E. polaris²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	N/A	0	0.202	0.125	N/A	N/A
min	N/A	0	0	0	N/A	N/A
max	N/A	0	0.64	0.479	N/A	N/A
Oeneis glacialis¹, O. norna²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	N/A	0	0.51	0.273	N/A	N/A
min	N/A	0	0.153	0	N/A	N/A
max	N/A	0	1.015	0.77	N/A	N/A
Xanthorhoe decoloraria^{1,2,3}						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	0.4	0.407	0.338	0.799	1.817	1.989
min	0	0	0	0	1.55	1.55
max	1.004	0.61	0.77	1.08	2.1	2.37
Xanthorhoe decoloraria^{1,2}, X. alticolata³						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	0.209	0.407	0.338	0.799	1.432	1.216
min	0	0	0	0	1.082	0.769
max	0.77	0.61	0.77	1.08	1.711	1.708
Xanthorhoe incursata¹, X. annotinata², X. baffinensis³						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	0.153	0.236	0	0.274	0.077	0.333
min	0	0	0	0.153	0	0.153
max	0.307	0.495	0	0.329	0.377	0.661
Holoarctia cervini¹, H. puengeleri²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	N/A	0.115	0.69	0.353	N/A	N/A
min	N/A	0	0	0.741	N/A	N/A

max	N/A	0.172	1.035	0.926	N/A	N/A
Apamea maillardi¹, A. schildei²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	N/A	0	0.982	1.388	N/A	N/A
min	N/A	0.527	0	0.153	N/A	N/A
max	N/A	0.926	2.185	2.025	N/A	N/A
Apamea zeta^{1,3}, A. schildei²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	2.191	0	0.278	2.138	2.78	2.734
min	0	0.527	0	1.664	0	2.501
max	3.422	0.926	0.926	2.505	3.67	2.988
Coenophila subrosea^{1,2}, C. opacifrons³						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	0	0	0.15	0.076	1.395	1.364
min	0	0	0.15	0	1.474	1.286
max	0	0	0.15	0.16	1.553	1.409
Sympistis nigrita^{1,2}, S. zetterstedtii³						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	0.412	0.00	0.25	2.34	2.993	1.263
min	0	0	0	2.36	2.627	1.08
max	2.876	0	0.46	2.5	4.23	2.359
Xestia rhaetica¹, X. fennica²						
	NA-NA	FE-FE	AL-AL	AL-FE	AL-NA	FE-NA
mean	N/A	0.184	0.175	0.181	N/A	N/A
min	N/A	0	0	0	N/A	N/A
max	N/A	0.315	0.307	0.467	N/A	N/A