

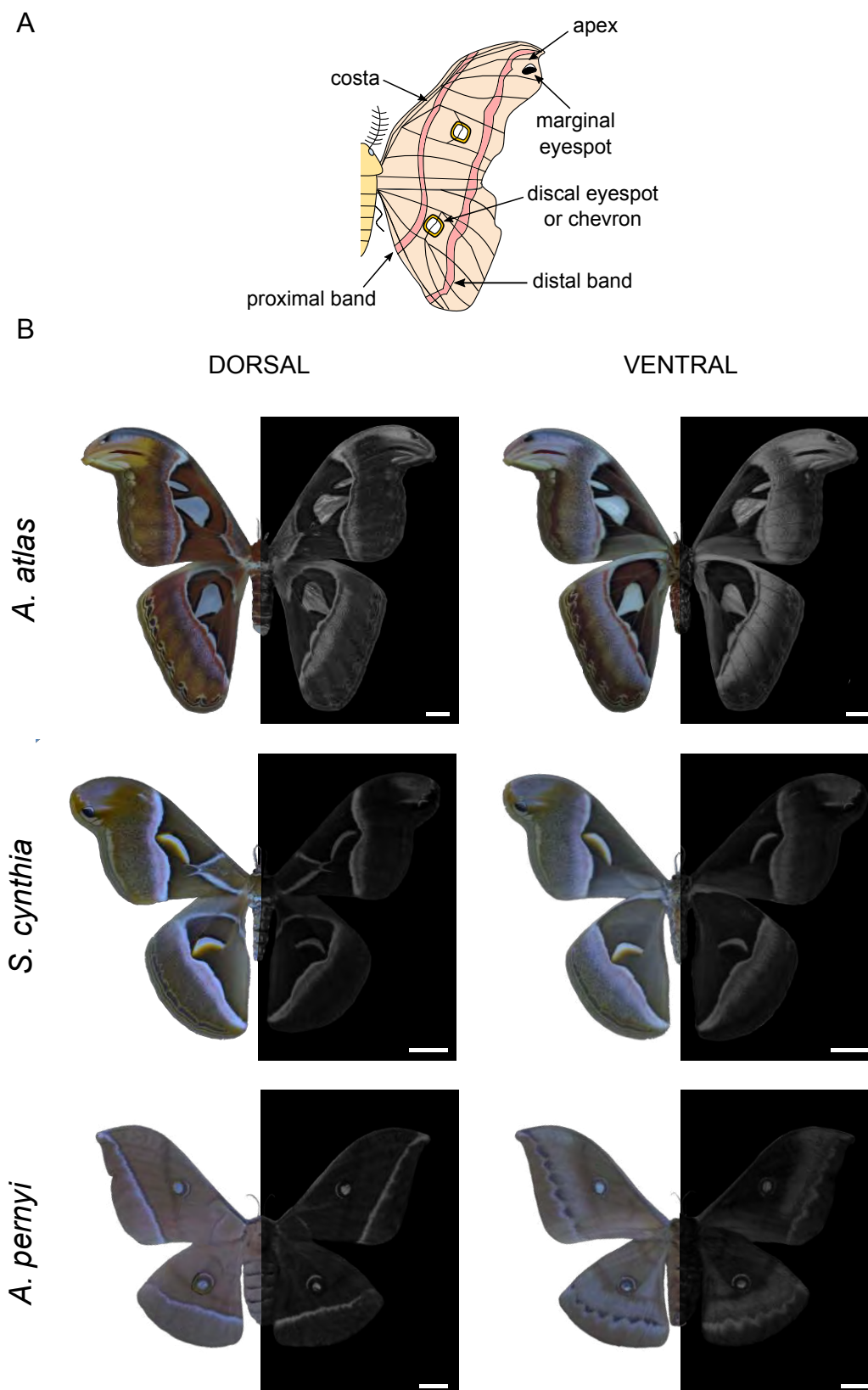


Fig. S1. UV iridescence in three female saturniid species investigated in this study. (A) Moth wing nomenclature used in this study. (B) Each composite photography depicts the same individual under white light (left half) and UV light (right half, black background). Scale bar = 1 cm.

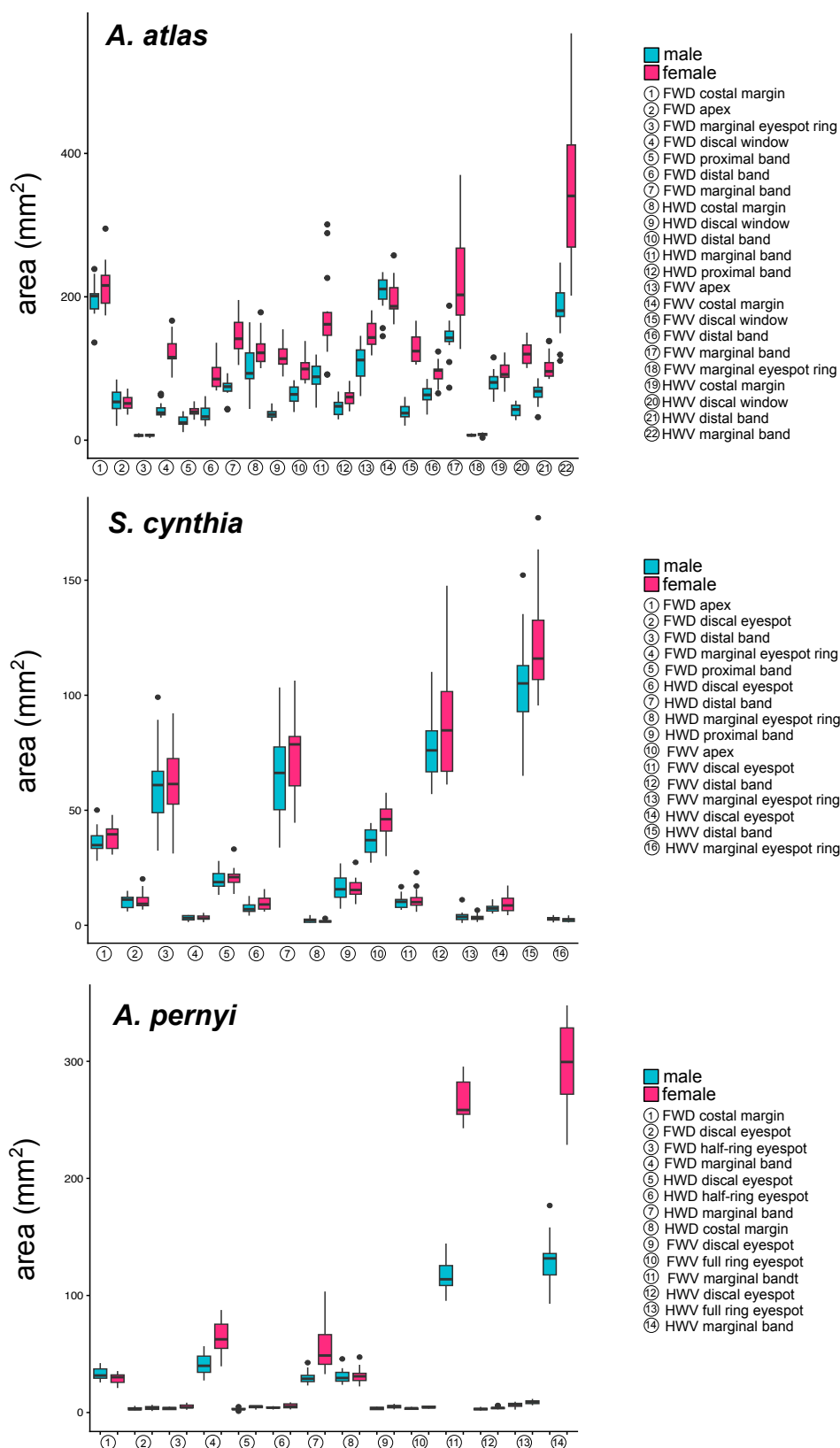


Fig. S2. Quantification of the different UV-reflective wing regions in the three saturniid species investigated in this study. FWD: forewing dorsal, HWD: hindwing dorsal, FWV: forewing ventral, HWV: hindwing ventral.

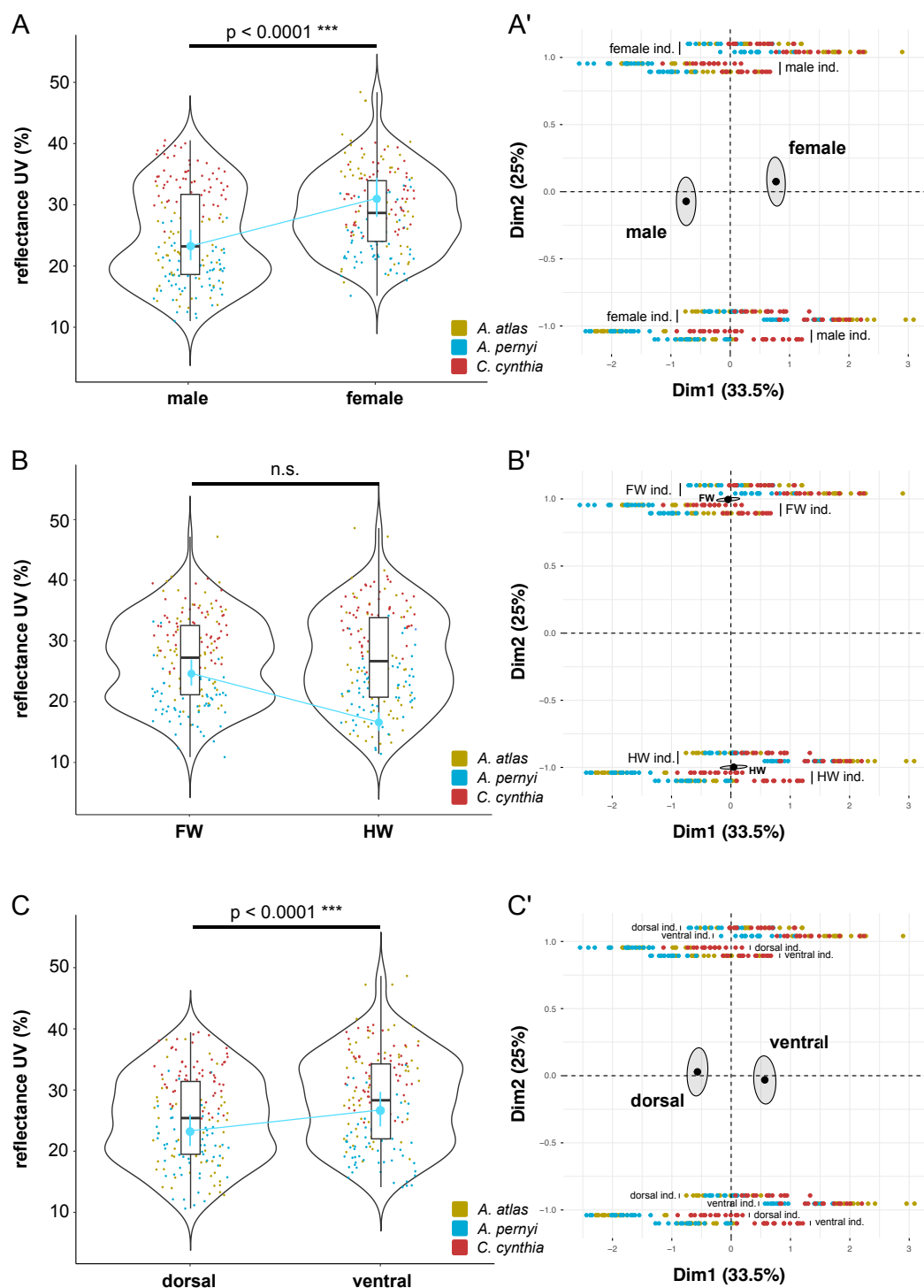


Fig. S3. UV reflectance intensity averaged over the three investigated species across sexes (A, A'), wings (B, B'), and wing surfaces (C, C'). (A-C) The raw means are shown by black and white violin plots where the central line indicates the median of the distribution, while the top and bottom of the box represent the third and first quartiles of the data, respectively. The whiskers show up to 1.5 times the inter-quartile range. The estimated marginal means, as well as the credible interval, are shown in blue. (A'-C') FAMD plots showing both qualitative variable categories and individuals. FW: forewing, HW: hindwing, ind.: individual.

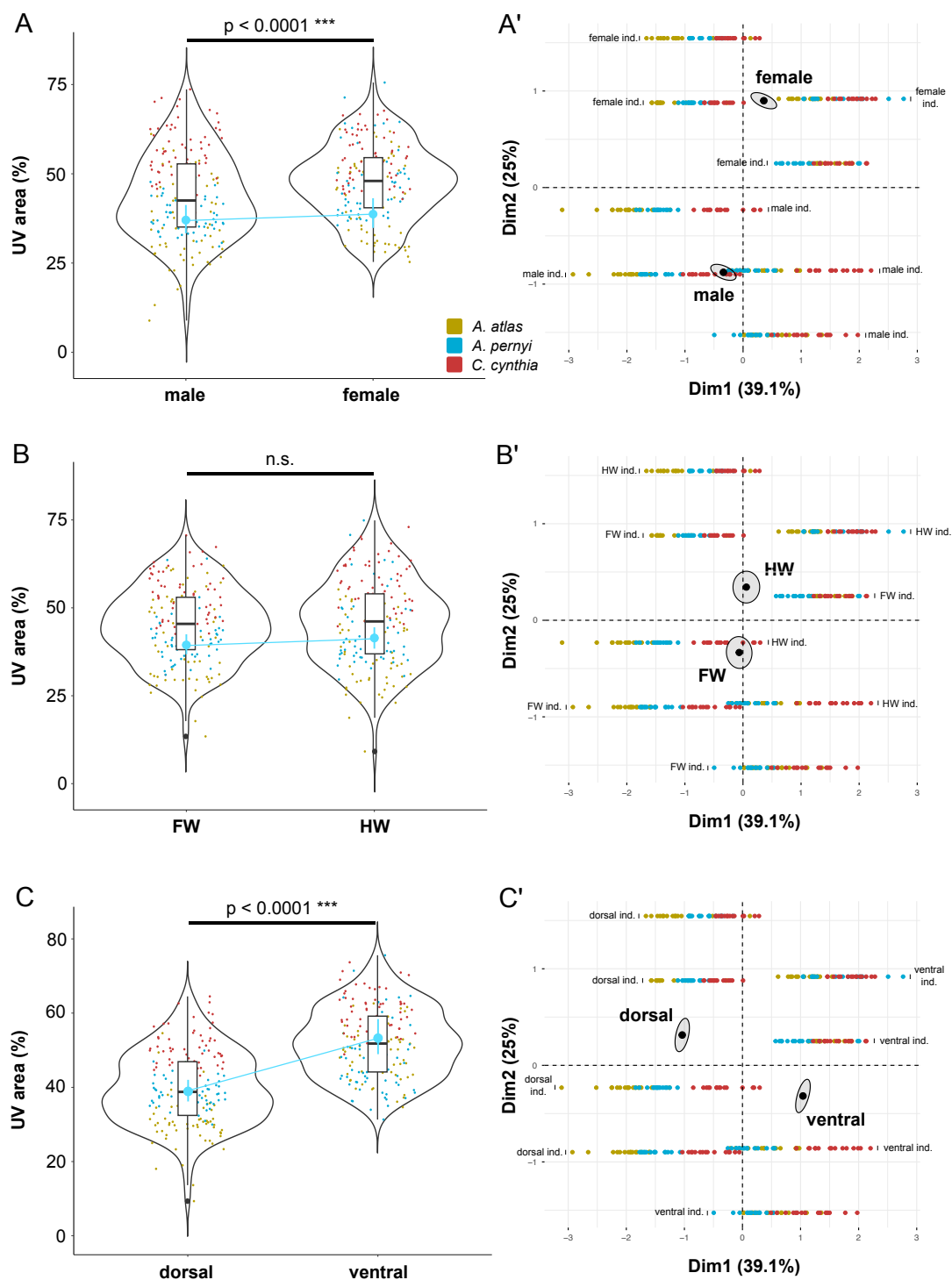


Fig. S4. UV area averaged over the three investigated species across sexes (A, A'), wings (B, B'), and wing surfaces (C, C'). The raw means are shown by black and white violin plots where the central line in the violin plot indicates the median of the distribution, while the top and bottom of the box represent the third and first quartiles of the data, respectively. The whiskers show up to 1.5 times the inter-quartile range. The estimated marginal means, as well as the credible interval, are shown in blue. (A'-C') FAMD plots showing both qualitative variable categories and individuals. FW: forewing, HW: hindwing, ind.: individual.

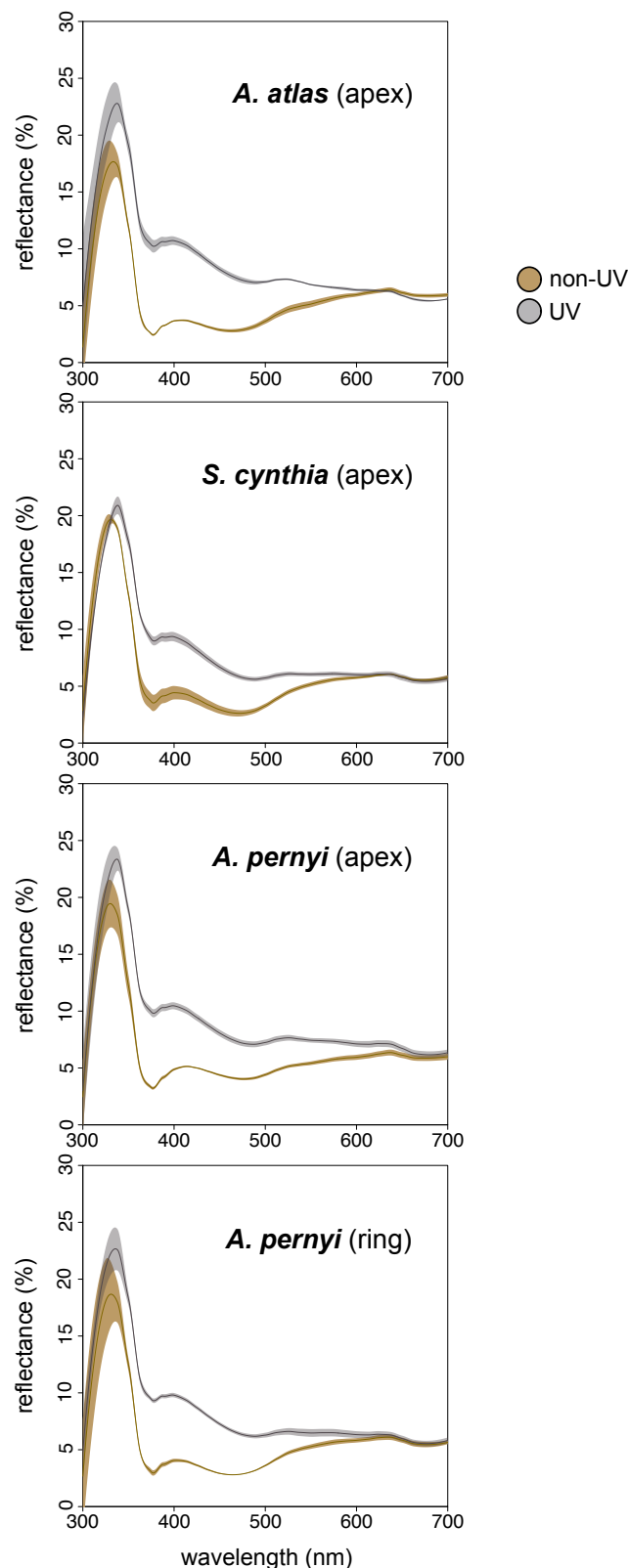


Fig. S5. Reflectance measurements using the 20x objective. The spectra of UV reflective scales exhibited a peak in UVA (~330 nm) and broadband reflectance between 380 and 700 nm (Figure S4). All non-UV reflective scales had similar spectra, but with a substantial lower intensity in the wavelength range 330-600 nm.

Table S1. Main effects and interactions between sex, wing, and wing surface on UV reflectance. A generalized linear model (GLMM) with a gamma distribution was fitted to our data, followed by an ANOVA with type II sums of squares.

factor	Chisq	df	Pr(>Chisq)
sex	46.19	1	1.07e-11 ***
wing	0.12	1	0.73
wing surface	26.32	1	2.90e-11 ***
sex:wing	1.53	1	0.22
sex:wing surface	0.11	1	0.74
wing:wing surface	15.04	1	1.05e-04 ***
sex:wing:wing surface	0.56	1	0.46

Table S2. Statistical test results for the comparisons of UV reflectance intensity across species. Bonferroni post-hoc tests were applied for multiple comparisons. SE: standard error.

comparison	estimate	SE	z-value	Pr(> z)	95% CI
UV reflectance between sexes					
female <i>A.atlas</i> - male <i>A.atlas</i>	-0.012647	0.00114	-11.083	<.0001 ***	[-0.015917; -0.00938]
female <i>A.pernyi</i> - male <i>A.pernyi</i>	-0.011631	0.0014	-8.325	<.0001 ***	[-0.015635; -0.00763]
female <i>S.cynthia</i> - male <i>S.cynthia</i>	0.00217	0.000889	2.44	0.1456	[-0.000379; 0.00472]
female - male	-0.00737	0.00067	-10.992	<.0001 ***	[-0.00869; -0.00605]
UV reflectance between wings					
FW <i>A.atlas</i> - HW <i>A.atlas</i>	-0.00685	0.00114	-6.006	<.0001 ***	[-0.010124; -0.003583]
FW <i>A.pernyi</i> - HW <i>A.pernyi</i>	0.00387	0.0014	2.772	0.0645	[-0.000131; 0.007877]
FW <i>S.cynthia</i> - HW <i>S.cynthia</i>	0.00164	0.000889	1.846	0.4374	[-0.000907; 0.004192]
FW - HW	-0.000446	0.00067	-0.665	0.5063	[-0.00176; 0.000873]
UV reflectance between wing sides					
dorsal <i>A.atlas</i> - ventral <i>A.atlas</i>	0.011138	0.00114	9.76	<.0001 ***	[0.007867; 0.014402]
dorsal <i>A.pernyi</i> - ventral <i>A.pernyi</i>	0.001739	0.0014	1.245	0.8144	[-0.002265; 0.004192]
dorsal <i>S.cynthia</i> - ventral <i>S.cynthia</i>	0.000529	0.000889	0.594	0.9914	[-0.002021; 0.003086]
dorsal - ventral	0.00447	0.00067	6.665	<.0001 ***	[0.00315; 0.00579]

Table S3. Main effects and interactions between sex, wing, and wing surface on UV area. A generalized linear model (GLMM) with a gamma distribution was fitted to our data, followed by an ANOVA with type II sums of squares.

factor	Chisq	df	Pr(>Chisq)
sex	22.59	1	2.01e-06 ***
wing	0.79	1	0.38
wing surface	219.72	1	< 2.20e-16 ***
sex:wing	0.75	1	0.39
sex:wing surface	1.18	1	0.28
wing:wing surface	0.3	1	0.58
sex:wing:wing surface	0.12	1	0.72

Table S4. Statistical test results for the multiple comparisons of UV reflectance intensity among different genders, wings, and wing surfaces from Bonferroni post-hoc tests.

comparison	estimate	SE	z-value	Pr(> z)	95% CI
UV area between sexes					
female <i>A.atlas</i> - male <i>A.atlas</i>	-0.00447	0.000652	-6.845	<.0001 ***	[-0.006335; -0.002596]
female <i>A.pernyi</i> - male <i>A.pernyi</i>	-0.0045	0.000581	-7.753	<.0001 ***	[-0.006169; -0.002839]
female <i>S.cynthia</i> - male <i>S.cynthia</i>	0.00104	0.000438	2.381	0.1659	[-0.000213; 0.002299]
female - male	-0.00171	0.0004	-4.276	<.0001 ***	[-0.00249; -0.000925]
UV area between wings					
FW <i>A.atlas</i> - HW <i>A.atlas</i>	-0.001449	0.000652	-2.221	0.2306	[-0.003203; 0.00042]
FW <i>A.pernyi</i> - HW <i>A.pernyi</i>	0.000695	0.000581	1.196	0.8385	[-0.000236; 0.002236]
FW <i>S.cynthia</i> - HW <i>S.cynthia</i>	0.001005	0.000438	2.294	0.1994	[-0.000226; 0.002226]
FW - HW	0.000373	0.000399	0.935	0.3499	[-0.000409; 0.00116]
UV area between wing sides					
dorsal <i>A.atlas</i> - ventral <i>A.atlas</i>	0.01281	0.000652	19.637	<.0001 ***	[0.010939; 0.014678]
dorsal <i>A.pernyi</i> - ventral <i>A.pernyi</i>	0.0044	0.000581	7.575	<.0001 ***	[0.002736; 0.006066]
dorsal <i>S.cynthia</i> - ventral <i>S.cynthia</i>	0.00322	0.000438	7.338	<.0001 ***	[0.001960; 0.004471]
dorsal - ventral	0.00589	0.0004	14.73	<.0001 ***	[0.0051; 0.00667]

Table S5. Linear-mixed effects test results for the comparison of geometries between the different scale types.

factor	numDF	denDF	F-value	P-value
<i>distance ridge-ridge</i>				
scale type	7	788	1420.24	<0.0001
<i>distance crossrib-crossrib</i>				
scale type	7	1992	185.58	<0.0001
<i>lower lamina thickness</i>				
scale type	7	392	192.49	<0.0001
<i>ridge height</i>				
scale type	7	388	106.02	<0.0001

Table S6. Statistical test results for the multiple comparisons of geometries among different scale types and genotypes from Bonferroni post-hoc tests.

comparison	estimate	standard error	z-value	Pr(> z)	95% CI
<i>distance ridge-ridge</i>					
<i>A.atlas_apex</i> (UV) - <i>A.atlas_apex</i> (nonUV) == 0	143.79	14.5	9.91	<0.001 ***	[100.34; 187.24]
<i>S.cynthia_apex</i> (nonUV) - <i>A.atlas_apex</i> (nonUV) == 0	-119.44	15.3	-7.81	<0.001 ***	[-165.27; -73.61]
<i>S.cynthia_apex</i> (UV) - <i>A.atlas_apex</i> (nonUV) == 0	315.49	22.73	13.88	<0.001 ***	[247.38; 383.60]
<i>A.pernyi_apex</i> (nonUV) - <i>A.atlas_apex</i> (nonUV) == 0	-112.82	13.99	-8.07	<0.001 ***	[-154.73; -70.91]
<i>A.pernyi_ring</i> (nonUV) - <i>A.atlas_apex</i> (nonUV) == 0	-704.49	10.19	-69.11	<0.001 ***	[-735.04; -673.95]
<i>A.pernyi_apex</i> (UV) - <i>A.atlas_apex</i> (nonUV) == 0	-52.81	13.65	-3.87	2.51e-03 **	[-93.70; -11.92]
<i>A.pernyi_ring</i> (UV) - <i>A.atlas_apex</i> (nonUV) == 0	-15.74	16.67	-0.94	9.79e-01	[-65.69; 34.20]
<i>S.cynthia_apex</i> (nonUV) - <i>A.atlas_apex</i> (UV) == 0	-263.23	17.35	-15.17	<0.001 ***	[-315.20; -211.25]
<i>S.cynthia_apex</i> (UV) - <i>A.atlas_apex</i> (UV) == 0	171.7	24.16	7.11	<0.001 ***	[99.31; 244.09]
<i>A.pernyi_apex</i> (nonUV) - <i>A.atlas_apex</i> (UV) == 0	-256.61	16.2	-15.83	<0.001 ***	[-305.16; -208.05]
<i>A.pernyi_ring</i> (nonUV) - <i>A.atlas_apex</i> (UV) == 0	-848.28	13.07	-64.89	<0.001 ***	[-887.45; -809.12]
<i>A.pernyi_apex</i> (UV) - <i>A.atlas_apex</i> (UV) == 0	-196.59	15.91	-12.35	<0.001 ***	[-244.27; -148.92]
<i>A.pernyi_ring</i> (UV) - <i>A.atlas_apex</i> (UV) == 0	-159.53	18.57	-8.6	<0.001 ***	[-215.17; -103.89]
<i>S.cynthia_apex</i> (UV) - <i>S.cynthia_apex</i> (nonUV) == 0	434.93	24.65	17.65	<0.001 ***	[361.08; 508.77]
<i>A.pernyi_apex</i> (nonUV) - <i>S.cynthia_apex</i> (nonUV) == 0	6.62	16.92	0.39	9.99e-01	[-44.08; 57.32]
<i>A.pernyi_ring</i> (nonUV) - <i>S.cynthia_apex</i> (nonUV) == 0	-585.05	13.95	-41.94	<0.001 ***	[-626.85; -543.26]
<i>A.pernyi_apex</i> (UV) - <i>S.cynthia_apex</i> (nonUV) == 0	66.63	16.64	4	1.42e-03 **	[16.78; 116.49]
<i>A.pernyi_ring</i> (UV) - <i>S.cynthia_apex</i> (nonUV) == 0	103.7	19.2	5.4	<0.001 ***	[46.18; 161.22]
<i>A.pernyi_apex</i> (nonUV) - <i>S.cynthia_apex</i> (UV) == 0	-428.31	23.86	-17.95	<0.001 ***	[-499.79; -356.83]
<i>A.pernyi_ring</i> (nonUV) - <i>S.cynthia_apex</i> (UV) == 0	-1019.98	21.85	-46.68	<0.001 ***	[-1085.44; -954.52]
<i>A.pernyi_apex</i> (UV) - <i>S.cynthia_apex</i> (UV) == 0	-368.29	23.66	-15.57	<0.001 ***	[-439.18; -297.41]
<i>A.pernyi_ring</i> (UV) - <i>S.cynthia_apex</i> (UV) == 0	-331.23	25.52	-12.98	<0.001 ***	[-407.70; -254.76]
<i>A.pernyi_ring</i> (nonUV) - <i>A.pernyi_apex</i> (nonUV) == 0	-591.67	12.5	-47.34	<0.001 ***	[-629.12; -554.22]
<i>A.pernyi_apex</i> (UV) - <i>A.pernyi_apex</i> (nonUV) == 0	60.01	15.44	3.89	2.36e-03 **	[13.74; 106.29]
<i>A.pernyi_ring</i> (UV) - <i>A.pernyi_apex</i> (nonUV) == 0	97.08	18.17	5.34	<0.001 ***	[42.63; 151.52]
<i>A.pernyi_apex</i> (UV) - <i>A.pernyi_ring</i> (nonUV) == 0	651.69	12.12	53.78	<0.001 ***	[615.38; 687.99]
<i>A.pernyi_ring</i> (UV) - <i>A.pernyi_ring</i> (nonUV) == 0	688.75	15.44	44.6	<0.001 ***	[642.48; 735.02]
<i>A.pernyi_ring</i> (UV) - <i>A.pernyi_apex</i> (UV) == 0	37.06	17.91	2.07	4.13e-01	[-16.60; 90.73]

distance crossrib-crossrib						
A.atlas_apex(UV) - A.atlas_apex(nonUV) == 0	342.27	20.11	17.02	<0.001 ***	[281.82; 402.72]	
S.cynthia_apex(nonUV) - A.atlas_apex(nonUV) == 0	-94.19	12.69	-7.42	<0.001 ***	[-132.33; -56.05]	
S.cynthia_apex(UV) - A.atlas_apex(nonUV) == 0	55.9	13.79	4.05	1.25e-03 **	[14.47; 97.34]	
A.peryti_apex(nonUV) - A.atlas_apex(nonUV) == 0	282.35	17.75	15.91	<0.001 ***	[229.02; 335.69]	
A.peryti_ring(nonUV) - A.atlas_apex(nonUV) == 0	50.33	14.37	3.5	1.01e-01 *	[7.13; 93.53]	
A.peryti_apex(UV) - A.atlas_apex(nonUV) == 0	348.8	20.44	17.06	<0.001 ***	[287.38; 410.22]	
A.peryti_ring(UV) - A.atlas_apex(nonUV) == 0	279.46	18.53	15.08	<0.001 ***	[223.78; 335.13]	
S.cynthia_apex(nonUV) - A.atlas_apex(UV) == 0	-436.46	19.55	-22.32	<0.001 ***	[-495.22; -377.71]	
S.cynthia_apex(UV) - A.atlas_apex(UV) == 0	-286.37	20.28	-14.12	<0.001 ***	[-347.31; -225.42]	
A.peryti_apex(nonUV) - A.atlas_apex(UV) == 0	-59.92	23.16	-2.59	1.51e-01	[-129.50; 9.67]	
A.peryti_ring(nonUV) - A.atlas_apex(UV) == 0	-291.94	20.68	-14.11	<0.001 ***	[-354.10; -229.78]	
A.peryti_apex(UV) - A.atlas_apex(UV) == 0	6.53	25.28	0.26	1	[-69.43; 82.49]	
A.peryti_ring(UV) - A.atlas_apex(UV) == 0	-62.81	23.76	-2.64	1.32e-01	[-134.21; 8.578]	
S.cynthia_apex(UV) - S.cynthia_apex(nonUV) == 0	150.09	12.95	11.59	<0.001 ***	[111.17; 189.02]	
A.peryti_apex(nonUV) - S.cynthia_apex(nonUV) == 0	376.54	17.11	22.01	<0.001 ***	[325.13; 427.95]	
A.peryti_ring(nonUV) - S.cynthia_apex(nonUV) == 0	144.52	13.58	10.64	<0.001 ***	[103.72; 185.32]	
A.peryti_apex(UV) - S.cynthia_apex(nonUV) == 0	442.99	19.89	22.28	<0.001 ***	[383.23; 502.75]	
A.peryti_ring(UV) - S.cynthia_apex(nonUV) == 0	373.65	17.91	20.86	<0.001 ***	[319.82; 427.48]	
A.peryti_apex(nonUV) - S.cynthia_apex(UV) == 0	226.45	17.94	12.62	<0.001 ***	[172.55; 280.35]	
A.peryti_ring(nonUV) - S.cynthia_apex(UV) == 0	-5.57	14.61	-0.38	9.99e-01	[-49.47; 38.32]	
A.peryti_apex(UV) - S.cynthia_apex(UV) == 0	292.89	20.6	14.22	<0.001 ***	[230.98; 354.81]	
A.peryti_ring(UV) - S.cynthia_apex(UV) == 0	223.55	18.71	11.95	<0.001 ***	[167.34; 279.77]	
A.peryti_ring(nonUV) - A.peryti_apex(nonUV) == 0	-232.02	18.39	-12.62	<0.001 ***	[-287.29; -176.75]	
A.peryti_apex(UV) - A.peryti_apex(nonUV) == 0	66.45	23.44	2.83	8.05e-02	[-3.99; 136.88]	
A.peryti_ring(UV) - A.peryti_apex(nonUV) == 0	-2.89	21.79	-0.13	1	[-68.38; 62.59]	
A.peryti_apex(UV) - A.peryti_ring(nonUV) == 0	298.47	21	14.21	<0.001 ***	[235.36; 361.57]	
A.peryti_ring(UV) - A.peryti_ring(nonUV) == 0	229.13	19.14	11.97	<0.001 ***	[171.60; 286.66]	
A.peryti_ring(UV) - A.peryti_apex(UV) == 0	-69.34	24.03	-2.89	7.07e-02	[-141.56; 2.88]	
lower lamina thickness						
A.atlas_apex(UV) - A.atlas_apex(nonUV) == 0	-22.78	3.08	-7.4	3.85e-12 ***	[-32.03; -13.52]	
S.cynthia_apex(nonUV) - A.atlas_apex(nonUV) == 0	36.44	3.32	10.99	< 2e-16 ***	[26.47; 46.41]	
S.cynthia_apex(UV) - A.atlas_apex(nonUV) == 0	-2.44	2.59	-0.94	1	[-10.23; 5.36]	
A.peryti_apex(nonUV) - A.atlas_apex(nonUV) == 0	-6.35	2.59	-2.45	3.98e-01	[-14.13; 1.44]	
A.peryti_ring(nonUV) - A.atlas_apex(nonUV) == 0	-39.67	2.36	-16.84	< 2e-16 ***	[-46.75; -32.59]	
A.peryti_apex(UV) - A.atlas_apex(nonUV) == 0	-34.57	2.65	-13.06	< 2e-16 ***	[-42.53; -26.61]	
A.peryti_ring(UV) - A.atlas_apex(nonUV) == 0	-37.3	2.34	-15.93	< 2e-16 ***	[-44.34; -30.26]	
S.cynthia_apex(nonUV) - A.atlas_apex(UV) == 0	59.22	3.47	17.07	< 2e-16 ***	[48.78; 69.64]	
S.cynthia_apex(UV) - A.atlas_apex(UV) == 0	20.34	2.78	7.3	7.76e-12 ***	[11.97; 28.71]	
A.peryti_apex(nonUV) - A.atlas_apex(UV) == 0	16.43	2.78	5.91	9.74e-08 ***	[8.07; 24.79]	
A.peryti_ring(nonUV) - A.atlas_apex(UV) == 0	-16.89	2.56	-6.59	1.26e-09 ***	[-24.61; -9.18]	
A.peryti_apex(UV) - A.atlas_apex(UV) == 0	-11.79	2.83	-4.16	8.86e-04 ***	[-20.31; -3.27]	
A.peryti_ring(UV) - A.atlas_apex(UV) == 0	-14.53	2.55	-5.69	3.49e-07 ***	[-22.20; -6.85]	
S.cynthia_apex(UV) - S.cynthia_apex(nonUV) == 0	-38.87	3.05	-12.76	< 2e-16 ***	[-48.03; -29.72]	
A.peryti_apex(nonUV) - S.cynthia_apex(nonUV) == 0	-42.79	3.04	-14.06	< 2e-16 ***	[-51.94; -33.64]	
A.peryti_ring(nonUV) - S.cynthia_apex(nonUV) == 0	-76.11	2.85	-26.74	< 2e-16 ***	[-84.67; -67.55]	
A.peryti_apex(UV) - S.cynthia_apex(nonUV) == 0	-71.01	3.09	-22.97	< 2e-16 ***	[-80.30; -61.71]	
A.peryti_ring(UV) - S.cynthia_apex(nonUV) == 0	-73.74	2.83	-26.01	< 2e-16 ***	[-82.27; -65.22]	
A.peryti_apex(nonUV) - S.cynthia_apex(UV) == 0	-3.91	2.23	-1.75	1	[-10.62; 2.80]	
A.peryti_ring(nonUV) - S.cynthia_apex(UV) == 0	-37.23	1.96	-19.04	< 2e-16 ***	[-43.12; -31.35]	
A.peryti_apex(UV) - S.cynthia_apex(UV) == 0	-32.13	2.3	-13.99	< 2e-16 ***	[-39.04; -25.22]	
A.peryti_ring(UV) - S.cynthia_apex(UV) == 0	-34.87	1.94	-17.99	< 2e-16 ***	[-40.70; -29.04]	
A.peryti_ring(nonUV) - A.peryti_apex(nonUV) == 0	-33.32	1.95	-17.08	< 2e-16 ***	[-39.19; -27.46]	
A.peryti_apex(UV) - A.peryti_apex(nonUV) == 0	-28.22	2.29	-12.3	< 2e-16 ***	[-35.12; -21.32]	
A.peryti_ring(UV) - A.peryti_apex(nonUV) == 0	-30.95	1.93	-16.01	< 2e-16 ***	[-36.77; -25.14]	
A.peryti_apex(UV) - A.peryti_ring(nonUV) == 0	5.1	2.03	2.52	3.30e-01	[-0.99; 11.19]	
A.peryti_ring(UV) - A.peryti_ring(nonUV) == 0	2.37	1.61	1.47	1	[-2.47; 7.20]	
A.peryti_ring(UV) - A.peryti_apex(UV) == 0	-2.73	2.01	-1.36	1	[-8.78; 3.31]	

ridge height						
<i>A.atlas</i> _apex(UV) - <i>A.atlas</i> _apex(nonUV) == 0	109.1	18.01	6.06	3.83e-08 ***	[54.91; 163.30]	
<i>S.cynthia</i> _apex(nonUV) - <i>A.atlas</i> _apex(nonUV) == 0	280.05	20.96	13.36	< 2e-16 ***	[216.95; 343.14]	
<i>S.cynthia</i> _apex(UV) - <i>A.atlas</i> _apex(nonUV) == 0	319.58	19.84	16.11	< 2e-16 ***	[259.88; 379.29]	
<i>A.pernyi</i> _apex(nonUV) - <i>A.atlas</i> _apex(nonUV) == 0	206.85	23.01	8.99	< 2e-16 ***	[137.59.88; 276.11]	
<i>A.pernyi</i> _ring(nonUV) - <i>A.atlas</i> _apex(nonUV) == 0	-57.43	18.4	-3.12	5.06e-02	[-112.82.88; -2.03]	
<i>A.pernyi</i> _apex(UV) - <i>A.atlas</i> _apex(nonUV) == 0	60.81	16.45	3.7	6.10e-03 **	[11.31; 110.31]	
<i>A.pernyi</i> _ring(UV) - <i>A.atlas</i> _apex(nonUV) == 0	77.76	20.72	3.75	4.89e-03 **	[15.41; 140.12]	
<i>S.cynthia</i> _apex(nonUV) - <i>A.atlas</i> _apex(UV) == 0	170.95	18.09	9.45	< 2e-16 ***	[116.50; 225.39]	
<i>S.cynthia</i> _apex(UV) - <i>A.atlas</i> _apex(UV) == 0	210.48	16.77	12.55	< 2e-16 ***	[160.00; 260.96]	
<i>A.pernyi</i> _apex(nonUV) - <i>A.atlas</i> _apex(UV) == 0	97.75	20.43	4.78	4.78e-05 ***	[36.27; 159.23]	
<i>A.pernyi</i> _ring(nonUV) - <i>A.atlas</i> _apex(UV) == 0	-166.53	15.05	-11.07	< 2e-16 ***	[-211.83; -121.24]	
<i>A.pernyi</i> _apex(UV) - <i>A.atlas</i> _apex(UV) == 0	-48.29	12.58	-3.84	3.46e-03 **	[-86.15; -10.43]	
<i>A.pernyi</i> _ring(UV) - <i>A.atlas</i> _apex(UV) == 0	-31.34	17.8	-1.76	1	[-84.92; 22.24]	
<i>S.cynthia</i> _apex(UV) - <i>S.cynthia</i> _apex(nonUV) == 0	39.53	19.91	1.99	1	[-20.40; 99.46]	
<i>A.pernyi</i> _apex(nonUV) - <i>S.cynthia</i> _apex(nonUV) == 0	-73.2	23.08	-3.17	4.24e-02 *	[-142.65; -3.74]	
<i>A.pernyi</i> _ring(nonUV) - <i>S.cynthia</i> _apex(nonUV) == 0	-337.47	18.48	-18.26	< 2e-16 ***	[-393.11; -281.84]	
<i>A.pernyi</i> _apex(UV) - <i>S.cynthia</i> _apex(nonUV) == 0	-219.24	16.54	-13.26	< 2e-16 ***	[-269.01; -169.47]	
<i>A.pernyi</i> _ring(UV) - <i>S.cynthia</i> _apex(nonUV) == 0	-202.29	20.79	-9.73	< 2e-16 ***	[-264.86; -139.72]	
<i>A.pernyi</i> _apex(nonUV) - <i>S.cynthia</i> _apex(UV) == 0	-112.73	22.06	-5.11	8.99e-06 ***	[-179.12; -46.34]	
<i>A.pernyi</i> _ring(nonUV) - <i>S.cynthia</i> _apex(UV) == 0	-377.01	17.2	-21.92	< 2e-16 ***	[-428.77; -325.25]	
<i>A.pernyi</i> _apex(UV) - <i>S.cynthia</i> _apex(UV) == 0	-258.77	15.08	-17.16	< 2e-16 ***	[-304.17; -213.37]	
<i>A.pernyi</i> _ring(UV) - <i>S.cynthia</i> _apex(UV) == 0	-241.82	19.65	-12.3	< 2e-16 ***	[-300.97; -182.67]	
<i>A.pernyi</i> _ring(nonUV) - <i>A.pernyi</i> _apex(nonUV) == 0	-264.28	20.78	-12.72	< 2e-16 ***	[-326.82; -201.74]	
<i>A.pernyi</i> _apex(UV) - <i>A.pernyi</i> _apex(nonUV) == 0	-146.04	19.07	-7.66	5.22e-13 ***	[-203.43; -88.66]	
<i>A.pernyi</i> _ring(UV) - <i>A.pernyi</i> _apex(nonUV) == 0	-129.09	22.85	-5.65	4.52e-07 ***	[-197.87; -69.31]	
<i>A.pernyi</i> _apex(UV) - <i>A.pernyi</i> _ring(nonUV) == 0	118.24	13.14	8.99	< 2e-16 ***	[78.68; 157.79]	
<i>A.pernyi</i> _ring(UV) - <i>A.pernyi</i> _ring(nonUV) == 0	135.19	18.21	7.43	3.15e-12 ***	[80.39; 189.98]	
<i>A.pernyi</i> _ring(UV) - <i>A.pernyi</i> _apex(UV) == 0	16.95	16.22	1.04	1	[-31.88; 65.78]	
(<i>A.atlas</i> + <i>S.cynthia</i>)_apex(UV) - (<i>A.atlas</i> + <i>S.cynthia</i>)_apex(nonUV) == 0	74.32	21.64	3.43	5.93e-04 ***	[31.91; 116.77]	