

Supplemental data for *Crypsis* in a polymorphic mammal along an urbanization gradient

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Supplemental Table S1. Locations used to image models of gray and melanistic color morphs of eastern gray squirrels in the vicinity of Syracuse, New York.

Habitat	Scene ID	Location	Latitude	Longitude
Old growth forest	1	Fischer Old Growth Natural Area	42.381635	-76.564483
Old growth forest	2	Fischer Old Growth Natural Area	42.381957	-76.564500
Old growth forest	3	Green Lakes State Park	43.051169	-75.970487
Old growth forest	4	Smith Woods	42.535491	-76.643593
Old growth forest	5	Green Lakes State Park	43.047825	-75.979392
Old growth forest	6	Green Lakes State Park	43.046856	-75.979442
Old growth forest	7	Green Lakes State Park	43.046519	-75.980517
Old growth forest	8	Smith Woods	42.536185	-76.645383
Old growth forest	9	Smith Woods	42.535085	-76.643352
Old growth forest	10	Green Lakes State Park	43.045380	-75.980175
Old growth forest	11	Smith Woods	42.537290	-76.643808
Old growth forest	12	Smith Woods	42.536563	-76.643795
Old growth forest	13	Smith Woods	42.536974	-76.646618
Old growth forest	14	Smith Woods	42.537572	-76.645198
Old growth forest	15	Smith Woods	42.537664	-76.646284
Old growth forest	16	Green Lakes State Park	43.045247	-75.979456
Old growth forest	17	Green Lakes State Park	43.044808	-75.977836
Old growth forest	18	Fischer Old Growth Natural Area	42.382578	-76.563310
Old growth forest	19	Green Lakes State Park	43.045300	-75.982133
Old growth forest	20	Green Lakes State Park	43.045628	-75.981444
Secondary forest	1	Rand Tract	42.990742	-76.157486
Secondary forest	2	Heiberg Memorial Forest	42.769966	-76.083118
Secondary forest	3	Morgan Hill State Forest	42.801746	-76.002331
Secondary forest	4	Heiberg Memorial Forest	42.770086	-76.071287
Secondary forest	5	Morgan Hill State Forest	42.799036	-76.010568
Secondary forest	6	Morgan Hill State Forest	42.791279	-76.016226
Secondary forest	7	Cicero Swamp Wildlife Management Area	43.136636	-75.982676
Secondary forest	8	Labrador Hollow Unique Area	42.779883	-76.036408
Secondary forest	9	Green Lakes State Park	43.046571	-75.954260
Secondary forest	10	Green Lakes State Park	43.049765	-75.956283
Secondary forest	11	Heiberg Memorial Forest	42.770953	-76.071789
Secondary forest	12	Morgan Hill State Forest	42.801746	-76.002331
Secondary forest	13	Private land	43.092085	-76.451142
Secondary forest	14	Cicero Swamp Wildlife Management Area	43.152810	-76.058983
Secondary forest	15	Green Lakes State Park	43.196998	-76.322960
Secondary forest	16	Kettlebail State Forest	42.773544	-76.058022
Secondary forest	17	Kettlebail State Forest	42.773722	-76.057575
Secondary forest	18	Three Rivers Wildlife Management Area	43.197138	-76.313563
Secondary forest	19	Green Lakes State Park	43.051164	-75.970353
Secondary forest	20	Rand Tract	42.990911	-76.157108
Urban park	1	Oakwood Cemetery	43.029910	-76.132769
Urban park	2	Thornden Park	43.045185	-76.128111

Habitat	Scene ID	Location	Latitude	Longitude
Urban park	3	Thornden Park	43.043274	-76.125402
Urban park	4	St. Mary's Cemetery	43.033424	-76.080717
Urban park	5	Oakwood Cemetery	43.028792	-76.133302
Urban park	6	St. Mary's Cemetery	43.033959	-76.075574
Urban park	7	Woodlawn Cemetery	43.078239	-76.132388
Urban park	8	Woodlawn Cemetery	43.072974	-76.123658
Urban park	9	Forman Park	43.047181	-76.141481
Urban park	10	Barry Park	43.028703	-76.117185
Urban yard	1	Private land	43.040107	-76.117527
Urban yard	2	Private land	43.037908	-76.120061
Urban yard	3	Private land	43.031835	-76.108189
Urban yard	4	Private land	43.037454	-76.110865
Urban yard	5	Private land	43.032790	-76.105976
Urban yard	6	Private land	43.035080	-76.280878
Urban yard	7	Private land	43.134165	-76.184827
Urban yard	8	Private land	43.126198	-76.134824
Urban yard	9	Private land	43.013533	-76.126853
Urban yard	10	Private land	43.040109	-76.122248
Urban developed	1	Syracuse	43.049700	-76.142675
Urban developed	2	Syracuse	43.049700	-76.143701
Urban developed	3	Syracuse	43.048785	-76.143360
Urban developed	4	Syracuse	43.048785	-76.143360
Urban developed	5	Syracuse	43.048397	-76.140475
Urban developed	6	Syracuse	43.050990	-76.142430
Urban developed	7	Syracuse	43.051182	-76.144038
Urban developed	8	Syracuse	43.050835	-76.148848
Urban developed	9	Syracuse	43.034807	-76.134119
Urban developed	10	Syracuse	43.035102	-76.134454
Urban road	1	Syracuse	43.042408	-76.122980
Urban road	2	Syracuse	43.044855	-76.123703
Urban road	3	Syracuse	43.043079	-76.116351
Urban road	4	Syracuse	43.038421	-76.110869
Urban road	5	Syracuse	43.043684	-76.113147
Urban road	6	Syracuse	43.040446	-76.111789
Urban road	7	Syracuse	43.038785	-76.113904
Urban road	8	Syracuse	43.039737	-76.118381
Urban road	9	Syracuse	43.039332	-76.121412
Urban road	10	Syracuse	43.035460	-76.126799
Urban road	11	Syracuse	43.032615	-76.115284
Urban road	12	Syracuse	43.035737	-76.115703
Urban road	13	Syracuse	43.031801	-76.121360
Urban road	14	Syracuse	43.033673	-76.116597
Urban road	15	Syracuse	43.033633	-76.112552
Urban road	16	Syracuse	43.027406	-76.123169
Urban road	17	Syracuse	43.028997	-76.119583
Urban road	18	Syracuse	43.027799	-76.121505
Urban road	19	Syracuse	43.033239	-76.126600
Urban road	20	Syracuse	43.034566	-76.124154

7 **Supplemental Table S2.** Wald Chi-square significant tests for fixed effects in linear mixed models of detection probability of
8 taxidermied models of melanic and gray morphs of eastern gray squirrels. Separate models were fit for combinations of season, visual
9 perspective, and squirrel posture in road and non-road environments. *P*-values were adjusted using a Bonferroni correction for 66
10 hypothesis tests, with those ≤ 0.05 highlighted in bold.

Habitat	Season	Perspective	Posture	Trials	Detections	Observers	Model term	<i>ChiSq</i>	<i>df</i>	<i>P</i>
Non-road	Leaf on	Ground	Ground	1598	1010	861	Distance	6.6	1	0.662
							Scene order	0.2	1	1.000
							Morph	195.7	1	<0.001
							Habitat	46.3	4	<0.001
							Morph x Habitat	16.6	4	0.152
Non-road	Leaf on	Ground	Climbing	1633	1207	899	Distance	21.3	1	<0.001
							Scene order	0.7	1	1.000
							Morph	136.2	1	<0.001
							Habitat	3.7	4	1.000
							Morph x Habitat	14.2	4	0.447
Non-road	Leaf on	Ground	Branch	1692	982	881	Distance	22.6	1	<0.001
							Scene order	0.3	1	1.000
							Morph	147.1	1	<0.001
							Habitat	5.3	4	1.000
							Morph x Habitat	52.2	4	<0.001
Non-road	Leaf on	Aerial	Ground	1644	1022	873	Distance	0.2	1	1.000
							Scene order	2.2	1	1.000
							Morph	220.6	1	<0.001
							Habitat	30.9	4	<0.001
							Morph x Habitat	24.5	4	0.004
Non-road	Leaf on	Aerial	Climbing	1635	1154	860	Distance	6.9	1	0.578
							Scene order	4.8	1	1.000
							Morph	203.9	1	<0.001
							Habitat	3.7	4	1.000
							Morph x Habitat	11.2	4	1.000

Habitat	Season	Perspective	Posture	Trials	Detections	Observers	Model term	<i>ChiSq</i>	<i>df</i>	<i>P</i>
Non-road	Leaf on	Aerial	Branch	1678	909	877	Distance	10.1	1	0.096
							Scene order	0.1	1	1.000
							Morph	172.7	1	<0.001
							Habitat	6.3	4	1.000
							Morph x Habitat	37.8	4	<0.001
Non-road	Leaf off	Ground	Ground	1408	914	772	Distance	7.2	1	0.479
							Scene order	0.3	1	1.000
							Morph	258.8	1	<0.001
							Habitat	17.5	4	0.103
							Morph x Habitat	10.7	4	1.000
Non-road	Leaf off	Ground	Climbing	1575	1133	804	Distance	34.4	1	<0.001
							Scene order	3.2	1	1.000
							Morph	202.7	1	<0.001
							Habitat	7.6	4	1.000
							Morph x Habitat	21.4	4	0.017
Non-road	Leaf off	Ground	Branch	1507	871	791	Distance	13.3	1	0.018
							Scene order	1.6	1	1.000
							Morph	155.9	1	<0.001
							Habitat	5.4	4	1.000
							Morph x Habitat	29.8	4	<0.001
Non-road	Leaf off	Aerial	Ground	1605	976	820	Distance	2.3	1	1.000
							Scene order	2.7	1	1.000
							Morph	358.7	1	<0.001
							Habitat	26.2	4	0.002
							Morph x Habitat	37.2	4	<0.001
Non-road	Leaf off	Aerial	Climbing	1534	904	812	Distance	5.9	1	0.992
							Scene order	8.6	1	0.227
							Morph	98.1	1	<0.001
							Habitat	19.1	4	0.051
							Morph x Habitat	7.3	4	1.000
Non-road	Leaf off	Aerial	Branch	1531	746	825	Distance	12.2	1	0.032
							Scene order	0.6	1	1.000

Habitat	Season	Perspective	Posture	Trials	Detections	Observers	Model term	<i>ChiSq</i>	<i>df</i>	<i>P</i>
							Morph	232.9	1	<0.001
							Habitat	15.9	4	0.204
							Morph x Habitat	12.8	4	0.829
Road	Leaf on	Ground	Ground	2667	2181	583	Distance	4.6	1	1.000
							Scene order	72.3	1	<0.001
							Morph	413.4	1	<0.001
Road	Leaf off	Ground	Ground	2343	1996	481	Distance	24.2	1	<0.001
							Scene order	25.9	1	<0.001
							Morph	298.2	1	<0.001

Supplemental Table S3. Wald Chi-square significant tests for fixed effects in linear mixed models of the proportion of background pixels matching the taxidermied melanic morph of eastern gray squirrels (*Sciurus carolinensis*). Separate models were fit for road and non-road habitats and full vs. immediate backgrounds. *P*-values were adjusted using a Bonferroni correction for 16 hypothesis tests, with those ≤ 0.05 highlighted in bold. Sample sizes included 840 images from 70 scenes for the non-road analyses and 40 images from 20 scenes for the road analyses.

Habitat	Background	Model term	<i>ChiSq</i>	<i>df</i>	<i>P</i>
Non-road	Full	Habitat	26.40	4	<0.001
		Season	32.68	1	<0.001
		Position	267.39	2	<0.001
		Perspective	0.14	1	1.000
		Habitat x Season	17.41	4	0.026
		Habitat x Position	16.48	8	0.576
		Habitat x Perspective	16.02	4	0.048
Non-road	Immediate	Habitat	9.42	4	0.822
		Season	14.55	1	0.002
		Position	94.90	2	<0.001
		Perspective	3.06	1	1.000
		Habitat x Season	7.63	4	1.000
		Habitat x Position	42.03	8	<0.001
		Habitat x Perspective	13.95	4	0.119
Road	Full	Season	6.64	1	0.160
Road	Immediate	Season	0.38	1	1.000