

# SCALING AND FUNCTIONAL MORPHOLOGY IN STRIGIFORM HIND LIMBS

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## Supplementary Information

*Supplementary Table S1. Page Museum specimens*

<b>FEMORA</b>					<b>Total: 79</b>
<b>Taxon</b>	<b>Body Mass (g)</b>	<b>Catalogue Number</b>	<b>Midshaft Width (mm)</b>	<b>Maximum Length (mm)</b>	<b>Robusticity Index</b>
<i>Asio flammeus</i>	346.5	F5335	4.41	57.11	0.0772
		F5053	4.05	57.09	0.0709
		E9245	4.02	56.12	0.0716
		F5034	4.11	56.42	0.0728
		F5332	4.29	55.10	0.0779
		E9239	4.13	56.26	0.0734
		E8926	4.18	57.68	0.0725
		F5326	3.96	55.01	0.0720
		F5018	4.51	60.40	0.0747
		F5132	4.11	53.47	0.0769
		F5031	4.58	56.94	0.0804
		E9325	4.15	53.97	0.0769
		E8879	4.15	57.76	0.0718
		F1916	3.98	58.25	0.0683
		E8773	4.34	57.81	0.0751
		E8780	3.96	55.34	0.0716
		F5129	4.38	56.26	0.0779
		F5021	4.04	58.37	0.0692
		E9311	4.20	57.27	0.0733
		E9320	3.95	53.48	0.0739
		F5054	4.23	54.37	0.0778
		F5041	4.62	54.90	0.0842
		F5025	4.08	54.93	0.0743
		F5063	3.78	55.13	0.0686
		F5123	3.66	55.15	0.0664
		F5056	3.79	55.20	0.0687
		F5043	4.25	56.28	0.0755
		E9056	4.16	54.97	0.0757
		K2912	4.28	55.92	0.0765
		F5116	4.00	54.27	0.0737
F5343	4.63	59.54	0.0778		
F5127	4.19	54.47	0.0769		
F5333	4.34	55.60	0.0781		

		F5052	3.96	57.07	0.0694
		E8809	4.19	57.17	0.0733
		F5024	3.95	54.86	0.0720
		E3544	3.95	55.60	0.0710
		F5499	3.82	55.25	0.0691
		F5027	4.06	56.95	0.0713
		F5253	4.11	53.30	0.0771
		E9662	7.47	82.68	0.0903
		E9639	6.99	82.17	0.0851
		E9797	6.93	81.30	0.0852
		E9627	7.11	82.52	0.0862
		E9611	7.84	84.61	0.0927
<i>Bubo virginianus</i>	1543	F4875	7.48	82.19	0.0910
		F4868	7.77	87.26	0.0890
		E9421	8.07	87.11	0.0926
		E1537	7.66	88.17	0.0869
		E1972	8.12	86.85	0.0935
		E9161	4.80	58.52	0.0820
		E9085	5.10	58.66	0.0869
		E8987	4.73	56.35	0.0839
		F4846	4.64	58.80	0.0789
<i>Tyto alba</i>	294	F4750	4.64	56.52	0.0821
		F4655	5.12	59.01	0.0868
		K2916	4.58	55.97	0.0818
		F1615	5.24	59.90	0.0875
		F4725	5.23	58.77	0.0890
		F4741	5.18	58.76	0.0882
		K9343	3.67	38.09	0.0964
		F5281	3.40	38.30	0.0888
		F5483	3.17	37.16	0.0853
		E9127	3.68	39.12	0.0941
		F5284	3.32	41.34	0.0803
<i>Athene cunicularia</i>	155	F5851	3.28	39.51	0.0830
		F5874	3.39	37.62	0.0901
		F5282	3.06	37.56	0.0815
		F5477	3.37	40.22	0.0838
		F5838	3.29	39.35	0.0836
		F5423	3.82	52.67	0.0725
		K9359	3.90	51.34	0.0760
<i>Asio otus</i>	262	F5124	4.20	54.32	0.0773
		E9691	3.86	51.90	0.0744
		F5109	3.96	51.35	0.0771

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<i>Oraristrix brea</i>	900	E9647	6.88	80.84	0.0851
		E9909	6.83	80.14	0.0852
		E9439	6.66	79.07	0.0842
		B9889	7.05	79.34	0.0889

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TIBIOTARSI					Total: 63
Taxon	Body Mass (g)	Catalogue Number	Midshaft Width (mm)	Maximum Length (mm)	Robusticity Index
<i>Asio flammeus</i>	346.5	F7657	4.12	80.18	0.0514
		F7644	4.30	83.63	0.0514
		F7495	4.84	83.84	0.0577
		F7724	3.81	82.16	0.0464
		F7639	4.00	81.23	0.0492
		E8729	4.23	77.18	0.0548
		F7640	4.01	79.24	0.0506
		F7602	4.40	84.61	0.0520
		F7631	3.55	79.64	0.0446
		F7655	3.71	83.52	0.0444
		F7736	4.31	83.79	0.0514
		F7718	4.18	77.89	0.0537
		F7663	4.32	83.56	0.0517
		F7610	3.99	79.75	0.0500
		F7588	4.15	82.70	0.0502
		F7734	4.16	82.80	0.0502
		E8697	4.13	80.80	0.0511
		F7695	4.23	79.79	0.0530
F7583	4.31	83.38	0.0517		
F7702	4.37	86.51	0.0505		
<i>Bubo virginianus</i>	1543	E9970	6.54	119.20	0.0549
		E9560	7.20	127.26	0.0566
		K9533	7.43	127.31	0.0584
		E9434	7.49	125.35	0.0598
		K9515/K9518	7.81	122.84	0.0636
		K3127	7.07	129.52	0.0546
		F7437	6.65	119.30	0.0557
		F7433	7.63	132.60	0.0575
		F28	7.08	123.75	0.0572
		F27	6.95	124.07	0.0560
		E9893	6.99	135.31	0.0517
		E9568	7.30	132.04	0.0553
		E9424	7.58	135.71	0.0559
E9349	7.17	126.79	0.0566		
<i>Tyto alba</i>	294	E1671	5.55	100.20	0.0554
		E9445	4.48	101.98	0.0439
		F7520	4.89	104.88	0.0466
		F7512	4.68	105.07	0.0445

		F7526	6.06	103.72	0.0584
		F6424	5.18	104.42	0.0496
		E9140	4.85	100.00	0.0485
		F6420	4.89	97.54	0.0501
		E8719	4.76	101.07	0.0471
		F8138	5.37	103.03	0.0521
		F8019	2.84	72.12	0.0394
		F8048	3.75	65.22	0.0575
		F8030	3.28	65.61	0.0500
		F8064	3.49	67.21	0.0519
<i>Athene cunicularia</i>	155	F8192	3.27	64.75	0.0505
		F7799	3.08	65.59	0.0470
		F8221	3.09	67.34	0.0459
		F8233	3.15	68.39	0.0461
		F8182	3.49	71.00	0.0492
		F7658	3.25	71.11	0.0457
		F7719	3.64	76.47	0.0476
<i>Asio otus</i>	262	F7680	3.50	74.41	0.0470
		E9005	3.55	77.49	0.0458
		F7691	3.91	72.83	0.0537
		F7673	3.14	77.25	0.0406
		E9932	6.79	120.10	0.0565
<i>Oraristrix brea</i>	900	E9888	6.63	118.82	0.0558
		E9414	6.68	119.26	0.0560
		E9267	5.86	113.19	0.0518

TARSOMETATARSI					Total: 55
Taxon	Body Mass (g)	Catalogue Number	Midshaft Width (mm)	Maximum Length (mm)	Robusticity Index
<i>Asio flammeus</i>	346.5	G4729	4.61	44.58	0.1034
		K1049	5.15	46.22	0.1114
		G4822	4.60	44.30	0.1038
		G4718	4.61	46.56	0.0990
		G4699	4.71	44.18	0.1066
		G4853	4.85	45.53	0.1065
		E8730	5.11	46.51	0.1099
		G4720	4.35	45.10	0.0965
		G4870	4.70	46.72	0.1006
		G4854	4.66	45.23	0.1030
<i>Bubo virginianus</i>	1543	E9426	9.66	65.83	0.1467
		E9668	8.29	64.38	0.1288
		E9652	9.55	66.18	0.1443
		E9907	9.28	65.92	0.1408
		E9989	9.38	68.52	0.1369
		E9665	9.72	65.05	0.1494
		E9926	10.07	65.07	0.1548
		E9353	9.22	67.87	0.1358
		E9637	8.85	66.28	0.1335
		E9787	9.45	64.93	0.1455
<i>Tyto alba</i>	294	G4199	5.19	77.52	0.0670
		G4217	5.06	73.01	0.0693
		G4251	4.57	74.69	0.0612
		G4223	4.67	71.50	0.0653
		G4196	4.41	72.14	0.0611
		G4244	4.58	74.84	0.0612
		G4268	4.94	72.09	0.0685
		G4231	4.69	73.37	0.0639
		G4215	4.83	71.97	0.0671
		G4257	4.46	70.73	0.0631
<i>Athene cunicularia</i>	155	G4462	3.32	46.49	0.0714
		G4581	3.29	49.74	0.0661
		G4668	3.18	47.20	0.0674
		K1444	3.19	50.11	0.0637
		E9513	2.90	49.53	0.0586
		E9036	2.96	48.72	0.0608
		G4552	3.01	48.45	0.0621
		E9496	3.06	47.43	0.0645

		G4579	3.84	49.69	0.0773
		G4639	2.86	46.28	0.0618
		K9275	4.43	38.94	0.1138
		K9274	4.45	43.80	0.1016
		K9297	4.62	38.98	0.1185
		K5272	4.51	43.82	0.1029
<i>Asio otus</i>	262	K9272	4.62	41.17	0.1122
		G4836	4.44	43.19	0.1028
		G4846	4.34	38.54	0.1126
		G4811	3.86	37.91	0.1018
		G4864	4.46	42.28	0.1055
		G4810	4.42	39.86	0.1109
		K9621	7.78	62.72	0.1240
		G3933	7.68	67.39	0.1140
<i>Oraristrix brea</i>	900	E9416	7.44	65.94	0.1128
		E9575	6.84	65.70	0.1041
		G3958	6.63	66.63	0.0995



*Supplementary Table S2. Tring Museum specimens*

<b>Taxon (Catalogue Number)</b>	<b>Body Mass (g)</b>	<b>Element</b>	<b>Midshaft Width (mm)</b>	<b>Maximum Length (mm)</b>	<b>Robusticity Index</b>
<i>Tyto novaehollandiae</i> (S/1954-30-84)	609	Femur	5.72	65.36	0.0875
		Tibiotarsus (+ fibula)	7.59	116.7	0.0650
		Tarsometatarsus	5.16	81.27	0.0635
<i>Tyto alba</i> (S/1986-36-8)	294	Femur	3.95	51.71	0.0764
		Tibiotarsus (+ fibula)	4.12	85.70	0.0481
		Tarsometatarsus	3.74	58.00	0.0645
<i>Tyto capensis</i> (1866-7-3-11)	419	Femur	5.05	57.10	0.0884
		Tibiotarsus (+ fibula)	4.91	95.64	0.0513
		Tarsometatarsus	4.36	67.47	0.0646
<i>Nyctea scandiaca</i> (S/2012-10-1)	2042.5	Femur	8.16	91.00	0.0897
		Tibiotarsus (+ fibula)	7.22	122.5	0.0589
		Tarsometatarsus	9.64	57.69	0.1671
<i>Bubo virginianus</i> (1850-11-14-8)	1543	Femur	6.73	76.36	0.0881
		Tibiotarsus (+ fibula)	5.88	117.1	0.0502
		Tarsometatarsus	6.65	66.04	0.1007
<i>Ketupa ketupu</i> (1850-8-15-20)	1564	Femur	6.86	75.10	0.0913
		Tibiotarsus (+ fibula)	6.79	122.6	0.0554
		Tarsometatarsus	7.57	69.54	0.1089
<i>Strix aluco</i> (S/1992-56-1)	475	Femur	4.59	58.10	0.0790
		Tibiotarsus (+ fibula)	4.28	81.65	0.0524
		Tarsometatarsus	4.96	46.88	0.1058
<i>Athene cunicularia</i> (S/2014-14-2)	155	Femur	3.30	37.90	0.0871
		Tibiotarsus (+ fibula)	3.72	61.97	0.0600
		Tarsometatarsus	2.95	43.23	0.0682
<i>Asio flammeus</i> (1930-3-24-337)	346.5	Femur	3.97	54.06	0.0734
		Tibiotarsus (+ fibula)	3.97	77.46	0.0513
		Tarsometatarsus	4.63	42.91	0.1079
<i>Asio otus</i> (1930-3-24-331)	262	Femur	4.05	50.72	0.0799
		Tibiotarsus (+ fibula)	4.03	74.71	0.0539
		Tarsometatarsus	4.44	37.16	0.1195