

ELECTRONIC APPENDIX

This is the Electronic Appendix to the article

**Scaling of mammalian ethmoid bones can predict
olfactory organ size and performance**

by

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Electronic appendices are refereed with the text; however, no attempt is made
to impose a uniform editorial style on the electronic appendices.

Appendix A

	location of specimen	catalogue number	skull area (mm ²)	log skull area (mm ²)	ethmoid area (mm ²)	log ethmoid area (mm ²)
MONOTREMATA						
Tachyglossidae						
<i>Tachyglossus aculeatus</i>	FMNH	562/1960	4302	3,634	98	1,991
DIDELPHIMORPHIA						
Didelphidae						
<i>Didelphis virginiana</i>	FMNH	1.802	3244	3,511	122	2,086
DASYUROMORPHIA						
Dasyuridae						
<i>Phascogale tapoatafa</i>	FMNH	776/1960	1188	3,075	29	1,462
DIPROTODONTIA						
Petauridae						
<i>Petauroides volans</i>	FMNH	95	1960	3,292	36	1,556
Phascolarctidae						
<i>Phascolarctos cinereus</i>	FMNH	843/1960	8118	3,909	100	2,000
Macropodidae						
<i>Wallabia bicolor</i>	MF	22a MF	4670	3,669	153	2,185
<i>Macropus rufogriseus</i>	FMNH	1.978	6011	3,779	171	2,233
<i>Macropus rufogriseus</i>	FMNH	1.764/1.763	6283	3,798	203	2,307
<i>Macropus rufogriseus</i>	FMNH	1.462	7050	3,848	196	2,292
<i>Macropus rufogriseus</i>		average	6448	3,809	190	2,279
<i>Macropus giganteus</i>	MF	21a MF	7531	3,877	196	2,292
XENARTHRA						
Megalonychidae						
<i>Choloepus didactylus</i>	FMNH	397	3435	3,536	298	2,474
Myrmecophagidae						
<i>Myrmecophaga tridactyla</i>	SMNH	A591139	20687	4,316	900	2,954
<i>Cyclopes didactylus</i>	FMNH	790/1960	803	2,905	28,2	1,450
Dasypodidae						
<i>Zaedyus pichiy</i>	FMNH	104	2460	3,391	193	2,286
<i>Dasypus novemcinctus</i>	FMNH	161/1976	2417	3,383	334	2,524
INSECTIVORA						
Erinaceidae						
<i>Erinaceus concolor</i>	FMNH	6525	1749	3,243	114	2,057
<i>Erinaceus europaeus</i>	FMNH	5668	1496	3,175	105	2,021
<i>Erinaceus europaeus</i>	FMNH	38.799	1666	3,222	105	2,021
<i>Erinaceus europaeus</i>	FMNH	38.807	1413	3,150	98	1,991
<i>Erinaceus europaeus</i>	FMNH	5674	1224	3,088	78	1,892
<i>Erinaceus europaeus</i>	FMNH	5667	1491	3,173	96	1,982
<i>Erinaceus europaeus</i>	FMNH	38.876	1544	3,189	97	1,987
<i>Erinaceus europaeus</i>	FMNH	38.721	1266	3,102	85	1,929
<i>Erinaceus europaeus</i>	FMNH	5682	1349	3,130	81	1,908
<i>Erinaceus europaeus</i>	FMNH	39.422	1612	3,207	118	2,072
<i>Erinaceus europaeus</i>	FMNH	33.117	1505	3,178	85	1,929
<i>Erinaceus europaeus</i>	FMNH	38.802	1312	3,118	88	1,944
<i>Erinaceus europaeus</i>		average	1444	3,160	94,2	1,974
Tenrecidae						
<i>Micropotamogale ruwenzorii</i>	FMNH	774/1960	1125	3,051	58	1,763

Soricidae						
<i>Sorex araneus</i>	FMNH	36.115	186	2,270	12,5	1,097
<i>Neomys fodiens</i>	FMNH	35.492	236	2,373	12,1	1,083
Talpidae						
<i>Talpa europaea</i>	FMNH	21.746	468	2,670	30	1,477
<i>Talpa europaea</i>	FMNH	33.874	519	2,715	27	1,431
<i>Talpa europaea</i>		average	494	2,694	28,5	1,455
<i>Scalopus aquaticus</i>	FMNH	1.489	635	2,803	25	1,398
<i>Scalopus aquaticus</i>	FMNH	1.488	579	2,763	30	1,477
<i>Scalopus aquaticus</i>		average	607	2,783	27,5	1,439
CHIROPTERA						
Pteropodidae						
<i>Pteropus poliocephalus</i>	FMNH	136	1721	3,236	43	1,633
Phyllostomidae						
<i>Desmodus rotundus</i>	FMNH	838	277	2,442	14,9	1,173
<i>Phyllostomus discolor</i>	FMNH	820	438	2,641	12,2	1,086
<i>Glossophaga soricina</i>	FMNH	825	175	2,243	7,8	0,892
<i>Glossophaga longirostris</i>	FMNH	826	209	2,320	7,8	0,892
<i>Carollia perspicillata</i>	FMNH	823	245	2,389	13,3	1,124
<i>Sturnira ludovici</i>	FMNH	839	293	2,467	20	1,301
<i>Uroderma magnirostrum</i>	FMNH	829	247	2,393	12,4	1,093
<i>Artibeus jamaicensis</i>	FMNH	818	367	2,565	17,3	1,238
Vespertilionidae						
<i>Myotis myotis</i>	FMNH	728	263	2,420	8,2	0,914
<i>Myotis blythii</i>	FMNH	1321	225	2,352	7	0,845
<i>Myotis daubentoni</i>	FMNH	5407	119	2,076	4,6	0,663
<i>Nyctalus noctula</i>	FMNH	1609	220	2,342	7,4	0,869
<i>Eptesicus nilssoni</i>	FMNH	5453	124	2,093	7,1	0,851
<i>Eptesicus nilssoni</i>	FMNH	5925	129	2,111	4,9	0,690
<i>Eptesicus nilssoni</i>		average	127	2,104	6	0,778
<i>Plecotus auritus</i>	FMNH	2	152	2,182	5,9	0,771
<i>Miniopterus schreibersi</i>	FMNH	1.223	140	2,146	6,5	0,813
Molossidae						
<i>Molossus molossus</i>	FMNH	830	166	2,220	6,6	0,820
PRIMATES						
Lorisidae						
<i>Perodicticus potto</i>	FMNH	1.563	2030	3,307	45	1,653
<i>Perodicticus potto</i>	FMNH	1.564	2031	3,308	38	1,580
<i>Perodicticus potto</i>		average	2031	3,308	41,5	1,618
Cheirogaleidae						
<i>Cheirogaleus major</i>	FMNH	784/1960	734	2,866	17,6	1,246
<i>Phaner furcifer</i>	FMNH	815/1960	1252	3,098	23,7	1,375
Lemuridae						
<i>Varecia variegata</i>	FMNH	39/1960	3418	3,534	59	1,771
<i>Eulemur macaco</i>	FMNH	785/1960	3290	3,517	78	1,892
Indriidae						
<i>Avahi laniger</i>	FMNH	844/1960	1430	3,155	36	1,556
Cebidae						
<i>Brachyteles arachnoides</i>	FMNH	30/1960	5270	3,722	24,3	1,386
<i>Cebus apella</i>	FMNH	19.95	4068	3,609	14,5	1,161
Callitrichidae						

<i>Saguinus midas</i>	FMNH	840/1960	1090	3,037	1,94	0,288
Cercopithecidae						
<i>Cercopithecus mitis</i>	FMNH	43/1960	4231	3,626	16,1	1,207
<i>Cercopithecus diana</i>	FMNH	19.97	5330	3,727	20,6	1,314
<i>Macaca sylvanus</i>	FMNH	861/1960	7499	3,875	27,2	1,435
<i>Colobus guereza</i>	FMNH	221/1960	7132	3,853	11	1,041
Hominidae						
<i>Pongo pygmaeus</i>	FMNH	509/1960	30149	4,479	75	1,875
<i>Gorilla gorilla</i>	FMNH	1.416	25946	4,414	135	2,130
<i>Homo sapiens</i>	AUHU	I	17302	4,238	152	2,182
<i>Homo sapiens</i>	AUHU	II	17565	4,245	136	2,134
<i>Homo sapiens</i>	FMNH	47	17988	4,255	127	2,104
<i>Homo sapiens</i>	FMNH	6	15218	4,182	113	2,053
Homo sapiens		average	17018	4,231	132	2,121
CARNIVORA						
Canidae						
<i>Vulpes vulpes</i>	FMNH	39.675	6319	3,801	435	2,638
<i>Vulpes vulpes</i>	FMNH	6366	7131	3,804	558	2,747
<i>Vulpes vulpes</i>	FMNH	5710	7603	3,881	445	2,648
<i>Vulpes vulpes</i>	HP	HP	6669	3,824	607	2,783
Vulpes vulpes		average	6931	3,841	511	2,708
<i>Urocyon cinereoargenteus</i>	FMNH	1.494	5025	3,701	193	2,286
<i>Urocyon cinereoargenteus</i>	FMNH	1.493	5061	3,704	224	2,350
<i>Urocyon cinereoargenteus</i>	FMNH	1.800	5187	3,715	218	2,338
<i>Urocyon cinereoargenteus</i>	FMNH	1.801	4603	3,663	191	2,281
Urocyon cinereoargenteus		average	4969	3,696	207	2,316
<i>Canis latrans</i>	FMNH	1.796	12160	4,085	570	2,756
<i>Canis lupus</i>	FMNH	39.569	16787	4,225	588	2,769
<i>Canis lupus</i>	FMNH	34.651	19911	4,299	692	2,840
Canis lupus		average	18349	4,264	640	2,806
<i>Canis familiaris</i>	FMNH	260/1960	14055	4,148	578	2,762
<i>Lycaon pictus</i>	FMNH	1.103	15126	4,180	604	2,781
Ursidae						
<i>Ursus arctos</i>	FMNH	op.kok.	39426	4,596	1004	3,002
Procyonidae						
<i>Ailurus fulgens</i>	FMNH	1.940	4875	3,688	194	2,288
<i>Ailurus fulgens</i>	FMNH	1.537	5721	3,757	154	2,188
<i>Ailurus fulgens</i>	FMNH	1.813	5358	3,729	158	2,199
Ailurus fulgens		average	5318	3,726	169	2,228
<i>Bassariscus astutus</i>	FMNH	1.625	2753	3,440	133	2,124
<i>Procyon lotor</i>	FMNH	996/1962	6937	3,841	219	2,340
<i>Procyon lotor</i>	FMNH	1.793	6351	3,803	355	2,550
<i>Procyon lotor</i>	FMNH	1.794	6711	3,827	248	2,394
<i>Procyon lotor</i>	FMNH	1.736	5065	3,705	188	2,274
<i>Procyon lotor</i>	FMNH	1.795	5913	3,772	228	2,358
Procyon lotor		average	6195	3,792	248	2,394
<i>Nasua nasua</i>	FMNH	1.687	6465	3,811	290	2,462
Mustelidae						
<i>Mustela erminea</i>	FMNH	2706	786	2,895	49,2	1,692
<i>Mustela erminea</i>	FMNH	4010	1052	3,022	50,1	1,700
<i>Mustela erminea</i>	HP	HP	1010	3,004	54,9	1,740

<i>Mustela erminea</i>		average	949	2,977	51,4	1,711
<i>Mustela nivalis</i>	FMNH	9401	387	2,588	19,5	1,290
<i>Mustela nivalis</i>	FMNH	9402	416	2,619	18,4	1,265
<i>Mustela nivalis</i>	FMNH	9411	491	2,691	23,8	1,377
<i>Mustela nivalis</i>		average	431	2,634	20,6	1,314
<i>Mustela vison</i>	FMNH	33.987	1790	3,253	57,3	1,758
<i>Mustela vison</i>	FMNH	33.999	2534	3,404	76,5	1,884
<i>Mustela vison</i>	FMNH	33.998	2330	3,367	73,9	1,869
<i>Mustela vison</i>	HP	I HP	2163	3,335	75,6	1,879
<i>Mustela vison</i>	HP	II HP	2620	3,418	64,8	1,812
<i>Mustela vison</i>		average	2287	3,359	69,6	1,843
<i>Martes martes</i>	FMNH	39.423	2805	3,448	172	2,236
<i>Martes martes</i>	FMNH	39.458	2787	3,445	173	2,238
<i>Martes martes</i>	FMNH	31.539	2575	3,411	166	2,220
<i>Martes martes</i>	FMNH	31.540	2801	3,447	151	2,179
<i>Martes martes</i>	FMNH	1469	3761	3,575	193	2,286
<i>Martes martes</i>	FMNH	1478	3541	3,549	184	2,265
<i>Martes martes</i>	FMNH	1458	3701	3,568	181	2,258
<i>Martes martes</i>	FMNH	1474	3687	3,567	182	2,260
<i>Martes martes</i>	FMNH	1473	3574	3,553	176	2,246
<i>Martes martes</i>	HP	I HP	3392	3,530	220	2,342
<i>Martes martes</i>	HP	II HP	2365	3,374	184	2,265
<i>Martes martes</i>		average	3181	3,503	180	2,255
<i>Gulo gulo</i>	FMNH	6396	11268	4,052	350	2,544
<i>Taxidea taxus</i>	FMNH	1569	10623	4,026	388	2,589
<i>Meles meles</i>	FMNH	4934	7674	3,885	360	2,556
<i>Lutra lutra</i>	FMNH	3934	6278	3,798	117	2,068
<i>Lutra lutra</i>	FMNH	31.493	7180	3,856	102	2,009
<i>Lutra lutra</i>		average	6729	3,828	110	2,041
<i>Enhydra lutris</i>	FMNH	992	13479	4,130	272	2,435
Mephitidae						
<i>Mephitis mephitis</i>	FMNH	1.528	3196	3,505	255	2,407
<i>Mephitis mephitis</i>	FMNH	157/1976	2864	3,457	238	2,377
<i>Mephitis mephitis</i>	FMNH	1799	2386	3,378	211	2,324
<i>Mephitis mephitis</i>		average	2815	3,449	235	2,371
Otariidae						
<i>Callorhinus ursinus</i>	FMNH	288	19176	4,283	536	2,729
<i>Callorhinus ursinus</i>	FMNH	260	37722	4,577	476	2,678
<i>Callorhinus ursinus</i>		average	28449	4,454	506	2,704
<i>Zalophus californianus</i>	FMNH	1.732	26402	4,422	448	2,651
<i>Zalophus californianus</i>	FMNH	35/1976	24524	4,390	646	2,810
<i>Zalophus californianus</i>		average	25463	4,406	547	2,738
Phocidae						
<i>Cystophora cristata</i>	FMNH	254	39780	4,600	508	2,706
<i>Halichoerus grypus</i>	FMNH	2311	27086	4,433	402	2,604
<i>Phoca hispida</i>	FMNH	2284	17005	4,231	124	2,093
<i>Phoca hispida</i>	FMNH	2289	16108	4,207	195	2,290
<i>Phoca hispida</i>		average	16557	4,219	159	2,201
Herpestidae						
<i>Ichneumia albicauda</i>	FMNH	1.636	3488	3,543	212	2,326
Felidae						

<i>Felis silvestris</i>	FMNH	1.780	4055	3,608	120	2,079
<i>Felis catus</i>	FMNH	18.263	4344	3,638	100	2,000
<i>Felis catus</i>	FMNH	1065/1961	3749	3,574	79	1,898
<i>Felis catus</i>		average	4047	3,607	89,5	1,952
<i>Lynx lynx</i>	FMNH	39.735	8031	3,905	201	2,303
<i>Lynx lynx</i>	FMNH	31.929	8161	3,912	217	2,336
<i>Lynx lynx</i>	FMNH	39.386	9015	3,955	137	2,137
<i>Lynx lynx</i>	FMNH	6749	9857	3,994	222	2,346
<i>Lynx lynx</i>		average	8766	3,943	194	2,288
<i>Leptailurus serval</i>	FMNH	1.361	6097	3,785	180	2,255
<i>Prionailurus viverrinus</i>	FMNH	243	4899	3,690	60,3	1,780
<i>Puma concolor</i>	FMNH	1007	15250	4,183	347	2,540
<i>Acinonyx jubatus</i>	FMNH	1102	11424	4,058	133	2,124
<i>Acinonyx jubatus</i>	FMNH	31	11408	4,057	177	2,248
<i>Acinonyx jubatus</i>	FMNH	14/1960	11418	4,058	157	2,196
<i>Acinonyx jubatus</i>		average	11417	4,059	156	2,193
<i>Uncia uncia</i>	FMNH	356/1561	14434	4,159	239	2,378
<i>Uncia uncia</i>	FMNH	1.833	14486	4,161	256	2,408
<i>Uncia uncia</i>		average	16660	4,160	248	2,394
<i>Panthera leo</i>	FMNH	1.788	32176	4,508	644	2,809
<i>Panthera leo</i>	FMNH	1.787	37604	4,575	604	2,781
<i>Panthera leo</i>		average	34890	4,543	624	2,795
TUBULIDENTATA						
Orycteropidae						
<i>Orycteropus afer</i>	FMNH	1712	15922	4,202	1760	3,246
SIRENIA						
Dugongidae						
<i>Dugong dugon</i>	FMNH	931/1960	51570	4,712	158	2,199
PROBOSCIDEA						
Elephantidae						
<i>Elephas maximus</i>	SMNH	A600572	306160	5,486	4840	3,685
PERISSODACTYLA						
Equidae						
<i>Equus burchelli</i>	FMNH	2.021	70447	4,848	1408	3,149
Tapiridae						
<i>Tapirus terrestris</i>	FMNH	852/1969	37856	4,578	1442	3,159
Rhinocerotidae						
<i>Diceros bicornis</i>	FMNH	647/1960	94392	4,975	2120	3,326
ARTIODACTYLA						
Suidae						
<i>Sus scrofa</i>	FMNH	2074	58144	4,765	1940	3,288
<i>Babryrousa babyrussa</i>	FMNH	501/1960	34666	4,540	928	2,968
<i>Babryrousa babyrussa</i>	FMNH	502/1960	34116	4,507	824	2,916
<i>Babryrousa babyrussa</i>		average	34391	4,536	876	2,943
Hippopotamidae						
<i>Hippopotamus amphibius</i>	FMNH	704/1960	187050	5,272	1940	3,288
Camelidae						
<i>Lama guanicoe</i>	FMNH	180/1960	34275	4,535	440	2,643
<i>Lama guanicoe</i>	FMNH	1478	27078	4,433	428	2,631
<i>Lama guanicoe</i>		average	30677	4,487	434	2,637
Moschidae						

<i>Moschus moschiferus</i>	FMNH	163	6178	3,791	316	2,500
<i>Moschus moschiferus</i>	FMNH	158	6575	3,818	358	2,554
<i>Moschus moschiferus</i>		average	6377	3,805	337	2,528
Cervidae						
<i>Muntiacus muntjak</i>	FMNH	151	11279	4,052	470	2,672
<i>Alces alces</i>	FMNH	I HP	76700	4,885	1186	3,074
<i>Alces alces</i>	FMNH	II HP	75796	4,880	1388	3,142
<i>Alces alces</i>		average	76248	4,882	1287	3,110
<i>Rangifer tarandus</i>	FMNH	HP	49362	4,693	1450	3,161
<i>Odocoileus virginianus</i>	FMNH	I HP	28452	4,454	1118	3,048
<i>Odocoileus virginianus</i>	FMNH	II HP	31610	4,500	1224	3,088
<i>Odocoileus virginianus</i>		average	30031	4,478	1171	3,069
<i>Capreolus capreolus</i>	FMNH	1.779	10391	4,017	588	2,769
Antilocapridae						
<i>Antilocapra americana</i>	FMNH	1.304	21445	4,331	484	2,685
Bovidae						
<i>Tragelaphus strepsiceros</i>	FMNH	HP	55800	4,747	1082	3,034
<i>Tragelaphus imberbis</i>	FMNH	929	32733	4,515	1028	3,012
<i>Boselaphus tragocamelus</i>	FMNH	1.610	44791	4,651	1386	3,142
<i>Sylvicapra grimmia</i>	FMNH	1092	7154	3,855	418	2,621
<i>Kobus leche</i>	FMNH	1100	29213	4,466	568	2,754
<i>Damaliscus pygargus</i>	FMNH	1.357	29924	4,476	784	2,894
<i>Oreotragus oreotragus</i>	FMNH	674	6265	3,797	226	2,354
<i>Ourebia ourebi</i>	FMNH	599/1960	8370	3,923	360	2,556
<i>Madoqua kirki</i>	FMNH	672	5048	3,703	160	2,204
<i>Antilope cervicapra</i>	FMNH	1.805	15798	4,199	490	2,690
<i>Gazella thomsonii</i>	FMNH	652	12933	4,112	364	2,561
<i>Gazella subgutturosa</i>	FMNH	1020	11706	4,068	376	2,575
<i>Rupicapra rupicapra</i>	FMNH	1394	13242	4,122	456	2,659
<i>Ovis aries</i>	FMNH	HP	17443	4,242	488	2,688
<i>Ovis dalli</i>	FMNH	1.445	21221	4,327	546	2,737
<i>Ovis dalli</i>	FMNH	1.444	26306	4,420	600	2,778
<i>Ovis dalli</i>		average	23764	4,376	573	2,758
PHOLIDOTA						
Manidae						
<i>Manis javanica</i>	FMNH	834/1960	3654	3,563	268	2,428
RODENTIA						
Aplodontidae						
<i>Aplodontia rufa</i>	FMNH	1.483	3165	3,500	25,7	1,410
<i>Aplodontia rufa</i>	FMNH	1.485	3442	3,537	25,5	1,407
<i>Aplodontia rufa</i>	FMNH	1001/1960	3265	3,514	28,5	1,455
<i>Aplodontia rufa</i>		average	3291	3,517	26,6	1,425
Sciuridae						
<i>Spermophilus fulvus</i>	FMNH	863	1425	3,154	19,8	1,297
<i>Sciurus vulgaris</i>	FMNH	5506	1056	3,024	47,9	1,680
<i>Sciurus vulgaris</i>	FMNH	6596	1088	3,037	57,7	1,761
<i>Sciurus vulgaris</i>		average	1072	3,030	52,8	1,723
<i>Sciurus griseus</i>	FMNH	1.534	1795	3,254	84,9	1,929
<i>Pteromys volans</i>	FMNH	34.373	715	2,854	15	1,176
Castoridae						
<i>Castor fiber</i>	FMNH	39.447	6642	3,822	152	2,182

<i>Castor fiber</i>	FMNH	39.698	8043	3,905	130	2,114
<i>Castor fiber</i>	FMNH	33.944	8363	3,922	136	2,134
<i>Castor fiber</i>		average	7683	3,886	139	2,143
Geomyidae						
<i>Geomys bursarius</i>	FMNH	1.486	1059	3,025	15,6	1,193
Heteromyidae						
<i>Dipodomys ordii</i>	FMNH	1.491	781	2,893	28,1	1,449
<i>Dipodomys ordii</i>	FMNH	1.492	778	2,891	33	1,519
<i>Dipodomys ordii</i>		average	780	2,892	30,6	1,486
Muridae						
<i>Neotoma floridana</i>	FMNH	1520	772	2,888	21,6	1,334
<i>Peromyscus maniculatus</i>	FMNH	1.514	262	2,418	13	1,114
<i>Peromyscus maniculatus</i>	FMNH	1.516	283	2,452	13,3	1,124
<i>Peromyscus maniculatus</i>		average	273	2,436	13,2	1,121
<i>Sigmodon hispidus</i>	FMNH	1.524	652	2,814	19,3	1,286
<i>Sigmodon hispidus</i>	FMNH	1.527	505	2,703	12,8	1,107
<i>Sigmodon hispidus</i>		average	579	2,763	16,1	1,207
<i>Clethrionomys glareolus</i>	FMNH	38.641	250	2,398	9,1	0,959
<i>Clethrionomys glareolus</i>	FMNH	38.618	253	2,403	10,6	1,025
<i>Clethrionomys glareolus</i>	FMNH	38.609	262	2,418	9,7	0,987
<i>Clethrionomys glareolus</i>	FMNH	38.616	246	2,391	8,85	0,947
<i>Clethrionomys glareolus</i>	FMNH	38.642	242	2,384	9,4	0,973
<i>Clethrionomys glareolus</i>	FMNH	38.615	257	2,410	9,9	0,996
<i>Clethrionomys glareolus</i>	FMNH	38.644	233	2,367	7,55	0,878
<i>Clethrionomys glareolus</i>	FMNH	38.637	268	2,428	8,5	0,929
<i>Clethrionomys glareolus</i>	FMNH	38.629	254	2,405	9	0,954
<i>Clethrionomys glareolus</i>	FMNH	38.630	258	2,412	8,4	0,924
<i>Clethrionomys glareolus</i>	FMNH	38.635	249	2,396	8,75	0,942
<i>Clethrionomys glareolus</i>	FMNH	38.628	243	2,386	9,1	0,959
<i>Clethrionomys glareolus</i>	HP	HP	249	2,396	9,95	0,998
<i>Clethrionomys glareolus</i>		average	251	2,400	9,14	0,961
<i>Arvicola terrestris</i>	FMNH	6279	625	2,796	14,4	1,158
<i>Arvicola terrestris</i>	FMNH	5332	673	2,828	13,3	1,124
<i>Arvicola terrestris</i>		average	649	2,812	13,9	1,143
<i>Microtus oeconomus</i>		7674	311	2,493	9	0,954
<i>Ondatra zibethica</i>	FMNH	34.402	1846	3,266	22,6	1,354
<i>Ondatra zibethica</i>	FMNH	34.398	1734	3,239	27	1,431
<i>Ondatra zibethica</i>	FMNH	39.346	1756	3,245	18,5	1,267
<i>Ondatra zibethica</i>	FMNH	39.348	1491	3,173	20	1,301
<i>Ondatra zibethica</i>	FMNH	39.349	1674	3,224	25,3	1,403
<i>Ondatra zibethica</i>	FMNH	39.344	1580	3,199	28,7	1,458
<i>Ondatra zibethica</i>	FMNH	39.345	2009	3,303	30,4	1,483
<i>Ondatra zibethica</i>		average	1727	3,237	24,6	1,391
<i>Lemmus lemmus</i>	FMNH	8935	431	2,634	8,65	0,937
<i>Lemmus lemmus</i>	FMNH	9021	468	2,670	9	0,954
<i>Lemmus lemmus</i>		average	450	2,653	8,83	0,946
<i>Apodemus flavicollis</i>	FMNH	13.270	266	2,425	8	0,903
<i>Apodemus flavicollis</i>	FMNH	5336	327	2,515	8,8	0,944
<i>Apodemus flavicollis</i>		average	297	2,473	8,4	0,924
<i>Rattus norvegicus</i>	FMNH	5086	671	2,827	19,6	1,292
<i>Rattus norvegicus</i>	FMNH	31.803	722	2,859	22,5	1,352

<i>Rattus norvegicus</i>		average	697	2,843	21,1	1,324
<i>Mus musculus</i>	FMNH	21.470	177	2,248	7,9	0,898
<i>Mus musculus</i>	FMNH	6513	198	2,297	8	0,903
<i>Mus musculus</i>		average	188	2,274	7,95	0,900
Gliridae						
<i>Glis glis</i>	FMNH	713	594	2,774	14,6	1,164
<i>Eliomys quercinus</i>	FMNH	6731	534	2,728	16,5	1,217
Erethizontidae						
<i>Erethizon dorsatum</i>	FMNH	1.565	3874	3,588	152	2,182
Chinchillidae						
<i>Chinchilla lanigera</i>	FMNH	no3/1976	1691	3,228	23,3	1,367
Caviidae						
<i>Cavia porcellus</i>	FMNH	898a/1960	1252	3,098	22,8	1,358
Agoutidae						
<i>Agouti paca</i>	FMNH	199/1960	7325	3,865	282	2,450
Myocastoridae						
<i>Myocastor coypus</i>	FMNH	1.999	5208	3,717	80	1,903
<i>Myocastor coypus</i>	FMNH	688/1960	4955	3,695	74	1,869
<i>Myocastor coypus</i>		average	5082	3,706	77	1,886
LAGOMORPHA						
Leporidae						
<i>Oryctolagus cuniculus</i>	FMNH	1024/1961	2679	3,428	58	1,763
<i>Oryctolagus cuniculus</i>	FMNH	1034/1961	3078	3,488	78	1,892
<i>Oryctolagus cuniculus</i>		average	2879	3,459	68	1,833
<i>Lepus europaeus</i>	FMNH	34.442	3404	3,532	90,5	1,957

Taxonomical affinities, physical location, catalogue numbers, skull and endocast measurements of the material. Species averages in bold.

Abbreviations:

FMNH = Finnish Museum of Natural History, Helsinki

SMNH = Swedish Museum of Natural History, Stockholm

AUHU = Institute of Biomedicine, Anatomy Unit, Helsinki University

MF = private collection of Mikael Fortelius

HP = private collection of Henry Pihlström