

Table S1: Species and raw data of biological parameters used in the analysis (data references see Material and Methods). AT, activity period in hours during daytime (circadian activity); BM, body mass (g); EO, period of postnatal eye opening in days (eye opening); FP, mean number of female sexual partners during a ten years period (female partners); FT, food type (Table 5); GP, gestation period in days; GS, group size; LS, litter size; MA, maximum lifespan in years; MP, mean number of male sexual partners during a ten years period (male partners); NP, nursing period in days; PY, frequency of pregnancies (pregnancies per year); SM, sexual maturity in days.

Species	AT	EO	FP	FT	GS	GP	LS	MA	MP	NP	PY	SM
<i>Ammotragus lervia</i>	0	0	19.0	6	20	158	1.2	4380	1	120	1.00	730
<i>Antilope cervicapra</i>	12	0	27.0	7	28	120	1.0	6570	1	60	1.00	730
<i>Axis axis</i>	6	0	5.0	8	10	218	2.0	7300	5	180	1.00	383
<i>Bos grunniens</i>	12	0	7.0	8	8	255	1.0	9125	1	180	1.00	685
<i>Bos taurus taurus</i>	12	0	7.0	6	8	280	1.0	7300	1	300	1.00	545
<i>Capra hircus</i>	12	0	19.0	7	20	151	2.0	5475	1	300	0.67	288
<i>Cephalophus dorsalis</i>	0	0	1.0	10	2	120	1.0	2190	1	120	2.00	457
<i>Cervus canadensis</i>	3	0	19.0	8	20	255	1.0	5475	1	180	1.00	867
<i>Cervus elephus</i>	6	0	19.0	8	20	235	1.0	5475	1	180	1.00	785

DATA SUPPLEMENT, page 2 of 10

<i>Cervus unicolor</i>	0	0	4.0	8	5	246	1.1	8213	1	365	1.00	913
<i>Choeropsis liberiensis</i>	0	0	1.0	7	1	205	1.0	13870	1	280	0.13	1593
<i>Dama dama</i>	12	0	29.0	8	30	240	1.0	6753	1	365	1.00	959
<i>Hippopotamus amphibius</i>	6	0	10.0	7	20	240	1.0	12775	10	365	1.00	3240
<i>Lama glama</i>	12	0	19.0	7	20	330	1.0	9125	1	120	1.00	730
<i>Muntiacus muntjac</i>	6	0	10.0	4	1	183	1.1	6205	10	120	1.00	360
<i>Ovis aries</i>	12	0	30.0	7	300	150	2.4	5110	1	180	1.00	730
<i>Rangifer tarandus</i>	12	0	10.0	8	55	225	1.0	4928	1	45	1.00	730
<i>Sus scrofa</i>	6	0	19.0	4	20	120	4.0	2738	1	105	1.00	500
<i>Sus scrofa domestica</i>	12	0	19.0	4	20	115	8.0	4380	1	105	2.00	500
<i>Taurotragus oryx</i>	3	0	10.0	8	20	255	1.0	8213	10	150	1.00	1278
<i>Vicugna vicugna</i>	12	0	7.0	7	8	300	1.1	8760	1	300	1.00	1826
<i>Ailuropoda melanoleuca</i>	6	179	10.0	6	1	143	1.5	10950	10	165	1.00	2373
<i>Ailurus fulgens</i>	0	26	1.0	10	2	120	1.5	4928	1	158	1.00	540
<i>Callorhinus ursinus</i>	0	0	17.5	2	1	254	1.0	5753	1	105	1.00	1552
<i>Canis latrans</i>	3	12	1.0	3	2	62	7.5	7939	1	63	1.00	645

DATA SUPPLEMENT, page 3 of 10

<i>Canis lupus</i>	6	14	1.0	3	7	63	8.0	5475	1	63	1.00	645
<i>Canis lupus familiaris</i>	12	14	1.0	3	2	63	4.0	3285	1	42	2.00	270
<i>Hyaena hyaena</i>	0	7	10.0	4	1	90	4.5	8760	10		2.00	365
<i>Leptonychotes weddellii</i>	12	0	10.0	2	1	310	1.0	7300	1	46	1.00	2191
<i>Lynx canadensis</i>	0	11	10.0	1	1	60	2.5	4015	10	150	1.00	810
<i>Mungos mungo</i>	12	10	7.5	5	15	60	3.2	3011	8	730	0.25	730
<i>Otocyon megalotis</i>	0	5	1.0	3	2	65	4.0	1825	1	105	1.00	365
<i>Pagophilus groenlandicus</i>	12	0	10.0	2	1	240	1.0	10950	10	14	1.00	2008
<i>Panthera leo</i>	3	3	12.0	1	13	108	3.0	6205	1	195	0.55	1278
<i>Panthera pardus</i>	6	9	10.0	1	1	92	2.5	8395	10	90	0.50	1095
<i>Panthera tigris</i>	6	9	10.0	1	1	104	3.0	9490	10	135	0.25	1461
<i>Potos flavus</i>	0	17	1.0	4	3	77	1.2	4745	1	56	1.00	685
<i>Procyon lotor</i>	0	21	10.0	4	20	63	4.0	1095	10	120	1.00	457
<i>Suricata suricatta</i>	12	13	1.0	5	30	74	3.0	4563	1	730	1.00	365
<i>Taxidea taxus</i>	0	35	10.0	3	1	60	2.5	5110	10	42	1.00	456
<i>Thalarctos maritimus</i>	12	34	10.0	3	1	240	1.8	10038	10	730	1.00	2008

DATA SUPPLEMENT, page 4 of 10

<i>Urocyon littoralis</i>	6	14	1.0	3	2	63	3.7	2920	1	56	1.00	300
<i>Ursus arctos</i>	1	32	10.0	4	1	219	2.3	9125	10	730	0.33	1734
<i>Vulpes vulpes</i>	6	14	1.0	3	1	52	4.0	4380	1	42	1.00	300
<i>Zalophus californianus</i>	12	0	16.0	2	17	343	1.0	7300	1	270	1.00	1917
<i>Balaenoptera musculus</i>	6	0	10.0	2	1	330	1.0	18250	10	195	0.50	2190
<i>Eschrichtius robustus</i>	6	0	10.0	2	1	398	1.0	18250	10	225	0.50	2920
<i>Megaptera novaeangliae</i>	6	0	3.5	2	7	345	1.0	12775	4	150	0.50	1643
<i>Orcinus orca</i>	12	0	13.3	2	27	495	1.0	14600	13	540	0.22	3559
<i>Phocoena phocoena</i>	6	0	3.8	2	8	270	1.0	3285	4	225	0.66	1096
<i>Physeter macrocephalus</i>	6	0	16.5	2	18	450	1.0	18250	1	730	0.20	2920
<i>Pseudorca crassidens</i>	6	0	9.0	2	18	405	1.0	21900	9	630	0.14	3376
<i>Stenella attenuata</i>	12	0	50.0	2	100	341	1.0	16425	50	600	0.40	4289
<i>Tursiops truncatus</i>	12	0	30.0	2	60	360	1.0	10950	30	540	0.20	3833
<i>Artibeus jamaicensis</i>	0	4	7.0	9	8	75	1.0	3650	1	60	2.00	408
<i>Desmodus rotundus</i>	0	4	30.0	1	60	213	1.0	4836	30	270	2.00	365
<i>Nyctalus noctula</i>	1	4	10.0	5	100	75	2.0	3650	1	60	1.00	228

DATA SUPPLEMENT, page 5 of 10

<i>Plecotus auritus</i>	0	4	6.0	5	8	75	1.0	3650	1	42	1.00	365
<i>Dendrohyrax arboreus</i>	0	0	1.0	6	30	225	1.5	4471	1	90	1.00	510
<i>Procavia capensis</i>	12	0	40.0	10	80	225	3.0	4015	40	120	1.00	510
<i>Lepus europaeus</i>	1	0	10.0	10	1	41	2.5	1825	10	28	4.00	195
<i>Oryctolagus cuniculus</i>	3		15.0	10	30	31	5.0	3285	15	28	6.00	90
<i>Erinaceus europaeus</i>	1	16	10.0	5	1	34	4.6	1095	10	42	1.00	270
<i>Elephantulus myurus</i>	12	13	1.0	5	2	46	1.5	548	1	18	3.50	45
<i>Elephantulus intufi</i>	12	13	1.0	5	2	51	1.5	548	1	25	3.50	50
<i>Equus asinus</i>	12	0	11.5	7	13	330	1.0	8030	1	210	1.00	1004
<i>Equus caballus</i>	12	0	11.5	7	13	330	1.0	10950	1	210	0.50	594
<i>Equus quagga granti</i>	12	0	11.5	7	13	371	1.0	8395	1	210	0.50	1004
<i>Rhinoceros bicornis</i>	12	0	10.0	6	1	452	1.0	16425	10	540	1.00	2008
<i>Tapirus indicus</i>	0	0	10.0	6	1	390	1.0	10950	10	365	0.50	1278
<i>Alouatta palliata</i>	12	0	14.0	10	15	139	1.0	7300	1	300	0.53	1552
<i>Ateles dariensis</i>	12	0	2.5	4	5	140	1.0	12045	3	420	0.33	1643
<i>Ateles geoffroyi</i>	12	0	2.5	4	5	140	1.0	7300	3	450	0.33	1643

DATA SUPPLEMENT, page 6 of 10

<i>Callithrix geoffroyi</i>	12	0	1.0	4	9	145	2.0	5840	1	60	0.50	450
<i>Cebus capucinus</i>	12	0	9.5	4	19	180	1.0	7300	10	90	0.50	1860
<i>Cercopithecus pygerythrus</i>	12	0	24.0	4	25	195	1.0	10585	1	180	1.00	1278
<i>Gorilla gorilla</i>	12	0	15.0	6	16	265	1.0	19710	1	1278	0.25	3468
<i>Homo sapiens</i>	12	0	1.0	4	2	270	1.0	27375	1	365	0.66	4380
<i>Hylobates lar</i>	12	0	1.0	9	2	210	1.0	9125	1	540	0.44	3103
<i>Lemur catta</i>	12	0	17.0	10	18	125	1.5	6570	1	150	1.00	756
<i>Macaca mulatta</i>	12	0	47.0	4	94	175	1.0	12045	47	365	0.50	1643
<i>Nycticebus coucang</i>	0	0	10.0	4	1	190	1.2	4745	10	270	1.75	525
<i>Otolemur crassicaudatus</i>	0	0	1.0	4	4	135	1.0	6570	1	150	1.00	730
<i>Pan troglodytes</i>	12	0	27.5	10	55	230	1.0	21900	28	1460	0.33	2555
<i>Papio hamadryas</i>	12	0	7.3	4	100	180	1.0	13505	1	239	1.00	2464
<i>Pongo pigmaeus</i>	12	0	10.0	9	1	270	1.0	21170	1	1278	0.29	3650
<i>Presbytis obscurus</i>	12	0	17.0	6	18	168	1.0	9125	1	540	0.50	1917
<i>Elephas indicus</i>	6	0	19.0	8	20	630	1.0	25550	1	270	0.29	3741
<i>Loxodonta africana</i>	6	0	7.0	8	8	655	1.0	21900	1	270	0.20	3650

DATA SUPPLEMENT, page 7 of 10

<i>Castor canadensis</i>	0	0	1.0	10	6	128	2.5	6570	1	90	1.00	1278
<i>Castor fiber</i>	0	0	1.0	10	12	128	3.0	4928	1	90	1.00	1186
<i>Cavia porcellus</i>	6	0	3.8	10	8	64	2.6	2920	4	21	5.00	75
<i>Chinchilla laniger</i>	0	0	1.0	10	2	110	2.0	5475	1	49	2.50	240
<i>Cricetulus griseus</i>	0	12	10.0	4	1	21	4.6	730	10	20	3.50	50
<i>Dasyprocta aguti</i>	12	0	1.0	9	2	104	1.3	6205	1	140	2.00	180
<i>Gerbillus pyramidum</i>	1	12	10.0	4	1	21	4.0	730	10	30	7.00	120
<i>Glaucomys volans</i>	3	25	10.0	4	1	40	3.1	4380	10	63	2.00	270
<i>Hydrochoerus hydrochaeris</i>	1	0	12.0	10	13	123	3.0	3285	1	105	1.00	450
<i>Hystrix cristata</i>	0	7	1.0	10	7	112	1.2	4928	1	60	2.00	365
<i>Mesocricetus auratus</i>	0	12	10.0	4	1	16	6.3	913	10	20	2.00	53
<i>Mus musculus</i>	0	13	7.5	4	15	19	5.0	730	8	21	7.50	42
<i>Myocastor coypus</i>	6	0	1.0	10	2	132	5.5	2190	1	42	2.50	100
<i>Peromyscus gossypinus</i>	0	13	10.0	4	1	23	3.7	730	10	25	3.00	40
<i>Peromyscus leucopus</i>	0	16	10.0	4	1	23	3.5	730	10	25	2.00	40
<i>Peromyscus maniculatus</i>	0	15	3.5	4	7	24	5.0	730	4	30	7.00	49

DATA SUPPLEMENT, page 8 of 10

<i>Rattus natalensis</i>	0	16	22.5	4	45	23	7.3	1460	23	22	7.00	88
<i>Rattus norvegicus</i>	1	14	27.5	4	55	21	8.0	365	28	22	6.00	113
<i>Sciurus vulgaris</i>	12	31	10.0	4	1	38	3.0	1460	10	63	2.00	365
<i>Tupaia glis</i>	12	7	1.0	4	2	46	1.5	913	1	35	1.00	131
<i>Tupaia minor</i>	12	17	1.0	4	2	55	1.5	4198	1	38	1.00	60
<i>Urogale everetti</i>	12	17	1.0	4	2	50	2.0	4198	1	38	1.00	90
<i>Bradypus griseus</i>	12	0	10.0	6	1	173	1.0	3285	10	180	1.00	1004
<i>Choloepus hoffmanni</i>	12	0	10.0	10	1	173	1.0	11680	10	30	1.00	1004
<i>Dasypus novemcinctus</i>	0	0	10.0	5	1	120	4.0	5110	10	135	1.00	365
<i>Tamanduas tetradactyla</i>	0	0	10.0	5	1	180	1.0	3468	10	130	1.00	730

Tables S2 to S5: Summary of canonical discriminant functions of the normalized three brain parameters absolute brain mass (AB), relative brain mass (RB), and encephalization quotient (EQ)

Table S2: Eigenvalues

Function	Eigenvalue	% of variance	Canonical correlation
1	6,803 ^a	55,4	0,934
2	4,351 ^a	35,5	0,902
3	1,116 ^a	9,1	0,726

Table S3: Wilks' Lamda

Test of functions	Wilks-Lambda	Chi-square	Degrees of freedom	Significance
1 bis 3	0,011	492,952	12	0,000
2 bis 3	0,088	266,958	6	0,000
3	0,473	82,459	2	0,000

Table S4: Standardized canonic discriminant function coefficients

	Function 1	Function 2	Function 3
AB	0,821	0,587	-0,108
RB	-0,484	0,862	-0,211
EQ	-0,090	0,088	1,003

Table S5: Classification results after Ward (*92,2% of grouped individuals were correctly reclassified)

	Ward Method	Sum*
Original	Cluster 1	52 (100%)
	Cluster 2	32 (100%)
	Cluster 3	14 (100%)
	Cluster 4	8 (100%)
	Cluster 5	9 (100%)
Cross validation	Cluster 1	52 (100%)
	Cluster 2	32 (100%)
	Cluster 3	14 (100%)
	Cluster 4	8 (100%)
	Cluster 5	9 (100%)