

**Online supplementary material to:** Gallagher A. Determination of a novel size proxy in comparative morphometrics. *S Afr J Sci.* 2015;111(9/10), Art. #2014-0221, 10 pages. <http://dx.doi.org/10.17159/sajs.2015/20140221>

**Supplementary table 1:** Linear variates used in the derivation of *GMSize*

Variable	Definition
PHAB	Mediolateral diameter of the articular surface of the humeral head
DHAB	Mediolateral diameter of the anterior surface of the distal humeral articular surface (trochlea + capitulum)
RHD	Maximum diameter of the radial head
DRB	Maximum mediolateral diameter of the distal radial articulation
FHD	Femoral head diameter (superoinferior or anteroposterior)
FBB	Maximum mediolateral diameter of the distal femur
PTB	Maximum mediolateral diameter of the tibial articular plateau
DTP	The square root of the product of the maximal mediolateral diameter (including the medial malleolus) and the maximum anteroposterior diameter of the distal tibia.

**Supplementary table 2:** Samples used in the analysis

Sample	Subsets	Repositories
Extant African hominids	<i>P. paniscus</i> (n=18); <i>P. t. troglodytes</i> (n=91); <i>P. t. schweinfurthii</i> (n=18); <i>G. g. gorilla</i> (n=102); <i>G. b. graueri</i> / <i>G. b. beringei</i> (n=20)	Royal Museum of Central Africa, Powell-Cotton Museum, Cleveland Museum of Natural History
Extant Old World anthropoids	<i>Colobus badius</i> (n=24); <i>C. dodingae</i> (n=10); <i>Cercopithecus grayi</i> (n=19); <i>C. nictitans</i> (n=21); <i>C. cephus</i> (n=22); <i>Papio hamadryas</i> (n=52)	Powell-Cotton Museum; School of Anatomical Sciences, Wits
Extant Old World felids	<i>P. tigris</i> (n=4); <i>P. leo</i> (n=18); <i>P. pardus</i> (n=19); <i>A. jubatus</i> (n=21)	Royal Museum of Central Africa, Iziko Museum

**Supplementary table 3:** Correlation matrix of  $k=8$  linear postcranial variates: African hominids

	PHAB	DHAB	RHD	DRB	FHD	FBB	PTAB	DTP
PHAB		0.000	0.000	0.000	0.000	0.000	0.000	0.000
DHAB	0.977		0.000	0.000	0.000	0.000	0.000	0.000
RHD	0.948	0.955		0.000	0.000	0.000	0.000	0.000
DRB	0.934	0.931	0.934		0.000	0.000	0.000	0.000
FHD	0.979	0.970	0.936	0.923		0.000	0.000	0.000
FBB	0.979	0.970	0.940	0.932	0.973		0.000	0.000
PTAB	0.979	0.971	0.940	0.930	0.974	0.981		0.000
DTP	0.963	0.964	0.938	0.929	0.951	0.958	0.958	

**Supplementary table 4:** Correlation matrix of  $k=8$  linear postcranial variates: Old World monkeys

	PHAB	DHAB	RHD	DRB	FHD	FBB	PTAB	DTP
PHAB		0.000	0.000	0.000	0.000	0.000	0.000	0.000
DHAB	0.956		0.000	0.000	0.000	0.000	0.000	0.000
RHD	0.973	0.989		0.000	0.000	0.000	0.000	0.000
DRB	0.970	0.964	0.975		0.000	0.000	0.000	0.000
FHD	0.978	0.942	0.966	0.975		0.000	0.000	0.000
FBB	0.976	0.933	0.958	0.973	0.992		0.000	0.000
PTAB	0.980	0.954	0.973	0.975	0.990	0.987		0.000
DTP	0.984	0.964	0.982	0.984	0.988	0.987	0.988	

**Supplementary table 5:** Correlation matrix of  $k=8$  linear postcranial variates: large-bodied felids

	PHAB	DHAB	RHD	DRB	FHD	FBB	PTAB	DTP
PHAB		0.000	0.000	0.000	0.000	0.000	0.000	0.000
DHAB	0.956		0.000	0.000	0.000	0.000	0.000	0.000
RHD	0.973	0.989		0.000	0.000	0.000	0.000	0.000
DRB	0.970	0.964	0.975		0.000	0.000	0.000	0.000
FHD	0.978	0.942	0.966	0.975		0.000	0.000	0.000
FBB	0.976	0.933	0.958	0.973	0.992		0.000	0.000
PTAB	0.980	0.954	0.973	0.975	0.990	0.987		0.000
DTP	0.984	0.964	0.982	0.984	0.988	0.987	0.988	

**Supplementary table 6:** Correlation matrix of  $k=8$  linear postcranial variates: *Pan t. troglodytes*

	PHAB	DHAB	RHD	DRB	FHD	FBB	PTAB	DTP
PHAB		0.000	0.000	0.000	0.000	0.000	0.000	0.000
DHAB	0.802		0.000	0.000	0.000	0.000	0.000	0.000
RHD	0.807	0.786		0.000	0.000	0.000	0.000	0.000
DRB	0.738	0.711	0.742		0.000	0.000	0.000	0.000
FHD	0.744	0.734	0.683	0.644		0.000	0.000	0.000
FBB	0.820	0.748	0.723	0.734	0.699		0.000	0.000
PTAB	0.785	0.743	0.736	0.674	0.709	0.788		0.000
DTP	0.759	0.706	0.717	0.699	0.637	0.712	0.691	

**Supplementary table 7:** Correlation matrix of  $k=8$  linear postcranial variates: *Gorilla g. gorilla*

	PHAB	DHAB	RHD	DRB	FHD	FBB	PTAB	DTP
PHAB		0.000	0.000	0.000	0.000	0.000	0.000	0.000
DHAB	0.968		0.000	0.000	0.000	0.000	0.000	0.000
RHD	0.955	0.959		0.000	0.000	0.000	0.000	0.000
DRB	0.924	0.908	0.915		0.000	0.000	0.000	0.000
FHD	0.963	0.954	0.943	0.904		0.000	0.000	0.000
FBB	0.951	0.955	0.959	0.899	0.943		0.000	0.000
PTAB	0.957	0.956	0.956	0.909	0.955	0.961		0.000
DTP	0.950	0.947	0.949	0.917	0.932	0.945	0.940	

**Supplementary table 8:** Component loadings for PCA axes: African hominids

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
PHAB	0.355	0.158	-0.183	0.054	0.454	0.517	0.452	-0.368
DHAB	0.378	0.385	-0.409	0.387	-0.036	-0.565	-0.144	-0.224
RHD	0.155	0.225	0.141	0.083	0.054	-0.220	0.608	0.692
DRB	0.232	0.520	0.720	-0.263	0.082	-0.072	-0.196	-0.193
FHD	0.270	-0.013	-0.154	-0.031	0.524	0.177	-0.583	0.506
FBB	0.548	-0.610	0.399	0.394	-0.097	-0.039	-0.005	-0.054
PTAB	0.475	-0.195	-0.260	-0.767	-0.223	-0.157	0.083	-0.004
DTP	0.235	0.310	-0.095	0.165	-0.670	0.550	-0.144	0.199

**Supplementary table 9:** Component loadings for PCA axes: Old World monkeys

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
PHAB	0.319	0.310	0.512	-0.020	-0.577	-0.369	0.053	0.261
DHAB	0.371	0.500	-0.705	-0.073	-0.200	-0.077	-0.173	-0.185
RHD	0.257	0.261	0.133	-0.340	0.463	0.271	-0.351	0.566
DRB	0.281	0.233	0.097	0.866	0.299	0.095	0.093	0.030
FHD	0.312	0.245	0.296	-0.350	0.281	0.159	0.493	-0.534
FBB	0.469	-0.475	-0.293	-0.071	0.159	-0.335	0.455	0.345
PTAB	0.472	-0.433	0.197	0.019	0.042	-0.123	-0.609	-0.403
DTP	0.273	-0.242	-0.041	0.040	-0.466	0.789	0.116	0.097

**Supplementary table 10:** Component loadings for PCA axes: large-bodied felids

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
PHAB	0.370	-0.148	-0.782	0.346	-0.280	-0.144	0.099	0.032
DHAB	0.404	0.741	-0.055	-0.110	0.327	-0.344	-0.084	0.201
RHD	0.263	0.291	-0.070	-0.050	0.079	0.633	0.390	-0.529
DRB	0.358	0.122	0.569	0.465	-0.539	-0.130	0.027	-0.092
FHD	0.226	-0.158	0.142	-0.014	0.080	0.296	0.504	0.746
FBB	0.408	-0.490	0.186	0.190	0.626	-0.242	0.053	-0.266
PTAB	0.459	-0.248	0.046	-0.768	-0.335	-0.095	-0.097	-0.076
DTP	0.274	-0.055	-0.010	0.152	0.089	0.537	-0.751	0.195

**Supplementary table 11:** Component loadings for PCA axes: *Pan t. troglodytes*

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
PHAB	0.359	0.157	0.083	-0.159	0.591	-0.109	-0.629	-0.238
DHAB	0.352	0.283	0.383	-0.482	-0.555	-0.293	0.031	-0.153
RHD	0.193	0.127	0.161	0.037	0.054	-0.107	-0.134	0.942
DRB	0.322	0.496	-0.013	0.729	-0.246	0.179	-0.088	-0.137
FHD	0.254	0.066	0.242	-0.270	0.157	0.844	0.250	0.031
FBB	0.501	-0.052	-0.821	-0.216	-0.109	0.012	0.087	0.073
PTAB	0.488	-0.768	0.278	0.283	-0.093	-0.055	-0.004	-0.056
DTP	0.231	0.190	0.102	0.101	0.484	-0.380	0.712	-0.064

**Supplementary table 12:** Component loadings for PCA axes: *Gorilla g. gorilla*

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8
PHAB	0.348	0.293	0.033	0.306	-0.27	0.528	-0.587	0.000
DHAB	0.396	0.124	0.069	0.659	0.074	-0.609	0.062	-0.099
RHD	0.187	0.016	0.056	-0.02	0.125	-0.032	0.024	0.972
DRB	0.274	0.615	0.306	-0.57	-0.21	-0.286	0.030	-0.076
FHD	0.247	0.105	-0.119	0.157	-0.37	0.373	0.783	0.001
FBB	0.525	-0.695	0.395	-0.22	-0.16	0.001	-0.048	-0.095
PTAB	0.460	-0.049	-0.815	-0.28	0.153	-0.086	-0.092	-0.067
DTP	0.253	0.157	0.251	-0.02	0.82	0.349	0.164	-0.165

**Supplementary table 13:** Linear discriminant function: *Pan t. troglodytes* and *Gorilla g. gorilla*

	PHAB	DHAB	RHD	DRB	FHD AP	FBB	PTAB	DTP	Constant	% Classification
<b><i>Pan t. troglodytes</i></b>										
Ln data	6.158	18.041	-7.187	11.261	-1.709	3.067	1.052	-3.394	108.488	85.71
Raw data	0.178	0.401	-0.286	0.312	-0.078	0.031	0.030	-0.118	27.317	82.42
<b><i>Gorilla g. gorilla</i></b>										
Ln data	13.169	38.871	20.834	0.317	7.799	11.344	-10.774	6.770	343.994	99.02
Raw data	0.178	0.624	0.638	0.047	0.200	0.143	-0.129	0.104	86.245	99.02

**Supplementary table 14:** DFA classifications and z- and t-scores: *Pan* males

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
PCM 254.3	M	<i>P. t. troglodytes</i>	2	-1.395	1.378	0.176	0.072	0.071	0.944
PCM 272	M	<i>P. t. troglodytes</i>	1	0.398	0.393	0.356	1.590	1.575	0.121
PCM 401	M	<i>P. t. troglodytes</i>	1	-0.799	0.789	0.973	0.576	0.571	0.571
PCM 440	M	<i>P. t. troglodytes</i>	1	-0.810	0.800	0.979	0.567	0.562	0.577
PCM 712	M	<i>P. t. troglodytes</i>	1	-0.008	0.008	0.533	1.246	1.234	0.223
PCM 724	M	<i>P. t. troglodytes</i>	1	1.360	1.343	0.106	2.405	2.383	<b>0.021</b>
PCM 984	M	<i>P. t. troglodytes</i>	1	-0.229	0.226	0.646	1.060	1.050	0.299
PCM 988	M	<i>P. t. troglodytes</i>	1	0.345	0.341	0.377	1.546	1.531	0.132
PCM 13	M	<i>P. t. troglodytes</i>	1	-0.357	0.352	0.716	0.951	0.942	0.351
PCM 206	M	<i>P. t. troglodytes</i>	1	0.275	0.272	0.405	1.487	1.473	0.147
PCM 228	M	<i>P. t. troglodytes</i>	1	1.130	1.115	0.146	2.210	2.189	<b>0.033</b>
PCM 219	M	<i>P. t. troglodytes</i>	1	1.549	1.530	0.080	2.566	2.541	<b>0.014</b>
PCM 62	M	<i>P. t. troglodytes</i>	1	0.992	0.979	0.176	2.093	2.074	<b>0.043</b>
PCM 100	M	<i>P. t. troglodytes</i>	1	-1.134	1.120	0.829	0.292	0.290	0.773
PCM 116	M	<i>P. t. troglodytes</i>	1	0.056	0.055	0.503	1.300	1.288	0.203
Z25	M	<i>P. t. troglodytes</i>	1	2.425	2.395	<b>0.019</b>	3.308	3.276	<b>0.002</b>
Z49	M	<i>P. t. troglodytes</i>	1	0.434	0.429	0.342	1.621	1.606	0.114
Z24	M	<i>P. t. troglodytes</i>	2	-1.272	1.256	0.750	0.176	0.174	0.862

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
Z34	M	<i>P. t. troglodytes</i>	1	-1.657	1.636	0.546	-0.150	0.149	0.882
HTB 1056	M	<i>P. t. troglodytes</i>	1	0.962	0.950	0.182	2.069	2.049	<b>0.046</b>
HTB 1195	M	<i>P. t. troglodytes</i>	1	-0.859	0.848	0.992	0.526	0.521	0.605
HTB 1433	M	<i>P. t. troglodytes</i>	1	0.842	0.832	0.212	1.967	1.948	0.057
HTB 1708	M	<i>P. t. troglodytes</i>	1	-0.051	0.050	0.554	1.210	1.199	0.236
HTB 1718	M	<i>P. t. troglodytes</i>	1	-0.359	0.355	0.717	0.949	0.940	0.352
HTB 1722	M	<i>P. t. troglodytes</i>	1	0.621	0.613	0.278	1.779	1.763	0.084
HTB 1726	M	<i>P. t. troglodytes</i>	1	0.873	0.862	0.204	1.993	1.974	0.054
HTB 1738	M	<i>P. t. troglodytes</i>	1	0.200	0.198	0.437	1.423	1.409	0.165
HTB 1739	M	<i>P. t. troglodytes</i>	1	-0.263	0.260	0.664	1.030	1.021	0.312
HTB 1745	M	<i>P. t. troglodytes</i>	1	-0.058	0.057	0.558	1.204	1.193	0.238
HTB 1758	M	<i>P. t. troglodytes</i>	1	0.014	0.014	0.522	1.265	1.253	0.216
HTB 1768	M	<i>P. t. troglodytes</i>	2	-0.948	0.936	0.939	0.450	0.446	0.657
HTB 1882	M	<i>P. t. troglodytes</i>	1	-0.960	0.948	0.932	0.440	0.436	0.665
HTB 2026	M	<i>P. t. troglodytes</i>	1	1.847	1.824	0.050	2.818	2.791	<b>0.007</b>
HTB 2027	M	<i>P. t. troglodytes</i>	1	-0.135	0.133	0.597	1.139	1.128	0.264
HTB 3537	M	<i>P. t. troglodytes</i>	1	-0.119	0.118	0.589	1.152	1.141	0.259
HTB 3552	M	<i>P. t. troglodytes</i>	1	0.156	0.154	0.456	1.386	1.373	0.176
RG 177	M	<i>P. t. troglodytes</i>	1	0.376	0.371	0.365	1.572	1.557	0.126
RG 179	M	<i>P. t. troglodytes</i>	2	-2.380	2.351	<b>0.256</b>	-0.763	0.756	0.453
RG 3466	M	<i>P. t. troglodytes</i>	1	-1.062	1.049	0.872	0.354	0.350	0.728

**Supplementary table 15:** DFA classifications and z- and t-scores: *Pan* females

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
PCM 78	F	<i>Pan t. troglodytes</i>	2	-2.257	2.229	<b>0.296</b>	-0.659	0.652	0.517
PCM 86	F	<i>Pan t. troglodytes</i>	2	-0.921	0.909	0.955	0.473	0.469	0.641
PCM 105	F	<i>Pan t. troglodytes</i>	1	-0.147	0.145	0.603	1.129	1.118	0.269
PCM 148	F	<i>Pan t. troglodytes</i>	2	-1.148	1.133	0.822	0.281	0.279	0.782
PCM 155	F	<i>Pan t. troglodytes</i>	2	-2.948	2.911	<b>0.122</b>	-1.244	1.232	0.223
PCM 158	F	<i>Pan t. troglodytes</i>	2	-1.510	1.491	0.621	-0.026	0.026	0.980
PCM 169	F	<i>Pan t. troglodytes</i>	2	-3.284	3.243	<b>0.075</b>	-1.528	1.514	0.136
PCM 172	F	<i>Pan t. troglodytes</i>	2	-1.761	1.739	0.496	-0.238	0.236	0.814
PCM 184	F	<i>Pan t. troglodytes</i>	2	-4.181	4.128	<b>0.017</b>	-2.288	2.267	<b>0.028</b>
PCM 186	F	<i>Pan t. troglodytes</i>	1	0.182	0.179	0.445	1.407	1.394	0.169
PCM 249	F	<i>Pan t. troglodytes</i>	2	-1.349	1.332	0.707	0.110	0.109	0.913
PCM 254.2	F	<i>Pan t. troglodytes</i>	2	-1.270	1.254	0.751	0.177	0.176	0.861
PCM 273	F	<i>Pan t. troglodytes</i>	1	-0.459	0.454	0.773	0.864	0.856	0.396
PCM 277	F	<i>Pan t. troglodytes</i>	2	-2.438	2.407	<b>0.239</b>	-0.812	0.804	0.425
PCM 279	F	<i>Pan t. troglodytes</i>	2	-1.154	1.139	0.818	0.276	0.274	0.785
PCM 299	F	<i>Pan t. troglodytes</i>	2	-0.963	0.951	0.930	0.437	0.433	0.667
PCM 348	F	<i>Pan t. troglodytes</i>	2	-2.998	2.960	<b>0.114</b>	-1.286	1.274	0.208
PCM 352	F	<i>Pan t. troglodytes</i>	2	-2.622	2.589	<b>0.190</b>	-0.967	0.958	0.342
PCM 424	F	<i>Pan t. troglodytes</i>	2	-0.820	0.810	0.985	0.559	0.554	0.582
PCM 425	F	<i>Pan t. troglodytes</i>	2	-0.034	0.034	0.546	1.224	1.213	0.231
PCM 450	F	<i>Pan t. troglodytes</i>	1	-0.385	0.380	0.731	0.927	0.918	0.363
PCM 467	F	<i>Pan t. troglodytes</i>	2	-0.709	0.700	0.919	0.653	0.647	0.521
PCM 475	F	<i>Pan t. troglodytes</i>	2	-1.363	1.345	0.700	0.099	0.098	0.922
PCM 498	F	<i>Pan t. troglodytes</i>	2	-1.579	1.559	0.585	-0.084	0.083	0.934
PCM 501	F	<i>Pan t. troglodytes</i>	2	-2.377	2.347	<b>0.257</b>	-0.760	0.753	0.455
HTB 1426	F	<i>Pan t. troglodytes</i>	2	-1.622	1.601	0.563	-0.120	0.119	0.906
HTB 1434	F	<i>Pan t. troglodytes</i>	2	-1.584	1.564	0.582	-0.088	0.087	0.931
HTB 1706	F	<i>Pan t. troglodytes</i>	2	-1.557	1.537	0.596	-0.065	0.065	0.949
HTB 1707	F	<i>Pan t. troglodytes</i>	2	-2.503	2.471	<b>0.221</b>	-0.867	0.858	0.395
HTB 1713	F	<i>Pan t. troglodytes</i>	2	-1.422	1.404	0.667	0.049	0.048	0.962
HTB 1719	F	<i>Pan t. troglodytes</i>	2	-1.269	1.253	0.752	0.179	0.177	0.860

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
HTB 1720	F	<i>Pan t. troglodytes</i>	2	-2.677	2.643	<b>0.177</b>	-1.014	1.005	0.320
HTB 1721	F	<i>Pan t. troglodytes</i>	2	-3.473	3.429	<b>0.056</b>	-1.688	1.672	0.100
HTB 1723	F	<i>Pan t. troglodytes</i>	1	0.439	0.434	0.341	1.625	1.610	0.113
HTB 1735	F	<i>Pan t. troglodytes</i>	1	-0.496	0.490	0.794	0.833	0.825	0.413
HTB 1737	F	<i>Pan t. troglodytes</i>	2	-1.882	1.858	0.441	-0.341	0.338	0.737
HTB 1744	F	<i>Pan t. troglodytes</i>	2	-1.991	1.966	0.395	-0.434	0.429	0.669
HTB 1748	F	<i>Pan t. troglodytes</i>	2	-1.817	1.794	0.470	-0.286	0.283	0.778
HTB 1755	F	<i>Pan t. troglodytes</i>	2	-2.319	2.290	<b>0.275</b>	-0.711	0.704	0.485
HTB 1769	F	<i>Pan t. troglodytes</i>	2	-1.184	1.169	0.801	0.251	0.248	0.805
HTB 1770	F	<i>Pan t. troglodytes</i>	2	-2.603	2.571	<b>0.194</b>	-0.952	0.943	0.350
HTB 1775	F	<i>Pan t. troglodytes</i>	1	0.172	0.170	0.449	1.399	1.386	0.172
HTB 1843	F	<i>Pan t. troglodytes</i>	2	-0.685	0.676	0.905	0.673	0.667	0.508
HTB 1880	F	<i>Pan t. troglodytes</i>	1	1.117	1.103	0.148	2.200	2.179	<b>0.034</b>
HTB 2748	F	<i>Pan t. troglodytes</i>	1	1.750	1.728	0.059	2.735	2.709	<b>0.009</b>
HTB 2771	F	<i>Pan t. troglodytes</i>	2	-2.602	2.569	<b>0.195</b>	-0.951	0.942	0.351
HTB 2823	F	<i>Pan t. troglodytes</i>	2	-1.582	1.562	0.583	-0.087	0.086	0.932
HTB 3538	F	<i>Pan t. troglodytes</i>	2	-0.763	0.754	0.951	0.607	0.601	0.550
HTB 3539	F	<i>Pan t. troglodytes</i>	2	-1.680	1.659	0.535	-0.169	0.168	0.867
HTB 3551	F	<i>Pan t. troglodytes</i>	2	-3.770	3.723	<b>0.034</b>	-1.940	1.922	0.060
RG 15233	F	<i>Pan t. troglodytes</i>	2	-1.400	1.383	0.679	0.067	0.067	0.947
RG 153	F	<i>Pan t. troglodytes</i>	2	-1.045	1.032	0.882	0.368	0.365	0.717



**Supplementary table 16:** DFA classifications and z- and t-scores: *Gorilla* males

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
MI28	M	<i>Gorilla g. gorilla</i>	1.000	0.554	0.549	0.585	5.506	5.449	<b>0.000</b>
M57	M	<i>Gorilla g. gorilla</i>	2.000	-4.104	4.067	<b>0.000</b>	0.200	0.198	0.844
M20	M	<i>Gorilla g. gorilla</i>	1.000	0.069	0.068	0.946	4.953	4.902	<b>0.000</b>
M119	M	<i>Gorilla g. gorilla</i>	1.000	0.233	0.231	0.819	5.140	5.087	<b>0.000</b>
M183	M	<i>Gorilla g. gorilla</i>	1.000	0.706	0.699	0.487	5.679	5.620	<b>0.000</b>
M264	M	<i>Gorilla g. gorilla</i>	1.000	0.734	0.727	0.470	5.710	5.652	<b>0.000</b>
M340	M	<i>Gorilla g. gorilla</i>	1.000	-0.116	0.115	0.909	4.742	4.694	<b>0.000</b>
M687	M	<i>Gorilla g. gorilla</i>	1.000	0.067	0.067	0.947	4.951	4.901	<b>0.000</b>
M720	M	<i>Gorilla g. gorilla</i>	1.000	1.305	1.293	0.202	6.361	6.296	<b>0.000</b>
M729	M	<i>Gorilla g. gorilla</i>	1.000	0.625	0.619	0.539	5.586	5.529	<b>0.000</b>
M766	M	<i>Gorilla g. gorilla</i>	1.000	0.805	0.798	0.429	5.792	5.732	<b>0.000</b>
M835	M	<i>Gorilla g. gorilla</i>	1.000	1.083	1.073	0.288	6.109	6.046	<b>0.000</b>
M135	M	<i>Gorilla g. gorilla</i>	1.000	0.513	0.508	0.613	5.459	5.403	<b>0.000</b>
M183	M	<i>Gorilla g. gorilla</i>	1.000	0.787	0.780	0.439	5.771	5.712	<b>0.000</b>
M875	M	<i>Gorilla g. gorilla</i>	1.000	0.511	0.507	0.614	5.457	5.401	<b>0.000</b>
M879	M	<i>Gorilla g. gorilla</i>	1.000	1.647	1.632	0.109	6.750	6.681	<b>0.000</b>
Cam 48	M	<i>Gorilla g. gorilla</i>	1.000	-0.517	0.512	0.611	4.286	4.242	<b>0.000</b>
Cam 145	M	<i>Gorilla g. gorilla</i>	1.000	-0.303	0.300	0.765	4.530	4.483	<b>0.000</b>
Cam 106	M	<i>Gorilla g. gorilla</i>	1.000	0.463	0.459	0.648	5.402	5.347	<b>0.000</b>
M962	M	<i>Gorilla g. gorilla</i>	1.000	-0.110	0.109	0.913	4.749	4.700	<b>0.000</b>
ZI 17	M	<i>Gorilla g. gorilla</i>	1.000	-0.451	0.447	0.656	4.360	4.316	<b>0.000</b>
ZVI 32	M	<i>Gorilla g. gorilla</i>	1.000	-0.776	0.769	0.445	3.991	3.950	<b>0.000</b>
ZI 30	M	<i>Gorilla g. gorilla</i>	1.000	-1.775	1.759	0.084	2.852	2.823	<b>0.007</b>
ZII 64	M	<i>Gorilla g. gorilla</i>	1.000	1.290	1.279	0.206	6.345	6.280	<b>0.000</b>
HTB 1020	M	<i>Gorilla g. gorilla</i>	1.000	-0.093	0.093	0.927	4.768	4.719	<b>0.000</b>
HTB 1057	M	<i>Gorilla g. gorilla</i>	1.000	-1.490	1.477	0.146	3.177	3.145	<b>0.003</b>
HTB 1407	M	<i>Gorilla g. gorilla</i>	1.000	1.325	1.313	0.195	6.385	6.319	<b>0.000</b>

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
HTB 1408	M	<i>Gorilla g. gorilla</i>	1.000	0.557	0.552	0.583	5.509	5.452	<b>0.000</b>
HTB 1409	M	<i>Gorilla g. gorilla</i>	1.000	0.436	0.432	0.667	5.372	5.317	<b>0.000</b>
HTB 1416	M	<i>Gorilla g. gorilla</i>	1.000	0.074	0.073	0.942	4.959	4.908	<b>0.000</b>
HTB 1417	M	<i>Gorilla g. gorilla</i>	1.000	-0.920	0.912	0.366	3.827	3.787	<b>0.000</b>
HTB 1430	M	<i>Gorilla g. gorilla</i>	1.000	-0.183	0.181	0.857	4.667	4.619	<b>0.000</b>
HTB 1431	M	<i>Gorilla g. gorilla</i>	1.000	-1.234	1.222	0.227	3.469	3.434	<b>0.001</b>
HTB 1728	M	<i>Gorilla g. gorilla</i>	1.000	2.046	2.027	0.048	7.205	7.131	<b>0.000</b>
HTB 1729	M	<i>Gorilla g. gorilla</i>	1.000	-0.136	0.134	0.894	4.720	4.672	<b>0.000</b>
HTB 1731	M	<i>Gorilla g. gorilla</i>	1.000	-1.092	1.082	0.284	3.631	3.594	<b>0.001</b>
HTB 1732	M	<i>Gorilla g. gorilla</i>	1.000	-0.006	0.006	0.995	4.868	4.818	<b>0.000</b>
HTB 1733	M	<i>Gorilla g. gorilla</i>	1.000	0.875	0.867	0.390	5.872	5.812	<b>0.000</b>
HTB 1746	M	<i>Gorilla g. gorilla</i>	1.000	-0.349	0.346	0.731	4.477	4.431	<b>0.000</b>
HTB 1754	M	<i>Gorilla g. gorilla</i>	1.000	-0.210	0.208	0.836	4.636	4.588	<b>0.000</b>
HTB 1787	M	<i>Gorilla g. gorilla</i>	1.000	-0.892	0.884	0.381	3.859	3.819	<b>0.000</b>
HTB 1795	M	<i>Gorilla g. gorilla</i>	1.000	-0.297	0.295	0.769	4.536	4.489	<b>0.000</b>
HTB 1797	M	<i>Gorilla g. gorilla</i>	1.000	0.590	0.585	0.561	5.547	5.490	<b>0.000</b>
HTB 1857	M	<i>Gorilla g. gorilla</i>	1.000	0.148	0.147	0.884	5.043	4.991	<b>0.000</b>
HTB 1859	M	<i>Gorilla g. gorilla</i>	1.000	0.032	0.032	0.975	4.912	4.861	<b>0.000</b>
HTB 1991	M	<i>Gorilla g. gorilla</i>	1.000	-0.490	0.485	0.629	4.317	4.273	<b>0.000</b>
HTB 2739	M	<i>Gorilla g. gorilla</i>	1.000	-0.299	0.296	0.768	4.535	4.488	<b>0.000</b>
HTB 2745	M	<i>Gorilla g. gorilla</i>	1.000	-0.114	0.113	0.911	4.745	4.696	<b>0.000</b>
HTB 2826	M	<i>Gorilla g. gorilla</i>	1.000	1.296	1.284	0.205	6.351	6.286	<b>0.000</b>
HTB 3400	M	<i>Gorilla g. gorilla</i>	1.000	0.341	0.338	0.736	5.264	5.210	<b>0.000</b>
HTB 3546	M	<i>Gorilla g. gorilla</i>	1.000	-0.193	0.191	0.849	4.655	4.607	<b>0.000</b>
HTB 3556	M	<i>Gorilla g. gorilla</i>	1.000	-0.446	0.442	0.661	4.367	4.322	<b>0.000</b>
RG 63	M	<i>Gorilla g. gorilla</i>	1.000	-1.868	1.851	0.070	2.747	2.719	<b>0.009</b>
RG 9291	M	<i>Gorilla g. gorilla</i>	1.000	-0.648	0.642	0.524	4.137	4.095	<b>0.000</b>

**Supplementary table 17:** DFA classifications and z- and t-scores: *Gorilla* females

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
MI29	F	<i>Gorilla g. gorilla</i>	2.000	-5.489	5.439	<b>0.000</b>	-1.378	1.363	0.179
M136	F	<i>Gorilla g. gorilla</i>	2.000	-4.306	4.266	<b>0.000</b>	-0.030	0.030	0.976
M89	F	<i>Gorilla g. gorilla</i>	2.000	-3.786	3.751	<b>0.000</b>	0.563	0.557	0.580
MII 2	F	<i>Gorilla g. gorilla</i>	2.000	-4.871	4.827	<b>0.000</b>	-0.674	0.667	0.508
M96	F	<i>Gorilla g. gorilla</i>	2.000	-4.162	4.124	<b>0.000</b>	0.134	0.133	0.895
M138	F	<i>Gorilla g. gorilla</i>	2.000	-3.909	3.874	<b>0.000</b>	0.422	0.417	0.678
M150	F	<i>Gorilla g. gorilla</i>	2.000	-4.264	4.225	<b>0.000</b>	0.018	0.018	0.986
M174	F	<i>Gorilla g. gorilla</i>	2.000	-3.785	3.751	<b>0.000</b>	0.563	0.557	0.580
M300	F	<i>Gorilla g. gorilla</i>	2.000	-3.275	3.245	<b>0.002</b>	1.145	1.133	0.263
M329	F	<i>Gorilla g. gorilla</i>	2.000	-2.801	2.775	<b>0.008</b>	1.685	1.667	0.102
M470	F	<i>Gorilla g. gorilla</i>	2.000	-4.150	4.112	<b>0.000</b>	0.147	0.146	0.885
M490	F	<i>Gorilla g. gorilla</i>	2.000	-4.306	4.266	<b>0.000</b>	-0.030	0.030	0.976
M696	F	<i>Gorilla g. gorilla</i>	2.000	-3.683	3.650	<b>0.001</b>	0.679	0.672	0.505
M755	F	<i>Gorilla g. gorilla</i>	2.000	-3.481	3.449	<b>0.001</b>	0.909	0.900	0.373
M798	F	<i>Gorilla g. gorilla</i>	2.000	-4.910	4.865	<b>0.000</b>	-0.718	0.710	0.481
M768	F	<i>Gorilla g. gorilla</i>	2.000	-2.817	2.791	<b>0.007</b>	1.666	1.649	0.106
M840	F	<i>Gorilla g. gorilla</i>	2.000	-3.231	3.201	<b>0.002</b>	1.195	1.183	0.243
M856	F	<i>Gorilla g. gorilla</i>	2.000	-5.155	5.108	<b>0.000</b>	-0.997	0.987	0.329
M95	F	<i>Gorilla g. gorilla</i>	2.000	-2.354	2.332	<b>0.023</b>	2.194	2.171	0.035
M300	F	<i>Gorilla g. gorilla</i>	2.000	-3.219	3.190	<b>0.002</b>	1.208	1.195	0.238
M372	F	<i>Gorilla g. gorilla</i>	2.000	-2.692	2.667	<b>0.010</b>	1.808	1.790	0.080
M857	F	<i>Gorilla g. gorilla</i>	2.000	-4.969	4.923	<b>0.000</b>	-0.785	0.777	0.441
M932	F	<i>Gorilla g. gorilla</i>	2.000	-2.680	2.656	<b>0.010</b>	1.822	1.803	0.078
Cam 42	F	<i>Gorilla g. gorilla</i>	2.000	-5.839	5.785	<b>0.000</b>	-1.776	1.758	0.085
Cam 139	F	<i>Gorilla g. gorilla</i>	2.000	-4.428	4.388	<b>0.000</b>	-0.170	0.168	0.867
HTB 1419	F	<i>Gorilla g. gorilla</i>	2.000	-5.082	5.035	<b>0.000</b>	-0.914	0.905	0.370
HTB 1704	F	<i>Gorilla g. gorilla</i>	2.000	-4.517	4.476	<b>0.000</b>	-0.270	0.268	0.790

Specimen	Sex	Locality	Classification	Males			Females		
				z	t'	t' sig	z	t'	t' sig
HTB 1710	F	<i>Gorilla g. gorilla</i>	2.000	-5.405	5.355	<b>0.000</b>	-1.282	1.269	0.211
HTB 1725	F	<i>Gorilla g. gorilla</i>	2.000	-4.647	4.604	<b>0.000</b>	-0.418	0.414	0.681
HTB 1756	F	<i>Gorilla g. gorilla</i>	2.000	-4.537	4.495	<b>0.000</b>	-0.293	0.290	0.773
HTB 1798	F	<i>Gorilla g. gorilla</i>	2.000	-3.933	3.897	<b>0.000</b>	0.395	0.391	0.697
HTB 1806	F	<i>Gorilla g. gorilla</i>	2.000	-4.248	4.209	<b>0.000</b>	0.036	0.035	0.972
HTB 1846	F	<i>Gorilla g. gorilla</i>	2.000	-4.471	4.430	<b>0.000</b>	-0.218	0.216	0.830
HTB 1849	F	<i>Gorilla g. gorilla</i>	2.000	-4.890	4.846	<b>0.000</b>	-0.696	0.689	0.494
HTB 1851	F	<i>Gorilla g. gorilla</i>	2.000	-3.696	3.662	<b>0.001</b>	0.665	0.658	0.513
HTB 1852	F	<i>Gorilla g. gorilla</i>	2.000	-5.653	5.601	<b>0.000</b>	-1.564	1.548	0.128
HTB 1856	F	<i>Gorilla g. gorilla</i>	2.000	-2.799	2.774	<b>0.008</b>	1.686	1.669	0.102
HTB 1992	F	<i>Gorilla g. gorilla</i>	2.000	-4.570	4.528	<b>0.000</b>	-0.331	0.327	0.745
HTB 1996	F	<i>Gorilla g. gorilla</i>	2.000	-5.336	5.287	<b>0.000</b>	-1.203	1.191	0.240
HTB 1997	F	<i>Gorilla g. gorilla</i>	2.000	-4.846	4.801	<b>0.000</b>	-0.645	0.638	0.526
HTB 1999	F	<i>Gorilla g. gorilla</i>	2.000	-4.531	4.490	<b>0.000</b>	-0.287	0.284	0.778
HTB 2782	F	<i>Gorilla g. gorilla</i>	2.000	-4.173	4.134	<b>0.000</b>	0.122	0.121	0.905
HTB 3393	F	<i>Gorilla g. gorilla</i>	2.000	-5.203	5.156	<b>0.000</b>	-1.052	1.042	0.303
HTB 1743	F	<i>Gorilla g. gorilla</i>	2.000	-4.206	4.168	<b>0.000</b>	0.084	0.083	0.934
HTB 0627	F	<i>Gorilla g. gorilla</i>	2.000	-5.426	5.376	<b>0.000</b>	-1.306	1.293	0.202
HTB 1801	F	<i>Gorilla g. gorilla</i>	2.000	-4.536	4.495	<b>0.000</b>	-0.293	0.290	0.773
HTB 1765	F	<i>Gorilla g. gorilla</i>	2.000	-5.301	5.252	<b>0.000</b>	-1.163	1.151	0.255
RG 17202	F	<i>Gorilla g. gorilla</i>	2.000	-4.852	4.807	<b>0.000</b>	-0.652	0.645	0.522