

Additional file 4

Table S2 Effects of AEZ_B, sex and age in multi-factor linear model on six morphometric traits in four Beninese indigenous cattle.

	Sum Sq	Df	F value	Pr(>F)
Height at withers (HAW)				
Intercept	265975.270	1.000	6285.250	<0.001
Factor (AEZ_B)	53962.940	7.000	182.170	<0.001
Factor (Sex)	26.460	1.000	0.630	0.430
Age	259.990	1.000	6.140	0.014
Residuals	18069.520	427.000		
Sacrum height				
Intercept	287259.410	1.000	3141.540	<0.001
Factor (AEZ_B)	60479.940	7.000	94.490	<0.001
Factor (Sex)	92.850	1.000	1.020	0.314
Age	501.760	1.000	5.490	0.020
Residuals	39044.440	427.000		
Heart girth (HG)				
Intercept	378575.000	1.000	1528.550	<0.001
Factor (AEZ_B)	58998.850	7.000	34.030	<0.001
Factor (Sex)	1236.140	1.000	4.990	0.026
Age	3583.910	1.000	14.470	<0.001
Residuals	106002.290	428.000		
Hip width (HW)				
Intercept	30180.600	1.000	1203.300	<0.001
Factor (AEZ_B)	8647.390	7.000	49.250	<0.001
Factor (Sex)	334.850	1.000	13.350	<0.001
Age	126.650	1.000	5.050	0.025
Residuals	10734.880	428.000		
Body length (BL)				
Intercept	502708.810	1.000	1457.270	<0.001
Factor (AEZ_B)	46873.390	7.000	19.410	<0.001
Factor (Sex)	2994.750	1.000	8.680	0.003
Age	18.520	1.000	0.050	0.817
Residuals	147645.580	428.000		

	Sum Sq	Df	F value	Pr(>F)
Ear length (EL)				
Intercept	8710.580	1.000	101.670	<0.001
Factor (AEZ_B)	3013.990	7.000	5.030	<0.001
Factor (Sex)	147.020	1.000	1.720	0.191
Age	146.680	1.000	1.710	0.191
Residuals	36496.380	426.000		

Table S3. Genome-wide and chromosome-wide significant SNP associated with six morphometric traits from GWAS model including the first four principal components (instead of linear discriminat functions)

	CHR	SNP	BP	A1	BETA	STAT	P	sig_chr
Height at withers								
	1	ARS-BFGL-NGS-57889	110160486	A	2,148	4,805	2,149E-06	2,4399E-05
	3	ARS-BFGL-NGS-31952	81139242	C	2,538	4,555	6,833E-06	3,2869E-05
	16	BTA-23170-no-rs	29174251	C	1,974	4,242	0,00002715	4,7255E-05
	17	Hapmap50686-BTA-41836	68037062	G	2,543	4,201	0,00003238	4,9302E-05
Sacrum height								
	1	BTB-01585499	157367219	A	1,948	4,375	0,00001527	2,4399E-05
	7	ARS-BFGL-NGS-7310	42545291	A	1,553	4,49	9,185E-06	3,1684E-05
	14	ARS-BFGL-BAC-1180	20574088	C	-1,58	-4,209	0,0000313	4,6687E-05
Heart girth								
	2	ARS-BFGL-NGS-77689	32163209	C	2,9	4,543	7,234E-06	3,023E-05
	19	Hapmap48676-BTA-18047	46729603	A	2,58	4,117	0,00004614	5,7291E-05
	22	Hapmap39844-BTA-54797	48208654	C	-3,443	-4,111	0,0000472	6,3571E-05
Hip width								
	6	BTA-07718-rs29027383	38646790	G	-4,159	-4,366	1,59E-05	2,83E-05
	8	ARS-BFGL-NGS-119529	103907956	T	-3,141	-4,352	1,69E-05	3,49E-05
	16	BTB-01732320	60525984	C	-1,144	-4,417	1,27E-05	4,73E-05
Body length								
	2	ARS-BFGL-NGS-109828	76610609	C	-16,19	-4,471	9,989E-06	3,023E-05
	2	BTB-01145402	113155761	G	-5,635	-4,547	7,105E-06	3,023E-05
	3	BovineHD0300010335	33048892	G	-7,095	-4,375	0,00001526	3,2869E-05

	CHR	SNP	BP	A1	BETA	STAT	P	sig_chr
	3	BovineHD0300010338	33060757	A	-6,803	-4,219	0,00002993	3,2869E-05
	21	Hapmap33092-BTA-51753	18775375	T	-10,38	-5,187	3,301E-07	5,5988E-05
	23	Hapmap57845-rs29014813	33230735	C	-6,283	-4,27	0,00002407	6,616E-05
	27	Hapmap44720-BTA-62525	24546315	G	-6,068	-4,139	0,00004203	7,9641E-05
Ear length								
	20	ARS-BFGL-NGS-44763	40060386	T	0,5675	4,369	0,00001569	5,1176E-05