Supplementary Information
Dark grey gazelles *Gazella* (Cetartiodactyla: Bovidae) in Arabia: Threatened species or domesticated pet?
Wronski T., Lerp H., Bärmann E.V., Butynski T.M., Plath M.

Table S1: Museum skin samples of putative *Gazella erlangeri* and putative *Gazella muscatensis* used in this study.

Taxon	Museum	Catalogue No.	Origin	Collector	Year of collection
G. erlangeri	Museum für Naturkunde, Berlin	ZMB_MAM_89578	Lahadsch, Yemen	unknown	unknown
G. erlangeri	Natural History Museum, London	ZD 1896.12.4.1	Aden, Yemen	Buxton	1896
G. erlangeri	Natural History Museum, London	ZD 1897.1.5.15	Aden, Yemen	Brook	1897
G. muscatensis	Natural History Museum, London	ZD 1939.819	Muscat, Oman	Maud	1939
G. muscatensis	Natural History Museum, London	ZD 1939.820	Muscat, Oman	Maud	1939

Table S2: Skull measurements taken in this study. Abbreviations correspond to those in Supplemental Fig. S4. See Bärmann et al. (2013).

Abbr.	**Description**
BPL	basi-palatal length – length of the palate along the midline
CBL	condylo-basal length
DFH	distance front to horns
DFO	distance front to orbit
DH	distance between horns pedicles
DOC	distance orbit to condyle (measured parallel to tooth row)
HBD	horn base distance (distance of the anterior-most parts of the pedicles)
HD1	horn pedicle diameter 1 (medio-lateral)
HD2	horn pedicle diameter 2 (antero-posterior)
HL1	horn length, distance between the base of the horn sheath and the horn tip
HTD	horn tip distance
IB	inter-bullae distance
LF+P	length of frontal+parietal
LL	length of lacrimal (maximum length of facial part)
LP	length of parietal
MWH	maximum width of horns sheaths
OD	orbit diameter (parallel to tooth row)
OHB	occipital height, braincase complete
OHO	occipital height, occiput only (dorsal of foramen magnum)
WAO	width across orbits (maximum width of frontals)
WB	width of braincase
WBA	width of basioccipital anterior
WPP	width across paroccipital processes
ZW	zygomatic width (behind orbits)

Table S3: Descriptive statistics of genetic variation at 11 microsatellite loci used in this study of *Gazella arabica* (North, East, Southwest) and putative *Gazella erlangeri*. The following are given for each locus: observed heterozygosity (H_O); expected heterozygosity (H_E); number of observed alleles (N_A); range of allele sizes (S); and allelic richness (A_r calculated with HP-rare; Kalinowski 2005). Significant deviations from HWE (i.e., heterozygote deficiency) indicated by asterisks, whereby *P < 0.05, **P < 0.01, and *** P < 0.001.

	North (N = 12)					**East (N = 14)**					**Southwest (N = 22)**					**Putative *G. erlangeri* (N = 14)**				
Locus	N_A	S	H_O	H_E	A_r	N_A	S	H_O	H_E	A_r	N_A	S	H_O	H_E	A_r	N_A	S	H_O	H_E	A_r
BM302	5	134-150	0.167	0.493***	3.49	3	138-146	0.286	0.265	2.28	5	134-148	0.091	0.482***	3.17	1	138	Monomorphic		1.00
BM415	6	126-146	0.750	0.696	4.09	4	138-144	0.385	0.443	2.80	8	124-146	0.45	0.764***	4.77	1	142	Monomorphic		1.00
CSSM043	7	243-263	0.800	0.837	5.69	9	255-279	0.429	0.865***	6.22	10	247-269	0.190	0.897***	6.79	4	269-275	0.545	0.619	3.26
TEXAN19	9	145-167	0.667	0.833*	6.18	6	143-157	0.857	0.791	4.98	9	147-169	0.591	0.873***	6.21	1	149	Monomorphic		1.00
BM4505	9	240-286	0.444	0.856***	6.52	10	238-300	0.714	0.894*	6.77	14	240-388	0.450	0.901***	7.23	5	244-276	0.818	0.628	3.98
SR-CRSP6	4	146-158	0.545	0.697*	3.45	5	154-162	0.692	0.791	4.52	8	140-160	0.611	0.848***	5.59	2	156-158	0.692	0.507	2.00
MCM38	6	103-135	0.167	0.710***	4.46	8	111-165	0.857	0.836	5.71	15	113-165	0.700	0.914***	7.52	6	177-187	0.462	0.790*	4.60
INRA40	7	186-246	0.556	0.784	5.52	6	200-220	0.375	0.742*	4.75	14	188-280	0.471	0.873***	7.11	2	224-302	0.400	0.533	2.00
OarFCB304	9	141-181	0.545	0.844***	6.31	11	139-171	0.571	0.886**	6.76	14	141-175	0.667	0.915***	7.46	4	151-157	0.357	0,601*	3.03
RM088	2	113-115	0.000	0.290**	1.93	2	113-115	0.429	0.423	1.99	3	113-121	0.318	0.513*	2.25	1	113	Monomorphic		1.00
TEXAN6	7	168-194	0.500	0.739**	4.80	7	168-190	0.429	0.778***	5.20	11	156-190	0.714	0.880*	6.59	1	168	Monomorphic		1.00

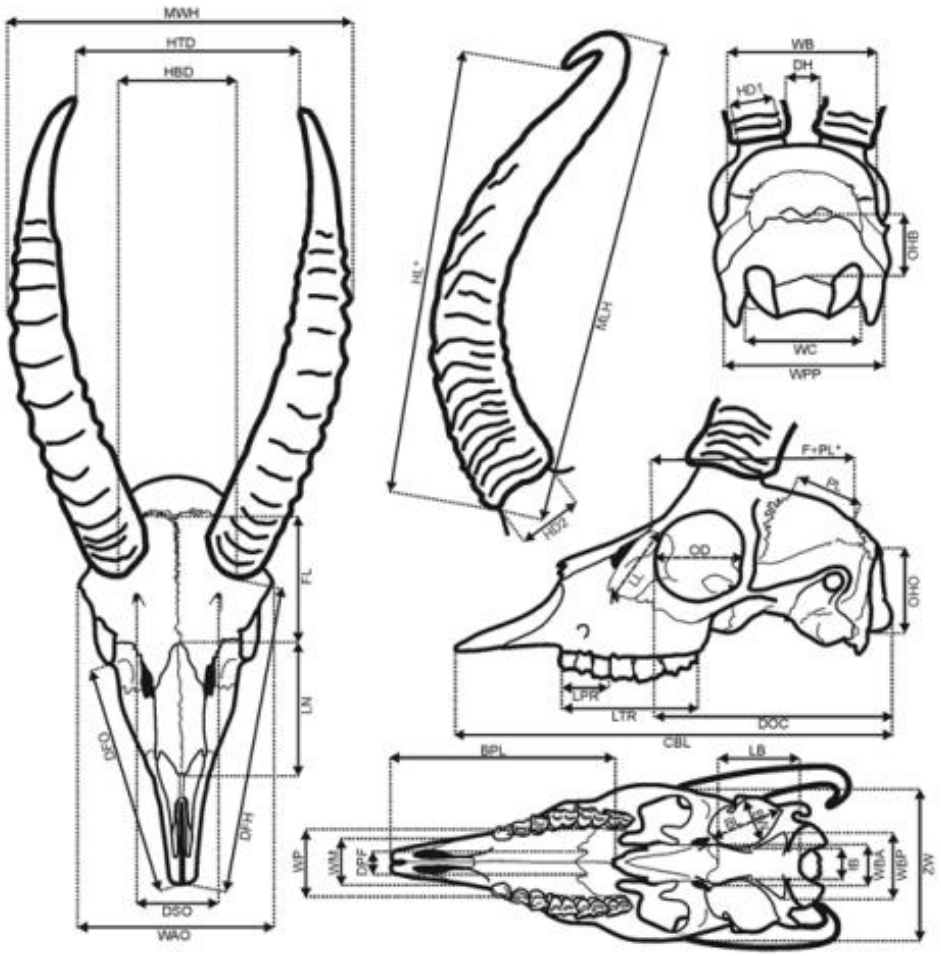

Figure S4: Skull measurements used in this study of putative *Gazella erlangeri* and *Gazella arabica*. Abbreviations correlate with descriptions in Supplemental Tab. S2. See Bärmann et al. (2013).

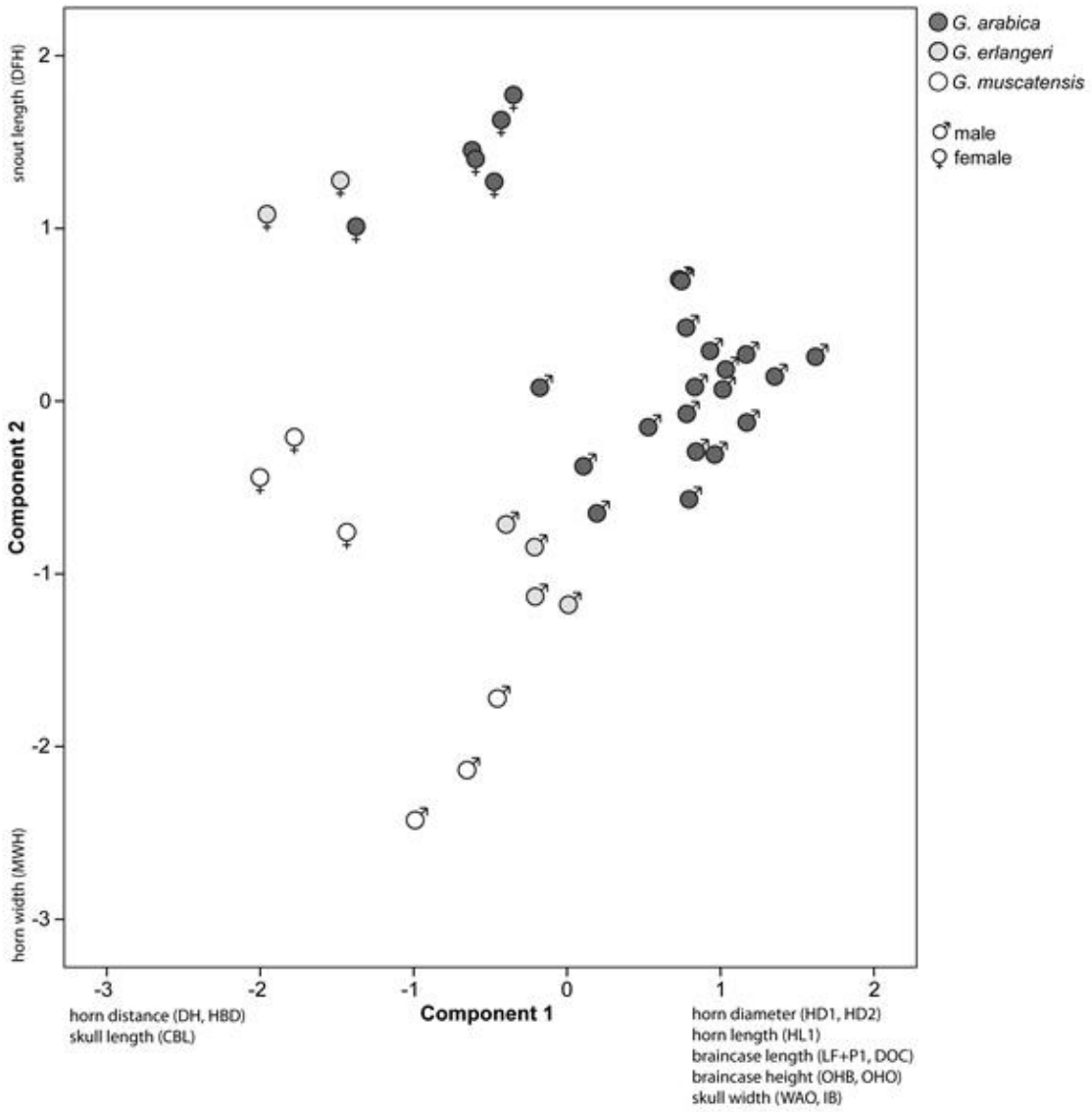

Figure S5: Principal component analysis of skulls of adult *Gazella arabica* (*N*=24), putative *Gazella erlangeri* (*N*=7), and putative *Gazella muscatensis* using 24 linear measurements. Component 1 mainly reflects differences in horn length and diameter, occipital height, braincase length, and skull width. Component 2 is mostly influenced by horn distance and width, as well as distance from snout tip to horn base.

References

Bärmann E.V., Azanza B., Wronski T., Lerp H., Börner S., Erpenbeck D., Rössner G.E., Wörheide G., 2013a. A morphometric and genetic framework of the genus *Gazella* de Blainville, 1816 with special focus on Arabian and Levantine mountain gazelles. Zool. J. Linn. Soc. 169(3): 673–696.

Kalinowski S.T., 2005. HP-rare 1.0: A computer program for performing rarefaction on measures of allelic richness. Mol. Ecol. Notes 5(1): 187–189.