



Supplementary Information for

Ancient genomic DNA evidence reveals the presence of tropical bovid species in northeastern Tibetan Plateau contributed to the prevalence of hunting games till to late Neolithic

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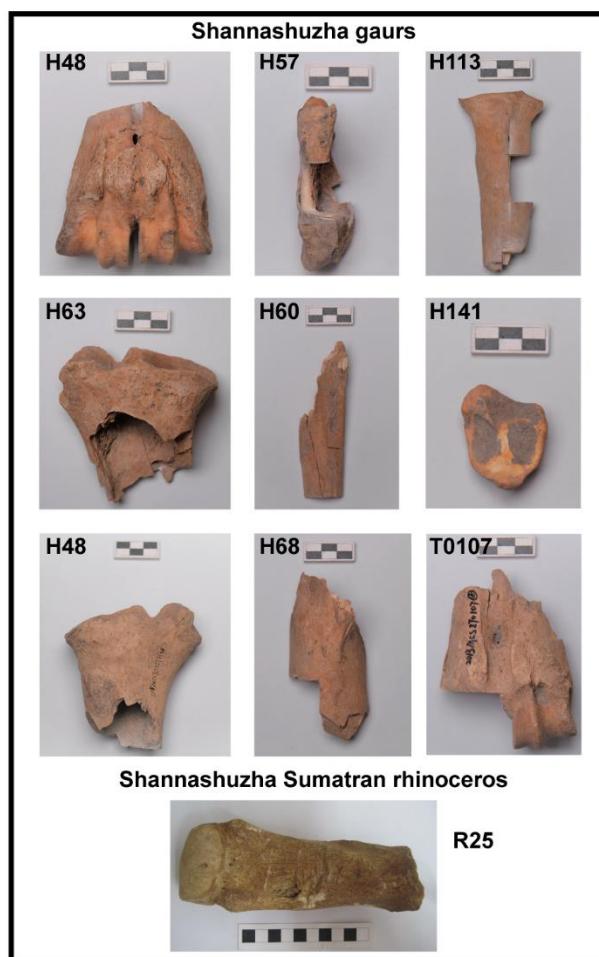


Fig. S1. Bovid and rhinoceros bone specimens from Shannashuzha site included in this study.

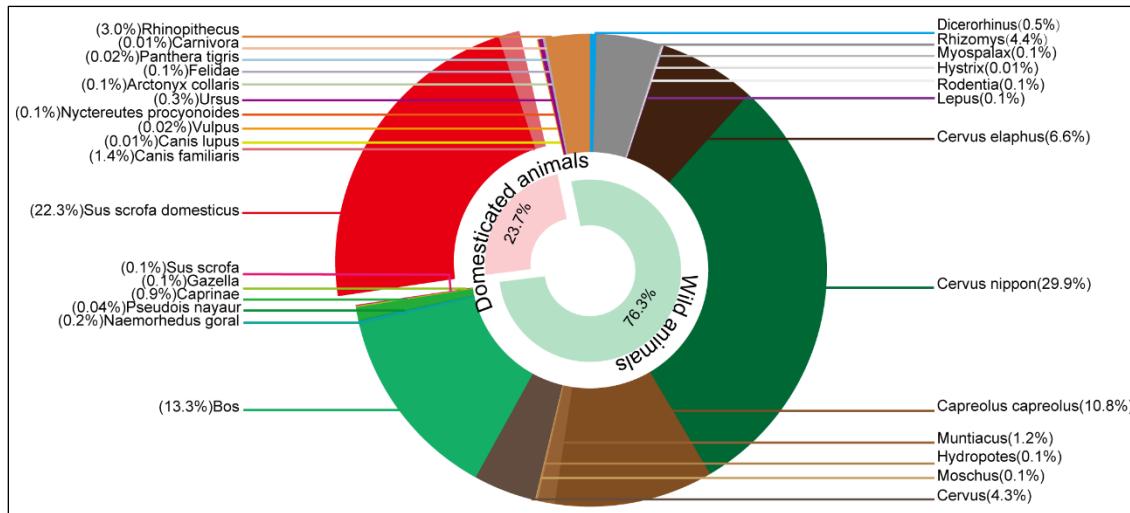


Fig. S2. The number of identified specimens (NISPs) proportion of different animal species in the faunal assemblage of SNSZ site (the detail index could be seen in Table S1).

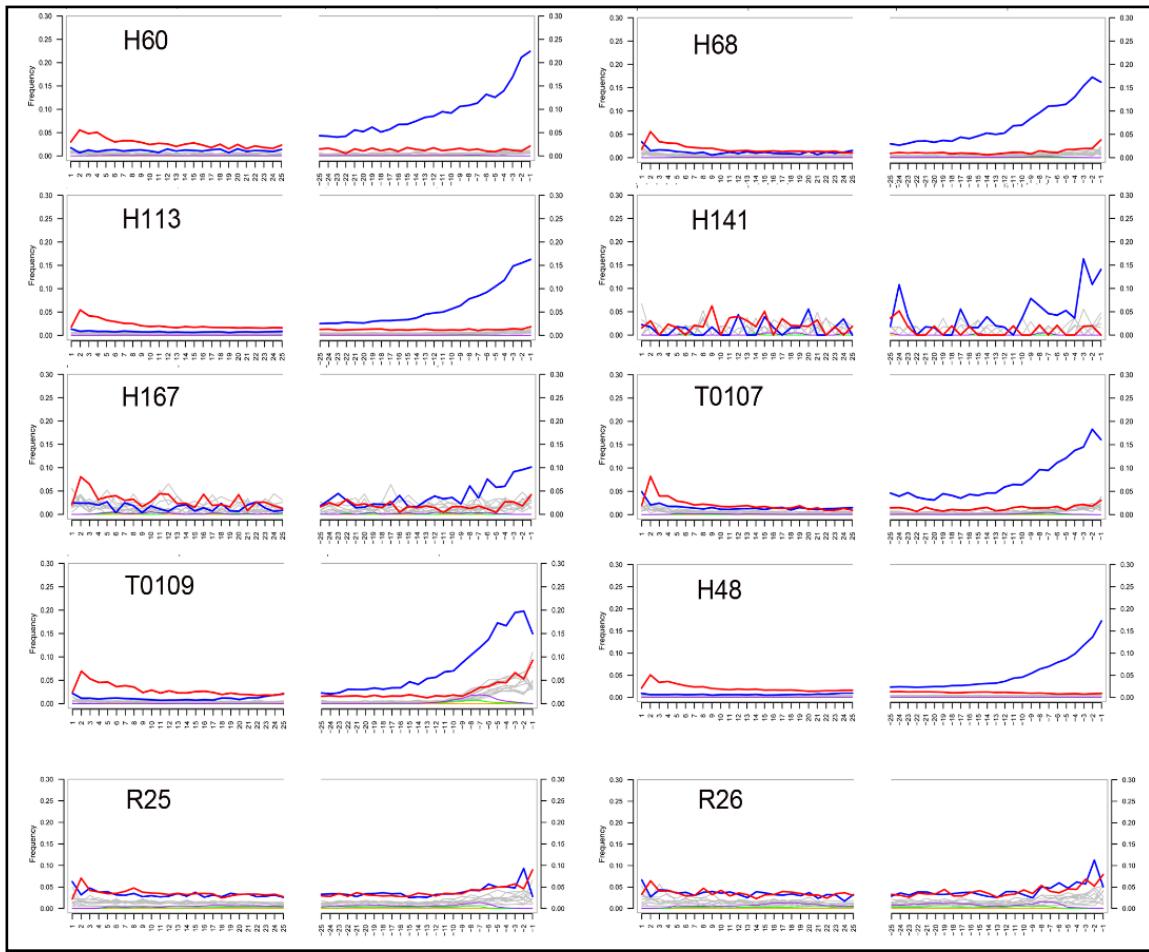


Fig. S3. The representative terminal damage rate (TDR) maps for shotgun sequences from eight bovid samples and two rhinoceros which calculated by MapDamage 2.07. Nucleotide mis-incorporation patterns along the first and last 25 read positions obtained for the 10 Shannashuzha samples before trimming and rescaling. Mis-incorporation frequencies are shown for the first and last 25 nucleotides of the reads aligned to the bovine reference nuclear genome ARS_UCD1.2.

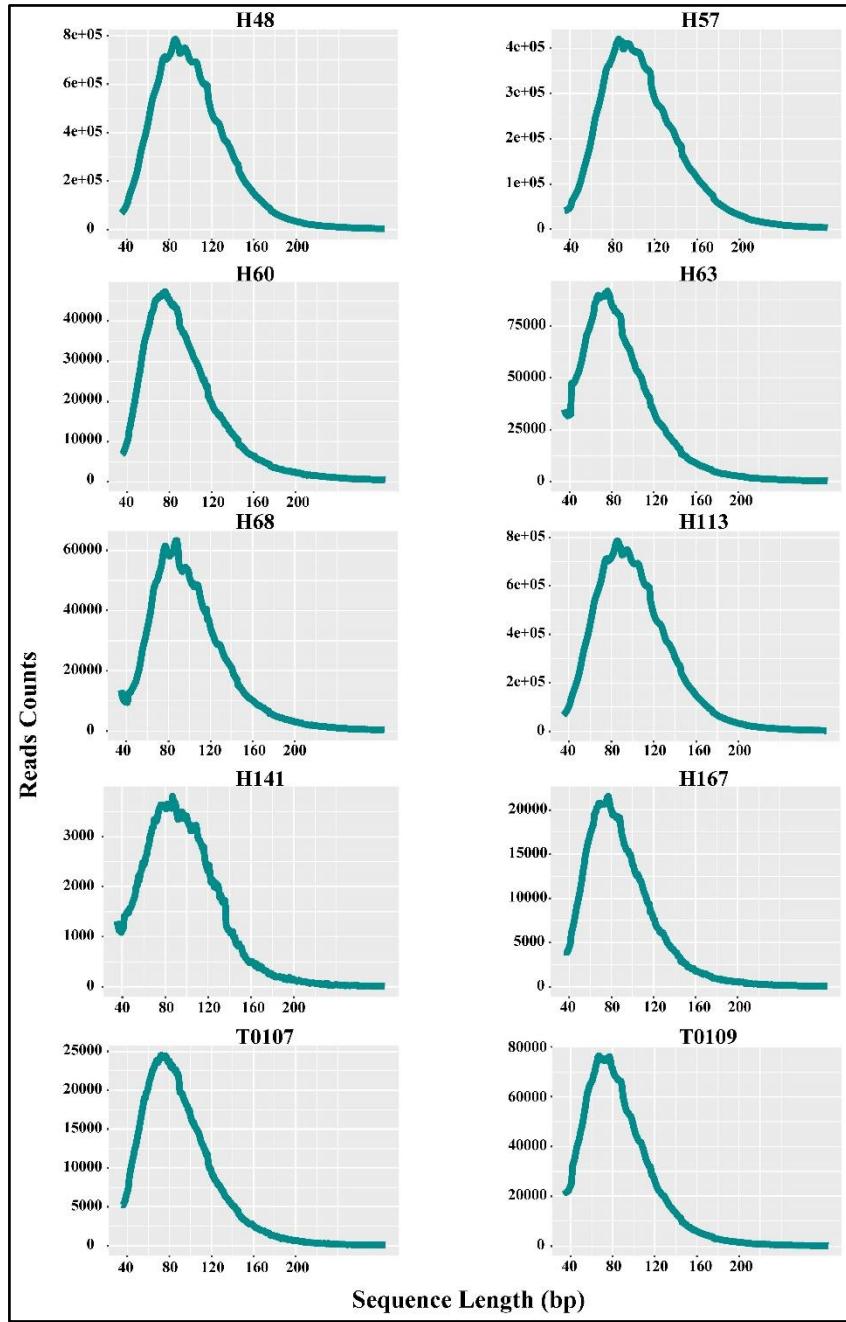


Fig. S4. Plot of the aDNA fragmental length distribution of the 10 bovid samples using their capture sequenced data in the alignment bam file. Y-axis accounting for the sequence reads numbers, while X-axis represent the aDNA fragmental length. Overall, the relative very short aDNA enrichment pattern indicating of typical aDNA characteristics, which originated from the endogenous material of the faunal bone remains, rather than from modern contaminations.

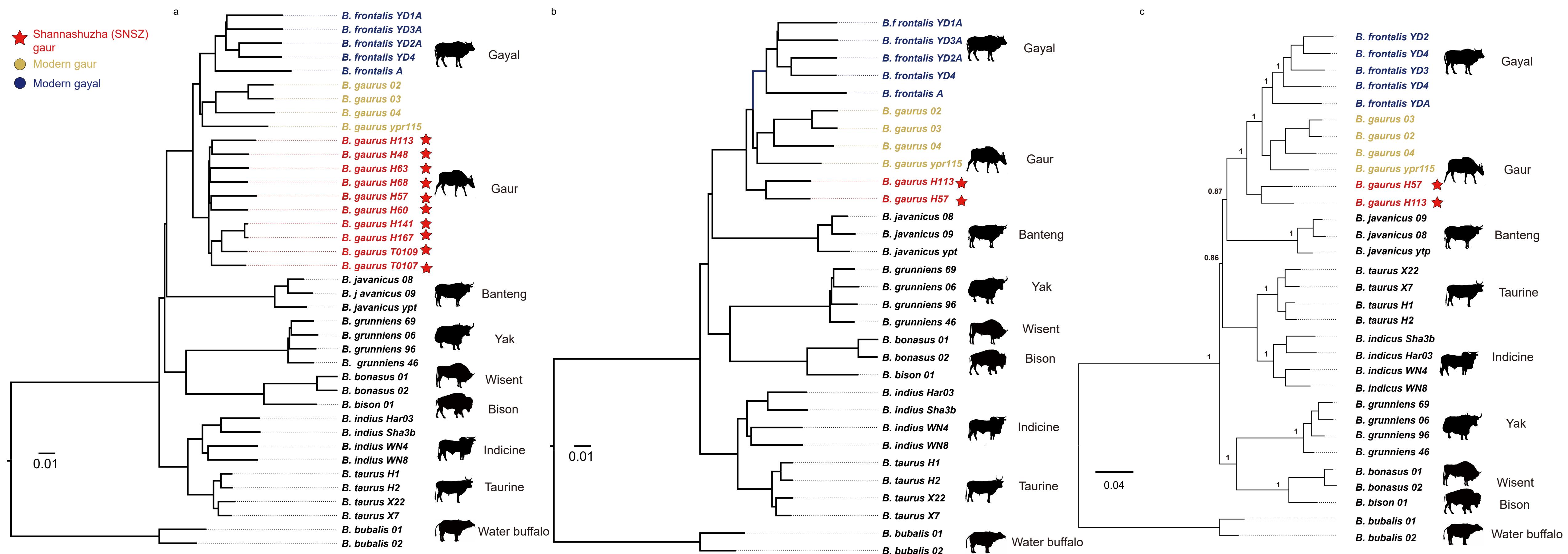


Fig. S5. Phylogenetic analysis of species affiliation among *Bos* genus.

- (a) A neighbor-joining (NJ) phylogenetic tree of 10 SNSZ samples and other species from the *Bos* genus constructed using 990,246 sites.
- (b) An exome-based maximum likelihood (ML) tree confirmed the phylogenetic affinities of present-day gaurs and ancient Shannashuzha (SNSZ) gaurs using 72,720 sites.
- (c) An NJ phylogenetic tree of two high coverage SNSZ samples and other species from the *Bos* genus constructed using 8,961,232 sites

Supplemental Tables

Table S1. Proportions of identified faunal remains from excavation of the SNSZ Site.

Species	NISP*	NISP%
<i>Sus scrofa domesticus</i>	1879	22.33%
<i>Canis familiaris</i>	121	1.44%
<i>Dicerorhinus</i>	38	0.45%
<i>Rhizomys</i>	371	4.41%
<i>Myospalax</i>	8	0.10%
<i>Hystrix</i>	1	0.01%
<i>Rodentia</i>	6	0.07%
<i>Lepus</i>	5	0.06%
<i>Cervus elaphus</i>	553	6.57%
<i>Cervus nippon</i>	2513	29.86%
<i>Capreolus capreolus</i>	913	10.85%
<i>Muntiacus</i>	98	1.16%
<i>Hydropotes</i>	11	0.13%
<i>Moschus</i>	5	0.06%
<i>Cervus</i>	360	4.28%
<i>Bos</i>	1123	13.34%
<i>Naemorhedus goral</i>	18	0.21%
<i>Pseudois nayaur</i>	3	0.04%
<i>Caprinae</i>	74	0.88%
<i>Gazella</i>	9	0.11%
<i>Sus scrofa</i>	5	0.06%
<i>Canis lupus</i>	1	0.01%
<i>Vulpes</i>	2	0.02%
<i>Nyctereutes procyonoides</i>	5	0.06%
Canidae	1	0.01%
<i>Ursus</i>	24	0.29%
<i>Arctonyx collaris</i>	1	0.01%
Felidae	11	0.13%
<i>Panthera tigris</i>	2	0.02%
Carnivora	1	0.01%
<i>Rhinopithecus</i>	254	3.02%
Total	8416	100%

*NISP: the number of identified specimens.

Table S2. Meta-data information for the samples from Shannashuzha site in this study

NO.	Sample Name	Genetic Species Identification	ID	Skeletal Element	Sequencer	Library Type	Shotgun Raw Sequence Reads after PE Merged (length>=35bp)	Shotgun Sequences Mapped to Reference after Duplicate Removal (length>=35bp)	Mapping Rate (length>=35bp) (Endogenous DNA)	Terminal Damage Rate (TDR)	Average Fragmental Length (bp) (SGS)	Genetic Sex Assignment (using the capture sequenced data)	Genetic Relatedness (using the capture sequenced data)
1	2013MCSTO309H113①-B	<i>Bos gaurus</i>	B. gaurus H113	Metacarpus	Hiseq X-ten	Double Strand Library	7,729,659	93,637	1.21%	16.28%	80	XY	Fourth generation affinity both to H48 and H57 individuals, respectively
2	2013MCSTO209H141-B	<i>Bos gaurus</i>	B. gaurus H141	II toe			14,310,224	219	0.00%	14.06%	64	XX	NA
3	2013MCSTO208H167-B	<i>Bos gaurus</i>	B. gaurus H167	Radius			17,285,636	984	0.01%	10.13%	51	XY	NA
4	2013MCSTO107H48-B	<i>Bos gaurus</i>	B. gaurus H48	-			16,461,428	8,035	0.05%	22.41%	80	XX	Fourth and third generation affinity to H113 and H57 individuals, respectively
5	2013MCSTO107H57-B	<i>Bos gaurus</i>	B. gaurus H57	I toe			6,166,557	19,401	0.31%	17.27%	62	XY	Fourth and third generation affinity to H113 and H48 individuals, respectively
6	2013MCSTO310H60-B	<i>Bos gaurus</i>	B. gaurus H60	Ulna			13,724,094	8,844	0.06%	18.30%	70	XX	NA
7	2013MCSTO107H63②-B	<i>Bos gaurus</i>	B. gaurus H63	Radius			490,541	18,398	3.75%	14.97%	56	XX	NA
8	2013MCSTO210H68-B	<i>Bos gaurus</i>	B. gaurus H68	Humerus			6,226,222	132,713	2.13%	17.24%	76	XX	NA
9	2013MCSTO107⑤-B	<i>Bos gaurus</i>	B. gaurus T0107	Metatarsal			NA*	NA	NA	NA	NA	XY	NA
10	2013MCSTO109④-B	<i>Bos gaurus</i>	B. gaurus T0109	Femur			NA	NA	NA	NA	NA	XY	NA
11	T0110H44-1	<i>Dicerorhinus sumatrensis</i>	R25	Tibia			134,836,059	297 (mtDNA)	0.00%	10.34%	81 (mtDNA)	NA	NA
12	T0110H44-2	<i>Dicerorhinus sumatrensis</i>	R26	Tibia			85,073,083	141 (mtDNA)	0.00%	23.08%	83 (mtDNA)	NA	NA

*NA: No available.

Table S3. Mapping results after merging the shotgun and captured sequences data for the 10 ancient gaurs from Shannashuzha

ID	Endogenous DNA (%)	PCR duplicates that were removed (%)	#MQ25 reads mapped reads		Coverage (X)		Coverage (1 X)	
			Nuclear genome	Mitochondrial genome	Nuclear Genome	Mitochondrial genome	Nuclear Genome	Mitochondrial genome
B. gaurus H113	6.98	48.03	85,766,842	253,233	3.638	1703.55	49.47%	100%
B. gaurus H57	7.35	63.18	64,683,454	20,799	2.736	157.87	42.72%	100%
B. gaurus H48	5.47	59.1	78,853,961	39,297	1.227	307.99	31.02%	100%
B. gaurus H60	1.01	69.23	6,039,411	57,759	0.172	452.12	7.99%	100%
B. gaurus H63	2.58	77.74	14,912,542	68,407	0.514	493.05	15.10%	100%
B. gaurus H68	1.74	75.32	10,571,066	4,536	0.312	35.77	11.22%	99.77%
B. gaurus H167	0.48	77.66	2,825,165	4,134	0.091	27.69	4.35%	98.91%
B. gaurus H141	0.18	68.25	1,170,486	931	0.039	5.81	2.66%	96.13%
B. gaurus T0107	0.48	76.37	3,566,425	1,424	0.073	9.05	4.43%	97.92%
B. gaurus T0109	2.24	68.62	10,865,531	13,183	0.189	83.67	9.27%	99.51%

#Summarizing the total trimmed reads, mapped reads, mapped after duplicate removal and filter < MQ25 to the *Bos taurus* genome reference (UCD_AR51.2), as well as percentage of endogenous DNA for each individual and genome coverage calculated using Qualimap after removal of duplicates and a filtering of minimum mapping quality of 25.

Table S4. Information on the reference mitochondrial genomes.

Species	Sample ID	Accession
<i>Bos javanicus</i>	Banteng	JN632605
<i>Bison bison</i>	Bison	NC_012346.1
<i>Bison bonasus</i>	Wisent	NC_014044
<i>Bos indicus</i>	Indicine	NC_005971
<i>Bos taurus</i>	Taurine	V00654
<i>Bubalus bubalis</i>	Water buffalo	NC020617
<i>Bos grunniens</i>	Yak	KU891851
<i>Bos gaurus</i>	<i>B. gaurus</i> ref	NC_024818.1
<i>Bos gaurus</i>	<i>B. gaurus</i> 02	This study
<i>Bos gaurus</i>	<i>B. gaurus</i> 03	This study
<i>Bos gaurus</i>	<i>B. gaurus</i> 04	This study
<i>Bos gaurus</i>	<i>B. gaurus</i> ypr115	This study
<i>Bos frontalis</i>	<i>B. frontalis</i> A	NC_036020
<i>Bos frontalis</i>	<i>B. frontalis</i> YD1	This study
<i>Bos frontalis</i>	<i>B. frontalis</i> YD2	This study
<i>Bos frontalis</i>	<i>B. frontalis</i> YD3	This study
<i>Bos frontalis</i>	<i>B. frontalis</i> YD4	This study
<i>Rhinoceros unicornis</i>	Indian	NC_001779.1
<i>Rhinoceros sondaicus</i>	Javan	FJ905815.1
<i>Dicerorhinus sumatrensis</i>	Sumatran	MF066643.1
<i>Coelodonta antiquitatis</i>	Woolly	FJ905813.1
<i>Ceratotherium simum</i>	White	NC_001808.1
<i>Diceros bicornis</i>	Black	FJ905814.1
<i>Tapirus terrestris</i>	Tapir	KJ417810.1

Table S5. Summary information of 60 individuals of the tribe *Bovini*

No.	Species	Breeds	Sample ID	Accession	Source	Region	Mapping rate	Duplication	Depth	Used for data set
1	<i>Bos taurus</i>	Hereford	<i>B. taurus H1</i>	SRR1365128	PRJNA176557	Europe	99.30%	8.67%	15.2	High confidence dataset used for phylogenetic analysis and specie identification.
2	<i>Bos taurus</i>	Hereford	<i>B. taurus H2</i>	SRR1365131	PRJNA176557	Europe	99.20%	8.93%	15.32	
3	<i>Bos taurus</i>	Tibetan	<i>B. taurus X22</i>	SRR6024571, SRR5507249	PRJNA379859	Tibet	98.38%	10.96%	26.28	
4	<i>Bos taurus</i>	Tibetan	<i>B. taurus X7</i>	SRR6024572, SRR5507248	PRJNA379859	Tibet	98.93%	10.20%	24.56	
5	<i>Bos indicus</i>	Wannan	<i>B. indicus WN4</i>	SRR6024573	PRJNA379859	South China	97.88%	10.12%	22.96	
6	<i>Bos indicus</i>	Wannan	<i>B. indicus WN8</i>	SRR6024574	PRJNA379859	South China	98.90%	9.91%	23.16	
7	<i>Bos indicus</i>	Sahiwal	<i>B. indicus Sha3b</i>	SRR6936540	PRJNA379859	India	99.55%	8.88%	20.96	
8	<i>Bos indicus</i>	Hariana	<i>B. indicus Har03</i>	SRR6936539	PRJNA379859	India	99.48%	13.64%	34.73	
9	<i>Bos javanicus</i>	American zoo banteng	<i>B. javanicus 08</i>	SRR4035276-79	PRJNA325061	America	97.87%	7.76%	8.99	
10	<i>Bos javanicus</i>	American zoo banteng	<i>B. javanicus 09</i>	SRR4035280-83	PRJNA325061	America	98.77%	11.81%	12.6	
11	<i>Bos javanicus</i>	South Asian wild banteng	<i>B. javanicus ypt</i>	SRR6448720-22	PRJNA427536	South Asia	99.75%	14.66%	22.84	
12	<i>Bison bison</i>	American bison	<i>B. bison 01</i>	SRP075182	PRJNA321590	America	99.75%	21.31%	30.23	
13	<i>Bubalus bubalis</i>	Xiajiang Swamp buffalo	<i>B. bubalis 01</i>	SRR9208767	PRJNA547460	South China	98.49%	11.43%	19.86	
14	<i>Bubalus bubalis</i>	Xiajiang Swamp buffalo	<i>B. bubalis 02</i>	SRR9208768	PRJNA547460	South China	98.29%	10.91%	18.62	
15	<i>Bos gaurus</i>	American zoo gaur	<i>B. gaurus 02</i>	SRS1620839	PRJNA325061	America	99.15%	4.33%	6.57	
16	<i>Bos gaurus</i>	American zoo gaur	<i>B. gaurus 03</i>	SRS1620840	PRJNA325061	America	98.90%	4.36%	6.57	
17	<i>Bos gaurus</i>	European zoo gaur	<i>B. gaurus 04</i>	ERS3381389	PRJEB31621	Europe	99.20%	18.86%	37.01	
18	<i>Bos gaurus</i>	Chinese wild gaur	<i>B. gaurus ypr115</i>	SRS2814552	PRJNA427536	South Asia	99.34%	9.67%	19.3	
19	<i>Bos frontalis</i>	Chinese gayal	<i>B. frontalis A</i>	<i>B. frontalis A</i>	PRJNA387130	China	99.02%	29.93%	47.04	
20	<i>Bos frontalis</i>	South Asian wild gayal	<i>B. frontalis YD1</i>	<i>This study</i>		Burma	99.79%	10.72%	19.38	
21	<i>Bos frontalis</i>	South Asian wild gayal	<i>B. frontalis YD2</i>	<i>This study</i>		Burma	99.81%	10.90%	19.83	
22	<i>Bos frontalis</i>	South Asian wild gayal	<i>B. frontalis YD3</i>	<i>This study</i>		Burma	99.84%	12.15%	20.96	
23	<i>Bos frontalis</i>	South Asian wild gayal	<i>B. frontalis YD4</i>	<i>This study</i>		Burma	99.50%	8.37%	17.32	
24	<i>Bison bonasus</i>	European wisent	<i>B. bonasus 01</i>	SRS1439150	PRJNA321590	Europe	99.35%	40.19%	45	
25	<i>Bison bonasus</i>	European wisent	<i>B. bonasus 02</i>	SRR3531976	PRJNA321599	Europe	98.63%	33.17%	12.25	
26	<i>Bos grunniens</i>	Wild yak	<i>B. grunniens 46</i>	SRR2058046	PRJNA285834	Tibet	99.81%	14.93%	18.2	
27	<i>Bos grunniens</i>	Wild yak	<i>B. grunniens 96</i>	SRR2059896	PRJNA285834	Tibet	98.31%	12.33%	20.93	
28	<i>Bos grunniens</i>	Wild yak	<i>B. grunniens 69</i>	SRR2059969	PRJNA285834	Tibet	81.68%	15.48%	18.12	
29	<i>Bos grunniens</i>	Wild yak	<i>B. grunniens 06</i>	SRR2062306	PRJNA285834	Tibet	99.52%	12.94%	20.16	
30	<i>Bos indicus</i>	Leiqiong	<i>HN5M</i>	SRR5507190	PRJNA379859	South China	99.15%	6.33%	11.50	Used for investigate the gene flow between ancient SNSZ and modern indicine populations.
31	<i>Bos indicus</i>	Leiqiong	<i>HN12M</i>	SRR5507189	PRJNA379859	South China	99.15%	6.14%	11.20	
32	<i>Bos indicus</i>	Leiqiong	<i>LZ15</i>	SRR5507188	PRJNA379859	South China	99.35%	5.91%	10.64	
33	<i>Bos indicus</i>	Wannan	<i>WN9M</i>	SRR5507197	PRJNA379859	South China	98.99%	5.63%	9.65	
34	<i>Bos indicus</i>	Wannan	<i>WN10M</i>	SRR5507196	PRJNA379859	South China	99.10%	6%	10.16	
35	<i>Bos indicus</i>	Wannan	<i>WN11M</i>	SRR5507195	PRJNA379859	South China	99.34%	6.33%	11.78	
36	<i>Bos indicus</i>	Guangfeng	<i>JXGF1</i>	SRR5507286	PRJNA379859	South China	99.75%	5.86%	9.46	
37	<i>Bos indicus</i>	Guangfeng	<i>JXGF2</i>	SRR5507285	PRJNA379859	South China	99.78%	6.13%	10.14	
38	<i>Bos indicus</i>	Guangfeng	<i>JXGF3</i>	SRR5507284	PRJNA379859	South China	99.71%	5.79%	9.31	
39	<i>Bos indicus</i>	Guangfeng	<i>JXGF4</i>	SRR5507283	PRJNA379859	South China	99.76%	6.46%	11.45	
40	<i>Bos indicus</i>	Jian	<i>JXJA1</i>	SRR5507282	PRJNA379859	South China	99.76%	6.35%	10.94	
41	<i>Bos indicus</i>	Jian	<i>JXJA2</i>	SRR5507281	PRJNA379859	South China	99.66%	5.71%	9.71	
42	<i>Bos indicus</i>	Jian	<i>JXJA3</i>	SRR5507280	PRJNA379859	South China	99.75%	5.84%	10.51	
43	<i>Bos indicus</i>	Jian	<i>JXJA4</i>	SRR5507279	PRJNA379859	South China	99.76%	6.19%	11.38	
44	<i>Bos indicus</i>	Jingjiang	<i>JXJJ1</i>	SRR5507278	PRJNA379859	South China	99.75%	6.12%	10.59	
45	<i>Bos indicus</i>	Jingjiang	<i>JXJJ3</i>	SRR5507275	PRJNA379859	South China	99.71%	5.87%	9.70	
46	<i>Bos indicus</i>	Jingjiang	<i>JXJJ4</i>	SRR5507274	PRJNA379859	South China	99.75%	6.31%	11.33	
47	<i>Bos indicus</i>	Dianzhong	<i>DZ9</i>	SRR6024563	PRJNA379859	Southwest China	99.61%	5.90%	9.59	
48	<i>Bos indicus</i>	Dianzhong	<i>DZ12</i>	SRR6024564	PRJNA379859	Southwest China	99.57%	5.81%	8.86	
49	<i>Bos indicus</i>	Dianzhong	<i>DZ4</i>	SRR6024565	PRJNA379859	Southwest China	99.22%	5.63%	8.23	
50	<i>Bos indicus</i>	Dianzhong	<i>DZ7</i>	SRR6024566	PRJNA379859	Southwest China	99.23%	5.85%	8.61	
51	<i>Bos indicus</i>	Dianzhong	<i>DZ2</i>	SRR6024567	PRJNA379859	Southwest China	99.27%	5.79%	8.92	
52	<i>Bos indicus</i>	Dianzhong	<i>DZ3</i>	SRR6024568	PRJNA379859	Southwest China	99.42%	5.99%	9.01	
53	<i>Bos indicus</i>	Wenshan	<i>WS3</i>	SRR6024562	PRJNA379859	Southwest China	99.32%	7.57%	11.00	
54	<i>Bos indicus</i>	Wenshan	<i>WS4</i>	SRR6024569	PRJNA379859	Southwest China	98.51%	7.56%	11.06	
55	<i>Bos indicus</i>	Wenshan	<i>WS7</i>	SRR6024570	PRJNA379859	Southwest China	99.55%	7.13%	11.61	
56	<i>Bos indicus</i>	Wenshan	<i>WS8</i>	SRR6024577	PRJNA379859	Southwest China	99.51%	7.58%	10.65	
57	<i>Bos indicus</i>	Wenshan	<i>WS12</i>	SRR6024575	PRJNA379859	Southwest China	99.55%	6.60%	9.40	
58	<i>Bos indicus</i>	Wenshan	<i>WS17</i>	SRR6024576	PRJNA379859	Southwest China	99.56%	7.17%	11.60	
59	<i>Bos indicus</i>	SriLanka	<i>CA279</i>	<i>This study</i>		South Asia	97.91%	7.21%	11.25	
60	<i>Bos indicus</i>	SriLanka	<i>CA288</i>	<i>This study</i>		South Asia	96.41%	7.55%	11.11	

Table S6. Outgroup *f*3 analysis using the whole genome SNP dataset test using ADMIXTOOLS

Source 1	Source 2	Target	<i>f</i> 3-statistic	Standard error	Z score
SNSZ gaur	Asian wild gaur	Buffalo	0.245961	0.005869	212.22
SNSZ gaur	Chinese gayal	Buffalo	0.233736	0.005854	212.661
SNSZ gaur	European zoo gaur	Buffalo	0.226822	0.005857	212.186
SNSZ gaur	Southeast Asia wild gayal	Buffalo	0.211403	0.005811	213.124
SNSZ gaur	American zoo banteng	Buffalo	0.194375	0.005783	214.12
SNSZ gaur	American zoo gaur	Buffalo	0.169263	0.005594	211.713
SNSZ gaur	Asian banteng	Buffalo	0.143924	0.00558	212.098

Table S7. Results of the D statistics tests performed to detect admixtures from Y to either W or X. Negative D statistics indicate that gene flow has occurred from Y to X, and positive D statistics indicate that gene flow has occurred from Y to W.

W	X	Y	Z	D	Z-value	Note
Gayal	Gaur	SNSZ gaur	Buffalo	-0.0399	-6.749	Exist gene flow from SNSZ gaur to modern gaur
Yak	Bison	SNSZ gaur	Buffalo	-0.0097	-2.31	No gene flow from SNSZ gaur into
Yak	Bison	Gayal	Buffalo	-0.0113	-2.9	Tibetan yak
Yak	Bison	Gaur	Buffalo	-0.0075	-1.883	
Yak	Bison	Banteng	Buffalo	0.0131	3.07	
Yak	Bison	South Asian indicine	Buffalo	0.0157	3.266	
Yak	Bison	Tibetan	Buffalo	0.1168	6.506	
South Asian indicine	Wannan	Banteng	Buffalo	-0.4362	-51.417	Exist gene flow from Banteng, Gaur,
South Asian indicine	Wannan	Gaur	Buffalo	-0.3128	-45.695	Gayal, SNSZ gaur into Chinese
South Asian indicine	Wannan	SNSZ gaur	Buffalo	-0.2959	-44.132	indicine cattle
South Asian indicine	Wannan	Gayal	Buffalo	-0.2466	-35.309	
South Asian indicine	Wannan	Wisent	Buffalo	-0.1642	-30.315	
South Asian indicine	Wannan	Yak	Buffalo	-0.1622	-30.322	
South Asian indicine	Wannan	Bison	Buffalo	-0.1604	-29.936	

Table S8. The historical distributions of typical bovids and rhinoceroses from 8,000 to 3,000 yr B.P. throughout China (below 38° N).

Site	Chinese name	Species	Location	Major Period (BP)	Altitude (m)	Reference
Shannashuzha	山那树扎	<i>Bos gaurus</i>	Gansu, Min county	5,280±5,050	34,490	This study
Haimenkou	海门口	<i>Bos gaurus</i>	Yunnan, Jianchuan	3,030±3,000	26,467	Wang, J. A <i>zooarchaeological study of the Haimenkou Site, Yunnan Province, China</i> (BAR Publishing, 2018).
Qogong	曲贡	<i>Bos grunniens</i>	Tibet, Lasa	3,700±3,500	29,697	The Institute of Archaeology Chinese Academy of Social Sciences & The Bureau of Cultural Relics Tibet Autonomous Region <i>Qogong in Lhasa: Excavations of An Ancient Site and Tombs</i> (in Chinese) (The Encyclopedia of China Publishing House, 1999).
Tawendalhai	塔温搭里哈	<i>Bos grunniens</i>	Qinghai, Dulan	3,200±3,000	36,117	Ren, L. <i>A study on animal exploitation strategies from the late Neolithic to Bronze Age in northeastern Tibetan Plateau and its surrounding areas, China</i> (in Chinese) Ph.D. thesis, Lanzhou University, (2017).
Dadiwan	大地位	<i>Dicerorhinus sumatrensis</i>	Gansu, Qin'an	7,800±7,300	35,015	The Gansu Provincial Institute of Cultural Relics and Archaeology, <i>Dadiwan in Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Dadiwan	大地位	<i>Dicerorhinus sumatrensis</i>	Gansu, Qin'an	6,500±5,900	35,015	The Gansu Provincial Institute of Cultural Relics and Archaeology, <i>Dadiwan in Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Dadiwan	大地位	<i>Dicerorhinus sumatrensis</i>	Gansu, Qin'an	5,500±4,900	35,015	The Gansu Provincial Institute of Cultural Relics and Archaeology, <i>Dadiwan in Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Weigangping	梧岗坪	<i>Dicerorhinus sumatrensis</i>	Sichuan, Bazhong	6,404±7,000	30,442	Chen, Q., Wang, S. & Zhang, D. <i>Study on the faunal remains of the Qingjiang River Basin</i> (in Chinese) (Science Press, 2004).
Xisiping	西寺坪	<i>Dicerorhinus sumatrensis</i>	Hebei, Changyang	6,200±5,700	30,473	Chen, Q., Wang, S. & Zhang, D. <i>Study on the faunal remains of the Qingjiang River Basin</i> (in Chinese) (Science Press, 2004).
Shazui	沙嘴	<i>Dicerorhinus sumatrensis</i>	Hebei, Changyang	5,500	30,400	Chen, Q., Wang, S. & Zhang, D. <i>Study on the faunal remains of the Qingjiang River Basin</i> (in Chinese) (Science Press, 2004).
Liuulinxi	柳林溪	<i>Rhinocerotidae</i>	Hebei, Zizui	7,000±6,000	30,890	China State Council Sanxia Project Construction Committee Office & National Cultural Heritage Administration, <i>Nannuyuan in Badong</i> (in Chinese) (Science Press, 2006).
Kuahuqiao	跨河桥	<i>Rhinocerotidae</i>	Zhejiang, Hangzhou	8,000±7,000	30,162	Zhejiang Provincial Institute of Cultural Relics and Archaeology, <i>Kuahuqiao (in Chinese)</i> (Cultural Relics Press, 2004).
Guantayouyu	关姚园	<i>Dicerorhinus sumatrensis</i>	Shaanxi, Baqij	7,100±6,500	34,478	Zhao, C. <i>A study on the faunal remains of prehistoric period in Guanzhong Region</i> (in Chinese) Master thesis, Jinlin University, (2009).
Gexinqiao	革新桥	<i>Rhinocerotidae</i>	Guangxi, Baise	6,000±5,500	23,876	Song, Y. & Xie, G. <i>Zooarchaeological study of early and middle Holocene in Baise, Guangxi (in Chinese)</i> , <i>Cultural Relics in Southern China</i> 1 , 179-183 (2016).
Beidai	北戴	<i>Rhinocerotidae</i>	Guangxi, Baise	9,000±7,000	23,947	Song, Y. & Xie, G. <i>Zooarchaeological study of early and middle Holocene in Baise, Guangxi (in Chinese)</i> , <i>Cultural Relics in Southern China</i> 1 , 179-183 (2016).
Shierqiao	十二桥	<i>Rhinocerotidae</i>	Sichuan, Chengdu	3,100±3,000	30,663	He, K. <i>Research on animal remains unearthed from the Shierqiao Site (in Chinese)</i> , <i>Sichuan Cultural Relics</i> 4 , 41-46 (2007).
hemudu	河姆渡	<i>Rhinocerotidae</i>	Zhejiang, Yuyao	7,000±6,000	29,962	Wei, F., Wu, W., Zhang, M. & Han, D. <i>Fauna of Neolithic Site in Hemudu, Yuyao, Zhejiang</i> (in Chinese) (Ocean Press, 1990).
Dianzitou	店头头	<i>Rhinocerotidae</i>	Hebei, Badong	6,000	31,033	Hu, Y. & Wu, X. <i>Brief report on excavation of Dianzitou Site, Badong (in Chinese)</i> , <i>Jianghan Archaeology</i> 3 , 28-36 (2004).
Dingshishan	顶蛳山	<i>Rhinocerotidae</i>	Guangxi, Yongning	8,000±7,000	23,200	Lü, P. <i>Zooarchaeological study of shell midden site in Yong River Basin, Guangxi</i> (in Chinese) Ph.D. thesis, Graduate School of Chinese Academy of Social Sciences, (2010).
Dingshishan	顶蛳山	<i>Rhinocerotidae</i>	Guangxi, Yongning	6,000	23,200	Lü, P. <i>Zooarchaeological study of shell midden site in Yong River Basin, Guangxi</i> (in Chinese) Ph.D. thesis, Graduate School of Chinese Academy of Social Sciences, (2010).
Shamaszhuha	山那树扎	<i>Rhinocerotidae</i>	Gansu, Min county	5,050±5,280	34,490	Ren, L. <i>A study on animal exploitation strategies from the late Neolithic to Bronze Age in northeastern Tibetan Plateau and its surrounding areas, China</i> (in Chinese) Ph.D. thesis, Lanzhou University, (2017).
Erlitou	二里头	<i>Rhinocerotidae</i>	Henan, Yanshi	3,700±3,600	34,694	Yang, J. <i>The zooarchaeological research of Erlitou Site in Yanshi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2006).
Fujianshan	佛家山	<i>Rhinocerotidae</i>	Zhejiang, Ningbo	6,800±6,500	30,017	Ningbo Municipal Institute of Cultural Relics and Archaeology, <i>Fujianshan: The Excavated Report on the Neolithic Site</i> (in Chinese) (Science Press, 2013).
Xiaowanggang	下王岗	<i>Dicerorhinus sumatrensis</i>	Henan, Xichuan	7,200±6,800	33,017	Jia, L. & Zhang, Z. <i>Faunal remains unearthed from Xiaowanggang Site, in Xichuan, Henan Province (in Chinese)</i> , <i>Cultural Relics</i> 6 , 41-49 (1977).
Yuxi	玉溪	<i>Rhinocerotidae</i>	Chongqing, Fengdu	7,600±6,800	30,037	Zhao, J. & Yuan, D. <i>A study on faunal remains from the Yuxi Site (in Chinese)</i> , <i>Jianchang Archaeology</i> 3 , 103-112 (2012).
Loujiqiao	楼脚桥	<i>Rhinocerotidae</i>	Zhejiang, Zheji	7,000±5,900	29,938	Zhejiang Provincial Institute of Cultural Relics and Archaeology, <i>Zhiji Museum & Pujiang Museum, Kuangtangshane, Jianshanwan</i> (in Chinese) (Cultural Relics Press, 2010).
Qindun	青墩	<i>Rhinocerotidae</i>	Jiangsu, Nantong	6,000±5,000	32,608	Li, C. & Wang, Q. <i>Qindun Archaeology</i> (in Chinese) (Suzhou University Press, 2010).
Maqiao	马桥	<i>Rhinocerotidae</i>	Shanghai, Minhang	3,900±3,200	31,029	Shanghai Municipal CPAM, <i>Maqiao Report on Excavation between 1993 and 1997</i> (in Chinese) (Shanghai Shuhua Press, 2002).
Tangziguou	塘子沟	<i>Rhinoceros sondaicus</i>	Yunnan, Baoshan	8,000±7,000	25,021	Geng, D. <i>Exploration of human living environment in Tangziguou Culture (in Chinese)</i> , <i>Journal of Yunnan Institute of the Nationalities (Social Sciences)</i> 1 , 49-55 (1995).
Xioutou	溪头	<i>Rhinocerotidae</i>	Fujian, Minhou	5,500±4,300	26,227	Qi, G. <i>The identification of faunal remains from Xioutou Site in Minhou (in Chinese)</i> , <i>Acta Archaeologica Sinica</i> 5 , 500 (1984).
Qingyuan	清源	<i>Rhinocerotidae</i>	Chongqing, Youyang	4,800±4,600	28,795	Chongqing Municipal Institute of Cultural Relics and Archaeology, <i>Chongqing Cultural Heritage Protection Center & Department of Archeology, School of History and Culture, Sichuan University Youyang Qingyuan</i> (in Chinese) (Science Press, 2009).
Zhonghua	中坝	<i>Rhinocerotidae</i>	Chongqing, Zhong	3,000	30,44	Fu, L. & Yuan, J. <i>The research of faunal remains in Zhonghua Site, Zhong County, Chongqing (in Chinese)</i> , <i>Archaeology</i> 1 , 79-88 (2006).
Baijiaocun	白家村	<i>Bubalus</i>	Shaanxi, Lintong	7,000±6,000	34,552	The Institute of Archaeology, CASA, <i>Bajiaocun Site in Lintong</i> (in Chinese) (Ba-Shu Publishing House, 1994).
Xishan	西山	<i>Bubalus</i>	Henan, Zhengzhou	6,500±4,800	34,913	Chen, Q. <i>A study of the faunal remains from the Xishan site in Zhengzhou (in Chinese)</i> , <i>Acta Archaeologica Sinica</i> 3 , 385-418 (2006).
Yanguanzhai	杨官寨	<i>Bubalus</i>	Shaanxi, Gaoling	5,000±4,000	34,470	Hu, S., Wang, W., Guo, X., Zhang, W. & Yang, M. <i>Faunal analysis of the animal remains found near the west gate of the settlement moat at Yangganzhai Site, Gaoling County, Shaanxi Province (in Chinese)</i> , <i>Archaeology and Cultural Relics</i> 6 , 97-107 (2011).
Kangjia	康家	<i>Bubalus</i>	Shaanxi, Lintong	4,500±4,000	34,590	Lü, Y., Liu, Y. & Qin, X. <i>The faunal remains unearthed at 1990 from Kangjia site in Lintong, Shaanxi (in Chinese)</i> , <i>Huaxia Archaeology</i> 1 , 3-24 (2001).
Yinsudao	银杏岛	<i>Bubalus</i>	Yunnan, Dali	5,000±4,400	25,686	Zhao, Y. <i>A research of faunal remains excavated from Yinsudao Site in Yunnan Province</i> (in Chinese) Master thesis, Jilin University, (2011).
Qianbuxia	前铺下	<i>Bubalus</i>	Shandong, Weifang	6,100±5,500	36,747	Song, Y. <i>Zooarchaeology research of Neolithic period, Haide region</i> (in Chinese) Ph.D. thesis, Shandong University, (2012).
Wanying	王因	<i>Bubalus</i>	Shandong, Yanzhou	5,900±5,200	35,462	Song, Y. <i>Zooarchaeology research of Neolithic period, Haide region</i> (in Chinese) Ph.D. thesis, Shandong University, (2012).
Zhuanglixia	庄里西	<i>Bubalus</i>	Shandong, Tengzhou	4,600±4,000	35,055	Institute of Cultural Heritage of Shandong University, <i>East Asia Archaeology (IX)</i> (in Chinese) (Science Press, 2012).
Dianzitou	店头头	<i>Bubalus</i>	Hebei, Badong	6,000	31,033	Hu, Y. & Wu, X. <i>Brief report on excavation of Dianzitou Site, Badong (in Chinese)</i> , <i>Jianghan Archaeology</i> 3 , 28-36 (2004).
Huadizui	花底嘴	<i>Bubalus</i>	Henan, Gongyi	3,850±3,750	34,800	Liu, Y. <i>Research of faunal remains from Huadizi site in Gongyi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2014).
Dingshishan	顶蛳山	<i>Bubalus</i>	Guangxi, Yongning	8,000±7,000	23,200	Lü, P. <i>Zooarchaeological study of shell midden site in Yong River Basin, Guangxi</i> (in Chinese) Ph.D. thesis, Graduate School of Chinese Academy of Social Sciences, (2010).
Dingshishan	顶蛳山	<i>Bubalus</i>	Guangxi, Yongning	6,000	23,200	Lü, P. <i>Zooarchaeological study of shell midden site in Yong River Basin, Guangxi</i> (in Chinese) Ph.D. thesis, Graduate School of Chinese Academy of Social Sciences, (2010).
Yanguanzhai	杨官寨	<i>Bubalus</i>	Shaanxi, Gaoling	5,040±4,000	34,471	Hu, S., Wang, W., Guo, X., Zhang, W. & Yang, M. <i>Faunal analysis of the animal remains found near the west gate of the settlement moat at Yangganzhai Site, Gaoling County, Shaanxi Province (in Chinese)</i> , <i>Archaeology and Cultural Relics</i> 6 , 97-107 (2011).
Weigangping	梧岗坪	<i>Bubalus</i>	Sichuan, Bazhong	6,400±7,000	30,442	Chen, Q., Wang, S. & Zhang, D. <i>Study on the faunal remains of the Qingjiang River Basin</i> (in Chinese) (Science Press, 2004).
Xisiping	西寺坪	<i>Bubalus</i>	Hebei, Changyang	6,100±5,700	30,473	Chen, Q., Wang, S. & Zhang, D. <i>Study on the faunal remains of the Qingjiang River Basin</i> (in Chinese) (Science Press, 2004).
Shazui	沙嘴	<i>Bubalus</i>	Hebei, Changyang	5,500	30,400	Chen, Q., Wang, S. & Zhang, D. <i>Study on the faunal remains of the Qingjiang River Basin</i> (in Chinese) (Science Press, 2004).
Nannuyuan	楠园	<i>Bubalus</i>	Hebei, Badong	7,000±7,300	30,142	China State Council Sanxia Project Construction Committee Office & National Cultural Heritage Administration, <i>Nannuyuan in Badong</i> (in Chinese) (Science Press, 2006).
Tangziguou	塘子沟	<i>Bubalus</i>	Yunnan, Baoshan	8,000±7,000	25,021	Geng, D. <i>Exploration of human living environment in Tangziguou Culture (in Chinese)</i> , <i>Journal of Yunnan Institute of the Nationalities (Social Sciences)</i> 1 , 49-55 (1995).
Tianluoshan	田螺山	<i>Bubalus</i>	Zhejiang, Ningbo	6,800±5,500	30,017	Chinese Archaeology Research Center of Peiking & Zhejiang Provincial Institute of Cultural Relics and Archaeology, <i>Integrated Studies on the Natural Remains from Tianluoshan</i> (in Chinese) (Cultural Relics Press, 2011).
Kuahuqiao	跨河桥	<i>Bubalus</i>	Zhejiang, Hangzhou	8,200±7,800	30,142	Zhejiang Provincial Institute of Cultural Relics and Archaeology & Xiaoshan Museum, <i>Kuahuqiao</i> (in Chinese) (Cultural Relics Press, 2004).
Kuahuqiao	跨河桥	<i>Bubalus</i>	Zhejiang, Hangzhou	7,700±7,300	30,142	Zhejiang Provincial Institute of Cultural Relics and Archaeology & Xiaoshan Museum, <i>Kuahuqiao</i> (in Chinese) (Cultural Relics Press, 2004).
Kuahuqiao	跨河桥	<i>Bubalus</i>	Zhejiang, Hangzhou	7,200±7,000	30,142	Zhejiang Provincial Institute of Cultural Relics and Archaeology & Xiaoshan Museum, <i>Kuahuqiao</i> (in Chinese) (Cultural Relics Press, 2004).
Rojojia	罗家角	<i>Bubalus</i>	Zhejiang, Tongxiang	7,000	30,617	China State Council Sanxia Project Construction Committee Office & National Cultural Heritage Administration, <i>Nannuyuan in Badong</i> (in Chinese) (Science Press, 2006).
Longnan	龙南	<i>Bubalus</i>	Jiangxi, Wuyang	5,400±4,200	30,982	China State Council Sanxia Project Construction Committee Office & National Cultural Heritage Administration, <i>Nannuyuan in Badong</i> (in Chinese) (Science Press, 2006).
Xudun	好墩	<i>Bubalus</i>	Jiangsu, Changzhou	7,000±6,000	31,717	China State Council Sanxia Project Construction Committee Office & National Cultural Heritage Administration, <i>Nannuyuan in Badong</i> (in Chinese) (Science Press, 2006).
Yuxi	玉溪	<i>Bubalus</i>	Chongqing, Fengdu	7,600±6,800	30,037	China State Council Sanxia Project Construction Committee Office & National Cultural Heritage Administration, <i>Nannuyuan in Badong</i> (in Chinese) (Science Press, 2006).
Yuxi	玉溪	<i>Bubalus</i>	Chongqing, Fengdu	6,300±5,900	30,037	Zhao, J. & Yuan, D. <i>A study on faunal remains from the Yuxi Site (in Chinese)</i> , <i>Jianchang Archaeology</i> 3 , 103-112 (2012).
Qionglongquan	琼隆泉	<i>Bubalus</i>	Yunnan, Yuan	5,000±4,200	32,841	Zhao, J. & Yuan, D. <i>A study on faunal remains from the Yuxi Site (in Chinese)</i> , <i>Jianchang Archaeology</i> 3 , 103-112 (2012).
Loujiqiao	楼脚桥	<i>Bubalus</i>	Zhejiang, Zheji	7,000±5,900	29,938	Chen, X., Luo, Y., Wu, H., Zhu, Y., Chen, J. & Wang, C. <i>The Analysis of the Stable Carbon and Nitrogen Isotopic of Pig Offering in a Tomb at Qionglongquan Site</i> (in Chinese) (Cultural Relics Press, 2010).
Tashan	塔山	<i>Bubalus</i>	Zhejiang, Ningbo	5,300±4,300	29,479	Zhejiang Provincial Institute of Cultural Relics and Archaeology, <i>Zhiji Museum & Pujiang Museum, Loujiqiao, Kuangtangshane, Jianshanwan</i> (in Chinese) (Cultural Relics Press, 2014).
Tashan	塔山	<i>Bubalus</i>	Zhejiang, Ningbo	5,300±4,300	29,479	Zhejiang Provincial Institute of Cultural Relics and Archaeology & Xiangshan Culture Relics Management Committee, <i>Xiangshan Tashan</i> (in Chinese) (Cultural Relics Press, 2014).
Majiazhang	马家浜	<i>Bubalus</i>	Zhejiang, Jiaxing	7,000±6,000	30,701	Yao, Z. & Mei, F. <i>The excavation of Majiazhang Neolithic site, Jiaxing, Zhejiang (in Chinese)</i> , <i>Archaeology</i> 7 , 345-351 (1961).
Jiangjiaoshan	江家山	<i>Bubalus</i>	Zhejiang, Changxing	6,500±6,000	30,941	Pan, Y. & Yuan, J. <i>A study of the industrial formation in the lower Yangtze River from Neolithic to Pre-Qin period (in Chinese)</i> , <i>Cultural Relics in Southern China</i> 4 , 111-125 (2018).
Bianjianshan	卞家山	<i>Bubalus</i>	Zhejiang, Hangzhou	4,900±4,500	30,394	Zhejiang Provincial Institute of Cultural Relics and Archaeology, <i>Bianjianshan</i> (in Chinese) (Cultural Relics Press, 2014).
Meirendi	美人地	<i>Bubalus</i>	Zhejiang, Hangzhou	5,300±4,300	30,393	Pan, Y. & Yuan, J. <i>A study of the industrial formation in the lower Yangtze River from Neolithic to Pre-Qin period (in Chinese)</i> , <i>Cultural Relics in Southern China</i> 4 , 111-125 (2018).
Chuoduan	绰缎	<i>Bubalus</i>	Jiangsu, Suzhou	5,300±4,300	31,399	Suzhou Municipal Institute of Cultural Relics and Archaeology, <i>Chuoduan Site in Kunshan</i> (in Chinese) (Cultural Relics Press, 2011).
Chuoduan	绰缎	<i>Bubalus</i>	Jiangsu, Suzhou	5,300±4,200	31,399	Suzhou Municipal Institute of Cultural Relics and Archaeology, <i>Chuoduan Site in Kunshan</i> (in Chinese) (Cultural Relics Press, 2011).
Qianshangyanyang	钱山漾	<i>Bubalus</i>	Zhejiang, Huzhou	4,400±4,000	30,816	Zhejiang Provincial Institute of Cultural Relics and Archaeology & Huzhou Museum, <i>Qianshangyanyang: A Report on the Third and Fourth Excavations of the Site</i> (in Chinese) (Cultural Relics Press, 2014).
Maqiao	马桥	<i>Bubalus</i>	Shanghai, Minhang	3,900±3,200	31,029	Shanghai Municipal CPAM, <i>Maqiao: Report on Excavation between 1993 and 1997</i> (in Chinese) (Shanghai Shuhua Publishing House, 2002).
hemudu	河姆渡	<i>Bubalus</i>	Zhejiang, Yuyao	7,000±5,800	29,962	Wei, F., Wu, W., Zhang, M. & Han, D. <i>Fauna of Neolithic Site in Hemudu, Yuyao, Zhejiang</i> (in Chinese) (Ocean Press, 1990).
Baxingshundian	坝上甸	<i>Bubalus</i>	Jiangsu, Changzhou	6,500	31,681	Zhou, S. <i>Preliminary study on the domestication of water buffalo from the Tianluoshan site, Zhejiang Province-Based on Carbon and Nitrogen isotopic analysis</i> Zhejiang University, (2017).
Changning	长宁	<i>Bubalus</i>	Qinghai, Datong	4,200±3,800	31,373	Gu, J. et al. <i>Preliminary understanding of rice farming in Majiazhang Culture Period at Chaoxishan Site (in Chinese)</i> , <i>Southeast Clture</i> 3 , 15-24 (1998).
Xinzhai	新寨	<i>Bubalus</i>	Henan, Xinxi	4,050±3,750	34,440	Zhou, S. <i>Preliminary study on the domestication of water buffalo from the Tianluoshan site, Zhejiang Province-Based on Carbon and Nitrogen isotopic analysis</i> (in Chinese) Master thesis, Zhejiang University, (2017).
Erlitou	二里头	<i>Bubalus</i>	Henan, Yanshi	3,700±3,300	35,731	Song, J., Chen, J. & He, M. <i>The excavated report of Yaoyaoqian Site, Songjiang County, Shanghai (in Chinese)</i> , <i>Archaeology</i> 9 , 3-12 (2001).
Zhangdeng	章登	<i>Bubalus</i>	Guangdong, Foshan	4,300±4,000	23,008	Guangdong Museum & Foshan Museum, <i>Hedong Site in Foshan</i> (in Chinese) (Guangdong People's Press, 2006).
Houetingye	后头营	<i>Bubalus</i>	Anhui, Bozhou	6,100±5,500	33,644	Dai, L. & Zhang, D. <i>The research of faunal remains from Houetingye Site, Bozhou, Anhui Province (in Chinese)</i> , <i>Cultural Relics in Southern China</i> 1 , 142-150 (2018).
Taosi	陶寺	<i>Bos taurus</i>	Shanxi, Linfen	4,300±3,900	35,898	Bruson, K., He, N. & Dai, X. <i>Cattle, sheep, and specialization: New zooarchaeological perspective on the Taosi Longshan</i> (in Chinese), <i>International Journal of Osteoarchaeology</i> 26 , 460-475 (2016).
Wadian	蔚代	<i>Bos taurus</i>	Henan, Yuzhou	4,500±4,000	34,190	Department of Social Development Science and Technology, Ministry of Science and Technology & Department of Museums and Social Heritage, National Administration of Cultural Heritage, <i>Collection of Chinese Civilization Prospecting Engineering-Technology and Economic IV</i> (in Chinese) (Science Press, 2009).
Zhoujiazhuang	周家庄	<i>Bos taurus</i>	Shanxi, Yuncheng	4,300±3,900	35,486	Bruson, K., He, N. & Dai, X. <i>Cattle, sheep, and specialization: New zooarchaeological perspective on the Taosi Longshan</i> (in Chinese), <i>International Journal of Osteoarchaeology</i> 26 , 460-475 (2016).
Changning	长宁	<i>Bos taurus</i>	Qinghai, Datong	3,800±3,500	36,800	Li, L. <i>A study on animal exploitation from Changning Site, Qinghai Province</i> (in Chinese) Master thesis, Jilin University, (2012).
Xinzhai	新寨	<i>Bos taurus</i>	Henan, Zhouman	3,800±3,500	33,496	Li, L. <i>A study on animal exploitation from Changning Site, Qinghai Province</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2014).
Changning	长宁	<i>Bos taurus</i>	Shanxi, Zouping	4,600±4,000	36,946	Rao, X. <i>Research on the faunal remains of Changning Site, Zouping</i> (in Chinese) Master thesis, Shandong University, (2014).
Zaolinhetan	寨林河滩	<i>Bos taurus</i> </				

Table S9. The number of identified specimens of wild mammals and radiocarbon dates along the Yellow River basin during 8,000-3,000 yr B.P.

Site	Chinese name	Major Period (BP)	Location	References
Dadiwan	大地湾	7800-7300	Gansu, Tianshui	The Gansu Provincial Institute of Cultural Relics and Archaeology <i>Dadiwan In Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Yuezhuang	月庄	7800-7000	Shandong, Jinan	Song, Y. <i>Zooarchaeology research of Neolithic period, Haidai region</i> (in Chinese) Ph.D. thesis, Shandong University, (2012).
Baijiacun	白家村	7330-7000	Shaanxi, Lintong	The Institute of Archaeology, CASS <i>Baijiacun Site at Lintong</i> (in Chinese) (Ba-Shu Publishing House, 1994).
Lingkoucun	零口村	7300-6500	Shaanxi, Lintong	Zhao, C. <i>A study on the faunal remains of prehistoric period in Guanzhong Region</i> (in Chinese) Master thesis, Jinlin University, (2009).
Dadiwan	大地湾	6500-5900	Gansu, Tianshui	The Gansu Provincial Institute of Cultural Relics and Archaeology <i>Dadiwan In Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Jiangzhai	姜寨	6800-6350	Shaanxi, Lintong	Banpo Museum. <i>Jiangzhai-The excavation report of a Neolithic site</i> (in Chinese) (Cultural Relics Press, 1988).
Lingkoucun	零口村	6500-6200	Shaanxi, Lintong	Zhao, C. <i>A study on the faunal remains of prehistoric period in Guanzhong Region</i> (in Chinese) Master thesis, Jinlin University, (2009).
Wayao gou	瓦窑沟	6500-6000	Shaanxi, Tongchuan	Wang, H. <i>Animal subsistence of the Yangshao period in the Wei river valley: a case-study from the site of Wayao gou in Shaanxi Province, China</i> Ph.D. thesis, University College London, (2011).
Jiangzhai	姜寨	6500-5900	Shaanxi, Lintong	Banpo Museum. <i>Jiangzhai: The excavation report of a Neolithic site</i> (in Chinese) (Cultural Relics Press, 1988).
Dadiwan	大地湾	5900-5500	Gansu, Tianshui	The Gansu Provincial Institute of Cultural Relics and Archaeology <i>Dadiwan In Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Beiqian	北阡	6100-5500	Shandong, Jinan	Institute of Cultural Heritage of Shandong University <i>East Asia Archaeology (X)</i> (in Chinese) (Science Press, 2014).
Xipo	西坡	5950-5450	Henan, Lingbao	Ma, X. The faunal remains in Xipo Site, Lingbao, Henan Province (in Chinese) <i>Cultural Relics of Central China</i> 4, 48-61 (2007).
Dazhongjia	大仲家	6100-5500	Shandong, Yantai	Song, Y. <i>Zooarchaeology research of Neolithic period, Haidai region</i> (in Chinese) Ph.D. thesis, Shandong University, (2012).
Wengjiabu	翁家埠	6100-5500	Shandong, Rushan	Song, Y. <i>Zooarchaeology research of Neolithic period, Haidai region</i> (in Chinese) Ph.D. thesis, Shandong University, (2012).
Xishan	西山	5500-5000	Gansu, Li County	Yu, C. The identification and research of animal remains of Xishan site in Li County, Gansu Province (in Chinese) <i>Cultural Relics in Southern China</i> 3, 73-79 (2011).
Dadiwan	大地湾	5500-4900	Gansu, Tianshui	The Gansu Provincial Institute of Cultural Relics and Archaeology <i>Dadiwan In Qin'an: Report on Excavations at a Neolithic Site</i> (in Chinese) (Cultural Relics Press, 2006).
Andaqia	安达其哈	5400-4900	Qinghai, Hualong	Ren, L. <i>A study on animal exploitation strategies from the late Neolithic to Bronze Age in northeastern Tibetan Plateau and its surrounding areas, China</i> (in Chinese) Ph.D. thesis, Lanzhou University, (2017).
Shannashuzha	山那树扎	5050-5280	Gansu, Min County	Ren, L. <i>A study on animal exploitation strategies from the late Neolithic to Bronze Age in northeastern Tibetan Plateau and its surrounding areas, China</i> (in Chinese) Ph.D. thesis, Lanzhou University, (2017).
Longshangang	龙山岗	6000-5000	Henan, Nanyang	Lin, M. <i>Analyses on faunal remains from Longshangang site, in Xichuan County, Henan Province</i> (in Chinese) Master thesis, Shandong University, (2011).
Quanhucun	泉护村	5640-5100	Shaanxi, Huayin	Shaanxi Provincial Institute of Archaeology, Antiquities and Tourism Bureau in Weinan, & Antiquities and Tourism Bureau in Hua county <i>The Quanhucun site in Huaxian County: A report of the 1997-year excavation</i> (in Chinese) (Cultural Relics Press, 2014).
Jiangzhai	姜寨	5600-4900	Shaanxi, Lintong	Banpo Museum. <i>Jiangzhai: The excavation report of a Neolithic site</i> (in Chinese) (Cultural Relics Press, 1988).
Xinglefang	兴乐坊	5500	Shaanxi, Huayin	Hu, S., Yang, Q. & Yang, M. Analysis on the Faunal Remains from the Xinglefang Site, Huaying, Shaanxi Province (in Chinese) <i>Archaeology and Cultural Relics</i> 6, 117-125 (2011).
Xishan	西山	5300-4800	Henan, Zhengzhou	Chen, Q. A study of the faunal remains from the Xishan site in Zhengzhou (in Chinese). <i>Acta Archaeologica Sinica</i> 385-418 (2006).
Longshangang	龙山岗	5250-4450	Henan, Nanyang	Lin, M. <i>Analyses on faunal remains from Longshangang site, in Xichuan County, Henan Province</i> (in Chinese) Master thesis, Shandong University, (2011).
Yangjiesha	杨界沙	5000-4900	Shaanxi, Yulin	Hu, S. et al. Research faunal remains from the Yangjiesha Site in Hengshan County, Shaanxi Province (in Chinese) <i>Acta Anthropologica Sinica</i> 32(1), 77-92 (2013).
Duzhong	笃忠	5000	Henan, Mianchi	Yang, M., Wu, Z. & Hou, Y. Analysis on Animal Remains at Duzhong site in Mianchi County, Henan (in Chinese) <i>Cultural Relics of Central China</i> 2, 29-36 (2009).
Jiaojia	焦家	5000-4500	Shandong, Jinan	Wang, J. <i>Research on the faunal remains of middle-late Dawenkou culture unearthed during 2017 excavation at Jiaojia site, Zhangqiu</i> (in Chinese) Master thesis, Shandong University, (2019).
Dagujie	大古界	4900-4400	Shaanxi, Yulin	Hu, S., Yang, L., Kang, N., Yang, M. & Li, X. An analysis of faunal remains from the Dagujie site in Hengshan, Shaanxi (in Chinese) <i>Archaeology and Cultural Relics</i> 4, 106-112 (2012).
Zongri	宗日	4600-4000	Qinghai, Tongde	Ren, L. <i>A study on animal exploitation strategies from the late Neolithic to Bronze Age in northeastern Tibetan Plateau and its surrounding areas, China</i> (in Chinese) Ph.D. thesis, Lanzhou University, (2017).
Yangguanzhai	杨官寨	5400-4000	Shaanxi, Gaoling	Hu, S., Wang, W., Guo, X., Zhang, W. & Yang, M. Faunal analysis of the animal remains found near the west gate of the settlement moat at Yangguanzhai Site, Gaoling County, Shaanxi Province (in Chinese) <i>Archaeology and Cultural Relics</i> 6, 97-107 (2011).
Zhuanglixia	庄里西	4600-4000	Shandong, Zaozhuang	Institute of Cultural Heritage of Shandong University <i>East Asia Archaeology (IX)</i> (in Chinese) (Science Press, 2012).
Yinjiacheng	尹家城	4600-4000	Shandong, Jinan	Department of History, Shandong University <i>Sishui Yinjiacheng</i> (in Chinese) (Cultural Relics Press, 1990).
Dinggong	丁公	4600-4000	Shandong, Binzhou	Rao, X. <i>Research on the faunal remains of Longshan culture in Dinggong site, Zouping</i> (in Chinese) Master thesis, Shandong University, (2014).
Longshangang	龙山岗	4450-4100	Henan, Nanyang	Lin, M. <i>Analyses on faunal remains from Longshangang site, in Xichuan County, Henan Province</i> (in Chinese) Master thesis, Shandong University, (2011).
Houyangguanzhuang	后杨官庄	4400-4200	Shandong, Linyi	Shandong Provincial Institute of Cultural Relics and Archaeology <i>Haidai Archaeology (VI)</i> (in Chinese) (Science Press, 2013).
Jiangzhai	姜寨	4350-3950	Shaanxi, Lintong	Banpo Museum. <i>Jiangzhai: The excavation report of a Neolithic site</i> (in Chinese) (Cultural Relics Press, 1988).
Zhoujiazhuang	周家庄	4300-3900	Shanxi, Yuncheng	Brunson, K., He, N. & Dai, X. Sheep, cattle, and specialization: New zooarchaeological perspective on the Taosi Longshan <i>International Journal of Osteoarchaeology</i> 26, 460-475 (2016).
Taosi	陶寺	4300-3900	Shanxi, Linfen	Brunson, K., He, N. & Dai, X. Sheep, cattle, and specialization: New zooarchaeological perspective on the Taosi Longshan <i>International Journal of Osteoarchaeology</i> 26, 460-475 (2016).
Kangjia	康家	4200-4100	Shaanxi, Lintong	Liu, L., Yan, Y. & Qin, X. The faunal remains unearthed at 1990 from Kangjia site in Lintong, Shaanxi (in Chinese) <i>Huaxia Archaeology</i> 1, 3-24 (2001).
Xichengyi	西城驿	3700-3600	Gansu, Zhangye	Institute of Cultural Heritage of Shandong University <i>East Asia Archaeology 13</i> (in Chinese) (Science Press, 2016).
Jinchankou	金蝉口	4000-3800	Qinghai, Huizhu	Ren, L. <i>A study on animal exploitation strategies from the late Neolithic to Bronze Age in northeastern Tibetan Plateau and its surrounding areas, China</i> (in Chinese) Ph.D. thesis, Lanzhou University, (2017).
Dahezhuang	大何庄	4000-3600	Gansu, Linxia	Gansu Archaeological Team, Institute of Archaeology, Chinese Academy of Sciences. <i>Excavation report of Dahezhuang site in Yongjing, Gansu</i> (in Chinese) <i>Acta Archaeologica Sinica</i> 2, 56 (1974).
Shimao	石峁	4300-3800	Shaanxi, Shenmu	Hu, S., Yang, M., Sun, Z. & Shao, J. Research on Faunal Remains from the 2012- 2013 Season Excavation at the Shimao Site in Shenmu, Shaanxi (in Chinese) <i>Archaeology and Cultural Relics</i> 4, 109-121 (2016).
Huoshiliang	火石梁	4150-3900	Shaanxi, Yulin	Hu, S., Zhang, P. & Yuan, M. A study on the faunal remains from the Huoshiliang site in Yulin, Shaanxi (in Chinese) <i>Acta Anthropologica Sinica</i> 27(3), 232-248 (2008).
Xinzhai	新砿	4050-3900	Henan, Xinmi	Aurora Center for the Study of Ancient Civilizations, Peking University & Zhengzhou Institute of Cultural Relics and Archaeology <i>Jiangzhai site in Xinmi: Report on archaeological excavations in 1999 and 2000</i> (in Chinese) (Cultural Relics Press, Beijing (2008).
Meishan	煤山	3900-3600	Henan, Linru	You, Y., Yuan, G., Zhao, Y. & Jing, S. Research of faunal remains from Meishan site in Linru County, Henan Province (in Chinese) <i>Cultural Relics in Southern China</i> 3, 165-176 (2017).
Huadizui	花地嘴	3850-3750	Henan, Gongyi	Liu, Y. <i>Research of faunal remains from Huadizui site in Gongyi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2014).
Xinzhai	新砿	3850-3750	Henan, Xinmi	Aurora Center for the Study of Ancient Civilizations, Peking University & Zhengzhou Institute of Cultural Relics and Archaeology <i>Jiangzhai site in Xinmi: Report on archaeological excavations in 1999 and 2000</i> (in Chinese) (Cultural Relics Press, Beijing (2008).
Shangpo	上坡	3800-3500	Henan, Zhumadian	Yang, M. <i>The animal remains research of Shangpo site in Xipeng country in Henan Province</i> (in Chinese) Master thesis, Henan University, (2018).
Yinjiacheng	尹家城	3800-3450	Shandong, Jinan	Department of History, Shandong University <i>Sishui Yinjiacheng</i> (in Chinese) (Cultural Relics Press, 1990).
Xinzhai	新砿	3750	Henan, Xinmi	Aurora Center for the Study of Ancient Civilizations, Peking University & Zhengzhou Institute of Cultural Relics and Archaeology <i>Jiangzhai site in Xinmi: Report on archaeological excavations in 1999 and 2000</i> (in Chinese) (Cultural Relics Press, Beijing (2008).
Erlitou	二里头	3705-3635	Henan, Yanshi	Yang, J. <i>The zoarchaeological research of Erlitou site in Yanshi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2006).
Erlitou	二里头	3635-3565	Henan, Yanshi	Yang, J. <i>The zoarchaeological research of Erlitou site in Yanshi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2006).
Erlitou	二里头	3565-3530	Henan, Yanshi	Yang, J. <i>The zoarchaeological research of Erlitou site in Yanshi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2006).
Xujianian	徐家碾墓地	3150-3050	Gansu, Zhubanglang	Institute of Archaeology, Chinese Academy of Social Sciences <i>The Siwa Culture Cemetery at Xujianian: Excavation Report on Xujianian in Zhubanglang County</i> (in Chinese) (Science Press, 2006).
Erlitou	二里头	3600-3300	Henan, Yanshi	Yang, J. <i>The zoarchaeological research of Erlitou site in Yanshi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2006).
Daxinzhuang	大辛庄	3600-3000	Shandong, Jinan	Yang, J. <i>The zoarchaeological research of Erlitou site in Yanshi, Henan</i> (in Chinese) Master thesis, Graduate School of Chinese Academy of Social Sciences, (2006).
Tangshan	唐山	3600-3000	Shandong, Huantai	Institute of Cultural Heritage of Shandong University <i>East Asia Archaeology (V)</i> (in Chinese) (Science Press, 2010).
Qianbu	前埠	3600-3000	Shandong, Huantai	Institute of Cultural Heritage of Shandong University <i>East Asia Archaeology (V)</i> (in Chinese) (Science Press, 2010).
Zaolinhetan	枣林河滩	3600-3000	Shaanxi, Xunyi	Li, Y., Chen, T., Liu, H. & Dou, H. A study of the pre-Zhou subsistence economy in the ancient bin area using faunal remains from the site of Zaolinhetan in Xunyi, Shaanxi Province (in Chinese) <i>Agricultural History of China</i> 38(4), 33-42 (2019).
Liujiazhuang	刘家庄	3600-3000	Shandong, Jinan	Liu, Y. <i>The research of faunal remains in Liujiazhuang site of Shang dynasty</i> (in Chinese) Master thesis, Shandong University, (2019).
Yinxu Xiaomintun	殷墟孝民屯	3300-3000	Henan, Anyang	Li, Z. <i>The Study on faunal remains from Anyang, the capital site of late Shang</i> (in Chinese) Ph.D. thesis, Graduate School of Chinese Academy of Social Sciences, (2009).
Yinxu Baijiafen	殷墟白家坟	3300-3000	Henan, Anyang	Li, Z. <i>The Study on faunal remains from Anyang, the capital site of late Shang</i> (in Chinese) Ph.D. thesis, Graduate School of Chinese Academy of Social Sciences, (2009).
Yinxu Dasikong	殷墟大司空	3300-3000	Henan, Anyang	Wang, H. <i>The study on faunal remains from Dasikong site, Anyang, in 2016</i> (in Chinese) Master thesis, Shandong University, (2019)