[Supplementary material]

Horses in Qin mortuary practice: new insights from Emperor Qin Shihuang's mausoleum

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Table S1. Criteria used to estimate horse age from the tooth wear of lower incisors (Sisson 1953; The Chinese People's Liberation Army University of Veterinary Medicine 1979) (I1 = first incisor; I2 = the second incisor).

Age	Major criteria
Nine years	• I1: rounded-triangular shape of the grinding surface; transverse diameter greater than antero-posterior diameter; small, triangular enamel ring
	• I2: horizontal-oval shape of the grinding surface; small, oval enamel ring
10 Years	• I1: rounded-triangular shape of the grinding surface; small, oval enamel ring; transverse diameter slightly greater than antero-posterior
	• I2: rounded-triangular shape of the grinding surface; triangular enamel ring
11 Years	• I1: round shape of the grinding surface; small, round enamel ring closer to the tongue
	• I2: nearly round shape of the grinding surface; triangular enamel ring, bigger than that of I1

12 Years	•	I1: round shape of the grinding surface; dotted enamel ring approaches the lingual border
	•	I2: round shape of the grinding surface; round enamel ring
13 Years	•	I1: rounded-triangular or round shape of the grinding surface; antero-posterior diameter greater than transverse diameter; absence of enamel ring
	•	I2: round shape of the grinding surface; small, dotted enamel ring approaches the lingual border
14 Years	•	I1: rounded-triangular shape of the grinding surface
	•	I2: rounded-triangular shape of the grinding surface; absence of enamel ring

Table S2. Height estimates for horses in K0006. MEH=mean estimated height.

Skeletal element	Length (m)	MEH (m) (Hayashida & Yamauchi 1957)	MEH (m) (May 1985)	MEH (m) (Kiesewalter 1888)
Scapula	0.365	1.471	–	1.460
	0.350	1.427	–	1.40
	0.362	1.463	–	1.448
	0.370	1.486	–	1.480
Mean value	**0.362**	**1.462**	–	**1.447**
Humerus	0.290	1.356	1.344	–
	0.290	1.356	1.344	–
	0.329	1.509	1.525	–
Mean value	**0.303**	**1.407**	**1.404**	–
Radius	0.345	1.413	1.418	–
	0.360	1.471	1.480	–
	0.360	1.471	1.480	–
	0.340	1.392	1.398	–
	0.340	1.392	1.398	–
	0.342	1.401	1.406	–
Mean value	**0.348**	**1.423**	**1.430**	–
Metacarpal III	0.235	1.427	1.434	–
	0.218	1.334	1.330	–
	0.222	1.357	1.355	–
	0.234	1.422	1.428	–
	0.239	1.446	1.458	–
Mean value	**0.230**	**1.397**	**1.401**	–
Femur	0.410	1.400	1.435	1.435
	0.390	1.329	1.365	1.365
Mean value	**0.40**	**1.364**	**1.40**	**1.40**
Tibia	0.355	1.411	1.401	–
	0.361	1.437	1.425	–
Mean value	**0.358**	**1.424**	**1.413**	–
Metatarsal III	0.284	1.406	1.488	–
	0.261	1.296	1.367	–
	0.260	1.291	1.362	–

	0.277	1.373	1.451	–
	0.280	1.387	1.467	–
	0.280	1.387	1.467	–
Mean value	0.274	**1.356**	**1.434**	–

Table S3. Mean values of horse height estimates used for statistical tests. MEH = mean estimated height.

Site	Skeletal element	MEH (m) (Hayashida & Yamauchi 1957)	MEH (m) (May 1985)
Heishuihelu (Anyang)	Scapula	–	–
	Humerus	–	–
	Radius	–	–
	Metacarpal III	1.396	1.397
	Femur	–	–
	Tibia	–	–
	Metatarsal III	1.286	1.357
Zaoshugounao	Scapula	–	–
	Humerus	1.341	1.330
	Radius	–	–
	Metacarpal III	1.351	1.349
	Femur	1.274	1.309
	Tibia	1.357	1.354
	Metatarsal III	1.310	1.383
Zhaitouhe	Scapula	1.333	1.326
	Humerus	1.328	1.321
	Radius	1.352	1.361
	Metacarpal III	1.40	1.429
	Femur	1.291	1.327
	Tibia	1.345	1.347
	Metatarsal III	1.30	1.373
Luoyang	Scapula	1.414	–
	Humerus	1.365	1.353
	Radius	1.353	1.361
	Metacarpal III	1.369	1.367
	Femur	1.354	1.390
	Tibia	1.371	1.366
	Metatarsal III	1.315	1.388
K0006	Scapula	1.462	–
	Humerus	1.407	1.404

Radius	1.423	1.430
Metacarpal III	1.397	1.401
Femur	1.364	1.40
Tibia	1.424	1.413
Metatarsal III	1.356	1.434

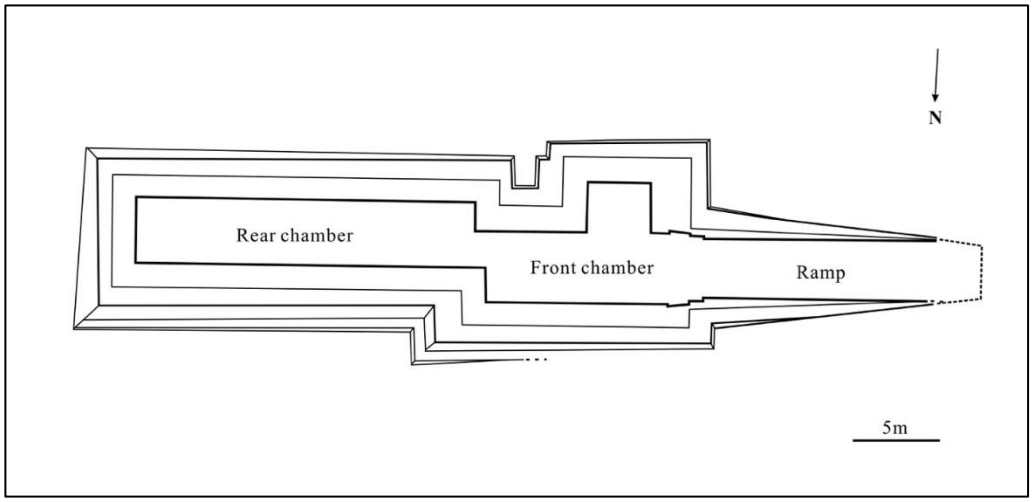

Figure S1. Sketch showing a plan of accessory pit K0006 (modified after Shaanxi Provincial Institute of Archaeology & Emperor Qinshihuang's Mausoleum Site Museum 2006: 67).

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