

CHAPTER XV

THE FOSSIL MAMMALS OF SPY

Supporting Information

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SF1. Diaphysis fragment of reindeer metapodial (D4 19B 121 1480) with red ochre traces; this bone has an AMS age of c. 34,400 BP (Semal et al., 2009)



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SEMAL P., ROUGIER H., CREVECOEUR I., JUNGELS C., FLAS D., HAUZEUR A., MAUREILLE B., GERMONPRÉ M., BOCHERENS H., PIRSON S., CAMMAERT L., DE CLERCK N., HAMBUCKEN A., HIGHAM T., TOUSSAINT M. & VAN DER PLICHT J., 2009. New Data on the Late Neandertals: Direct Dating of the Belgian Spy Fossils. *American Journal of Physical Anthropology*, **138** (4): 421-428.

SF2. *Unfinished ivory pearl (E8)
with red ochre traces*



SF3. *Perforated ivory pearl (75 1954)
with red ochre traces*



SF4. *Upper premolar (P²) of woolly
rhinoceros (13531) with red ochre traces*



ST1. Vulpes vulpes

	<i>Adult</i>		<i>Juvenile</i>		<i>Total</i>		<i>Cut marks</i>	<i>Perforated</i>	<i>Gnawing traces</i>
	NISP	MNIe	NISP	MNIe	NISP	MNIe	NISP	NISP	NISP
Skull	2	1			2	1			
Maxilla	1	1	1	1	2	2			
Mandible	16	9	2	1	18	10			
Deciduous teeth			2	1	2	1			
C ¹	9	5			9	5			
C ₁	9	5			9	5		1	
I ³	1	1			1	1		1	
P ⁴	2	1			2	1			
P ₄	4	2			4	2			
M ₁	3	2			3	2			
Vertebrae									
atlas	4	4			4	4			
sacrum	1	1			1	1			
caudal	11	1			11	1			
Rib	6	1			6	1			
Scapula	2	1			2	1			1
Humerus	7	2			7	2			
Radius	6	2			6	2			
Ulna	6	3			6	3			
MC II	1	1	1	1	2	2			
MC III	2	1			2	1			
MC IV	2	1			2	1			
MC V	1	1			1	1			
Pelvis	2	1			2	1			
Femur	8	4			8	4			
Tibia	4	2			4	2			
Tarsals									
astragalus	3	3			3	3	1		
calcaneum	2	2			2	2			
other	1	1			1	1			
MT II	2	1			2	1			
MT III	9	6			9	6			
MT IV	5	3			5	3			
MT V	4	3			4	3			
Metapodials	3				3				
Phalanges I	5	1			5	1			
Phalanges II	1	1			1	1			
<i>Total</i>	<i>145</i>	<i>9</i>	<i>6</i>	<i>1</i>	<i>151</i>	<i>10</i>	<i>1</i>	<i>2</i>	<i>1</i>

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST2. *Alopex lagopus*

	<i>Adult</i>		<i>Juvenile</i>		<i>Total</i>		<i>Ornament</i>
	NISP	MNIe	NISP	MNIe	NISP	MNIe	NISP
Maxilla	2	1			2	1	
Mandible	5	3	2	1	7	4	
C ¹	17	8			17	8	2
C ₁	17	9			17	9	2
P ⁴	1	1			1	1	
M ₁	1	1			1	1	
M ²	1	1			1	1	
Scapula	1	1			1	1	
Humerus	2	1			2	1	
MC III	2	2			2	2	
MC V	1	1			1	1	
Tibia	1	1			1	1	
Tarsals							
calcaneum	2	2			2	2	
MT II	1	1			1	1	
MT III	2	2			2	2	
MT IV	1	1			1	1	
MT V	1	1			1	1	
<i>Total</i>	58	9	2	1	60	10	4

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST3. Canis lupus

	<i>Adult</i>		<i>Subadult</i>		<i>Juvenile</i>		<i>Total</i>		<i>Cut marks</i>	<i>Gnawing traces</i>
	NISP	MNIe	NISP	MNIe	NISP	MNIe	NISP	MNIe	NISP	NISP
Skull										
Maxilla	2	2					2	2		
Mandible	7	5					7	5		
Teeth										
dc					3	2	3	2		
dp2					1	1	1	1		
I ₂	1	1					1	1		
I ³	5	4					5	4		
C ¹	8	4					8	4		
C ₁	7	4	1	1			8	5		
P ²	1	1					1	1		
P ₂	1	1					1	1		
P ₃	2	1					2	1		
P ⁴	2	2	1	1			3	3		
P ₄	2	1	3	2	1	1	6	3		
M ¹	1	1					1	1		
M ₁	3	3					3	3		
M ²	1	1					1	1		
M ₂	2	2					2	2		
Teeth indet.	1	1					1	1		
Vertebrae			1	1			1	1		
Humerus	1	1					1	1		
Radius	1	1					1	1	1	
Carpals										
scapholunare	1	1					1	1		
other	1	1					1	1		
MC II	1	1					1	1		
Femur			1	1	1	1	2	2		
Tarsals										
astragalus	3	3					3	3		
calcaneum	4	4					4	4		
MT II	2	1					2	1		1
MT III	1	1					1	1		
MT IV	2	2					2	2		
Phalanges I	14	1					14	1		
Phalanges II	2	1					2	1		
Phalanges III	8	1					8	1		
<i>Total</i>	87	5	7	2	6	2	100	9	1	1

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST4. *Ursus arctos*

	<i>Total</i>		<i>Gnawing traces</i>	<i>Perforated</i>
	NISP	MNIe	NISP	NISP
I ²	1	1		1
I ³	1			1
C ¹	1	1		
C ₁	2	1		
M ₁	2	1		
M ²	1	1		
M ₃	2	2		
MC I	1	1		
MT I	1	1		
MT 5	2	2	1	
Phalanges I	1	1		
Phalanges II	1	1		
<i>Total</i>	<i>16</i>	<i>3</i>	<i>1</i>	<i>2</i>

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST5. Ursus spelaeus

	<i>Adult</i>		<i>Juvenile</i>		<i>Ochre</i>	<i>Total</i>	
	NISP	MNIe	NISP	MNIe	NISP	NISP	MNIe
Skull			1	1		1	1
Maxilla	1	1				1	1
Mandible	4	3				4	3
Deciduous teeth			51			51	
Deciduous c			10	2		10	2
I ¹	2	1				2	1
I ₁	16	8				16	8
I ²	19	10				19	10
I ₂	19	11				19	11
I ³	24	12				24	12
I ₃	20	11				20	11
I indet.	5					5	
C ¹	30	16				30	16
C ₁	24	12				24	12
C indet.	19	10				19	10
P ₂	3	3				3	3
P ⁴	6	3				6	3
P ₄	3	2				3	2
M ¹	13	8				13	8
M ₁	13	9				13	9
M ²	15	8				15	8
M ₂	21	12				21	12
M ₃	19	10				19	10
M indet.	5					5	
Vertebrae							
thoracic	2	1				2	1
Ulna	1	1				1	1
Carpals	19					19	
MC I	4	2				4	2
MC II	3	2				3	2
MC III	6	3				6	3
MC IV	3	3				3	3
MC V	3	2				3	2
Pelvis	1	1				1	1
Baculum	1	1				1	1
Femur	3	1				3	1
Tarsals							
astragalus	6	6				6	6
calcaneum			1	1		1	1
MT II	5	3				5	3
MT III	6	3				6	3
MT IV	2	2				2	2
Metapodials	3		2			5	
Sesamoids	4					4	
Phalanges I	31	2	6	1		37	3
Phalanges II	24	2				24	2
Phalanges III	8	1	1	1	1	9	2
<i>Total</i>	<i>416</i>	<i>16</i>	<i>72</i>	<i>2</i>	<i>1</i>	<i>488</i>	<i>18</i>

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST6. List of mammoth molars (NISP) with Laws (1966) age class and Craig's (Craig in Haynes, 1991: 340) age attribution in a.e.y. (African elephant years)

Stratigraphy	Number	Element	Jaw	LAWS (1966) class	Craig a.e.y. in Haynes (1991, table A8)	P	Pa	L	W	H
-	-	M1	Upper	I	0.1 y	5	0	18.1	16.4	17.6
-	17393	M1	Lower	I	0.1 y	5	0	16.2	15.1	10.3
-	10621	M1	Upper	I	0.1-0.2 y	>3	0	>15	19.3	26.0
-	10261	M1	Lower	I	0.1-0.2 y	>3	0	>15	19.2	27.0
- (AMS: 42,330 BP)	19B-121-1474	M2	?	II-III	0.5-2 y	> 4	?	34.3		
Terre jaune	10261	M2	Lower	II-III	0.5-2 y	>3	>3	>15	31.2	30.4
-	-	M2	Lower	II-III	0.5-2 y	8	3	52.6	34.2	
-	16640	M2	Lower	III	1-2 y	8	5	52.9	28.1	33.2
- (AMS: 37,010 BP)	5608	M2	Upper	III	1-2 y	8	4	58.4	37.0	39.7
Cave	-	M2	Upper	III	1-2 y	9	5	60.8	35.6	35.3
-	1585	M2	Upper	III	1-2 y	8	4	56.9	30.8	40.1
Deuxième niveau, Moustérien supérieur	1133	M2	Upper	III	1-2 y	9	8	56.0	36.6	30.5
Deuxième niveau, Moustérien supérieur	-	M2	Upper	III	1-2 y	8	7	52.8	30.6	34.6
Deuxième niveau, Moustérien supérieur	1585	M2	Upper	III	1-2 y	10	9	57.7	33.6	40.0
Deuxième niveau, Moustérien supérieur	-	M2	Upper	III	1-2 y	9	8	60.8	35.6	35.3
Cave	-	M2	?	III	1-2 y	8	7	55.2	33.5	
-	1133	M2	Upper	III	1-2 y	8	8	57.3	34.1	36.0
Terrace	1133	M2	Upper	III	1-2 y	8	8	56.0	36.6	30.5
Cave	1133	M2	Lower	III	1-2 y	9	8	54.4	32.8	24.8
-	-	M2	Lower	III	1-2 y	8	7	62.8	36.2	
Deuxième niveau, Moustérien supérieur	-	M2	Lower	III	1-2 y	8	7	53.1	31.3	37.2
Deuxième niveau, Moustérien supérieur	1038	M2	Lower	III	1-2 y	8	6	61.2	35.7	33.6
Deuxième niveau, Moustérien supérieur	5608	M2	Lower	III	1-2 y	8	8	61.9	36.6	28.0
Deuxième niveau, Moustérien supérieur	-	M2	Lower	III	1-2 y	8	8	55.0	30.6	24.1
-	1133	M2	Lower	III	1-2 y	8	8	57.5	33.9	34.5
-	1133	M2	Lower	III	1-2 y	7	7	54.5	31.9	25.8
-	1133	M2	Lower	III	1-2 y	7	7	54.3	31.7	24.9
-	B.1038	M2	Lower	III	1-2 y	8	8	64.1	56.2	22.5
-	-	M2	Lower	III	1-2 y	6	6	53.7	34.1	27.6
-	1038	M2	Lower	III	1-2 y	7	7	48.1	30.3	25.0
-	16640	M2	Lower	III	1-2 y	>6	>6	>43	31.5	30.6
-	-	M3	Upper	IV	2-3 y	14	6	96.8	49.8	73.0
Terrace	-	M3	Upper	VII	5 y	14	13	106.1	55.1	87.1
-	-	M3	Lower	VII	5 y	12	12	102.1	53.5	10.1
Cave	158x	M3	Lower	VII	5 y	11	11	98.0	53.2	36.6
Terrace	-	M3	Lower	VII	5 y	9	9	81.2	43.6	17.1
-	-	M3	Lower	VII	5 y	10	10	79.5	53.5	27.2
-	-	M3	Lower	VII	5 y	5	5	70.7	59.5	

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-	1585	M4	Upper	IX	8 y	14	7	124.4	53.1	
-	-	M4	Upper	IX	8 y	13	7	133.2	57.4	99.8
Terrace	-	M4	Upper	IX	8 y	14	10	122.7	61.5	101.8
<i>Deuxième niveau, Moustérien supérieur</i>	1585	M4	Lower	IX-XIV	8-16 y	>7	>7	76.0	56.2	56.0
Third level	1585	M4	Upper	XII	14 y	9	9	84.1	72.2	32.7
<i>Deuxième niveau, Moustérien supérieur</i>	-	M4	Lower	XIV	16 y	9	9	84.9	72.6	28.0
-	-	M5	Upper	XII-XIV	14-16 y	>12	(>) 1	>147	74.6	149.0
<i>Deuxième niveau, Moustérien supérieur</i>	-	M5	Upper	XII-XIV	14-16 y	>12	(>) 1	>147	69.5	117.0
<i>Deuxième niveau, Moustérien supérieur</i>	-	M5	?	XV	18 y	15	12	145.0	71.3	
<i>Deuxième niveau, Moustérien supérieur</i>	-	M5	Lower	XV	18 y	>14	13	>143	68.8	91.2
-	16639	M5	Upper	XIV-XVII	16-22 y	>10	>10	>102	74.2	>102
-	-	M5	Lower	XIV-XVII	16-22 y	>8	8	>104.5	73.6	116.1
<i>Deuxième niveau, Moustérien supérieur</i>	-	M5	?	XIV-XVII	16-22 y	>7	>7	88.0	74.6	
<i>Terrasse, niveau noir (AMS: 42,950 BP)</i>	13549	M5/M6		XII-XX	14-33 y				64.0	120.0
Terrace	16619	M6	Lower	XVIII-XXI	24-35 y	>11	(>) 0	>140	75.6	>155
-	M6	M6	Lower	XXI	35 y	27	13	238.0	81.6	137.0
-	4136	M6	Lower	XXII-XXVII	37-52 y	>9	>9	>76	>82	>102
-		M6	Lower	XXVII	52-54 y	12	12	155.0	87.4	160.0

List of material: NISP = Number of Identified Specimens.

BIBLIOGRAPHY

- HAYNES G., 1991. *Mammoths, mastodons, and elephants. Biology, behavior, and the fossil record.* Cambridge, Cambridge University Press.
- LAWS R. M., 1966. Age criteria for the African elephant, *Loxodonta a. africana*. *East African Wildlife Journal*, **4**: 1-37.

ST7. *List of mammoth molars (NISP) with Laws (1966) age class and Craig's (Craig in Haynes, 1991: 340) age attribution in a.e.y. (African elephant years) from the Deuxième niveau, Moustérien supérieur*

<i>Number</i>	<i>Element</i>	<i>Jaw</i>	<i>LAWS (1966) class</i>	<i>Craig a.e.y. in Haynes (1991, table A8)</i>	<i>P</i>	<i>Pa</i>	<i>L</i>	<i>W</i>	<i>H</i>
1133	M2	Upper	III	1-2 y	9	8	56.0	36.6	30.5
-	M2	Upper	III	1-2 y	8	7	52.8	30.6	34.6
1585	M2	Upper	III	1-2 y	10	9	57.7	33.6	40.0
-	M2	Upper	III	1-2 y	9	8	60.8	35.6	35.3
-	M2	Lower	III	1-2 y	8	7	53.1	31.3	37.2
1038	M2	Lower	III	1-2 y	8	6	61.2	35.7	33.6
5608	M2	Lower	III	1-2 y	8	8	61.9	36.6	28.0
-	M2	Lower	III	1-2 y	8	8	55.0	30.6	24.1
1585	M4	Lower	IX-XIV	8-16 y	>7	>7	76.0	56.2	56.0
-	M4	Lower	XIV	16 y	9	9	84.9	72.6	28.0
-	M5	Upper	XII-XIV	14-16 y	>12	(>) 1	>147	69.5	117.0
-	M5	?	XV	18 y	15	12	145.0	71.3	
-	M5	Lower	XV	18 y	>14	13	>143	68.8	91.2
-	M5	?	XIV-XVII	16-22 y	>7	>7	88.0	74.6	

List of material: NISP = Number of Identified Specimens.

BIBLIOGRAPHY

- HAYNES G., 1991. *Mammoths, mastodons, and elephants. Biology, behavior, and the fossil record.* Cambridge, Cambridge University Press.
- LAWS R. M., 1966. Age criteria for the African elephant, *Loxodonta a. africana*. *East African Wildlife Journal*, **4**: 1-37.

ST8. Coelodonta antiquitatis

	<i>Adult</i>		<i>Juvenile</i>		<i>Total</i>		<i>Cut marks</i>	<i>Ochre</i>	<i>Gnawing marks</i>	<i>Gastric marks</i>
	NISP	MNIe	NISP	MNIe	NISP	MNIe	NISP	NISP	NISP	NISP
Maxilla	1	1			1	1				
Mandible	3	2			3	2				
dp ²			5	3	5	3				2
dp ³			6	3	6	3		1		
dp ⁴			2	2	2	2				
dp ₂			3	3	3	3				
Deciduous teeth			30		30					
P ²	11	6	1	1	12	7		1		
P ³	19	11	1	1	20	12				
P ⁴	11	7	1	1	12	8				
M ¹	11	6			11	6				
M ²	11	6			11	6				
M ³	11	6	2	1	13	7				
P ₂	9	5			9	5				
P ₃	10	7			10	7				
P ₄	17	9			17	9				
M ₁	18	10			18	10				
M ₂	18	10	1	1	19	11				
M ₃	18	9			18	9				
Teeth indet.	339				339			1		
Rib	1	1			1	1				
Vertebrae										
thoracic	1	1			1	1				
lumbar	1	1			1	1				
Humerus	24	12			24	12	1		14	
Radius	5	3			5	3			4	
MC III	1	1			1	1			1	
Femur	2	1			2	1			2	
Tibia	10	5			10	5			4	
Tarsals										
astragalus	1	1			1	1			1	
Carpals/tarsals	8	1			8	1			1	
Metapodials	2				2				1	
Phalanges II	4	1			4	1				
Phalanges III	1	1			1	1				
<i>Total</i>	<i>568</i>	<i>12</i>	<i>52</i>	<i>3</i>	<i>620</i>	<i>37</i>	<i>1</i>	<i>3</i>	<i>28</i>	<i>2</i>

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST9. List of woolly rhino premolars and molars grouped in Goddard (1970) age classes

Coelodonta antiquitatis: age criteria Goddard (1970)																													
Class 1			Class 2			Class 3			Class 4			Class 5			Class 6			Class 7			Class 8			Class 9					
l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?
dp ¹		2		1	1						1	1																	
dp ²							2	4			1			1															
dp ³		1		1		1				1	1		1	1	1								1						
dp ⁴			1				1	2	4							1	1												
dp ₂				1	1	1				1																			
dp ₃				1		1																							
P ²																		2	1				2						
P ³																1					3		1						
P ⁴																				1							2		
M ¹																													
M ²																													
M ³																													
P ₂																								2	3	2			
P ₃																1								3		1			
P ₄																								1	3				
M ₁								1					2		1							1	3	1					
M ₂																		2	3			1	1						
M ₃																										1			
MNI		2			2			4			1			2		1				3			3			4			

Coelodonta antiquitatis: age criteria Goddard (1970)																													
Class 10			Class 11			Class 12			Class 13			Class 14			Class 15			Class 16			Class 17			Class 18					
l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?	l	r	?
dp ¹																													
dp ²																													
dp ³																													
dp ⁴																													
dp ₂																													
dp ₃																													
P ²		2	4				1				1																		
P ³				1	2	1	1	1	3																				
P ⁴			1	1	1				1			1																	
M ¹																													
M ²																													
M ³																													
P ₂				2																									
P ₃			1		2															1		1							
P ₄				1				2		3	1				1	1				1	1	1		1			1		
M ₁			1		1	1		1			1	1					1												
M ₂					2		1	2	1		3																		
M ₃				1	2	5																							
MNI		1			5			3			3			1		1			2			1				1			

List of material: MNI = Minimum Number of Individuals.

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GODDARD J., 1970. Age criteria and vital statistics of a black rhinoceros population. *East African Wildlife Journal*, **8**: 105-121.

ST10. *Equus ferus*

<i>Equus ferus</i> : M ³									
<i>Crown height</i>	<i>Age</i>	<i>Crown height</i>	<i>Age</i>	<i>Crown height</i>	<i>Age</i>	<i>Crown height</i>	<i>Age</i>	<i>Crown height</i>	<i>Age</i>
Germ	3.8	58.9	7.6	50.6	8.4	43.4	9.5	35.1	11.6
Germ	3.8	58.8	7.6	50.4	8.4	43.2	9.5	35.1	11.6
Germ	3.8	58.5	7.6	50.2	8.4	43.0	9.6	34.6	11.8
Germ	3.8	58.1	7.6	49.9	8.5	42.8	9.6	34.2	11.9
82.0	4.3	58.1	7.6	49.9	8.5	42.2	9.7	34.0	12.0
80.4	4.7	58.0	7.6	49.8	8.5	42.0	9.8	34.0	12.0
79.1	5.0	57.9	7.6	49.5	8.5	41.6	9.9	33.8	12.1
72.6	6.2	57.6	7.7	49.3	8.5	41.1	10.0	33.5	12.2
70.1	6.5	57.5	7.7	49.2	8.6	40.8	10.0	33.2	12.3
69.0	6.6	57.4	7.7	48.7	8.6	40.8	10.0	33.2	12.3
68.7	6.7	56.8	7.7	48.4	8.7	40.5	10.1	32.8	12.4
67.8	6.8	56.8	7.7	48.3	8.7	40.5	10.1	32.7	12.5
67.3	6.8	56.8	7.7	47.8	8.7	40.5	10.1	32.6	12.5
67.1	6.8	56.8	7.7	46.4	9.0	40.4	10.1	32.1	12.7
66.8	6.9	56.5	7.8	46.3	9.0	40.3	10.2	31.4	13.0
66.6	6.9	56.4	7.8	46.2	9.0	40.1	10.2	31.4	13.0
64.3	7.1	56.3	7.8	45.8	9.1	40.1	10.2	31.3	13.0
63.9	7.1	56.2	7.8	45.7	9.1	39.7	10.3	31.2	13.1
63.6	7.2	56.1	7.8	45.6	9.1	39.5	10.3	30.8	13.2
63.6	7.2	55.7	7.8	45.5	9.1	39.3	10.4	30.6	13.3
62.8	7.2	55.7	7.8	45.3	9.1	39.3	10.4	30.1	13.5
62.5	7.3	55.2	7.9	45.2	9.2	39.0	10.5	30.0	13.6
62.1	7.3	54.9	7.9	45.2	9.2	38.8	10.5	29.4	13.8
61.6	7.3	54.8	7.9	45.1	9.2	38.8	10.5	29.0	14.0
61.3	7.4	54.8	7.9	45.1	9.2	38.8	10.5	28.7	14.2
61.1	7.4	54.7	7.9	44.9	9.2	38.6	10.6	28.4	14.3
61.1	7.4	54.4	8.0	44.9	9.2	38.6	10.6	28.3	14.3
60.9	7.4	54.3	8.0	44.6	9.3	37.3	10.9	27.2	14.9
60.6	7.4	54.2	8.0	44.5	9.3	37.2	11.0	27.1	14.9
60.5	7.4	54.2	8.0	44.4	9.3	36.8	11.1	26.7	15.1
60.4	7.4	53.7	8.0	44.2	9.3	36.7	11.1	26.5	15.2
60.2	7.5	53.2	8.1	44.2	9.3	36.6	11.1	26.5	15.2
60.1	7.5	53.1	8.1	44.1	9.4	36.3	11.2	26.5	15.2
60.0	7.5	51.8	8.2	44.0	9.4	36.3	11.3	26.2	15.4
59.8	7.5	51.7	8.3	43.9	9.4	36.1	11.3	26.0	15.5
59.7	7.5	51.5	8.3	43.9	9.4	35.9	11.4	25.9	15.6
59.7	7.5	51.3	8.3	43.8	9.4	35.5	11.5	23.7	16.8
59.6	7.5	51.1	8.3	43.7	9.4	35.3	11.6	21.7	18.1
59.4	7.5	50.6	8.4	43.6	9.5	35.1	11.6	16.1	22.2

Crown height of the third upper molar and age attribution based on Levine (1982) and Fernandez & Legendre (2003).

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ST11. *Bos primigenius*

	<i>Total</i>		<i>Cut marks</i>	<i>Gnawing traces</i>
	NISP	MNIe	NISP	NISP
Mandible	2	1		
M ₃	13	7		
Radius	1	1		
MC	6	5	2	3
Tarsals				
astragalus	3	2		
Phalanges I	1	1		
<i>Total</i>	26	7	2	3

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST12. *Bison priscus*

	<i>Total</i>		<i>Cut marks</i>
	NISP	MNIe	NISP
M ₃	3	2	
MC	1	1	1
Malleolus	1	1	
Tarsals			
astragalus	3	2	
Phalanges I			
<i>Total</i>	8	2	1

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST13. Bos/Bison

	<i>Total</i>		<i>Ochre traces</i>	<i>Cut marks</i>	<i>Gnawing traces</i>	<i>Gastric traces</i>
	NISP	MNIe	NISP	NISP	NISP	NISP
Mandible	5	1	1			
Deciduous teeth	14					
I	8					
P ¹	1	1				
P ²	4	2				
P ₂	9	3				
P ³	3	2				
P ₃	3	2				
M ¹	4	2				
M ₁	6	3				
M ²	20	5				
M ₂	4	1				
M ³	6	2				
M ₃	21	6				
Teeth indet.	202					
Rib	1	1				
Humerus	8	3			1	
Radius	11	2			2	
Carpals	9					
MC	20	6			7	
Femur	2	1			1	
Tibia	14	3				1
Malleolus						
Tarsals						
astragalus	18	10			4	
calcaneum	3	2			1	1
centrotarsale	6	5				
other	1					
MT	17	8	1		9	
Metapodials	5					
Phalanges I	3	2				
Phalanges II	4	2				
Phalanges III	2		2	1		
<i>Total</i>	<i>434</i>	<i>10</i>	<i>4</i>	<i>1</i>	<i>25</i>	<i>2</i>

List of material: NISP = Number of Identified Specimens;
MNIe = Minimum Number of Individuals per skeletal element.

ST14. List of material in the different stratigraphic units found on the terrace and inside the cave

NISP Terrace	Skull				Teeth					Postcranial				Total	%		
	Without traces	Cut marks	Ochre	Carnivore traces	Total	Without traces	Cut marks	Ochre	Carnivore traces	Total	Without traces	Cut marks	Ochre			Carnivore traces	Total
Terrasse																	
<i>Vulpes/Alopex</i>					9				9						9	1.4	
<i>Crocota crocuta</i>					118				118						118	18.6	
<i>Ursus spelaeus</i>					21				21	14				14	35	5.5	
<i>Meles meles</i>					4				4	5				5	9	1.4	
<i>Felis sylvestris</i>										2				2	2	0.3	
Carnivora					3				3	6		2		8	11	1.7	
<i>Mammuthus primigenius</i>					8		1		9	12			6	18	27	4.3	
<i>Coelodonta antiquitatis</i>					13			2	15						15	2.4	
<i>Equus ferus</i>					178			1	179	6				6	185	29.2	
<i>Cervus elaphus</i>					11				11	15		2		17	28	4.4	
<i>Megaloceros giganteus</i>					1				1						1	0.2	
<i>Rangifer tarandus</i>	16				16	5			5	10		22		32	53	8.4	
Cervidae										2		2		4	4	0.6	
<i>Bos/Bison</i>	1				1	13			13	13				13	27	4.3	
<i>Capra ibex</i>										1				1	1	0.2	
<i>Ovis/Capra</i>										1				1	1	0.2	
Artiodactyla										2				2	2	0.3	
Indet.						3			3	91	1		11	103	106	16.7	
Total	17				17	387		1	3	391	180	1	28	17	226	634	100.0
Niveau supérieur																	
<i>Crocota crocuta</i>						3			3						3	1.5	
Carnivora						2			2						2	1.0	
<i>Mammuthus primigenius</i>																	
<i>Coelodonta antiquitatis</i>						1			1						1	0.5	
<i>Equus ferus</i>						194		1	2	197					197	95.6	
<i>Equus hydruntinus</i>								1	1						1	0.5	
<i>Bos/Bison</i>						2			2						2	1.0	
Total						202		2	2	206					206	100.0	
Terrasse niveau rouge																	
<i>Canis lupus</i>										1				1	1	1.8	
<i>Crocota crocuta</i>						3			3						3	5.4	
<i>Equus ferus</i>						49		3	52						52	92.9	
Total						52		3	55	1				1	56	100.0	
Niveau moyen																	
<i>Crocota crocuta</i>						5			5						5	35.7	
<i>Meles meles</i>						2			2						2	14.3	
<i>Rangifer tarandus</i>										5		1		6	6	42.9	
Artiodactyla						1			1						1	7.1	
Total						8			8	5		1		6	14	100.0	

XV. The fossil mammals of Spy

Niveau inférieur/rouge														
<i>Crocota crocuta</i>					10				10				10	13.5
<i>Coelodonta antiquitatis</i>					4				4				4	5.4
<i>Equus ferus</i>					56				56				56	75.7
<i>Equus hydruntinus</i>					1				1				1	1.4
<i>Cervus elaphus</i>					2				2				2	2.7
<i>Bos/Bison</i>			1	1									1	1.4
Total			1	1	73				73				74	100.0
Deuxième niveau														
<i>Ursus</i>					6				6				6	2.5
<i>Panthera leo</i>					1				1				1	0.4
<i>Crocota crocuta</i>	10			10	28				28				38	15.8
<i>Mammuthus primigenius</i>					23			1	23		1	2	25	10.4
<i>Coelodonta antiquitatis</i>					42				42				42	17.4
<i>Equus ferus</i>					71			7	71		5	12	83	34.4
<i>Bos/Bison</i>					12			3	12			3	15	6.2
Indet.								25	2		4	31	31	12.9
Total	10			10	183			36	2		10	48	241	100.0
Terre jaune														
<i>Ursus spelaeus</i>					7				7				7	11.9
<i>Ursus arctos</i>					1				1				1	1.7
<i>Mammuthus primigenius</i>					22				22				22	37.3
<i>Equus ferus</i>					24				24				24	40.7
<i>Rangifer tarandus</i>					1				1				1	1.7
Indet.					4				4				4	6.8
Total					59				59				59	100.0
Moustérien en place														
<i>Equus ferus</i>					3				3				3	60.0
<i>Equus hydruntinus</i>					2				2				2	40.0
Total					5				5				5	100.0
Troisième niveau foyer inférieur														
<i>Mammuthus primigenius</i>					4				4				4	14.8
<i>Coelodonta antiquitatis</i>											1	1	1	3.7
<i>Equus ferus</i>								3			3	6	6	22.2
<i>Bos/Bison</i>								1				1	1	3.7
Indet.								14			1	15	15	55.6
Total					4			18			5	23	27	100.0
Troisième niveau														
<i>Canis lupus</i>					1				1				1	0.2
<i>Ursus spelaeus</i>					27			2	27			2	29	6.0
<i>Crocota crocuta</i>	2			2	101				101				103	21.3
<i>Mammuthus primigenius</i>					11				11				11	2.3
<i>Coelodonta antiquitatis</i>					24				24				24	5.0
<i>Equus ferus</i>					300			5	300			5	305	63.0
<i>Equus hydruntinus</i>					1				1				1	0.2
<i>Rangifer</i>								1				1	1	0.2
<i>Bos/Bison</i>								8			1	9	9	1.9
Total	2			2	465			16			1	17	484	100.0

Terrasse niveau noir																	
<i>Crocota crocuta</i>						20					20					20	15.9
<i>Mammuthus primigenius</i>						5					5					5	4.0
<i>Coelodonta antiquitatis</i>						8					8					8	6.3
<i>Equus ferus</i>						92					92					92	73.0
<i>Bos/Bison</i>						1					1					1	0.8
Total						126					126					126	100.0
NISP	Total	29	1		30	1564		6	5	1575	256	3	29	33	321	1926	
	%	96.7	3.3		100.0	99.3		0.4	0.3	100.0	79.8	0.9	9.0	10.3	100.0	100.0	

NISP	Cave	Skull					Teeth					Postcranial					Total	%
		<i>Without traces</i>	<i>Cut marks</i>	<i>Ochre</i>	<i>Carnivore traces</i>	<i>Total</i>	<i>Without traces</i>	<i>Cut marks</i>	<i>Ochre</i>	<i>Carnivore traces</i>	<i>Total</i>	<i>Without traces</i>	<i>Cut marks</i>	<i>Ochre</i>	<i>Carnivore traces</i>	<i>Total</i>		
Sous la stalagmite																		
	<i>Canis lupus</i>										0	1				1	1	2.4
	<i>Ursus spelaeus</i>						1				1	1				1	2	4.8
	<i>Meles meles</i>											1				1	1	2.4
	<i>Crocota crocuta</i>						12				12						12	28.6
	<i>Felis sylvestris</i>						1				1	1				1	2	4.8
	<i>Coelodonta antiquitatis</i>						2				2						2	4.8
	<i>Equus ferus</i>	1				1	18				18	1				1	20	47.6
	<i>Rangifer tarandus</i>						1				1						1	2.4
	<i>Bos/Bison</i>						1				1						1	2.4
	Total	1				1	36				36	5				5	42	100.0

Petite salle à droite																		
	<i>Meles meles</i>											1				1	1	2.6
	<i>Crocota crocuta</i>						14				14						14	35.9
	<i>Coelodonta antiquitatis</i>						11				11						11	28.2
	<i>Equus ferus</i>						7		1		8						8	20.5
	<i>Bos/Bison</i>						5				5						5	12.8
	Total						37		1		38	1				1	39	100.0

Niveau supérieur de la grotte																		
	<i>Crocota crocuta</i>						9				9						9	81.9
	<i>Carnivora</i>	1				1											1	9.1
	<i>Mammuthus primigenius</i>						1				1						1	9.1
	Total	1				1	10				10						11	100.0

Intérieur de la grotte																		
	<i>Ursus arctos</i>	1				1											1	0.8
	<i>Meles meles</i>	1				1											1	0.8
	<i>Crocota crocuta</i>	2				2	37				37						39	30.5
	<i>Coelodonta antiquitatis</i>						5		1		5						5	4.7
	<i>Equus ferus</i>						59				59						59	46.1
	<i>Cervus elaphus</i>						1				1						1	0.8
	<i>Rangifer tarandus</i>											2		1		3	3	2.3
	<i>Bos/Bison</i>						9				9						9	7.0
	<i>Indet.</i>											8		1		9	9	7.0
	Total	4				4	111		1		112	10		2		12	128	100.0

XV. The fossil mammals of Spy

Troisième niveau galerie droite														
<i>Ursus spelaeus</i>					1			1	19			19	20	13.4
<i>Meles meles</i>	1			1					2			2	3	2.0
<i>Crocota crocuta</i>									11			11	11	7.4
Carnivora									3			3	3	2.0
<i>Mammuthus primigenius</i>					3			3			3	3	6	4.0
<i>Coelodonta antiquitatis</i>									1		1	2	2	1.3
<i>Equus ferus</i>					16			16	5			5	21	14.1
<i>Equus hydruntinus</i>					1			1					1	0.7
<i>Cervus elaphus</i>	2			2									2	1.3
<i>Rangifer tarandus</i>									3			3	3	2.0
Cervidae											2	2	2	1.3
<i>Bos/Bison</i>					1			1	10		1	11	12	8.1
Indet.					8			8	40		15	55	63	42.3
Total	3			3	30			30	94		22	116	149	100.0
NISP	Total	9		9	224		2	226	110		2	22	134	369
	%	100.0		100.0	99.1		0.9	100.0	82.1		1.5	16.4	100.0	100.0

List of material: NISP = Number of Identified Specimens.

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