

Supplementary Materials

The Biarzo case in northern Italy: is the temporal dynamic of swine mitochondrial DNA lineages in Europe related to domestication?

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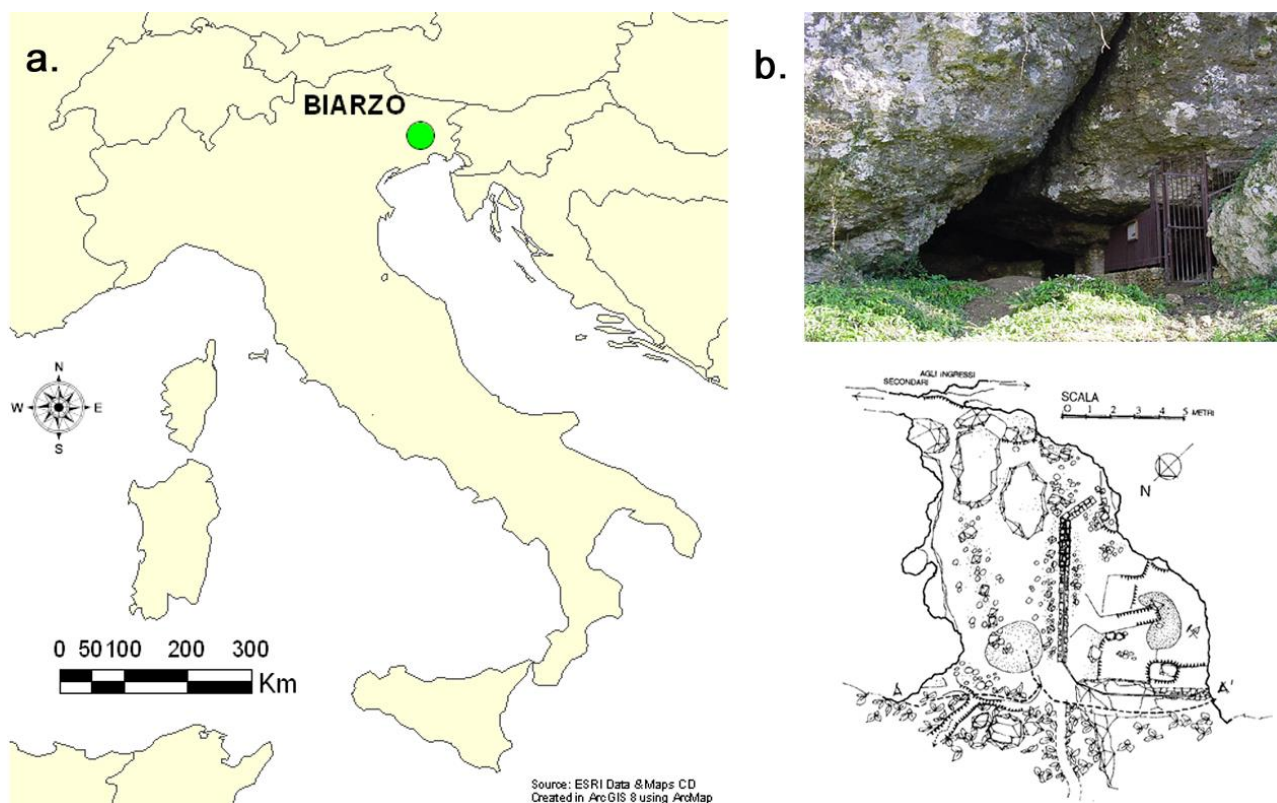


Figure S1: The archeological site of Biarzo Shelter.

a. Maps showing Biarzo Shelter position. The map was created in ArcGIS version 8 using ArcMap. **b.**

Picture of the entrance and planimetry of the site. Biarzo Shelter is located in the Natisone River valley (Udine, Friuli Venezia Giulia, Italy). The lithic industry from US5 is mainly characterized by scrapers, in particular the small circular ones (thumbnails scrapers), burins, truncations, becks and backed blades ¹. Functional analysis carried out on the lithic material has revealed that the processing of animal material (e.g. hunting, hide treatment, bone working) represented the main activity carried out at the site ². The lithic industry from layers 4 and 3B represents a typical Sauveterrian industry, characterized by burins, backed points, truncations, geometrics such as triangles (comparable to the triangles of Montclus) microburins, tools with backed retouch, which is comparable to the upper part of layer AC of Riparo Romagnano in the Adige Valley ¹. In layer 3A some trapezes, which are typical of the later Castelnovian phase, have also been recovered, whereas in the upper part of layer 3A Impresso potsherds have been found. Geo-archaeological data report the erosion of the more superficial part of layer 3A, where materials from layers 2 and 1 have been found ¹. The picture and the drawing were granted by Museo Friulano di Storia Naturale.

¹Bressan, F., Cremaschi, M. & Guerreschi, A. Nuovi dati sulla preistoria in Friuli: il Riparo di Biarzo (scavi 1982), S. Pietro al Natisone (Udine). *Gortania. Atti Mus. Friul. St. Nat.* **4**, 65-86 (1982). ²Ziggiotti, S. Il Riparo di Biarzo (S. Pietro al Natisone, Udine). Contributo alla ricostruzione della funzione dell'insediamento attraverso lo studio delle tracce d'uso. *Gortania* **29**, 55-72 (2007)

Table S1: Previously available radiocarbon dating for stratigraphic units (US)

US	Sample	Lab Code	Conventional Radiocarbon Age	2 Sigma Calibrated Results (OxCal v4.1.7, Bronk Ramsey 2013)
3A	charcoal	R1S51	5,600 +/- 300 BP	Cal BP 7161 to 5856 at 93.5% probability
5	charcoal	R1850	11,100 +/- 125 BP	Cal BP 13177 to 12723 at 95.4% probability

Table S2: Summary results of the replication test

sample	n° of positive amplification Florence	concordance of sequencing results Florence	postive ampification ACAD	concordance of sequencing results Florence/ACAD
5012	3	no	no	n.a.
2338	4	yes	yes	yes (Italian clade)
1138	4	yes	yes	yes (Italian clade)
921+922	1	n.a.	no	n.a.

Table S3: DNA sequences of clones for each sample (primers are excluded). Above of each sample the reference sequence (GenBank: AJ002189) and the numbering of the nucleotide positions are reported. Nucleotides identical to the reference are indicated by dots in the clones. Clones are identified by a code composed by sample name, number of extraction and PCR identification letter. At the end of the table are reported the consensus sequences of two additional samples selected for dating for which cloning were not performed.

[illegible][illegible]

4519	2_b	T.....
4519	2_b	T.....
4519	2 b	T.....

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111111111111111111111111111111111111111111111111111111111111111111111111111111111111111
555555555555555555555555555555555555555555555555555555555555555555555555555555555555555
555555555555555555555555555555555555555555555555555555555555555555555555555555555555555
222222222333333333333333333333333333333333333333333333333333333333333333333333333333333
0123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123

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[illegible][illegible][illegible]

3273 2 bC.....T.....-.....T....G.

[illegible]

2806_1_a	
2806_1_a	
2806_1_a	
2806_1_a	.....
2806_1_a	.....
2806_1_a	A.....
2806_1_b	.....
2806_1_b	.....
2806_1_b	.....
2806_1_b	.....
2806_1_b	.....
2806_2_a	.....
2806_2_a	.....
2806_2_a	.....
2806_2_a	.....
2806_2_a	.....
2806_2_a	.....
2806_2_b	.....
2806_2_b	.....
2806_2_b	.....
2806_2_b	.....
2806_2_b	.....

[illegible][illegible]

ref TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC

consensus: 4374 TTGCGCACAAACATACAAATATGCGACCCCAAAATTTAACCATTGAAAACCAAAAA-TCTAATATATTATAGC

ref TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC

consensus: 2095 TTGCACACAAACATACAAATATGTGACCCCAAAATTTAAACGTTGAAAACCAAAAAATCTAATATATTATAGC

[illegible]

[illegible][illegible]

ref		TTGGCGCACAAACATACAAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATACTATAAC
2338_1_a	. . . A	. G T . . . G.
2338_1_a	. . . A	. G T . . . G.
2338_1_a	. . . A	. G T . . . G.
2338_1_a	. . . A	. G T . . . G.
2338_1_a	. . . A	. G T . . . G.
2338_1_b	. . . A	. G T . . . G.
2338_1_b	. . . A	. G T . . . G.
2338_1_b	. . . A	. G T . . . G.
2338_1_b	. . . A	. G T . . . G.
2338_1_b	. . . A	. G T . . . G.
2338_2_a		. G T . . . G.
2338_2_a	. . . A	. G T . . . G.
2338_2_a	. . . A	. G T . . . G.
2338_2_a	. . . A	. G T . . . G.
2338_2_b	. . . A	. G T . . . G.
2338_2_b	. . . A	. G T . . . G.
2338_2_b	. . . A	. G T . . . G.
2338_2_b	. . . A	. G T . . . G.
2338_2 b	. . . A	. G T . . . G.

[illegible]

ref	TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC
1941_1_a	...A.....G.....T...G.
1941_1_a	...A.....G.....T...GT
1941_1_a	...A.....G.....T...GT

1941_1_a	. . . A G T . . GT
1941_1_a	. . . A G T . . G.
1941_1_b	. . . A G T . . G.
1941_1_b	. . . A G T . . G.
1941_1_b	. . . A G T . . G.
1941_1_b	. . . A G T . . G.
1941_1_b	. . . A G T . . G.
1941_2_a	. . . A G T . . G.
1941_2_a	. . . A G T . . G.
1941_2_a	. . . A G T . . G.
1941_2_a	. . . A G T . . G.
1941_2_b	. . . A G T . . G.
1941_2_b	. . . A G T . . G.
1941_2_b	. . . A G T . . G.
1941_2_b	. . . A G T . . G.
1941_2_b	. . . A G T . . G.
1941_2 b	. . . A G T . . G.

[illegible]

1938_1_a	. . . A G T . . . G.
1938_1_a	. . . A G T . . . G.
1938_1_a	. . . A G T . . . G.
1938_1_a	. . . A G T . . . G.
1938_1_a	. . . A G T . . . G.
1938_1_b	. . . A G T . . . G.
1938_1_b	. . . A G T . . . G.
1938_1_b	. . . A G T . . . G.
1938_1_b	. . . A G T . . . G.
1938_2_a	. . . A G T . . . G.
1938_2_a	. . . A G T . . . G.
1938_2_a	. . . A G T . . . G.
1938_2_a	. . . A G T . . . G.
1938_2_b	. . . A G T . . . G.
1938_2_b	. . . A G T . . . G.
1938_2_b	. . . A G T . . . G.
1938_2_b	. . . A G T . . . G.

[illegible]

2222_1_a	...	A	...	G	...	-	...	T	...	G
2222_1_a	...	A	...	G	...	-	...	T	...	G
2222_1_a	...	A	...	G	...	C	...	T	...	G
2222_1_a	...	A	...	G	...	-	...	T	...	G
2222_1_a	...	A	...	G	...	-	...	T	...	G
2222_1_b	...	A	...	G	...	-	...	T	...	GT
2222_1_b	...	A	...	G	...	-	...	T	...	G
2222_1_b	...	A	...	G	...	-	...	T	...	G
2222_1_b	...	A	...	G	...	-	...	T	...	G
2222_1_b	...	A	...	G	...	-	...	T	...	G

4793_2_b	...A.....G.....T...G.
4793_2_b	...A.....G.....T...G.

[illegible]

256_1_a	T	
256_1_a	T	.G.
256_1_a	T	A
256_1_a	T	
256_1_a	T	
256_1_b	T	
256_1_b	T	
256_1_b	T	
256_1_b	T	
256_1_b	T	
256_2_a	T	
256_2_a	T	
256_2_a	T	
256_2_a	T	
256_2_a	T	
256_2_b	T	
256_2_b	T	
256_2_b	T	
256_2_b	T	
256_2_b	T	

111
555
555
22222222223333333333334444444444555555555666666667777777788888888999999999999999999999999999999
0123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123

[illegible]

[illegible]

ref TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC

consensus: 195 TTGCACACAAACATACAAATATGTGACCCCAAAATTTAACCGTTGAAACCAAAAAATCTAATATATTATAGC

ref TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC

consensus: 2986 TTGCACACAAACATACAAATATGTGACCCCAAAAATTTAACCGTTGAAACCAAAAAATCTAATATATTATAGC

ref TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC

ref	TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTTACCATTGAAAACCAAAAAATCTAATATACTATAAC
consensus:	
F3479	TTGCGCACAAACATACAAATATGTGACCCCAAAAATTTAACCATTGAAAACCAAAAAATCTAATATACTATAAC

Table S4: Codes of analyzed samples and information about US, anatomical element and age

Sample code	US	Anatomical element	Age
1	2	I ² left	Juv
3740	3A	I ¹ left bud	Juv
3810	3A	I ₂ right	Sen
4519	3A	I ² right	Juv
3377	3A	I ² left	Juv
3273	3A	Mand+M ₂ right	Ad
2806 *	3A	I ₂ left	Ad
5012	3B	Mand+P ₃ left	Ad
3310	3B	D ₃ left	Juv
4374	3B	P ₃ left	Ad
2095	4	D ⁴ left	Juv
2318	4	Masc+D ⁴ +M ¹ left	Juv
2320 **	4	Masc+D ⁴ +M ¹ right	Juv
2338	4	C ^x left	Sen
1941	4	P ² right	Ad
1938	4	Masc+P ² right	Ad
2222	4	Masc+P ² right	Ad
2106 ***	4	Mand+M ₃ right	Ad
1093	5	Masc+p ⁴ - M ³ left	Ad
4793	5	Masc+p ⁴ · M ² left	Ad
1512	5	D ₄ right	Juv
597	5	D ₄ right	Juv
256	5	D ₄ right	Juv
1669	5	M ¹ left	Sen
5	5	Masc+P ⁴ +M ¹ left	Ad
920	5	Mand+D ₄ - M ₂ right	Juv
1138	5	M ¹ left	Sen
921+922	5	Masc+P ² · P ⁴ left	Ad
195	5	D ₄ right	Juv
1661	5	P ₂ right	Juv-Ad
881	5	P ₂ right	Juv-Ad
2986	5	P ₂ right	Juv-Ad

* possible duplicate of 3273

** possible duplicate of 2095 or 2318

*** possible duplicate of 1941, 1938 or 2222