

Table S2: List of the un-directly dated samples of red deer from the French Jura and the western Alps with the archaeological record, dating of the level context, chronological phase attribution and source of the measured stable isotopes. Except for results with \* indicating charcoal-based radiocarbon date, the radiocarbon dating correspond to the AMS results obtained on red deer bone from the same archaeological level presented in Table S1. 1=Drucker et al., 2008; 2=Drucker et al., 2009a; 3=Drucker et al., 2009b; 4=Oberlin and Pion, 2009; 5=Chaffenet and Cordier, 1999, 6=Nicod and Picavet, 2003, 7=Voruz et al., 2004.

Lab n°	Anatomical part	Excavation n°	Level	Culture attribution	Conv. <sup>14</sup> C date BP (lab code)	Pollen chronozone	<sup>14</sup> C source	<sup>13</sup> C source	<sup>15</sup> N source	<sup>34</sup> S source	<sup>18</sup> O source
BVN-1	right talus	87 γ1 déc11	5	Mesolithic/Neolithic	6000±60 (GrA-22131)	Early Atlantic	1	1	this work	n.d.	this work
BVN-5(2)	right metacarpal	17 déc20 164,5-1,70	6	Middle Mesolithic	8590±60 (GrA-23126)	Boreal	this work	this work	this work	n.d.	this work
BVN-3(2)	right metacarpal	85 V4 déc22 n°11	6	Middle Mesolithic	8590±60 (GrA-23126)	Boreal	this work	this work	this work	this work	n.d.
BRT-3	metatarsal	Gigot 2 1982 zone III	D8	Epipalaeolithic	11560±55 (Ly-4715-OxA)	Alleröd	this work	this work	this work	this work	n.d.
GAR-1	right mandible	G96 L26d60-2	58	Early Neolithic	6124±42 (Ly-5513)/6180±60 (Ly-11606)/ 6325±40 (Ly-8422)	Early Atlantic	7	this work	this work	n.d.	n.d.
RAN-3	left radius	RAN 89 D7 206	AOC	Middle Mesolithic	8570±60 (GrA-21524)/8840±60 (GrA-21529)	Boreal & Late Preboreal	1	this work	this work	n.d.	n.d.
RAN-4	left radius	RAN 89 C10 214	AOC	Middle Mesolithic	8570±60 (GrA-21524)/8840±60 (GrA-21529)	Boreal & Late Preboreal	1	this work	this work	n.d.	n.d.
RAN-6	left radius	RAN 89 A11 503	AOC	Middle Mesolithic	8570±60 (GrA-21524)/8840±60 (GrA-21529)	Boreal & Late Preboreal	1	this work	this work	this work	n.d.
RCD-10600	left metacarpal	F11-10-124-129	A1	Neolithic	6230±60 (GrA-21522)	Early Atlantic	1	3	3	this work	3
RCD-10700	metacarpal	RA1 F10	A1	Neolithic	6230±60 (GrA-21522)	Early Atlantic	1	3	3	n.d.	3
RCD-10200	left metatarsal	G10 -160 -172	A2	Mesolithic	6730±60 (GrA-21520)	Early Atlantic	1	3	3	n.d.	3
RCD-10300	left metatarsal	F11 -136 -139	A2	Mesolithic	6730±60 (GrA-21520)	Early Atlantic	1	3	3	n.d.	3
RCD-10400	left metatarsal	D11	A2	Mesolithic	6730±60 (GrA-21520)	Early Atlantic	1	3	3	n.d.	3
RCD-4900	left metatarsal	F9 -188 -195	A4	Azilian	10830±70 (GrA-21518)/10880±50 (GrA-23147)	Alleröd/Y. Dryas	1	3	3	this work	3
RCD-5000	left metatarsal	-	A4	Azilian	10830±70 (GrA-21518)/10880±50 (GrA-23147)	Alleröd/Y. Dryas	1	3	3	this work	3
RCD-5100	left metatarsal	G6 -185 -190	A4	Azilian	10830±70 (GrA-21518)/10880±50 (GrA-23147)	Alleröd/Y. Dryas	1	3	3	this work	3
RCD-2300	left metatarsal	B9	B	Azilian	11600±80 (GrA-21516)	Alleröd	1	2,3	2,3	this work	3
RCD-2400	left metatarsal	H8 Ro71 -205 -210	B	Azilian	11600±80 (GrA-21516)	Alleröd	1	2,3	2,3	this work	3
RCD-2500	left metatarsal	E8 -200 -207	B	Azilian	11600±80 (GrA-21516)	Alleröd	1	2,3	2,3	this work	3
RCD-2700	left metatarsal	E6 -175	B	Azilian	11600±80 (GrA-21516)	Alleröd	1	2,3	2,3	this work	3
RCD-2800	left metatarsal	G7 -195.5 -204	B	Azilian	11600±80 (GrA-21516)	Alleröd	1	2,3	2,3	this work	3
RCD-900	left metatarsal	néant	C'1	Early Azilian	11570±70 (GrA-21514)	Alleröd	1	2,3	2,3	n.d.	3
RCD-1100	left metatarsal	H9-G9 -225 -230	C'1	Early Azilian	11570±70 (GrA-21514)	Alleröd	1	2,3	2,3	this work	3
RCD-1200	left metatarsal	C10-D10	C'1	Early Azilian	11570±70 (GrA-21514)	Alleröd	1	2,3	2,3	n.d.	3
RCD-1300	left metatarsal	G10	C'1	Early Azilian	11570±70 (GrA-21514)	Alleröd	1	2,3	2,3	n.d.	3
RCD-1400	left metatarsal	H9-G9 -220 -225	C'1	Early Azilian	11570±70 (GrA-21514)	Alleröd	1	2,3	2,3	n.d.	3
RCD-10900	metacarpal	A3	D1	Final Magdalenian	12230±50 (GrA-45781)/12250±70 (GrA-21512)	Bölling/Alleröd	1	3	3	n.d.	n.d.
RCD-600	left lower 3rd molar	V/D n°8	D1	Final Magdalenian	12230±50 (GrA-45781)/12250±70 (GrA-21512)	Bölling/Alleröd	1	2,3	2,3	this work	3
LUS-2	phalanx I	-	I2-4	Early Neolithic	6465±70(Ly-7077)/6235±50 (Ly-7076) *	Early Atlantic	5	this work	this work	n.d.	n.d.
GRV-12	long bone	Griv 2 223	B2b	Mesolithic/Neolithic	6650±140(Ly-5099)/6195±90(Ly-5185) *	Early Atlantic	6	this work	n.d.	this work	this work
FRU-6	metacarpal	Fru E23 212	aire I, 1b	Early Mesolithic	10360±150 (Ly-4326)	Younger Dryas	4	this work	this work	this work	n.d.
FRU-7	metacarpal	Fru LF G22 233	aire I, 1b	Early Mesolithic	10360±150 (Ly-4326)	Younger Dryas	4	this work	this work	this work	n.d.

Oberlin, C., Pion, G., 2009. Le corpus des datations radiocarbones et la disparition du Renne. In: Pion, G. (Ed.), La fin du Paléolithique supérieur dans les Alpes du nord françaises et le Jura méridional. Approches culturelles et environnementales, vol. 50. Mémoire de la Société Préhistorique Française, pp. 51–57.