

Supplementary Information

Increased atmospheric ^{14}C variability during the last deglaciation recorded in European tree-ring chronologies.

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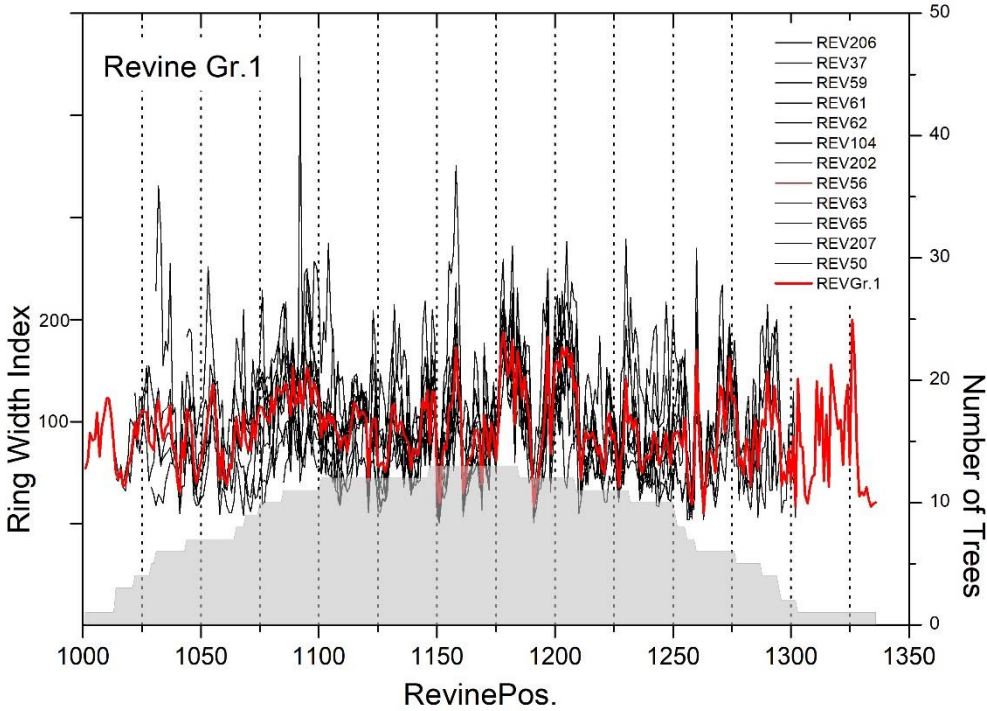
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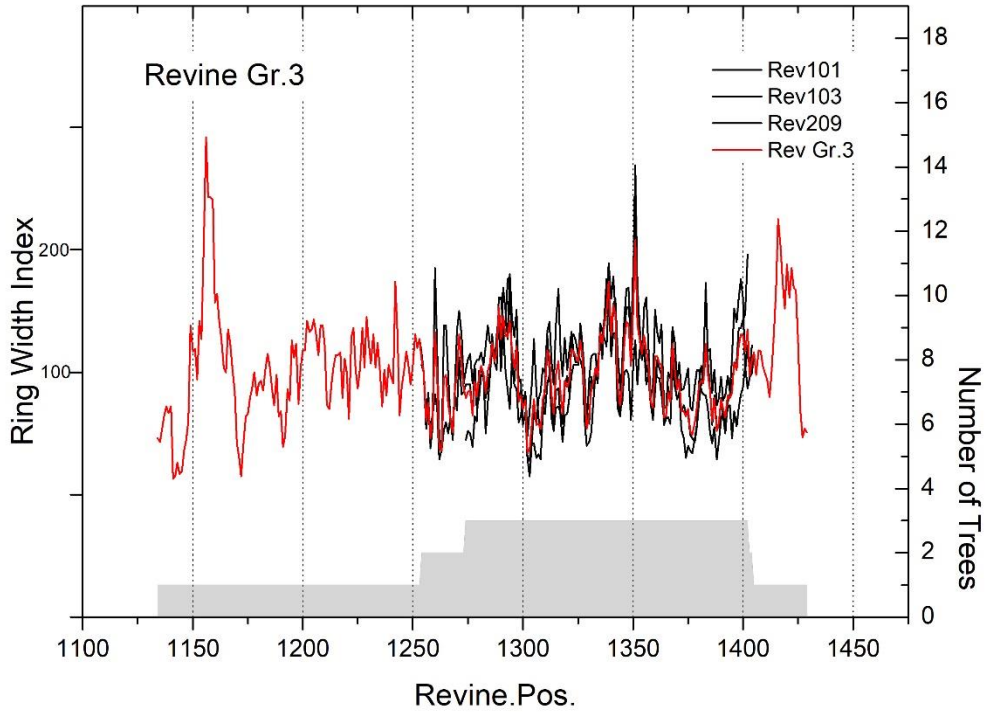
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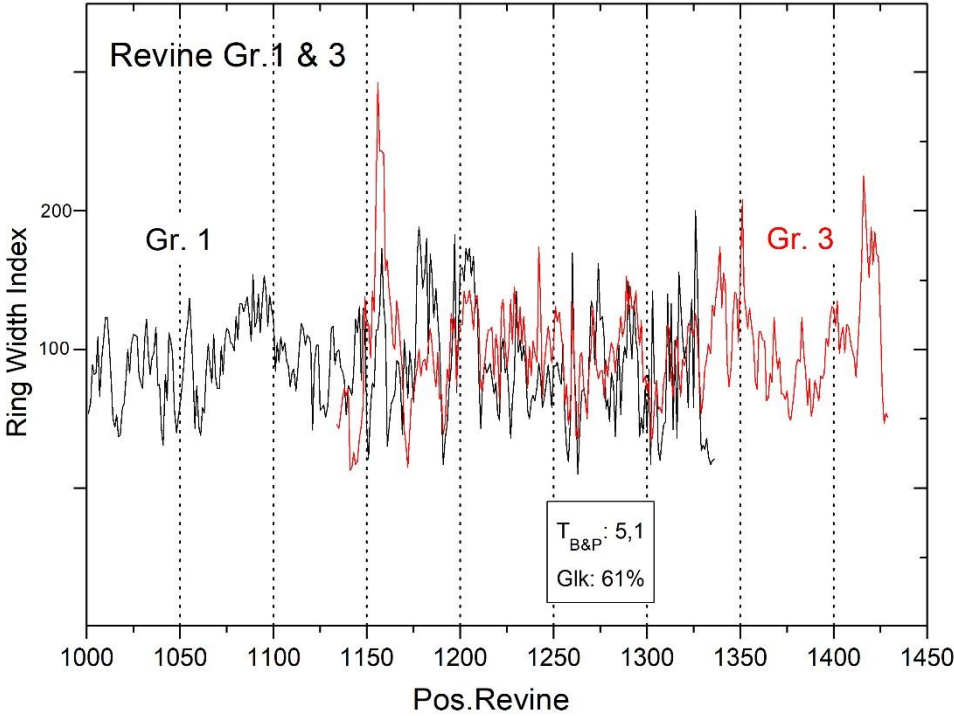
Supplementary Figure 1: Ring width of 12 trees of Revine Group 1 (Gr. 1)



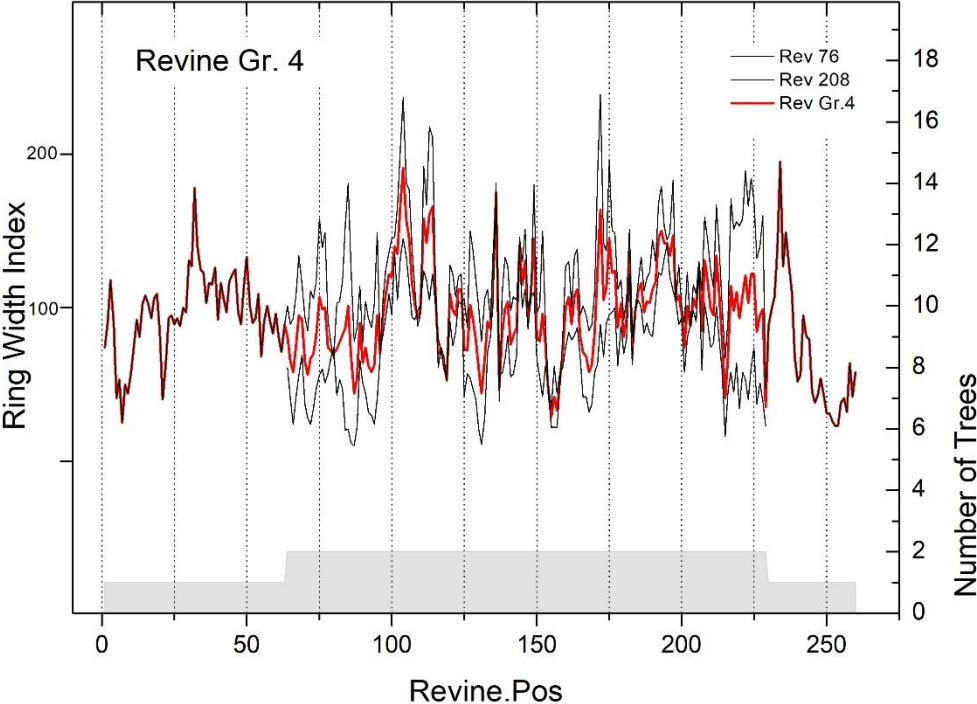
Supplementary Figure 2: Ring width of 3 trees of Revine Group 3 (Gr. 3)



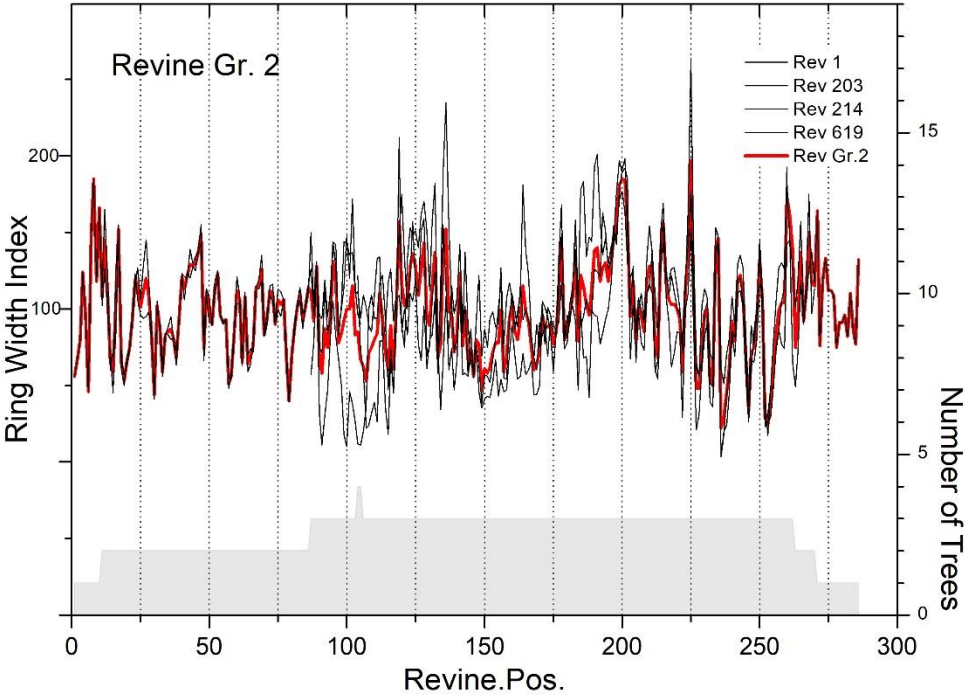
Supplementary Figure 3: Ring width of combined Group 1 & 3 (Gr. 1&3)



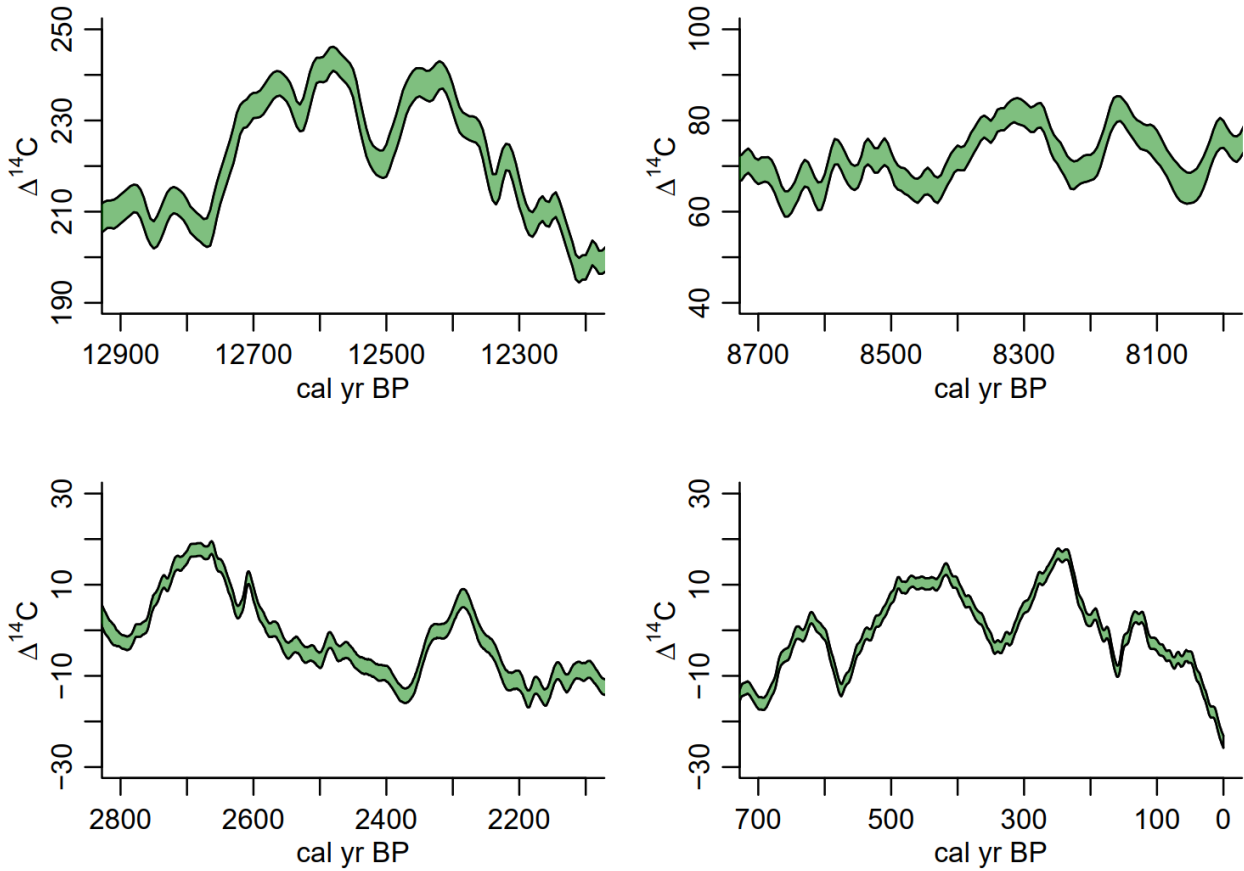
Supplementary Figure 4: Ring width of 2 trees of Revine Group 4 (Gr. 4)



Supplementary Figure 5: Ring width of 4 trees of Revine Group 2 (Gr. 2)



Supplementary Figure 6: $\Delta^{14}\text{C}$ amplitude variations at the onset of Younger Dryas and during three strong events in the Holocene



Supplementary Table 1a-d: Correlation table of the tree-ring series of the different chronologies (group 1 -4) of Revine. Marked green are the series which significantly cross date with each other following the threshold of tBP > 5,0; GLK > 60. Internal statistical properties of the single trees of the different chronologies (left: sign test as %; right: T_{Baillie&Pitcher}). T-values >5 are statistical significant.

(a) Group 1												
GLK[%] \ T_{B&P}	REV206	REV37	REV59	REV61	REV62	REV104	REV202	REV56	REV63	REV65	REV207	REV50
REV206		4.0	9.3	7.7	7.9	5.4	6.1	10.3	7.2	8.6	9.5	8.4
REV37	66.0		3.7	5.1	8.4	11.1	3.2	5.5	3.3	2.7	4.4	9.7
REV59	65.1	59.0		6.7	7.3	6.2	14.9	9.5	13.2	23.8	13.6	10.0
REV61	65.5	63.9	69.7		7.4	7.0	5.3	12.5	5.3	7.5	7.2	5.0
REV62	69.7	64.7	66.8	71.3		12.6	5.3	10.0	6.6	8.8	9.0	10.8
REV104	61.2	63.6	61.5	67.9	69.7		4.1	8.8	5.1	5.9	6.6	10.4
REV202	66.1	62.6	79.7	68.9	67.0	60.0		7.1	12.1	13.5	12.0	7.9
REV56	73.5	66.9	68.5	79.8	68.1	71.5	65.1		6.8	10.1	10.6	11.0
REV63	66.5	58.1	74.2	68.0	65.8	58.6	76.5	65.0		9.3	14.5	8.3
REV65	67.1	54.9	83.3	71.9	69.1	60.3	73.5	73.1	72.0		14.2	8.1
REV207	66.0	58.5	69.9	70.9	67.6	62.4	72.9	69.2	72.6	73.5		10.3
REV50	73.1	72.5	67.1	60.5	68.2	68.6	65.4	68.5	67.7	59.0	62.6	
(b) Group 3												
GLK[%] \ T_{B&P}	REV101	REV209	REV103									
REV101		6.0	9.7									
REV209	62.3		9.4									
REV103	75	67.2										
(c) Group 4												
GLK[%] \ T_{B&P}	REV76	REV208										
REV76		7.1										
REV208	67.9											
(d) Group 2												
GLK[%] \ T_{B&P}	REV214	REV1	REV203	REV619								
REV214		10.1	n. Ovl	10.1								

REV1	67.1		15.9	8.8
REV203	n. Ovl.	79.3		n. Ovl
REV619	70.8	70.9	n. Ovl	

Supplementary Table 2: ¹⁴C ages of the Revine chronologies from group 1&3 from group 2 and from group 4

Revine group 1 & 3					
start ring	end ring	¹⁴ C age	±	BRAVHO lab number	tree
2	5	15052	35	5218.1.1	Revine 59
6	8	15100	38	5219.1.1	Revine 59
12	14	15182	34	5221.1.1	Revine 59
21	23	15212	34	5224.1.1	Revine 59
30	32	15253	34	5227.1.1	Revine 59
39	41	15152	35	5230.1.1	Revine 59
48	50	15132	35	5233.1.1	Revine 59
57	59	15010	34	5236.1.1	Revine 59
66	68	15030	34	5239.1.1	Revine 59
75	77	15030	34	5242.1.1	Revine 59
84	86	15118	34	5245.1.1	Revine 59
93	95	15179	35	5248.1.1	Revine 59
102	104	15142	35	5251.1.1	Revine 59
111	113	14969	38	5254.1.1	Revine 59
120	122	15011	34	5257.1.1	Revine 59
129	131	15052	34	5260.1.1	Revine 59
138	142	15001	34	5263.1.1	Revine 59
149	153	15024	34	5266.1.1	Revine 59
160	164	15053	33	5269.1.2	Revine 59
173	175	15003	34	5272.1.1	Revine 59
182	184	15074	34	5275.1.1	Revine 59
207	209	15074	39	5350	Revine 209
226	229	15085	39	5351	Revine 209
251	253	15072	39	5352	Revine 209
273	275	14962	39	5353	Revine 209
290	292	14886	39	5354	Revine 209
305	307	14878	39	5355	Revine 209
326	328	14870	30	5356.1.1	Revine 209
335	337	14757	30	5359.1.1	Revine 209
347	349	14728	30	5363.1.1	Revine 209
356	358	14756	30	5366.1.1	Revine 209
374	376	14722	31	5372.1.1	Revine 209
383	385	14677	30	5375.1.1	Revine 209
401	403	14661	29	5381.1.1	Revine 209
410	412	14654	29	5384.1.1	Revine 209
428	430	14637	29	5390.1.1	Revine 209
437	439	14653	29	5393.1.1	Revine 209
446	448	14655	29	5396.1.1	Revine 209
455	457	14776	38	5399	Revine 209

464	466	14720	38	5402	Revine 209
473	475	14727	38	5405	Revine 209
191	193	15103	29	5278	Revine 37
200	202	15056	29	5281	Revine 37
209	211	15052	29	5284	Revine 37
221	223	15000	29	5288	Revine 37
230	232	14911	29	5291	Revine 37
239	241	14930	29	5294	Revine 37
248	250	14891	29	5297	Revine 37
257	259	14927	29	5300	Revine 37
268	270	14909	29	5303	Revine 37
280	282	14905	28	5307	Revine 37
289	291	14828	28	5310	Revine 37
299	300	14767	28	5313	Revine 37
310	312	14892	29	5317	Revine 37
319	321	14945	29	5320	Revine 37
316	318	14910	38	5319	Revine 37
322	324	14822	37	5321	Revine 37
Revine group 2					
start ring	end ring	¹⁴C age	±	BRAVHO lab number	tree
3	5	14.555	33	5524	Revine203
12	14	14.537	33	5527	Revine203
21	23	14.547	33	5530	Revine203
31	32	14.513	33	5533	Revine203
39	41	14.451	32	5536	Revine203
48	50	14.449	32	5539	Revine203
60	62	14.447	32	5543	Revine203
69	71	14.374	33	5546	Revine203
78	80	14.385	32	5549	Revine203
87	89	14.357	32	5552	Revine203
99	1	14.369	32	5556	Revine203
110	112	14.375	32	5561	Revine1
119	121	14.422	32	5564	Revine1
128	130	14.393	32	5567	Revine1
139	141	14.409	32	5571	Revine1
150	152	14.354	32	5575	Revine1
159	161	14.400	32	5578	Revine1
168	170	14.329	32	5581	Revine1
177	179	14.315	32	5584	Revine1
189	191	14.255	32	5588	Revine1
198	200	14.377	32	5591	Revine1
210	212	14.260	32	5595	Revine1
219	221	14.343	32	5598	Revine1
228	230	14.294	32	5601	Revine1

241	243	14.234	32	5605	Revine1
250	253	14.229	32	5608	Revine1
257	259	14.200	32	5610	Revine1
Revine group 4					
start ring	end ring	¹⁴C age	±	BRAVHO lab number	tree
71	73	14595	30	6012.1.1	Revine76
77	79	14599	30	6014.1.1	Revine76
83	86	14731	32	6016	Revine76
87	89	14591	29	6017.1.1	Revine76
96	98	14583	29	6021.1.1	Revine76
118	120	14592	30	6028.1.1	Revine76
127	129	14620	29	6031.1.1	Revine76
130	131	14622	40	5499	Revine76
139	141	14655	29	6035.1.1	Revine76
148	150	14617	29	6038.1.1	Revine76
157	159	14692	29	6041.1.1	Revine76
169	171	14711	32	6045	Revine76
184	186	14622	30	6050.1.1	Revine76
202	204	14770	38	5500	Revine76
21	23	14657	38	5347	Revine208
21	23	14557	36	6061	Revine208
33	35	14649	36	6065	Revine208
36	38	14656	36	6060	Revine208
39	41	14669	32	6067	Revine208
45	47	14670	36	6069	Revine208
48	50	14651	36	6070	Revine208
54	56	14579	28	6072	Revine208
57	59	14598	36	6073	Revine208
63	65	14592	30	6075	Revine208
66		14677	32		Revine208
66	68	14714	37	6076	Revine208
72	74	14687	28	6078	Revine208
81	83	14774	38	5345	Revine208
204	206	14602	37	5346	Revine208
207	209	14531	28	6079	Revine208