

NOTES AND COMMENTS

**CORRECTED CALIBRATION OF THE RADIOCARBON  
TIME SCALE, 3904–3203 CAL BC**

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Since our publication of the high-precision calibration curve for the larger part of the 4th millennium BC (de Jong, Becker & Mook, 1986), we found that the dendrochronologic scale (cal BC) needs a correction of 26 years. Instead of using the zero-point of the Niederwill chronology (4039 BC) which was floating at the time, our dendrochronologic scale was erroneously based on the zero-point of the Hohenheim master chronology, which, in its 1986 stage, extended to 4065 BC.

By this correction of 26 years there is now good agreement with the calibration curve of Pearson *et al* (1986), as shown in Figure 1. The definitive calibration curve is shown in Figure 2. Table 1 contains the revised data.

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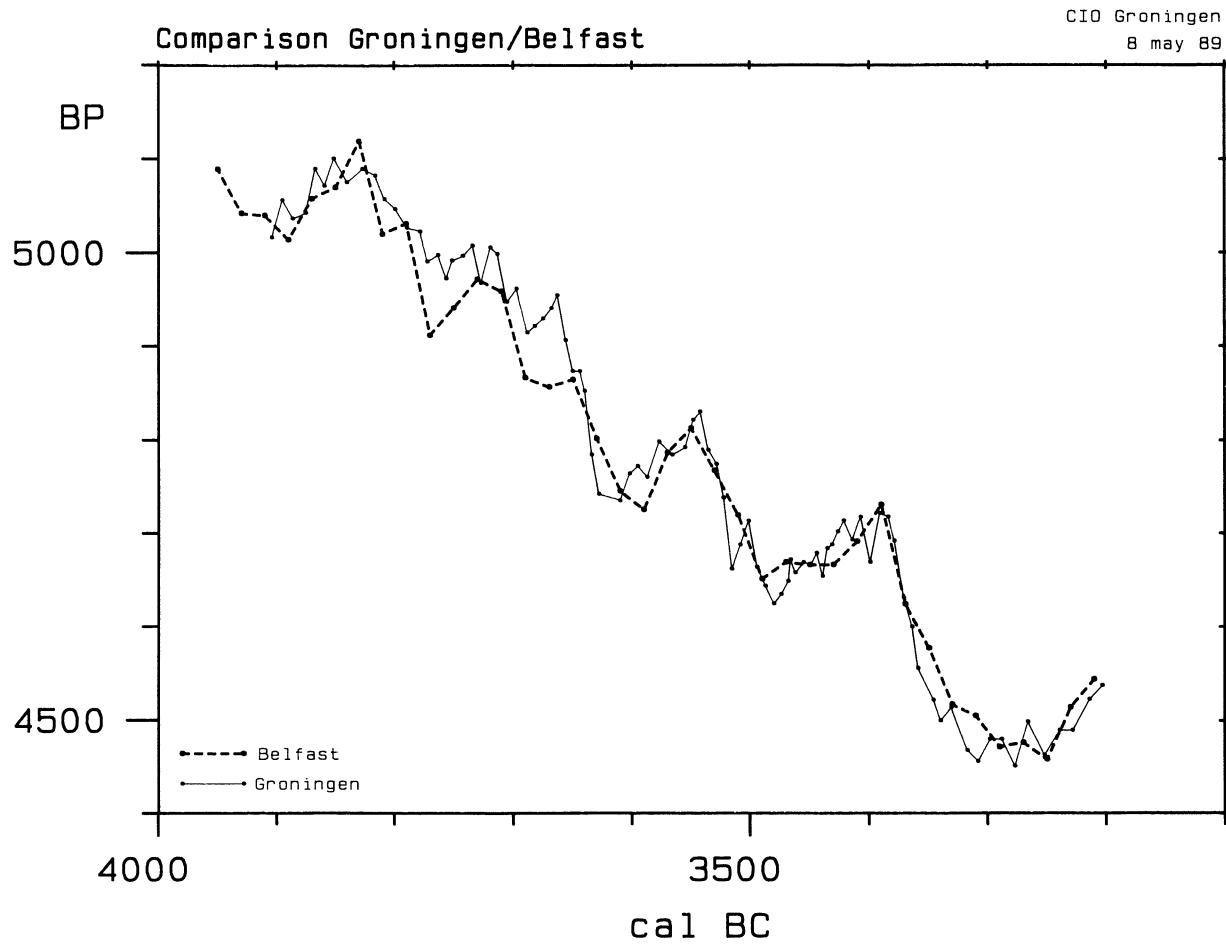


Fig 1. Comparison between the calibration data of Pearson *et al* (1986) and our present data

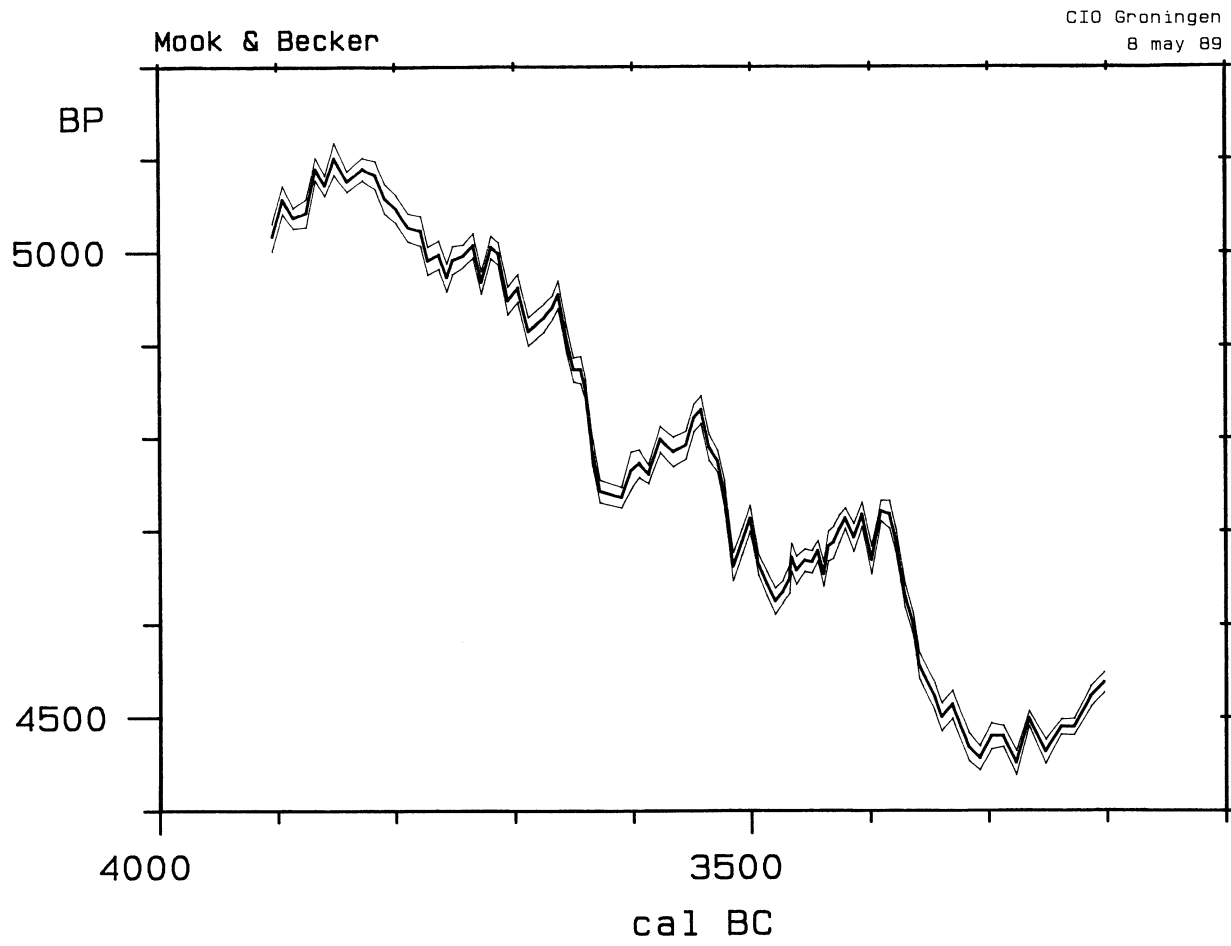


Fig 2. Calibration curve for one-year tree-ring samples from German Oak

TABLE I

Results of  $^{13}\text{C}$  (vs PDB) and  $^{14}\text{C}$  analyses on tree rings from South German oak chronologies Donau 7, 3, 10 and 12. The absolute historical values are from the absolute master chronology (Becker & Kromer, 1986) and have been revised by 26 years as compared to de Jong *et al* (1986). The  $^{14}\text{C}$  results are conventional ages (5568 yr half-life), corrected for  $^{13}\text{C}$ .

GrN no.	Tree no.	Tree-ring no.	Dendro date BC	$^{14}\text{C}$ age (BP)	$\delta^{13}\text{C}$ (‰)
9163	E1	136	3904	5017 ± 15	-26.18
9162	E1	145	3895	5057 ± 15	-25.90
9161	E1	154	3886	5037 ± 11	-26.01
9160	E1	165	3875	5043 ± 15	-25.42
9066	E1	173	3867	5090 ± 12	-25.51
9065	E1	181	3859	5072 ± 11	-25.54
9159	F1	189	3851	5101 ± 17	-24.50
9063	F1	200	3840	5076 ± 11	-25.17
9158	G1	213	3827	5090 ± 12	-26.16
9025	G1	224	3816	5083 ± 15	-25.21
9024	H1	232	3808	5058 ± 16	-25.05
9023	H1	241	3799	5047 ± 15	-25.46
9022	H1	251	3789	5027 ± 15	-25.36
9021	H1	262	3778	5023 ± 16	-25.54
9008	H1	268	3772	4991 ± 15	-25.55
9007	H1	277	3763	4998 ± 15	-25.30
9006	H1	284	3756	4973 ± 15	-25.37
9005	H1	289	3751	4992 ± 15	-24.93
9004	H1	298	3742	4997 ± 12	-25.06
9002	H1	306	3734	5008 ± 13	-24.30
9001	H1	313	3727	4968 ± 12	-24.65
8837	H1	321	3719	5006 ± 12	-24.40
8836	H1	327	3713	4999 ± 12	-24.54
8835	H1	335	3705	4948 ± 15	-25.37
8834	H1	343	3697	4962 ± 15	-24.53
8833	H1	352	3688	4915 ± 15	-24.79
8832	H1	358	3682	4922 ± 15	-24.73
8831	H1	365	3675	4930 ± 15	-24.68
8830	H1	372	3668	4941 ± 13	-24.53
8779	I1	377	3663	4955 ± 15	-24.54
8778	I1	384	3656	4907 ± 14	-24.82
8777	I1	390	3650	4874 ± 13	-24.90
8776	I1	396	3644	4874 ± 15	-24.59
8775	I1	400	3640	4853 ± 12	-25.09
8774	I1	406	3634	4785 ± 15	-24.84
8773	I1	412	3628	4743 ± 12	-25.26
8771	I1	430	3610	4736 ± 11	-25.27
8766	I1	438	3602	4765 ± 20	-25.27
8764	I1	445	3595	4773 ± 15	-24.81
8751	I1	453	3587	4761 ± 10	-24.37
8750	K1	463	3577	4799 ± 14	-24.49
8749	K1	474	3566	4785 ± 16	-24.69
8748	K1	485	3555	4793 ± 15	-24.68
8742	K1	492	3548	4822 ± 15	-24.76
8741	K1	498	3542	4831 ± 15	-24.65
8740	K1	505	3535	4790 ± 14	-25.06
8730	K1	512	3528	4775 ± 12	-24.90
8729	K1	518	3522	4739 ± 15	-24.60
8727	K1	525	3515	4662 ± 15	-24.43
8726	K1	532	3508	4688 ± 14	-25.31
8725	K1	539	3501	4714 ± 14	-25.21
8724	L1	546	3494	4664 ± 11	-25.02
8570	M1	553	3487	4644 ± 13	-25.54
8569	M1	560	3480	4625 ± 14	-24.71

TABLE 1 (continued)

GrN no.	Tree no.	Tree-ring no.	Dendro date BC	<sup>14</sup> C age (BP)	δ <sup>13</sup> C (‰)
8568	M1	566	3474	4635 ± 12	-25.03
8549	M1	572	3468	4649 ± 15	-26.12
8728	N1	574	3466	4672 ± 15	-23.99
8548	O1	578	3462	4658 ± 15	-25.66
8547	O1	585	3455	4669 ± 12	-25.69
8546	O1	591	3449	4667 ± 12	-25.58
8532	O1	596	3444	4679 ± 11	-25.09
8531	O1	601	3439	4654 ± 13	-24.60
8530	P1	605	3435	4684 ± 16	-25.33
8529	P1	609	3431	4688 ± 17	-24.95
8528	Q1	614	3426	4702 ± 15	-24.98
8527	Q1	619	3421	4714 ± 11	-25.13
8524	Q1	626	3414	4693 ± 15	-25.77
8523	Q1	633	3407	4718 ± 13	-25.35
8522	R1	641	3399	4669 ± 15	-25.46
8521	R1	649	3391	4722 ± 11	-25.26
8520	R1	656	3384	4718 ± 15	-25.63
8475	R1	661	3379	4692 ± 13	-25.44
8474	S1	669	3371	4631 ± 13	-25.46
8473	S1	676	3364	4600 ± 12	-25.27
8472	S1	687	3359	4556 ± 14	-24.84
8366	S1	694	3346	4522 ± 15	-24.79
8365	T1	700	3340	4500 ± 15	-24.20
8346	T1	709	3331	4514 ± 15	-24.43
8345	T1	723	3317	4468 ± 15	-24.05
8299	T1	732	3308	4456 ± 13	-24.81
8298	U1	742	3298	4480 ± 14	-24.98
8273	V1	752	3288	4480 ± 11	-24.53
8272	V1	763	3277	4451 ± 13	-25.37
8271	V1	774	3266	4499 ± 8	-24.57
8270	W1	788	3252	4463 ± 13	-24.67
8269	W1	801	3239	4490 ± 8	-24.41
8268	W1	812	3228	4490 ± 9	-25.28
8267	W1	826	3214	4523 ± 11	-25.03
8266	W1	837	3203	4538 ± 11	-25.28