

# **Online Material**

**Table S1.** Features of different prewhitened chronologies. (a) Different growth descriptors considering all trees in the plot. (b) Volume increment chronologies of each (b) basal area group and (c) cohort.

<b>(a)</b>			
	Growth	<i>N</i>	EPS
		descriptor	
Upper plot	RW	30	1961–2006
	BAI	30	1960–2006
	VI	30	1959–2006
Lower plot	RW	30	1960–2006
	BAI	30	1959–2006
	VI	30	1959–2006
<b>(b)</b>			
	Group	<i>N</i>	EPS
Upper plot	1	10	1961–2006
	2	10	1960–2006
	3	10	1960–2006
Lower plot	1	10	1959–2006
	2	10	1960–2006
	3	10	1959–2006
<b>(c)</b>			
	Cohort	<i>N</i>	EPS
Upper plot	1945	1	–
	1959	17	1959–2006
	1972	12	1972–2006
Lower plot	1945	3	1948–2006
	1959	27	1959–2006

RW: ring-width; BAI: basal area increment; VI: volume increment.

*N*: number of trees; EPS: period with expressed population signal > 0.85.

**Table S2.** Pearson's correlations between upper plot (UP) and lower plot (LP) prowhitened chronologies representing (a) different growth descriptors and volume increment of (b) basal area group and (c) age cohorts. All correlations had  $P < 0.001$ . See text for acronyms explanation. Calculation period: 1974–2006. All correlations significant with  $P < 0.001$ .

(a)						
	UP VI	UP BAI	UP RW	LP VI	LP BAI	LP RW
UP VI	1	0.97	0.94	0.96	0.87	0.89
UP BAI	0.97	1	0.97	0.95	0.91	0.92
UP RW	0.94	0.97	1	0.93	0.85	0.93
LP VI	0.96	0.95	0.93	1	0.94	0.96
LP BAI	0.87	0.91	0.85	0.94	1	0.95
LP RW	0.89	0.92	0.93	0.96	0.95	1

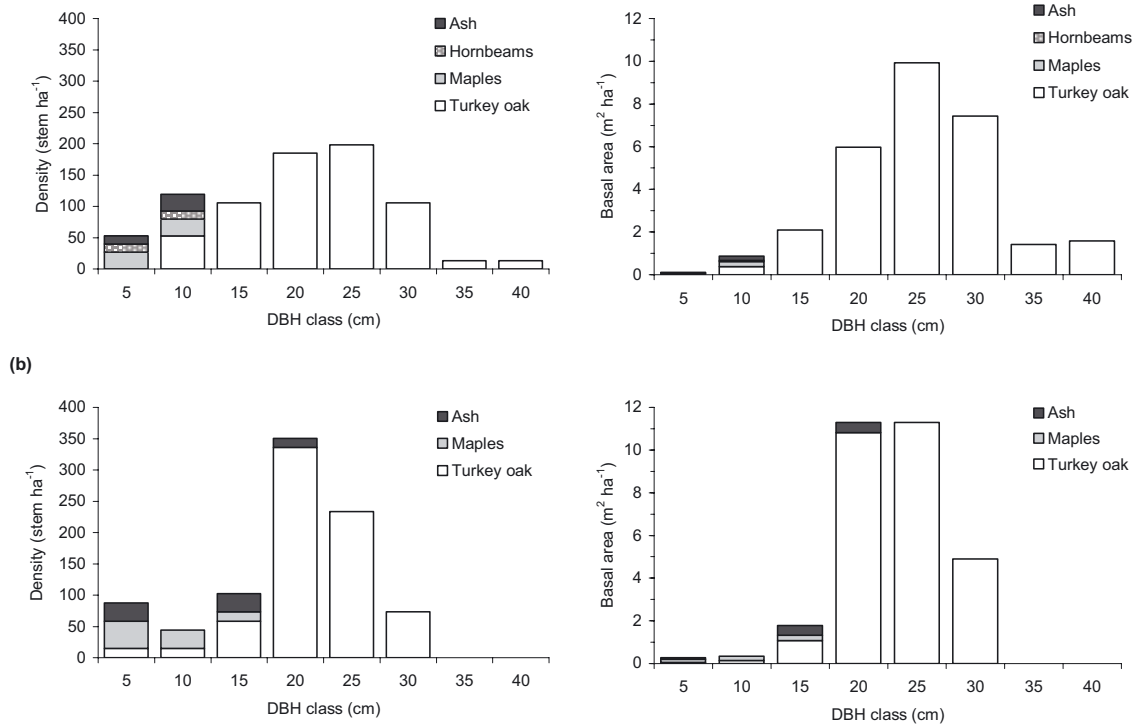
  

(b)						
	UP1	UP2	UP3	LP1	LP2	LP3
UP1	1					
UP2	0.92	1				
UP3	0.90	0.95	1			
LP1	0.86	0.90	0.89	1		
LP2	0.92	0.94	0.95	0.95	1	
LP3	0.88	0.91	0.94	0.96	0.97	1

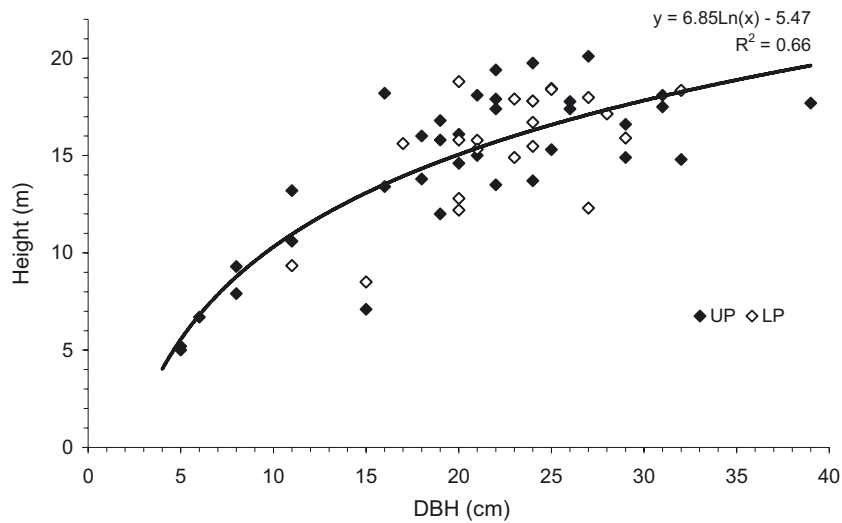
  

(c)				
	LP45	LP59	UP59	UP72
LP45	1			
LP59	0.96	1		
LP59	0.96	0.98	1	
UP72	0.86	0.85	0.89	1

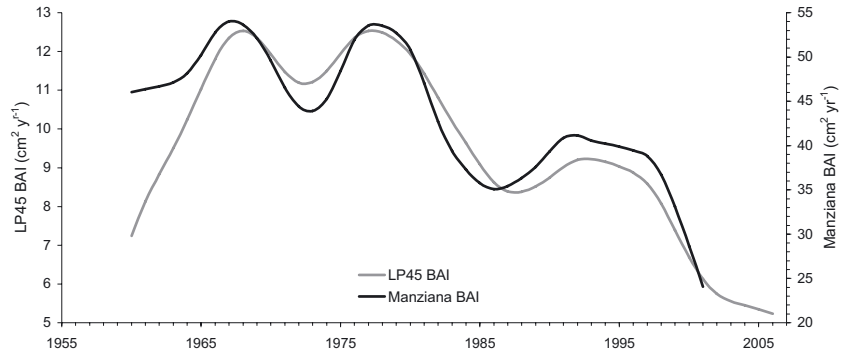
VI: volume increment; BAI: basal area increment; RW: ring-width.



**Figure S1.** Density (left) and basal area (right) distribution in 5 cm diameter classes at (a) Upper plot and (b) Lower plot.



**Figure S2.** Height-DBH curve representative of both plots.



**Figure S3.** Mean BAI 11-y splines comparison between Manziana Turkey oak high forest and LP45.