Ancient Monuments Laboratory Report 121/90

TREE-RING ANALYSIS OF TIMBERS FROM MONKEY MARSH LOCK, THATCHAM, BERKSHIRE

Miss Jennifer Hillam

Strange .

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Summary

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Identification of the timbers revealed that oak and elm were used in the lock. The timber tended to be fast-grown with the result that most of the samples had insufficient growth rings for dating purposes. The ring sequences of eight samples were measured, two oak and six elm, but no dating was obtained.

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The rebuilding of Monkey Marsh Lock (SU 5242 6620) provided an opportunity for excavation and watching briefs which were carried out by the Trust for Wessex Archaeology. Nineteen samples were submitted for tree-ring analysis in the hope of obtaining absolute dates for the lock's construction periods. The samples were examined at the Sheffield Dendrochronology Laboratory in November 1990 with funding from English Heritage.

Identification of the samples showed that both oak (Quercus spp) and elm (Ulmus spp) were used in the construction of the lock (Table 1). Although oak is the species generally used for dendrochronological analysis in the British Isles, elm timbers have also been successfully dated (Groves & Hillam 1990). The timbers were of poor quality with many knots. They had been shaped from young, fast-grown trees with the result that none of the timbers had more than 70 rings and the majority had less than 50 rings. Since 50 rings are generally required for reliable dating, many of the samples had to be rejected (for further details, see Hillam et al 1987). The ring widths of eight samples were measured. Two (<u>183</u>, <u>925</u>) were oak; the remainder (<u>113</u>, <u>363</u>, <u>915</u>, <u>916</u>, <u>919</u>, <u>1002</u>) were elm. The samples contained 41-67 rings. No similarities were found between the ring sequences, nor was there any agreement between the lock sequences and the dated reference chronologies against which they were tested.

References

Groves C & Hillam J 1990 Tree-ring analysis and dating of timbers from Upwich, Droitwich, Hereford & Worcester, 1983-84. CBA Research Report (forthcoming).

Hillam J, Morgan RA & Tyers I 1987 Sapwood estimates and the dating of short ring sequences. In RGW Ward (ed), Applications of tree-ring studies: current research in dendrochronology and related areas, BAR S333, 165-85.

<u>sample</u>	phase	species	total no of rings	sapwood rings	average ring width (mm)	sketch	cross-sectional dimensions (mm)	comments
106	I	elm	40		7.6		330x260	knotty
107	I	eln	41		-		245x215	
108	I	eln	36		- (260x200	
109	I	elu	45		4.9		315x215	
111	I	eln	39		-		245x220	
113*	I	elm	63	-	2.8		225x175	
183*	II	oak	67	6	2.7		280x180	
363*	II	elm	46		5.6		275x235	
911	Ib	eln	21		- (185x115	knotty
912	Ia	oak	42	-	-		195x140	heartwood-sapwood transition present
913	Ib	oak	-	yes			190x110	unmeasuable band of narrow rings
915*	Ib	eln	41		2.5		215x110	
916*	Ib	elm	50		2.3		175x110	knotty

Table 1: Full details of the samples submitted for tree-ring analysis. Measured samples are indicated with an asterisk.

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	sample	phase	species	total no of rings	sapwood rings	average ring vidth (mm)	sketch	cross-sectional dimensions (mm)	comments
	917	Ia	oak	40	-	-		105x95	
	919 *	Ib	elm	52	-	2.0		195x125	
	924	11	oak	41	5	-		200x190	
	925*	11	oak	54	1	3.6		210x160	
	1001	II	eln	38		5.3		275x170	knotty
	1002*	II	eln	53		2.7		285x195	bark edge?