

Reports from the Environmental Archaeology Unit, York 97/23, 12 pp.

Anglo-Scandinavian 16-22 Coppergate: timber identifications

by

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Summary

The numbers and percentages of different trees identified from a variety of wood and timber samples from Anglo-Scandinavian (mid C9th to late C11th) levels at 16-22 Coppergate, York, are presented and discussed. Overall, oak is the dominant species at all periods and in all types of material, except amongst the 'small finds', where alder is the most frequent taxon. Most of the material probably originated in local woodland, though a few taxa amongst the small finds are certain or very likely to have been imported.

Keywords: YORK; 16-22 COPPERGATE; ANGLO-SCANDINAVIAN; TIMBERS; WOOD; STRUCTURAL TIMBERS; WOODEN ARTEFACTS; POSTS; STAKES; IDENTIFICATION

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31 May 1997

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A total of 3380 identifications of wood and timber samples from Anglo-Scandinavian levels at 16-22 Coppergate have been made (principally by the author, but with some 323 identifications of small finds by other workers, amongst them Dorian Williams and Gillian Turner). The material examined falls into three categories, mainly relating to the way they were dealt with during excavation:

- (i) artefacts (n=714, designated by a ‘small find number’)
- (ii) larger structural timbers (n=625, usually designated by a ‘timber number’)
- (iii) timbers, mainly from fences and other alignments (n=2041, usually designated by a context number only)

In practice, members from a small number of larger objects (e.g. barrel staves) were given both timber and small find numbers when excavated; for the present purpose, they have been included in category (i).

The breakdown of identifications by period and timber type is shown in Tables 1-2 and Figs. 1-5. In all cases, tentative identifications have been ignored.

The most obvious feature of the data is—perhaps not surprisingly—that oak (*Quercus*) is the most frequent timber; it is well represented amongst all the sample types and is the most abundant at all periods (combined data, Fig. 1, though second in importance to hazel in Period 4A, Fig. 2). It is very much the predominant taxon for the ‘timbers’ category (Fig. 4), which includes all the large members from the plank-built structures of Period 5B. For the artefactual material, oak is actually second in importance after alder (*Alnus*), with a large component of what is assumed to be field maple (*Acer*, probably *A. campestre*); these two trees supplied the bulk of the wood used for turned wooden bowls recorded in quantity from Period 4B and 5B levels.

Again, as might be expected, the range of taxa

amongst the small finds was much greater than for the other two groups and some taxa are wholly or mostly recorded as finds rather than in the other two categories: two of the three silver fir (*Abies*) records, and all the records for box (*Buxus*), spindle (*Euonymus*), pine (*Pinus*), yew (*Taxus*) and elm (*Ulmus*). These are trees which are unlikely to have grown locally (or, in the case of fir, unlikely to have grown in Britain at all!) or if local then unlikely to have been common in the woodland around the city and not therefore major providers of timber for purposes other than the working of objects. Indeed, they might all have been imported from some distance, for other identifiable remains such as buds or bud-scales ought to have been observed if, for example, these trees were brought to the site as brushwood or in woodland moss rather than more substantial timbers. (Tree and shrub taxa identified as buds and/or bud-scales or via leaves are given in Table 3. Records of propagules—fruits and seeds—are not given here.)

Noticeable amongst the group of ‘other’ timbers was the rather high frequency of alder, birch (*Betula*), hazel (*Corylus*), ash (*Fraxinus*) and willow (*Salix*), all used for a variety of smaller structures like fences and wickerwork. The one tree likely actually to have grown at the site at some times, at least, was elder (*Sambucus*), seeds of which were recorded regularly from the plant macrofossil assemblages, and which was represented by at least three stumps.

The only major post-glacial forest tree not recorded amongst these timbers was lime (*Tilia*) which is rarely recorded amongst charcoal or waterlogged timbers of any period. Certainly, if it had been important in the forests of the prehistoric period in the region, by the ninth and tenth centuries it had become scarce—unless, perhaps, it was shunned as a timber for structural or artefactual use (which seems unlikely, given the abundance of evidence for coppiced stools of lime in woods in lowland England).

Acknowledgements

The author is grateful to English Heritage for supporting the work presented in this report.

Table 1. Total numbers and percentages of timber identifications (all records). The records for *Quercus/Castanea* are probably immature oak: no positive identification of sweet chestnut was made. The data are presented graphically by period in Figs. 1-2.

| Identification | Total No. | % |
|--|-----------|-------|
| <i>Abies</i> (silver fir) | 3 | 0.09 |
| <i>Acer</i> (probably all field maple, <i>A. campestre</i>) | 125 | 3.70 |
| <i>Acer/Pomoideae</i> | 1 | 0.03 |
| ? <i>Acer</i> | 21 | 0.62 |
| ? <i>Acer/Prunus</i> | 1 | 0.03 |
| <i>Alnus</i> (alder) | 512 | 15.15 |
| ? <i>Alnus</i> | 13 | 0.38 |
| ? <i>Alnus/Corylus</i> | 1 | 0.03 |
| bark | 7 | 0.21 |
| <i>Betula</i> (birch) | 82 | 2.43 |
| ? <i>Betula</i> | 6 | 0.18 |
| <i>Buxus</i> (box) | 3 | 0.09 |
| <i>Corylus</i> (hazel) | 532 | 15.74 |
| ? <i>Corylus</i> | 6 | 0.18 |
| <i>Euonymus</i> (spindle) | 1 | 0.03 |
| <i>Fagus/Prunus</i> | 1 | 0.03 |
| <i>Fraxinus</i> (ash) | 236 | 6.98 |
| ? <i>Fraxinus</i> | 1 | 0.03 |
| <i>Ilex</i> (holly) | 3 | 0.09 |
| <i>Pinus</i> (pine) | 6 | 0.18 |
| Pomoideae (apple/pear/rowan/hawthorn) | 34 | 1.01 |
| ?Pomoideae | 7 | 0.21 |
| <i>Populus</i> (poplar, aspen) | 20 | 0.59 |
| <i>Populus/Salix</i> | 1 | 0.03 |
| ? <i>Populus</i> | 6 | 0.18 |
| <i>Prunus</i> (blackthorn/cherry/plum, etc.) | 7 | 0.21 |
| ? <i>Prunus</i> | 3 | 0.09 |
| <i>Quercus</i> (oak) | 1311 | 38.79 |
| ? <i>Quercus</i> | 5 | 0.15 |
| <i>Quercus/Castanea</i> (oak/sweet chestnut)* | 11 | 0.33 |
| ? <i>Quercus/Castanea</i> | 1 | 0.03 |
| <i>Rhamnus cathartica</i> (purging buckthorn) | 1 | 0.03 |
| Rosaceae (rose family - probably = Pomoideae) | 1 | 0.03 |
| ?Rosaceae | 1 | 0.03 |
| <i>Salix</i> (willow) | 321 | 9.50 |
| ? <i>Salix</i> | 11 | 0.33 |
| ? <i>Salix/Populus</i> | 1 | 0.03 |
| <i>Sambucus</i> (elder) | 8 | 0.24 |

| Identification | Total No. | % |
|---------------------------------------|------------------|------------|
| ? <i>Sambucus</i> | 1 | 0.03 |
| <i>Taxus</i> (yew) | 8 | 0.24 |
| <i>Ulmus</i> (elm) | 1 | 0.03 |
| | | |
| ?root wood | 1 | 0.03 |
| thorn | 1 | 0.03 |
| not identified | 37 | 1.09 |
| not identifiable without undue damage | 20 | 0.59 |
| | | |
| Total | 3380 | 100 |

Table 2. Numbers and percentages of selected taxa (n=3252) by 'type' (data are presented graphically in Figs. 3-5).

| Identification | 'Small finds' | | 'Timbers' | | 'Others' | |
|---------------------------------------|---------------|--------|-----------|--------|-----------|--------|
| | Total no. | % | Total no. | % | Total no. | % |
| <i>Abies</i> | 2 | 0.31 | 1 | 0.16 | - | - |
| <i>Acer</i> | 103 | 16.07 | 3 | 0.48 | 16 | 0.80 |
| <i>Acer/Pomoideae</i> | 1 | 0.16 | - | - | - | - |
| <i>Alnus</i> | 231 | 36.04 | 56 | 9.00 | 221 | 11.11 |
| <i>Betula</i> | 13 | 2.03 | 6 | 0.96 | 63 | 3.17 |
| <i>Corylus</i> | 15 | 2.34 | 12 | 1.93 | 504 | 25.34 |
| <i>Euonymus</i> | 1 | 0.16 | - | - | - | - |
| <i>Fagus/Prunus</i> | 1 | 0.16 | - | - | - | - |
| <i>Fraxinus</i> | 28 | 4.37 | 21 | 3.38 | 187 | 9.40 |
| <i>Ilex</i> | - | - | - | - | 3 | 0.15 |
| <i>Pinus</i> | 6 | 0.94 | - | - | - | - |
| <i>Pomoideae</i> | - | - | 1 | 0.16 | 33 | 1.66 |
| <i>Populus</i> | 6 | 0.94 | 3 | 0.48 | 11 | 0.55 |
| <i>Populus/Salix</i> | - | - | 1 | 0.16 | - | - |
| <i>Prunus</i> | - | - | - | - | 7 | 0.35 |
| <i>Quercus</i> | 171 | 26.68 | 497 | 79.90 | 642 | 32.28 |
| <i>Quercus/Castanea</i> | 1 | 0.16 | - | - | 10 | 0.50 |
| <i>Rhamnus cathartica</i> | - | - | - | - | 1 | 0.05 |
| <i>Salix</i> | 15 | 2.34 | 18 | 2.89 | 288 | 14.48 |
| <i>Sambucus</i> | 2 | 0.31 | 3 | 0.48 | 3 | 0.15 |
| <i>Taxus</i> | 8 | 1.25 | - | - | - | - |
| <i>Ulmus</i> | 1 | 0.16 | - | - | - | - |
| not identified | 12 | 1.87 | - | - | 25 | 1.26 |
| not identifiable without undue damage | 20 | 3.12 | - | - | - | - |
| Total | 641 | 100.00 | 622 | 100.00 | 1989 | 100.00 |

Table 3. Records of buds and/or bud-scales and of leaves, leaf fragments or leaf epidermis, of trees and shrubs at 16-22 Coppergate. Comparison of this list with the data in Table 1 clearly shows that holly (*Ilex*) was commonly brought to the site as leaves, though very rarely as timber; the most likely source is as litter from the woodland floor. Its bud-scales seem very unlikely to survive, however, so the presence of brushwood via buds or scales rather than leaves cannot, strictly, be judged.

| Taxon | No. contexts from which buds/scales recorded | No. contexts from which leaf/epidermis fragments recorded |
|------------------------------------|---|--|
| <i>Alnus</i> (alder) | 2 | - |
| <i>Betula</i> (birch) | 11 | 1 |
| <i>Ilex</i> (holly) | - | 96 |
| <i>Populus</i> (poplar/aspen) | 11 | - |
| <i>Prunus spinosa</i> (blackthorn) | 1 | - |
| <i>Quercus</i> (oak) | 76 | 2 |
| <i>Salix</i> (willow) | 23 | 3 |

Figures

Figure 1. Numbers of identifications of wood and timber (all categories combined) for selected taxa for the three major periods of Anglo-Scandinavian occupation at 16-22 Coppergate. Period 3: mid 9th-late 9th/early 10th century; Period 4: late 9th/early 10th century-c. 975; Period 5: c. 975-mid-later 11th century. A complete list of identifications appears in Table 1.

Figure 2. Data from Figure 1 broken down by sub-period. Period 4A: late 9th/early 10th century-c. 930/5; Period 4B: c. 930/5-c.975; Period 5A: c. 975; Period 5B: c. 975-early/mid 11th century; Period 5C: mid-later 11th century).

Figure 3. Percentages of identifications (selected taxa) for 'small finds'. For raw data, see Table 2.

Figure 4. Percentages of identifications (selected taxa) for 'timbers'. For raw data, see Table 2.

Figure 5. Percentages of identifications (selected taxa) for 'other' timbers. For raw data, see Table 2.