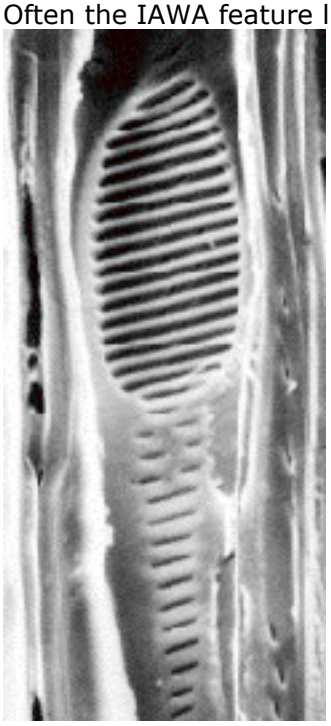
Translation: Oxford to IAWA Features

Example of Translated Entries

ACE ACER HERMONEUM-FWB
1 5 12? 13 22 23? 25? 26? 27? 30 36 37 40 41 45? 49? 50? 52? 53? 54? 61 63? 66 67? 68? 69? 71? 72? 73? 75 76 78 91? 92? 93? 94? 95? 98 104 112? 113? 115 135? 136 142 150? 151? 152? 153? 154? 155? 163? 164 165? 166? 167? 190 191 192? 194 196?

As the above translated entry illustrates, many features are unknowns "?" and it is not known whether that IAWA feature is present or absent.

Often the IAWA feature list has more details on a feature, so that in the initial translation these details translated to unknowns "?". These are described below.



Scalariform Perforation Plates: IAWA Features:
15. Scalariform perforation plates with 10 bars
16. Scalariform perforation plates with 10 – 20 bars
17. Scalariform perforation plates with 20 – 40 bars
18. Scalariform perforation plates with >40 bars

The Oxford features are:
7. Multiple perforations present
8. Scalariform perforation plates with more than 20 bars.

Therefore, if a description in the OPCN database had feature 7 present, but not feature 8, then IAWA 15? and 16? as the wood has scalariform perforations, but it is not known whether there are but 10 or fewer bars or only 10-20 bars or both.

-- If Oxford 8 was present, then IAWA 17? 18?

Intervessel pit size
25. Small – 4 –7 µm
26. Medium – 7–10 µm
27. Large – 10 µm

-- If Oxford 10 (pits minute) was absent, then IAWA 25?, 26?, 27?

Helical thickenings in vessel elements
37. Helical thickenings throughout body of vessel element
38. Helical thickenings only in vessel element tails
39. Helical thickenings only in narrower vessel elements

-- If Oxford 9 (spiral thickenings) was present, then IAWA 37?, 38? 39?

Translation: Oxford to IAWA Features

Fibre wall thickness
68. Fibres very thin-walled
69. Fibres thin- to thick-walled

-- If Oxford 25 (thick-walled fibres) was absent, then IAWA 68?, 69?

Axial parenchyma
80. Axial parenchyma aliform
81. Axial parenchyma lozenge-aliform
82. Axial parenchyma winged-aliform
83. Axial parenchyma confluent

-- If Oxford 49 (parenchyma aliform or confluent) was present, then IAWA 80 and 83 coded present [editing in progress to try to separate out woods with only aliform from those with aliform AND confluent and from those with only confluent], and 81 and 82 translated as ?

Storied structure
118. All rays storied
119. Low rays storied, high rays non-storied.

-- If Oxford 41 (Rays storied) present, then 118 and 119 present– as of this writing (July 1 2004) there are some woods that should only have 118, but have 119 also, and vice versa.

Oil and / or mucilage cells
124. Oil and / or mucilage cells associated with ray parenchyma
125. Oil and / or mucilage cells associated with axial parenchyma
126. Oil and / or mucilage cells present among fibres

-- If Oxford 65 (oil or mucilage cells) present, then 124? 125? 126? . Some entries in the OPCN database were 'qualified' and coded 65r or 65a to indicate the location of the oil cells, these would translate to 124 and 125, respectively.

Intercellular canals
127. Axial canals in long tangential lines
128. Axial canals in short tangential lines
129. Axial canals diffuse
131. Intercellular canals of traumatic origin

-- If Oxford 59 (Vertical canals) present, and Oxford 60 (Vertical canals in tangential lines) was absent, then IAWA 129.
-- If Oxford 59 and 60 were both present, then IAWA 127? and 128? as the Oxford features did not differentiate between short and long tangential lines.

Cambial variants
133. Included phloem, concentric
134. Included phloem, diffuse

-- If Oxford 58 (Included phloem), then IAWA 133? and 134? Some of the OPCN entries were qualified for this feature and 58f indicated foraminate (aka diffuse) included phloem, these entries were translated to 134 present.

Translation: Oxford to IAWA Features

For some IAWA features there was no equivalent feature in the OPCN database, and so they were translated to be "?" unknowns, many of these are still coded as unknowns, that is, it is not known whether the feature is present or absent in the wood. These are listed below.

12. Solitary vessel outline angular
19. Reticulate, foraminate, and / or other types of multiple perforation plates
23. Shape of alternate pits polygonal
33. Vessel–ray pits of two distinct sizes or types in the same ray cell
34. Vessel–ray pits unilaterally compound and coarse (over 10 µm)
35. Vessel–ray pits restricted to marginal rows
[Feature 35 is problematic, as in multiseriate rays, the radial section may not expose the 'outside' of the multiseriate portion that is in contact with the vessels, so even in woods that have been examined it wasn't possible to tell if this feature is present or absent.
45. Vessels of two distinct diameter classes, wood not ring-porous

Mean vessel element length
52. <350 µm
53. 350 – 800 µm
54. 800 µm

63. Fibre pits common in both radial and tangential walls
67. Parenchyma-like fibre bands alternating with ordinary fibres

Mean fibre lengths
71. 900 µm
72. 900 –1600 µm
73. 1600 µm

Cells per parenchyma strand
91. Two cells per parenchyma strand
92. Four (3 – 4) cells per parenchyma strand
93. Eight (5 – 8) cells per parenchyma strand
94. Over eight cells per parenchyma strand

95. Unlignified parenchyma
109. Rays with procumbent, square and upright cells mixed throughout the ray
112. Perforated ray cells
113. Disjunctive ray parenchyma cell walls
121 Fibres storied
122. Rays and / or axial elements irregularly storied
135. Other cambial variants

Translation: Oxford to IAWA Features

The IAWA list has many more features for inclusions than does the Oxford list.
139. Prismatic crystals in radial alignment in procumbent ray cells
145. Druses in ray parenchyma cells
146. Druses in axial parenchyma cells
147. Druses in fibres
148. Druses in chambered cells
150. Acicular crystals
151. Styloids and / or elongate crystals
152. Crystals of other shapes (mostly small)
153. Crystal sand
154. More than one crystal of about the same size per cell or chamber
155. Two distinct sizes of crystals per cell or chamber
157. Crystals in tyloses
158. Cystoliths
160. Silica bodies in ray cells
161. Silica bodies in axial parenchyma cells
162. Silica bodies in fibres
163. Vitreous silica

The IAWA list has subdivisions of the Brazier and Franklin geographic regions.
165. Europe, excluding Mediterranean
166. Mediterranean including Northern Africa and Middle East
167. Temperate Asia (China), Japan, USSR
169. India, Pakistan, Sri Lanka
170. Burma
179. Tropical Africa
180. Madagascar & Mauritius, Réunion & Comores
185. Carribbean
186. Tropical South America
187. Southern Brazil

189. Tree
190. Shrub
191. Vine / liana

There was no Oxford feature for plant habit, we had in the OPCN database added feature 83 to indicate shrub, with default being a tree. The data for plant habit are not recorded for many records, so some shrubs may be defined as trees, as the default translation was 189.

192. Wood of commercial importance

Translation: Oxford to IAWA Features

CAUTION: There are relatively few records that have data for specific gravity and heartwood color. Most of the records that have such information are ones of commercial importance. If a wood does not have feature 192 present, then the information for specific gravity and color are unreliable.

Specific gravity

193. Basic specific gravity low, 0.40
194. Basic specific gravity medium, 0.40 – 0.75
195. Basic specific gravity high, 0.75
Oxford 70 : Density (AD) < 0.4
Oxford 71 Density (AD) > 1.0
Many of the OPCN entries lacked information on density / specific gravity, and the categories are not equivalent to the IAWA categories.
--If Oxford 70 was present, then IAWA 193
--If Oxford 71 was present, then IAWA 195
Most OPCN entries had 70 and 71 absent, meaning either there were no data or that their density ranged from 0.4 to 1.0 these entries were translated to IAWA 194 present.

Heartwood colour

196. Heartwood colour darker than sapwood colour
197. Heartwood basically brown or shades of brown
198. Heartwood basically red or shades of red
199. Heartwood basically yellow or shades of yellow
200. Heartwood basically white to grey
201. Heartwood with streaks
202. Heartwood not as above

The following features have been ignored in the database, probably no more than 5 of the entries in the database have information on these features. They should **NOT BE USED** IN A SEARCH.

204. Heartwood fluorescent
Water & ethanol extracts: fluorescence & colour — 205-214
215. Froth test positive
216. Chrome Azurol-S test positive
Burning splinter test — 217-221