

Yews, *Taxus baccata* L. at Crowhurst Churchyard in Sussex

The Parish Church of St George, visit of May 2012

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The largest yew

This remarkable old yew has a doppelganger at St George's parish church at Crowhurst in Surrey, and the two trees are unsurprisingly occasionally confused in the literature. The yew has a complicated shape. The root system buttresses to over 18 inches from the ground, and some previous bole girth measures are now unrepeatabe because of the outward movement of a large section of bole visible to the right and back in the photograph below. John Aubrey found the yew to be 33 feet in girth at the base and 27 feet at 4 feet from the ground in 1680.



Root crown measure

At present the yew measures 30'2" at the "root crown"; at about 18" from ground the flare of the root system and associated buttressing gives a stable measuring point and the tape does not slip up or down, representing the lowest possible measure site to ground for achieving repeatability. Visual examination of the tree suggests that at this level the shifting of the southern section of the yew has minimal impact on the girth measure. The leaning section seems to be very slowly bending at this point and the base and lower bole remain in their original position. See the leaning section illustration below.

Minimum girth measure and growth rate

Another measure yields a girth of 29'10" following the nails probably knocked into the yew by a non-AYG researcher, a dubious practice at best. They give a line at a variable 2 or 3 feet from ground, dropping close to the "bend point" on the leaning section mentioned above.

This "nail" line is at or near the minimum girth that can currently be found on the yew. If any current measure can now be compared with Aubrey's bole girth, then it is this one, although Aubrey would probably have found a slightly higher measure at the "nail" line in 1680 than he found at 4 feet from ground.

The measurements suggest that yew has grown 2' 10" (86cm) or less in girth over a period of 332 years, a rate of 2.6mm per year. This figure disregards the 12 inches of girth apparently lost sometime between 1835 and 1879 (Appendix 2), which is likely due to the removal or other destruction of a bole section. Meredith found a growth rate of 1mm per year for the intact bole from 1680 to 1984 (1).

Gradual loss of quite major bole sections is considered a normal circumstance in very old yews, and the growth rate is expected to reflect and absorb such losses provided that the circumference remains broadly intact.

After the suspected damage the yew grew at 3.4mm for 15 years between 1879 and 1894 (see Meredith 1984 in *The Sacred Yew*). A photograph of the leaning section below also shows the extent to which growth in the form of cambium increase is occurring inside the yew, skewing the rate of the circumference measure increase.

Internal stems and ingrowths abound inside the cavity where their growth cannot be registered by a tape measure placed around the tree circumference. This state of affairs is common in very old yews, and perhaps explains the odd and apparently impossible zero girth increase of the huge yew at Totteridge documented since 1677 (*The Sacred Yew*).

Measure sites 2012



Nail Line



Root Crown

The leaning section: At the back of the tree, away from the church and towards the sharp slope a large fragment of bole is leaning. This bole section has clearly moved since 1954 when the bole measured 27'2" at 3 feet from ground: that measure is impossible to take now, and reports as far back as the mid-1800s mention the start of the movement (Appendix 2). With the shifting of the section the only level likely to give a true repeat measure now is at the root crown; that has not been done before as far as I know, so no exact comparison can be made. The section will probably come slowly to rest on its railings like a section of the specimen at South Hayling in Hampshire. The rest of the yew facing the church is stable and should also be measured as a separate circumference as in a century it may be the sole remainder of the tree.



The leaning section. Also note the rare "down-and-up" hanging branch, and internal growths

Age calculation and estimation: The yew was 27 feet in girth in 1680, but we don't know what state it was in. However statistical work by the Ancient Yew Group (2) shows that yews typically exceed 800 years in age by the time they girth over 7 metres or 23 feet. The difference of 4 feet or 122cm at a (generous) rate of 6 or 7mm per year suggests a further c200 years growth. The rest we know: 332 years. The yew is apparently over 1,300 years old, and if it had already been in fragmentary or senescent condition when it was measured by Aubrey as suggested by the very old and involved internal growths, it could easily top the 1,500 year mark. At this point in the analysis I conservatively calculate that the yew was deliberately planted in this rounded sacred site by the South Saxons in around 700 AD.

History: Further research tends to confirm this theory, and also casts light on the probable origin of the two lesser old yews in the churchyard. An extremely useful source is Madge E. Newman's pamphlet: (3) *Some notes on the Church and Manor of Crowhurst (1971)* some extracts from which are quoted below.

"Crowhurst lies on a back road between Battle and Hastings. The village was first mentioned in 771 as Croghurst when king Offa of Mercia gave the Bishop of Selsey 8 hides within the village. In return the Bishop built a church for the population. Before 1066 the manor was owned by King Harold and was completely destroyed by the Normans before the battle of Hastings"

1066- "Harold's fair Manor at Crowhurst was burnt and the Reeve hanged from the great yew tree in the churchyard because he refused to tell where the treasure was hidden- so wrote Hope Muntz in *The Golden Warrior*" [This is a tenuous but interesting piece of evidence suggesting that the current largest yew may have been somewhat older than 300 years in 1066. At 300 years it would typically have had a girth of around ten feet, which is not that "great".]

"The Yew Tree believed to be at least a thousand years old, stands on the south side of the church. Its trunk is held together by iron bands and is rapidly losing life in its extremities. In 1907 it was railed in by Col.P.R.Papillon to save it from further damage. In 1938, its girth at the base was 42ft." [Note that because of suspected erosion this is probably a somewhat lower and wider base section than that measured by Aubrey: it gives a possibly spurious growth rate of 10.6mm growth per year. Nevertheless, at that rate over its whole life the yew would be 1,207 years old, placing it surprisingly close to its most recent possible planting date.]

"In 1412 Henry the IV gave the land to Sir John Pelham who subsequently built the present parish church."

Ages of the yews

In all likelihood the old yew was planted in or before 771 when the first church was built, and the other two large yews were planted shortly after 1412 when Sir John Pelham built the present church. The oldest Crowhurst yew is thus 1,241 years old plus its age at planting, so almost exactly 1,250 years as a minimum. If it was a "great yew" in 1066 it pre-dates the first church and is a relic belonging to the circular Pre-Christian site. The two large but lesser yews were planted slightly less than 600 years ago. Given that trees planted in this way are 8 or 9 years old when they are put into the ground it is quite possible that this year, 2012, is their 600th birthday.

Treatment of the yews

An excellent system of maintenance appears to be in force at this churchyard. Small amounts of wood are removed when necessary. This little and occasional treatment is ideal for the appearance and health of the yews. A few clean and recent cut marks in the photographs bear testament to this.



One of the two old yews probably planted by Sir John Pelham shortly after 1412

Girths of the lesser yews: The female yew pictured above has a girth of 17'1" at 2'6/4' from the (sloping) ground along a run of nails, again probably put there by a researcher with a disappointing attitude. At 3'6" from the ground the yew measures 16'11". John Lowe records this yew in 1896: "There is a fine tree, much storm broken, at the north-west corner of the churchyard, which measures 13 feet 10 inches at 3 feet from the ground". (4) This useful reference shows that the yew has grown approximately 3 feet in girth over the last 116 years, a rate of 7.8mm per year.

The other side of the path from the 17 foot girth yew above is a young male yew on the churchyard boundary. It girths 3'11" at 5 feet from ground, and is the only identifiable male yew present.

Down the slope, and to the East of the Church is the other Pelham yew, unbroken and fluted of bole. It measures 15'11.5" at the inevitable nail run 18" above the soil. It also measures 16'4.5" at the ground and 15'10" at 3 feet.

These two yews average exactly 5 metres in girth, and this measure confirms the probable age on the AYG graph yielding a typical age of 570-620 years. (Appendix 1)

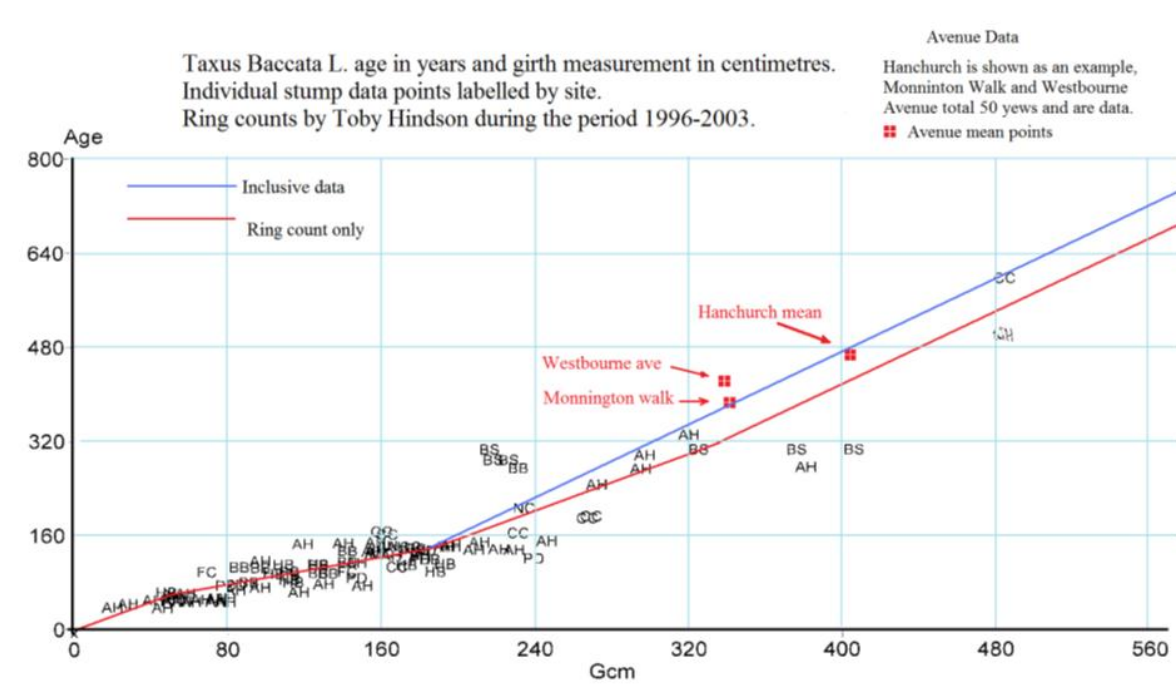
For the future: Three more yews have been planted, evidently in the last couple of years, in the NE quadrant of the churchyard. They are at present each about a foot high. These young yews complete the census of *Taxus baccata* L. in the churchyard,



YEW-TREE AT CROWHURST, SUSSEX.

Illustrative photographic plate from Lowe (1896) opposite page 38. The Church stands to the right of the photographer out of shot, the path is still in place. Exposed root butressing is evident 118 years ago and the bole is intact although split and presumably very hollow. The canopy is poor, and has since recovered considerably. See Appendix 2 for an 1896 text example.

Appendix 1



Appendix 2

Low 1896 text example p.203

Crowhurst, near Battle, Sussex. – The large tree growing in the churchyard, on the south side, is said by Evelyn [Sylva 1669] to have a diameter of 10 feet. Mr M.A. Lower observes that 'it is said to be 3,000 years old'. I might say with Mr. Jennings, 'I will believe almost anything of a yew-tree, but not quite that.' Lower gives 33 feet as the circumference of the tree in 1870, and it is therefore probable that there was a large amount of young spray round the trunk at the time of measurement; otherwise the tree could never have measured anything like this amount. Murray gives 27 feet at 4 feet from the ground. Jennings measured it at 5 feet from the ground, and found 26.5 feet, and he mentions a wide opening as increasing the measurement. This opening is caused by the falling away of a large portion of the tree on the south side, and it has evidently increased since he measured it as it is now (Sept. 11 1894) 26 feet 9 inches at 4 feet, and 27 feet at 6 feet from the ground. The top has been a good deal broken and killed. Selby, in his *Forest Trees*, 1842, says that this tree still carries a noble and flourishing head. There must have been sad changes since that time, as the tree shows every sign of rapid decay, and there is very little verdure left...

References

- 1 Allan Meredith in A. Chetan and D. Brueton (1984) *The Sacred Yew*, Penguin Arcana
- 2 Toby Hindson (2011) *Ancient Yew Group classification protocols part II, Ancient Veteran and Notable: the specifics of protocol application*. Ancient Yew Group website <http://www.ancient-yew.org/s.php/ancient-veteran-notable-a-new-yew-classification-by-toby-hindson/3/39>
- 3 Madge E. Newman BA (1971) Headmistress of Crowhurst Village School 1947-1966, *Some notes on the Church and Manor of Crowhurst*, Website: stgeorgescrowhurst.org.uk.
- 4 Lowe, J. (1897) *Yew Trees of Great Britain and Ireland* p203, Macmillan.

Credits- Toby Hindson-tree work, historic arboricultural references, text, photography and analysis. Lesley Elphick- photography and historical research.