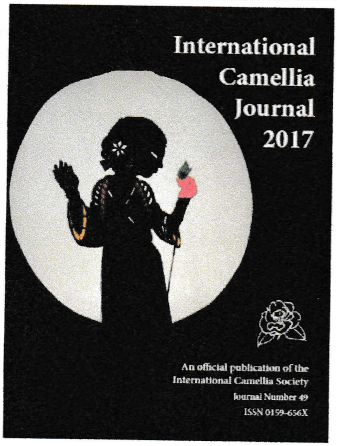
Int Camellia J No49



United Kingdom

Death of a princess *Camellia japonica* 'Princesse Charlotte' ring count

Herb Short & Martin Bridge

Background

Early in 2017, 'Princesse Charlotte', the historic *C. japonica* at Claremont Landscape Garden near Esher in Surry, England, was felled by a storm and disease. The camellia was believed to have been planted during Claremont's ownership by King Leopold I of Belgium. Earlier, when he was Prince Leopold of Saxe-Coburg, he had been married to Princess Charlotte, daughter of England's King George IV and was said to have never overcome his grief when she died in childbirth at Claremont in 1817. He died in 1865.

It has always seemed most likely that the camellia was one that originated in Belgium: Ambroise Verschaffelt described and illustrated it in his Nouuvelle Iconographie, Book IX, pl. II, 1851 as 'Pure white blossoms. At the heart a most delicate pink.

C.j. 'Princesse Charlotte'
Reproduced by kind permission of Mr Shinichiro Kishikawa

This was the chance of a lifetime to discover whether it really belonged to the age of Verschaffelt by counting its growth rings. It was a job for Martin Bridge, a lecturer at University College London, who did ring counts of a daughter of 'Princesse Charlotte' at Claremont (1998 Journal, p. 50-54) and an 'Anemoniflora' at Chiswick House (2003 Journal, p. 82-87). But it proved more difficult than hoped because of the rotting out of the centre of the trunk.

A count of 159 put it in the Verschaffelt region. But that count could not be repeated. One count of 104 would make the 'mother' younger than the 127 of its much smaller 'daughter' that died in the 1990s.

The question is, does this mark the end of 'Princesse Charlotte'? Are there any others of this lovely historic camellia variety growing in the world?

Acknowledgement

Thanks to Georgina Sydenham at Claremont for calling this to our attention.

Two previous studies of *Camellia* sections, one from Chiswick House (Bridge 2003) and one also from Claremont Landscape Garden (Bridge 1998) showed the problems of working with the rings of this genus ('wedging' of the rings, where ring boundaries merge so that in one radius one may count a number of rings that merge to give a single boundary when looked at along a different radius, and lack of clarity of the ring boundaries in some areas of the trunk being the main difficulties) – but also suggested that the rings could be determined to near annual resolution, with known historical events correlating reasonably well with the ring counts obtained.

The trunk available for this study divided into two main stems at nearly a metre above ground level, the rings on the larger of the two stems appearing much like those in the previous studies (Fig 1) – with similar problems of 'wedging' and areas of unclear ring boundaries.

Figure 1: Cross-section of trunk further up from ground level than the sections measured, where there is no rot, but this is beyond the division into two stems.

Figure 2: Base of the trunk, showing visible rot, which continued internally along most of the length of this section.

The lower section of the trunk (Fig 2) was quite rotted at and below ground level, and whilst superficially sound, was found to have rotted through the centre along most of its length. This was cut into disks, with the lowest disk being used for this study.

The diameter of the previously studied Claremont sample varied between 177-186 mm and was thought to be approximately 127 years old. The present sample has a diameter varying between 270-250 mm but its ring count is far less clear. In most species, diameter is no guide to age, as trees growing in different conditions of soil, drainage, aspect etc. can vary substantially in growth rate, although in this case one might expect growth conditions to have been rather similar.

Results

A diameter slice approximately 20mm wide was removed across the longest axis, which formed two sections because of the rot present in the very centre of the tree. The longer section (134mm) was designated A, the shorter one (127 mm), B. These are shown in Fig 3. Reducing the section to these smaller units made the preparation of the surface much

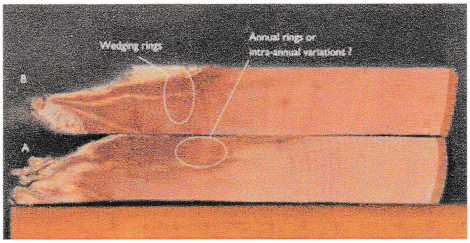


Figure 3: The two sections cut from a diameter across the trunk, showing areas where the rings 'wedge out' – where several rings combine to form a single boundary, and areas of indistinct ring boundaries.

easier, as it could be seen from the outset that the rings were much less clear in this present section compared to the two previously studied.

After preparation the two radii were measured as before, but it was noted that there were areas where it was unclear if there were many extremely small rings, or whether the variations in vessel density merely represented intra-annual changes within larger rings. Sample B was clearer, and two separate measurements of this section taken weeks apart resulted in a similar result (Fig 4), one counting 130 rings and the other 139 rings.

This showed a sharp decline in growth approximately 75 years back, at about the time of WW2, similar to that found in the 1998-studied section. Growth rate recovers after some years. Section A had much less clear ring boundaries, with one interpretation reaching 157 rings, and the most conservative count being only 104 rings, for the same section measured several weeks apart (Fig 5).

There appears to be no simple way to resolve these disparities at present. Whilst in the outer sections the ring boundaries can be seen quite clearly with the naked eye, even under magnification, earlier parts of the growth series have regions where there are no clear boundaries, with only minor variations in vessel size and alignment that may be actual annual ring boundaries, or may just be intra-annual variations.

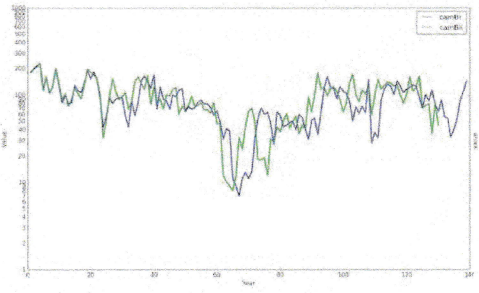


Figure 4: Two plots from different measurements of section B, showing some variation, but overall reasonable agreement between the numbers of rings on this section, which should be similar to the number of rings found on section A (y axis is ring width in mm on a logarithmic scale)

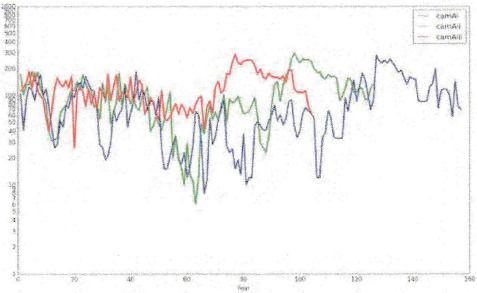


Figure 5: Plots from three different attempts to measure the rings on section A, showing great variation in the possible number of rings, depending on interpretation of the possible ring boundaries (y axis is ring width in mm on a logarithmic scale)