

Sap Icicles in Aston Somerville February 2018.

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02. Sapicles forming from freshly cut surfaces of Field Maple *Acer campestre*. G. Martin



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The “Beast from the East” anticyclonic weather system brought very cold easterly winds across the whole of the UK and much of northern Europe at the end of February and early March 2018. In Worcestershire The Beast resulted in continuous sub-zero temperatures on the 27th and 28th February.

The Beast came after a spell of relatively mild weather with temperatures well above freezing during day and night. My garden records of first Chaffinch song and first open narcissus flowers were on February 20th, a week before The Beast. First toad movements were on the 19th. Spring seemed to be on the way, but this weather system put it on hold.

Two weeks earlier (February 5th and 6th) I had laid a section of Hawthorn hedge in my garden and had left some taller trees in the hedge line standing. However, I reduced their spread by cutting back the smaller lateral branches. On the morning of February 28th I noticed a number of large icicles hanging from branches along the face of the hedge (01). Closer examination showed that all of the icicles were hanging from the cut surfaces of branches of Field Maples *Acer campestre* (02).

I collected a couple of icicles and melted them and the liquid was slightly sweet and thicker than water suggesting that the icicles were composed of sap. The largest of the icicles hung from the largest diameter cut surfaces, and one was 14 cm long. This suggests that the flow rate of the sap was quite high given that the icicle must have formed in little more than 24 hours.

There were no icicles formed on the many cut surfaces of the Hawthorn branches, or on Dog Woods *Cornus sanguinea*, Hazels *Corylus avellana*, Guelder-roses *Viburnum opulus*, and Elders *Sambucus nigra*, presumably because there was no flow of sap. Nearby were some similar sized cut surfaces on lateral branches of Large Leaved Lime trees *Tilia platyphyllos* that had also been trimmed at the same time as the Field Maples; they also did not show any icicles.

Presumably the sap flow-rate of Field Maples is higher than it is in many other trees. Indeed in North America other *Acer* species (*A. saccharum*, *A. rubrum*, and *A. nigrum*) are the source of sap from which Maple Syrup is made. This is collected by tapping trees, starting usually in March. That sap run is apparently dependent on rising ambient temperature in the period running up to the start of sap tapping. Field Maples also have a relatively copious flow of sap but unfortunately it does not yield sugar in sufficient quantity for us to make Maple Syrup.

The Beast from the East revealed the Field Maple's sap flow in an unusual way. Perhaps a unique combination of events led to these "sapicles". Will I ever see their like again?

Images

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