

Extract of a Letter written by Mr. Martin Lister to the Publisher, Januuar. 25. 1677, relating partly to the same Argument with that of the former Letter, and directing to another Insect, that is like to yield an Acid liquor; partly to the Bleeding of the Sycamore.

SIR, Concerning the Acid liquor of Pismires, I have very lately received from Mr. *Wray* the Account (I suppose you have it also by this time,) that was sent him from Mr. *Fisher* and Mr. *Jessop*; wherein these two last Gentlemen make this further Inquiry, Whether there be any other Insect, or Animal, Flesh or Fish, that will afford an Acid Juyce; they having with great industry tried many *species* amongst Insects, and other Animals, without lighting on the like Acid liquor. I am of the mind, there are; and a ready way to find such out, may be, that having observed, that a Pismire bruised and smelt to, emits a strange fiery and piercing savour, like the leaf of the Herb, by *Botanists* called *Flammula*, broken at one's nostrils; by this means I have, since Mr. *Wray* put the question to me, found an Insect, which I suspect, may yield an Acid liquor as well as the Pismire; and that is the *Long and Round-bodied read-coloured Julus*, distinguished from all other *Multipeds*, in that their innumerable legs are as small as hair, and white, and in going they are moved like waves; not rare amongst drier rubbish; no *Scolopendra*, ours being an harmless insect, and that armed with dangerous *forcipes*. The body of this *Julus* being bruised strikes the nostrils exceeding fiercely; but I have not yet had an opportunity to furnish my self with any quantity of them for farther trials. The Change of Colours in Flowers, &c. is a subject I have a little considered, and you shall have my thoughts and Experiments about it more at leisure.

As to the *Bleeding of the Sycamore*; the last year I winter'd at *Nottingham*, where I pierced a Sycamore about the beginning of *November*; the turgescence of the Buds inviting me thereto, and some hopes of improving the notion of Winter-bleedings, so happily discover'd by Mr. *Willoughby* and Mr. *Wray*. This succeeded so well with me, that I did afterwards
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engage my self in keeping a *Journal* throughout the whole Winter; from which Journal, I think, I may note; 1. That the wounded Sycamores never bled, neither in *November*, nor *December*, nor *January*, nor *February*, nor *March*, (which yet they did above 40. several times, that is, totally ceasing and then beginning anew,) unless there *preceded* a sensible and visible Frost; for I had no other way of recording the temper of the Air. 2. That the Frost did not always set a bleeding the wounds, they found made before they came, though sometimes they did; but upon their breaking up, or very much relenting, the wounds either made in that instant of time, or made many months before, did never fail to bleed more or less. 3. That particularly upon the breaking up of the two great and long Frosts (the first of which hapn'd that year in that Country to be on the third of *January*; the second, about the 12th, 13th and 14th of *February*;) all the wounds ran most plentifully: so that such times may be look'd upon as the most proper season of gathering great quantities of Juyce from this Tree. Removing into *Craven* the latter end of *March*, and thence to *London*, my Journal was discontinued; I had yet, upon my return from *London* into *Craven*, some leisure to prosecute it. Those, I there wounded the latter end of *May*, did not bleed neither the remaining part of that month, nor the following months of *June* and *July*, but had the orifice of the wounds, made with a small Auger, in a manner quite grown up, and would scarce admit a Pigeons feather. Wherefore the 20th of *July* I cut out a square piece of about two inches of the bark of a large and well-grown Sycamore, about my hight in the body of it: This wound began to run the next morning about 9 a clock, so as to drop; and that was all, and dried up by 11 in the morning. The like cut I made in a young Sycamore the 8th of *August*; which in like manner bled the next morning, but stopp'd before 9 a clock. It did so for 2 or 3 days, but then totally drying. Afterwards removing to *Tork*, the first of *November* I here pierced, and otherwise wounded two Sycamores; and having observ'd them my self at times, when, according to my former Observations made in *Nottin-gbam-shire*, I might well expect to have found them bleeding; yet they never stirr'd, that we could observe, to this day. Since

Mr. Wray hath assured me, that those of *Warwick-shire* bled the 16th of *November* last past copiously ; and since the *Walnut-tree* also. And so much for matter of fact.

To what cause we may truly refer this Anomalous Bleeding, is not easie to say. For my part, *I* am not apt to think, that there is such a sudden and extemporary Ascent of Sap, at such time as these Trees are most dispos'd to bleed ; but rather that the Sap, in all parts of the Tree, is some ways notably *alter'd* in its temper and consistence : And this Bleeding by stress of weather may in these Trees probably be look'd upon as a violence done to their natures from an unkind Climate ; considering the *Walnut* and *Sycamore* as strangers, and not natives of England. 'Tis indeed true, there are many sorts of *English* Plants, which will bleed in Winter ; but note also, that such Plants never refuse to do so at any time of the year, no more than a Man, who may bleed a vein when he pleaseth. But let the Hypothesis be what it will, *I* am perswaded, we shall have but dark and imperfect notions of the motion of the Juyces in Vegetables, until their true Texture be better discover'd. To conclude this subject, *I* now put these two *Queries* ; 1. Whether the Juycce of Trees, whil'st alive and vegete, can properly be said, at any time of the year, to descend, or to be wanting in any part, or not to be therein in a much like quantity ? 2. What condition the Soil is of, where such Trees are planted, that shall either bleed or refuse to do so ; whether Sandy, as that of *Nottingham* ; or a wet Clay, as that of the two Trees, *I* have observ'd here at *York* ?

An Extract of another Letter written by the same Gentleman, Mr. Wray, to the Publisher, of Febr. 8th. 1671. Containing some Experiments about the Bleeding of the Sycamore, and other Trees ; as also, a considerable Note of Pliny about the Mulberry-Tree.

CONCERNING the *Bleeding* of the *Sycamore*, let me acquaint you with the following Experiment. The first instant it froze, the Wind at *North* ; the Frost and Wind continued (some little Snow and rain falling) the 2d, 3d, 4th, 5th, 6th, until the 7th in the morning, when the Wind came about to the

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