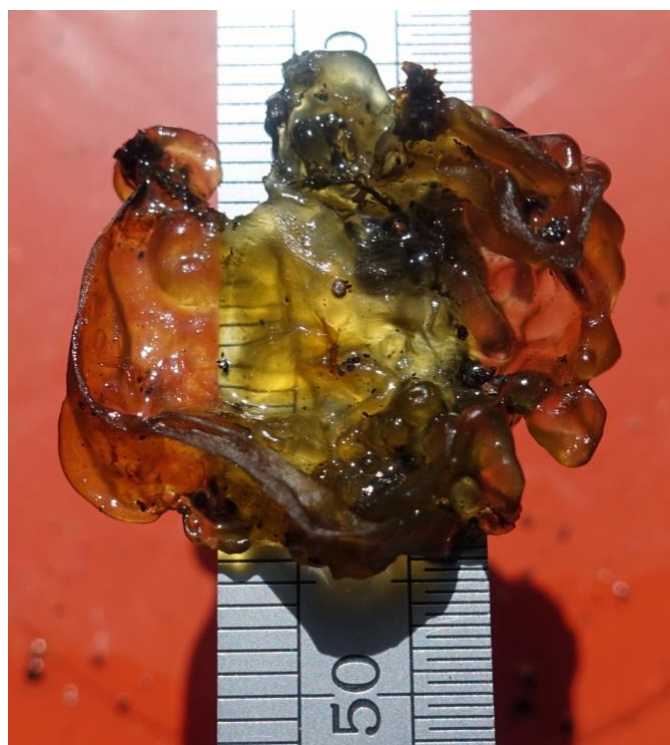


Nostoc in the gutter

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The thunderstorms and heavy downpours on June 16th 2020 led me, a week later, to look into my house rainwater gutters. In the storm rainwater had poured down the roof and simply over-shot the gutter, so I decided to check that the gutters were clear. I found them full of silt, moss and leaves, a rich habitat for life that likes those kinds of features.

As I cleared stuff out, my eye was taken by something shining back at me, a rather dull gold structure that looked something like seaweed. It was gelatinous and semi-transparent (01). I collected some, brought it inside and pondered, then I remembered the article by Harry Green and Rosemary Winnall on “*Three algae*” (Green & Winnall 2019). I delved a little on the internet and concluded that what I had found in my gutter was *Nostoc*; a Cyanobacterium that forms colonies. A remarkable life form which is nitrogen fixing and photosynthetic with the active cells protected in a gelatinous sheath.



01. *Nostoc commune* from the rainwater gutter 21 June 2020.
Graham Martin.

Nostoc species have been recorded surviving in extreme conditions from the polar regions to arid areas. There are between 20 - 30 species of *Nostoc* recognised and the apparently most common species is *Nostoc commune*, which is the species that Harry Green had reported he found growing on a track in Rough Hill Orchard, near Pershore.

Clearly the sometimes very wet, sometimes very dry conditions in my gutter were not a challenge to the survival of these *Nostoc*. If I had looked at my gutter straight after the overflow of water, I would probably not have seen it, since when dry it shrivels away and would have disappeared among the other debris. However, a couple of days in water after desiccation it revives. All the silt and moss in my gutter had kept it moist for long enough to take on its enlarged and gelatinous form.

Although *Nostoc commune* has a near world-wide distribution, having been reported from all continents (except Antarctica) and major Islands (*Encyclopaedia of Life*), (*Global Biodiversity Information Facility*), there are only 250 records of this species in

the NBN Atlas of the UK. None of them are in the West Midlands, let alone Worcestershire. However, biological records from Wales and Scotland, and a few English counties, notably Leicestershire and Rutland, suggest that *Nostoc commune* is widespread.

So, when you next clear your gutters make sure they are damp and look out for *Nostoc*. Harry Green reported that *Nostoc commune* is used as a food in many parts of the world, especially South East Asia and China. Apparently, it contains protein and Vitamin C. Perhaps its culinary value has long been recognised in Wales and Scotland (and maybe Leicestershire) and this explains the distribution of *Nostoc commune* records in the UK?

My record was submitted to iRecord where it is lodged as record number 14389299.

References

Green, H. & Winnall, R. 2019. Three Algae – *Hildenbrandia*, *Haematococcus* and *Nostoc*. *Worcestershire Record* 46:12-16.
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Images

01. *Nostoc commune* from the rainwater gutter. Graham Martin.