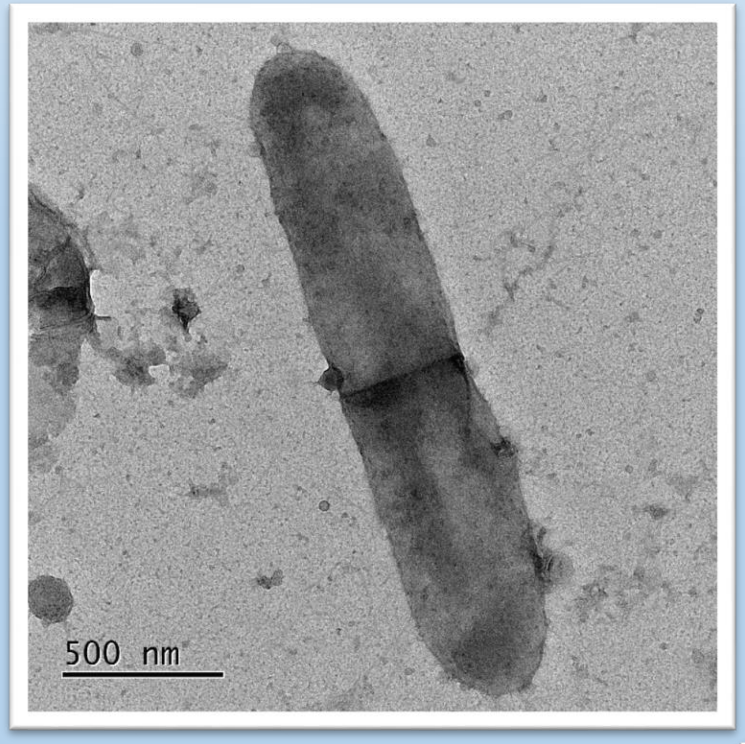
VIRUS HUNTERS

Sample VH1009

Thank you for taking part!

We took over one hundred pictures from your water sample, we can't include them all but here's some highlights.

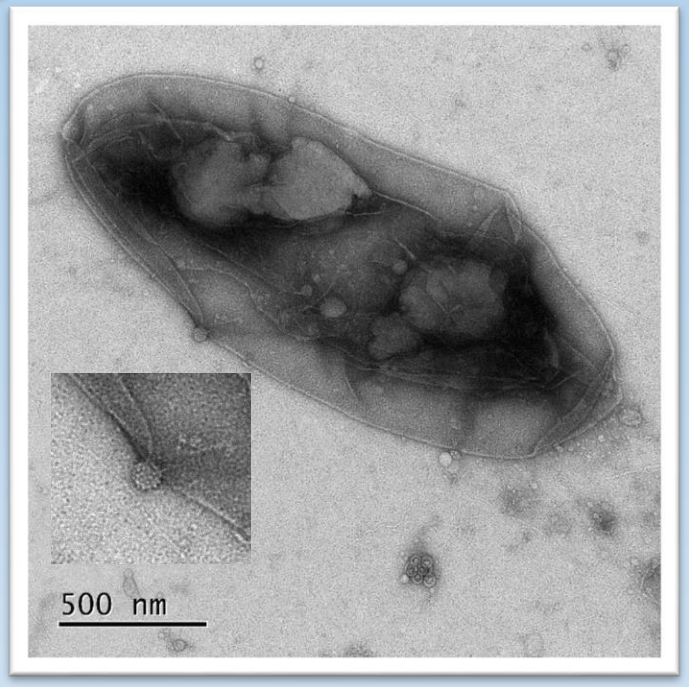


Bacteria

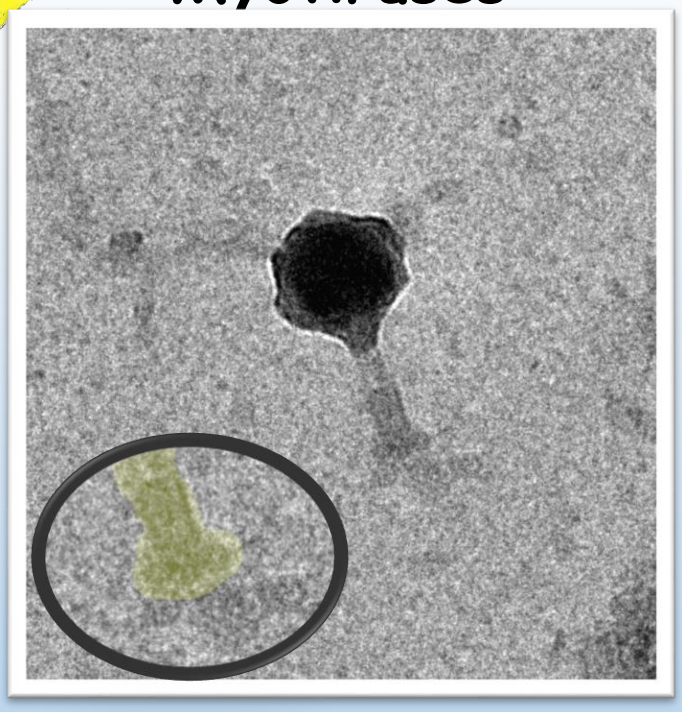
We try to filter them out but some always get through. The scale bar in the bottom left is 500 nanometres – a human hair would be 100,000 nanometres across! This one has just divided to make a new cell – the dark line in the middle is the wall between the two cells. We call it a septum.

Another bacterium – with a visitor

This poor bug is doomed. That spikey little bump on its side is a virus that's found itself a cell to infect. We've caught it just before as it injected its DNA – in another 30 minutes the cell would have exploded releasing hundreds of new viruses.



Myoviruses



We found a fewer than usual myoviruses in the pond. 'Myo' means muscle – because these things can move – sort of. The tail has legs that attach to a bacterial cell, the tail contracts and injects DNA into the cell just like a syringe. The base plate on this one has shown up really well – it's contains the bits that break through the bacteria cell wall. We've coloured it in on the inset so it's easier to see.

Siphoviruses

They look like the myoviruses above but they have longer tails that don't contract. If you look closely at the shape of the heads on these two you can see they're different and probably attack different bacteria.

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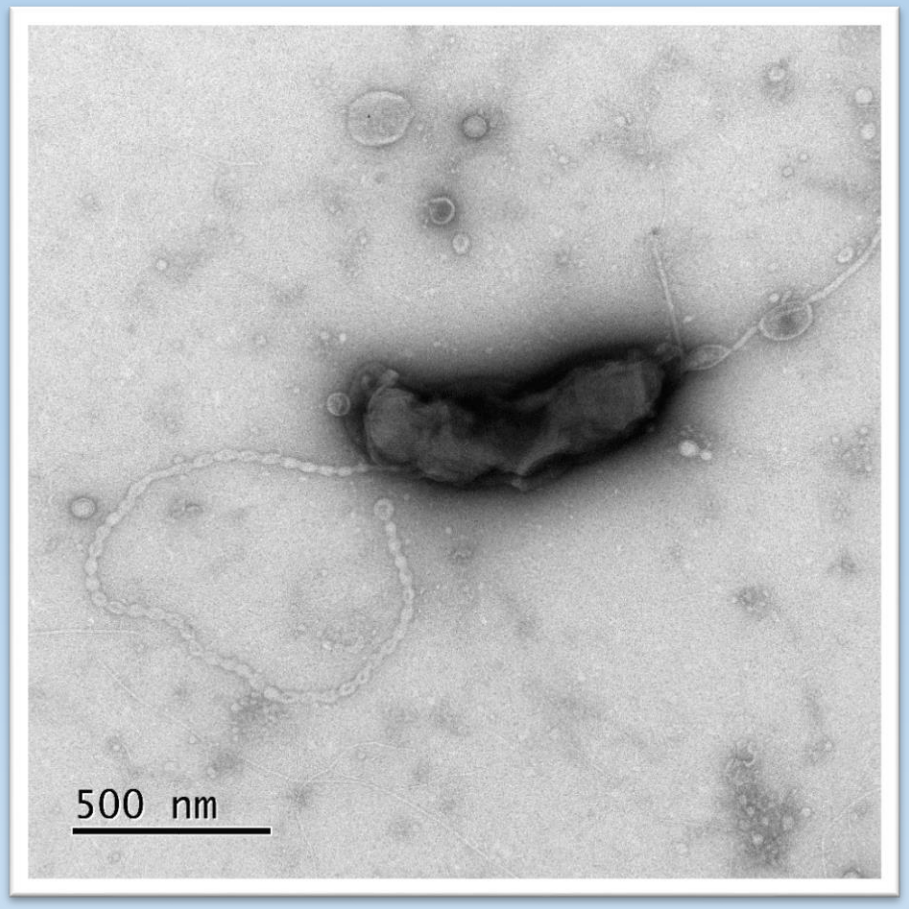
Lemons!

These little lemon shaped viruses aren't common they're a nice thing to find. They infect archaea - single celled organisms that look like bacteria but are actually a totally different form of life.

We don't know!

That's a bacterium in the middle of the picture but the stringy blobby thing isn't. We don't know what it is and we'll probably never find out .



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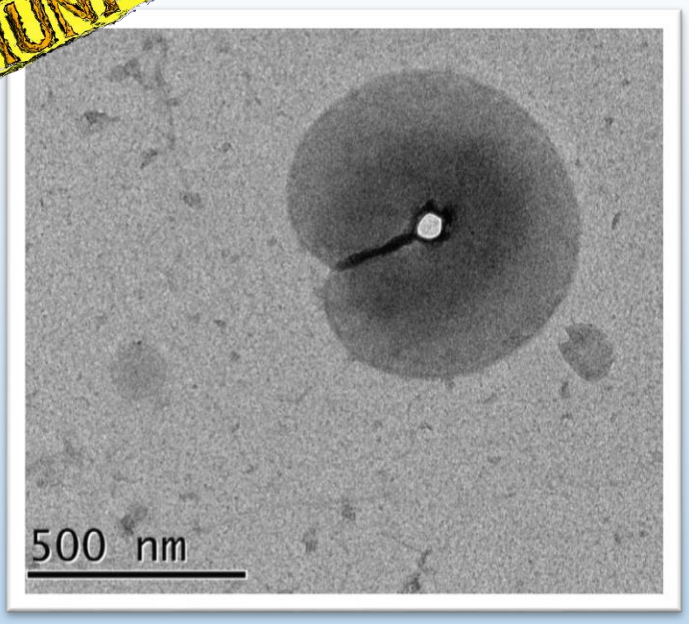
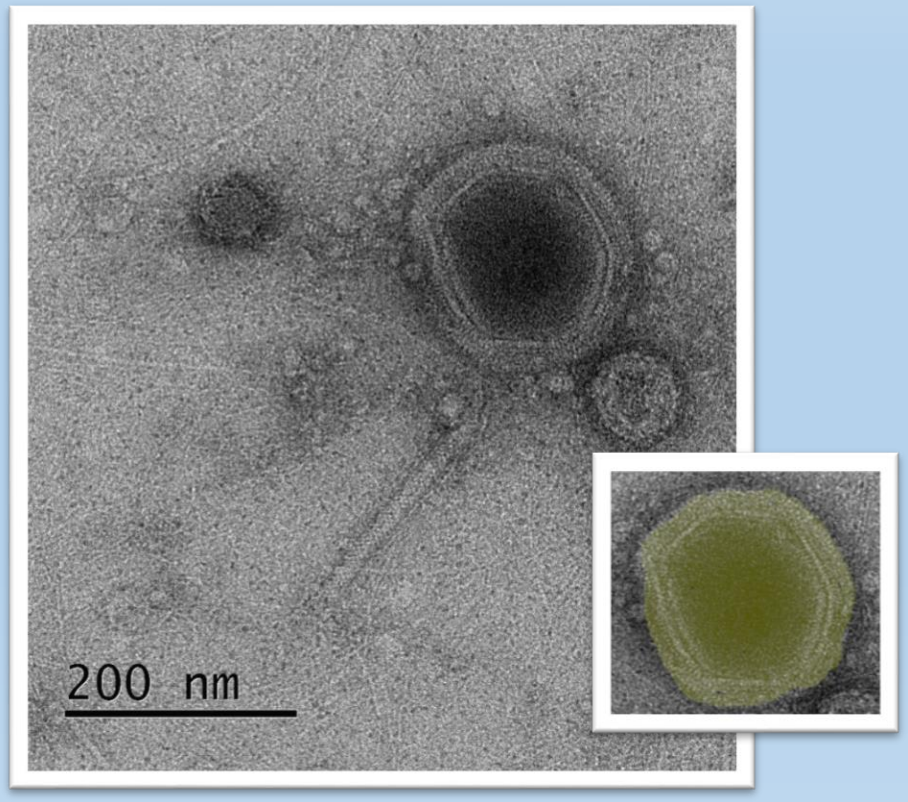


Doughnut!

It's the worlds tiniest doughnut! Or probably just a bacterium that's curled round on itself. Why? We don't know but you do see strange things down the microscope sometimes.



Giant Virus!

Our first Giant virus from a water sample. We only discovered these things about ten years ago and we're still learning about them. They're big for a virus – but still tiny, they have more genes than most bacteria and most of the ones found so far infect amoebae. This is one of our favourite finds so far.