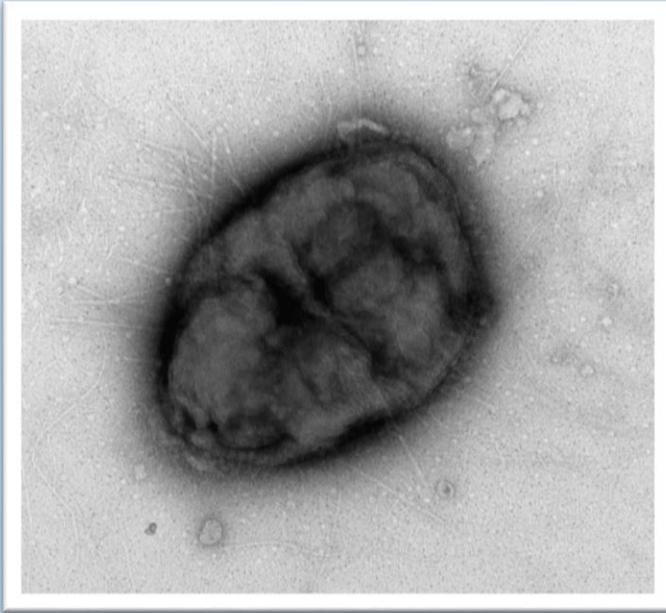


VIRUS HUNTERS

Sample VH1006



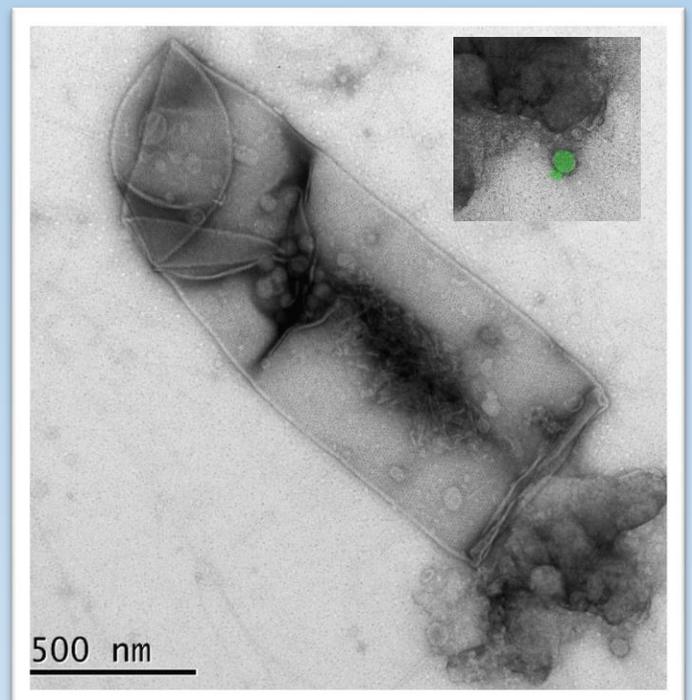
Bacteria

This one is a micron across - one thousandth of a millimetre. The fuzzy bits around it are called pili - they help the bacterium stick to things

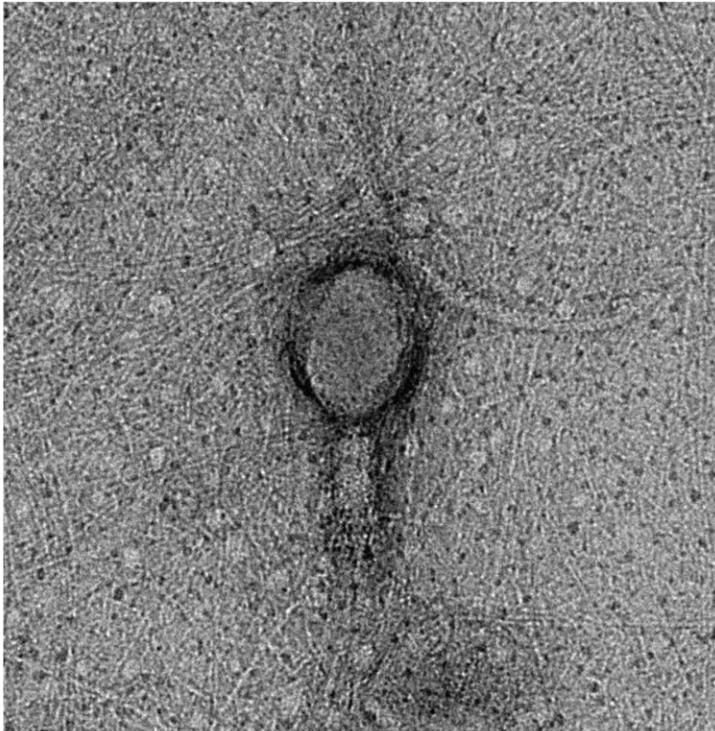
Archaea

They're single celled and tiny but they're not actually bacteria. Archaea are a totally different form of life, but they still get viruses. This one is dead. What you can see is its outer coat - the S-layer. The stuff at the bottom used to be the insides of the cell.

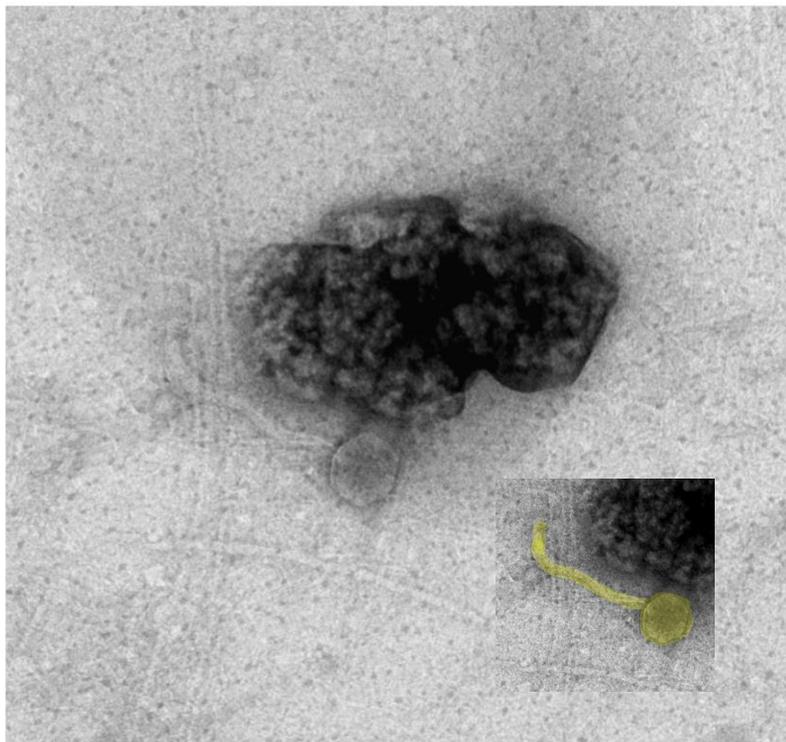
What killed it? A virus! Those little hexagons are tiny podoviruses escaping from the exploding cell.



Myoviruses

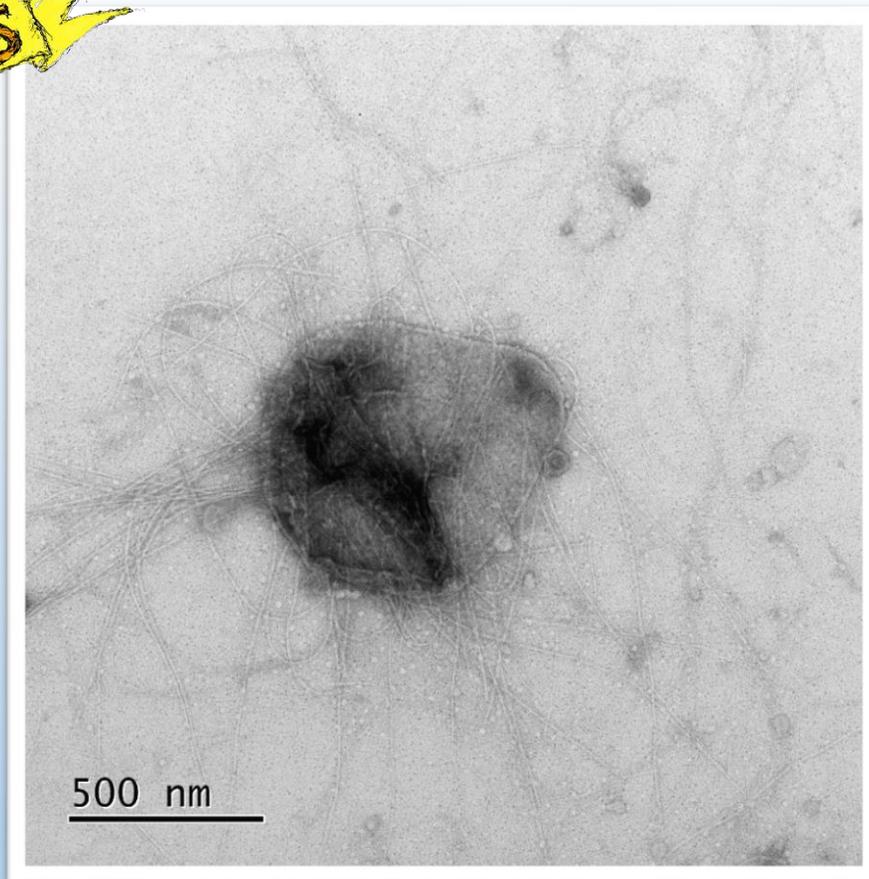


'Myo' means muscle - because these guys can move - sort of. At the bottom you might just make out the short legs and base plate that attach to a bacterial cell. The tail contracts and injects DNA into the cell just like a syringe. This is 200nm long - a human hair would be 100,000 nanometers across!



Siphoviruses

They look like the myoviruses above, but they have longer tails that don't contract. This one is 250 nanometers long and it's sitting next to a tiny piece of soil - dirt gets everywhere.

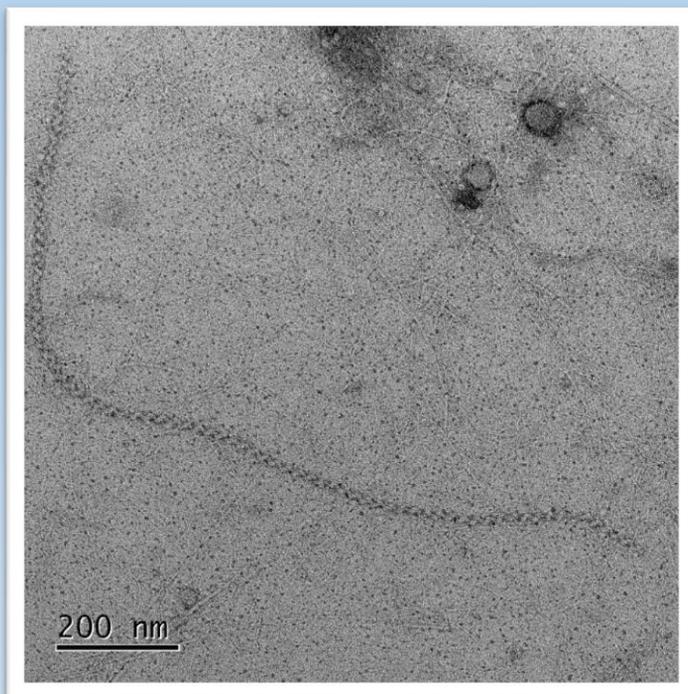


Filamentous viruses

It's another bacterium, the thin threads on this one aren't pili though, they're viruses. If you look carefully you can see they're inside the cell as well. Many filamentous viruses don't kill the bacteria they infect - they keep it just about alive and churning out new viruses

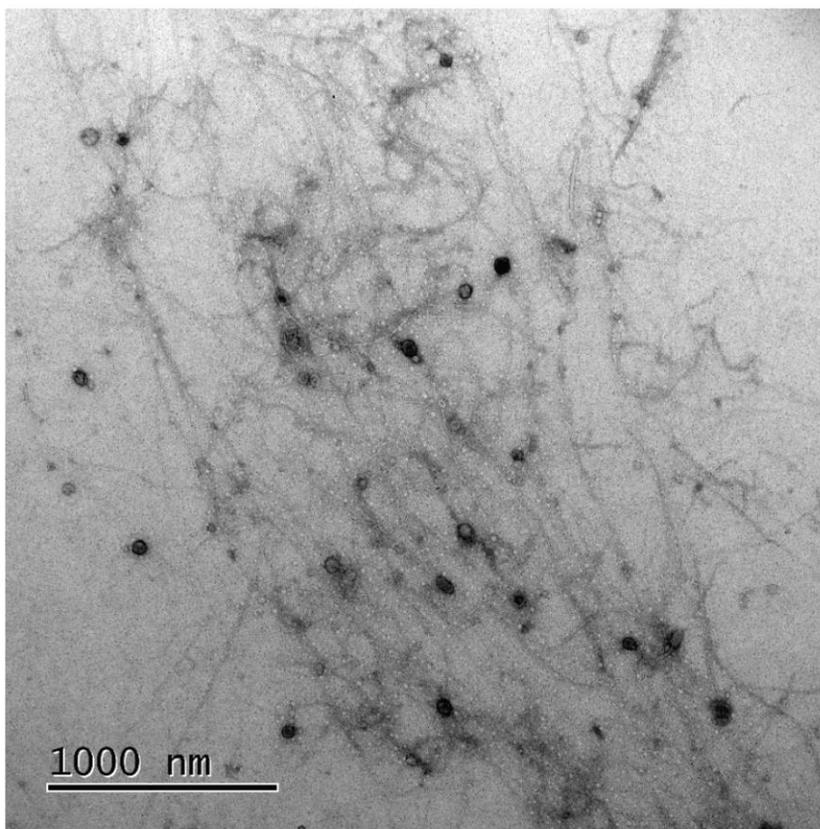
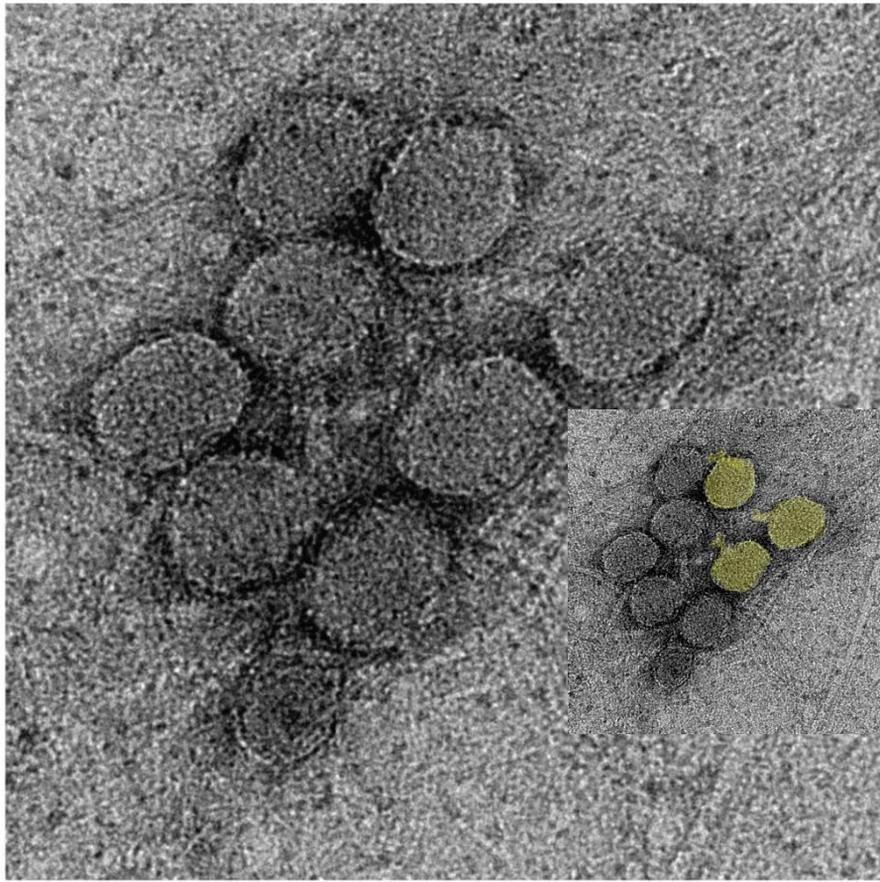
We don't know!

It's a big twisty thing. We've seen them in our own pond. It might be a new virus, it might have fallen off a bigger cell. We might never know unless we find loads of them in one spot so we can have a proper look



Podovirus

These little podoviruses are a mere 35 nanometers - that's small even for a virus. They have a head and a very short tail. The individual little white dots on the surface are the proteins that make up the virus coat.



Many viruses!

We take pictures like this to get an overview of what's in the water. How many different viruses can you see?