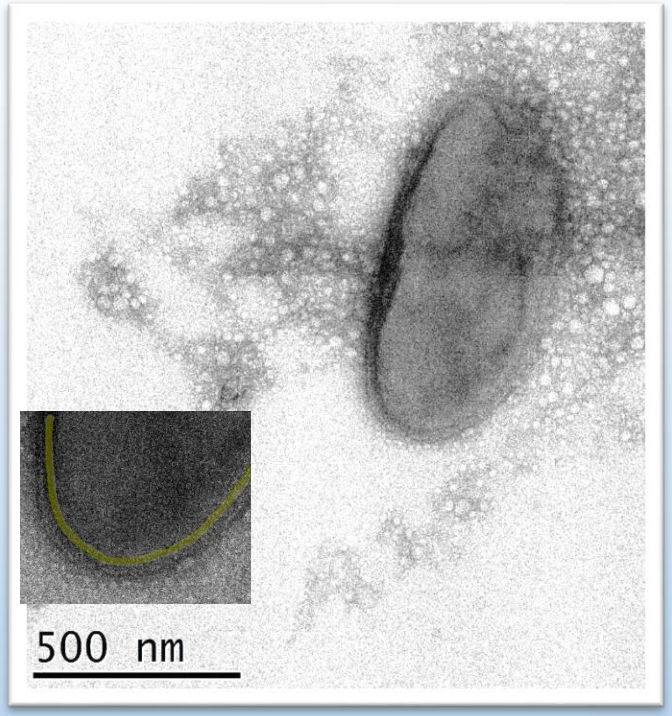
VIRUS HUNTERS

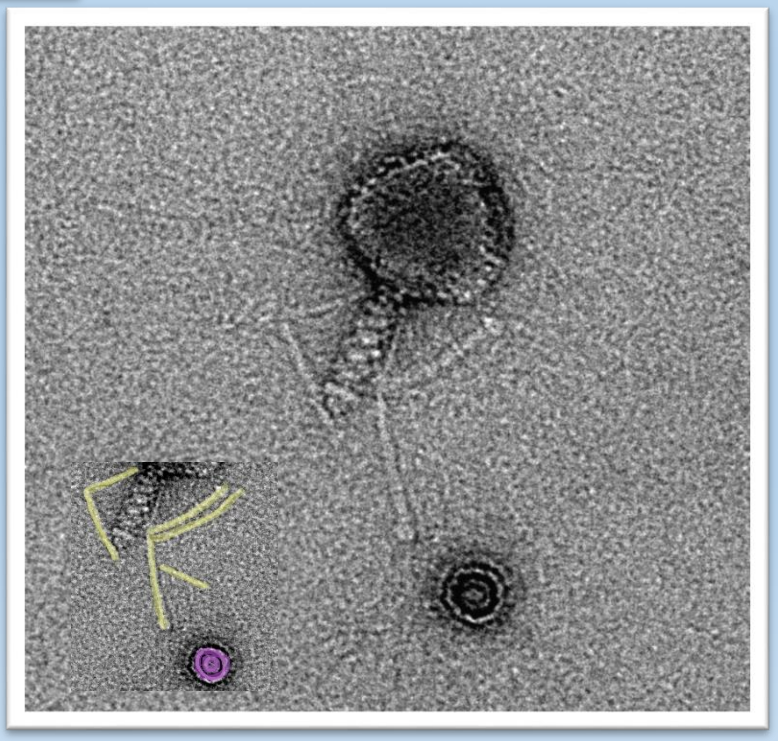



## Bacteria

We find them in every sample. This is our favourite from yours. Some bacteria don't have just one cell wall, they have two so they can be extra tough - we can see a thin dark line in between the two walls The stuff around it is 'biofilm' – sticky gunk bacteria make to fix themselves in place – the stuff on teeth if you don't brush them is a biofilm too.

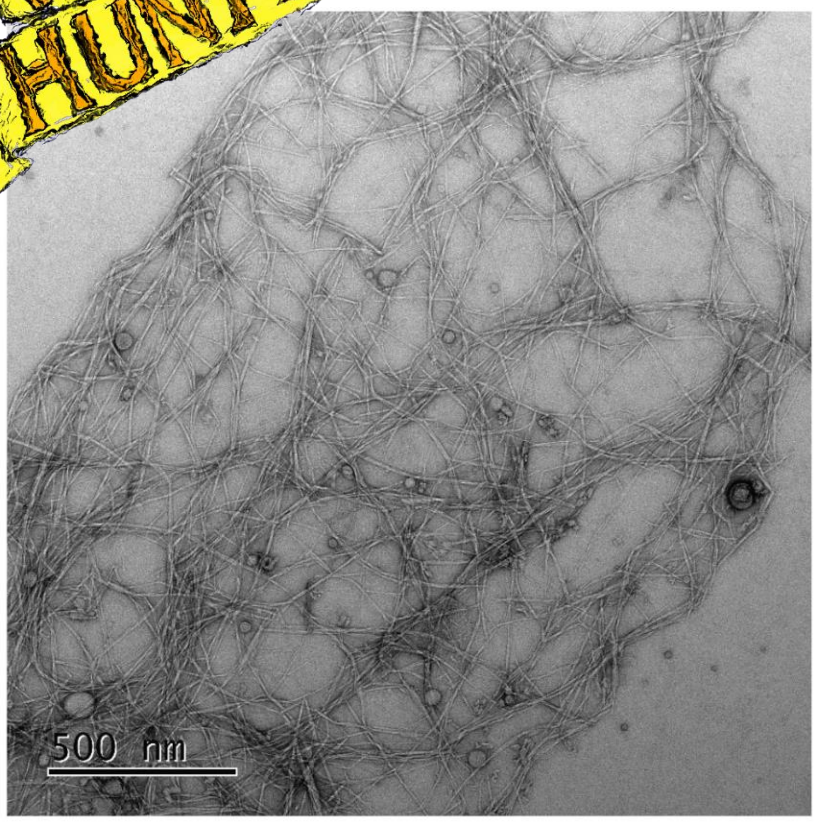
## Myovirus – and friend

Myoviruses infect bacteria. When they hit a cell, their tails contract like a syringe to inject their DNA. This one has come out beautifully – the legs which often break off show up in this picture. Next to it is a tiny round virus where you can actually see the DNA stored inside as a tiny circle. Two amazing pics in one!



Sample VH1003

VIRUS HUNTERS

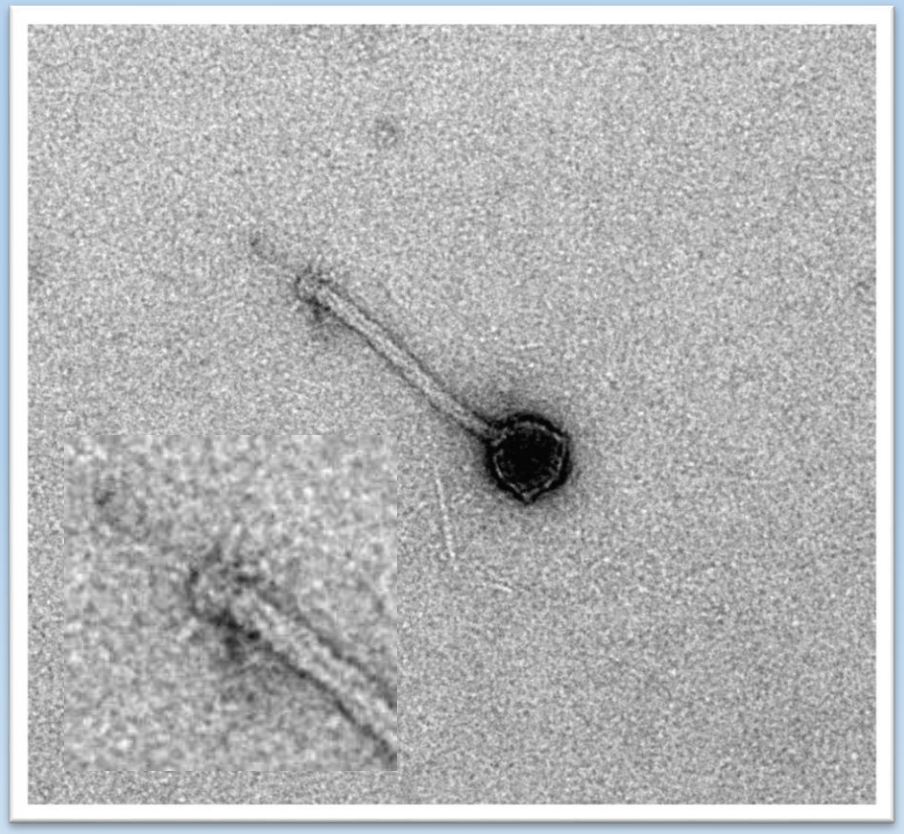



## Cellulose Fibres

We had to do some reading to work out what this is. A tangled mess about a hundred times thinner than one of your hairs. They're cellulose fibres - 'plant bones'. This is the tough coating that once protected a plant cell. We use cellulose fibres to make paper and clothes but this bit might be too small for that.

## Siphovirus

They look a lot like myoviruses but they have longer tails that don't contract. This one has come out really nicely – check out those amazing spikey tail fibres! It uses those to stick to bacteria it's trying to infect.



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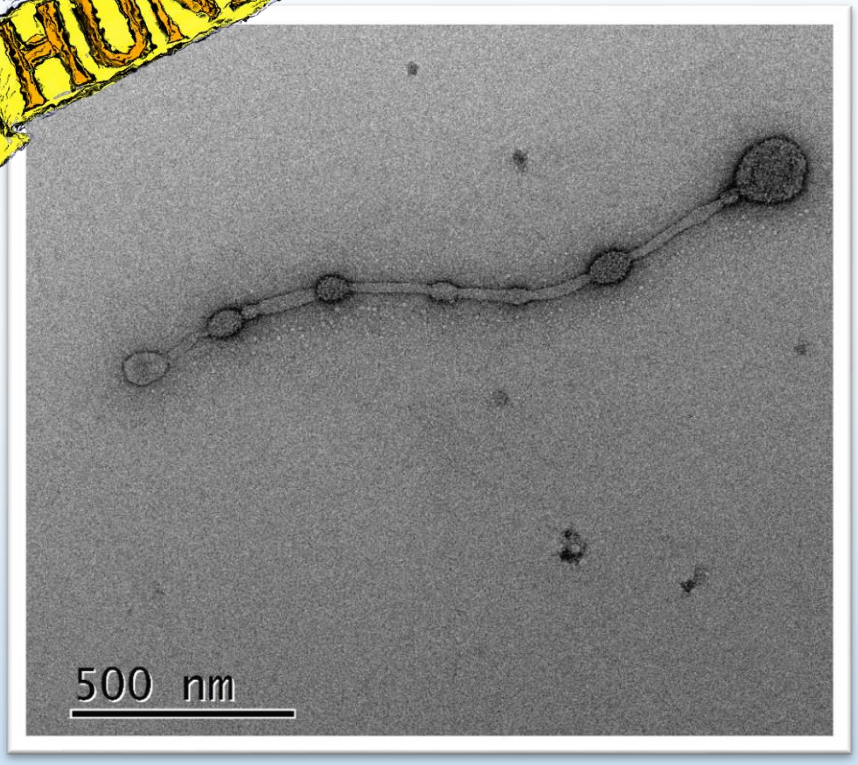
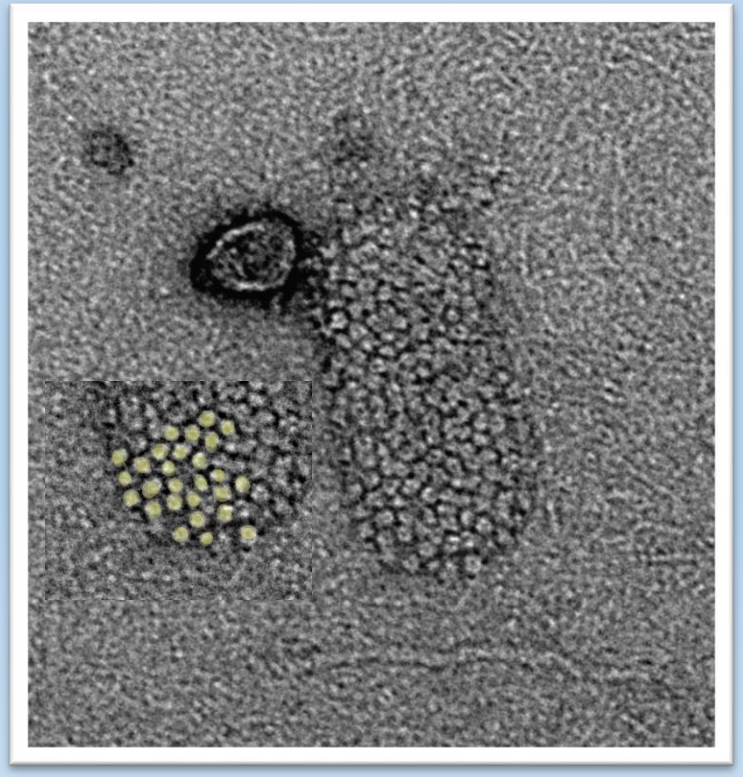


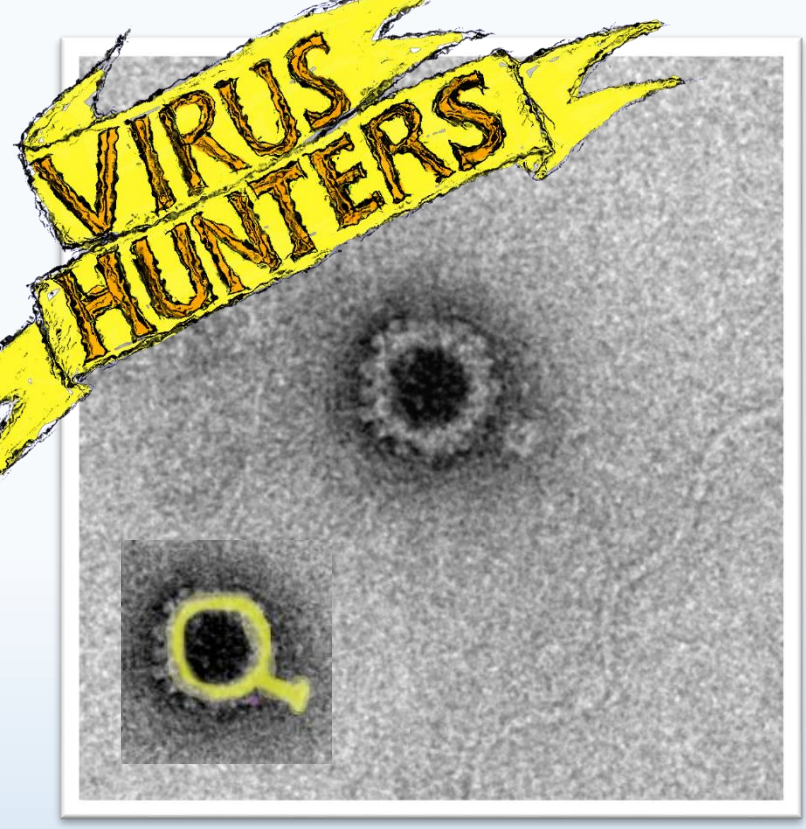

## We have no idea!

The blobby bits look kind of virusy but it's not like anything we've seen before. It just might be an enveloped virus that got smooshed by the way we do the samples or something completely different. We'll probably never know!

## Enveloped Virus!

There's a little round virus on the left.The dotty oval thing is an enveloped virus. They don't have a hard coat like most of the viruses we find, they're soft and squishy so we don't find many. The dots are the coat proteins – they recognise a potential victim, stick to it and get the virus inside. This is a really *really* nice picture of one.






## Podovirus

Podoviruses have short stubby tails. The head on this one shows lots of lovely bumpy spikes – they help the virus stick to the surface of a bacterium until its tail fibres can get a grip and start infecting.

## Maybe….

We've seen these in a few samples now – including our own pond. We're starting to think this might maybe be a new kind of virus, it looks like a type that's found in volcanic lakes called rudivirus. It's going to take us an awful lot of work to prove it is – or isn't. But we're scientists – we're not afraid of work!

We are going to be looking at these pictures for months, maybe even years! Thanks again for taking part.
The Virus Hunters Team