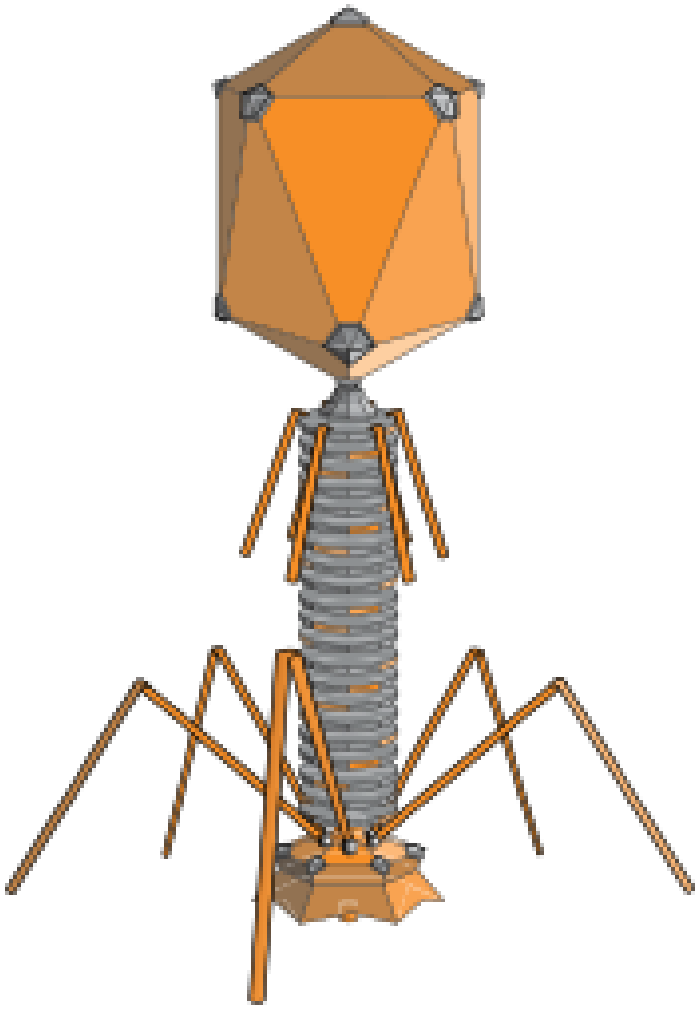
Science has discovered giant viruses with the ability to 'steal' other species' characteristics

The special thing is that this virus is not only big in size, they also possess a huge number of pairs of genes.

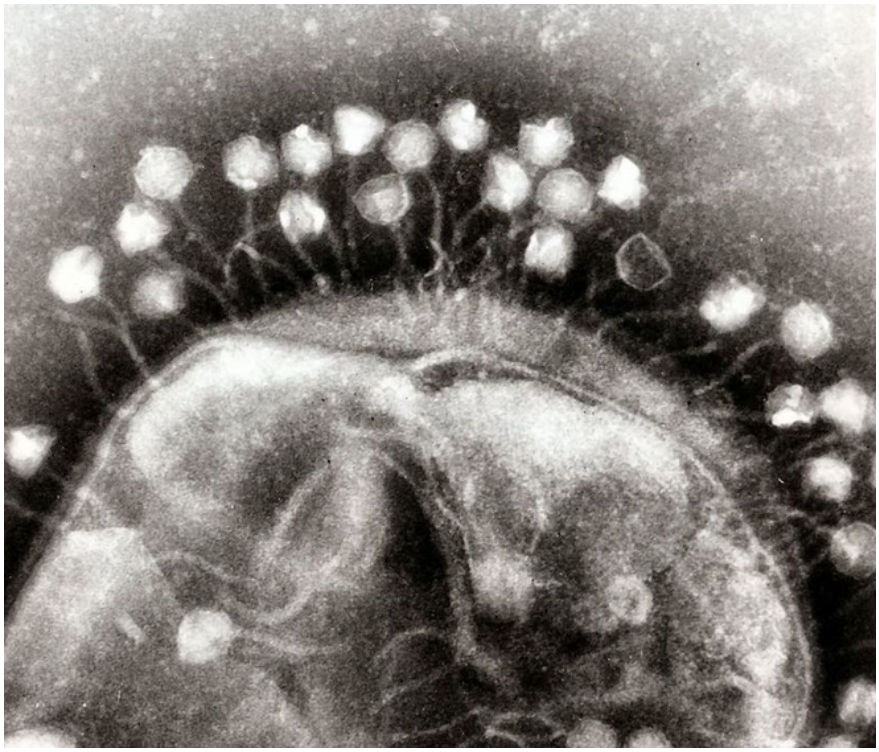
Finding and researching new viruses has always been a top priority for many cell scientists around the world. Recently, scientists discovered that a bacterium - a virus that "eats" bacteria - is bigger and more special, and it also has the ability to learn the "tricks" that only bacteria have.

These organisms are not only large in size, they also possess a huge number of pairs of genes, and the newly discovered phage includes hundreds of genes with millions of pairs, big enough to be observed. they are by ordinary microscopes.



The shape of a phage being constructed in 3D

These giant viruses are often found in amoeba, and in environments far away from humans. However, researchers have also detected cases that occur in areas close to where we live. In a report collected last year, the viruses also exist in the gut bacteria of people in Bangladesh. At the same time, in a study published in the journal Nature, the team of scientists also showed evidence of its existence in various parts of the world.

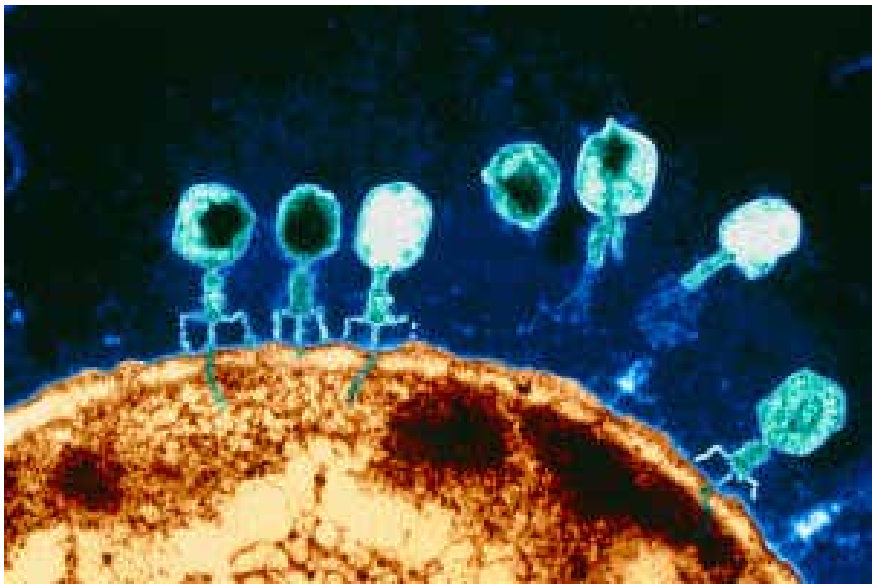


Currently, scientists often study and discover new viruses by filtering DNA groups from test pieces collected in different environments. In this case, they examined samples collected from human and animal feces, large bodies of water both on land and in oceans, mudflats and hot springs. After removing the excess bacteria / viruses, they will reconstruct the phylogenetic genome from what is left.

" *The pairs of genes we find are often very large, much larger than normal phages* ," said the author of the study Jill Banfield, a professor of geoscience at the University of California Berkeley. , for or.

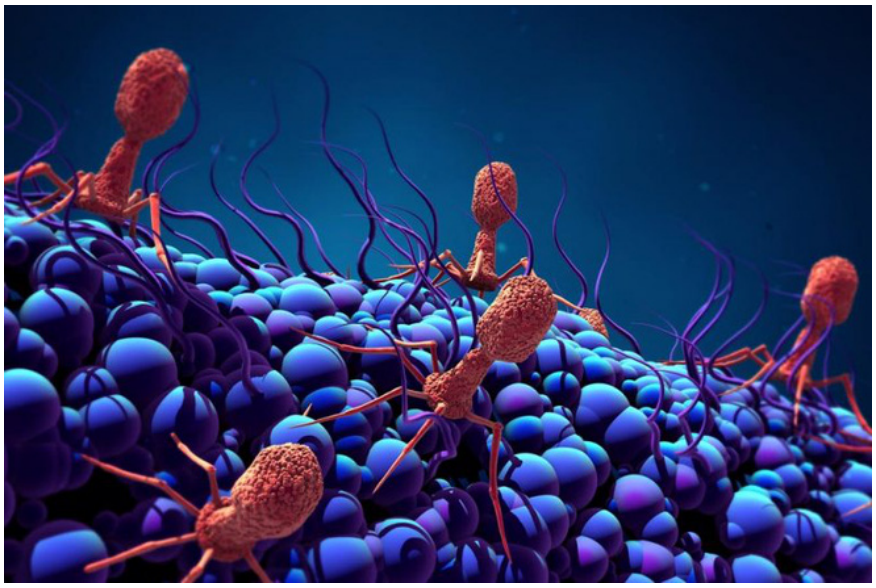
Banfield and her team claim to have found more than 300 types of phages with more than 200,000 pairs of genes - maybe even up to 735,000 pairs of genes, which is 10 times more than normal viruses. These giant phages carry the genes of other living organisms, allowing them to perform the surprising survival behaviors found on other species.

For example, many of these bacteriophages have important genes for the CRISPR system - used by bacteria to chase away viruses. This is an immune system that works by dissecting the DNA of malignant viruses that want to attack them. According to researcher Basem Al-Shayeb, these genes may have been used by giant bacteriophage organisms to enhance host resistance, as a form of " *fighting other viruses to obtain." host* ".



The CRISPR system will cut the DNA of dangerous viruses to bacterial entities.

Thanks to this discovery, we know we still need a lot of research in the field of viruses - the capabilities, shapes, and sizes need to be explored for scientific purposes. While these giant bacterial entities have much in common with other giant viruses, they are unrelated, in the same way that bacteria are not related to amoeba or eukaryotes.



Although the bacteria that live with amoeba are not a concern for humans, the bacteria that live in the gut can control other bacteria to cause many health problems; for example, resistance genes transfer from one species to another. Currently, bacteriophage research is limited, but such studies can improve the gene editing tools we have, the CRISPR gene editing system.

According to Gizmodo