

## A new type of virus found in our oceans

Every drop of surface ocean water can contain almost ten million viruses. | Photo Credit: [Nagesh Prabhu](#)

Researchers at the Massachusetts Institute of Technology and the Albert Einstein College of Medicine have reported a new tailless virus prevalent in the world's oceans. These viruses remained undiscovered till now as they cannot be detected using standard tests. The new find was made possible by novel genomic studies, and scientists say these viruses could be the missing link in the evolution of viruses.

The virus has been named after a character in Greek mythology, Autolykos, who was a trickster and difficult to catch.

The study published in *Nature* shows that these viruses mainly feed on bacteria, and could be helping in regulating the bacterial populations of the ocean. "We already knew that viruses are very important there[ocean]," says Kathryn M. Kauffman from the Department of Civil and Environmental Engineering, MIT, who is the lead author. Every drop of surface ocean water can contain almost ten million viruses.

"Most of the viruses studied in labs have tails, most of those in the ocean don't," says Martin F. Polz, co-author of the paper. "Their genomes were quite different from other viruses," he adds. They have a shorter genome compared to the tailed viruses. The researchers found that these tailless viruses can infect many different species of bacteria. .

The researchers also think that these new viruses may be widespread on earth and can even be present in the human body. "We don't think it's ocean-specific at all," says Dr. Polz.

"This work is important also for understanding the evolution of the virus world because it shows that viruses related to the most common viruses of eukaryotes (such as adenoviruses, poxviruses, and others).....are much wider-spread...than previously suspected," said Eugene V. Koonin, a senior investigator at the National Institutes of Health, who was not involved in this research.

"I further wonder whether the viruses reported here might only represent the tip of the proverbial iceberg, because capsid proteins can be highly diverged in sequence so that many are missed....The findings are also of practical importance because the tailless viruses appear to play a major ecological role in the ocean, being responsible for a substantial fraction of bacteria-killing."

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