

Assignment 1: Topic Discovery & Development

A ciliate microbe known as Halteria has been deemed the first discovery of “virovory”, or the active consumption of viruses. Previously this consumption was deemed calorically unimportant and unable to support the population growth of its consumers. However, scientists have discovered that virovory may be a critical source of energy transfer in the food chain given that Halteria is able to grow and reproduce even when only given viruses as a food source. This development could redefine food web models and alter the perception of how selective pressures influence the evolution of viruses.

Source paper:

<https://newatlas.com/science/first-virovore-eats-viruses/>

Original research:

<https://www.pnas.org/doi/10.1073/pnas.2215000120>

Main idea:

Virovores are able to consume viruses as the primary component of their diet, redefining our understanding of how viruses evolve while changing their role in the ecosystem.

Treatment idea:

A Halteria microbe sits at the dinner table with a napkin around it and holding a knife and fork. A virus is torn apart on the plate, ready to be consumed by the microbe.

References:

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Plewka, M. (2011). *Halteria grandinella*. Freshwater and other micro-organisms from Germany: Halteria sp., stichotrichia, Spirotrichea, intramacronucleata, Protista).

<https://www.plingfactory.de/Science/Atlas/KennkartenProtista/01e-protista/e-Ciliata/e-source/Halteria%20sp..html>

Van Etten, J. L., Agarkova, I. V., & Dunigan, D. D. (2019). Chloroviruses. *Viruses*, *12*(1), 20. <https://doi.org/10.3390/v12010020>

Zhang, X., Xiang, Y., Dunigan, D. D., Klose, T., Chipman, P. R., Van Etten, J. L., & Rossmann, M. G. (2011). Three-dimensional structure and function of the paramecium bursaria chlorella virus capsid. *Proceedings of the National Academy of Sciences*, *108*(36), 14837–14842. <https://doi.org/10.1073/pnas.1107847108>