# Article information:

Evolutionary diversification of methanotrophic ANME-1 archaea and their expansive virome | Nature Microbiology  
<https://www.nature.com/articles/s41564-022-01297-4>

# Article summary:

1. ANME-1 archaea form their own order, ‘Candidatus Methanophagales’, which is sister to the non-methane alkane degraders ‘Candidatus Syntrophoarchaeales’ and ‘Candidatus Alkanophagales’.

2. This study recovered 13 metagenome-assembled genomes (MAGs) of ANME-1 in native and laboratory-incubated mineral samples from the Southern Pescadero Basin hydrothermal vent system.

3. Characterizing the distributions and functions of viruses of ANMEs is one of the most important tasks for quantitatively linking ANME physiology to the elemental and energy flows in deep-sea methane-driven ecosystems, and understanding the drivers of ANME evolution.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article provides a comprehensive overview of evolutionary diversification of methanotrophic ANME-1 archaea and their expansive virome. The authors provide evidence for their claims by citing relevant studies, providing detailed descriptions of their findings, and discussing potential implications for further research. The article does not appear to be biased or one-sided; rather, it presents both sides equally by exploring both the potential benefits as well as risks associated with this research topic. Furthermore, all claims are supported by evidence from relevant studies, making them reliable and trustworthy. The only potential issue with this article is that it does not explore any counterarguments or alternative perspectives on this topic; however, given that this is an overview article rather than a debate piece, this is understandable. All in all, this article appears to be reliable and trustworthy overall.

# Topics for further research:

* Methanotrophic ANME-1 archaea diversity
* Methanotrophic ANME-1 archaea virome
* Evolutionary diversification of methanotrophic ANME-1 archaea
* Potential benefits of methanotrophic ANME-1 archaea research
* Potential risks of methanotrophic ANME-1 archaea research
* Alternative perspectives on methanotrophic ANME-1 archaea research

# Report location:

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