

## Species *Azoamicus ciliaticola*<sup>Ts</sup>

---

### Etymology

[ci.li.a.ti.co'la] N.L. fem. n. *ciliata*, referring to a group of ciliated protozoa; N.L. masc. suff. *-cola*, dweller or inhabitant; N.L. masc. adj. *ciliaticola*, dwelling within a ciliate

### Nomenclatural type

[NCBI Assembly: GCF\\_902860225.1](#)<sup>Ts</sup>

### Description

*Azoamicus ciliaticola*, which is an obligate endosymbiont of an anaerobic ciliate and has a dedicated role in respiration and providing energy for its eukaryotic host. *A. ciliaticola* contains a highly reduced 0.29-Mb genome that encodes core genes for central information processing, the electron transport chain, a truncated tricarboxylic acid cycle, ATP generation and iron–sulfur cluster biosynthesis. The genome encodes a respiratory denitrification pathway instead of aerobic terminal oxidases, which enables its host to breathe nitrate instead of oxygen. *A. ciliaticola* and its ciliate host represent an example of a symbiosis that is based on the transfer of energy in the form of ATP, rather than nutrition.

### Classification

*Bacteria* » *Pseudomonadota* » *Gammaproteobacteria* » “Azoamicales” » “Azoamicaceae” » *Azoamicus* » *Azoamicus ciliaticola*<sup>Ts</sup>

### References

Effective publication: Graf et al., 2021 [1]  
Assigned taxonomically: Graf et al., 2021 [1]

### Registry URL

<https://seqco.de/i:49070>

## References

1. Graf et al. (2021). Anaerobic endosymbiont generates energy for ciliate host by denitrification. *Nature*. [DOI:10.1038/s41586-021-03297-6](https://doi.org/10.1038/s41586-021-03297-6)