

## Genus *Tiamatella*

### Etymology

[Ti.a.ma.tel'la] N.L. dim. fem. n. *Tiamatella*, little Tiamat, referring to an ancient Mesopotamian primordial sea goddess

### Nomenclatural type

Species *Tiamatella incendiivivens*<sup>Ts</sup>

### Description

Delineation of this genus is supported by AAI, phylogenomic analysis, 16S rRNA gene comparison and taxonomic assignment in GTDB. MAGs assigned to this genus have been identified at two hydrothermal vent fields along the Eastern Lau Spreading Center (ABE and Tui Malila), Mariner vent field on the Valu Fa Ridge, Lau Basin, the Lower Cone of the deep-sea Brothers volcano along the Kermadec arc and Lucky Strike vent field along the Mid-Atlantic Ridge. Members of this taxon are approximately 51–54% similar to *Aeropyrum pernix* and 50–52% similar to *Caldisphaera lagunensis* by AAI. They form a well-supported monophyletic clade in a concatenated phylogenomic tree constructed using 53 archaeal genes. A 16S rRNA gene recovered from the type genome shows ~89 to 91% similarity to *Aeropyrum pernix*, *Aeropyrum camini*, *Thermodiscus maritimus* and *Stetteria hydrogenophila*. Based on functional genomic analysis, members of this genus are likely anaerobic and may utilize proteins or amino acids as carbon sources. They are auxotrophic for purines and pyrimidines. Several members of this genus also encode DMSO reductase family genes from the *psrA/phsA/sreA/srrA* clade and may utilize polysulfides, thiosulfate, sulfur, and/or selenite as energy sources. ANI analysis suggests this genus includes at least five distinct species, and motility is likely variable between species. The name proposed here is derived from a primordial Mesopotamian sea goddess depicted as both a chaotic and creative force, and it references the turbulent but biologically rich environments in which these *Archaea* inhabit.

### Classification

*Archaea* » *Thermoproteota* » *Thermoprotei* » *Acidilobales* » *Acidilobaceae* » *Tiamatella*

### References

Effective publication: St. John, Reysenbach, 2024 [1]

### Registry URL

<https://seqco.de/i:32112>

## References

1. St. John, Reysenbach (2024). Genomic comparison of deep-sea hydrothermal genera related to *Aeropyrum*, *Thermodiscus* and *Caldisphaera*, and proposed emended description of the family Acidilobaceae. *Systematic and Applied Microbiology*. DOI:10.1016/j.syapm.2024.126507