

Allocrenothrix methanica sp. nov.

Submitted by Umezawa, Kazuhiro

Genus *Allocrenothrix*

Etymology

[Al.lo.cre.no.thrix.] **Gr. masc. pron.** *allos*, other, another, different; **N.L. fem. n.** *Crenothrix*, a bacterial genus; **N.L. fem. n.** *Allocrenothrix*, the other *Crenothrix*

Nomenclatural type

Species *Allocrenothrix methanica*^{Ts}

Description

Cells are rods that grow as linear or branched multicellular filaments. Grows under micro-oxic conditions. Methanotrophic. Inhabits iron-rich snows and sediments along with stratified lakes. The genus corresponds to the "lacustrine Crenothrix" clade or the uncultured genus UBA4132 in GTDB R83 to R226. The nomenclatural type is *Allocrenothrix methanica*.

Classification

Bacteria » *Pseudomonadota* » *Gammaproteobacteria* » *Methylococcales* » *Methylococcaceae* » *Allocrenothrix*

References

Effective publication: Umezawa et al., 2026 [1]

Registry URL

<https://seqco.de/i:55065>

Species *Allocrenothrix methanica*^{Ts}

Etymology

[Me.tha.ni.ca.] **N.L. neut. n.** *methanum*, methane; **L. fem. adj. suff.** *-ica*, pertaining to; **N.L. fem. adj.** *methanica*, pertaining to methane

Nomenclatural type

[Genome sc|0005535](#) ^{Ts}

Reference Strain

[Strain sc|0040749](#): AF98

Description

Microaerobic. Cells are rods 1.0-1.5 µm wide and 1.9-5.0 µm long and form multicellular filaments. Filaments are linear, rarely branched. Cells are connected by conjugation-like structures. No production of gonidia has been observed. The reference strain AF98 was isolated from iron-rich microbial mat material from wetlands regions of Oze National Park (Japan).

Classification

Bacteria » *Pseudomonadota* » *Gammaproteobacteria* » *Methylococcales* » *Methylococcaceae* » *Allocrenothrix* » *Allocrenothrix methanica*^{Ts}

References

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References

1. Umezawa et al. (2026). Isolation of *Allocrenothrix methanica* reveals distinct ecophysiologicals of filamentous methanotrophs and adaptations to O₂ limitation. *The ISME Journal*. DOI: [10.1093/ismejo/wrag178](https://doi.org/10.1093/ismejo/wrag178)

Register List Certificate of Validation

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