

Termitispirillum cryptocerci gen. nov. sp. nov.

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Family *Termitispirillaceae*

Etymology

[Ter.mi.ti.spi.ril.la'ce.ae] **N.L. neut. dim. n.** *Termitispirillum*, the type genus of the family; -*aceae*, ending to denote a family; **N.L. fem. pl. n.** *Termitispirillaceae*, the *Termitispirillum* family

Nomenclatural type

Genus *Termitispirillum*

Description

Members of this family are uncultured and inhabit the guts of insects, including termites and *Cryptocercus* cockroaches. This family is a sister clade of the family *Mucispirillaceae* in the phylum *Deferribacterota*. The type genus of this family is *Termitispirillum*.

Classification

Bacteria » *Deferribacterota* » *Deferribacteres* » *Deferribacterales* » *Termitispirillaceae*

References

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

Registry URL

<https://seqco.de/i:54891>

Genus *Termitispirillum*

Etymology

[Ter.mi.ti.spi.ril'lum] **L. masc. n.** *termes*, termite; **L. neut. dim. n.** *spirillum*, a small spiral; **N.L. neut. dim. n.** *Termitispirillum*, a spiral bacterium from termites

Nomenclatural type

Species *Termitispirillum cryptocerci*^{Ts}

Description

Members of this genus are uncultured and spiral or curved long rods that specifically attach to parabasalid protists in the guts of termites and *Cryptocercus* cockroaches. Cells measure 3–13 µm in length and 0.4 µm in width. Genomic analyses indicated that these bacteria possess a Gram-negative-type cell wall and chemoheterotrophic metabolism with fermentation and respiratory pathways. Motility was inferred from the presence of genes involved in flagellar assembly and chemotaxis. Taxonomic assignment is based on the 16S rRNA gene sequence and specific detection by FISH using the oligonucleotide probe RsTz2-092-190 or Deferrit-term-661 (Table S2). The nomenclatural type is *Termitispirillum cryptocerci* with its genome sequence as the type material.

Classification

Bacteria » *Deferribacterota* » *Deferribacteres* » *Deferribacterales* » *Termitispirillaceae* » *Termitispirillum*

References

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

Registry URL

<https://seqco.de/i:54887>

Species *Termitispirillum cryptocerci*^{TS}

Etymology

[cryp.to.cer'ci] **N.L. gen. n.** *cryptocerci*, of *Cryptocercus*, referring to the host cockroach genus

Nomenclatural type

[INSDC Nucleotide: AP043677](#) ^{TS}

Description

The bacterium specifically attaches to the cell surfaces of *Trichonympha acuta* and *Trichonympha lata* in the gut of *Cryptocercus punctulatus*. The cell dimensions are 3–13 µm by 0.4 µm. This assignment is based on the 16S rRNA gene sequence (LC866555, LC866555) and detection by FISH using the oligonucleotide probe Deferriterm-661 (Table S2). A complete genome sequence (AP043677) was obtained. This species includes phylotypes CpT06-9, CpT15-2, and CpT32-4.

Classification

Bacteria » *Deferribacterota* » *Deferribacteres* » *Deferribacterales* » *Termitispirillaceae* » *Termitispirillum* » *Termitispirillum cryptocerci*^{TS}

References

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

Registry URL

<https://seqco.de/i:54886>

References

1. Maruoka et al. (2026). Discovery and genomics of H₂-oxidizing/O₂-reducing *Deferribacterota* ectosymbiotic with protists in the guts of termites and a *Cryptocercus* cockroach. *ISME Communications*. [DOI:10.1093/ismeco/ycag002](https://doi.org/10.1093/ismeco/ycag002)

Register List Certificate of Validation

On behalf of the *Committee on the Systematics of Prokaryotes Described from Sequence Data* (SeqCode Committee), we hereby certify that the Register List **seqco.de/r:-5w8dku2** submitted by **Maruoka, Naoya** and including 3 new names has been successfully validated.

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