

# Electronema halotolerans sp. nov. and Electrothrix laxa sp. nov.

Submitted by Schramm, Andreas

## Species *Electrothrix laxa*

### Etymology

[la'xa] L. fem. adj. *laxa*, large, referring to its relatively large cell diameter compared to other cable bacteria species

### Nomenclatural type

[NCBI Assembly: GCA\\_942492895.1](#)<sup>TS</sup>

### Reference Strain

MAR-scMAG (TS)

### Description

Filamentous bacteria of centimeter length that inhabit the surface of marine and coastal sediment and conduct electrons from sulfide-oxidizing cells to oxygen- or nitrate-reducing cells. Gliding motility. Gram-negative, with distinct ridges running longitudinally along the filament. Cell diameters 1-6 µm. Can assimilate acetate and propionate; CO<sub>2</sub> fixation via the Wood-Ljungdahl pathway. Contains c-type cytochromes and type IV pili (PilA). Polyphosphate and polyglucose storage. Distinguishable by morphology and genome.

### Classification

*Bacteria* » *Desulfobacterota* » *Desulfobulbia* » *Desulfobales* » *Desulfobulbaceae* » *Electrothrix* » *Electrothrix laxa*

### References

Proposed: Sereika et al., 2023

### Registry URL

<https://seqco.de/i:23723>

## Species *Electronema halotolerans*

### Etymology

[ha.lo.to'le.rans] Gr. masc. n. *hals*, salt, brine; L. pres. part. *tolerans*, tolerating; N.L. part. adj. *halotolerans*, salt tolerant. Due to its presence in, and genomic adaptations to, brackish/saltwater.

### Nomenclatural type

[NCBI Assembly: GCA\\_942493095.1](#)<sup>TS</sup>

### Reference Strain

BRK-cMAG (TS)

### Description

Filamentous bacteria of centimeter length that inhabit the surface of brackish/intertidal sediment and conduct electrons from sulfide-oxidizing cells to oxygen-reducing cells. Gram-negative, width of individual cells is 1-2 µm. Can assimilate acetate but not propionate; CO<sub>2</sub> fixation via the Wood-Ljungdahl pathway. Contains c-type cytochromes, type IV pili (PilA) and Na<sup>+</sup>-antiporters. Polyphosphate and polyglucose storage. Distinguishable by morphology and genome.

### Classification

*Bacteria* » *Desulfobacterota* » *Desulfobulbia* » *Desulfobales* » *Desulfobulbaceae* » *Electronema* » *Electronema halotolerans*

## References

Proposed: Sereika et al., 2023

## Registry URL

<https://seqco.de/i:23722>

## References

1. Sereika et al. (2023). Closed genomes uncover a saltwater species of Candidatus Electronema and shed new light on the boundary between marine and freshwater cable bacteria. *The ISME Journal*. [DOI:10.1038/s41396-023-01372-6](https://doi.org/10.1038/s41396-023-01372-6)

## 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:gifil884](https://seqco.de/r:gifil884) submitted by **Schramm, Andreas** and including 2 new names has been successfully validated.

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