Electronema qinghaiense sp. nov. and Electronema haixiense sp. nov.

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Table 1: Complete list of names proposed in the current register list.

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Species *Electronema haixiense*	[hai.xi.en'se] **N.L. neut. adj.** *haixiense*, of Haixi, the region where saline lake is located in Qinghai-Tibet Plateau in China, and this organism was obtained from	Filamentous bacteria of centimeter length that inhabit the freshwater/brackish sediment and conduct electrons from sulfide-oxidizing cells to oxygen-reducing cells. Gram-negative. CO2 fixation via the Wood-Ljungdahl pathway. Contains c-type cytochromes, type IV pili (PilA), Na+ antiporters and trk system potassium uptake protein. Polyphosphate and polyglucose storage. Distinguishable by genome.	*Electronema*	NCBI Assembly: GCA_052784925.1 Ts	seqco.de/i:49667
Species *Electronema qinghaiense*	[qing.hai.en'se] **N.L. neut. adj.** *qinghaiense*, of Qinghai, the province where salt lake is located in China, and this organism was obtained from	Filamentous bacteria of centimeter length that inhabit the hypersaline water sediment and conduct electrons from sulfide-oxidizing cells to oxygen-reducing cells. Gram-negative. CO2 fixation via the Wood-Ljungdahl pathway. Contains c-type cytochromes, type IV pili (PilA) and trk system potassium uptake protein. Polyphosphate and polyglucose storage. Distinguishable by genome.	*Electronema*	NCBI Assembly: GCA_052784985.1 Ts	seqco.de/i:49666
		Cells are multicellular filaments, up to several centimeters in length. Gram-negative. The species live in hypersaline water sediments with a salinity of 69.1-89.2 g/L and a pH of 7.8-8.1. The genomes of the species have been recovered from salt lakes on the Qinghai-Tibet Plateau in China. GC content of the genomes range between 47.2-47.6%. Genomes encode the enzymes for Long-distance electron transfer from sulfide-oxidizing to oxygen-reducing. Genomes encode the enzymes for CO2 fixation via the Wood-Ljungdahl pathway. Genomes encode [NiFe] hydrogenases of			

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Species *Electrothrix gahaiensis*	[ga.ha.i.en'sis] N.L. fem. adj. *gahaiensis*, of Gahai, name of a salt lake located in Qinghai-Tibet Plateau in China.	Groups 3c, 3d and 4a, which are involved in the consumption or production of hydrogen. Genomes encode monovalent cation/proton antiporter system Mrp, cation:H+ antiporter YrbG, potassium/proton antiporter CPA2 and potassium uptake protein Trk, which is involved in the “salt-in” strategy to maintain the osmotic balance of cells. Genomes also encode glycine betaine/proline transport system (ProVWX) and choline/glycine/proline betaine transport protein (BetT) for glycine betaine derived directly from the environment, as well as glycine/sarcosine N-methyltransferase (GSMT) and sarcosine/dimethylglycine N-methyltransferase (SDMT) for glycine betaine synthesis, which is involved in the “compatible solute” strategy to maintain the osmotic balance of cells. Nomenclatural type, NCBI Assembly: JALAAI000000000 (MAG XCD06.Bin23) is a metagenome-assembled genome derived from a salt lake sediment sample (Biosample: SAMN25126231). The assembly is of high quality with a completeness of 98.8% and 0.89% contamination and contains 43 tRNA.	*Electrothrix*	NCBI Assembly: GCA_052785085.1 Ts	seqco.de/i:49758