

Neomicrothrix parvicella gen. nov. sp. nov.

Submitted by Nielsen, Per H.

Genus *Neomicrothrix*

Etymology

[Ne.o.mi.cro'thrix] **Gr. masc. adj.** *neos*, new; **Gr. masc. adj.** *mikros*, small; **Gr. fem. n.** *thrix*, a hair; **N.L. fem. n.** *Neomicrothrix*, a new small hair

Nomenclatural type

Species *Neomicrothrix parvicella*^{Ts}

Description

Filamentous bacterium frequently encountered in wastewater treatment processes, known for its significance in the bulking phenomenon of sludge.

Classification

Bacteria » *Actinomycetota* » *Acidimicrobiia* » *Acidimicrobiales* » “*Neomicrotrichaceae*” » *Neomicrothrix*

References

Effective publication: Muller et al., 2012 [1]

Original (not valid) publication: van Veen, 1973 [2] and Blackall et al., 1995 [3]

Corrigendum: Oren, 2017 [4] (from “*Microthrix*”)

Registry URL

<https://seqco.de/i:16>

Species *Neomicrothrix parvicella*^{Ts}

Etymology

[par.vi.ce'lla] **L. masc. adj.** *parvus*, small; **L. fem. n.** *cella*, a store-room and, in biology, a cell;
N.L. fem. n. *parvicella*, a small cell

Nomenclatural type

[NCBI Assembly: GCF_000299415.1](#)^{Ts}

Description

[Blackall et al., 1995](#): "... Gram-positive, straight filamentous bacterium [...] a deep branching member of the actinomycetes subphylum. It is most closely related to the iron-oxidising strain TH3, members of the order *Actinomycetales* and to the genus *Atopobium*"

[Blackall et al., 1996](#): "... a filamentous bacterium that grows with great difficulty in cultures from the mixed liquor of activated sludge sewage treatment plants. It is gram positive, and the ultrastructure of its cell walls has been determined to be of the gram-positive type by electron microscopical examination. Phylogenetically, it is a deep-branching member of the subphylum actinomycetes within the gram-positive phylum of the domain Bacteria. As for phenotypic features, it is known that the organism contains polyphosphate inclusions and that it is catalase positive. In mixed cultures in activated sludge plants and in pure culture in the laboratory, it has a characteristic and distinctive winding filamentous morphology, with filaments hundreds of micrometers long."

[Oren, 2017](#): Suggested renaming *Microthrix parvicella* to ***Neomicrothrix parvicella***.

Classification

Bacteria » *Actinomycetota* » *Acidimicrobiia* » *Acidimicrobiales* » "Neomicrotrichaceae" » *Neomicrothrix* » *Neomicrothrix parvicella*^{Ts}

References

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Original (not valid) publication: van Veen, 1973 [2] and Blackall et al., 1995 [3]
Corrigendum: Oren, 2017 [4] (from "Microthrix parvicella")
Assigned taxonomically: van Veen, 1973 [2]

Registry URL

<https://seqco.de/i:60>

References

1. Muller et al. (2012). Genome Sequence of "Candidatus *Microthrix parvicella*" Bio17-1, a Long-Chain-Fatty-Acid-Accumulating Filamentous Actinobacterium from a Biological Wastewater Treatment Plant. *Journal of Bacteriology*. DOI:10.1128/jb.01765-12
2. van Veen (1973). Bacteriology of activated sludge, in particular the filamentous bacteria. *Antonie van Leeuwenhoek*. DOI:10.1007/bf02578852
3. Blackall et al. (1995). "Microthrix parvicella" is a Novel, Deep Branching Member of the Actinomycetes Subphylum. *Systematic and Applied Microbiology*. DOI:10.1016/s0723-2020(11)80070-6
4. Oren (2017). A plea for linguistic accuracy – also for Candidatus taxa. *International Journal of Systematic and Evolutionary Microbiology*. DOI:10.1099/ijsem.0.001715

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