

Type 0411

Resembles: -

Probes: group specific: CF-319a; species specific: 0411-654, see remark

Frequency occurrence (200 samples; 175 WTPs): Almost completely absent; FI always < 1



Characteristics:

- curled filaments, mainly present around the sludge flocs;
- filament length usually < 200 μm ;
- not motile;
- cell diameter 0.5 – 0.7 μm ;
- no sheath;
- not branched;
- attached growth absent;
- septa clearly visible;
- rod shaped cells;
- no sulphur storage;
- Gram negative;
- Neisser negative;

Remark

Type 0411 belongs to the *Cytophaga-Flexibacter* group within the phylum *Bacteroidetes* [1, 2]. The probe applied during Dynafilm has not been published before, but was developed based upon a published sequence [2]. A fluorescent signal with this probe was hardly ever obtained. However, Type 0411 resembling filaments were only rarely observed and always in small numbers.

Physiology

Hardly anything is known about the physiology of this filamentous morphotype.

Occurrence in activated sludge

Type 0411 mainly grows in highly loaded plants treating wastewater rich in easily degradable compounds. Large populations of Type 0411 were not observed during Dynafilm. Thus, the information required to correlate this morphotype to a specific wastewater is missing.

Control options

Not relevant

References

1. Blackall, L. L., E.M. Seviour, D. Bradford, H.M. Stratton, M.A. Cunningham, P. Hugenholtz and R.J. Seviour (1996b) Towards understanding the taxonomy of some of the filamentous bacteria causing bulking and foaming in activated sludge plants. *Wat. Sci. Technol.* **34** (5-6), 137-144.
2. Bradford, D., P. Hugenholtz, E. M. Seviour, M.A. Cunningham, H.M. Stratton, R.J. Seviour, and L.L. Blackall (1996) 16S rRNA analysis obtained from gram negative, filamentous bacteria micro-manipulated from activated sludge. *Syst. Appl. Microbiol.* **19**, 334-343.

Slide show images

- 1-2: filaments composed of long, rod shaped cells
- 3: Fish image with probe 0411-654