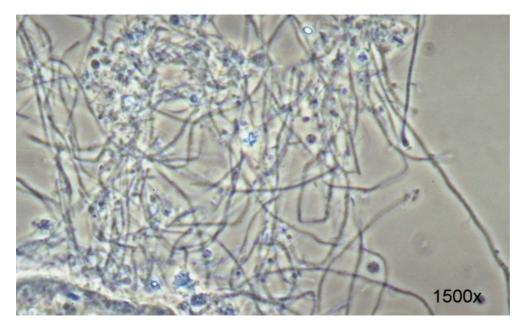
# Type IF-59

*Resembles*: "*Candidatus* Microthrix calida" [1], see remark *Probes*: not available

Frequency occurrence (200 samples; 175 WTPs):

- observed with a  $FI \ge 1$  in 4 samples
- observed with a  $FI \ge 3$  in 4 samples



### **Characteristics**

- bent/coiled, tangled filaments;
- mainly inside the flocs;
- filament length > 200  $\mu$ m;
- filaments not branched;
- not motile;
- cell diameter 0.3 µm;
- no sheath;
- hardly any attached growth;
- septa not visible;
- no sulphur storage;
- Gram negative;
- Neisser negative.

### Remark

Type IF-59 resembles "*Candidatus* Microthrix calida", but stains Gram negative and does not hybridise with probe MPAall-1410 or MPA-T1-1260 [1].

## Physiology

No information available.

## Occurrence in activated sludge

Type IF-59 was observed in WTPs treating wastewater from starch industries. Due to the limited number of observations, it is not possible, however, to draw final conclusions concerning a possible correlation of this morphotype with a specific wastewater.

## **Control options**

Experience with controlling this filamentous morphotype is not available. See Type IF-4 lemma for general 'bulking control rules'.

### Reference

1. Levantesi, C., S. Rossetti, K. Thelen, C. Kragelund, J. Krooneman, D. Eikelboom, P. H. Nielsen and V. Tandoi (2006) Phylogeny, physiology and distribution of "*Candidatus* Microthrix calida", a new *Microthrix* species isolated from industrial activated WWTPs. Accepted for publication in Environmental Microbiology

#### Images

Only one micrograph available, showing a floc intertwined by this morphotype